The Data Ambition

April 2025

GIG CYMRU NHS WALES

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Hywel Dda
University Health Board

Introduction

Within the Digital function, there are three data teams who are working together to develop a data strategy for the health board i.e. Information Services, Data Science Team and the Performance Team.

The data strategy is currently at the information gathering stage. One-to-one meetings have been held with all Executive Team members and all health board staff have been given the opportunity to respond to a brief data survey. Some additional one-to-one meetings with staff across all levels, staff groups and directorates across the health board are underway.

Initial findings from the responses received to date are supportive of the need to increase the value of our data. It is proposed this is achieved via the following steps:

1. Data Collection
2. Data Processing
3. Data Analytics, Insights & Action
4. Data Ambition

The steps above are described in more detail below.

Increasing Our Data Value

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1 Data Collection

Robust data sources to capture the required information entered appropriately, accurately and timely

Data standards; Data entry; Data quality

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Why is this important to us?

Data collection is the foundation element for any organisation that has an ambition to become truly data driven

Without assurances around the quality and usability of the data organisations are at risk of making poor decisions based on the data available to them.

Examples of work currently planned for 2025/26

- Continue to develop local and national recording solutions for the primary use of patient care and supporting reporting purposes.
- Ensure we are making effective and consistent use of the applications available to the Health Board, not only to support end users to deliver direct patient care but to also support the decision-making processes that captured data enables.
- Evidence the usability of recorded data for primary and secondary uses and supporting areas by developing robust data quality processes.
- Seek opportunities through existing training programmes to further educate staff on the importance of data quality.
- Embed data quality within the Executive Improving Together Sessions.

2 Data Processing

Single version of the truth where all secondary usage is sourced from a single data layer

Data acquisition; Data engineering; Data governance & assurance

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Why is this important to us?

We currently have disparate data sources across multiple functions, each with their own approach to data extraction and reporting creates data silos. This can lead to multiple different answers to the same questions.

A considerable amount of time and duplication of effort is spent by service leads and corporate teams preparing reports for groups, committees and Board meetings.

Examples of work currently planned for 2025/26

- Develop a single data platform to support the single version of the truth across all outputs. This migration intends to bring all organisational data into one space to support triangulation and decision making.
- Aim to source all data in a timely manner i.e. transactional, clinical, patient generated, workforce, quality & safety, socio-economic.
- Revise existing performance processes and data tools to reflect the new Care Group structure.
- Investigate ways to improve preparation and collation of qualitative data for reporting.

3 Data Analytics, Insight & Action

Access to timely and effective self-service solutions will provide insight and hindsight

Self-service; BI dashboards; KPI Tracking; Data Modelling

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Why is this important to us?

Decisions makers across all levels and teams in the Health Board need to have access to the appropriate information in a timely and appropriate manner

End users must have the ability to interrogate data to truly understand their services and allow triangulation of appropriate data sources to determine possible route cause analysis

What we already have in place

- IRIS Power BI (Cloud) can be accessed via the HB default desktop, via MS Teams or mobile devices. It is the landing page for any self-service reporting output made available at Health Board level and currently holds tools developed by Information Services, Performance and Data Science.

Examples of work currently planned for 2025/26

- Further develop the IRIS Power BI (Cloud) to include outputs from other areas e.g. Primary Care, Workforce & OD and links to national resources.
- Increase analytical skills and capacity to support services to look for data insights to drive forward improvements.
- Develop dashboards to provide staff with self-service access of data relating to productivity, outcomes , population health, business continuity plans, audits & inspections and health & safety.
- Embed the new Our Improving Together Framework into the organisation, with data available at all levels to drive forward improvements for patients, staff and the Hywel Dda population.

4 Data Ambition

Strategy development, foresight

AI Insights; LLM; Forecasting

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Why is this important to us?

Data driven transformation will only be achieved when we move beyond traditional data analytics and insights. These typically use single data sets to understand what has happened. To properly benefit from AI and Data Science, Big Data needs to be utilised.

Big Data will combine multiple and large data sets that are normally difficult to interpret. Data Science can transparently handle Big Data, providing prescriptive analytics. The power this brings is that it not only anticipates what will happen and when, but also why it will happen.

