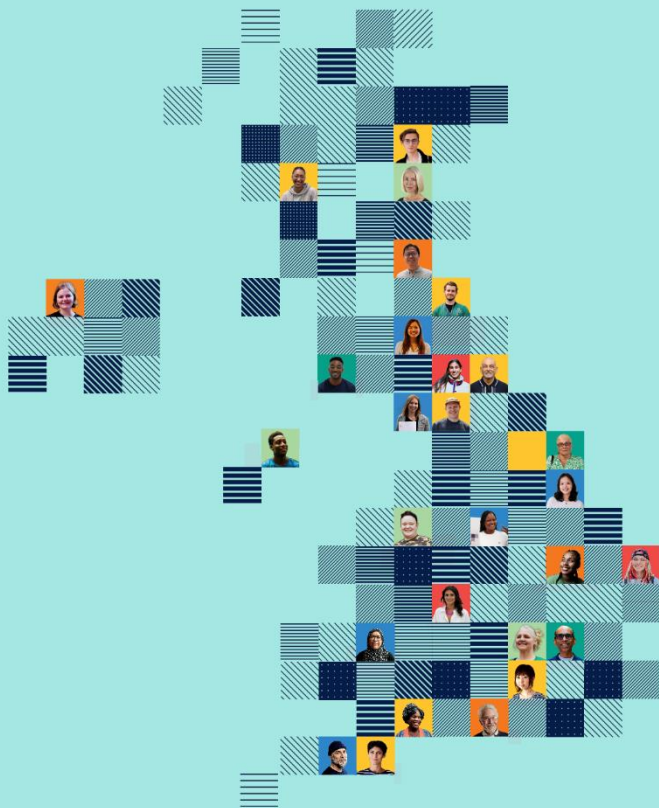


+
Our
Future
Health

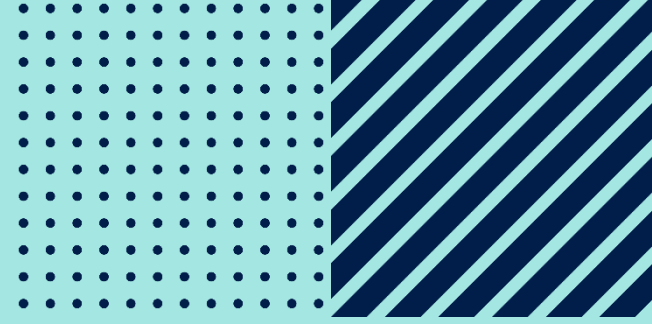
In partnership with



A world leading platform for early detection and prevention research

Michael B. Cook, Ph.D
Executive Director of Science
Our Future Health

+ Overview



- Build a new prospective cohort in the UK with the mission to help everyone live longer and healthier lives through the **discovery and testing of more effective approaches to prevention, earlier detection, and treatment of diseases.**
- Our Future Health is a not-for-profit organisation supported by the UK government, industry and medical charities which aims to recruit 5 million volunteers from the UK adult population in order to create a unique resource which will **catalyse aetiological and translational research for both common and rare diseases.**
- Our Future Health will **facilitate translational research** by providing **access to data and stored biosamples**, and by **enabling recontact studies/trials with participants selectively invited** based on demographics, phenotypes, and disease risks.
- Apply for access now at **research.ourfuturehealth.org.uk**

Online platform
that empowers



+
Our
Future
Health

+ Taking part in Our Future Health



Sign-up/invitation



Let's prevent disease together

Our Future Health is the UK's largest ever health research programme.

At Our Future Health, our goal is to help future generations live in good health for longer.

We are aiming to collect information and samples from up to 5 million adults to build the most detailed picture ever of the UK's health.

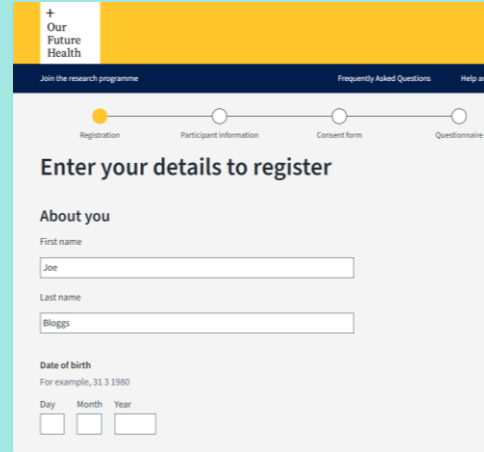
Researchers will be able to apply to use this information to make new discoveries about health and disease.

