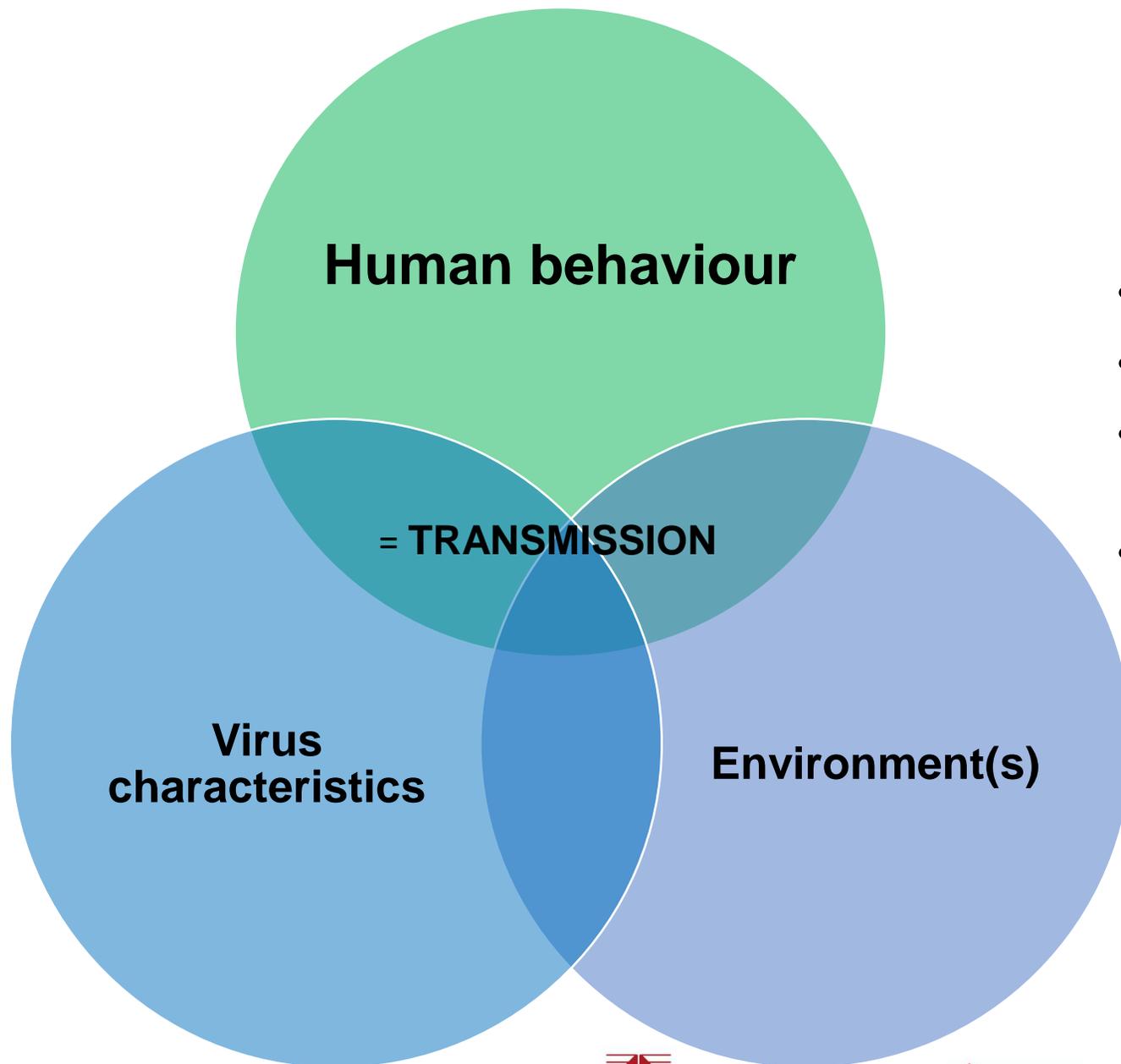




- **PROTECT: Partnership for Research in Occupational, Transport and Environmental COVID Transmission**
- **Professor Andrew Curran**
- **Study lead and Chief Scientific Adviser, Health and Safety Executive**

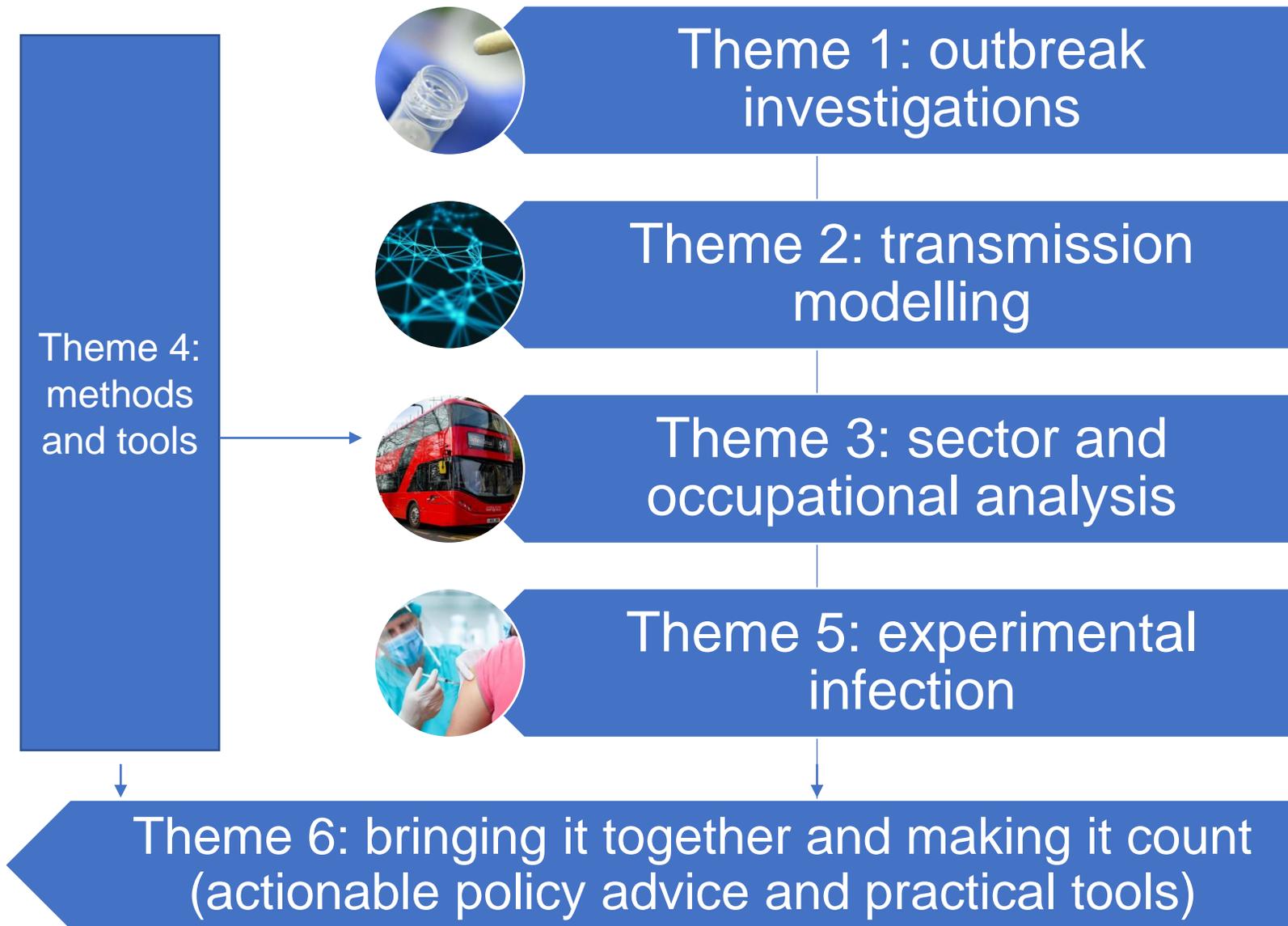


The Real World of Work



Context

- Transmission is a continuous risk
- Three routes of exposure
- Control requires mitigation for each route and each activity
- Risks affected by many factors



Acknowledgements

Theme 1: Yiqun Chen, Derek Morgan

Theme 2: Cath Noakes

Theme 3: Martie van Tongeren, David Fishwick

Theme 4: Allan Bennett

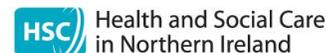
Theme 5: Wendy Barclay

Longitudinal Health and Wellbeing National Core Study

Co-leads

Professor Nish Chaturvedi, University College London

Professor Jonathan Sterne, University of Bristol



COVID-19 Longitudinal Health and Wellbeing National Core Study



COVID-19 National Core Study



Coronavirus post-acute long-term effects: constructing an evidence base



Medical Research Council



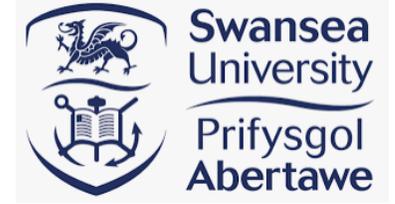
COVID-19 Longitudinal Health and Wellbeing National Core Study



The UKRI funded Longitudinal Health and Wellbeing National Core Study aims to understand the health, social and economic impacts of the COVID-19 pandemic by uniting established population cohorts and national anonymised electronic health records to inform policy.



