

PWYLLGOR DIGIDOL, DATA AC ARLOESI
DIGITAL, DATA AND INNOVATION COMMITTEE

DYDDIAD Y CYFARFOD: DATE OF MEETING:	07 October 2025
TEITL YR ADRODDIAD: TITLE OF REPORT:	Data Quality Deep Dive
CYFARWYDDWR ARWEINIOL: LEAD DIRECTOR:	Huw Thomas, Executive Director of Finance
SWYDDOG ADRODD: REPORTING OFFICER:	Anthony Tracey, Digital Director

Pwrpas yr Adroddiad (dewiswch fel yn addas)
Purpose of the Report (select as appropriate)

Er Sicrwydd/For Assurance

ADRODDIAD SCAA
SBAR REPORT

Sefyllfa / Situation

The purpose of this paper is to provide the Digital, Data and Innovation Committee with an updated overview and assurance regarding the ongoing data quality deep dives. It outlines the methodologies, governance processes, and analytical frameworks employed to assess, monitor, and improve data quality across key digital systems. This paper also highlights the progress made to date, identifies areas of concern or improvement, and sets out the next steps to ensure continued rigour and transparency in data quality management.

Cefndir / Background

High-quality data is fundamental to the effective delivery of healthcare services. In a clinical and operational environment, data must be accurate, timely, and fit for purpose to support informed decision-making, which directly contributes to improved patient outcomes, enhanced safety, and overall wellbeing.

Robust data quality is also essential for the production of reliable management information, enabling the Health Board to operate efficiently and make best use of its resources. Whether supporting strategic planning, performance monitoring, or service improvement, data underpins every aspect of organisational intelligence and accountability.

Poor data quality can have far-reaching consequences. It can undermine clinical decision-making, distort performance reporting, and lead to inefficient use of resources. In some cases, particularly with national datasets, data quality directly affects how the Health Board's performance is represented against Welsh Government targets, with implications for public accountability and funding.

Maintaining high standards of data quality is therefore not just a technical or operational concern, it is a strategic imperative that supports the Health Board's mission to deliver safe, effective, and person-centred care.

Asesiad / Assessment

Ensuring the highest standards of data quality is a strategic priority for the Health Board, underpinning both clinical excellence and operational effectiveness. In recognition of the critical role that data plays in supporting patient care, resource allocation, and regulatory compliance, the Health Board has initiated a series of targeted data quality deep dives. These deep dives are designed to provide a comprehensive and systematic examination of data quality across key digital systems and processes.

The data quality deep dives adopt a structured approach, focusing on specific datasets and pathways that are integral to service delivery and performance reporting. By engaging multidisciplinary teams, including clinical, operational, and digital specialists. The deep dives aim to identify strengths, uncover areas for improvement, and ensure that data is accurate, complete, and fit for purpose. This collaborative methodology not only enhances the reliability of information used for decision-making but also fosters a culture of continuous improvement in data management practices.

Through these deep dives, the Health Board seeks to provide robust assurance to the Digital, Data and Innovation Committee and other stakeholders. The findings and recommendations generated from each review inform targeted action plans, drive process enhancements, and support compliance with national standards and reporting requirements. Ultimately, this work reinforces the Health Board's commitment to delivering safe, effective, and person-centred care, underpinned by high-quality data.

Data Quality Deep Dive Workplan

To strengthen the integrity and usability of data across the Health Board, a structured workplan has been developed to guide the implementation of data quality deep dives. This workplan sets out a phased and prioritised approach to reviewing critical datasets and digital pathways, ensuring that each deep dive is aligned with strategic objectives, operational needs, and national reporting requirements. By systematically examining data quality through defined dimensions, such as accuracy, completeness, and timeliness, the workplan provides a clear framework for identifying issues, implementing corrective actions, and embedding sustainable improvements. It also ensures that resources are targeted effectively, and that findings from each review contribute to a broader culture of data-driven decision-making and continuous improvement.

