Information Provision
Final Internal Audit Report

July 2023

Public Health Wales NHS Trust

Contents

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Committee:	Audit & Corporate Governance Committee

Audit and Assurance Services conform with all Public Sector Internal Audit Standards as validated through the external quality assessment undertaken by the Chartered Institute of Public Finance & Accountancy in April 2023.

Executive Summary

Purpose

To evaluate and determine the processes in place for the Trust to deliver information products to the right users and whether the transformation plans put in place by the new Leadership Team are sufficient to address the problems.

Overview

We have provided reasonable assurance over this area

Currently the collection and provision of information within PHW is siloed, and there is no accurate picture of what is held throughout the organisation. Consequently there is limited coordination of use at present. We also note that the information is provided in many forms, without consistent content or presentation.

The Data, Knowledge and Research Directorate has started to implement plans to improve this across the organisation as the professional lead for data and information. The plans will largely resolve the weaknesses and enable PHW to better achieve its delivery of information. However, the group as established does not currently have the ability to mandate take up of recommendations which may impact on this.

The matters requiring management attention include:

- Ensuring stakeholders and their needs are identified;
- Enabling a coordinated approach to the collection and use of data;
- Monitoring the use of information products;
- Improving the quality and consistency of information products across PHW.

Other recommendations / advisory points are within the detail of the report.

Report Opinion

Reasonable	Some matters require management attention in control design or compliance.
	Low to moderate impact on residual risk exposure until resolved.

Assurance summary[1]

Objectives	Assurance
1 Stakeholders and Needs	Reasonable
2 Coordination and use of data	Limited
3 Resources	Reasonable
4 Monitoring Use	Limited
5 Information Provision	Reasonable

[1]The objectives and associated assurance ratings are not necessarily given equal weighting when formulating the overall audit opinion.

Further matters arising concerning the areas for refinement and further development are noted in Appendix A.

Key Matters Arising		Objective	Control Design or Operation	Recommendation Priority
1	Stakeholder needs identification	1	Operational	Medium
2	Coordinated approach	2	Design	High
4	Monitoring use	4	Design	Medium
5	Provision of Information	5	Design	Medium

1. Introduction

1.1 In line with the 2022/23 Internal Audit Plan for Public Health Wales NHS Trust ('PHW' or 'the Trust) we have reviewed the arrangements in place for the management and provision of information services to NHS Wales.

1.2 The Data, Knowledge and Research Directorate (the 'directorate') has recently strengthened its leadership and have recognised significant scope for improvement. We have assessed whether the plans of the leadership team have sufficiently mitigated any identified risks.

1.3 For the purposes of this audit, we have defined information products as covering the supply of data, research, analysis and evaluation through a range of outputs covering dashboards, reports and evidence products.

1.4 The risks considered as part of this audit were:

- lack of appropriate management support, funding, and skills can result in failure to meet strategic goals;

- ineffective information security standards and configurations may result in unauthorised access to data, inappropriate modifications of data, and regulatory compliance breaches;

- data quality issues, poor presentation and/or inaccurate reporting may lead to inaccurate management reporting and flawed decision making; and

- reputation risk to PHW due to poor provision of information services.

Limitation of Scope

1.5 Due to the current position of the organisation, with information held and provided by multiple Directorates, and the recent changes to the Data, Knowledge and Research Directorate, the audit has not assessed data governance, and as such this objective is excluded from the review.

1.6 We do note that there is an information governance department, and associated procedures, but equally there is limited meta-data or integration in place.

2. Detailed Audit Findings

2.1 The table below summarises the recommendations raised by priority rating:

	Recommendation Priority			Total
	High	Medium	Low	
Control Design	1	3	0	4
Operating Effectiveness	0	1	0	1
Total	1	4	0	5

Objective 1: A process should be in place for identifying key stakeholders (internal and external) and working with them to establish their requirements, and translating these into deliverable data products.

2.2   The Trust has clear objectives, which are publicised on its website. As such, information is provided to the following key groups:

- Welsh Government, for information and Policy Development;

- Medical staff, for knowledge and action;

- Health Boards, for planning and pathway development; and

- Public / patients, for awareness and health improvement.

