Apply for funding to investigate SARS-CoV-2 vaccine responses or immune failure.

You must be based at an eligible UK research organisation.

Your project must examine one or both of these:

- the nature and quality of SARS-CoV-2 vaccine responses
- the mechanisms of immune failure that lead to either SARS-CoV-2 re-infection or vaccine breakthrough.

Your project must produce outputs that have the potential to improve pandemic management during the period of the award.

We expect to make three or four awards. We will fund 80% of your project’s full economic cost.

Your project must start by 13 August 2021. It can last up to 12 months.

This is a one-off opportunity.
Who can apply

The lead applicant should be based at an eligible research organisation. These include:

- higher education institutions
- UKRI-approved independent research organisations or NHS bodies
- government-funded organisations
- MRC institutes
- MRC units and partnership institutes
- institutes and units funded by other research councils.

Public sector research establishments

Exceptionally, proposals will also be accepted from public sector research establishments (PSREs).

PSREs will need to complete the appropriate eligibility form to evidence they have the capacity and capability required by UKRI.

Find instructions on how to apply for eligibility and a list of PSREs that are already eligible.

Diverse teams

We recognise the diversity of expertise and skills necessary for a successful research team. We encourage proposals to recognise the contribution of different disciplines and technical professionals (including via use of researcher co-investigator status as appropriate).

Learn about researcher co-investigators (MRC).

Overseas researchers may be co-investigators, if they provide necessary expertise or access to resources not available in the UK, and we welcome collaboration with industry.

Number of applications

Principal investigators may only submit one application to this initiative as a principal investigator, but may be involved in more applications, if listed as a co-investigator.

What we're looking for
This funding opportunity, which is a part of the Immunity National Core Study (NCSi), addresses two major areas of importance in relation to immune control of SARS-CoV-2:

- vaccine responses
- immune failure.

**Scope**

SARS-CoV-2 vaccines have proven highly effective in the control of severe disease within the first six months since registration. As such they will make a major contribution towards control of the SARS-CoV-2 pandemic but many questions remain regarding their optimal delivery.

This funding opportunity seeks to increase understanding of the immune response to SARS-CoV-2 vaccination in different demographic groups in order to support optimal implementation of vaccine delivery.

Key questions relating to study of immune response to vaccination could include:

- assessment of vaccine responses across the life course
- study of immune responses to vaccination in patients with immune suppression
- the contribution of innate and adaptive immune memory following vaccination and how this is influenced by different vaccine vectors
- support of long-term maintenance of SARS-CoV-2-specific immune responses after vaccination and the potential need for booster vaccines
- analysis of vaccine responses in relation to previous infection with viral variants
- optimising vaccine design in order to obtain effective control against viral variants of concern.

In addition, although it’s now clear that for at least six months natural immunity is highly protective against symptomatic SARS-CoV-2 re-infection, and vaccination is highly protective against infection, cases of re-infection or vaccine breakthrough do occur.

As such the second area of focus relates to the study of the mechanisms that underlie cases of ‘immune failure’ leading to SARS-CoV-2 infection.

Relevant questions that would be of interest include:

- understanding the importance of ‘immune waning’ after natural infection or vaccination and how this might be mitigated
- investigation of immune determinants of SARS-CoV-2 infection and disease severity, including by variants of concern, in vaccinated people
- the relative importance of humoral and cellular immunity in recognition of viral variants of concern and how this might be optimised
- novel approaches to provide protection in patients with suboptimal immune responses following natural infection or vaccination.
Applicants seeking to address immune failure questions will need to explain how they will:

- identify cases of re-infection or post-vaccine breakthrough
- secure access to relevant samples with appropriate statistical power.

Case identification may include the use of viral genetic and electronic health record data linkage.

It is anticipated that some applications will address both areas of interest. However, this is not obligatory and a focused study that investigates either vaccine-induced immunity or mechanisms of immune failure is within scope.

**Alignment**

It is obligatory that proposals are designed to complement current UK research activity, including projects funded within the NCSi and UKRI portfolios and beyond. Where possible, applicants should aim to align with these activities in order to add value to their submission.

**Project management**

While the future trajectory and clinical burden of SARS-CoV-2 infection in the UK remains uncertain, candidates will be expected to demonstrate plans for mitigation of risks that may arise during delivery of the award.

**People and research environment**

It is likely that successful applications will demonstrate interdisciplinary collaborations that include both academic and clinical teams.

The development of industrial partnership is also welcome within standard UKRI terms and conditions. Where possible, applicants should seek to take advantage of UK investments in COVID-19 research capability over the past 12 months.