- Emergency Department (ED) – follow up after training sessions have been held with ED staff over last 6 months
- Consistency in zero Length of Stay (LoS) activity – clinical coding has highlighted potential inconsistencies in activity being recorded as admissions, regular day attenders, Ward attenders etc
- Referral to Treatment (RTT) – New review of current processes and validity of waiting times
- Pathway of care delays – aligned to the planned changes in reporting and data capture (flow system)
- Patient flow – following introduction of new system (Miya Flow)

- Mental Health Services – following recent implementation on to Welsh Patient Administrative System (WPAS)
- Theatre – follow up
- Cancer Services following recent implementation away from Cancer Network Information System Cymru (CANISC) on to WPAS & Welsh Clinical Portal (WCP)
- Electronic Staff Record (ESR)
- Maternity Services

Escalation process

Historically, engagement from end users on data quality issues has been inconsistent, with many users either unaware of the implications of poor data quality or too removed from its direct impact. This lack of engagement can hinder efforts to improve data quality and limit the effectiveness of data-driven decision-making across the organisation.

To address this challenge, and to ensure a more structured and accountable approach, a formal escalation process has been developed. This process is designed to be implemented in situations where end user engagement with data quality issues has not been positive or productive, providing a clear pathway for resolution and support.

The escalation process has been reviewed and approved by the Information Governance Sub-Committee, ensuring it aligns with organisational standards and governance requirements. It sets out defined steps for escalating concerns, engaging relevant stakeholders, and ensuring that data quality issues are addressed in a timely and effective manner.

In line with Policy Number 250 – Information Quality Assurance Policy

Team/Individual	Timeframe & Actions
Information Quality Assurance team	2/52 following initial contact if no reply then <u>send</u> 1 chaser... 1 week no reply <u>escalate</u> to next step
Head of Information Services	Send out follow up with immediate effect from escalation, if no response within 2 weeks... then raise with 'line manager/next level of directorate'
Digital Services Senior Team...?	<i>If deemed appropriate</i>
Information Governance Sub-Committee	Non-response to be formally reported to IGSC where SIRO & Caldicott Guardian are present
Sustainable Resource Committee	IGSC papers are reported and fed into SRC where 'Executive Director of Finance' & 'Chief Executive' are present

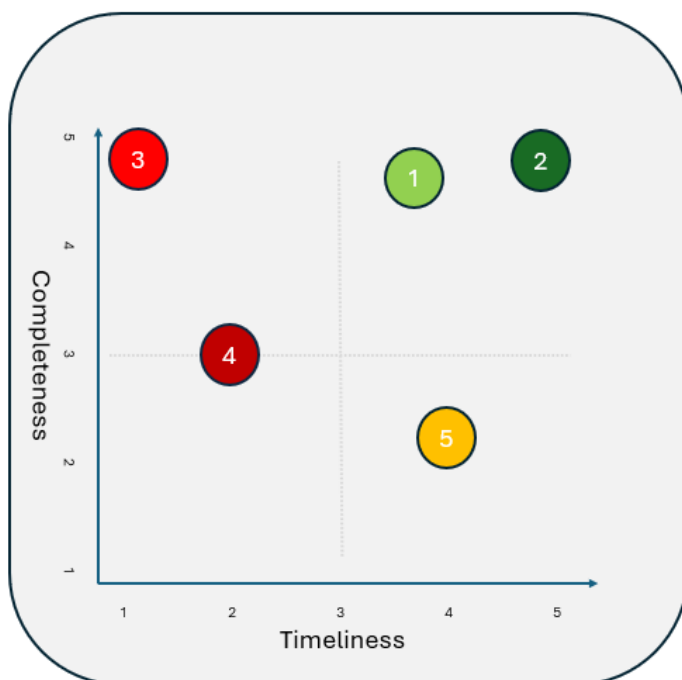
Team/Individual	Interval	Action
Information Quality Assurance	Day 0	Send out initial request/report
Information Quality Assurance	Day 14	Send a chaser
Head of Information Services	Day 21	Send out request for engagement to original recipient and Head of Service or Director
Head of Information Services	Day 28	Notify of escalation to IGSC & provide details of next meeting date and times and content
Head of Information Services	Day 28	Include in the very next IGSC DQ update...
Head of Information Services	Day 35	Another chaser to Head of Service or Director
Information Governance Sub-Committee		Action as requested by IGSC – SIRO and/or Caldicott Guardian to send e-mail/communication

Developing a Data Usability Matrix

As part of the wider data quality improvement programme, work is underway to develop a Data Usability Matrix, a more nuanced approach to assessing data quality beyond the traditional binary of “good,” “bad,” or “indifferent.” This matrix aims to support users in determining whether a dataset is suitable for their specific use case, recognising that data may be fit for one purpose but not another.

