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Health Data Research UK

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Office for
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British Heart Foundation
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COVID-19 Data Science Research Funding Call

Background

A. The National Core Studies

The [National Core Studies programme](#) (NCS) is enabling the UK to use health data and research to inform both our near and long-term responses to COVID-19, as well as accelerating progress to establish a world-leading health data and research infrastructure for the future.

The **National Core Studies** are:

- **Epidemiology and Surveillance** – led by Professor Sir Ian Diamond, UK National Statistician, Office for National Statistics
- **Clinical Trials Infrastructure** – led by Professor Patrick Chinnery, Clinical Director, Medical Research Council and Dr Divya Chadha Manek, Head of Business Development, Vaccines Task Force
- [Transmission and Environment](#) – led by Professor Andrew Curran, Chief Scientific Adviser, Health & Safety Executive
- **Immunity** – led by Professor Paul Moss, University of Birmingham
- [Longitudinal Health and Wellbeing](#) – led by Professor Nishi Chaturvedi, University College London and Professor Jonathan Sterne, University of Bristol
- [Data and Connectivity](#) – led by Professor Andrew Morris, Director, Health Data Research UK.

B. Data and Connectivity National Core Study

- [Data and Connectivity NCS](#), funded by UKRI and led jointly by Health Data Research UK and Office for National Statistics, is bringing together key data assets, research infrastructure and organisations from across Scotland, Wales, England and Northern Ireland to organise medical, biological and social science data on an unprecedented scale.
- The programme works with a UK-wide network of [Trusted Research Environments \(TRE\)](#) to deliver secure, streamlined access to [a variety of health and administration data](#) across the four nations.
- To accelerate COVID-19 research, this vital data is being made available through the [Health Data Research Innovation Gateway](#) to researchers.
- It is vital to the success of Data & Connectivity NCS that patients and members of the public have been involved from the outset, inform discussions and influence decision making. [Patient and public involvement and engagement \(PPIE\)](#) is a core theme that runs throughout all work.
- In December 2020, Data and Connectivity NCS launched a rapid funding call to enable researchers to access and use data assets assembled by the Data and Connectivity NCS to further existing Covid-19 related research, and to inform future design of the UK-wide data infrastructure. [12 projects were supported.](#)



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The Alan Turing Institute



C. The Alan Turing Institute

- The Alan Turing Institute is the national institute for data science and artificial intelligence, with the mission to make great leaps in data science and artificial intelligence research in order to change the world for the better.
- The Turing is partnering with the Royal Statistical Society and the Department of Health and Social Care's Joint Biosecurity Centre (JBC) to provide further independent statistical modelling and machine learning expertise to support the government's response to COVID-19.
- The partnership bolsters existing capabilities within the JBC, which has been a key arm in the UK's fight against COVID-19, working with Public Health England colleagues to support the NHS Test and Trace programme in breaking chains of COVID-19 transmission. The Turing and RSS provide independent insight and analysis of NHS Test and Trace via their **Statistical Modelling and Machine Learning Laboratory**, to grant the JBC deeper understanding of how the virus is spreading across the country and the epidemiological consequences. This academic insight is brought together with the data science and public health expertise of the JBC to support COVID-19 decision-making at local and national levels.
- The [Alan Turing Institute](#), is now supporting the Data and Connectivity NCS with matched funding for research projects which **address high priority research questions to apply advanced analytics to the NCS data assets and infrastructure**.

The Call

D. Purpose of funding call

The aims of this call are to:

- **Support research projects and analysis that create new knowledge, expand the research outputs** of the **National Core Studies** and provide new insights for policy makers and system leaders relevant to the national COVID-19 response and future pandemic preparedness.
- **Enable research which benefits patients and the public** and provides an opportunity for patients and the public to inform research.
- **Utilise and improve the data infrastructure and capabilities** that have been assembled through the Data & Connectivity NCS programme, using Trusted Research Environments to connect to NCS data assets.
- Use the TRE analytical environment to apply **novel statistical and mathematical modelling and machine learning expertise**, where this has most potential to generate insight into policy-relevant research questions.
- **Enhance the data assets** being made available through Data & Connectivity NCS e.g. by introducing new datasets, linkages, improvements or tools, making these accessible for other researchers to use.



