

Digital Support - Effectiveness & Efficiency

Final Internal Audit Report

March 2024

Swansea Bay University Health Board



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Executive Summary

Purpose

To establish and review the processes in place to enable digital to provide appropriate support to the organisation.

Overview

Whilst we have issued **reasonable** assurance on this area based on the grounds that Digital Services are fully aware of the increased demand for support and appropriate processes are in place to govern its increasingly stretched capacity through risk and service management, there is an overall risk that support will fail with current resource levels.

The matter requiring management attention is as follows:

- out-of-hours support models operate on a mostly goodwill basis, and there is a risk that the health board is breaching the Working Time Regulations 1998.

Report Opinion

Reasonable



Some matters require management attention in control design or compliance.

Low to moderate impact on residual risk exposure until resolved.

Trend

N/A
First review

Assurance summary¹

Objectives	Assurance
1 Digital services have appropriate processes in place to identify the demand for IT support & review and manage resources.	Reasonable
2 Digital services are leveraging technology and adjusting ways of working to increase efficiency.	Substantial
3 The impacts of remote and home working on the provision of digital support services have been assessed and amendments to support provision made accordingly.	Reasonable

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

Key Matters Arising

	Objective	Control Design or Operation	Recommendation Priority
1	Out-of-Hours Support Models	Design	High

1. Introduction

- 2.1 The role of Digital services within Swansea Bay University Health Board (the 'health board') has increased and continues to increase as digital transformation enables the delivery of health services in new and more effective ways, with the digital infrastructure and estate continuously expanding. The COVID pandemic led to the rapid adoption of digital ways of working and rapidly increased the number of devices, solutions and users. As the use of digital grows so does the resource requirement to manage the demand for support to users and to maintain digital systems. The funding position for the organisation is constrained, with priority necessarily given to patient services. As such, digital services need to develop new ways of working to both cope with the increased demand and provide services that the organisation requires.
- 2.2 Best practice for IT service management is set out within ITIL, formally an acronym for Information Technology Infrastructure Library. This is a set of detailed practices for IT service management that focuses on aligning IT services with the needs of business. ITIL describes processes, procedures, and tasks which are not organisation-specific, but can be applied to establish integration with the organisation's strategy, delivering value, and maintaining a minimum level of competency.
- 2.3 The potential risks considered in this review were as follows:
- inability to deliver sustainable clinical services due to the lack of Digital Transformation; and
 - the service requirements of end users are not met due to inadequate resources to provide appropriate support to key digital systems, impacting on patient care.

2. Detailed Audit Findings

- 2.4 The table below summarises the recommendations raised by priority rating:

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

- 2.5 Our detailed audit findings are set out below. All matters arising and the related recommendations and management actions are detailed in [Appendix A](#).

Background

- 2.6 In 2019-20, the Welsh Government introduced changes to the boundaries of Abertawe Bro Morgannwg University Health Board (ABMUHB) and Cwm Taf University Health Board (CTMUHB). Neath Port Talbot, Singleton and Morriston Hospitals, and services relating to the Swansea and Neath Port Talbot population became part of the new Swansea Bay University Health Board, and the Princess of Wales Hospital (POWH) became part of the new CTMUHB.
- 2.7 Responsibility for the provision of Informatics and ICT services in Bridgend moved to CTMUHB as part of the disaggregation. However, due to funding and the complexities of switching legacy systems, CTMUHB entered into a Service Level Agreement (SLA) with the health board to continue providing ICT services, which is presently still in force. In June 2021, the service desk functionality and staff who provided the service to the Bridgend districts and POWH, transferred from the health board to CTMUHB. All calls from the two districts and POWH are now logged via the integrated CTMUHB Service Desk.

Objective 1: Digital services have appropriate processes in place to identify the demand for IT support and review and manage resources to ensure sufficient capacity is provided (including an assessment of the provision of out of hours support suitability and risks).

