

**HDRUK**  
Health Data Research UK



**HSC** Public Health Agency  
Research and Development



# COVID-19 Health Data Research

9 March 2021 - Fortnightly update for SAGE, National Core Studies & UKRI/DHSC

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## Health data research community highlights this period



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



**1,177** COVID-19 pre-print publications



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



**111** health data research questions identified



### This Week's Patient and Public Voice Feedback:

“As the population begins to move out of a national lockdown, with reliance on the vaccine programme, key areas of research remain around effectiveness in different populations and possible effects on hospital admissions, understanding factors influencing vaccine uptake and an evaluation of interventions to overcome them and whether certain occupations means other groups should be prioritised for the vaccine.

Additionally, whilst research has shown a complex relationship between COVID-19 and clinical events (such as heart attacks and strokes), additional research is needed to determine whether there are links with other clinical events (not previously explored), whether it affects certain populations more than others and if so, the reasons behind it.”

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 1,177 (+4) non-peer-reviewed pre-prints & 120 (+3) published papers.

Topic	Insights from ongoing studies (links provide further details):
<b>Surveillance &amp; Epidemiology</b>	<ul style="list-style-type: none"><li>• <a href="#">Using primary care and summary hospital records from &gt;17 million people</a>, it was found that rates of events such as heart attacks, strokes and blood clots on the lungs etc during the first wave were reduced in the general population, but were highly likely to occur in people with COVID-19. The complex relationship between COVID-19 and clinical events requires further research.</li><li>• <a href="#">A new resource linking health data for &gt;54 million people from GP records, hospital data, death records, COVID-19 lab tests and data on medications dispensed from pharmacies, is now accessible in the NHS Digital Trusted Resource Environment</a> – the world’s largest single population-based cohort available for research with many applications including enabling long-term COVID-19 follow up.</li></ul>
<b>Immunity &amp; Vaccines</b>	<ul style="list-style-type: none"><li>• New analyses of Public Health England data linking testing, vaccination and hospitalisation data show both <a href="#">the Pfizer-BioNTech and Oxford-AstraZeneca vaccines significantly reduce severe COVID-19 in older adults</a>. Data demonstrate protection against severe disease, including the UK variant, though some vaccinated people went on to develop COVID-19 in the early days following vaccination indicating that other precautions should be maintained (particularly in the 3 weeks following vaccination).</li><li>• Recent results from Public Health England’s SIREN (SARS-CoV-2 Immunity &amp; Reinfection EvaluationN) study in healthcare workers indicate that <a href="#">the Pfizer-BioNTech vaccine prevents both symptomatic and asymptomatic COVID-19 infection, including the UK variant</a>. This is especially important given that reducing transmission in hospitals and care homes will help to protect vulnerable people.</li><li>• Recent research extrapolating US occupational survey data from O*Net suggests <a href="#">most healthcare workers globally are at a high risk of COVID-19 infection, regardless of their role</a> – indicating that healthcare workers should be equally prioritised for vaccination.</li></ul>
<b>Longitudinal health &amp; wellbeing</b>	<ul style="list-style-type: none"><li>• An observational study using historic and recent NHS hospital episode data from 12.5 million patients, found <a href="#">surgical procedures were reduced by 33.6% in England and Wales during the pandemic</a> – equating to a deficit of &gt;6 months pre-pandemic surgical activity that is likely to continue to grow.</li><li>• Analyses of real-time hospital and administrative data detected <a href="#">marked reductions in cardiovascular disease referral, diagnosis, and treatment across China, Italy, and England</a>. Models suggest this reduction is likely to lead to substantial excess deaths in people with cardiovascular disease and those with one than one long term condition.</li></ul>
<b>Transmission &amp; Environment</b>	<ul style="list-style-type: none"><li>• SARS-CoV-2 antibodies and current infection data from &gt;12,000 participants across 121 primary and secondary schools collected as part of the ONS Schools Infection Survey in late 2020 found <a href="#">school infection and staff antibody levels are similar to community levels</a>. Data from future rounds of this survey will be useful in identifying trends, particularly with schools reopening.</li><li>• A provisional report from Virus Watch, a community cohort study in England and Wales, found that <a href="#">people living in overcrowded homes (including those with less than one room per occupant) have a greater risk of COVID-19 infection compared to under-occupied households</a>. This work underscores the need for COVID-19 public health interventions to consider household overcrowding, and to improve housing for health.</li><li>• Behavioural monitoring data from 3,884 participants of the CoMix study suggests that <a href="#">contact between people in England was gradually reduced by local and national restrictions during summer and autumn 2020</a>. Work from home orders appeared to be most effective at reducing contacts, whereas the 10pm bar and restaurant closures had no appreciable effect.</li></ul>
<b>Clinical Trials</b>	<ul style="list-style-type: none"><li>• <a href="#">The RECOVERY trial has closed recruitment to its colchicine treatment arm</a>, as it has not been found to have a sufficiently significant effect in patients hospitalised with COVID-19. Still, <a href="#">the widely used gout drug will be investigated as a treatment for early-stage COVID-19 as part of the Platform Randomised trial of Interventions against Covid-19 In older peoPLE (PRINCIPLE) trial</a>, to see whether it has a significant effect on less severe, non-hospitalised cases of COVID-19. For the colchicine arm, PRINCIPLE</li></ul>