**Impact**

Applicants should demonstrate capability to start their programme by 13 August 2021. Within three months it is expected that operational structures will be finalised, staff recruited and appropriate ethical permissions in place.

By six months it would be anticipated that initial analyses will be under way. Given the urgency of the clinical challenge the team should be able to demonstrate outcome analysis within 12 months.

The NCSi investment is designed to guide policy decisions regarding management of the current pandemic. Fundamental, translational and clinical research studies are both encouraged and within remit.
However, it is expected that applicants will be able to demonstrate how their work could help to improve pandemic management during the period of the award.

**Value for money**

Value for money will be an important consideration in the funding decision. Applications may be either focused on specific challenges or comprise large and broad consortia.

It is expected that approximately three to four 12-month awards will be made, depending on review assessment.

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**How to apply**

You must apply through the [Joint Electronic Submission system (Je-S)](https://je-s.ukri.org) before the deadline of 8 June 2021.

To enable the creation and submission of a proposal through Je-S, the host or lead organisation is required to have registered with Je-S. A list of Je-S registered organisations is available (please note that this does not include self-registered organisations).

If your organisation is not currently registered, please navigate to the Je-S website and select ‘self-registration for organisations’, which will allow you to add your organisation to the Je-S database (allowing the direct submission of your proposal to MRC through Je-S).

When applying select:

- council: MRC
- document type: standard proposal
- scheme: research grant
- call/type/mode: SARS CoV 2 vaccine responses and immune failure.

For guidance on making a submission read the MRC guidance for applicants.

If you need help in applying through Je-S, you can contact the Je-S helpdesk:

- telephone: 01793 444164
- email: jeshelp@je-s.ukri.org.

**Case for support form**

You must use the [opportunity-specific case for support form](https://je-s.ukri.org) (Word, 25KB).

Failure to use this form will result in your application being declined.
Attachments

As part of your Je-S submission you will need to provide attachments.

Please note, it is mandatory to create and upload files using these document types within the Je-S attachments section of your Je-S proposal form:

- case for support
- justification for resources
- data management plan.

Attachments can be uploaded to Je-S as one of these filetypes:

- PDF
- Microsoft Word (.doc or .docx)
- Postscript level 2 (.ps).

Please note: upon final submission to MRC, non-PDF documents uploaded by the applicant are converted and held as an Adobe PDF file within Je-S.

All attachments detailed below must use font Arial size 11, or non-word equivalent such as Helvetica size 11.

Note: MRC reserves the right to decline an application on eligibility grounds, if documents other than those detailed below are submitted.

Case for support

The completed opportunity-specific case for support form template (Word, 25KB) must be uploaded to the Je-S attachments section using the document type ‘case for support’.

Document of supporting figures or data tables

A document of supporting figures or data tables is optional but advised.

Upload under document type ‘supporting data’. No more than one A4 page.

Gantt chart of project

A Gantt chart of the project is optional but advised.

Upload under document type ‘Gantt chart’. No more than one A4 page.

Justification for resources

Upload a justification for resources under document type ‘justification for resources’. No more than two A4 pages.

For guidance on completing justification for resources requirements, please read the MRC guidance on justification for resources.
CVs

A CV for (where applicable):

- the principal investigator
- any co-investigators
- researcher co-investigator
- named individual research staff and named industrial partners.

Upload under document type 'CV'. No more than two A4 pages.

Please refer to the applicants handbook or Je-S help pages for further information on CV requirements.

For guidance on completing CV requirements, please read the MRC guidance on CVs.

List of publications

A list of publications for (where applicable):

- the principal investigator
- any co-investigators
- researcher co-investigator
- named individual research staff and named industrial partners.

Highlight the relevant and recent publications.

Upload under document type ‘list of pubs’. No more than one A4 page.

Data management plan (DMP)

For further information on DMP requirements, including a DMP template and guidance on length, see the MRC guidance on data sharing.

Download the MRC data management plan template.

Upload under document type ‘data management plan’. Maximum length of DMP is three sides of A4.

Schedule of events cost attribution

A schedule of events cost attribution (SoECAT) to set out excess treatment costs of studies involving human participants, where appropriate. Use the SoECAT template (National Institute for Health Research).

For further information on SoECAT requirements, please refer to ‘3.5.1 Excess treatment costs of studies involving human participants’ of the MRC guidance for applicants on resources.
Letters of support

Upload under document type ‘letter of support’. No more than two A4 pages on headed paper or email.

Applications with an industrial project partner

In the case of applications with an industrial project partner, successful applicants, but not at the time of submission, will be required to provide:

- a completed MRC industrial collaboration award (MICA) form
- a signed heads of terms.

Awards will be made contingent upon these documents meeting MRC MICA requirements. For further details read the guidance on the MRC industry collaboration agreement.