- 2.8 The COVID-19 pandemic accelerated digital transformation across NHS Wales and led to a sustained surge in demand for 24/7 digital support. The health board's Digital Services currently support approximately 14,000 devices, inclusive of PC's, laptops and iPads. During the pandemic, over 3,500 additional laptops were deployed to health board staff on a temporary basis initially to facilitate home-working, however, agile working arrangements quickly became the new norm and they have remained in use.
- 2.9 Our review highlighted that Digital Services are fully aware of the increased demand for support and appropriate processes are in place to govern its increasingly stretched capacity through risk and service management. A Service Catalogue is in place, which clearly identifies critical systems and the underpinning support requirements, including operational working hours to assist in modelling the correct service provision for out-of-hours support. Most new digital initiatives are brought to Digital Services either through the Business Case Assessment Group if investment is required, before approval at Management Board, or through the Digital Project Review Group to discuss and understand requirements and assess the resources needed to support implementation and ongoing support.
- 2.10 We observed evidence of Service Delivery KPI reporting to the Digital Services Management Group, which informs discussions on demand and capacity through activity reports including number of calls and their handling times, incidents, and requests for work. These are fed into the Directorate Business Meeting and used as evidence for future resourcing.
- 2.11 We reviewed the IT Service Delivery KPIs, and we positively note that the latest average queue wait time has improved more recently when compared to previous

years. The current call volume is approximately 7% higher than that of 2019, with an average of 7,400 calls logged monthly. Whilst this is a slight increase, it is important to note that Digital Services has seen a 14% reduction in staff who were transferred to CTMUHB as part of the boundary change. Further to this, the average call handling time has increased by 40% to approximately 7 minutes, due to the added complexity of more staff working from home and using laptop devices. Whilst direct performance comparisons cannot be drawn against other health boards due to the differing structures and ways in which digital support is provided, and in the absence of local targets, we consider the service being delivered at the health board to be reasonable.

- 2.12 Current Digital support arrangements are based on a model developed in 2011, which covers normal working hours i.e. 08:30 – 17:00 Monday to Friday, supplemented by an on-call service outside of these hours. The on-call service is available for emergency outages only and does not support single user issues or requests. The model is delivered by two Infrastructure Support staff; one engineer to support network and telecommunications outages and one to support locally hosted systems, on a weekly rota basis.
- 2.13 Demands for digital support are further increased by the ongoing rollout of digital solutions that require 24/7 availability, for example, the Hospital e-Prescribing and Medicines Administration System (HEPMA). An enhanced support model is in place due to its clinical importance, whereby four members of the Digital HEPMA team cover the on-call service.
- 2.14 Both models operate on a mostly goodwill basis, and the members of staff covering the on-call service resume working the following morning to undertake their contracted duties. We have identified these issues as high risk to the health board as the lack of formalised arrangements could ultimately impact patient safety, as members of staff could withdraw from the voluntary rotas, which would lead to inadequate cover in the event of a critical incident. Moreover, there is a risk that the health board is breaching the Working Time Regulations 1998 by staff providing on-call support without the minimum daily rest between working days. This could lead to the Health and Safety Executive (HSE) enforcing penalties on the health board, such as improvement notices and a substantial fine. **See Matter Arising 1 at Appendix A.**
- 2.15 Compared to 2019, there has been an 87% increase of on-call callouts, and the number of calls is increasing year on year. Despite not being supported most calls pertain to single user issues and there is mounting pressure on the on-call engineers to try and resolve. We positively note that an initial assessment of the current on-call support models has been undertaken and is being progressed internally within Digital Services.

Conclusion:

- 2.16 Our review highlighted that Digital Services are fully aware of the increasing demand for digital support and appropriate processes are in place to review and manage resources. Whilst we note that performance levels are currently satisfactory, there is a risk of decline as we consider the current resource levels to

fall short of what is structurally required for Digital Services to meet the demand of providing reliable, robust, and stable support, inclusive of out-of-hours. Rapid digital transformation has not only led to an upsurge in requests for support, but also an increase in their complexity and the length of time required to resolve issues. Furthermore, more and more health board services are adopting digital solutions such as HEPMA, and staff working within 24/7 areas are becoming increasingly reliant on their continued availability. This has subsequently led to an upturn in demand for the out-of-hours on-call service for single user issues. The informality of on-call arrangements poses a risk to ensuring the provision and availability of critical systems, which could ultimately lead to patient harm, and breaches of The Working Time Regulations 1998 could lead to enforced penalties by the HSE. Consequently, we have concluded **reasonable** assurance for this objective.

Objective 2: Digital services are leveraging technology and adjusting ways of working to increase efficiency.

