



COVID-19 Health Data Research

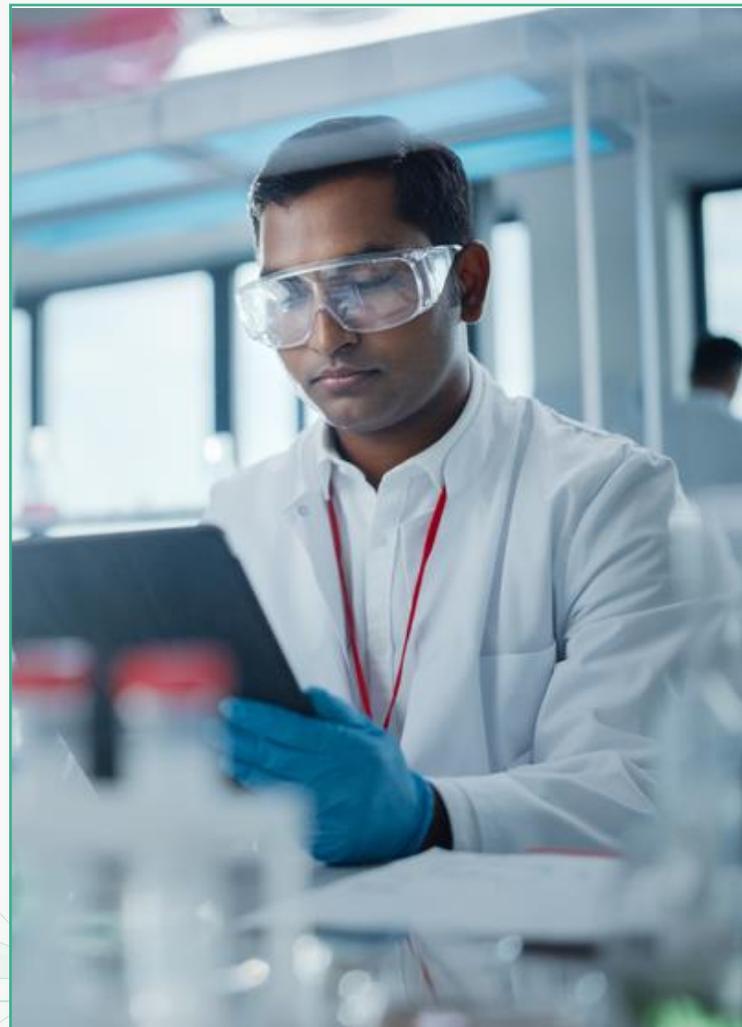
5 October 2021 – Monthly update for SAGE, National Core Studies & UKRI/DHSC

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Health data research community highlights this month



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



1,315 COVID-19 pre-print publications, and **229** papers published



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:

- Positive progress has been made but we must sustain momentum as life returns to 'normal' for many in the population:
- Further research needs to explore how a booster programme can help maintain reduced transmission levels across the UK with focus on if there is any difference in reduced transmission between different vaccines (and what are the time periods to consider around reduced transmission following vaccinations), population groups and/or conditions and variants of the virus.
 - It is imperative we see more trials, such as the PRINCIPLE trial, that explore medication already in use for other conditions being used as a treatment option for COVID-19, particularly as we see the number of people who remain unvaccinated.
 - With a high number of cases, research needs to be prioritised to better understand and monitor those who contract the virus following double vaccination now that more and more people have had both doses - this will be helpful in monitoring emergence of new variants, e.g., are certain population groups or demographics more at 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 4 weeks

Health data research outputs on COVID-19 now total 1,315 (+14) non-peer-reviewed pre-prints & 229 (+8) published papers.

