

Highlight notice - COVID-19 virus (SARS-CoV-2) research on transmission

Highlight notice - COVID-19 virus (SARS-CoV-2) research on priority groups: transmission, risk factors and seroprevalence

Research to understand the epidemiology of COVID-19, including its prevention and control, will be critical for mitigating the severity of the pandemic. Rapid progress in addressing this depends upon a coherent and integrated response from researchers, industry, the health and care systems, and the public.

To address this need, NIHR and UKRI have launched a [rolling call for rapid research proposals](#) that address emerging priorities and have potential to deliver public health impacts within 12 months, or sooner if feasibly and scientifically possible.

This call has a number of highlight notices against it to seek research proposals on specific topics. A highlight notice on [COVID-19 and ethnicity](#) has previously been issued.

Background

To help inform policy decisions about COVID-19, including possible decisions about infection prevention strategies and any relaxation of existing containment measures, there is an ongoing need to better understand the epidemiology of the disease, specifically:

- the transmission of disease
- risk factors for both disease transmission and acquisition
- levels of exposure to the COVID-19 virus (SARS-CoV-2) within certain priority groups, i.e. seroprevalence.

These two highlight notices identify two priority research requirements:

1. Transmission of disease
2. Priority groups - transmission, risk factors and seroprevalence

Highlight notice one - COVID-19 virus (SARS-CoV-2) research on transmission

New cases of COVID-19 continue to occur in a variety of settings despite the containment measures. We need to understand better what is driving this continued transmission.

This highlight notice identifies the need for further rapid research using epidemiological methods to determine risk factors for transmission, which groups are most likely to become infected (i.e. who is transmitting infection to whom?), and in what environments transmissions occur.

Research applications are invited to investigate the **routes of transmission in different environments and groups.**

Research could include enhanced ongoing surveillance studies to quantify and understand the mechanisms and drivers underlying continued transmission in a variety of settings.

This could include case-control approaches identifying key risks of transmission in a range of settings and communities (including hospitals, care settings, workplaces and household transmission).

Research should draw on and be integrated with existing surveillance mechanisms, and work closely alongside Public Health England. It should involve multidisciplinary integrated studies of empirical and molecular epidemiological approaches. Research should result in rapid and accessible data published in a timely way to inform national and locally targeted response.

Highlight notice two - COVID-19 virus (SAR CoV-2) research on priority groups: transmission, risk factors and seroprevalence

This highlight notice identifies a policy need for further research with children, health and social care workers, and residents in nursing and residential care homes. Research in other groups and settings is also welcomed in the NIHR-UKRI call.

Groups at high risk of infection

There is [emerging evidence](#) of potentially increased infection risk in health and social care workers in different roles, and among staff and residents of nursing and residential care homes. Understanding the levels of infection (including asymptomatic) in these groups, relative to the general population, and the factors that are driving infection will be critical for reducing transmission, morbidity and mortality.

Research applications are invited to investigate **transmission, exposure, risk factors for disease acquisition and seroprevalence in priority groups**. Examples include:

Health and social care workers:

- What are their risk factors for acquiring infection and for severity of disease? Is there any mechanistic basis underpinning these risk factors?
- To what extent does transmission occur within these groups? What are the roles of health and care workers in propagating infection, both in nosocomial and community transmission?
- What are the demographics, working patterns and working conditions of social care workers, and how have these altered to reduce transmission?

Nursing and residential care home residents:

- What is the infection rate and seroprevalence in this group?
- Is the infection rate in these groups higher compared to similar age-matched groups?
- What are the risk factors for infection in these groups? (e.g. different care home characteristics and practices)

Understanding the role of children in transmission

More evidence is needed to inform policy decisions around exiting the lockdown measures. For example, what role(s) do children play in transmission of infection? While children generally show milder clinical courses than adults, their role in propagating infection (including via asymptomatic or mildly symptomatic disease) remains unclear.

A confounding issue of transmission is drop-off and pick up from school by parents and carers. Studies to determine the role of early-years children, school-aged children, and adult teaching staff in transmission within educational institutions will be valuable in informing decisions about re-opening of schools.

Furthermore, better understanding of asymptomatic transmission will be crucial in the modelling of transmission events and understanding the extent of immunity in the population.

Research applications are invited to investigate the **role of children in transmission**.

Guidance for applicants

Applicants should where possible take advantage of existing resources and data that may have been created for other purposes, including existing population cohorts or clinical trial data.

Transmission and seroprevalence studies are already underway, so proposals will be favoured that add value and ideally provide representative samples of the population including control groups where possible.

Currently, the main routes for general population surveillance include routinely collected data (e.g. via blood donation [NHS Blood and Transplant] and general practices) and through specific COVID-19 seroprevalence studies commissioned by the Department of Health and Social Care (e.g. the DHSC and Office for National Statistics survey). Furthermore, the [NIHR-UKRI call](#) has funded studies of children, a large household study ('Virus Watch'), a focused study of 200 healthcare workers, and some testing of the Scottish population.

Research that informs the number of asymptomatic cases, links to patient outcomes and routes of transmission, and informs thinking on policy making towards an 'exit strategy' are welcomed.

Applicants must have all the established collaborations and resources to carry out the proposal submitted. Groups proposing seroprevalence studies will need to provide evidence that they have access to assays of the required sensitivity, specificity and throughput for their target populations and studies at the point of application.

Research needs to be timely and reporting milestones should enable the enactment of evidence-informed policy to mitigate poor outcomes among groups in the short-term. Applicants should also describe how the outputs might help inform policy decisions, including possible decisions about infection prevention strategies and any relaxation of existing containment measures.

This call supports [NIHR's single, national prioritisation process for COVID-19 research](#), to prevent duplication of effort and ensure that the resources and capacity of health and social care systems are not exceeded. We are [maintaining a live list of COVID-19 studies](#) that have been given Urgent Public Health Research status by the Chief Medical Officer and the Deputy Chief Medical Officer for England.

How to apply

These highlight notices will be supported through the joint UKRI-NIHR COVID-19 rapid response rolling call. Details of this call, including eligibility and how to apply, [are available on the NIHR website](#).

Applicants must apply by first completing the [NIHR form for prioritising COVID-19 studies](#). Applicants requiring funding should then follow the link to the full funding application form and submit this by **9am on 1 June**.

All applications will be reviewed by a group of appropriate subject matter experts. To enable simultaneous consideration of as many relevant applications as possible, we strongly recommend that applications be **submitted by 1 June**.

We will aim to notify applicants of outcomes in late June. Applications relevant to this highlight will still be eligible for submission after this, but will be assessed in relation to those already funded.

Any queries should be directed to ccf-nCoV@nihr.ac.uk.

Applicants should not wait for badging from the Urgent Public Health Group before submitting a full application for funding.