COVID-19 Longitudinal Health and Wellbeing National Core Study and CONVALESCENCE Collaborative Team



COVID-19 Longitudinal Health and Wellbeing National Core Study



Longitudinal Cohorts



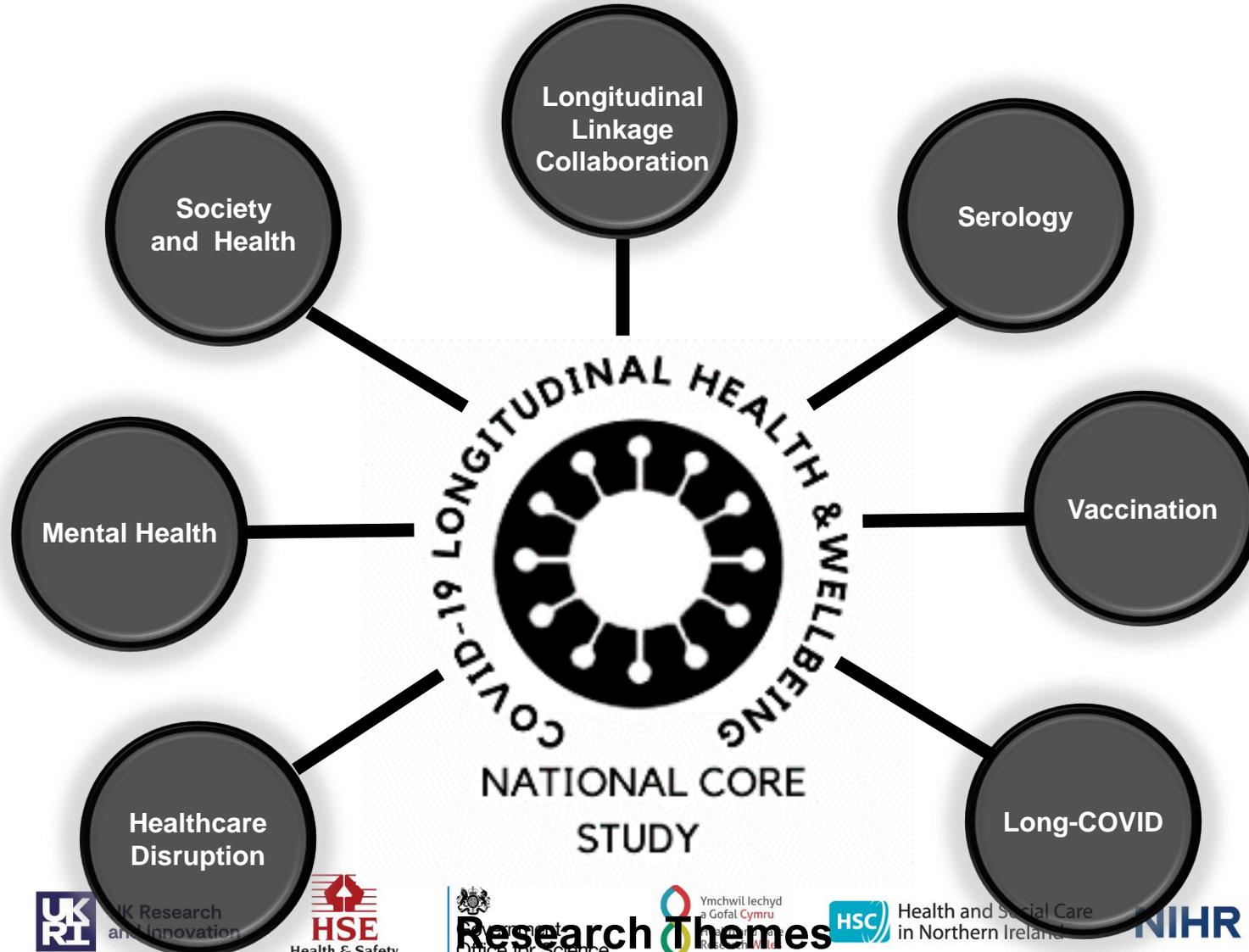
COVID-19 Longitudinal Health and Wellbeing National Core Study



Linkage and Electronic Health Records



COVID-19 Longitudinal Health and Wellbeing National Core Study



Health and Social Care
in Northern Ireland



National Institute
for Health Research



COVID-19 Longitudinal Health and Wellbeing National Core Study



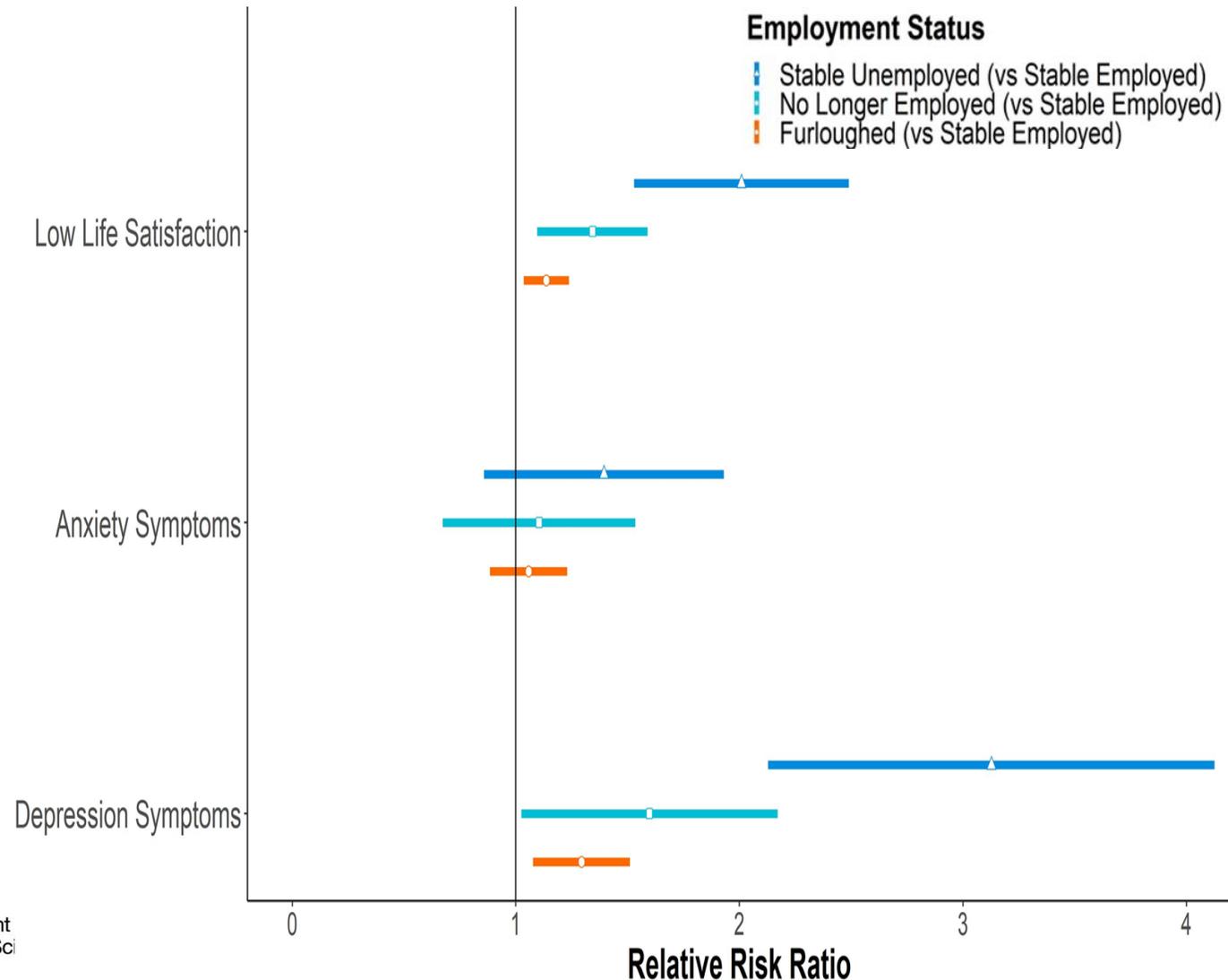
Society and Health

- We investigate the impact of the pandemic **on social, economic and health outcomes**, to address key gaps in our understanding and help societal recovery
- Are **inequalities** widening or narrowing?
- Which factors shape **vulnerability and resilience**?

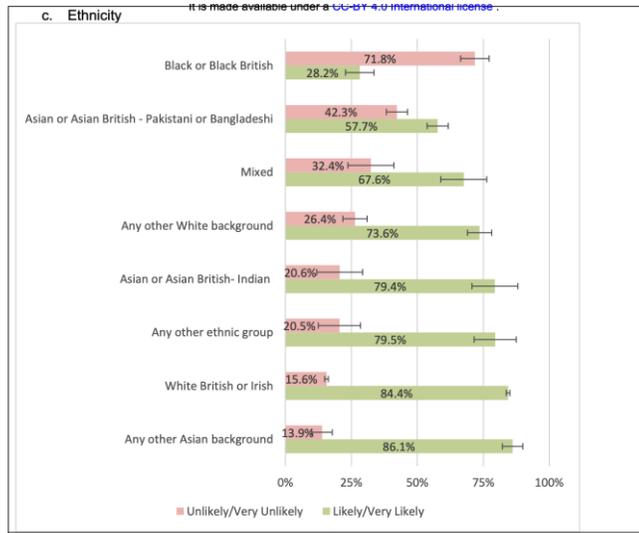
Phase 0 work

- Employment status disruption, mental health and health behaviours during the COVID19 pandemic
- Focus on **“furlough”**

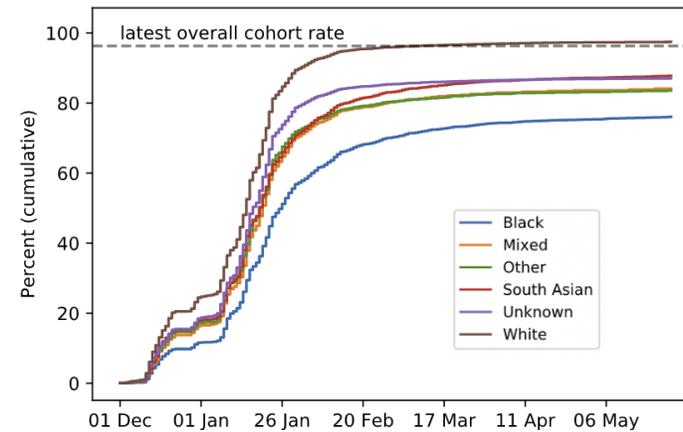
Employment status disruption and mental health