Discoveries made through Our Future Health could lead to new ways to predict, prevent and detect diseases like dementia, cancer, diabetes, heart disease, and stroke.

We're inviting people aged over 18 from all backgrounds across the UK. Because to help all kinds of people, we need every kind of person.

[Start now](#)

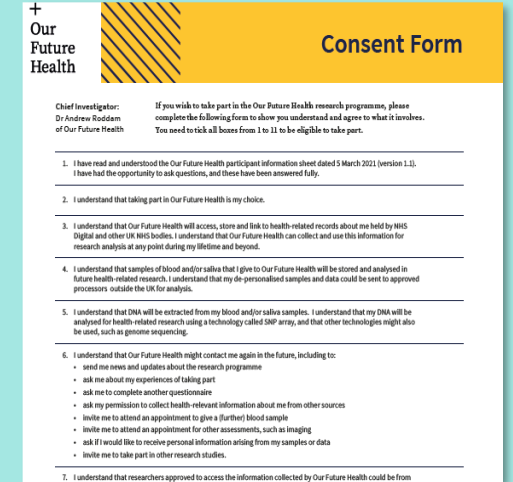
Register



Information



Consent



Physical measurements



Blood sample



Questionnaire

**Online platform
that empowers**



**+
Our
Future
Health**

**Secure data flows
with operational
partners**



+ Secure dataflows are a foundational part of our design



Blood sample collection, transportation, processing and long-term ultra-low temperature storage



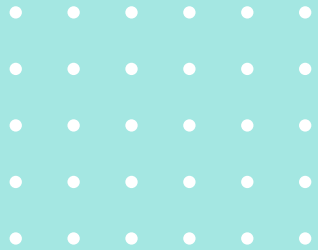
Deployed questionnaire data flows



Data linkage algorithmic participant identification and data provision



Genotyping data flows including QA/QC



+ The Our Future Health custom genotype array types 700,000 variants for aetiologic and translational research



- GWAS backbone is optimised for UK multi-ethnic imputation capability
- Design incorporates up to date sets of disease- and phenotype-associated genetic variants from the Genotype Assay Working Group including polygenic risk score (PRS), GWAS catalog, ACMG, and ClinVar sets
- The array is also designed to predict blood types and assess pharmacogenetic variants to further enhance healthcare insights
- We have built an integrated genotyping workflow and have contracted with Genomics plc to provide polygenic and integrated risk score



