

HDRUK
Health Data Research UK



HSC Public Health Agency
Research and Development

NICOR



Public Health Scotland

NHS Digital

SAIL DATABANK

UK Health Data Research Alliance

Office for National Statistics



epcc

COVID-19 Health Data Research

27 April 2021 - Fortnightly update for SAGE, National Core Studies & UKRI/DHSC

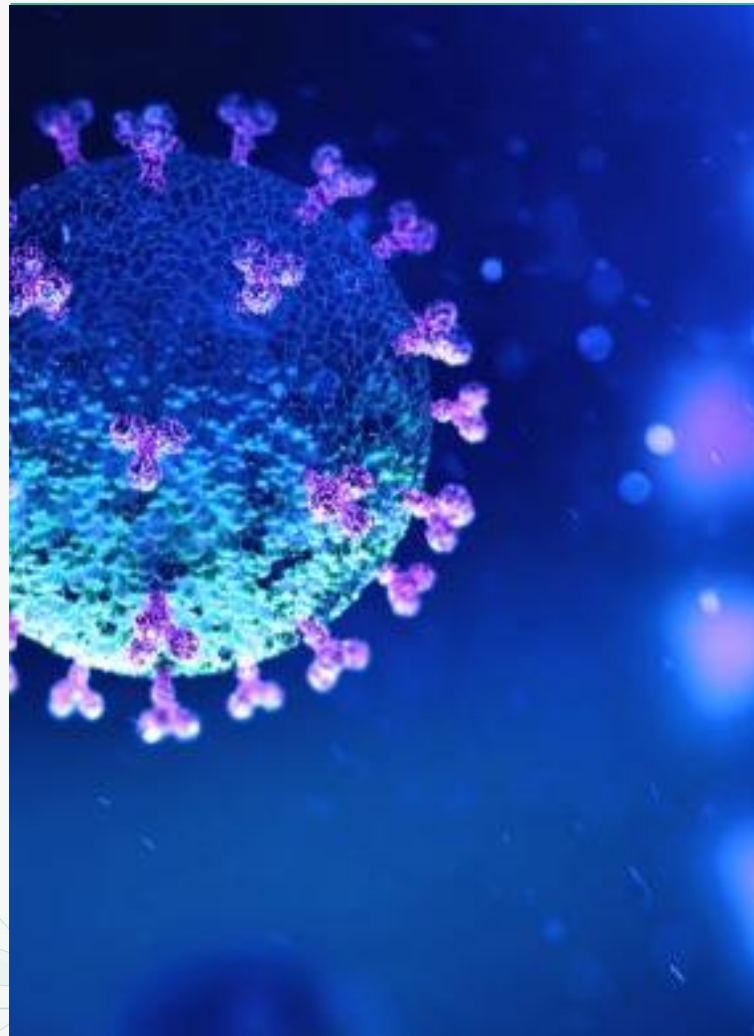
Authors:

Alice Turnbull, Health Data Research UK
Andrew Morris, Health Data Research UK
David Seymour, UK Health Data Research Alliance
Caroline Cake, Health Data Research UK (lead)
Sinduja Manohar, Health Data Research UK
Susheel Varma, Health Data Research UK
Cathie Sudlow, BHF Data Science Centre
Sophie Morris, Health Data Research UK
Ashleigh Smith, Health Data Research UK
Hollydawn Murray, Health Data Research UK
James Pickett, Health Data Research UK
Lara Edwards, Health Data Research UK
Melissa Lewis-Brown, Health Data Research UK

John Deanfield, NICOR
Mark Parsons, Scotland National Safe Haven
Charlie Davie, DATA-CAN
Members of the HDR UK Public Advisory Board & COVID-19 PPIE Group
Ming Tang, NHS England and Improvement
Nilesh Samani, British Heart Foundation
National Core Study Programme Leads
Pete Stokes, Office for National Statistics
Ronan Lyons, SAIL Databank (UKRI/DHSC sponsor)
Carole Morris, Public Health Scotland
Garry Coleman, NHS Digital
Ian Young, Health & Social Care Northern Ireland



