

COVID-19 National Core Studies Symposium

Scientific Insights in a Pandemic

Thursday 24 June 2021
Meeting Summary



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Introduction

The virtual COVID-19 National Core Studies Symposium event presented progress on the [COVID-19 National Core Studies Programme](#) - a programme established by the UK Government, UKRI, NIHR and the Health and Safety Executive in October 2020 to accelerate the country's research response into COVID-19 by bringing together UK-wide expertise at pace and at scale.

The study leaders, senior academics, policy makers and front-line research scientists who contributed to the online event addressed issues including future pandemic preparedness, vital research infrastructures, the importance of public engagement, the interface between science and society and the importance to demonstrate trustworthiness.

The COVID-19 National Core Studies Symposium was attended by more than 467 people from 26 countries, the symposium attracted patients, members of the public and colleagues from government, academia, industry, NHS, charities, and the media.

Key insights

- The COVID-19 National Core Studies have mobilised UK scientific expertise and use of data to identify and respond to essential questions about COVID-19 - rapidly informing policy, operations and planning and building resilience.
- “Team science” and close collaboration are fundamental to the programme.
- Public trust and understanding of science and data sharing must be nurtured.
- Pandemics and serious disease outbreaks are likely to be a feature of future global society – meaning that we must maintain high levels of research and readiness.
- National Core Study infrastructure and expertise will be vital if we are realise the 100 Days Mission for Diagnostics, Therapeutics and Vaccines- the first 100 days when faced with a pandemic or epidemic threat are crucial to changing its course and, ideally, preventing it from becoming a pandemic.

Research, impact, and ongoing work

Substantial strides have been made in all core study areas and much more is on the horizon:

- **Transmission and Environment:** [Professor Andrew Curran](#); there have been significant advances in understanding how the interactions between human behaviour, the physical environment and the characteristics of the virus itself that affect transmission. Work continues on critical issues such as the dose of virus needed to cause infection, and the most effective control measures in different industrial sectors

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- **Longitudinal Health and Wellbeing:** [Professor Jonathan Sterne](#) Longitudinal health and wellbeing study has brought together linked data on 58 million people in England and is providing essential information on the social, economic and health impacts of the pandemic in “unprecedentedly huge detail”.
- **Immunity:** [Professor Paul Moss](#) Advances are being made as “key for understanding and overcoming the pandemic, protecting against infection, determining the severity of mechanisms of organ damage and vaccine responses.” One ongoing area of focus is the vaccine response of patients with suppressed immune systems.
- **Epidemiology and Surveillance:** [Professor Sir Ian Diamond](#) The UK has delivered huge success in tracking the epidemic through a UK wide Community Infection Survey. This has realised new insights into the real-world efficacy of vaccines. This area of study has also proved invaluable in rapidly generating insights on everything from falling levels of vaccine hesitancy to issues around furloughing.
- **Vaccines Trials Infrastructure:** [Dr Divya Chadha Manek](#) The 17 UK vaccine studies have built an infrastructure project that has accelerated vaccine development and deployment. Successes include signing up 505,000 people for NHS vaccine research. The next focus is on new questions including whether to give the flu jab alongside the COVID-19 vaccination.
- **Clinical Trials Infrastructure:** [Professor Patrick Chinnery](#) The UK has created a coherent trial landscape, including RECOVERY, that has enabled effective study of COVID treatments, has been internationally admired. Work is currently taking place on a prophylaxis study platform for treatments that might prevent infection taking hold in high risk patients.
- **Data and Connectivity:** [Professor Andrew Morris](#) Building a resilient and secure UK data research infrastructure is vital in our quest to combat COVID-19. This core study area tackled the challenges of mapping data at scale, accelerating access to data and “mustering the support of the UK-wide research community” to answer key pandemic response questions. 87 datasets have been made available with over 1,400 research outputs with almost 800 researchers collaborating on 344 projects.

Team science

Speakers emphasised that a team science approach and collaborations across academia, industry, the NHS and government in all four UK nations have been fundamental to the initial success of the core studies.