ukbiocentre

illumina



eurofins

GENOMICS

**Online platform
that empowers**



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Health**

**Secure data flows
with operational
partners**

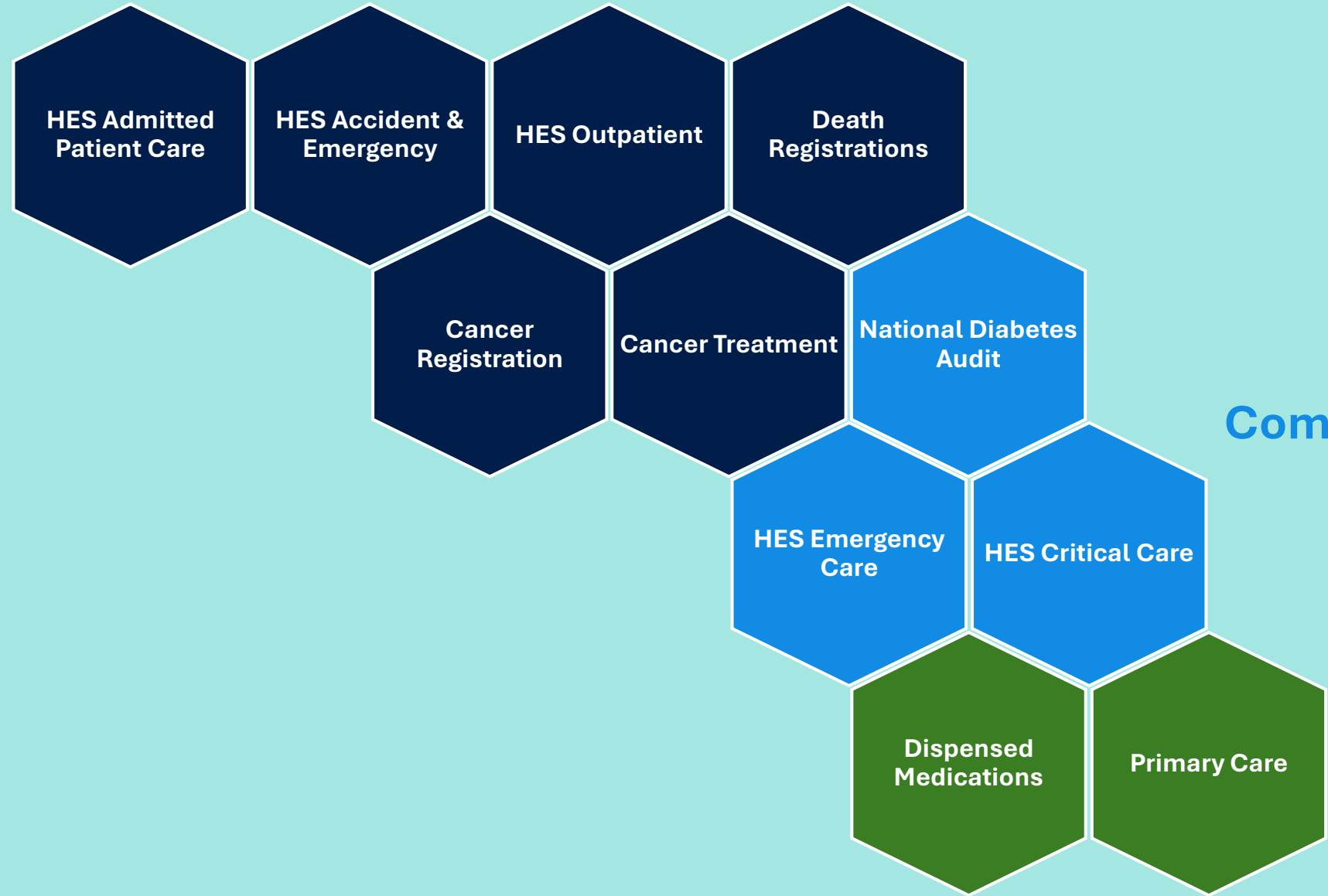


**Health-
related data
linkages**

+ NHS England Data Linkages



**Available
now**



Coming Soon

Planned

**+
Our
Future
Health**

**Online platform
that empowers**



**Secure data flows
with operational
partners**



**Secure cloud
analytics**



**+
Our
Future
Health**

**Secure,
pipelined
imputation in
UK Biobank**



**Secure and flexible
participant communication**

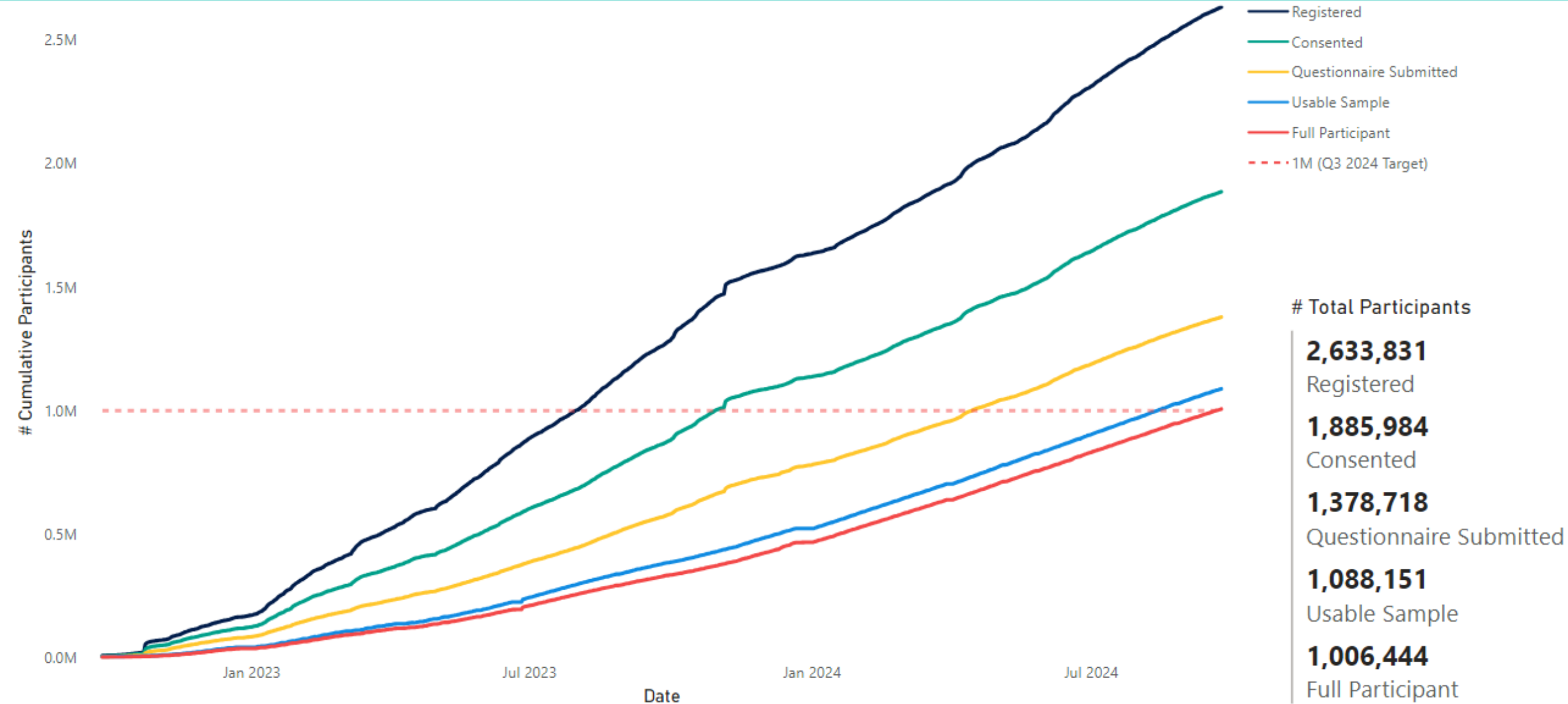


**Health-
related data
linkages**





Recruitment



Total Participants

2,633,831

Registered

1,885,984

Consented

1,378,718

Questionnaire Submitted

1,088,151

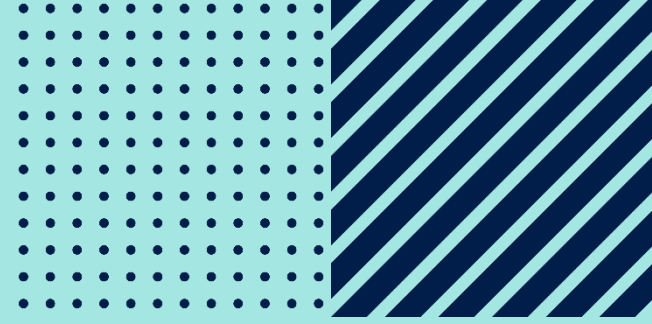
Usable Sample

1,006,444

Full Participant



Our Future Health Trusted Research Environment September 2024 Data Release



1,193,001

participants with completed baseline health questionnaires

330,058

participants with initial genotype array data

957,432

participants with NHS-E secondary care data

Broad and deep phenotyping will catalyse health insights

Available Now

Baseline questionnaire

Custom genotype array data

Data linkage to NHS England secondary care, cancer registry, and deaths registry

Next

Scotland, Wales, Northern Ireland data linkages

Clinic appointment measures

Genotype imputation

Diabetes National Audit linkage

Future

Primary care linkage

Additional surveys
(e.g., follow-up, diet, cognitive function)

Additional data linkages
(e.g., maternity, dispensed medications, disease registries, census, GIS)