How we will assess your application

Your proposal will be assessed via external written peer review followed by an expert panel. The panel will have the right to take portfolio balance into account in making funding recommendations.

Your application will be assessed on:

- research quality:
  - importance of knowledge or gap need being targeted, and the added value of the proposed work compared to existing COVID-19 research activities
  - strength of scientific case
  - management strategy proposed, including equitable access to any shared resources
  - feasibility of experimental plans, statistics, methodology and design, including provision of sample size calculations, strategies to avoid bias and preliminary data where appropriate
  - how well risks have been identified and will be mitigated

- people and research environment, including:
  - track record or records of the individuals in their field or fields and whether they are best-placed to deliver the proposed research
  - whether appropriate facilities will be available to the researchers
potential for impact of the proposed research on the short and potentially long term management of the COVID-19 pandemic, given planned deliverables and expected outputs and how these are expected to provide or lead to impact

patient and public involvement engagement (PPIE):

- whether the proposed plan for patient and public involvement and engagement seem appropriate for the proposed research
- whether there any concerns with the proposal, for example, the way participants or patients will be involved or the burden the research may present to them

value for money:

- whether resources requested are essential and justified
- whether the proposal demonstrates value for money in terms of the resources requested and the importance and potential impact of the research.

Contact details

Dr Claire De-May, MRC Programme Manager for Immunology
Email: ncovr@mrcri.ukri.org

Additional info

Supporting documents

- [Opportunity-specific case for support form (Word, 25KB)]
- [Data management plan template (MRC)]

The Immunity National Core Study

On 28 October 2020, the UK government’s Chief Scientific Adviser, Sir Patrick Vallance, announced the start of a series of National Core Studies (NCS) into COVID-19.

Six studies have been established to address the need to increase the scale of research, to build a response to governments near term, strategic, policy and operational needs.

The six studies are:

1. Epidemiology and surveillance: led by Professor Ian Diamond (Office for National Statistics). Collecting and analysing data to inform appropriate levels of restrictions and protection against imminent outbreaks.
2. Clinical trials infrastructure: led by Professor Patrick Chinnery (MRC) and Divya Chadha Manek (Vaccines Task Force and National Institute for Health Research). Building on established National Institute for Health Research infrastructure (and equivalent in devolved administrations) to accelerate delivery of large-scale COVID-19 trials for drugs and vaccines.

3. Transmission and environment: led by Professor Andrew Curran (Health and Safety Executive). Understanding and mitigating transmission of the disease in workplace, transport and public places.

4. Immunity (NCSi): led by Professor Paul Moss (University of Birmingham). Understanding immunity against COVID-19 to inform back-to-work policies.

5. Longitudinal health and wellbeing: led by Professor Nish Chaturvedi (University College London) and Professor Jonathan Sterne (University of Bristol). Understanding the impact of COVID-19 on long term health to inform the design of mitigating policies.

6. Data and connectivity: led by Professor Andrew Morris (Health Data Research UK in partnership with Office for National Statistics). Making UK-wide health and administrative data available for linkage and accessible to catalyse COVID-19 research.

Three of the studies (immunity, longitudinal health and wellbeing, and data and connectivity) have been adopted by UKRI to offer solutions at scale that could not be addressed through the usual UKRI support mechanisms.

This competition is part of the NCSi, whose aims are to define:

- what are the immune correlates of vaccine response, how do these vary in people who are immune-suppressed and how may this guide vaccine policy?
- what are the immune mechanisms that underlie re-infection or vaccine failure and can this information be used to guide prediction and prevention?
- how does the development of viral ‘variants of concern’ impact on the immune control of SARS-CoV-2 and how may this be overcome?
- how can understanding of immune function and COVID-specific immunity be used to guide policy decisions regarding management of the pandemic?

Awards made through this funding opportunity will be monitored by the NCSi.

**Data and software sharing and open access requirements**

Data produced as a result of this funding will need to be shared in line with the joint statement on sharing research data and findings relevant to the novel coronavirus outbreak, to which UKRI is a signatory.

Read the [joint statement on sharing research data and findings on the Wellcome website](#).

Software, such as analysis scripts, spreadsheets or modelling codes, created as part of the work under this funding should be similarly shared.
Terms and conditions

Funded grants will be managed according to UKRI’s standard terms and conditions.

Additional initiative terms and conditions will include reporting requirements to the NCSi programme, which will manage the portfolio of awards, and require data and software sharing.

MRC reserves the right to amend the application process.

Timeline

- **7 May 2021**
  - Opening date

- **8 June 2021 16:00**
  - Closing date

- **29 July 2021**
  - Assessment panel meeting

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