

Trust Board Update

Genomic Medicine Services

Supplementary Information

26th May 2022

Recap – What is Genomics?

- Genomics is the study of the body's genes, their functions and their influence on the growth, development and working of the body – using a variety of techniques to look at the body's DNA and associated compounds.
- The UK is recognised worldwide as a leader in genomics and the unique structure of the NHS is allowing us to deliver these advances at scale and pace for patient benefit



<https://www.england.nhs.uk/genomics/>

Programme Overview

Genomic Medicine Centres 100,000 Genomes Project

2013/14
13 GMCs established to deliver Whole Genome Sequencing.

Y&H GMC recruited 2018 rare disease & 883 cancer patients

Genomic Laboratory Hubs

2018
7 GLHs established to deliver transformation of NHSE Genomics testing.

Y&NE GLH formed as a collaboration between LTHT, NUFT, SCHFT & STHFT

Y&NE GLH Central Laboratory

2019
LTHT hosts the Y&NE GLH Central Laboratory.
Joint delivery across Oncology & Pathology sites at SJUH involving HMDS, Laboratory Genetics, Cellular Pathology & UoL Translational Unit.
Estates work in Bexley Wing to facilitate reception, DNA Extraction & Library Preparation.

Launch of New National Genomics Test Directory & Live Clinical Testing for WGS

2020
The NGTD launches with introduction of specialised test portfolio & increased cancer testing.
Y&NE GLH receive a new high throughput Novaseq to deliver cancer testing at scale.
Diagnostic Whole Genome Sequencing starts Live Clinical Testing

Establishment of Genomic Medicine Service Alliances

2020/21
7 new GMSAs are established.

NEY GMSA bid successful – same partners as GLH.

Engagement across Pharmacy, Nursing, Midwifery & Medicine

Genomic Medicine Services

2021/22
Delivery of local & national projects to:

- enhance access to Genomic testing
- specialist pathways enabling clinical changes
- training and knowledge of Genomics in wider workforce

GMSA Projects (March 2022)

Core Deliverables (Number in bracket denotes how many in each pillar)	
Completion of the 100,000 Genome Project(4)	
Retaining and building the trust of people and communities in genomics(6)	
Strengthening partnerships across the geography(5)	
Using genomics to improve health and care productivity, quality and efficiency(8)	
Supporting the multi-professional workforce to use genomics safely, effectively and efficiently(2)	
Maximising opportunities to facilitate and participate in research and innovation(4)	
Operating as a national network and representing the NHS GMS nationally(3)	

Budget	Status
Infrastructure	On Track
Transformation	On Track
Total	On Track

Transformation Projects		Now	Next
National (NEY led)	Nursing and Midwifery		
Local	Feto – Maternal Pathways		
	Rare disease case finding		
	RNA Sequencing		
	Informatics Digital DNA		
National (NEY component)	DPYD		
	Nursing and Midwifery		
	Familial Hyper-Cholesterolaemia		
	Lynch		
	Pathology		
	Sudden Cardiac Death		
	Monogenic Diabetes		

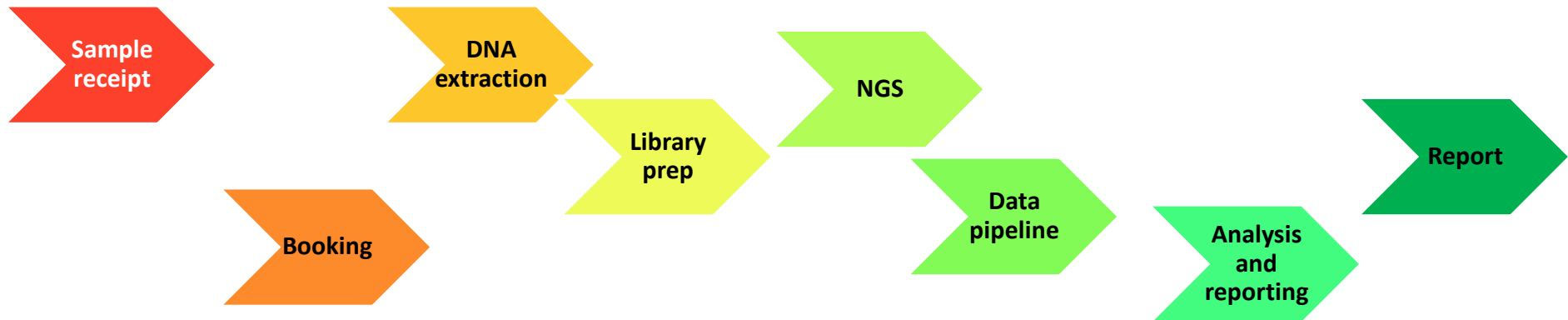
The focus in Q4 has been on maintaining delivery of transformation projects and renewed energy in the core deliverables now resource in place. Residual Amber items in Core Deliverables require onward work with GLH and Nationally, some requiring structural change to complete. Dialogue with NHSEI to finalise 22/23 business planning is ongoing. Ongoing uncertainty around final funding is hindering strategic and operational planning with risk that similar slow delivery in 1st quarter of 22/23 as in 21/22 as a direct result.

Key Programme Risk	Original RAG	Current Rag	Commentary
Core deliverables or projects go behind schedule.			Robust plans in place - Covid Response continues to distract clinical time.
Underspend at year end			Working with finance colleagues and NHSEI GU to expedite.
Leadership and key role gaps in workforce.			Situation improving. Monitoring impact of business plans on headcount.

Future Laboratory Vision

Currently a disjointed, inefficient pipeline:

Difficult to achieve “on time every time”



Equipment, processes & staff not co-located

Insufficient space for current service or growth

Outdated IT hardware, limited software support. Lack of agility

Laboratory LIMS is outdated – no tracking or automation of processes, paper heavy.

Paper ordering & reporting for referrers

Future Laboratory Vision

Create a fully joined up “seamless” pipeline with optimised flow:

“The right test, first time, on time, every time....”



New Laboratory to co-locate all genomics activity (staff and equipment) to industry standards for sample and process integrity, in an environment which promotes staff wellbeing

Sufficient space for future needs of significant growth in activity and staffing. Regular equipment refresh required as technology develops

“IT suite of the future” handling big data, across remote networks with modern hardware able to support dynamic, bespoke genomic toolsets e.g. A.I and bioinformatics pipelines

New GLH LIMS supporting efficient sample booking, full sample barcoded tracking, regional access for disseminated, remote paper free analysis and reporting. On demand, self-service quality & performance metrics

Laboratory Staffing Developments

- Development of new roles, changes in responsibility
- Career pathway now in place from band 2 – 8a for technical staff
- Increase in workforce required to meet anticipated demand

Central Lab - Staffing Projections