Health data research community highlights this period



34 COVID-19 taskforce calls with **183** clinical and health data research leaders engaged



1,214 COVID-19 pre-print publications



771 academic, industry and NHS participants in COVID-19 Slack channel with 10 sub-channels



111 health data research questions identified



Patient and Public Voice Feedback:

- A lot of positive progress has been made but as we move out of the 'emergency phase' we must sustain momentum
- Following recent news in the US, it is clear research should explore if there any hesitations in receiving a second dose so as to enable targeted interventions and avoid the same thing happening in the UK.
 - Whilst it was predicted in the early stages of the pandemic, we're seeing more and more evidence of the impact of COVID-19 on mental health. Research is needed as a matter of urgency to address concern over whether our existing mental health services have the capacity to be able to support these individuals.
 - It is clear there are pros and cons to the use of vaccine passports, but further research needs to be done to better understand the public's perception of whether the benefits outweigh the risk.

Click [here](#) to read more feedback



Click [here](#) for a list of regularly updated COVID-19 research questions from the health data community

Research topics with new insights generated in last 2 weeks

Health data research outputs on COVID-19 continues to grow, now reaching 1,214 (+10) non-peer-reviewed pre-prints & 138 (+7) published papers.

Topic	Insights from ongoing studies (links provide further details):
Surveillance & Epidemiology	<ul style="list-style-type: none">• The latest analyses from the community survey, REal-time Assessment of Community Transmission study-1 (REACT-1), suggest that the vaccine rollout has resulted in fewer COVID-19 related hospitalisations and deaths as prevalence of infections diverges from deaths.• Linked COVID-19 contact tracing and testing data of >2 million people in England has provided evidence that infectivity increases with viral load, the UK variant is more transmissible, and lateral flow devices can detect most COVID-19 infections that would lead to onward transmission.• A study combining proteomic and genetic data from the SCALLOP consortium and Host Genetics Initiative, respectively, identified a protein called FAS as contributing to severe COVID-19 and suggests the FAS pathway may be a promising therapeutic target.
Immunity & Vaccines	<ul style="list-style-type: none">• A retrospective study of >2.1 million people in London linking real-time clinical and operational data provides further evidence that a single dose of Oxford-AstraZeneca or Pfizer-BioNTech vaccine reduces COVID-19 risk in adults across all ages, ethnic groups, and risk categories—whilst vaccine hesitancy was highest in the most deprived areas.
Longitudinal health & wellbeing	<ul style="list-style-type: none">• A collaboration of 12 UK longitudinal studies using data from >59,000 participants found that the pandemic is likely exasperating existing mental health inequalities. People with prior mental ill-health were more likely to suffer negative healthcare and economic consequences during the pandemic, such as delays in accessing medication and loss of employment; a consideration for policymakers provisioning current and post-pandemic support.• Women with polycystic ovary syndrome have a 50% higher risk of contracting COVID-19, as determined using primary care electronic medical records from The Health Improvement Network database for nearly 100,000 women. It is important that these findings are reflected in public health policy and advice.• An entire population-based study of Scotland and Wales using data from Public Health Scotland and the Secure Anonymised Information Linkage Databank (SAIL) revealed a substantial decline in asthma emergency admissions during UK lockdown and no corresponding increases in asthma deaths. Similarly, a cohort study of >100,000 patients with asthma across England showed a marked reduction in attendance to primary care for asthma events during the pandemic.• A systematic review of 33 papers suggests that vaccine passports are generally favoured by the public when used for international travel and protecting the vulnerable, but not when used for access to work, education, or religious settings. The study suggests COVID-19 vaccine passports have the potential for both harm and benefit – and any use would require real-time monitoring and modification.
Transmission & Environment	<ul style="list-style-type: none">• Analyses of electronic staff records for 902,813 NHS workers in England revealed that absence due to COVID-19 was more than doubled in nurses and supporting health professionals by comparison to admin/clerical roles; risk reduction strategies are required for nurses and supporting health professionals in the event of a 3rd wave. Additional analyses of NHS electronic staff records (n=959,356) show increases in absences due to mental illness and marked decreases due to cancer during the pandemic – adding to concerns about staff wellbeing as well as delayed cancer diagnoses and treatments, and the resulting backlog.• A reproducible method for determining household composition using routinely-linked administrative data, applied to the Secure Anonymised Information Linkage Databank (SAIL) has been developed, which may be useful in understanding disparities in COVID-19 outcomes.
Clinical Trials	<ul style="list-style-type: none">• Interim analyses from the Platform Randomised trial of Interventions against Covid-19 In older peoPLE (PRINCIPLE) trial show inhaled budesonide, a widely available asthma drug, shortens recovery times in COVID-19 patients (aged >50; n=1779) treated at home or in community settings. The treatment is available in UK primary care.

