

ORCHID: A TRE for Primary Care Surveillance and Research

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Data Source: GP Practice Network

Oxford-RCGP Research & Surveillance Centre

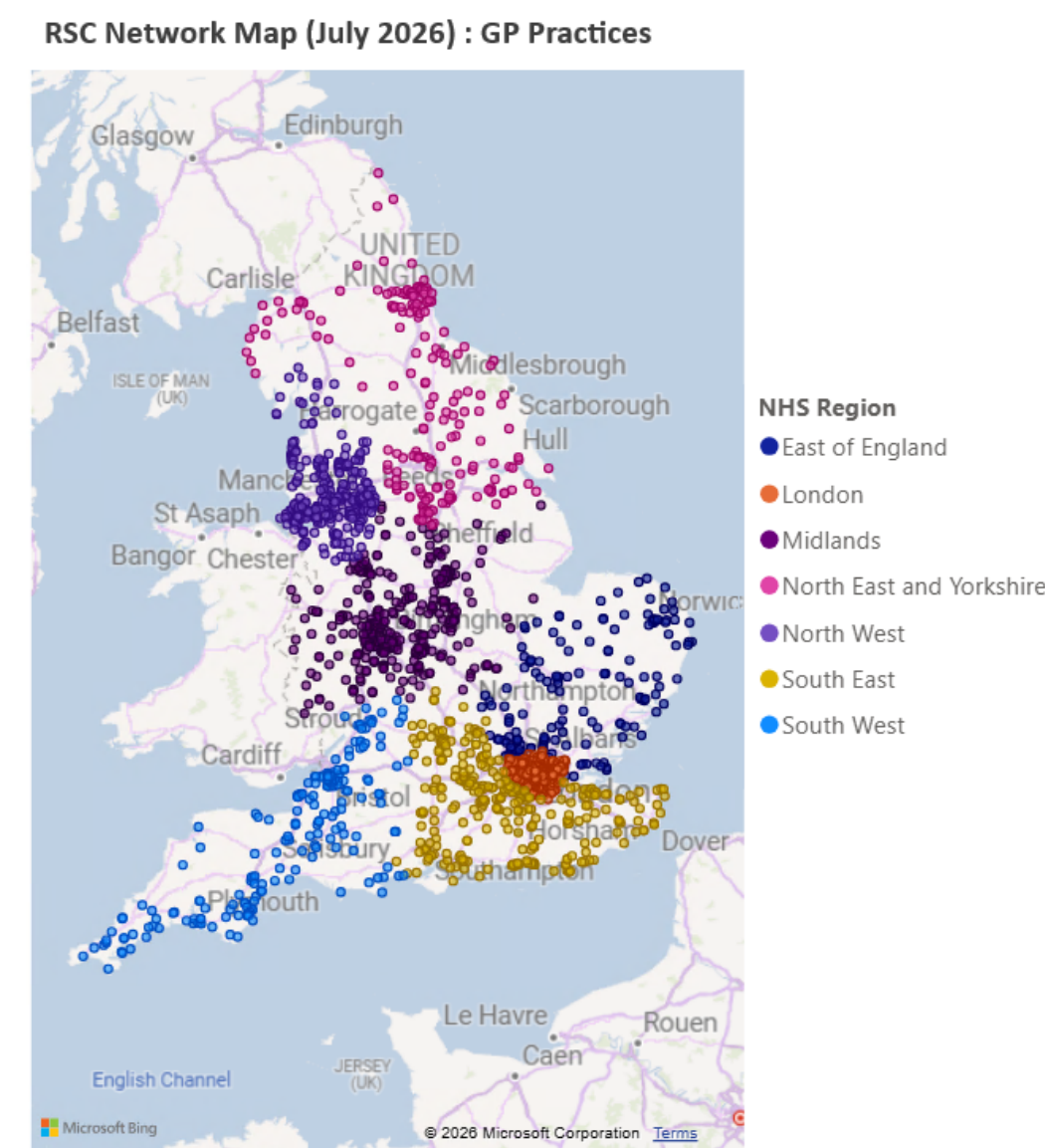
- Partnership between the University of Oxford and the Royal College of General Practitioners (RCGP), hosted by the Nuffield Department of Primary Care Health Sciences, running since 1967
- Key source of data for the UK Health Security Agency (UKHSA)

Centre network participants:

- Over 2,000 GP practices across England
- 20,000,000 patients (approximately 33% of NHS England's population)

Data available:

- GP electronic health records (EHRs) (e.g. SNOMED CT codes)
- Prescription data
- Potential linkability to other EHRs (e.g. UKHSA virology laboratory data, researcher-supplied "Bring Your Own Data")



Trusted Research Environment

The Oxford Clinical Informatics Digital Hub (ORCHID) is a Trusted Research Environment (TRE) containing curated and routinely updated patient-level primary care health data.