# Data & Connectivity National Core Study: COVID-19 dataset availability – 9 March

Vaccine data now available for Wales and England and will soon be available for Scotland. Viral genome data also soon to be available for Scotland.

**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](#). Including the recently published **Sprint 4 report**.

Linked census, mortality and hospital episode statistics now available as a joint data asset between ONS and NHSD

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 - DARS extract only, soon in TRE	Data being transferred to TRE, available shortly.	COVID Vaccination Dataset	Vaccine Management System Operational – Data to be transferred to Data warehouse
COG-UK viral genome	Awaiting data flow from Public Health England	Awaiting data flow from Public Health England	Subset linked to CO-CIN data Remaining data being transferred, available shortly.	Awaiting data flow 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)		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	HES Critical Care, ICNARC	HES Critical Care Reviewing IG to share ICNARC.	SICSAG (updated weekly)	ICNARC COVID weekly, ICNARC quarterly all admissions and critical care routine data (CCDS) monthly	Critical Care Minimum dataset to be acquired
Pillar 3 Testing data (NHS labs)	Available in COVID Infection Survey	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				UK wide (unlinked) Wales (linked)	

# Status of COVID-19 projects using the data – 9 March 2021

13 new research projects underway, taking the total number of active research projects over 300. 15 data access requests covering 63 data assets now submitted via the Gateway for the 12 rapid funded projects. 3 of 12 project requests approved so far.

# 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	13 (+2)	38 (-2)	38 (+2)	95 (-)	4 (-)	188 (+2)
- a/w researcher	12 (+1)	28 (-)	25 (+3)	56 (-1)	2 (-)	123 (+3)
- a/w data custodian	1 (+1)	10 (-2)	13 (-1)	39 (+1)	2 (-)	66 (-1)
Submitted for Information Governance approval	5 (+4)	10 (+7)	6 (-1)	0 (-1)	0 (-)	21 (+9)
Approved but not yet active	4 (+1)	1 (-3)	9 (+2)	3 (-)	0 (-1)	17 (-1)
<b>Active research taking place</b>	<b>16 (+3)</b>	<b>95 (+4)</b>	<b>69 (+4)</b>	<b>123 (+2)</b>	<b>1 (-)</b>	<b>304 (+13)</b>
Active Number of Researchers	179	52 (+9)	194 (+4)	224 (+18)	1	650
Average time from application to active research	Not yet available	Not yet available	9.33 days	3 days	Not yet available	

## Participation in key UK wide studies:

- [PRINCIPLE](#): 4,507 participants (+5% in last 2 weeks, with continuing data flow of Pillar 2 COVID +ve test results to support recruitment)
- [RECOVERY](#): 38,703 participants across 180 active sites (+3% in last 2 weeks, and +2 active site)
- [CO-CIN \(ISARIC 4C\)](#)
  - 191,645 Tier 0 (case report) (+3% in last 2 weeks)
  - 649 Tier 1 (single sample)
  - 1,631 Tier 2 (serial sampling)
- [GENOMICC](#): 11,595 participants (+4% in last 2 weeks) across 212 ICUs with a total of 5091 intensive care beds
- [COVID-19 ZOE symptom study](#): 4,620,305
- [COG-UK](#): 332,804 viral genomes sequenced

## Data & Connectivity National Core Study projects now underway

15 data access requests covering 63 data assets from 12 studies now submitted via [HDRUK's Innovation Gateway](#). 3 of 12 project requests approved so far. Examples include:

- [Ethnicity and COVID-19: investigating the determinants of excess risk](#) led by Professors Khunti and Yates, University of Leicester
- [COVID-19 Vaccines Pharmacovigilance \(DaC-VaP\)](#) led by Professor Sheikh, University of Edinburgh
- [Real-time Assessment of Community Transmission \(REACT\) Study 2 - COVID antibody \(Data & Connectivity NCS\)](#) led by Professor Elliot, Imperial College London

## Data Access 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.