Cloud Transition

Final Internal Audit Report

2026/27

Digital Health Care Wales



Not Rated

Contents

Executive Summary 1
Findings & Agreed Action Plan 3
Appendix A 10

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Executive Summary

Purpose

The review assessed whether DHCW has effective governance, planning, and risk management arrangements in place to support its cloud transition programme.

Overview

We identified significant risks relating to programme delivery, the emerging migration approach and the long-term sustainability of the skills and resource model required to support cloud adoption. These issues increase the risk of delays and may affect the full realisation of the outcomes and benefits set out within the approved Business Case. However, the risks have been recognised by management, remain subject to governance oversight, and largely arose from uncertainty surrounding Welsh Government Digital Priorities Investment Fund (DPIF) funding, which affected planning, resourcing and delivery progress. As this uncertainty is largely dependent on external stakeholder decisions, funding arrangements and other inherent risks that fall outside the scope of our assessment, we have not provided an assurance opinion for this review.

To achieve the March 2028 delivery target, a compressed migration schedule will be implemented, with support from KPMG. The delays may impact the realisation of the operational, technical and financial benefits assumed within the Business Case. There is also a risk that additional funding, specialist skills and organisational capacity will be required beyond programme closure to undertake deferred optimisation activities and achieve the intended long-term cloud benefits.

Overall, we reviewed the programme governance structures within DHCW's remit and found that they are operating effectively, key risks are identified and monitored, and third-party suppliers are subject to regular engagement and oversight. The programme has also developed the core architectural, security and assurance arrangements required to support cloud adoption, with the Azure Landing Zone successfully implemented and independently assured.

However, the programme has experienced delays with implementing the Azure Landing Zone and the pause and review of the DPIF funding arrangements. These delays have resulted in the re-baselining of key milestones, compression of the migration schedule and increased reliance on several critical dependencies to achieve the target programme completion date of March 2028.

The approved Business Case was based on a 'Migrate, Optimise and Re-platform' approach intended to maximise operational, technical and financial benefits. However, programme delays may necessitate a greater use of rehost ('lift-and-shift') migrations, reducing opportunities to realise optimisation and re-platforming benefits within the programme lifecycle.

Whilst financial, workforce and supplier management arrangements are established, the programme remains reliant on external funding, external expertise and further capability development to support successful delivery and the long-term sustainability of cloud services. It is acknowledged that there is ongoing work to ensure that all applicable staff have access to the essential training and development opportunities required for their role.

The significant matters requiring management attention include:

- Significant delays have resulted in repeated re-baselining and a compressed migration timetable, increasing reliance on critical dependencies and creating uncertainty over the programme's ability to deliver its objectives by March 2028.
- Programme delays have increased reliance on rehost migrations and reduced opportunities for optimisation, creating a risk that the operational, technical and financial benefits underpinning the Business Case will not be fully realised within the programme lifecycle.
- Whilst workforce planning and cloud skills development are progressing, constraints on training delivery and reliance on key individuals and external suppliers creates a risk to long-term capability and operational sustainability.

Full details of matters arising are detailed within the Findings & Agreed Action Plan. The following opportunities for enhancement have been highlighted for management information:

- Further clarify roles and responsibilities for monitoring and responding to Microsoft Defender for Cloud alerts between the Cloud Enablement and Cyber Security teams.
- Whilst it has been acknowledged; formalised operational ownership, roles and responsibilities for the Google Cloud Platform (GCP) should be confirmed with the National Data Resource (NDR) before workloads begin migrating to the platform.

Scope & Related Findings

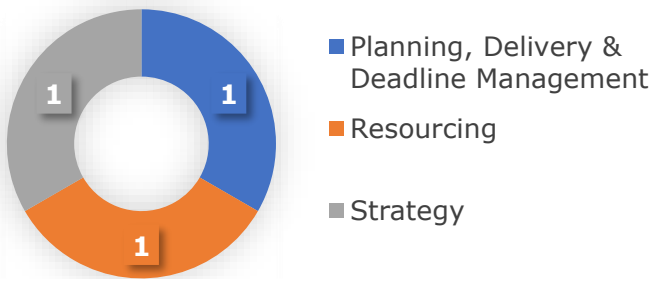
Objectives (The objectives and associated assurance ratings are not necessarily given equal weighting when formulating the overall audit opinion.)		Related Findings
1	Effective governance, oversight, and risk management arrangements are in place to manage risks and support decision making at both operational and strategic levels throughout the Cloud Transition Programme.	-
2	DHCW has developed a clear and realistic cloud transition plan, and arrangements are in place to monitor and deliver the plan against agreed targets and milestones.	1
3	Cloud architecture, technical configuration, security controls, management and migration design decisions are appropriate, risk based and aligned with organisational standards.	2
4	Appropriate resourcing arrangements are in place, including skills, capacity, and financial controls, to support delivery of the cloud transition and the sustainable operation of cloud services.	3