2.3   PHW is a mature organisation, and information is provided from all divisions. The production of this information has grown over time, and in many cases has been led by the requirements of leading key individuals or specific groups. As such, while information is provided to users for specific purposes with a culture of ownership by individuals, it does not appear to be shared by these individuals. We note that there is no guidance to identify all users and their needs in order to ensure that information products fully support the Trust's objectives and meet the needs of all users. **Matter Arising 1**

2.4   The directorate is developing a Digital and Data Strategy. The 2023-26 IMTP contains two objectives that have been distilled from this strategy, which are linked to the use of data, these being:

- Objective 1- by 2026 we will provide the data, analytics and R&D evidence to improve the health and wellbeing of Wales.

- Objective 2 – by 2026 will seek to modernise PHW to deliver modern digital services centered around user needs to improve health in Wales.

2.5   As part of the development of the strategy, there have been a series of discovery projects to identify the sources of information and what information is being provided. This approach has enabled stakeholders to be involved in the process of developing the strategy.

2.6   Management are aware that stakeholder needs do not always equal user needs, as commissioners are not necessarily users. As such, management are aware of the need to identify all user personas, including the varying patient types.

2.7   The directorate and its structure is relatively new and is still bedding in. As part its development, the directorate has set up a Data Science and Analytics Board, the aim of which is to make clear the process for assessing, agreeing and prioritising requests for work and information. While this board has been mainly a directorate group, it has recently begun to include people from outside the directorate. We also note that its terms of reference include an objective of 'promoting opportunities for cross directorate and cross organisation working'.

2.8   The board has a clear stakeholder focus, with actions including asking both users and stakeholders 'what they want'. However, there is no forum or group for stakeholders or users to be involved. Stakeholders are identified on an *ad hoc* basis, using prior

knowledge and attendance by directorate staff at other division and user groups, such as the primary care meeting. **Matter Arising 1**

2.9   We also note that directorate staff are involved in projects, which enables information needs to be identified and developed alongside the project or programme.

Conclusion:

2.10   The Trust is aware of stakeholders, but in terms of information delivery, it is focused on specific stakeholders for each item. There is no structure for formal information engagement and no overarching guidance for the organisation relating to how to translate needs into products. The Knowledge and Research Directorate is relatively new and so still bedding in, and we note that a strategy and plans are in development in order to resolve these issues. Accordingly, we have provided reasonable assurance over this objective.

Objective 2: A process should be in place to improve coordination and use of data to enable cross referencing, prevention of silos and consistency of messages from PHW.

2.11   There is a siloed overall structure of data and information provision within the Trust with data held by, and information provided by, many directorates. There is limited cross referencing between information and no coordinated approach to data use. There is no map of data that is held across the organisation, nor is there a standard data dictionary that enables consistency in the data held, and there is limited meta-data in place. We note that where information on the data being held is available, in many cases it is old or out of date.

2.12   The current approach to the data and information provision impacts on the way PHW provides information to its stakeholders, including patients. As an example, currently each disease has its own register, with different timings and structure. Registers are not updated in real or near-real time, preventing them from being fully useful as a planning or operational decision-making tool. While there is a project in place to develop a single disease register, without being fully cognisant of the data being held, this cannot progress effectively.

2.13   To resolve the lack of a consistent approach to data and information an external consultancy has been commissioned to identify and document the systems and data resources in place. However, this has been delayed due to information governance concerns raised by the lead.

2.14   We note that the structures for Digital in place within the Trust add to the complexity of provision of information. Digital Services sit under the Director of Finance, Data under the Director of Knowledge and Research, and Information Governance under the Executive Director of Quality, Nursing & AHPs. This structure requires effective co-ordination across Directorates to establish a modern data architecture.

2.15   There is a lead responsible for information use / provision within the Data, Knowledge and Research Directorate and regular meetings take place to coordinate the use of data within the directorate. This is within the recently established Data Science and Analysis Board, the remit of this includes 'Promoting opportunities for cross-directorate and cross-organisation collaboration'.