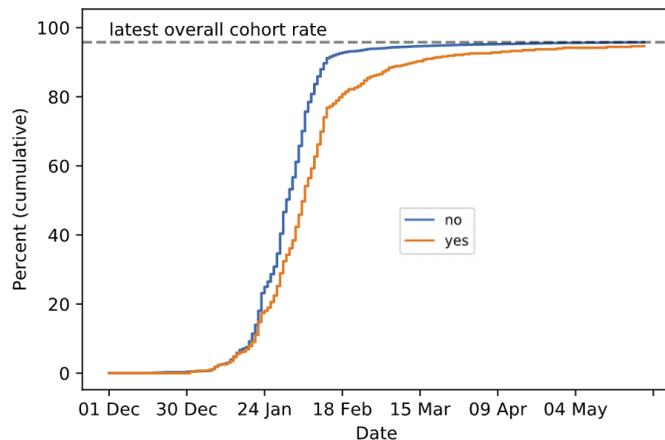
COVID-19 Longitudinal Health and Wellbeing National Core Study



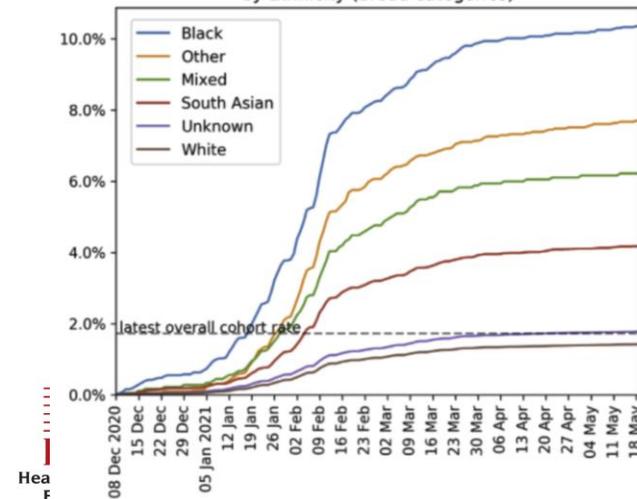
COVID vaccinations among 80+ population by Ethnicity (broad categories)



COVID vaccinations among 70-79 population by Learning disability



Vaccines declined in '65+' group by Ethnicity (broad categories)



opensafely.org/research/2021/covid-vaccine-coverage/

OpenSAFELY | Nuffield Department of Primary Care Health Sciences | DatLab | TPP | EMIS

Home / Research / NHS COVID-19 Vaccine Coverage

NHS COVID-19 Vaccine Coverage

Trends, regional variation, and clinical characteristics of COVID-19 vaccine recipients: a retrospective cohort study in 23.4 million patients using OpenSAFELY

[Read the full paper](#) | [Weekly report](#)

This is our regular OpenSAFELY weekly report on COVID-19 vaccination coverage in England using data from 40% of general practices that use TPP electronic health record software. The data requires careful interpretation and there are a number of caveats. Please read the full detail about our methods and discussion of our earlier results (as of January 13th) in our preprint paper available here and abstract below. [Jump to the weekly report](#)

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Trends and clinical characteristics of COVID-19 vaccine recipients: a federated analysis of 57.9 million patients' primary care records in situ using OpenSAFELY



The OpenSAFELY Collaborative, [Helen J Curtis](#), [Peter Inglesby](#), [Caroline E Morton](#), [Brian MacKenna](#), [Alex J Walker](#),

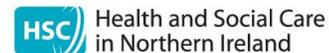


Impact of the Longitudinal Health and Wellbeing NCS

- Policy
 - Vaccination,
 - Long COVID
 - etc. etc.
- Public
 - Focus on community engagement and hearing unheard / quiet voices (not just special interest groups)
 - Advantage of Zoom/online meetings?
- Professional
 - No linked English EHR data resource at the beginning of the pandemic
 - Unprecedented collaborative working:
 - Across academic disciplines and teams
 - Across and between cohorts and EHRs
 - (still under development)
 - Legacy of Longitudinal Linkage Collaboration for UK longitudinal studies

National Core Studies Immunity

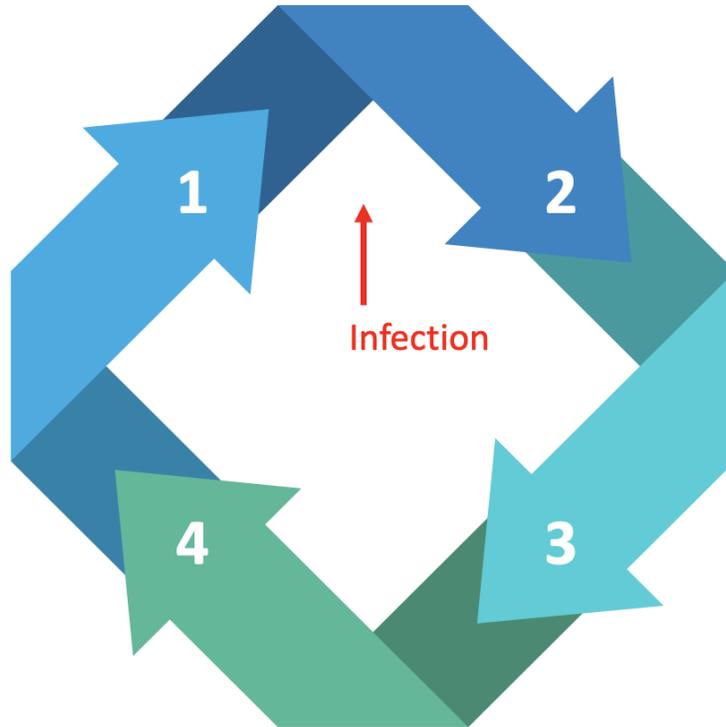
Professor Paul Moss
University of Birmingham



Immunity is key for understanding and overcoming Covid-19

- Protection against (re)-infection
- Determinant of clinical severity
- Mechanism of organ damage
- Vaccine response
- Long Covid

PREDICT
Individualized genetic and environmental determinants of immunity and vaccine response



PREPARE
For next pandemic

- National immune datasets
 - Clinical cohorts
 - Assay capability

PROTECT

Acute infection

- Disease severity
- Vulnerable groups

Chronic 'long-covid'

- Immune basis

PREVENT

Stop re-infection

- Natural Immunity
- Vaccination
- Optimal assays
- Integrated data

Leadership

Paul Moss
University of Birmingham
Doreen Cantrell
University of Dundee

UKRI
Jonathan Pearce

Oversight at NCS
Jeremy Farrar
John Bell
Mike Ferguson

Advisory Board
Chair: Robert Lechler

NCSi4P PROGRAMME: Goals 2020-1

- What are historical infection rates in patients **who have been shielding** and which clinical groups will be at specific risk from Covid-19? How can we minimise and control this challenge?
- How does the magnitude, profile and duration of immunity compare within **different demographic groups** and does it prevent re-infection?
- Do immune responses contribute to **early and late complications** of SARS-CoV-2 infection, is this related to the severity of the first infection and how can this be managed optimally?
- What are the **optimal cellular assays** to measure immunity to Covid-19 ?

Predict	Cytokine Autoimmunity: Anti-interferon autoantibodies in COVID-19.	University of Cambridge	Addenbrookes Hospital	The anti-IFN autoantibodies may have prognostic implications e.g. if autoantibody positive patients have a much higher risk of severe COVID-19 than autoantibody negative patients, the screening of symptomatic COVID-19 patients for anti-IFN autoantibodies could be used to guide early treatment. In addition, the results may show that individuals positive for anti-IFN autoantibodies are at risk of developing severe COVID-19 infection as well as being susceptible to other infections. This could then be used to guide vaccination regimens.
	DIRECT: Determining the Immune Response in Ethnic minority healthcare workers to COVID-19 infection	University of Leicester	UHL/Oxford Immunotec/Crick institute	DIRECT is investigating the impact of ethnicity on the outcome from COVID-19 in a group of healthcare workers across the UK in an urgent public health study called UK-REACH. The immune system is critical to the outcome of COVID-19, including protection against future infection. We do not yet know how immunity to COVID-19 varies in different ethnic groups
	Effects of shielding on health outcomes, costs and Immunity including those with cancer: quasi-experimental Evaluation (EVITE Immunity)	University of Swansea	Cardiff University Warwick University	Evaluation of shielding in Wales, where records for people who were shielded have already been anonymously linked into other integrated data systems reporting how shielding affected deaths, hospital and intensive care admissions, COVID-19 infections, immunity status, safety, NHS costs, quality-of-life and how people complied with instructions.
	Coordinating COVID-19 asymptomatic testing programmes in university settings: providing insight on acquired immunity across the student population.	University of Nottingham	Cardiff University University of Cambridge	Establishment of a common dataset and bioresource, empowered by consent, for a cohort of up to 25k young adults through the asymptomatic SAR-CoV-2 asymptomatic testing services in 3 universities. Individuals with positive SARS-CoV-2 status identified through the screening process will be approached to consent to provide further samples (saliva, swab, blood samples) to allow the virus to be sequenced and in-depth analysis of long-term immunity to be assessed.