Example Benefits:

- Understand likelihood of a patient outcome
- Assess meaningful choices that can be taken to mitigate or improve a patient pathway

What we already have in place

- Data Science Platform (Flow Visualiser, Geographic Insights & Forecasts)
- Predicting DNAs for Ophthalmology
- Predicting Re-admissions
- Demand & Capacity Models Scheduled Care (Cancer prototype complete)

Examples of work currently planned for 2025/26

- Patient Digital Twin – Active Surveillance in Prostate Cancer
- Predicting ED Presentation
- Robust Forecasting and Tracking for the Annual Plan
- Optimising Off Pathway Patients
- Population Health of our Workforce

Next steps for our data strategy

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We will continue to develop our data strategy over the coming months. The planned phases and progress are illustrated below.

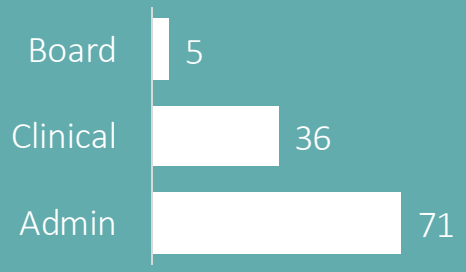
We will strive to ensure the data strategy:

- Is ambitious but achievable
- Is accessible and meaningful to all staff
- Embraces new technologies