2.16 However, there is no cross-organisational group which includes leads from within all directorates, which would enable the coordination and use of data across the whole organisation. Without such a group, with a mandated responsibility for professional oversight, the organisation may struggle to use its data consistently and effectively. **Matter Arising 2**

Conclusion:

2.17 Data and information is siloed within the organisation, and there is not a clear awareness of where all of the organisation's data is, or how it is used. We note that work is ongoing to fully identify data, and structures are being established to better coordinate the use of this data. Accordingly we have provided limited assurance over this objective due to the current position.

Objective 3: The organisation should have sufficient resources to support an analytics function, including financial and staff.

2.18 There is a structure in place within the directorate for improving the use of data and delivering information products. Management has recognised that key skills in digital and data were missing so additional roles have been funded and appointed to, or are currently in recruitment. These included data scientists, a data engineer and a head of data.

2.19 Management acknowledge that there are more skill development requirements, particularly for agile project management, user centred design, and analyst skills.

2.20 Currently there is no skills and development framework in place, linked to staff roles that identifies the skills needed by the organisation, along with a mechanism to develop these, although we note that there is an intent to produce this. **Matter Arising 3**

2.21 Given the history within PHW of multiple departments producing information, there is a wide variety of tools in place, with variation in what is produced. We note an intent to rationalise these and identify and focus on a smaller set of key products using R (a programming language for statistical computing), Python and Power BI.

Conclusion:

2.22 The Trust has made a commitment use its data better. Part of this was the creation of the Data, Knowledge and Research Directorate, with resource provided to take its plans forward. This directorate is new so the full requirements in terms of tools or skills is not yet known. Accordingly, we have provided reasonable assurance over this objective.

Objective 4: A process for monitoring the use of adoption, and for gaining and acting on regular and ad hoc feedback on the usefulness of information services.

2.23 As information products are developed there is communication with the relevant user / requestor to ensure that the product is as wanted. In particular, as the division moves towards a more agile development process, the user will be involved in the ongoing design and production.

2.24 However, the Trust does not have a formal process to seek user feedback on the information provided. The website, where information is provided, does not contain a feedback form or associated link.

2.25 There is no process for monitoring the use or access of the information, or basic web metrics. **Matter Arising 4**

2.26 However, we acknowledge that the terms of reference for the recently established data science and analysis board includes reference to monitoring as part of the groups aims, which are to 'understand and monitor the progress and impact of prioritised work'.

Conclusion:

2.27 Although there is communication in the development process for information products, and there is a shift towards agile development with increased user input for iterations, there no formal process for getting wider user feedback on products. Neither is there any monitoring of use. Accordingly, we have provided limited assurance over this objective.

Objective 5: Information products are produced with user personas in mind, enable the publication of data to the most appropriate granular level, and provide appropriate supporting information.

2.28 Management acknowledge the current weaknesses with the PHW website, with stakeholder views being sought and feedback noting that the website was hard to navigate, information is hard to find, and there are inconsistencies in presentation. Our work included a review of the website and confirmed this.

2.29 Statistics, information and dashboards are produced not only by the directorate, but from directorates across the Trust. As there is no structured leads group (as noted in Matter Arising 2), there is no coordination of this, or of the provision of 'added value' analysis. In many cases information is provided without identifying, discussing or explaining anomalies, which could help the end users. We note that there is ongoing work within the knowledge directorate in relation to excess deaths, to provide greater analysis.

2.30 Currently, there is no standard approach to how or what information is published across the Trust. We reviewed the information provided by PHW, and note that there is variation in the published information, in terms of look, style and content. There is no PHW thematic style, with directorates setting their own style when publishing information.

2.31 A recent internal review was undertaken to assess the quality of information published against standards produced by the Office for Statistics Regulation (OSR). This review identified that there is variation in the quality of content, and not all information complies with the standards with supporting information not always provided on data sources and varying levels of granularity. The outcomes from the review have fed into the establishment of the Publication Principles Working Group, which is discussed below. **Matter Arising 5**. We acknowledge that some directorates have started to work to improve their information provision based on the outcome of the internal review.

2.32   There is limited consideration of user personas in terms of the presentation of information. While the directorate has started to address this matter, across the organisation the information provision remains focussed on the key individuals who lead on the information request.

2.33   We acknowledge that there has been increased engagement within the directorate with the communications team in order to improve how information is presented and provided to a wider user group.

