



COVID-19 Health Data Research

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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



1,320 COVID-19 pre-print publications, and **237** 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:

- A lot of positive progress has been made, but we must sustain momentum as life returns to 'normal' for many:
- Mental health continues to be of strong importance and an area in which further research is needed given the long-lasting effects we're seeing from recent studies, e.g., poor mental health in the first lockdown did not improve once restrictions were eased. Concern that if certain populations or demographics, e.g., young people, are affected more than others, it will also undoubtedly increase health inequalities.
 - With emerging variants, further research is needed to better understand the symptoms that go beyond the 'usual ones' we are familiar with as it will be essential for public messaging to reduce transmission – this includes symptoms for Long COVID too.
 - With high case numbers in schools, further research is urgently needed to explore effectiveness of mitigation measures, if and how these mitigation measures have an effect on student learning as well as whether some mitigation measures have a bigger effect than others

[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 1,320 (+5) non-peer-reviewed pre-prints & 237 (+8) published papers.

Topic	Insights from ongoing studies (links provide further details):
Surveillance & Epidemiology	<ul style="list-style-type: none">• According to Covid Symptom Study's analyses of proxy-reported data from 109,626 UK school-aged children, the Delta variant does not appear to cause more severe disease in children than the Alpha variant.• Analyses of data from 155,056 paediatric emergency department attendances between March 2016 - July 2021 revealed major changes in the incidence of paediatric respiratory infections during the pandemic; respiratory viruses were initially suppressed during the 1st national lockdown in England, followed by a resurgence of rhinovirus and adenovirus. Changes to seasonal patterns are especially important when considering clinical service demand.• Analyses of electronic health records from USA, Spain and South Korea revealed that people with autoimmune diseases, hospitalized with COVID-19, had worse outcomes and higher deaths compared to influenza.
Immunity & Vaccines	<ul style="list-style-type: none">• Analyses of linked vaccination, primary care, testing, hospitalisation, and mortality data from 5.4 million Scottish adults derived from the Early Pandemic Evaluation and Enhanced Surveillance of Covid-19 (EAVE II) database revealed that men are more at risk of experiencing a severe complication from the COVID-19 virus than women even after vaccination, although the risk is low.• Research comparing the effectiveness of the Oxford-AstraZeneca and Pfizer-BioNTech vaccines in 317,341 healthcare workers in England using linked primary care, hospital, and COVID-19 surveillance records found no substantial differences in rate of infection and COVID-19 hospital attendance and admission.• Analysis of nearly 32 million people in England has shown that although there is an increased risk of neurological complications in those who received COVID-19 vaccines, the risk of these complications is greater following COVID infection.
Longitudinal health & wellbeing	<ul style="list-style-type: none">• An observational cohort study using the UK National Neonatal Research Database (including all admissions to NHS neonatal units in England and Wales over an 8-year period; n= 729,363) found major changes in admissions, care pathways, and outcomes during the COVID-19 pandemic– including a decrease in extremely preterm births which requires further research.• Analyses of data from 54,609 people pooled across 11 UK longitudinal studies found that poor mental health in the first lockdown did not improve once restrictions were eased and females, those with higher degrees, and 25-44 year olds were impacted most.• Analyses of longitudinal data from young adults in England and Wales, as part of the Twins Early Development Study, found that those with pre-pandemic mental health problems were adversely affected at the beginning of the pandemic (though this effect subsided with time).
Transmission & Environment	<ul style="list-style-type: none">• A longitudinal observational cohort study using individual-level linked data for 14,786 care home residents across 697 care homes (from the Secure Anonymised Information Linkage (SAIL) Databank) found that an increase in positive COVID-19 community cases led to an increase in the odds of care home residents testing positive.
Clinical Trials	<ul style="list-style-type: none">• The most recent results from the Randomised Evaluation of COVID-19 thERapY (RECOVERY) trial involving 11,340 patients indicate that colchicine does not improve survival in patients hospitalized with COVID-19.

Data & Connectivity National Core Study: COVID-19 dataset availability – 2 November

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 – 2 November

There is a drop in developing and active projects, with increases in projects completing, mainly at SAIL Databank

# 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	7 (+1)	10 (-3)	0 (-19)	54 (-3)	3 (-)	74 (-24)
Submitted for Information Governance approval	0 (-1)	15 (-7)	1 (-5)	0 (-)	1 (+1)	17 (-12)
Approved but not yet active	1 (-)	7 (+6)	18 (+2)	4 (+1)	1 (-)	31 (+9)
Active research taking place	37 (+1)	62 (-8)	107 (-5)	107 (+1)	4 (-)	317 (-11)
Completed projects	6 (-)	0 (-)	7 (+2)	77 (+13)	0	90 (+15)
Active Number of Researchers	394 (-)	12 (-)	<i>Not available</i>	229 (-4)	10 (-)	645 (-4)
Average time from application to active research	128 days	<i>Not available</i>	13 days	7 days	78 days	
Disclosure requests in last 4 weeks*	<i>Not available</i>	170	77	56	89	
Items in disclosure requests*	<i>Not available</i>	367	637	189	3546	

* 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

** Due to NHS-D reporting process adjustment there are fewer eligible projects in this report. 'Change from previous report' now refers to eligible projects only.

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

ONS	Understanding the heterogeneity of COVID-19 mortality impact: an analysis of ethnicity, socioeconomic inequality, and geography <i>by University of Oxford</i>
NHS Digital	Flu – Vaccination Programme – Ethnic Category information for secondary uses <i>by Health & Social Care Information Centre</i>
Scotland NDSH	COVID-19 MS Coalition mass spectrometry prognostic biomarkers to guide clinical decisions <i>by University of Manchester</i>
SAIL	Rapid response call on the Palliative care service response to COVID-19 <i>by King's College London</i>
NI HBS	COVID-19 impact in those with Severe Mental Illness and neurodevelopmental disorders <i>by Ulster University</i>

Participation in key UK wide studies:

- **PRINCIPLE**: 7138 participants (+9% in last 4 weeks)
- **RECOVERY**: 44,272 participants across 187 active sites (+2% in last 4 weeks)
- **CO-CIN (ISARIC 4C)**
 - 249,241 Tier 0 (case report) (+4% in last 4 weeks)
 - 2507 Tier 1/2 (+0% in last 4 weeks)
- **GENOMICC**: 16,231 participants (+4% in last 4 weeks) across 212 ICUs with a total of 5,091 intensive care beds
- **COVID-19 ZOE symptom study**: 4,728,627 (+0% in last 4 weeks)
- **COG-UK**: 1,213,491 viral genomes sequenced (+11% 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.