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Health Data Research UK



HSC Public Health Agency
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COVID-19 Health Data Research

7 September 2021 – Monthly update for SAGE, National Core Studies & UKRI/DHSC

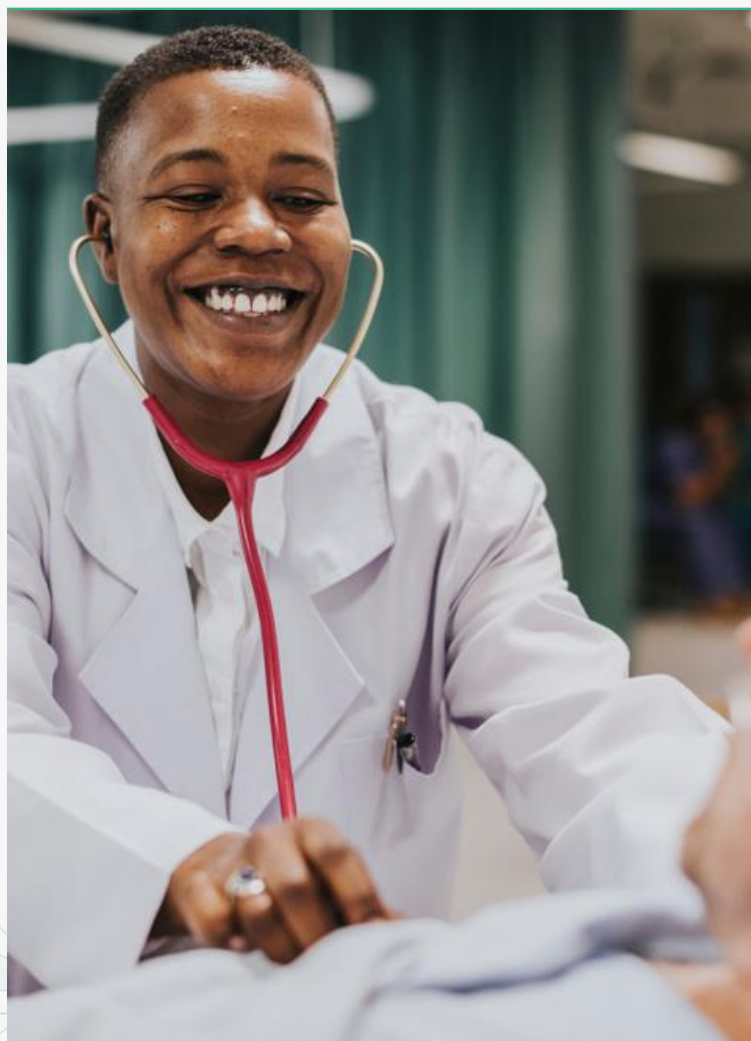
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Health data research community highlights this month



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



1,301 COVID-19 pre-print publications, and **221** 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:

- With more and more people returning to work (with restrictions being lifted and schools now open again after Summer holidays), urgent research is needed to understand any trends in different workplace settings who have been working through the pandemic so that any relevant monitoring programmes can effectively be put in place as people return to work.
- As case rates remain high, in addition to a growing number of people who are fully vaccinated, further research is also needed to better understand the impact on an individual's immunity if they are infected with the virus after full vaccination.
- We must grow our understanding and knowledge of what groups and populations are at greater risk of COVID-19 and have a lower level of effectiveness from vaccines - identifying these population groups is key e.g., priority for any potential booster shots and other public health interventions including messaging.

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 continue to grow, now reaching 1,301 (+15) non-peer-reviewed pre-prints & 221 (+12) published papers.