- 2.17 The rapid adoption of digital solutions across NHS Wales over the last four years has resulted in Digital Services having to adapt ways of working to meet the upsurge in demand. As noted under objective 1, not only has the volume of calls for digital support increased but so too have the complexities associated with managing the influx of additional devices. Generally, Desktop PC issues can be fixed within one working day, however, laptop fixes can take up to 11 days if out of warranty and parts need to be ordered before being fitted.
- 2.18 There has been significant demand for onsite support since the pandemic, with a 39% increase in calls from Morriston Hospital and 24% from Singleton Hospital. 13 engineers have been split between the sites to provide support, however, increases to the repairs backlog have been inevitable as demand remains high. In addition, when agile-working staff have laptop-related issues that cannot be resolved at the point of contact with Service Desk, they need to attend onsite. Approximately 40 of such calls are logged weekly which require staff to attend health board sites. To manage demand and boost productivity and efficiency, solutions have been sought and deployed such as the Microsoft Office 365 Booking application, where engineers can schedule and manage appointments for staff to attend onsite. Microsoft Teams is utilised for wider collaboration within Digital Services and with other NHS Wales organisations.
- 2.19 As noted above, if laptop parts are required, they need to be ordered from the manufacturer. We understand that significant volumes of parts are ordered daily, which has led Digital Services to train its engineers in '*Dell TechDirect*', a self-service portal which allows for self-dispatch of parts and provides engineers with additional support to promptly rebuild and deploy devices, thus making the entire process more streamlined and effective.
- 2.20 Digital Services are also aware of the growing demand for 24/7 clinical system support and have taken appropriate actions to try and provide alternative routes to access support. For example, to bolster HEPMA support arrangements, Nurse Practitioners provide 1st line out-of-hours support for wards, e.g. password resets

and setting up new accounts. Whilst this model has been adopted by Neath Port Talbot and Singleton hospitals, Morriston hospital has been unable to implement it due to a lack of resources to support queries, which has subsequently increased the number of calls to the HEPMA on-call team. We noted from our review of all calls received by the HEPMA team in 2023, that 27% were outside of working hours. It is important to note that during active implementation, the HEPMA team provide extended working hours of 07:00 – 23:00. This figure is set to increase as the rollout of HEPMA continues.

- 2.21 Health board staff have access to 'My IT Portal', a self-service platform that provides information and solutions to common queries and issues, as well as the ability to log a call with Service Desk. The portal has been updated to include information on remote working and mobile applications, and 'how-to' guides for Microsoft Office 365 tools to reduce the number of related queries being logged as calls. We understand that a Service Desk Team Leader will soon be appointed to strengthen the team and to consider further automation opportunities to streamline and optimise the service.
- 2.22 Digital Services have embarked on a Business Intelligence Strategy, which was approved in January 2022. It has been recognised that enabling the utilisation of health board data captured within its digital solutions to support evidence-based decision making is fundamental, and as such there has been an acceleration in the use of business intelligence to help understand and predict demand and to inform decisions on investment.

Conclusion:

- 2.23 Digital Services are fully aware of the challenges they face, and we are satisfied that solutions are being leveraged where possible and ways of working are continuously reviewed and adapted. We have observed evidence of this through the enhanced HEMPA on-call model and the imminent addition of a Service Desk Team Leader to pursue automation opportunities as noted under objective 1. Accordingly, we have concluded **substantial** assurance for this objective.

Objective 3: The impacts of remote and home working on the provision of digital support services have been assessed and amendments to support provision made accordingly.

- 2.24 As highlighted throughout this review, Digital Services are striving to meet demand and have been adjusting ways of working and leveraging digital solutions to increase efficiency of available resources. Capacity to deliver support is subject to continuous assessment through regular review of Service Delivery KPIs and appropriate risk management.
- 2.25 The impacts of agile working arrangements have been assessed in order to make the relevant amendments to the support provision to date. Two linked high scoring risks relating to resourcing have been identified, which are appropriately included on the Digital Services Risk Register (DSRR) and Health Board Risk Register (HBRR). Risks are comprehensively reviewed and monitored by the Digital Leadership Group, which reports to the Management Board.