2.34   We note that in order to improve the quality of information provided, PHW, led by the Data, Knowledge and Research Directorate and supported by the Executive team, has established a Publication Principles Working Group. This is a cross organisational group which aims to produce a single set of guidelines and requirements for publishing information of various types. Our discussions with staff within the Trust identified that there was good engagement with the group, with a willingness to work to a more consistent approach to improve the quality of information provided.

2.35   Currently the working group is not considering user personas or presentational style, and focusing on the standard of the information provision. We further note that the outputs from the working group are still subject to discussion over whether they should be mandated or optional.

2.36   Without a standardised presentational style that considers user personas which is mandated across the organisation PHW will not be able to ensure its published information meets an appropriate standard, and provides an overall corporate message. **Matter Arising 5**

Conclusion:

2.37   There are acknowledged weaknesses in the information being provided and no consistent organisational style. The directorate is taking forward plans to improve this situation with a new working group having been established. However, the group does not include all issues in relation to presentation, and at present is not able to mandate compliance, although we note the good engagement. Accordingly, we have provided reasonable assurance over this objective.

Appendix A: Management Action Plan

Matter Arising 1: User needs (Operational)	Impact
There is no guidance for identifying users and their needs in order to ensure that information products fully support the Trust's objectives and meet the needs of all users. The Trust does not have a forum or group for stakeholders or users to be involved. The identification of stakeholders is *ad hoc*, using management's prior knowledge and attendance by directorate staff at other division and user groups, such as the primary care meeting, to identify stakeholders or users.	Potential risk of: • Reputation risk to PHW due to poor provision of information services.

Recommendations		Priority
1.1a	The Data, Knowledge and Research Directorate should set out guidance for how to identify all user needs and formally translate these into specifications for information products.	**Medium**
1.1b	The structures for stakeholder engagement should be enhanced and formalised, with consideration given to establishing a user forum which stakeholders can feed in their needs.	

Agreed Management Action		Target Date	Responsible Officer
1.1a and b	Data, Knowledge and Research Directorate have initiated a series of groups on standards for the various Data, Knowledge and Research products PHW produce these are being developed. We expect full implementation across the range by March 2024 and will utilise mandate if necessary through an appropriate reporting arrangement (see other actions) On stakeholder engagement we will utilise the Agile methodology to establish user needs for individual products. We have established an annual survey of users to establish needs and areas for improvements. We will supplement	March 2024	Director of Knowledge & Research

	these activities with a new strategic stakeholder forum to ensure a complete suite of stakeholder involvement at all levels in our planning.		

Matter Arising 2: Coordinated approach to the data and information provision (Design)	Impact
There is a siloed overall structure for data and information provision. As such there is limited cross referencing between information, and a lack of a coordinated approach to data use. There is no cross-organisational group which is made up of leads from within all directorates, which would enable the coordination and use of data across the whole organisation. Without such a group, with a mandated responsibility for professional oversight, the organisation may struggle to use all its data consistently and effectively.	Potential risk of: • Reputation risk to PHW due to poor provision of information services.

Recommendations		Priority
2.1a	The structures across PHW should be linked, with the Knowledge Directorate taking the professional lead for information. All directorates should identify leads and a cross organisational group established to enable coordination and use of data across the organisation.	**High**

Agreed Management Action		Target Date	Responsible Officer
2.1	The Standards work has brought together these individuals. The Digital and Data Design Authority already covers designs for information coming into the organisation and also digital designs. Our initial thinking is this should be expanded to cover information provision. This will be tested as part of a light-touch review of governance being undertaken by the Board Secretariat and either confirmed or suitable alternative found	30th September 2023	Director of Knowledge & Research

Matter Arising 3: Skills (Design)	Impact
Currently there is no skills and development framework in place, linked to staff roles that identifies the skills needed by the organisation, along with a mechanism to develop these.	Potential risk of: • Reputation risk to PHW due to poor provision of information services.