Protect	CAIRO	University of Birmingham	Immune senescence	Study of Immunity in older people and those with secondary immune deficien
	UKBiobank - Investment to build immunology discovery into UKB Covid programmes	University of Birmingham	UK Biobank	The project is building on the samples held by the UK Biobank prior to 2020 with the investment to build immunology discovery into their Covid programmes
Prevent	Optimal cellular assay for adaptive and innate immune responses.	Imperial	Cardiff Surrey Ulster Oxford Southampton	Surveillance of immunity to SARS-CoV-2 was initially dominated by development of tests to detect antibody to key antigens expressed by the virus but assays are invariably dependent on research-lab based, high-tech methodologies such as ELISpot or flow cytometry. These are relatively hard to translate beyond a research setting and at high throughput as would be needed for wider roll-out. The work planned in this proposal will seek to develop novel strategies to bridge this gap.
	Immune correlates of vaccine protection in immune suppressed cohorts (OCTAVES)	Glasgow	Birmingham Leeds Oxford Imperial	<p>Patients with inflammatory disorders</p> <p>Cancer</p> <p>Chronic kidney and liver disease</p> <p>Transplantation</p> <p>Immune correlates in relation to Vaccine deferral</p>

NCSi4P PROGRAMME: New goals 2021-2

- What are the immune correlates of vaccine response in immune suppressed people and how may this guide vaccine policy ?
 - £4M investment in immune monitoring of vaccine response
 - Cancer; inflammation; elderly
- What are the immune mechanisms that underlie re-infection or vaccine failure? Can this information be used to guide prediction and prevention?
 - New commissioned call of up to £3M
- What are the optimal cellular assays to measure immunity to Covid-19 ?
 - New commissioned call of up to £1.5M with Innovate



SBRI: assays for SARS-CoV-2 cellular immune responses

Opportunity status:	Closed
Funders:	Innovate UK , UK Research and Innovation
Funding type:	Other
Total fund:	£1,500,000
Publication date:	14 April 2021
Opening date:	26 April 2021
Closing date:	26 May 2021 11:00 UK time

Last updated: 17 May 2021

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Investigate SARS-CoV-2 vaccine responses and immune failure

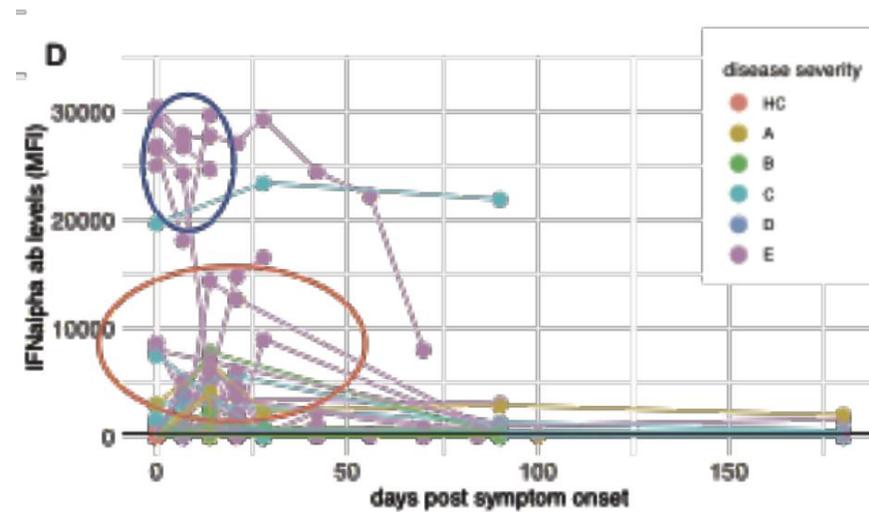
Opportunity status:	Open
Funders:	Medical Research Council (MRC)
Funding type:	Grant
Total fund:	£3,000,000
Publication date:	27 April 2021
Opening date:	7 May 2021
Closing date:	8 June 2021 16:00 UK time

Timeline

- 7 May 2021
Opening date
- 8 June 2021 16:00
Closing date
- 29 July 2021
Assessment panel meeting

Examples of NCSi outcomes- Predict

- The first international assessment of the impact of shielding policy
 - Efficacy
 - Burden – personal; economic; societal
- How important are interferon-specific antibodies in determining risk?

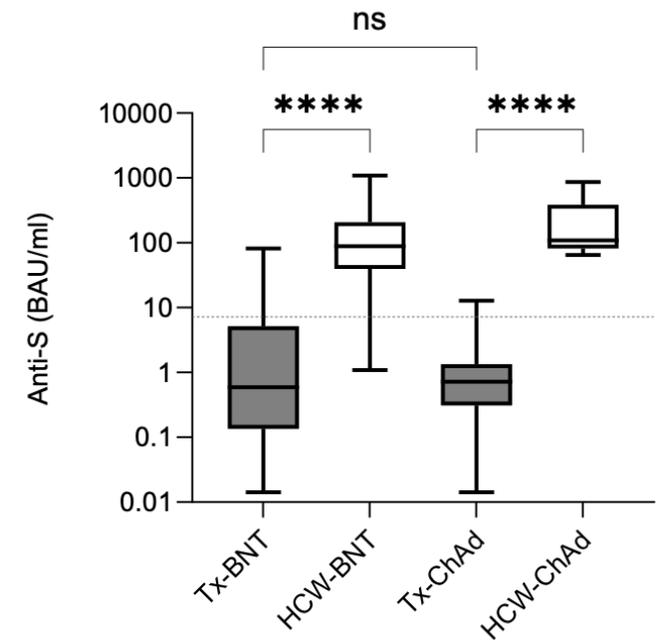


Examples of NCSi outcomes- Protect

- How does ethnicity impact on natural immunity and vaccine response?
- How will SARS-CoV-2 serostatus impact on influenza vaccine response
 - UK-REACH
 - 1000 donors under study at current time

Examples of NCSi outcomes- Prevent

- OCTAVE
 - Vaccine responses in people with immune suppression
 - Who is at risk and how may this be managed ?
 - What is the potential utility of a booster vaccine?



Long term impact- Prepare

- Prospective analysis of **novel population cohorts** from infection/ vaccination to vaccine memory
- New insights and development of **immune therapies** for Covid-19
- Building a world-leading **UK immunology platform**, interfacing between academia and industry, that supports vaccine studies and clinical trials
- **Personalised management** of covid risk
- Supporting **industry investment** into UK



HDR UK NCS Symposium

Epidemiology and Surveillance

Professor Sir Ian Diamond
National Statistician

Latest CIS estimates

The percentage of people testing positive increased in England, remains low in Wales and the trend remains uncertain in Northern Ireland and Scotland, in the week ending 12 June 2021

NEWS

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[Reality Check](#)

Lockdown easing: Four numbers to look for ahead of the 21 June decision

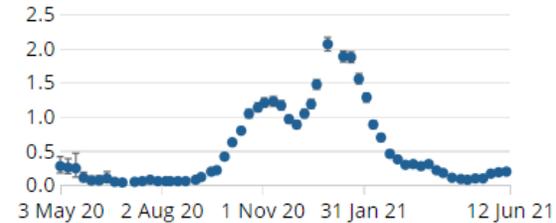
Source: BBC - 9 June

Estimated percentage of the population testing positive for the coronavirus (COVID-19) on nose and throat swabs from 3 May 2020

Official reported estimates of the rate of COVID-19 infections in the community in England, Wales, Northern Ireland and Scotland.

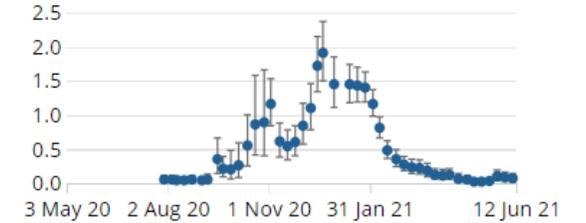
England

Percentage testing positive for COVID-19



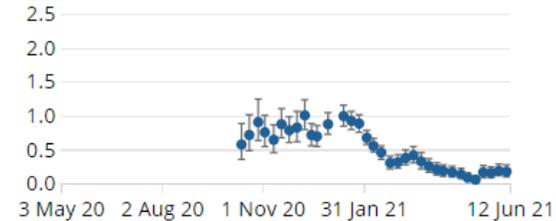
Wales

Percentage testing positive for COVID-19



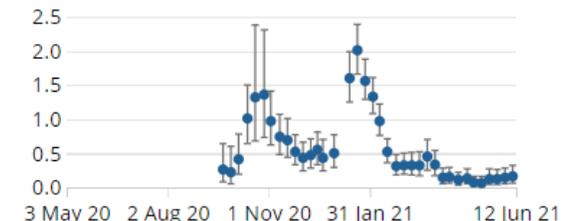
Scotland

Percentage testing positive for COVID-19



Northern Ireland

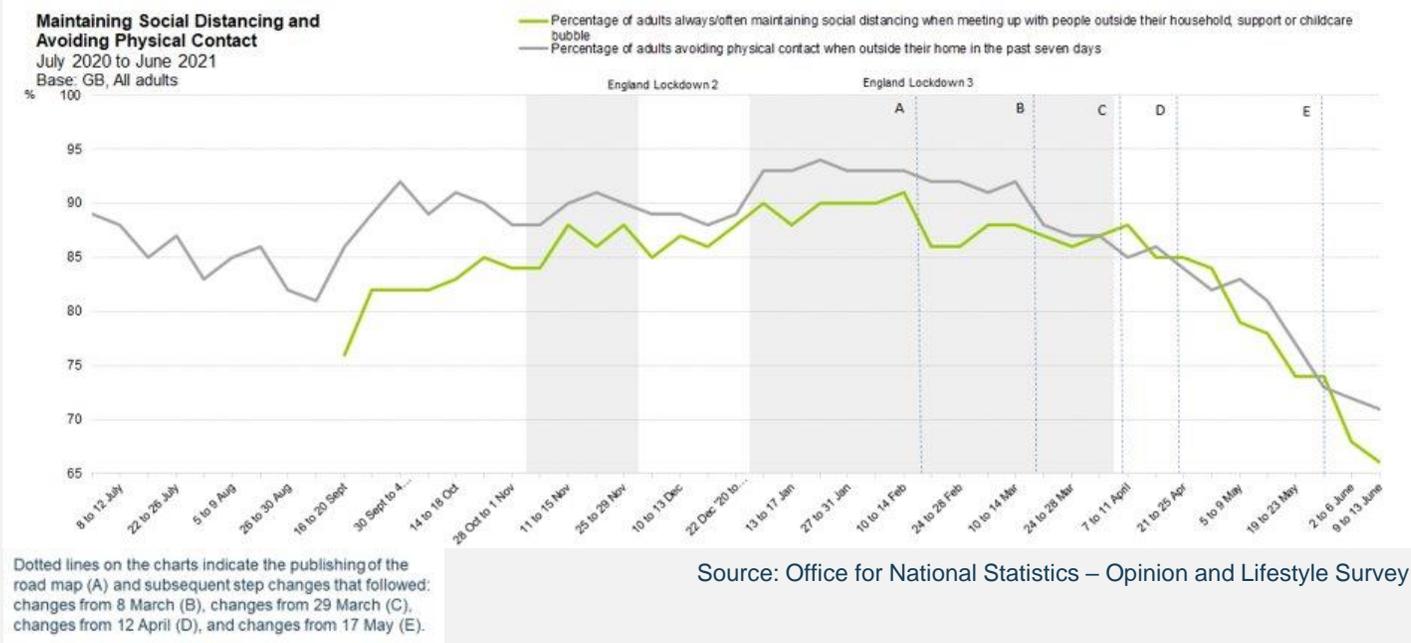
Percentage testing positive for COVID-19



Source: Office for National Statistics – Coronavirus Infection Survey

Social Distancing

The proportion of adults avoiding physical contact and those always/often maintaining social distancing has decreased since the start of the roadmap.