Summary of the findings

Total responses

112

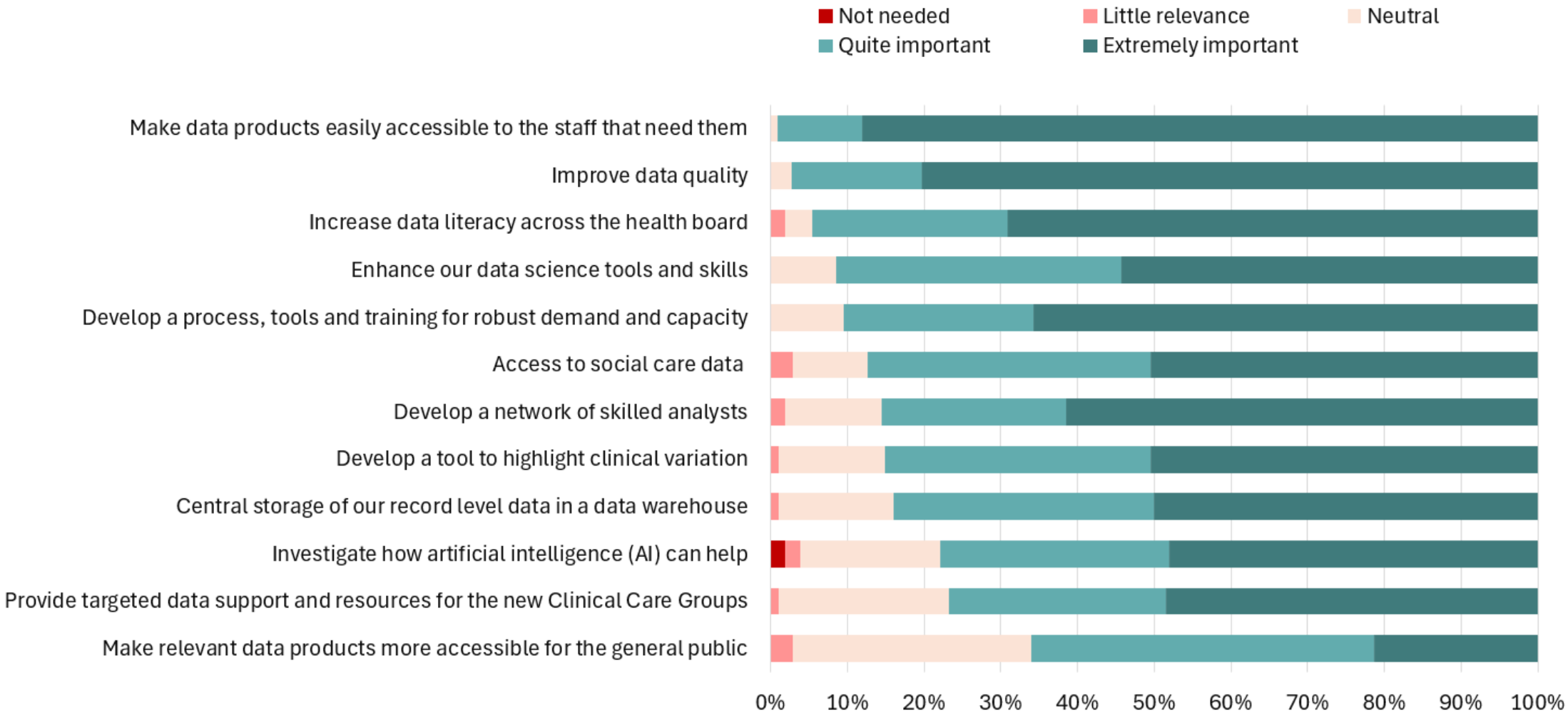


Requested a follow-up meeting

28

(25%)

Summary of the findings



Summary of the findings

There are 12 key themes emerging from the feedback gathered from the various one-to-one discussions held and data survey responses (quantitative and qualitative).

Central storage of our key health data	Prevent data being held in silos, one version of the truth, enable data linkage
Central storage of social care data	Help us to better track patient pathways and outcomes
Improve our data quality	Rubbish in, rubbish out. We need data that is accurate and reliable
Develop a network of skilled analyst and analytical support	We need data experts who can support CCGs to deep dive issues to drive forward improvements and inform business cases
Increase data literacy across the health board	Data is an integral part of what we do. All staff should have the opportunity to ensure their data skills are sufficient to meet the needs of their job.

Summary of the findings

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Data products easily accessible for all relevant staff	Data made available in consistent formats and via a reduced number of platforms
Make data more accessible for the public	The Duty of Quality requires NHS organisations to be open with members of the public about the quality and safety of services provided.
Robust demand and capacity planning	This will allow us to better plan our service provision and develop business cases, ultimately improve patient experience.
Productivity & efficiency (include clinical variation)	We need to ensure we eliminate waste and make our services as efficient as possible to make the best use of our allocated resources.
Enhance our data science tools and skills	Provide actionable insights to improve patient outcomes & staff experience and reduce loss in the system
Artificial Intelligence (AI)	Reduce the number of routine tasks staff need to do, freeing capacity for them to undertake tasks of higher value. An AI databank would save staff time searching.
Data visualisation principles	Data needs to be displayed in a way that is clear and easy to interpret.

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Main Themes – Data Approach:

Data Architecture

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Delivery of a fit for the future data infrastructure that enables the production of timely and consistent data across different datasets

What does the end state look like?

Data architecture

A multi-tenanted (many users) data platform, system-wide to enable access to and use of a broad array of data sets across different systems and different health and care organisations. An infrastructure that allows storage and integration of disparate data sets (e.g. electronic patient record (EPR), workforce, costing, benchmarking) into one place, which enables more sophisticated analysis. The production of timely and consistent data (a "single version of the truth") through common data architecture, which releases analytical resources to focus on value-added activities, and creates an environment to produce more sophisticated outputs (e.g. data science).

Data quality

A high quality, consistent, rich data set input by well-trained users. A rolling training programme so users across the Health Board have a deep and broad understanding of the need for good quality data inputs, and can see the benefits in their analytical outputs. End-to-end data quality tools / dashboards in place to identify data quality issues at source, and clear processes to correct / amend data quality issues. The use of automation and artificial intelligence tools to support in the identification and constant improvement in data quality.

How do we get there

Year 1	• Approval of data architecture business case through the relevant governance • Securing funding for preferred option • Agreeing system-wide technical solutions to create uniform data architecture • Establish programme governance and resource and commence design • Agreed development plan • Assessment of data quality tools and processes and development plan for improvement
Year 2	• Delivery of data quality improvement plan including development / production of dashboards Data
Years 3 - 5	• Rollout of new architecture • Continuous improvement / development to meet needs and alignment with national plan

Access & governance

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Improving our ways of working so users know how to access the data they need, how to make new requests and how they are prioritised

What does the end state look like?