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E. Priorities & themes for this call

- Projects that seek to **utilise the multiple datasets currently linked and available in TREs to conduct analyses**. Projects analysing single datasets are considered lower priority for this Call. Linked datasets available now in TREs that are likely to be of particular utility to applicants include:
 - Covid-19 viral variant summary and genomic sequencing data provided via Covid-19 Genomics UK, including over 800,000 SARS-CoV-2 viral genome sequences
 - Linked outbreak-relevant data from clinical records, research studies and audit from key initiatives across the UK including CO-CIN, COG UK and GenOMMIC.
 - Linked national electronic health record data asset of >55M people in England
 - Linked COVID vaccination data including vaccine status and adverse events across the UK
 - Linked Public Health Research Data asset, including census, mortality, hospital episode statistics and primary care data
- For more information on which datasets are available, what they contain and how applicants can access them via TREs, see section M below. Our in depth guide for researchers planning to use Covid data, and the applicant webinar on 6th September 2021, will answer many frequently asked questions (register for the webinar here).
- A non-exhaustive, indicative list of research themes identified as current priorities by policy-makers, the NCS research community and our public advisory board include:
 - What is the effectiveness of vaccines in protecting against Covid-19-related death, hospitalisation, disease, infection and transmission?
 - How does this differ for each vaccine, and for different groups of the population?
 - How long does vaccine induced protection last?
 - How does number of doses and dosing schedule impact effectiveness?
 - How do inequalities impact upon Covid related disease, vaccination effectiveness and safety across different genders, ethnicities and other groups, and how do these interact with risk of bias in AI / machine learning approaches?
 - How does variation in viral and host genetics influence disease modelling, severity and treatment?
 - What is the spillover impact from Covid on other NHS services such as mental health and childhood immunisation?
 - What is the correlation between prognostic scores using the ISARIC 4C Mortality score at hospital admission and morbidity at 3 months and 12 months after hospital discharge in patients with and without pre-existing airways disease?
 - What is the impact of easing of restrictions, and what can be learned from differences in easing between regions of the UK?
 - Are patients treated for acute COVID-19 with and without pre-existing airways disease at higher risk of future cardiovascular complications (eg, myocardial infarction or stroke at 6



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months and 12 months after hospital discharge) than those without pre-existing airways disease?

- What are the predictors of hospital readmission or Long Covid after COVID-19?

G. Public and Patient Involvement and Engagement (PPIE)

- Effective PPIE is critical to successful health data research and is required as part of the data sharing principles.
- Through the Data & Connectivity NCS, we are co-ordinating a comprehensive programme of PPIE to build transparency and earn public trust in the use of the data
- The funding call requires proposals for funding to demonstrate that PPIE is an integral part of the proposed work.
- Applicants are to specify in their application (a) how the proposal has been developed with patients and members of the public, or informed by patient and public views, and (b) how PPIE will drive the research for the funded period.
- HDR UK is able to offer advice and support to research teams to develop their PPIE plans, as well as provide connections to patient and public networks for recruitment.
- Successful applicants may be asked to contribute to this wider programme by providing time or expertise, as well as contribute to engagement activities such as blogs and other communications for the public about their research.
- Successful applicants will also agree to their project being included within a public data use register in line with the [recommendations and standard](#) being developed by UK Health Data Research Alliance.
- This call specification has been commented on by members of the Data and Connectivity NCS Public Advisory Group, and the assessment Panel will include lay assessors.

H. Funding available

Up to £2M, inclusive of VAT is available for this call. The maximum available for any individual award will be £250,000 inclusive of VAT (if applicable).

We anticipate awarding funding for as many studies as possible, based on the scoring criteria, until the maximum funding is allocated. Maximum duration of projects is 12 months, and we welcome proposals using [data assets that are already linked and available in TRE](#) that expect to conclude within 6 months.

Funding is available for resources associated with analysing the data made discoverable and accessible by the Data & Connectivity NCS. Funding can also be requested to support Public and Patient Involvement and Engagement, as well as dissemination, communication and engagement activity and study management.

Applicants do not need to budget for costs relating to data access, existing linkages and use-based charges for working in the TRE, as these are covered by existing core funding of the Data & Connectivity NCS to the TRE delivery partners.



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Awards will be made at 80% fEC.

Projects are expected to commence by mid October 2021, with teams expected to have submitted data access requests via the Health Data Research Innovation Gateway within 4 weeks of commencing.

I. Eligibility

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](#).

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.

Lead applicants are encouraged to consider forming new partnerships with other applicants or partners, where appropriate, for example, to build the domain, data engineering and analysis skills required.

Current HDRUK/ONS UKRI Data and Connectivity NCS Award Holders

Applicants who were funded in the previous rapid funding call announced in December 2020 are eligible to apply but they must submit a new application with aims that are judged to be significantly different to their original aims. Costed extensions to existing awards will not be considered as part of this Call.

Researchers funded by one of the other National Core Studies will be eligible to apply for funding through this route but for research that is distinctive and clearly adds value. Please contact [the HDR D&C team](#) to discuss eligibility before application.