ORCHID operates in accordance with the Five Safes Framework. Pseudonymised data are stored within a secure digital environment, with project-level segregation preventing data linkage across projects. Access is granted strictly on a need-to-know basis and limited to the relevant virtual machine. Only aggregated outputs may leave the environment, following a statistical disclosure control process and administrative review.

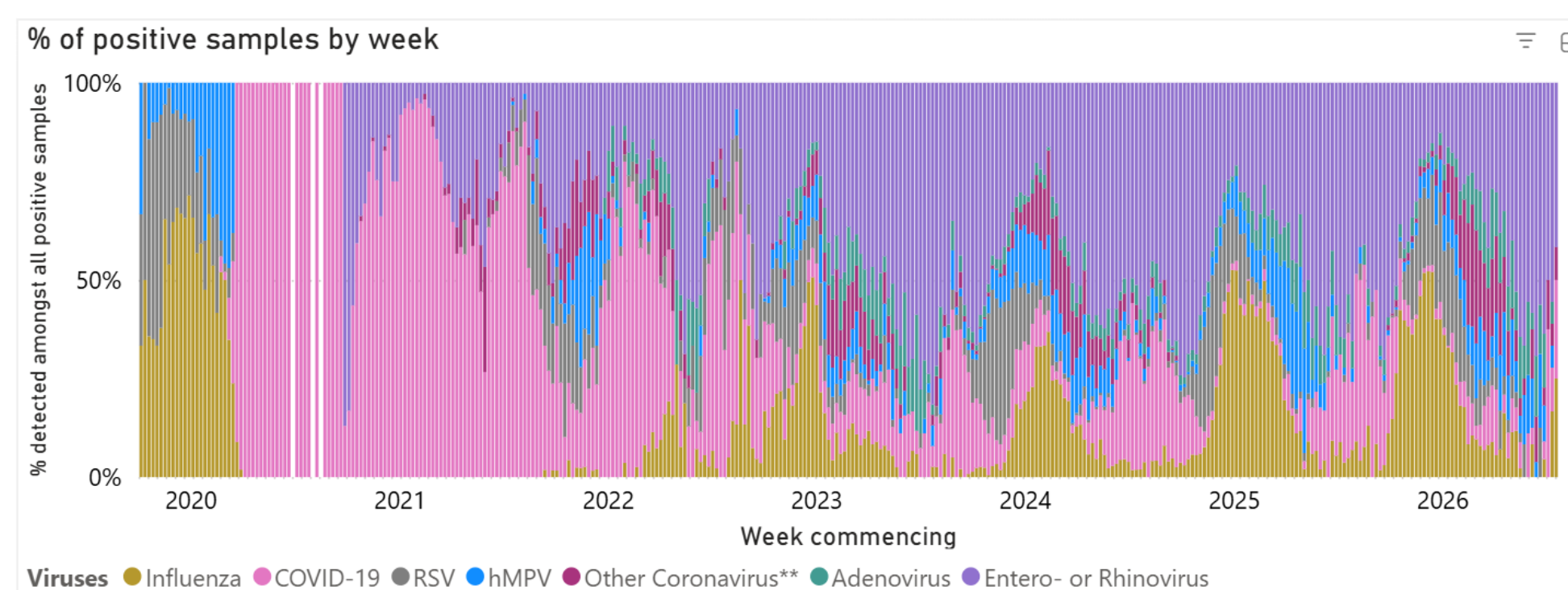
ORCHID brings together patient-level data for use in public health surveillance and research through three complementary platforms: ORCHID-S, ORCHID-E, and ORCHID-T/P.



ORCHID-Surveillance

ORCHID-Surveillance (ORCHID-S) incorporates one of Europe's longest-established general practice sentinel networks. Oxford-RCGP Research & Surveillance Centre (RSC) GP practices contribute patient data in the form of SNOMED CT codes, enabling continuous monitoring of infectious diseases and other conditions in the community.

- Weekly communicable and respiratory disease report
- Weekly syndromic surveillance report for 40 diseases
- Weekly morbidity data
- Regularly updated virology and serology dashboards
 - SARS-CoV-2, Influenza A and B, RSV A and B, hMPV, & Adenovirus
- Annual vaccine effectiveness datasets
 - Influenza, COVID-19, & RSV
- Oxford-RCGP RSC annual communicable and respiratory diseases report



ORCHID-Epidemiology

ORCHID-Epidemiology (ORCHID-E) is a newly created effectively anonymised data set providing access to patient-level coded and numerical clinical data for studies of prevention, diagnosis, risk prediction, clinical management, and patient outcomes.

Case studies:



Using ORCHID-E data on vitamin and mineral levels measured in blood and urine, this study is identifying the prevalence of micronutrient deficiencies in England, with analyses stratified by key population subgroups, including children, pregnant women, ethnic minority groups, and older adults.

