

Are there geographic differences in the genomic testing activity around the UK?

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Background

- One of Genomics England's overarching goals is to reach five million genomic tests and analyses across the UK by 2025. [1]
- The national genomic testing service is delivered through a network of seven Genomic Laboratory Hubs (GLHs).[2] They provide services in their geographical region and any specialist rare disease tests for more than one region according to their areas of expertise. [3]

Aim

To analyze and compare core and specialised genomic testing between geographic regions in the UK.

Methods

Data Sources and study design

- Data: Genomic Testing Activity (NHS England)

Study population

- All patients that received a genetic test between April 2023 and March 2024.

Analysis

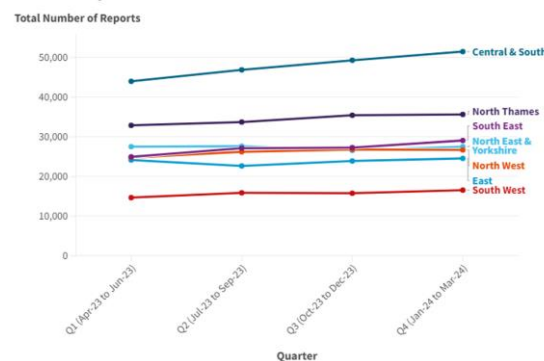
- This analysis involved data from approximately 810,00 patients, segmented into four distinct quarters to enhance clarity of interpretation.
- The geographic regions adhered to NHS's classifications, encompassing Central & South, East, North East & Yorkshire, North Thames, North West, South East, South West.

Results

- The Central & South GLH produced the highest number of reports throughout the year, with 191,705 in total.
- North Thames GLH produced the most cancer reports (97,240) across the year.
- Both GLHs offer the most specialised tests for rare and inherited diseases, covering 15 and 14 different sub-categories respectively, also producing the most reports.
- The South West GLH consistently produced the least number of reports for total activity, cancer, and rare and inherited diseases.
- In contrast to all other GLHs, the North East & Yorkshire GLH had an overall percentage decrease (-0.77%) for the total number of reports produced throughout the year.
- The East GLH had 135.54% increase for the total number cancer reports produced across the year but is ranked fifth overall.
- The South East GLH produced the median number of reports for total activity and cancer across the year.
- The North West GLH produced a consistent number of reports.
- Core and Specialised testing activity was similar across all GLHs.

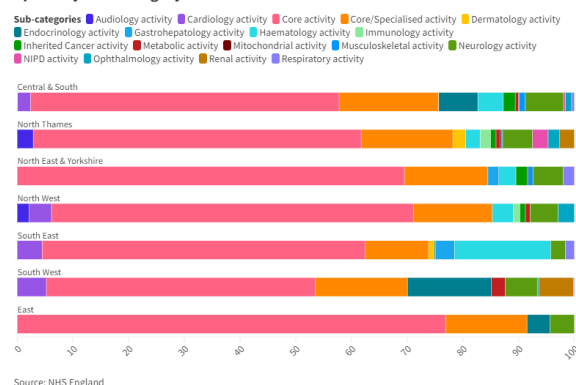


The Total Number of Reports produced by region
Total Activity



Source: NHS England

Specialty Sub-Category



Source: NHS England

Conclusion

Our results show evidence for the geographic differences in the genomic testing activity around the UK, with certain regions consistently producing the highest number of genomic reports or having a wider range of specialist tests available.

Limitations

- The Central and South GLH has one provider not included within their data. [4] This may reduce the total number of total reports they have.
- Some values have been rounded to the nearest 5 or omitted as they are too low and for data protection reasons. This may make the values used slightly inaccurate.

Discussion

- The discrepancy in the total number of reports produced between the different GLHs may be due to inconsistent sizes of the geographic range within their respective jurisdiction.
- For example, the Central & South GLH is much larger than the South West and North Thames GLHs.

[1] - <https://www.gov.uk/government/publications/genome-uk-the-future-of-healthcare/genome-uk-the-future-of-healthcare>
[2] - <https://mft.nhs.uk/nwglh/about-us/what-is-a-gh/>
[3] - <https://www.nbt.nhs.uk/south-west-genomic-laboratory-hub/about-us/national-genomic-laboratory-network>
[4] - [Statistical-Commentary-June-2024-V1-1.docx \(live.com\)](https://www.nbt.nhs.uk/south-west-genomic-laboratory-hub/about-us/national-genomic-laboratory-network)