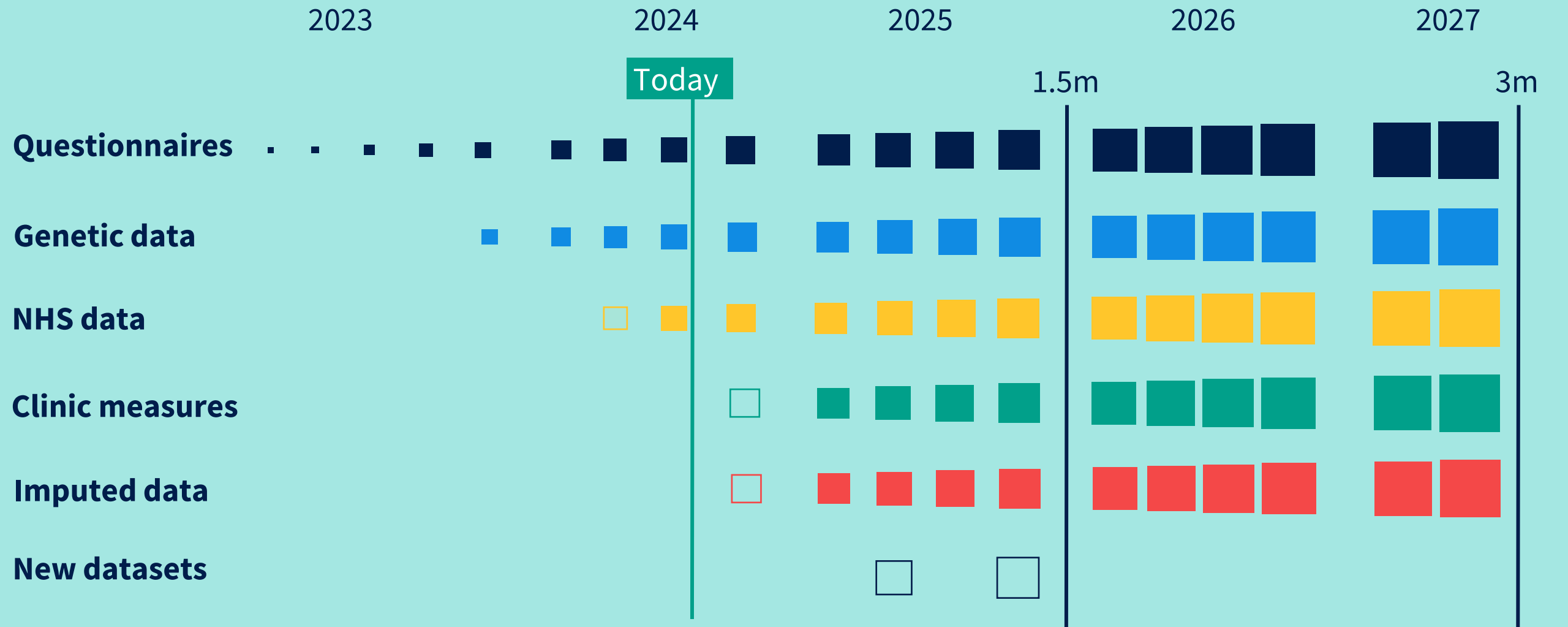
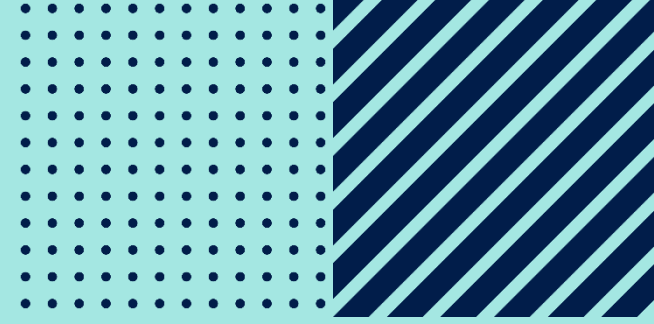
Wearable data
(e.g., smartphone, research-grade)

WGS and Methylation

Proteomics and Metabolomics



Quarterly data releases



Large scale ensures harmonised data across large incident case sets

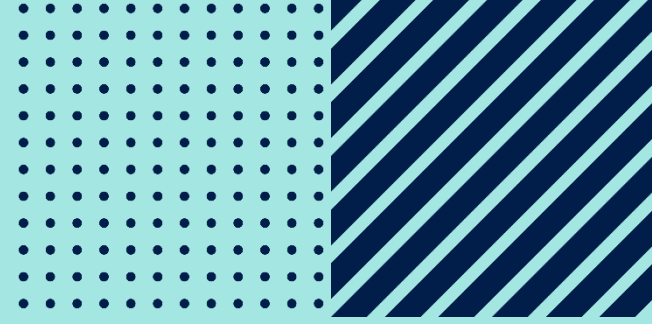
Appendix A: Estimated Numbers of Incident Diagnoses in Initial 2.5-year Follow-up Period of Our Future Health