New requests and prioritisation

Standardised templates for making new requests and clear prioritisation matrix / scorecard for consistent approach to transparently identifying priorities, which are then send to the Executive Team for validation. A unified approach between data teams to agree on prioritisation of requests and shared objectives. Clear, regular engagement and communication with users on the status of requests, backlogs and prioritisation.

Access

A central repository for all data products and tools that is quality assured, easily and widely accessed and meets users' needs.

Governance

Business intelligence champions embedded across the Health Board proactively contribute to operational and clinical meetings. Including the presentation of insight / analytics, training and guiding users to available tools, and using data to help to address the biggest challenges and identify opportunities.

How do we get there

Year 1	• Standardised templates for new data / analytical requests • Prioritisation matrix in place and used in prioritising requests • Update intranet to provide up to date information on team structure, communication routes, prioritisation process etc. • Development of product catalogue by area • Clarity of ownership and responsibilities • Closer working with BI and Operational teams
Year 2 +	• Continuous development of product catalogue covering all major categories • Continuing to develop relationships between end users and BI team
Further Considerations	• Data compliance and cyber • Information governance • Data quality • Culture – information security • Manage and govern our data centrally, to agreed standards and processes • Data ethics • Data processing • Data linkage

Data visualisation

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Delivery of core suite of dashboards for widespread use across the Health Board as well as models allowing more in depth analysis/research

What does the end state look like?

Dashboard suite
Easily accessible, intuitive, suite of dashboards across recognised core areas (operational, clinical, workforce, finance), covering 80% of users needs. Dashboards provide the "single version of the truth" across the organisation from Board to site level to specialty / function and used widely for internal and external reporting. Dashboards are constantly updated to reflect the changing needs of users. Clear signposting / guides for users highlighting which reports to use for different purposes. Towards dashboards for trending analysis, and towards external benchmarking reports to identify variation by site to inform opportunities and actions required.

Data science and research
Bespoke data tools made available for detailed requests, available for specific clinical / operational users depending on role. These can be accessed directly by trained and informed users, or through bespoke requests to the data teams. Active use of advanced data tools and techniques (predictive analytical models, machine learning) to support operational delivery.

How do we get there

Year 1	• Initial suite of dashboards to be made available to end users through a self-service interface • Collaboration across the health and care system to enable access to shared dashboards • Development of product catalogue by area and source • Training for analysts in preferred data visualisation software and end users
Year 2	• Further development of dashboards • Bespoke training for analysts in advanced modelling techniques (role specific) • Re-development of dashboards required for any changes relating to data architecture
Year 3-5	• Appraisal of current data visualisation tools and continuous development of offer

Capability building

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Ensuring access to training, retention and continuous development of the highly skilled workforce required to meet the increasing analytical needs of a modern organisation

What does the end state look like?

Business Intelligence team and skillset

A highly skilled and respected Business Intelligence team, with deep technical and operational / clinical knowledge who are recognised experts in their field. A greater emphasis on automation / artificial intelligence to free up team resources to generate value added output. To drive recruitment and retention through more formal collaboration with higher and further education partners, including graduate training schemes as well as ongoing continued professional development and technical development.

Wider user training and knowledge

An improved formal and informal training offer to end users to enable higher quality data input and output, to build confidence in using data to inform decisions.

Shared service to make best use of resources

Maximising the benefits of scarce, highly skilled resource through formal collaboration across the care system, to enable specialisation (data science, data architecture, data visualisation) within a limited resource envelope, and to generate economies of scale to make more time available for value-added activities.

How do we get there

Year 1	• Whole health board analytics service review including consideration of benefits of sharing, aligning resource across the health board • Engagement with health board-wide operational training programme • Development of academic programme offers • Exploration of other ways of engaging with potential future recruits (external and internal) • Further development of automation within BI team to release more time to value-added activity
Year 2 +	• Rollout of formal academic offer • Bespoke training for analysts in advanced modelling techniques (role specific) • Continuous development of automation within BI team to release more time to value-added activity
Future Considerations	• Data literacy – leaders and managers • Analysts -able to understand and structure a problem & communicate their findings well • Exploring further use of AI