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An all-Wales approach to sample and genomic data access, serving the cancer and rare disease research communities.

The BioResource Data Accelerator project works across research infrastructure groups and NHS partners to leverage existing data, establish appropriate governance mechanisms and approaches to access healthcare and treatment data, with a view to embed reproducible pipelines to serve the growing appetite for multimodal research.

From BioBank to BioResource

Consented Data

Working in partnership with the **Wales Cancer Biobank**, our team are supporting a programme of work to become Wales' first national BioResource and to provide a greater level of functionality of the data currently available to researchers and added value to its sample archive.

Starting with genomic data, the team are establishing pipelines to flow diagnostic data from the NHS **All Wales Medical Genomics Service** (AWMGS) and partnering with the National Imaging Academy Wales to explore how radiological and other imaging data can augment the Wales Cancer offering by Biobank offering truly multi-modal datasets.

We are also working closely with the WCB team on patient-facing initiatives to modernise (digitise) its consenting procedures within clinics and plan to expand these broader consenting procedures nationally.



A BioResource for Rare-Disease

Consented Data

The All Wales Genomics Databank, is a sister project to WCB Digital, and a further collaboration between the AWMGS and Cardiff University enabling data-driven discoveries for inherited rare disease patients in Wales.

This novel research initiative is now **open to recruitment** and looks to recruit 100 patients (pro bands) and their parents in 2026 to pilot systems and demonstrate the benefits of collating and using this infrastructure to advance research for rare-disease cohorts.



Routine NHS data for clinical trials

Anonymised Data

Guided by the accelerator team, The NHS National Data Resource (NDR) has provided control arm data for patients receiving standard care diagnostic pathway for suspected lung cancer in the QuicDNA trial via their secure data environment.

By supplementing NDR diagnostic and time to first treatment data with our clinical trial data, we are able to analyse two cohorts - those on-trial patients, and those in hospitals sites not open to recruitment.

Data comparison can happen in real-time, and enables live review of NHS systems data quality and availability.

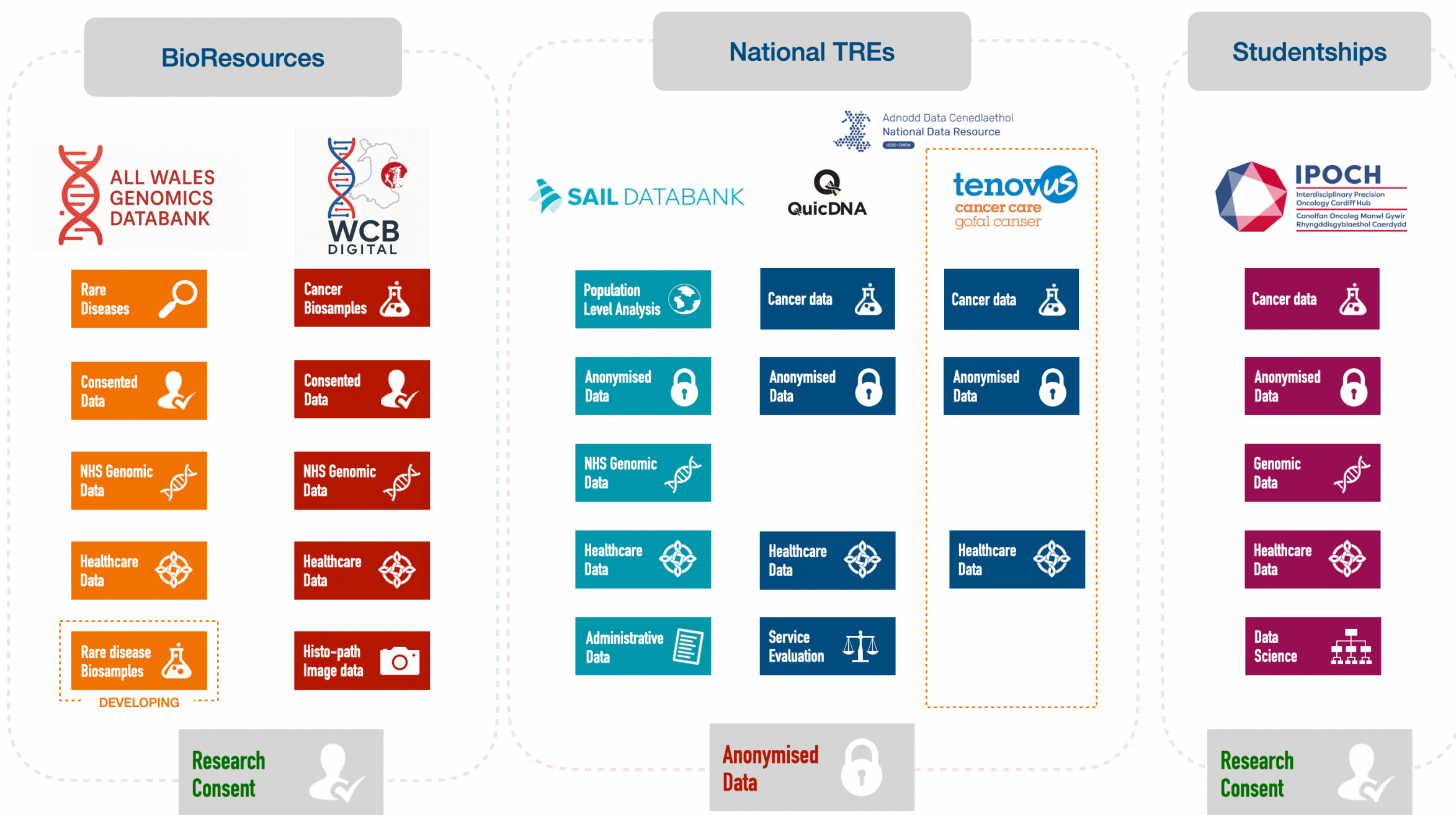


National scale linkage of genomic data

Anonymised Data

Anonymised NHS genomic data for a pilot rare inherited diseases cohort is now available within the SAIL Databank (vcc format) having been successfully linked with other administrative and healthcare datasets.

Our team are now looking to develop more extensive pipelines of data access such as for Lynch syndrome patients, routinely screened as part of colorectal cancer treatment pathway. This involves further understanding the depth of data required for research use within SAIL in line with their governance models as well as conducting PPIE and awareness activities to maximise data availability and use within the SAIL platform.



Data reuse for novel data science

Anonymised Data

Through the **Interdisciplinary Precision Oncology Cardiff Hub** we are exploring digital twin models to explore disease fragmentation and differential treatment outcomes in acute myeloid leukaemia (AML) patients, and establishing predictive genomic, clinical and quality of life signatures influencing response to therapy.

Reusing AML clinical trials datasets and integrating with genomic sequence data for approximately 2500 patients provides a unique opportunity to use machine learning approaches to: identity disease fragmentation and patient response to specific drugs; look for genetic explanations for differences in drug response common to different treatment pathways; and identify time-critical decision points for clinical interventions



Partnering with:



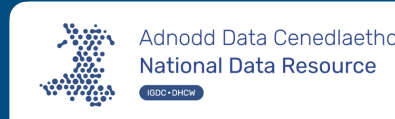
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