Topic	Insights from ongoing studies (links provide further details):
Surveillance & Epidemiology	<ul style="list-style-type: none">• An evaluation of tools used to identify patients at risk of adverse outcomes using linked ambulance service data from 7,549 people in England identified a tool (PRIEST) that would improve the sensitivity of emergency medical service triage of patients with suspected COVID-19 without increasing the number of patients transferred to hospital – demonstrating the potential utility of triage tools in pre-hospital settings.• PCR test results and survey responses from 484,317 participants of the Office for National Statistics COVID-19 Symptom Study revealed that COVID-19 symptoms vary with: variant, vaccination status, and demographics. Due to the modest differences, study suggests changes to targeted testing approaches not currently required.
Immunity & Vaccines	<ul style="list-style-type: none">• Analyses of general practice primary care electronic health record data for 24.5 million patients in priority groups in England revealed that ~2% of people considered high-risk refused the vaccine when offered; and refusal was most common among people who are Black, South Asian, or from deprived areas.• A cohort study using routinely collected, linked health data covering nearly the entire adult population in England (>48 million) found the Oxford-AstraZeneca vaccine was associated with higher rates of intracranial venous thrombosis (a blood clotting disorder) and hospitalization due to thrombocytopenia (low blood platelet levels) in patients <70 years old. However, these risks were smaller compared to the vaccine's potential in reducing the severity of COVID-19 morbidity and mortality. The same risk was not observed for the Pfizer-BioNTech vaccine. Similarly, analyses of patient-level data for ~30 million people vaccinated in England indicate that the risk of rare blood clotting after vaccination is lower than that from the virus.• The latest results from the Office of National Statistics COVID-19 Infection Survey explore a number of aspects of virus-vaccination dynamics, comparing three different vaccinations (BNT162b2, ChAdOx1, and mRNA-1273). An overview of their conclusions is that SARS-CoV-2 vaccination still reduces new infections, but effectiveness and attenuation of peak viral burden are reduced with the Delta variant.
Longitudinal health & wellbeing	<ul style="list-style-type: none">• A mixed methods study combining routinely available data on pregnancy and birth outcomes in Wales and an online survey of 215 expectant mothers found the pandemic had a negative impact on mothers' experiences of pregnancy; however, the population-level data suggest this did not lead to adverse birth outcomes for babies born during the pandemic. Further research is required to determine whether the stress experienced during pregnancy has any longer-term consequences.• Analyses of routinely collected general practice, emergency department and hospital admission data covering the 1st and 2nd waves of the pandemic for >3.5 million Welsh residents aged ≥10 years suggest that stay-at-home restrictions impacted on people seeking help for self-harm (with the number of GP contacts reduced disproportionately during both waves compared to other types of presentations).
Transmission & Environment	<ul style="list-style-type: none">• Survey responses from 353 staff across 59 primary schools in Wales linked to national-scale COVID-19 test result data via the SAIL (Secure Anonymised Information Linkage) Databank suggest that mitigation measures (staff face coverings, 2-metre social distancing or stopping children mixing) in schools affect teaching quality – and yet, are not associated with lower school COVID-19 cases. These findings are particularly relevant for policy makers and educators as children return to school.
Clinical Trials	<ul style="list-style-type: none">• A network meta-analysis of 4,608 hospitalized patients with COVID-19 receiving ventilation and corticosteroids across 19 clinical trials confirmed that administration of either tocilizumab or sarilumab (monoclonal antibodies used to treat arthritis and other inflammatory conditions) reduces deaths compared with usual care or placebo.• Interim analyses from a multi-centre, multi-disease, prospective cohort trial (OCTAVE; n=655) found that a group of ~ 11% of immune vulnerable patients do not mount an antibody response 4 weeks following 2nd vaccine dose. These and future findings from this on-going trial may be helpful in guiding booster strategies.

Data & Connectivity National Core Study: COVID-19 dataset availability – 7 September

COVID-19 vaccination and viral variant data now available in the Northern Ireland Honest Broker Service and available to request 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 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 – 7 September

Two new active research projects have started over the last month in the Scottish and Northern Irish TREs, and 4 projects approved but not yet 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	5 (-1)	15 (-)	17 (-)	50 (+7)	3 (-)	90 (+6)
Submitted for Information Governance approval	1 (-1)	20 (-1)	5 (-)	2 (-)	0 (-)	28 (-2)
Approved but not yet active	1 (+1)	7 (+6)	17 (-2)	3 (+1)	1 (-2)	29 (+4)
Active research taking place	36 (-)	118 (-)	105 (+1)	110 (-8)	4 (+1)	373 (-6)
Completed projects	6 (+1)	0	3	56 (+9)	0	62 (+7)
Active Number of Researchers	398 (+20)	12 (+2)	303 (+3)	245 (-5)	10 (-)	968 (+20)
Average time from application to active research	180 days	168 days	10 days	6 days	70 days	
Disclosure requests in last 4 weeks*	Not available	170	63	Not available	54	
Items in disclosure requests*	Not available	515	486	Not available	3173	

* 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	<i>Occupational changes and skill mismatch following COVID-19: Implications for Graduates in the UK</i> – University of Middlesex
NHS Digital	<i>Using medical-detection dogs to identify people with SARs-COV2</i> – London School of Hygiene and Tropical Medicine
Scotland NDSH	<i>Prevalence and impact of pulmonary vascular complications of COVID-19 in PHOSP-COVID</i> – University of Cambridge
SAIL	<i>Rapid response call on the Palliative care service response to COVID-19</i> – Kings College London
NI HBS	<i>COVID-19 impact in those with severe mental illness and neurodevelopment disorders in Northern Ireland</i> – Ulster University

Participation in key UK wide studies:

- **PRINCIPLE:** 6,183 participants (+10% in last 4 weeks)
- **RECOVERY:** 42,784 participants across 189 active sites (+3% in last 4 weeks)
- **CO-CIN (ISARIC 4C)**
 - 232,611 Tier 0 (case report) (+6% in last 4 weeks)
 - 2475 Tier 1/2
- **GENOMICC:** 15,105 participants (+6% in last 4 weeks) across 212 ICUs with a total of 5091 intensive care beds
- **COVID-19 ZOE symptom study:** 4,708,846
- **COG-UK:** 920,163 viral genomes sequenced (+27% 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.