J. Selection criteria

Projects will be selected based on their ability to:



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- Apply statistics, data science and/or AI to produce **high quality results that can inform the near term national COVID-19 response, aligned with the aims of the National Core Studies**
- **Add value** compared to existing, [currently funded National Core Studies research](#)
- Enable **greater impact from COVID-19 research** through access to the large and rich datasets available through the Data & Connectivity NCS
- **Enhance the [data assets](#) being made available through Data & Connectivity NCS** e.g., by creating additional linkages, improving data utility, creating legacy resources (datasets, code, tools) to be made available via the Health Data Research Innovation Gateway.
- To demonstrate that **patient and public involvement and engagement** is an integral part of the proposed work.

The rapid review process is being run by HDR UK in partnership with ONS, the NCS and the Alan Turing Institute, with support and advice from UKRI, and with an independent panel review.

Applicants are requested to provide a three-part response:

1. Their proposal through a 2180-word assessed section using the template available on our website.
2. Two accompanying materials (Gantt Chart and Risk Register)

K. Timing

- Funding call launched 3rd September 2021
- Webinars for applicants on data availability and access 10:00 BST [6th September 2021](#) and [14th September 2021](#)
- Clarification questions from potential applicants submitted by 17:00 BST 22nd September 2021
- Applications submitted by 17.00 BST 1st October 2021
- Successful applications announced w/c 18th October 2021
- Projects commence by end of October 2021
- Projects complete by 30th September 2022

L. Application process

Clarification questions from potential applicants must be received by **17:00 BST 22nd September 2021** or earlier. These must be submitted, by email to dataconnectivity@hdruk.ac.uk with the clear subject heading **D&C NCS Research Funding Call**. Any questions received after this date may not be responded to. Responses will be collated and published to all on the D&C website, rather than provided individually.

On 6th September 2021, Data and Connectivity National Core Study will [co-host a webinar](#) with UKRI showcasing [the data available to researchers wanting to conduct COVID-19 research](#), and how researchers can apply to access this data via the Health Data Research Innovation Gateway. [Register here](#). In addition,



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the BHF Data Science Centre are co-hosting a webinar with NIHR which will showcase the NHS Digital data available within the NHS Digital TRE on 14th September. [Register here.](#)

In order to be considered, the application must be submitted by email with a clear subject heading (**D&C NCS Research Funding Call**) to dataconnectivity@hdruk.ac.uk and received by **17.00 BST 1 October 2021**

Applications meeting these submission requirements will be considered the final versions to be used for assessment; no further revisions will be allowed after **17.00 BST 1 October 2021**

Applications sent to other email addresses or which are received after the deadline passes will not be considered.

M: Developing your application

The applicant webinar on 6th September 2021 will answer many frequently asked questions ([register here](#)). Our [in-depth guide for applicants](#) gives details about data availability and access. To ensure that your project can commence promptly on receiving funding, applicants are strongly encouraged to consider the below **before** submitting their application:

1. Which datasets could you use?

The Data & Connectivity NCS has made 88 Covid datasets available for use in TREs. Our [in depth guide for applicants](#) gives an overview of all Covid datasets available. For each dataset, more information is available on [the Health Data Research Innovation Gateway](#), including dataset contents, quality and metadata.

2. Which TRE would you access data from?

Applicants will access data via one of the following members of the UK TRE network: [Office for National Statistics Secure Research Service](#); [Public Health Scotland National Data Safe Haven](#), [SAIL Databank Wales](#) NHS Digital [Health and Social Care Northern Ireland Honest Broker Service](#) and [OpenSAFELY](#). Applications for NHS Digital data will be processed and applied for via the [BHF Data Science Centre](#). As TREs differ in their data available, existing data linkage and analytical tools provided, applicants are strongly encouraged to **discuss their project requirements with the [Data & Connectivity NCS team](#) prior to submitting** a funding application or data access request.

3. What Data Access Requests will you submit?

You will need to submit a Data Access Request via the [Health Data Research Innovation Gateway](#), in some cases accompanied by additional access documentation. We recommend that once applicants have researched their data access needs, they begin the data access request process promptly, rather than waiting for confirmation of receiving funding.

4. What accreditation will you need?

Access to the TREs requires approval or accreditation. Approval requirements vary between TREs, and may include completion of [training in information governance and privacy](#), confirming an [Assured Organisation Connectivity](#) agreement with your research organisation and/or individual [researcher accreditation](#) under the Digital Economy Act 2017. See the [in-depth guide for applicants](#), or contact the Data & Connectivity team for more details.