- [Sir Patrick Vallance](#), UK Government Chief Scientific Adviser, said: *“What's amazing is how quickly things have been done. With real focus and energy, you can achieve remarkable things. We've seen amazing examples of team working.”*

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Public involvement and demonstrating trustworthiness

Concern was expressed about public perception of data sharing. Participants emphasised the need to consult the public on their priorities, to nurture trust and address concerns about privacy. There is also a need to encourage an understanding of what science does and the tangible impact on improving and saving lives.

- [Professor Dame Ottoline Leyser](#), Chief Executive of UKRI, said: *“Science is an incredibly powerful tool in addressing major societal challenges and in giving people a sense of agency so that they can face frightening things like pandemics. But science helps us navigate uncertainty - not eliminate it.”*
- [Sir Jeremy Farrar](#), Director of Wellcome, stated that: *“If society does not trust science, and the data behind it, then we will not achieve the greatest advances for the maximum number of people.”*

Future preparedness

Climate change, environmental erosion, and humanity’s continuing movement towards living in ever-bigger cities with more world trade and travel make it likely that pandemics and major outbreaks will proliferate. Experience shows that the more capacity a society has before a pandemic hits, the better it can cope.

Symposium participants argued that we must learn from the COVID-19 experience. This demands that:

- Systems are in place to spot threats.
- Research and funding are maintained.
- Societies and scientists are ready to respond fast and collaboratively.
- Mechanisms exist for massive, worldwide production of therapeutics, vaccines and diagnostics.
- Global equity of care and treatment are assured.

Speakers asserted that the core studies have laid the foundations for future pandemic responses to be science based, co-ordinated and focused.

- [Rob Orford](#), Chief Scientific Adviser for Health in Wales, concluded the event by saying: *“We have to prepare, we have to practice, we must work together in partnerships like the national core studies to address the important questions with evidence and learn the necessary lessons.”*

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Outputs

- **Transmission and Environment:** This area of study has proved essential in understanding how the virus is transmitted in the real-world – for example in workplaces. Improved knowledge of the link between human behaviour, virus characteristics and environments are yielding more effective measures to prevent transmission, and therefore save lives.
- **Longitudinal Health and Wellbeing:** The project has had many outputs and a far-reaching impact. Perhaps of greatest importance has been its impact on vaccine rollout, not least through identifying groups that might need targeted information to reduce hesitancy. It has also been able to monitor uptake among different groups.
- **Immunity:** Outcomes have covered issues such as the importance of interferon-specific antibodies in determining risk and whether ethnicity impacts on natural immunity and vaccine response. It also generated the first international assessment of the impact of shielding policy.
- **Epidemiology and Surveillance:** This study has been vital to understanding and mitigating the pandemic in areas such as providing swift, reliable figures for people testing positive across the four nations, vaccination rates by socio-demographic group and vaccine attrition.
- **Vaccines Trials Infrastructure:** A key success has been to establish a fast, effective, regionalised infrastructure, and a large group of trial volunteers, allowing fast and high-quality research demonstrating vaccine efficacy and informing policy – for example on the optimum timing for second doses and boosters.
- **Therapeutics Trials Infrastructure:** The work carried out to identify the best possible drugs to give to patients at any given stage of the disease has been of immense significance. This resulted in England's Chief Medical Officer, Professor Chris Whitty, asking the group to assemble a UK therapeutics advisory panel.
- **Data and Connectivity:** Has been central in connecting research data – thereby multiplying its value. Fortnightly published reports have been provided to the UK Government (SAGE) and to funders. Effective communications have also been fundamental in demonstrating the trustworthiness of research to the public.

Recordings and slides

Please use the links below to watch recordings of each session or view talk slides.

- Opening speech – Sir Jeremy Farrar | [View recording](#)
- Opening keynote – Sir Patrick Vallance | [View recording](#)
- UK COVID Science – the perspective of the public, the media and the NHS | [Slides](#) | [View recording](#)
- National Core Studies – impact and future potential | [Slides](#) | [View recording](#)
- Lightning talks | [Slides](#) | [View recording](#)
- Preparing for the next pandemic | [View recording](#)
- Closing keynote – Professor Dame Ottoline Leyser | [Slides](#) | [View recording](#)
- Closing remarks – Dr Rob Orford | [View recording](#)

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