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Health Data Research UK



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epcc

COVID-19 Health Data Research

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Health data research community highlights this period



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



1,286 COVID-19 pre-print publications, and **189** 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 as we move out of a national lockdown, we must sustain momentum:

- As more people are returning to work following the lifting of restrictions, further research into determining the effects and benefits of isolation vs. mass testing will be vital as companies move to a new 'way of working'. The modelling methods carried out at schools should be expanded further to provide these wider findings.
- As case rates remain high, 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.
- There remains a strong interest in long term follow up of COVID-19 patients, including those with Long COVID but also those who overcome the virus to better understand any long-lasting damage that may currently be unknown.

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 continues to grow, now reaching 1,286 (+20) non-peer-reviewed pre-prints & 189 (+15) published papers.

Topic	Insights from ongoing studies (links provide further details):
Surveillance & Epidemiology	<ul style="list-style-type: none">Results from Oct-Nov 2020 of the REal-time Assessment of Community Transmission study-2 (REACT-2) show increased COVID-19 prevalence among healthcare and care home workers, people of Black and Asian ethnicities, as well as essential workers (such as those in education, public transport and other public-facing roles) in comparison to non-essential workers.A retrospective cohort study using linked national Census, electronic health records and mortality data for >12 million adults in England found that in people aged 40 and over obesity is a greater risk factor for COVID-19 death in ethnic minorities.Analyses of linked primary care and hospital data for >150,000 people in England suggest that people discharged from a COVID-19 hospital admission are at higher risk of rehospitalisation and death compared to the general population – highlighting the importance of services, support, and monitoring following discharge.
Immunity & Vaccines	<ul style="list-style-type: none">Swab and blood test data from a representative sample of 7,256 people in the UK suggest that natural immunity (as 50% protection from reinfection) is likely to last avg. 1.5-2 years and is longest in females and people of white ethnicity – which could inform vaccine booster strategies.A community-based cohort study conducted using the COVID Symptom Study app has shown that early symptoms of COVID-19 cannot be differentiated from vaccination side-effects - indicating that people experiencing post-vaccination symptoms should be tested to prevent transmission.A UK-wide multi-ethnic cohort study of 11,584 healthcare workers conducted in December 2020 suggests that ~1/4 are vaccine hesitant - and those from some ethnic minority groups are more likely to be vaccine hesitant than their White British colleagues. Further surveys and strategies to improve vaccine uptake are required.Survey responses from ~4,500 UK adults in December 2020 indicated that reasons people refuse vaccination are diverse and often stem from questions relating to safety, efficacy, speed of development, and absence of long-term data – rather than false information.
Longitudinal health & wellbeing	<ul style="list-style-type: none">An observational study using routinely collected data from Scotland and England suggests that the pandemic is linked to a raise in infant and preschool immunisation in Scotland – but a fall in England.Questionnaire data collected from >400,000 people using the COVID Symptom Study app indicate a small association between COVID-19 infection and symptoms of depression and anxiety in people over 40. Overall prevalence of depression and anxiety symptoms showed a slight increase compared to pre-pandemic levels.
Transmission & Environment	<ul style="list-style-type: none">Analyses of linked electronic health records for >4 million adults over the age of 65 revealed that risk of death was 17x higher for care home residents than non-residents during the 1st wave – with no comparable increase in the 2nd wave and a return to pre-pandemic levels (10x) by June 2020.Modelling of school absence and Pillar 2 community swab data for secondary school students in England revealed that a strategy of serial contact testing alongside mass testing substantially reduces absences compared to strategies involving isolating close contacts, with only a marginal increase in within-school transmission. Similarly, a randomised controlled trial of staff and students from 200 secondary schools and colleges in England suggests that daily contact testing is an alternative to home isolation following school-based exposures.
Clinical Trials	<ul style="list-style-type: none">The RECOVERY-RS trial has demonstrated that integration into a clinical care pathway increases recruitment without significantly increasing costs or labour. This model may be useful to maximise recruitment for other COVID-19 trials.

Data & Connectivity National Core Study: COVID-19 dataset availability – 3 August

Viral genome data is now available in the Office for National Statistics SRS, and available to request via the Health Data Research Innovation 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	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	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	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)	

Status of COVID-19 projects using the data – 3 August

12 additional research projects taking place, with most projects using the Scottish National Data Safe Haven from the ISARIC 4C and PHOSP consortium.

# 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 (-)	15 (-2)	17 (-3)	43 (-5)	3 (-1)	84 (-11)
Submitted for Information Governance approval	2 (+2)	21 (+3)	5 (+2)	2 (-)	0 (-1)	30 (+6)
Approved but not yet active	0 (-2)	1 (+1)	19 (-2)	3 (+1)	2 (+1)	25 (-1)
Active research taking place	36 (+2)	118 (+7)	104 (+8)	118 (-5)	3 (-)	379 (+12)
Completed projects	5 (+2)	0	3	47 (+17)	0	55 (+19)
Active Number of Researchers	378 (-)	10 (-6)	177 (+4)	250 (+9)	10 (-14)	825 (-7)
Average time from application to active research	175 days	168 days	10 days	6 days	70 days	
Disclosure requests in last 4 weeks*	Not available	96	59	Not available	44	
Items in disclosure requests*	Not available	254	474	Not available	3105	

* 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



New research that started this month (source: Data and Connectivity Delivery Partners reports)

- ONS** *Does place matter? An examination of geographical inequalities in COVID-19 in England* – Newcastle University
- NHS Digital** *Using medical-detection dogs to identify people with SARs-COV2* – London School of Hygiene and Tropical Medicine
- Scotland NDSH** *Plasma steroid profile following infection with SARS-CoV-2* – University of Edinburgh
- SAIL** *Understanding the mental health and wellbeing needs of shielded children or children living with shielded patients, before and during the COVID-19 pandemic* – NHS Wales
- NI HBS** *COVID-19 vaccine pharmacovigilance* – Queen's University Belfast

Participation in key UK wide studies:

- PRINCIPLE:** 5,622 participants (+8% in last 4 weeks)
- RECOVERY:** 41,498 participants across 185 active sites (+3% in last 4 weeks)
- CO-CIN (ISARIC 4C)**
 - 220,069 Tier 0 (case report) (+3% in last 4 weeks)
 - 2422 Tier 1/2
- GENOMICC:** 14,315 participants (+5% in last 4 weeks) across 212 ICUs with a total of 5091 intensive care beds
- COVID-19 ZOE symptom study:** 4,692,578
- COG-UK:** 723,904 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.