Data & Connectivity National Core Study: COVID-19 dataset availability – 27 April

Vaccine data and viral genome data now available for Scotland in Data Safe Haven and can be requested via the Gateway.

KEY

1. Custodian engagement

2. Dataset available in secure Trusted Research Environment

3. Linkages established to other priority datasets (within TRE)

4. Datasets available for COVID-19 research via Gateway

Further information about **Data & Connectivity** can be found [here](#), along with our [latest monthly sprint report](#)

Data and Connectivity National Core Study [webpages](#) and [dashboard](#) now live

Core COVID-19 Datasets available for linkage	Office for National Statistics Secure Research Service	England (NHS Digital Data Processing Service)	Scotland (National Data Safe Haven)	Wales (SAIL Databank)	Northern Ireland (Honest Broker Service)
C-19 vaccine data collection	To be made available shortly. Accepting applications now	Vaccines Events & Adverse Reactions	Scottish Vaccination Data	COVID Vaccination Dataset	Data access agreed. Data to be transferred to TRE shortly from Vaccine Management System
COG-UK viral genome	Awaiting data flow from Public Health England	Awaiting data flow from Public Health England (to follow flow into ONS)	COG-UK data available in TRE Subset also linked to CO-CIN data	Awaiting data from Public Health Wales	Governance agreed, automation of data flow to PHA in progress
Pillar 1 COVID-19 Testing Data	To be linked to Test and Trace data	COVID-19 Second Generation Surveillance System (SGSS)	Electronic Communication of Surveillance in Scotland (ECOSS)	COVID-19 Test Results	COVID antigen testing - Pillar 1
Pillar 2 Testing data (UK Gov)	To be linked to Test and Trace data	COVID-19 UK Non-hospital Antigen Testing Results (Pillar 2)	Electronic Communication of Surveillance in Scotland (ECOSS)	COVID-19 Test Results	Missing results prior to 26 Apr – Data quality issue
Primary Care	GPES linked to census, mortality and hospital data for internal access only	GPES extract – 98% practice coverage, large subset of codes (4bn items) Community Prescribing	Albasoft ESCRO GP Extraction* Prescribing Information System	80%+ coverage of full longitudinal record, with 100% coverage for COVID codes	Enhanced Prescribing Database as proxy
Secondary Care	Census-Mortality-HES linked data asset now available (ONS/NHSD)	100% coverage – HES. SUS via DARS extract only, available in TRE soon	100% coverage	100% coverage	Admissions & Discharges
Personal Demographic Service	Internal use only	100% coverage (via DARS extract only)	100% coverage	100% coverage	
Death registry	Provisional Monthly Extract & Linked Census and death occurrence	100% coverage Civil Registrations - Deaths	100% coverage	100% coverage	
C-19 Infection Survey (CIS)	Linked to Test and Trace data	N/A	Awaiting DEA accreditation	Awaiting decision on data access	Awaiting decision on data access
COVID-19 Clinical Information Network (CO-CIN)	Being linked to 2011 census	Data for English CO-CIN participants available in Scottish Nation Data Safe Haven	Limited metadata. Includes English linked data, and COGUK/CO-CIN data asset	Awaiting decision on data access	Discussions ongoing to collect data in NI
Census 2011	Household structure	N/A			N/A
Covid Opinions Survey		N/A	N/A	Awaiting decision on data access	N/A
Business Impact of Covid Survey	c. 5,000 businesses	N/A	N/A	Awaiting decision on data access	N/A
Labour Force Survey	40,000 households, 100,000 individuals	N/A	N/A	Awaiting decision on data access	N/A
Intensive Care data	Preparing data sharing agreement for ICNARC	HES Critical Care (ICNARC available in June)	SICSAG (updated weekly)	ICNARC COVID weekly, ICNARC quarterly all admissions and critical care routine data (CCDS) monthly	ICNARC to be acquired
Pillar 3 Testing data (NHS labs)	Captured within Test and Trace data	N/A		COVID-19 Test Results	
Pillar 3 Testing data (iELISA)	N/A	COVID-19 UK Non-hospital Antibody Testing Results (Pillar 3)			Data to be validated
Other Pillar 4 Testing data	VIVALDI, REACT II				
ZOE Symptom Study App Data	Finalising data sharing agreement	N/A		UK wide (unlinked) Wales (linked)	