Condition	Category	1M	2M	3M	4M	5M
Primary Malignancy – Skin	Cancers	8,050	16,100	24,150	32,200	40,250
Primary Malignancy – Prostate	Cancers	3,620	7,240	10,860	14,480	18,100
Primary Malignancy – Breast	Cancers	3,370	6,740	10,110	13,480	16,850
Primary Malignancy – Lung	Cancers	2,790	5,580	8,370	11,160	13,950
Primary Malignancy – Bowel	Cancers	2,770	5,540	8,310	11,080	13,850
Primary Malignancy – Bladder	Cancers	1,360	2,720	4,080	5,440	6,800
Primary Malignancy – Melanoma	Cancers	1,190	2,380	3,570	4,760	5,950
Non Hodgkins Lymphoma	Cancers	920	1,840	2,760	3,680	4,600
Leukaemia	Cancers	710	1,420	2,130	2,840	3,550
Primary Malignancy – Kidney	Cancers	710	1,420	2,130	2,840	3,550
Primary Malignancy – Oesophageal	Cancers	670	1,340	2,010	2,680	3,350
Primary Malignancy – Pancreas	Cancers	610	1,220	1,830	2,440	3,050
Primary Malignancy – Uterus	Cancers	590	1,180	1,770	2,360	2,950
Primary Malignancy – Oropharyngeal	Cancers	540	1,080	1,620	2,160	2,700
Primary Malignancy – Stomach	Cancers	520	1,040	1,560	2,080	2,600
Primary Malignancy – Ovary	Cancers	500	1,000	1,500	2,000	2,500
Monoclonal Gammopathy of Unknown Significance	Cancers	440	880	1,320	1,760	2,200
Plasma Cell Malignancy	Cancers	430	860	1,290	1,720	2,150
Primary Malignancy – Brain	Cancers	390	780	1,170	1,560	1,950
Myelodysplastic Syndrome	Cancers	330	660	990	1,320	1,650
Primary Malignancy – Liver	Cancers	260	520	780	1,040	1,300
Polycythaemia vera	Cancers	220	440	660	880	1,100
Primary Malignancy – Biliary	Cancers	220	440	660	880	1,100
Primary Malignancy – Mesothelioma	Cancers	190	380	570	760	950
Primary Malignancy – Thyroid	Cancers	130	260	390	520	650
Primary Malignancy – Cervix	Cancers	65	130	195	260	325
Primary Malignancy – Testis	Cancers	60	120	180	240	300

+ Translational research is a key distinguishing feature of Our Future Health

- Consent includes the ability to recontact participants to invite them to receive health-related information as well as be **invited to additional research studies and trials** based on demographics, phenotypes, and disease risks.
- Our Future Health is biobanking plasma, buffy coat and DNA, and will **facilitate access to stored biosamples for research studies** seeking to make aetiologic and translational insights.
- Many promising diagnostic and prognostic biomarkers fail at the stage of prospective evaluation: Our Future Health will provide a platform that solves this problem by being a **translational catalyst for healthcare and medical science**.
- The large size of Our Future Health will enable **precision prospective studies of rarer diseases**: how they develop, how we can intervene, how we can treat.
- Our Future Health has already recruited a cohort with **significant geographical and ethnic diversity**, which will be further enhanced as we deploy additional strategies and expand throughout the four home nations.

+ Challenges



- Security 
- Cloud analysis platform (TRE) airlock 
 - import of code and data
 - export of results
 - enabling safe use of AI/ML
- Siloed data 

ourfuturehealth.org.uk

The screenshot shows the homepage of the Our Future Health website. The header is dark blue with the logo on the left and navigation links on the right. The main content area has a yellow background with a 'Get involved' section. Below this are two white boxes with images and text: 'Taking part' and 'Researchers'.

+ Our Future Health

[Join Our Future Health](#) [Registered participant? Sign in](#)


In partnership with **NHS**

[Our research mission](#) [Get involved](#) [Protecting your data](#) [About us](#) [News & stories](#)

[Home](#)


Get involved

We're building a community of up to five million volunteers to create the largest ever health research programme involving members of the public in the UK.