For example, a dataset may have poor timeliness in terms of live data entry, making it unsuitable for real-time operational decisions, such as monitoring ED demand. However, if the data is reliably completed within seven days of the transaction, it may still be highly valuable for retrospective analysis, such as machine learning or predictive modelling in data science. The matrix helps to surface these distinctions, enabling more informed and context-sensitive use of data.

The visual concept underpinning this matrix is illustrated in the graphic below. Each circle represents a different dataset or system, with its accuracy indicated by colour intensity. The X-axis reflects timeliness, while the Y-axis represents completeness. This multidimensional view allows stakeholders to quickly assess the usability of data across different domains and make decisions based on its fitness for purpose.



Score	Accuracy (%)	Completeness (%)	Timeliness	
			Live Data (mins)	Other Data
1	0 - 19	0 - 19	120 +	7 days +
2	20 - 49	20 - 49	60 - 120	3 to 6 days
3	50 - 79	50 - 79	30 - 59	48 - 72 hrs
4	80 - 94	80 - 94	5 - 30	24 - 48 hrs
5	95 +	95 +	Live - 5	Within 24 hrs

Prioritisation matrix

Given the extensive range and volume of systems and data collection activities across the Health Board, the Data Quality team’s resources are not sufficient to address every area as comprehensively as desired. To ensure that available resources are deployed as effectively as possible, a prioritisation matrix has been developed. This tool enables the team to focus their efforts on the areas where data quality improvements will have the greatest impact.

The matrix evaluates and scores potential data quality issues against four key criteria: impact on patient care, data volume, reporting requirements, and alignment with strategic objectives.

This structured approach ensures that the team’s work programme remains targeted, transparent, and aligned with organisational priorities.

Importantly, the prioritisation matrix works in tandem with the data usability matrix, ensuring that not only are the most impactful areas addressed, but that the quality and suitability of data for different use cases are also considered as part of the decision-making process.

	0	3	7	10
Patient Care	No effect	Minimal effect on patient care - <i>e.g. problem with statutory return</i>	Affects groups of patients - <i>Unable to book appointment immediately</i>	Affects all patients - <i>Potential misdiagnosis, missed results/other crucial information</i>
Volume	Single user - <i>(e.g. one Physiotherapist only)</i>	Site specific - <i>affects one site (e.g. BGH only)</i>	Specialty specific - <i>affects isolated specialty/service only (e.g. All Physiotherapy)</i>	Health Board wide - <i>multiple sites/multiple specialties/services (e.g. Physio & Dietetics across BGH/WGH)</i>
Reporting	None	Local - <i>internal reports for local use only</i>	Financial - <i>internal reports and financial reconciliation</i>	National - <i>WG/NHS Wales and other statutory bodies (as well as local and financial)</i>
HB Risk/IMTP/Strategic alignment (profile in HB)	None - <i>no known profile</i>	Low - <i>indirectly contributes to known programs of work</i>	Medium - <i>directly contributes to known programs of work</i>	High - <i>significantly contributes to known programs of work</i>

As each potential issue is identified it is scored against the elements above and the total score determines the priority that piece of work is undertaken to against the other potential issues already identified.

Future-focused initiatives

Planned Roadshows

Building on the success of previous engagement sessions with Ward Clerks and Health Records staff, the Data Quality Team is planning a series of future roadshows aimed at raising awareness of data quality and the role of the Information Quality Assurance function. These sessions will be designed to reach a broader range of staff across the Health Board, promoting shared ownership of data quality and encouraging proactive engagement with data improvement initiatives. The roadshows will also serve as a platform to showcase tools such as the Data Usability Matrix and provide practical guidance on how staff can contribute to improving data standards in their areas.