Status of COVID-19 projects using the data – 27 April

7 new research projects now active, taking the total number of active research projects over 330. 11 of 12 rapid funded project now with at least one data request approved (increase of 1 project since last report).

# of COVID-19 Projects by stage (change from previous report)	Office for National Statistics Secure Research Service	England (NHS Digital Data Processing Service)	Scotland (National Data Safe Haven)	Wales (SAIL Databank)	Northern Ireland (Honest Broker Service)	Total
In development	0 (-6)	40 (-)	32 (-3)	12 (-4)	3 (-)	87 (-13)
Submitted for Information Governance approval	1 (-)	10 (-)	9 (-1)	0 (-1)	4 (+4)	24 (+2)
Approved but not yet active	3 (+2)	4 (-)	14 (+6)	3 (+2)	3 (+1)	27 (+10)
Active research taking place	26 (+4)	100 (-)	78 (+3)	129 (-)	1 (-)	334 (+7)
Completed projects	<i>Coming soon</i>	<i>Coming soon</i>	0	0	<i>Coming soon</i>	
Active Number of Researchers	348 (+36)	56 (-)	235 (+3)	256 (+2)	1	895 (+10)
Average time from application to active research	<i>TBC</i>	<i>Not yet available</i>	<i>TBC</i>	<i>TBC</i>	<i>Not yet available</i>	

Participation in key UK wide studies:

- [PRINCIPLE](#): 4,843 participants (+2% in last 2 weeks, with continuing data flow of Pillar 2 COVID +ve test results to support recruitment)
- [RECOVERY](#): 39,703 participants across 181 active sites (+0.4% in last 2 weeks)
- [CO-CIN \(ISARIC 4C\)](#)
 - 205,370 Tier 0 (case report) (+3% in last 2 weeks)
 - 2309 Tier 1/2
- [GENOMICC](#): 12,567 participants (+3% in last 2 weeks) across 212 ICUs with a total of 5091 intensive care beds
- [COVID-19 ZOE symptom study](#): 4,648,280
- [COG-UK](#): 446,521 viral genomes sequenced (+8% in last 2 weeks)

Data & Connectivity National Core Study projects now underway.

Examples include:

- [CovPall-Connect. Evaluation of the COVID-19 pandemic response in palliative and end of life care: Connecting to boost impact and data assets.](#) Led by Professor Higginson, King's College London
- [What are the relative contributions of different exposures and settings to COVID-19 community transmission? Analysis of community cohort studies linked to national testing data](#) led by Professor Andrew Hayward, UCL
- [Ethnicity and COVID-19: investigating the determinants of excess risk](#) led by Professor Khunti and Professor Yates, University of Leicester

Data Use Registers

For more information on the active projects:

- [ONS Secure Research Service](#): List of accredited researchers and research projects under the Research Strand of the Digital Economy Act)
- [NHS Digital](#): Register of approved data releases (includes all access)
- [Scotland](#): Public Benefit and Privacy Panel approvals
- [SAIL Databank](#): COVID-19 projects listed on gateway
- [NI Honest Broker Service](#): Projects currently being carried out.