Taking part

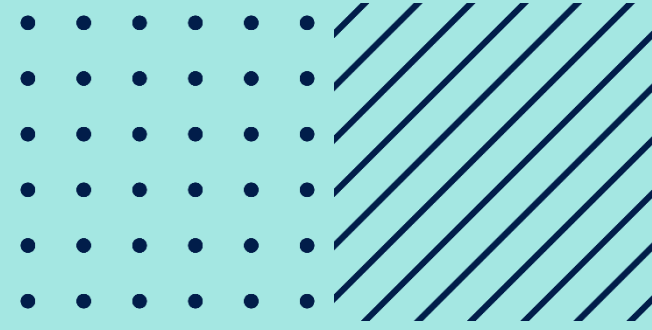
Help everyone live longer and healthier lives and learn new information about your own health



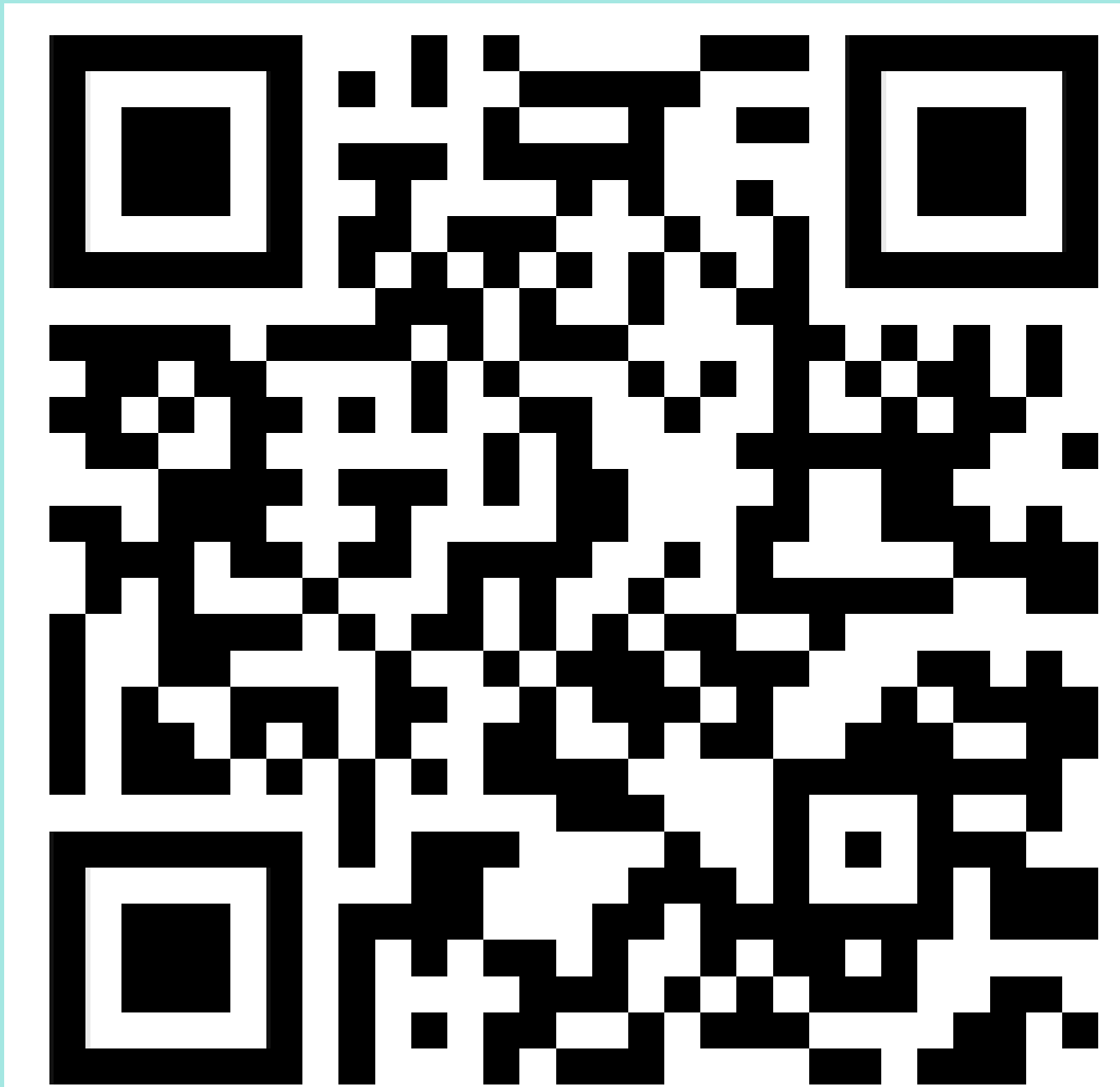
Researchers

Our Future Health will give researchers from universities, charities, the NHS and companies involved in health research the opportunity to discover and test more effective ways to predict, detect and treat major diseases through a dataset that truly reflects the UK's population.

research.ourfuturehealth.org.uk



+
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Poster:
Friday
P3-S7