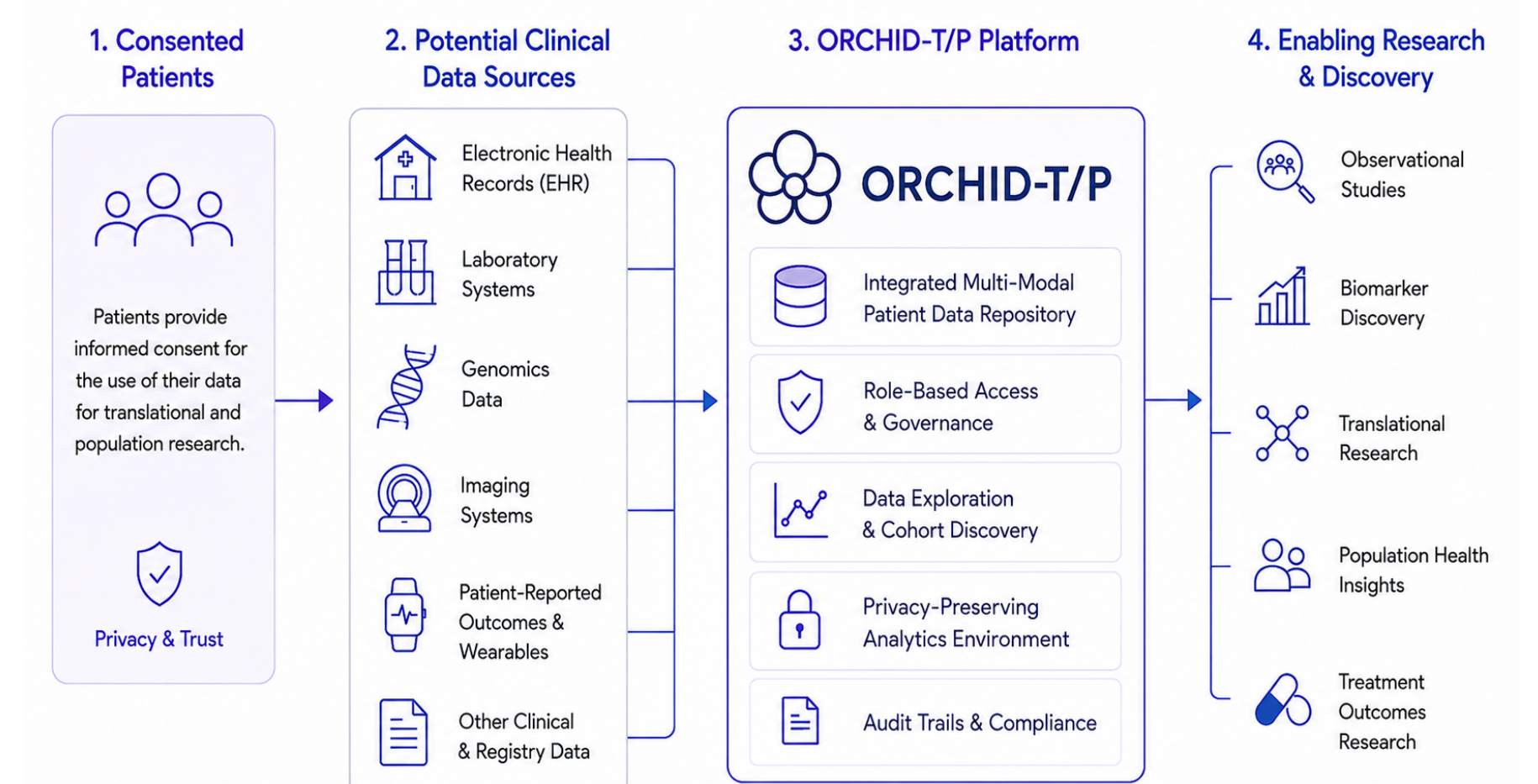
NIHR | Policy Research Unit

NIHR Policy Research Unit: Cancer Awareness, Screening and Early Diagnosis

Using ORCHID-E data, this NIHR PRU will assess trends and inequalities in cancer-related primary care activities and evaluate the effects of public health initiatives, policy changes, awareness campaigns, and high-profile public health events on care indicators and patient outcomes.

ORCHID-Trials & Prospective Studies

ORCHID-Trials & Prospective Studies (ORCHID-T/P) – currently under development – will support recruitment, feasibility assessment, and health-data linkage for consented participants.



Lawful Basis

The University of Oxford is the sub-processor for ORCHID surveillance data, which it processes under UK GDPR Article 6(1)(e)[public interest] and Regulation 3 of The Health Service (Control of Patient Information) Regulations 2002. The University of Oxford is the data controller for ORCHID research data. Research through the ORCHID platforms additionally takes place under UK GDPR Article 9(2)(j)[special category data]. ORCHID-E data has Section 251 (CAG) approval (National Health Service Act 2006). ORCHID-T/P studies must apply for their own ethical and lawful basis approvals.



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