COVID-19 Health Data Research

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Insights now generating at pace, some contradictory and require further collaborative analysis or more diverse data – particularly primary care

Priority research questions, studies & insights – 12 May 2020

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Priority research questions (short-form)	Studies already working on this:	Insights	Next steps / Outstanding Questions
1. **Why do BAME groups have an increased risk of severe COVID-19 outcomes (RQ34, 37)?**	• University Hospitals Birmingham, Pioneer Health Data Research Hub & DECOVID • NHSD & PHE • CO-CIN • ONS & Discover-NOW Health Data Research Hub • Imperial College	Cumulative, but contradictory insights emerging (see details of insights from individual studies here). No clear understanding of observed patterns at present.	Further meta-analysis required to understand variances in observations (ranging from none, to South Asian to Black ancestry impacts) – is this related to confounding e.g. comorbidities or social determinants? Further consortia building ongoing. Likely to require national & more detailed regional/NHS data resources.
2. **What impact has COVID-19 having on care home patients? (RQ63)**	• HDR UK North – University of Sheffield & Lancaster • Birmingham NHS Trust • UCL • Bristol	Ongoing research	Existing research includes: patterns of incidence, infection dynamics, effectiveness of care home testing strategy, impact of hospital discharge patterns. To avoid selection bias – will require national (e.g. HES) and primary care data.
3. How do we best understand and protect vulnerable populations? (RQ 32, 36, 62)	• HDR UK London (UCL) & Uni of Cambridge and Oxford/Alan Turing Institute	Underlying health conditions can increase 1 year risk of during the COVID-19 death fivefold. Online, public, prototype risk calculator available here: OurRisk.CoV : http://covid19-phenomics.org/PrototypeOurRiskCoV.html	Lancet publication: 13 May 2020 Project in initiation: Understanding vulnerable children using linked NHS Digital (HES), social care and Dept of Education data on ~18million children.
4. What is the impact on treatment and outcomes for non-COVID-19 disease (e.g. cardiovascular) (RQ29)	• BHF Data Science Centre and UK-wide CVD COVID UK consortium	Progress towards establishing a Trusted Research Environment for national English data, similar to those in Wales and Scotland, along with rapid reporting of aggregate data from digitally mature hospitals.	Access to data at UK-wide scale enabling impact on a wide range of cardiovascular disorders (acute coronary syndromes, heart failure, stroke, peripheral vascular disease) to be investigated.
5. Do ACE-Inhibitors and ARBs increase the risk of severe COVID-19? (RQ57)	• King's College London • UCL • Bristol • BHF Data Science Centre	Further evidence confirmed in 1200 acute inpatients in London suggests that there was no evidence for increased severity of disease in patients treated with ACEi or ARB.	Significant risk of selection and "collider" bias (see here) makes further analysis essential – primary care data is vital (for any medication prescribed in primary care). Ongoing national collaborative discussions are being led by the BHF data science centre.

8 COVID-19 weekly taskforce calls with **65** clinical and health data research leaders engaged

1290 academic, industry and NHS participants in COVID-19 Slack channel with 10 sub-channels

62 volunteers in HDR UK's COVID-19 Public & Patient Group

74 health data research questions identified – 28 prioritised

57 COVID-19 pre-print publications

Click here for a link to the full prioritised list of questions, status, and prioritisation process

Priorities to scale-up data use: 1) access to primary care data 2) moving projects from development to IG scrutiny

COVID-19 dataset availability and status of projects using the data – 12 May 2020

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1. Good progress collecting and linking large scale datasets across the national capability but progress on primary care data flows remains slow despite its importance to many priority research questions

Core COVID-19 Datasets available for linkage	England (NHS Digital Data Processing Service)	Scotland (National Data Safe Haven)	Wales (SAIL Databank)	Northern Ireland (Honest Broker Service)
Primary Care				To be included for future weeks
UKGov Testing data				
Community Prescribing				
Critical Care				
Personal Demographic Service				
COVID-19 Surveillance Testing				
Secondary Care				
Death registry				

KEY

- Data flows specified but not yet agreed
- Data flows agreed but not yet available for linkage
- Fully available

2. Activity within the national TREs is predominantly at an early stage of development

# of COVID-19 Projects by TRE stage	England (NHS Digital Data Processing Service)	Scotland (National Data Safe Haven)	Wales (SAIL Databank)	Northern Ireland (Honest Broker Service)
In development	30	24	31	To be included for future weeks
Submitted for IG approval	2	2	0	
Approved but not yet active	2	4	3	
Active research taking place	2	3	14	

KEY UK WIDE PROJECTS:
RECOVERY
CO-CIN (ISARIC 4C)
COG-UK
CARDIOVASCULAR CONSORTIUM

3. Existing and new environments with > 10 million primary care population coverage are also being set up and utilised for COVID-19 research

- Clinical Practice Research Datalink (CPRD) has been running for more than 30 years. It covers 14 million currently registered patients and has 9 approved COVID-19 studies https://www.cprd.com/protocol-list
- OpenSAFELY is a new collaboration between GP System provider TPP with University of Oxford and London School of Hygiene & Tropical Medicine https://opensafely.org/. It covers 24 million patients and has work underway across 5 research areas.

NOTES

TRE - Trusted Research Environment

IG - Information Governance