Social Distancing Review



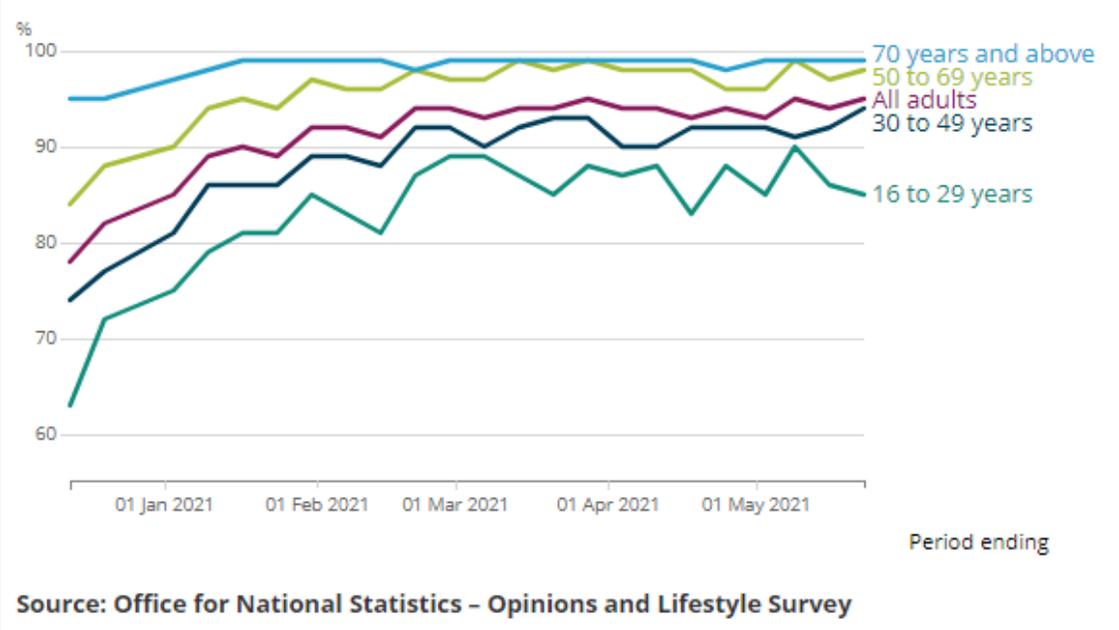
The OPN and our isolation surveys capture information on social gatherings indoors/outdoors as well as self-reported social distancing practices.

Vaccine hesitancy

Rates of vaccine hesitancy have fallen to 5% in recent weeks, from a high of 11% in January.

Higher vaccine hesitancy is seen in ethnic minority groups, younger adults, those living in London and the most deprived areas

Vaccine hesitancy, adults in Great Britain, December 2020 to May 2021



Source: Office for National Statistics – Opinion and Lifestyle Survey

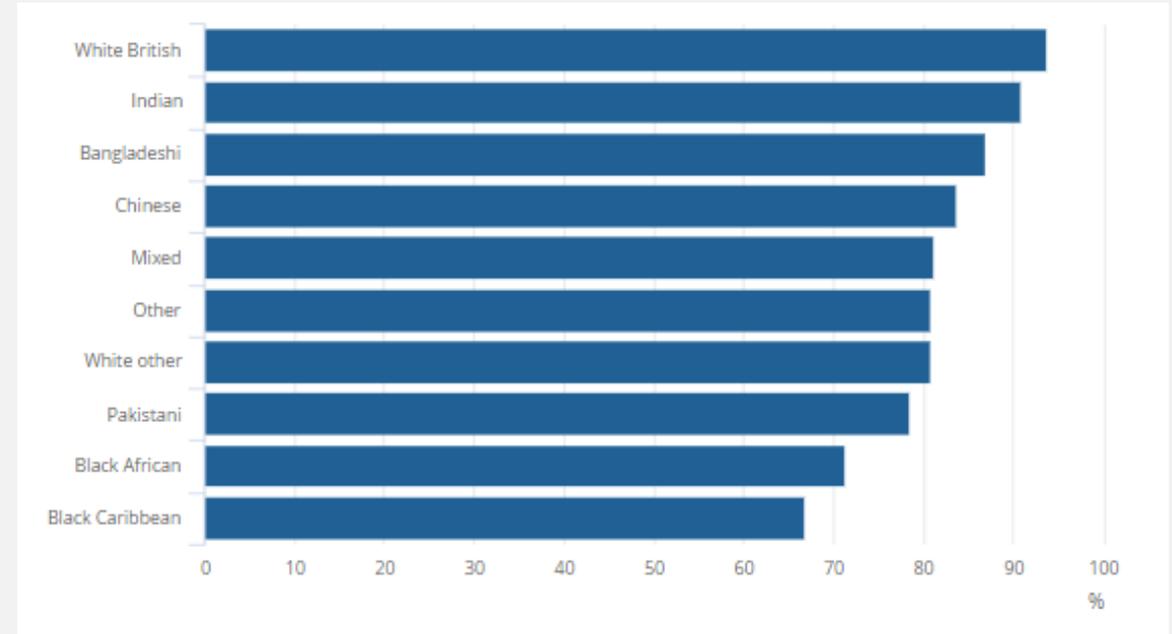
Ethnicity

Linked vaccination data from the National Immunisation Management System (NIMS) to the Office for National Statistics (ONS) Public Health Data Asset (PHDA) based on NHS number.

Combines a rich set of demographic and socio-economic factors from the 2011 Census and 2019 Patient Register with pre-existing conditions based on clinical records.

This unique dataset allows us to analyse how rates of vaccination differ by socio-demographic group, and examine the extent to which these differences are driven by other factors.

Vaccination rates of adults aged 50 years and over, by self-reported ethnic group, 8 December 2020 to 12 April 2021, England



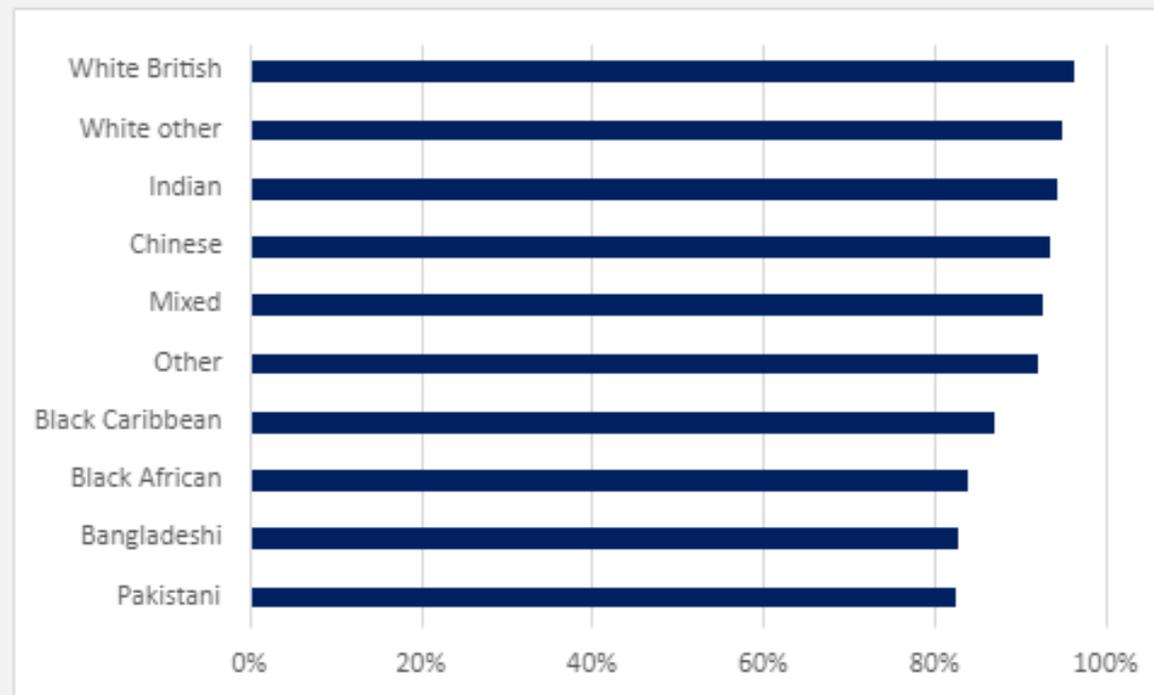
Source: Office for National Statistics - Public Health Data Asset, National Immunisation Management Service

Vaccine attrition

- Among people who received a first dose of a vaccine by 15 March 2021, 96.0% had received a second dose by 9 May 2021.

- Previously reported disparities in first dose vaccination rates by socio-demographic factor were also observed in the proportion of those who went on to receive a second dose.