- **Risk 39/702** on the DSRR denotes *the number of end user devices has increased each year as services move from paper to electronic and new services are adopted. The IT support resource has not increased in line with this as usually services increase in small increments.*
- **Risk 1035/27** on the HBRR relates to Digital Transformation and states that *there is an inability to deliver sustainable clinical services due to lack of Digital Transformation. There are insufficient resources to:*
 - *invest in the delivery of the ABMU Digital strategy.*
 - *support the growth in utilisation of existing and new digital solutions.*
 - *replace existing technology infrastructure and the end of its useful life.*

2.26 Risk 1035/37 is currently rated 16 / 25, under the risk appetite threshold of 20, and is also monitored at the Workforce, Organisational Development and Digital Committee. A linked action was to undertake an assessment of the additional devices for agile working, and we positively note the update received by the Digital Services Business Meeting in August 2023, stating that the assessment had been completed and highlights the need for four additional on-site engineers and two service desk staff to manage the level of demand for Digital support. A preliminary draft paper has been authored and is being progressed internally within Digital Services. We note that until the paper has been finalised and approved, resources / funding will not be allocated.

2.27 Agile working arrangements have impacted digital service delivery due to the added complexities that accompany them. Such intricacies include:

- engineers not being able to visit staff at home,
- differing home networks make diagnosis of connectivity issues more challenging,
- portability of laptops involving higher risk of accidental damage,
- added difficulty of supporting and fixing laptops compared with desktop PC's due to all parts being integrated within the device, and arranging loan laptops to enable staff to continue working, as most staff solely use that one device, and
- increased reliance on the Service Desk by remote workers, with queries and issues that may otherwise have been resolved in an office environment by asking colleagues for assistance.

Conclusion:

2.28 The impacts of agile working on support provision within Digital Services have been appropriately assessed and ways of working have been adjusted where possible utilising resources available to them. Digital risks relating to the consequence of insufficient resources are suitably identified, reviewed, and monitored. On the basis that the paper on the assessment of additional resources has yet to be finalised, we have concluded **reasonable** assurance for this objective.

Appendix A: Management Action Plan



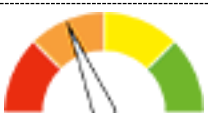
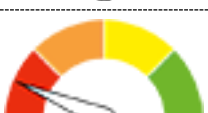
Matter Arising 1: Out-of-Hours Support Models (Design)		Impact	
<p>Out-of-hours support models operate on a mostly goodwill basis, and the members of staff covering the on-call service resume working the following morning to undertake their contracted duties. The lack of formalised arrangements could ultimately impact on patient safety, as members of staff could withdraw from the voluntary rotas, which would lead to inadequate cover in the event of critical incidents. Moreover, there is a risk that the health board is breaching the Working Time Regulations 1998 by staff providing on-call support without the minimum daily rest between working days. This could lead to the Health and Safety Executive (HSE) enforcing penalties on the health board, such as improvement notices and a substantial fine. We are aware that the risk is flagged on the Health Board Risk Register and that an assessment of demand and capacity has been undertaken to identify the additional resources required.</p>		<p>Potential risk of:</p> <ul style="list-style-type: none"> • inadequate resources to provide appropriate support to key digital systems, impacting on patient care; • enforcement action; and • reputational damage. 	
Recommendations		Priority	
1.1	Management should review the digital out-of-hours support models and formalise arrangements to align with the current landscape.	High	
1.2	Management should ensure formalised arrangements comply with The Working Time Regulations 1998.	High	
Agreed Management Action		Target Date	Responsible Officer
1.1	The recommendation is noted and accepted. There is a growing dependence on clinical digital solutions to deliver services and consideration will need to be given to investment in a more robust out of hours digital support service to mitigate the risks. A number of actions are already being taken to address the immediate pressures on the on-call provision, including the use of agency night shift to support HEPMA until the end of March 2024. In addition to this the following medium and long term actions will be taken:-		

	<ul style="list-style-type: none"> • Agree an appropriate out of hours support model for HEPMA with Morriston SDG and Pharmacy services, similar to that in place with NPT and Singleton (medium term). • Identify and implement options to support the infrastructure on call service to provide a more sustainable out of hours service in the medium term. • Working group established to produce a business case for the introduction of a sustainable out of hours service for Digital support for consideration by BCAG. 	May 2024	Director of Digital Services
		June 2024	Director of Digital Services
		Dec 2024	Director of Digital Services
1.2	Actions/decisions above will be made taking compliance with The Working Time Regulation 1998 into account. At each stage/response, advice from Workforce will be sought.	Dec 2024	Director of Digital Services

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.
	Unsatisfactory 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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