Executive Self-Assessment and Emerging Workstreams

Following a recent self-assessment exercise led by the Performance Team, Executive Directors were asked to evaluate their confidence in the quality of key nationally reported datasets. The findings, which were reported through the Integrated Performance Assurance Report, have highlighted several non-traditional data areas that fall outside the current scope of the Data Quality team’s work programme. In response, the team will develop a targeted programme of work to explore and address data quality issues in these emerging areas, including Incidents, Infections, and Workforce data. This expansion reflects a growing recognition of the importance of data quality across all domains and will be informed by both the prioritisation matrix and the Data Usability Matrix to ensure alignment with strategic priorities and operational needs.

Argymhelliad / Recommendation

The Committee are requested to:

- **RECEIVE ASSURANCE** regarding the ongoing Data Quality Deep Dives.
- **NOTE** the continuation of the Data Quality Deep Dives, along with the structured methodology being applied to support their delivery. These deep dives remain a key component of the Health Board's approach to improving data integrity, and their consistent application ensures a robust and repeatable process for identifying and addressing data quality issues.

Amcanion: (rhaid cwblhau)

Objectives: (must be completed)

Committee ToR Reference: Cyfeirnod Cylch Gorchwyl y Pwyllgor:	2.1.2 That the organisation is discharging its responsibilities with regard to the quality and integrity; safety, security and appropriate access and use of information and data, to support health improvement and the provision of high-quality healthcare.
Cyfeirnod Cofrestr Risg Datix a Sgôr Cyfredol: Datix Risk Register Reference and Score:	Not applicable
Parthau Ansawdd: Domains of Quality Quality and Engagement Act (sharepoint.com)	7. All apply
Galluogwyr Ansawdd: Enablers of Quality: Quality and Engagement Act (sharepoint.com)	6. All Apply
Amcanion Strategol y BIP: UHB Strategic Objectives:	All Strategic Objectives are applicable
Amcanion Cynllunio Planning Objectives	9 Digital plan All Planning Objectives Apply
Amcanion Llesiant BIP: UHB Well-being Objectives: Hyperlink to HDdUHB Well-being Objectives Annual Report 2021-2022	9. All HDdUHB Well-being Objectives apply

Gwybodaeth Ychwanegol: Further Information:

Ar sail tystiolaeth: Evidence Base:	Not applicable
Rhestr Termau: Glossary of Terms:	Contained within the report
Partïon / Pwyllgorau â ymgynhorwyd ymlaen llaw y Pwyllgor Digidol, Data ac Arloesi Parties / Committees consulted prior to Digital, Data and Innovation Committee:	Not applicable

Effaith: (rhaid cwblhau) Impact: (must be completed)	
Ariannol / Gwerth am Arian: Financial / Service:	Incomplete or missing data can lead to significant errors in the calculation of financial cost returns, potentially resulting in inaccurate projections, flawed budgeting decisions, and misinformed strategic planning. This can undermine financial reporting integrity and affect overall business performance
Ansawdd / Gofal Claf: Quality / Patient Care:	Poor quality data can lead to the misidentification of patients, which poses serious risks to safety and care continuity. Additionally, service changes may be implemented based on incomplete or inaccurate information, preventing healthcare providers from gaining a full and accurate understanding of patient needs and system performance. This can compromise decision-making, resource allocation, and the overall effectiveness of healthcare delivery.
Gweithlu: Workforce:	Poor data quality can lead to inaccurate workforce planning, misallocation of staff, and ineffective deployment of resources. This can result in increased workload pressures, reduced staff morale, and compromised service delivery, ultimately affecting both employee well-being and organisational performance
Risg: Risk:	The accuracy of Welsh costing returns, which rely heavily on derived Healthcare Resource Groupings (HRGs), is critical for informed financial planning and service evaluation. Inaccurate or incomplete HRG data could undermine the effectiveness of clinical service reconfigurations, potentially preventing the University Health Board (UHB) from achieving its strategic objectives to enhance patient care.
Cyfreithiol: Legal:	Not applicable
Enw Da: Reputational:	Poor data quality can hinder the ability to meet key Delivery Targets set by the Welsh Government, leading to potential reputational damage for the organisation. Inaccurate or incomplete data undermines performance

	reporting, erodes stakeholder confidence, and may result in increased scrutiny or loss of public trust.
Gyfrinachedd: Privacy:	Not applicable
Cydraddoldeb: Equality:	Not applicable