Proportion of people who received second dose by 9 May, among those who received their first dose by 15 March



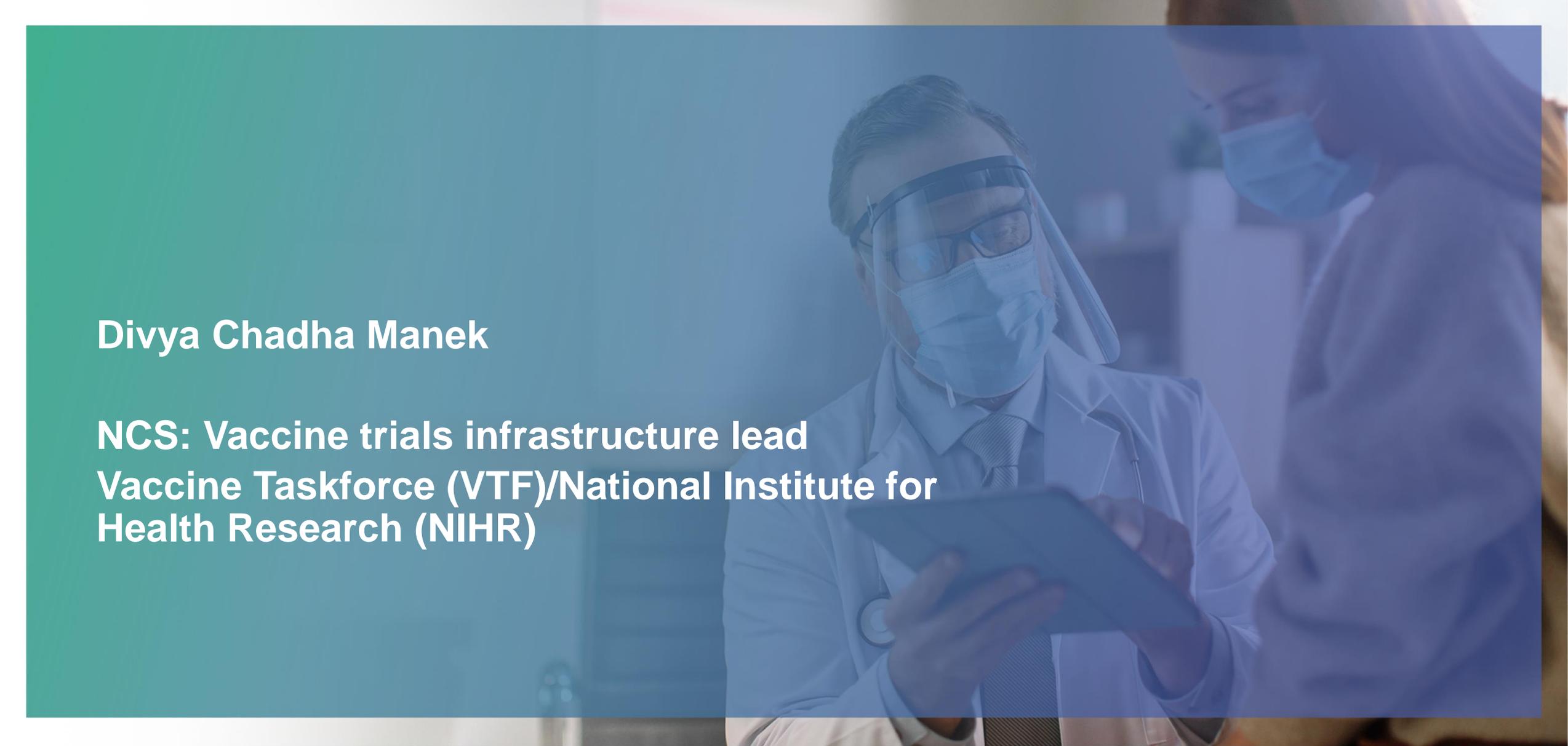
Source: Office for National Statistics - Public Health Data Asset, National Immunisation Management Service

NEWS > UK

Second dose vaccine rates 'lowest among Pakistani and Bangladeshi over-70s'

The data has been compiled by the Office for National Statistics.

Source: Evening Standard - 7 June



Divya Chadha Manek

**NCS: Vaccine trials infrastructure lead
Vaccine Taskforce (VTF)/National Institute for
Health Research (NIHR)**



Capacity and capability: COVID-19 Vaccine research

- Infrastructure to support generation of clinical evidence for marketing authorisation of COVID-19 Vaccines



17
studies

42,726





The UK research ecosystem

- Forward thinking, agile, pragmatic regulatory system
 - Medicines and Healthcare Products Regulatory Agency (MHRA)
 - advice on clinical trials and marketing authorisation
 - expedited clinical trial authorisation: 1-8 days
 - The Health Research Authority (HRA)
 - fast tracked ethical approval - reviewing applications within 24 hours of submission
- Research targeting capabilities
 - real time data on lab-confirmed COVID-19 cases
 - flexible and mobile research delivery workforce





The UK research ecosystem

- Nation-wide expedited and streamlined study set-up
 - standardised clinical trial agreement
 - single costing methodology
- Rapid site identification
 - Regional model: 15 regions in England and 3 devolved nations
 - Scale up infrastructure
- Access to pre-consented patient cohorts
 - consented for contact for vaccine trials: NHS Vaccine Research Registry 505,450
 - defined patient populations: age, occupation, ethnicity

Testing Capabilities expanded: PCR supplies, testing, T-cell, VNAs



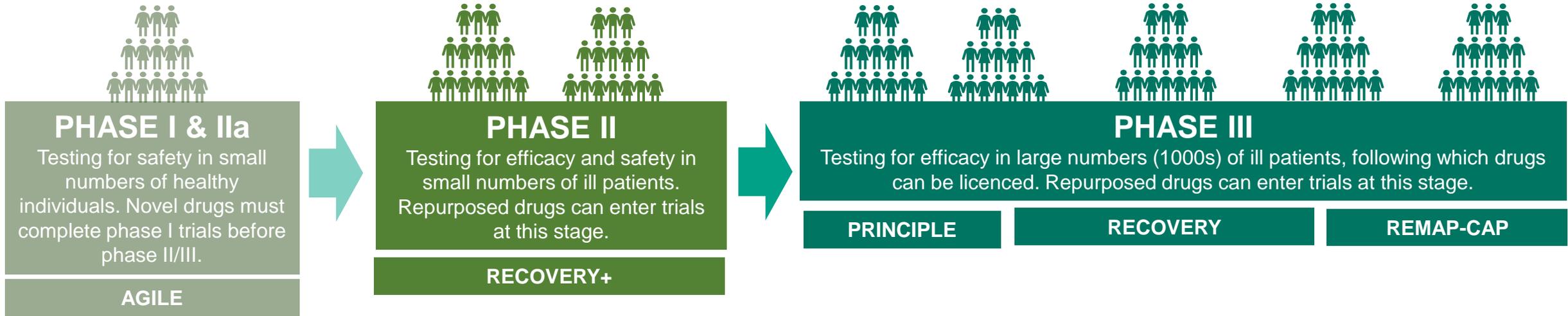
NHS 123 ABC 789

NHS 321 XYZ 654

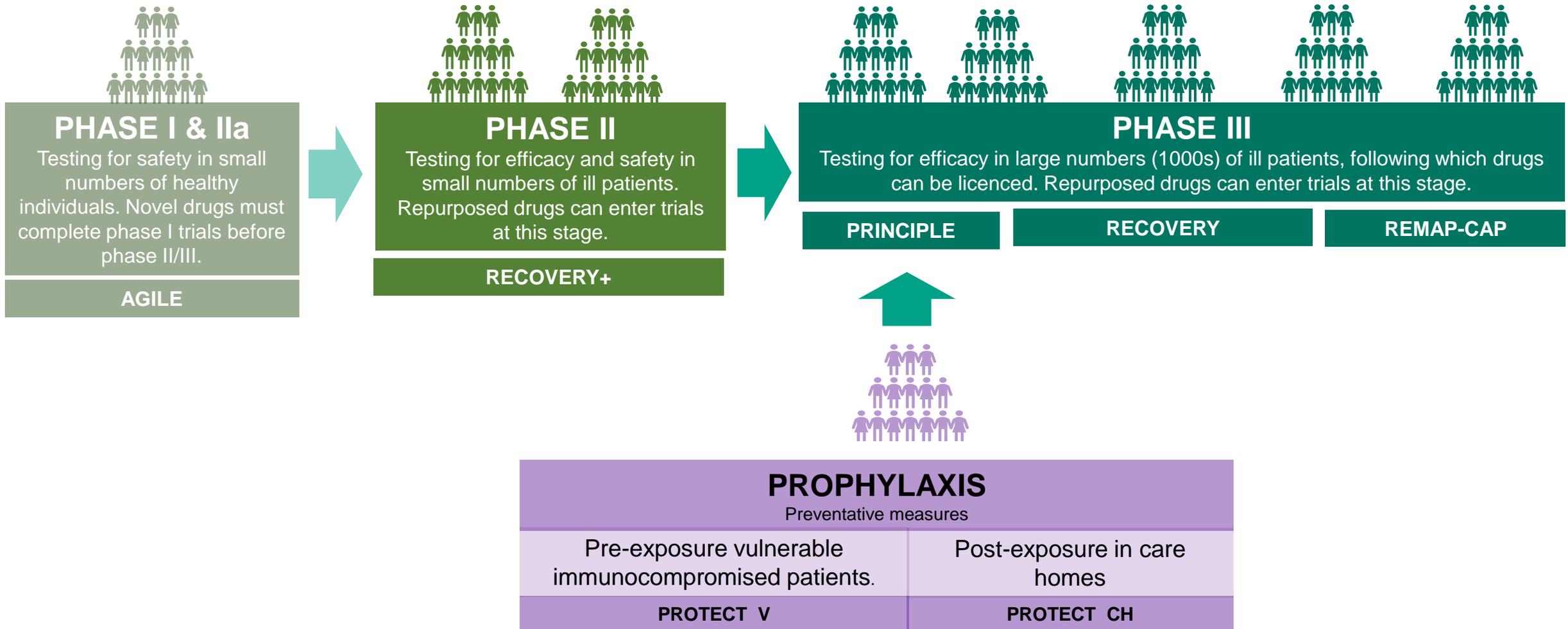
NHS 987 EFG 789

- **Clinical Therapeutics**
- **Professor Patrick Chinnery**
- **Medical Research Council & UKRI**