Topic	Insights from ongoing studies (links provide further details):
Surveillance & Epidemiology	<ul style="list-style-type: none">• Whole genome sequencing for 7,491 critical COVID-19 patients and 48,400 population controls, as part of the GenOMICC (Genetics of Mortality in Critical Care) study, has discovered and replicated gene variants associated with susceptibility to severe COVID-19 – specifically, genes involved in inflammation.• Swab test and questionnaire data collected from >1 million people in England as part of the REal-time Assessment of Community Transmission-1 (REACT-1) study has shown that COVID-19 is linked with a wider set of symptoms than previously determined including: loss/change of smell, loss/change of taste, fever, new persistent cough, chills, loss of appetite, headache, and muscle aches. This group of symptoms may be useful in improving identification of cases and, where testing is limited, priority setting. Additional results from REACT-1 show a rapid increase in COVID-19 infections (end of May - early July 2021) driven by the Delta variant and primarily in younger, unvaccinated people. These findings suggest additional interventions (especially for young people) are needed alongside continued surveillance.• Real-time screening of >4 million PCR-test results from 482,677 participants alongside population-level demographic and behavioural data, as part of the Office for National Statistics (ONS) COVID-19 Infection Survey (CIS), suggests screening is a valuable tool in understanding the factors driving COVID-19 positivity – which could inform policy and public health messaging.• Analyses of routinely-collected healthcare data from 972,971 people with atrial fibrillation indicate that pre-existing use of antithrombotic drugs (such as aspirin) may offer slight protection against COVID-19 death. Based on these findings, a randomised control trial may be warranted.
Immunity & Vaccines	<ul style="list-style-type: none">• Analyses of vaccination, demographic, census and electronic health record data via the Secure Anonymised Information Linkage (SAIL) Databank for >1 million people over the age of 50 found that, whilst overall vaccination coverage in Wales is high, it is lower in deprived areas and among ethnic minority groups. This data highlights the need for engagement with deprived and ethnic communities, as well as targeted interventions.• Using a large random sample from the UK as part of the ONS CIS study, researchers found that protection from COVID-19 from both the Oxford-AstraZeneca vaccine (n=120,868) the Pfizer-BioNTech vaccine (n=65,677) is boosted significantly following a 2nd dose – and the time between doses has a limited effect on this.• Results from a matched case-control study of the Scottish population suggest that while vaccine efficacy against severe COVID-19 declined with the prominence of the Delta variant, this decline was only temporary and rapid early waning of efficacy against hospitalised COVID-19 after the second dose tapers off within a few months. These findings are reassuring and may help inform future booster strategies.• Analyses of routinely-collected primary care data linked to hospital admission, death and hospital prescription data for >17 million people in England indicate that people with immune-mediated inflammatory diseases are more likely to die and be hospitalised from COVID-19; risk is also increased for people taking rituximab (but not other immune modifying medications). These data have implications for future risk mitigation, vaccination, and booster strategies.
Longitudinal health & wellbeing	<ul style="list-style-type: none">• A recent study analysing service usage change for people shielding in NHS Grampian (n=16,092) found that people who shielded, particularly younger people and those with cancer, better maintained scheduled care by comparison to the non-shielding population.
Transmission & Environment	<ul style="list-style-type: none">• Analyses of contact testing data from England (n=151,821) revealed that vaccination with Oxford-AstraZeneca or Pfizer-BioNTech reduces COVID-19 transmission. The extent of reduction differs between vaccines and variants (ie Delta is reduced by less than the Alpha variant), and decreases over time.
Clinical Trials	<ul style="list-style-type: none">• Results from the Platform Randomised Trial of Treatments in the Community for Epidemic and Pandemic Illnesses (PRINCIPLE) trial involving 2,755 participants indicate that colchicine does not improve time to recovery in adults with COVID-19 in the community.

Data & Connectivity National Core Study: COVID-19 dataset availability – 5 October

No change in the last month but work continues to onboard intensive care data to English and Northern Irish trusted research environments

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 on [our website](#), and in our new brochure: [Data available for COVID-19 research across the UK](#)

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	COVID-19 Vaccination
COG-UK viral genome	COVID-19 COG-UK Viral Genome (variant strain data)	N/A	Viral variant data available in TRE Subset also linked to CO-CIN data	Viral variant and full sequence data available in TRE	Viral variant data
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	Census-Mortality-HES-GPES linked data asset now available (ONS/NHSD)	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-GPES 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)		N/A	Data to be validated
Other Pillar 4 Testing data	VIVALDI, REACT II			N/A	
ZOE Symptom Study App Data	Finalising data sharing agreement	N/A		UK wide (unlinked) Wales (linked)	

Status of COVID-19 projects using the data – 5 October

12 new projects in development, most of which requesting access to data in the Welsh SAIL databank. A net increase of 3 projects are now active.

# 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	6 (+1)	17 (+2)	19 (+2)	57 (+7)	3 (-)	102 (+12)
Submitted for Information Governance approval	1 (-)	29 (+9)	6 (+1)	0 (-2)	0 (-)	36 (+8)
Approved but not yet active	1 (-)	34 (+27)	16 (-1)	3 (-)	1 (-)	55 (+26)
Active research taking place	36 (-)	118 (-)	112 (+7)	106 (-4)	4 (-)	376 (+3)
Completed projects	6 (+1)	0	5	64 (+5)	0	75 (+13)
Active Number of Researchers	394 (-4)	48 (+36)	303 (+3)	233 (-12)	10 (-)	988 (+23)
Average time from application to active research	177 days	Not available	15 days	7 days	70 days	
Disclosure requests in last 4 weeks*	Not available	157	75	Not available	69	
Items in disclosure requests*	Not available	255	537	Not available	3200	

* These are requests by researchers to export safe and anonymous data from the Trusted Research Environments. These requests include 'items' such as graphs or data tables

Ongoing research across the TREs: (source: Data and Connectivity Delivery Partners reports)

ONS	Modelling the effects of pandemic control measures and financial support on businesses, regions and households – <i>Institute for Fiscal Studies, University College London</i>
NHS Digital	<i>Pandemic Respiratory Infection Emergency System Triage study (PRIEST) - University of Sheffield</i>
Scotland NDSH	<i>Examining the impacts of COVID-19 social mitigation measures on pregnancy and birth outcomes – University of Leicester</i>
SAIL	<i>Establishing the impact of COVID-19 on the health of domiciliary care workers in Wales and understanding what drives variation – Cardiff University</i>
NI HBS	<i>Evaluation of the COVID-19 pandemic response in palliative and end of life care – Kings College London</i>

Participation in key UK wide studies:

- [PRINCIPLE](#): 6,716 participants (+9% in last 4 weeks)
- [RECOVERY](#): 43,544 participants across 189 active sites (+2% in last 4 weeks)
- [CO-CIN \(ISARIC 4C\)](#)
 - 239,451 Tier 0 (case report) (+3% in last 4 weeks)
 - 2495 Tier 1/2
- [GENOMICC](#): 15,619 participants (+3% in last 4 weeks) across 212 ICUs with a total of 5,091 intensive care beds
- [COVID-19 ZOE symptom study](#): 4,718,846
- [COG-UK](#): 1,089,982 viral genomes sequenced (+18% in last 4 weeks)

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.