Recommendations	Priority
2.1 A skills identification and development framework should be established.	**Medium**

Agreed Management Action		Target Date	Responsible Officer
2.1	Work is underway with HEIW and DHCW to undertake a cross-NHS piece to create full career pathways across the Digital, Data and Technology professions. We will assess the timelines for this and assess the gap and the need for interim work, building on the already successful Data Science and Analysis Community of Practice and creating a full plan for development of the skills identification and development framework for professional staff. We will adopt HEIW's skills identification framework on digital and data skills for the wider workforce	September 2023	Head of Data Science

Matter Arising 4: Monitoring (Design)	Impact
There is no formal process in place within PHW to seek user feedback on the information provided. The website, where information is provided does not contain any feedback form or associated link. We also note that there is no process for monitoring the use, and access of the information, with basic web metrics not available.	Potential risk of: • Reputation risk to PHW due to poor provision of information services. • Failure to deliver IMTP objectives.

Recommendations		Priority
4.1	Processes for monitoring the use of information products should be established. these should include the collection of web metrics and the inclusion of feedback requests linked to information.	**Medium**

Agreed Management Action		Target Date	Responsible Officer
4.1	We launched a suite of monitoring and evaluation tools for our data, knowledge and research products in PHW in March 2023 as agreed by the Knowledge, Research and Information Committee. This includes an annual survey of all users and methods for collection of feedback on individual products. We will supplement these with routine web metrics of our analytical products to create a comprehensive suite of monitoring of our information products	31st October 2023	Director of Knowledge & Research Head of Communications

Matter Arising 5: Information Provision (Design)	Impact
There is no standardisation of how or what information is published across PHW. We reviewed information that is provided by the Trust and note that there is variation in the published information, in terms of look, style and content. There is no PHW thematic style and information is published with directorates setting their own style. A recent internal review was undertaken to assess the quality of information published against standards produced by the Office for Statistics Regulation (OSR). This review identified that there is variation in the quality of content and not all information complies with the standards. A new working group has been established, but it is not considering user personas or presentational style, but focusing on the standard of the information provision. Outputs from the working group are subject to discussion over whether they should be mandated or optional. Without a standardised presentational style that considers user personas, which is mandated across the organisation, PHW will not be able to ensure all its published information meets an appropriate standard and provides an overall corporate message.	Potential risk of: • Reputation risk to PHW due to poor provision of information services.

Recommendations		Priority
5.1	The working group should include consideration of personas, presentation and analysis. The outputs from the group should be mandated across the organisation.	**Medium**

Agreed Management Action		Target Date	Responsible Officer
5.1	Data, Knowledge and Research Directorate have initiated a series of groups on standards for the various Data, Knowledge and Research products PHW produce these are being developed. We expect full implementation across the range by March 2024	31st March 2024	Director of Knowledge & Research

| | Ideally these will be signed up to without mandation but if necessary, the Digital and Data Design Authority will be used to mandate these, (or other suitable body as per action 2) | | |

Appendix B: Assurance opinion and action plan risk rating

Audit Assurance Ratings

We define the following levels of assurance that governance, risk management and internal control within the area under review are suitable designed and applied effectively:

	Substantial assurance	Few matters require attention and are compliance or advisory in nature. **Low impact** on residual risk exposure.
	Reasonable assurance	Some matters require management attention in control design or compliance. **Low to moderate impact** on residual risk exposure until resolved.
	Limited assurance	More significant matters require management attention. **Moderate impact** on residual risk exposure until resolved.
	No assurance	Action is required to address the whole control framework in this area. **High impact** on residual risk exposure until resolved.
	Assurance not applicable	Given to reviews and support provided to management which form part of the internal audit plan, to which the assurance definitions are not appropriate. These reviews are still relevant to the evidence base upon which the overall opinion is formed.

Prioritisation of Recommendations

We categorise our recommendations according to their level of priority as follows:

Priority level	Explanation	Management action
High	Poor system design OR widespread non-compliance. Significant risk to achievement of a system objective OR evidence present of material loss, error or misstatement.	Immediate*
Medium	Minor weakness in system design OR limited non-compliance. Some risk to achievement of a system objective.	Within one month*
Low	Potential to enhance system design to improve efficiency or effectiveness of controls. Generally issues of good practice for management consideration.	Within three months*

* Unless a more appropriate timescale is identified/agreed at the assignment.

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