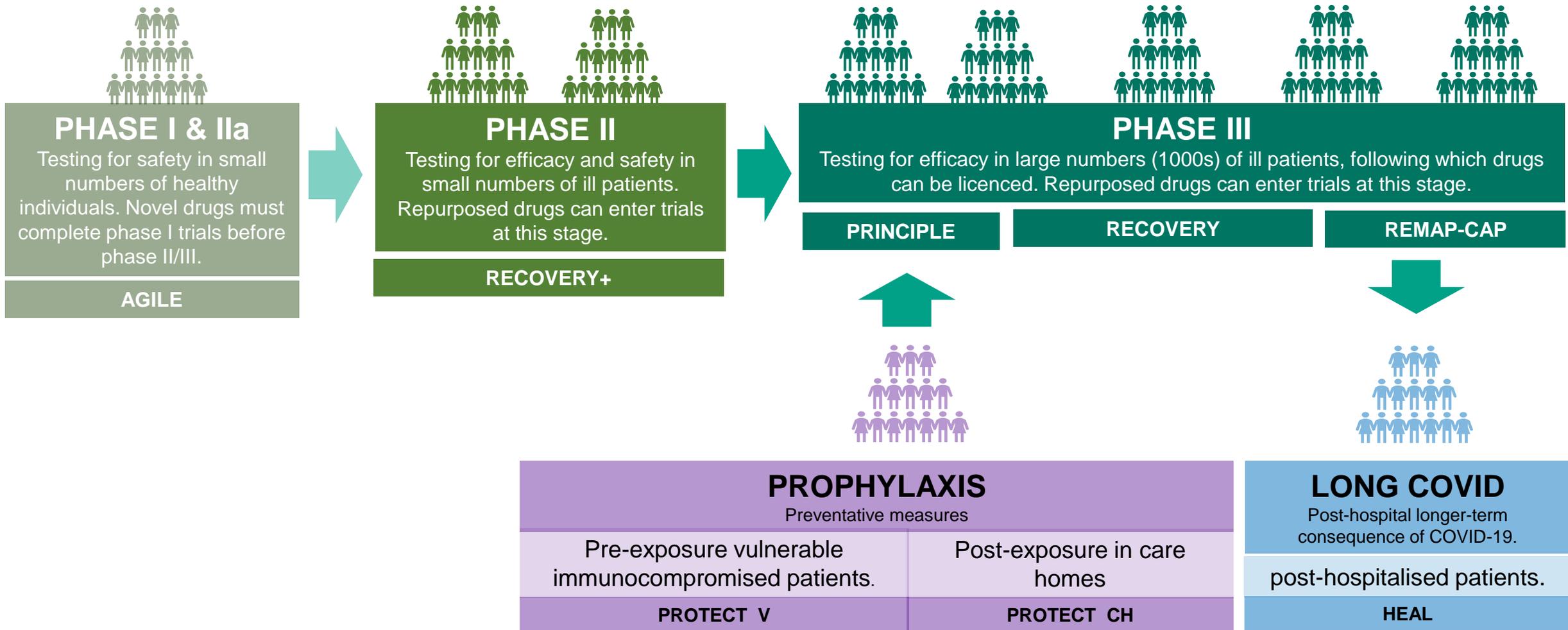
UKRI/NIHR Publicly Funded Trials



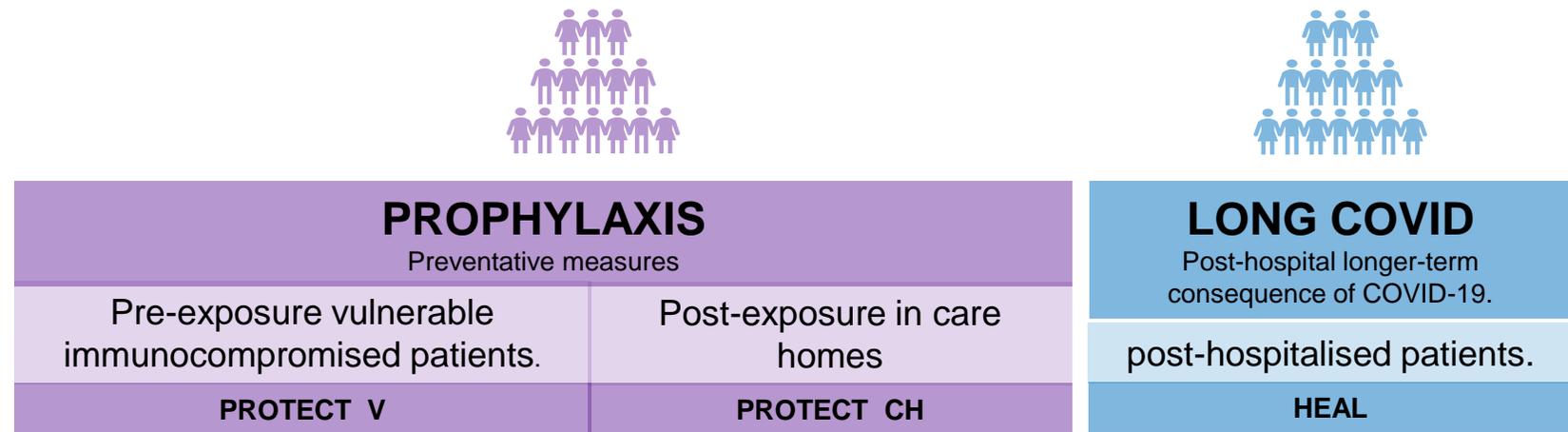
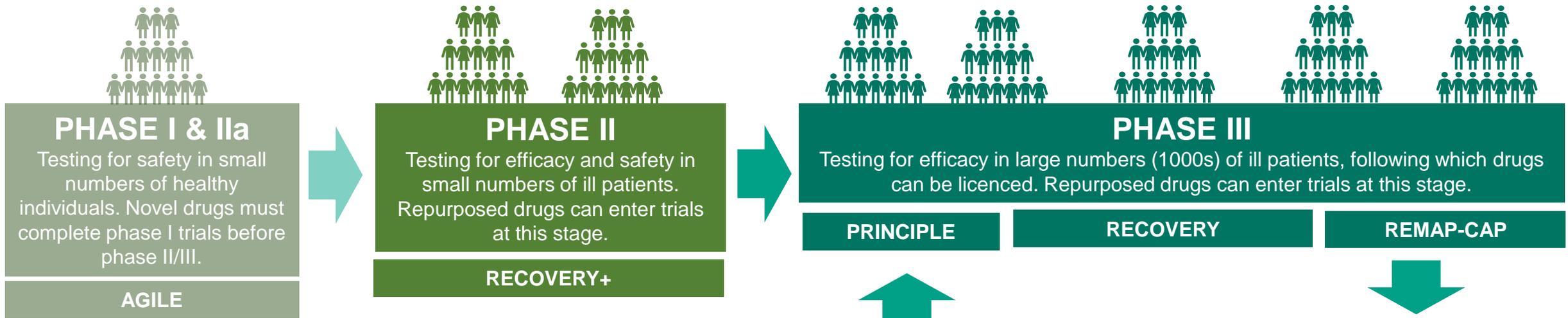
UKRI/NIHR Publicly Funded Trials



UKRI/NIHR Publicly Funded Trials



UKRI/NIHR Publicly Funded Trials



- **Data and Connectivity National Core Study**
- **Leadership**
- **Andrew Morris, Caroline Cake, David Seymour HDR UK**
- **In partnership with ONS**

The National Core Studies

Surveillance & Epidemiology	Longitudinal Health and Wellbeing	Clinical Trials Infrastructure & Support		Transmission & Environment	Immunity
		Vaccines	Therapeutics		
<p>Professor Ian Diamond (ONS)</p> <p>Collecting and analysing data to understand incidence and prevalence broadly and in different settings in order to inform response measures.</p>	<p>Professor Nishi Chaturvedi (UCL)</p> <p>Understanding the impact of Covid-19 on long term health (including long covid) to inform the design of mitigating policies.</p>	<p>Divya Chadha Manek (VTF/NIHR)</p> <p><i>Establishing infrastructure to run large scale trials for Covid-19 drugs and vaccines without disrupting trials for other diseases.</i></p>	<p>Professor Patrick Chinnery (MRC)</p>	<p>Professor Andrew Curran (HSE)</p> <p>Taking samples to aid understanding of transmission of the disease in workplace, transport and public places.</p>	<p>Professor Paul Moss (University of Birmingham)</p> <p>Understanding serology as a useable predictor of immunity against Covid.</p>
<p>Data and Connectivity Professor Andrew Morris (HDR UK working with ONS) Making UK-wide health and administrative data available for linkage and accessible to catalyse Covid-19 research.</p>					

Data and Connectivity National Core Study

“Data as Infrastructure”

1

Map the Data for national data science driven research efforts related to COVID-19 and National Core Studies

2

Accelerate access to UK-wide priority data relevant to COVID-19 for research

3

Address important questions by leveraging the UK’s health data science capability

- Support the response across the four nations
- Involve patients and the public to demonstrate trustworthiness



Mapping the data

...increasing availability of data through the pandemic across 4 Nations

Data & Connectivity National Core Study: COVID-19 dataset availability – 8 June

Viral genome data now available in Wales. Primary care data now available from ONS as part of the linked data asset (Census-Mortality-HES-GPES)

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

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	Awaiting data flow from Public Health England	Awaiting data flow from Public Health England (to follow flow into ONS)	COG-UK data available in TRE Subset also linked to CO-CIN data	COG-UK 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)			Data to be validated
Other Pillar 4 Testing data	VIVALDI, REACT II				

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

Fortnightly, published reports to UK Government (SAGE) and Funders



Highlighting research impacts...

1,242 pre-print publications
158 research papers

771 researchers collaborating
344 projects

HDRUK Health Data Research UK

HSC Public Health Agency

NICOR

CRUCER RESEARCH UK

Public Health Scotland

NHS Digital

SAIL UK LAB BANK

UK Health Data Research Alliance

Office for National Statistics

epcc

COVID-19 Health Data Research
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Office for National Statistics

Health data research community highlights this period

36 COVID-19 taskforce calls with 183 clinical and health data research leaders engaged	1,242 COVID-19 pre-print publications, and 158 papers published	771 academic, industry and NHS participants in COVID-19 Slack channel with 10 sub-channels	111 health data research questions identified
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Patient and Public Voice Feedback:

As we continue to move out of a national lockdown, we must sustain momentum:

- We must not lose sight of the need to treat COVID-19. Further research into this area should be prioritised so that we are better prepared in the future given we do not know how long immunity from vaccines will last.
- With more and more of the population being vaccinated and receiving both doses, there are a number of urgent research questions relating:
 - How long immunity lasts and if certain populations are at risk of contracting COVID-19 following vaccination
 - The effectiveness of the vaccine on the different and emerging variants – particularly as variants such as the delta variant become more prominent
 - Whether it has the same level of effectiveness in different populations e.g., the virus affects different ethnicities in different ways – will the vaccine be the same?
- As people will be encouraged to return to the workplace, further research is urgently needed to understand any trends in different workplace settings and to inform interventions.

[Click here](#) to read more feedback

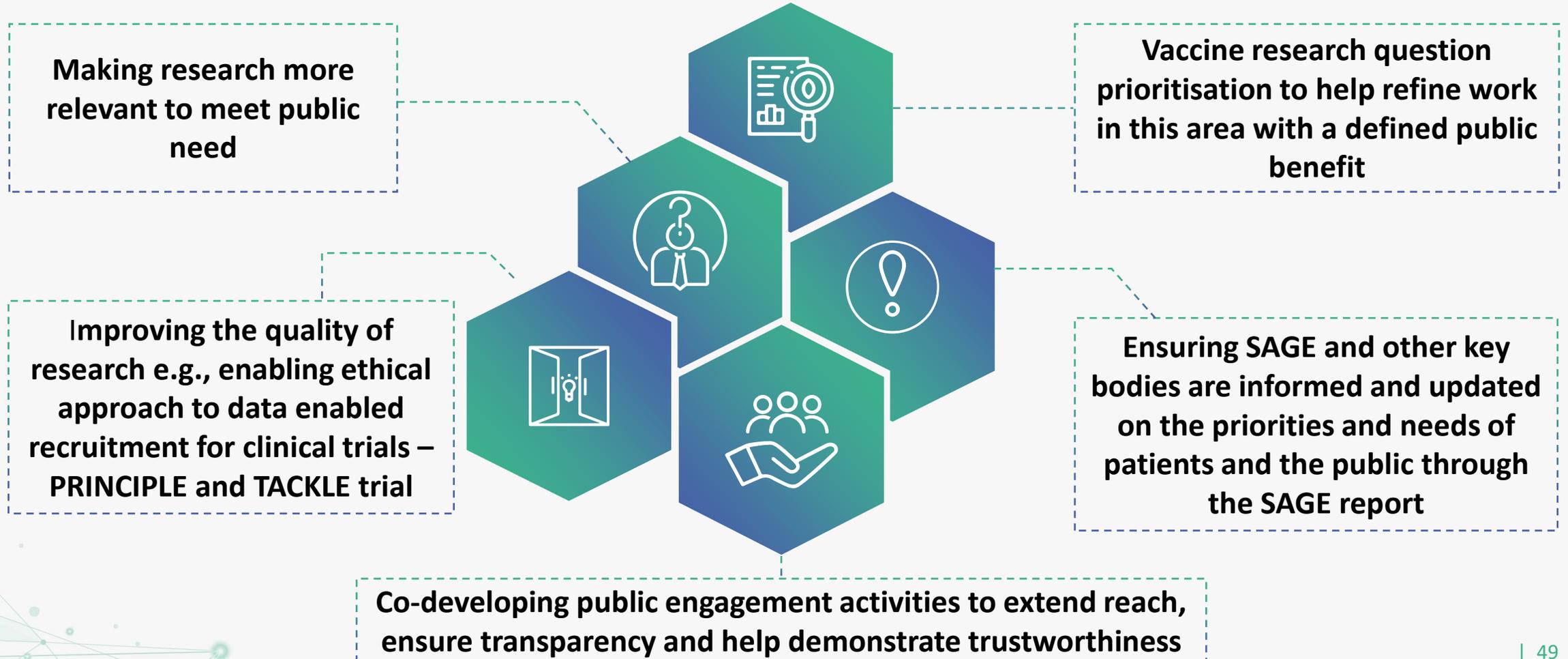
[Click here](#) for a list of regularly updated COVID-19 research questions from the health data community



Demonstrating Trustworthiness

Ensuring patient and public involvement throughout

Public involvement and engagement is an intrinsic part of citizenship, public accountability and transparency



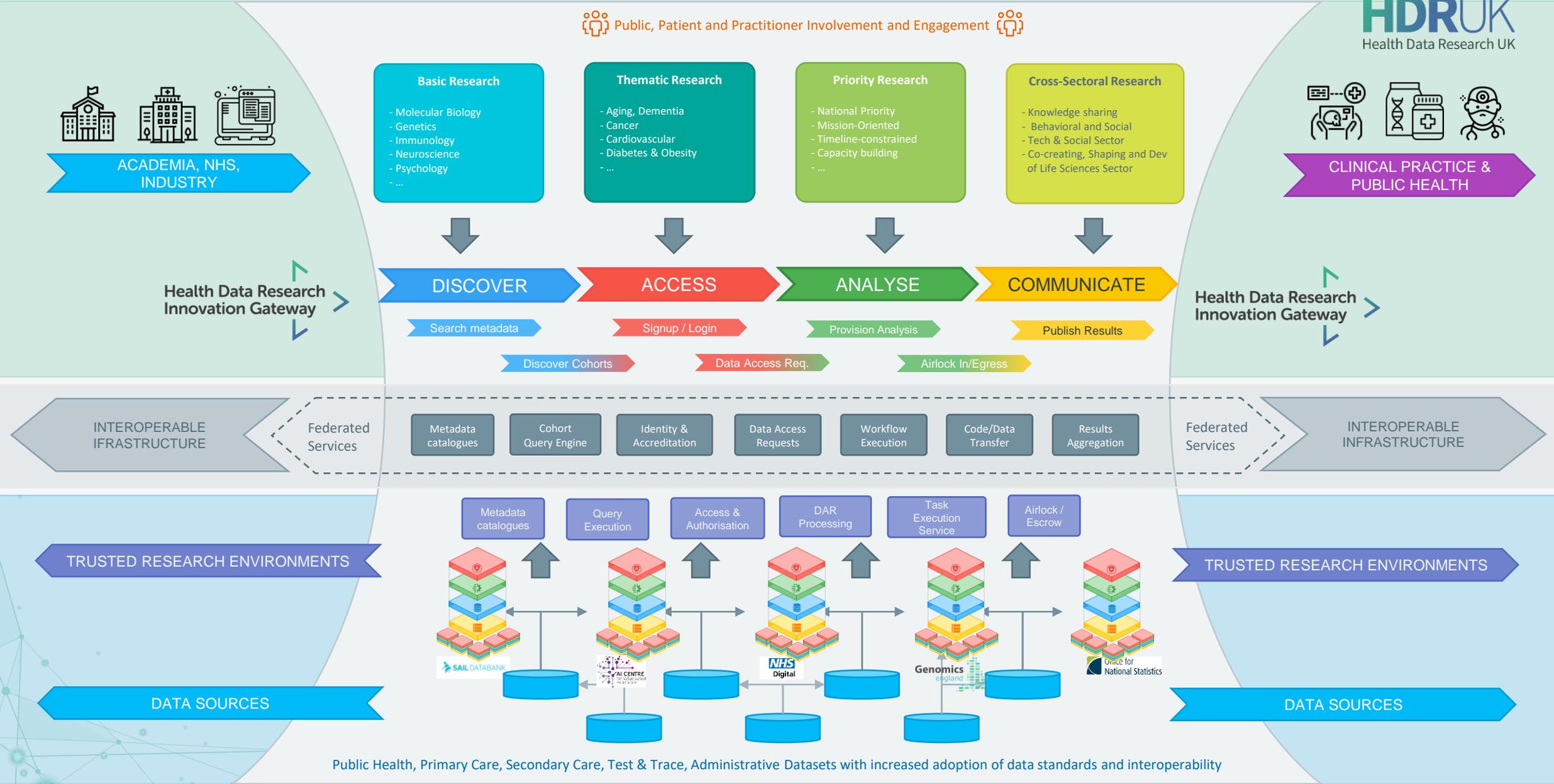
New Data Assets

'Task and Finish' Groups to address emerging priorities

- 1. Acute admissions data** - developing regional proof of concept to enable rapid, near real flow of data to support vaccine safety research – Luke Readman.
- 2. Administrative data sets** – Andrew Curran, Emma Gordon
- 3. Viral and host genomic data** and other key 'sovereign' data assets – Kenny Baillie
- 4. Vaccine Data** to enable **identification and analysis of current and emerging rare adverse events after vaccination**– Cathie Sudlow.

Research Infrastructure, Data and Services , Open, Federated and Interoperable

Public, Patient and Practitioner Involvement and Engagement



ACADEMIA, NHS, INDUSTRY

Health Data Research Innovation Gateway

CLINICAL PRACTICE & PUBLIC HEALTH

Health Data Research Innovation Gateway

INTEROPERABLE INFRASTRUCTURE

Federated Services

INTEROPERABLE INFRASTRUCTURE

TRUSTED RESEARCH ENVIRONMENTS

TRUSTED RESEARCH ENVIRONMENTS

DATA SOURCES

DATA SOURCES

Public Health, Primary Care, Secondary Care, Test & Trace, Administrative Datasets with increased adoption of data standards and interoperability

How to develop and maintain the integrity of trustworthy health data research ecosystems?

- It's about **coordination and connectivity** not **command and control**
- **Demonstrating trustworthiness** with the public through consultation and good governance
- **Data as Infrastructure**
 - **Governance, standards and FAIR data services**
- **Incentives for data sharing**
 - Misalignment – need to look at role of funding agencies, journals, REF
- A federated network of **trusted research environments** across the UK
- A determination to **advance open science practices** internationally.

We are not there yet!



Thanks for your attention