Management Actions

2 High Priority

1 Medium Priority

Themes



Risk Types

Financial Loss

Quality or Safety Issues

Public Perception & Reputational Risk

Findings & Agreed Action Plan

Objective 1: Effective governance, oversight, and risk management arrangements are in place to manage risks and support decision making at both operational and strategic levels throughout the Cloud Transition Programme.

Overview / Summary of Observations

A comprehensive governance framework has been established to support delivery of the Cloud Transition Programme. Formal governance arrangements are in place through the Cloud Transition Programme Board, which reports progress into the Portfolio Delivery Committee and receives information from supporting programme delivery groups. Evidence reviewed demonstrated that governance forums are operating regularly, with actions, decisions, risks and escalations documented and reported through established reporting channels.

Effective governance is also evident in the programme's management of third-party suppliers. Regular engagement takes place through supplier-specific meetings, monthly Supplier Governance Forum meetings, periodic Supplier Away Days and the Product Leads Community. These arrangements provide opportunities to discuss delivery progress, risks, issues, dependencies, contractual matters and future activities. Suppliers continue to play a key role in supporting cloud strategy development, organisational change, technical architecture, assurance, migration planning, testing and cloud platform delivery. We further note that it is expected for the migration partner to become a regular attendee of the Programme Board in the coming months.

The review identified evidence that programme management is actively identifying, assessing and managing emerging risks, with risks being escalated appropriately. At a recent Risk Committee, several new programme-level risks were agreed relating to operating model adoption, delivery delays, organisational capacity, benefits realisation and stakeholder engagement. These risks were consistent with issues identified during our fieldwork testing, highlighting that management is aware of, monitoring and responding to risks and challenges affecting programme delivery.

Objective 2: DHCW has developed a clear and realistic cloud transition plan, and arrangements are in place to monitor and deliver the plan against agreed targets and milestones.

Overview / Summary of Observations

The review identified evidence that programme milestones, dependencies, risks, decisions and issues are actively managed through programme planning tools and governance processes. Changes to programme milestones are subject to formal change control procedures, with delays and re-baselining actions reported through established governance arrangements and escalated where required.

Positive progress has been made with all three programme workstreams, however, there have been considerable delays. These have impacted on the delivery of the Azure Landing Zone, and the pause and review of the Digital Priorities Investment Fund (DPIF) funding by Welsh Government has further impacted on programme delivery. The funding pause delayed the programme delivery by more than three months and occurred at a critical stage, prior to planned migration activity with a third-party provider. The impact extended beyond the initial funding delay, as supplier remobilisation was required following the pause, resulting in a loss of programme momentum and additional delays to delivery timescales. Based on the current migration plan, delivery of waves 3 to 8/9 is forecast to extend beyond the programme's target end date of March 2028.

There is an agreed migration plan, however whilst management remains confident that delivery by March 2028 is achievable, this is increasingly dependent upon several critical dependencies, including continued funding availability, timely supplier mobilisation, sufficient internal resources, effective stakeholder engagement and successful delivery of a compressed migration schedule. Management has also acknowledged the risk that the current timetable may not be achievable without adopting a revised migration approach.

The programme has responded to delivery challenges through a formal re-baselining process, with revised migration schedules, milestone dates and delivery plans approved through governance arrangements. While this provides an updated basis for managing programme delivery, performance is now assessed against the revised baseline rather than the original timescales, which may reduce the visibility of cumulative delays against the initial plan. Nevertheless, delivery risks relating to funding availability, supplier capacity, internal resourcing, stakeholder engagement, testing activities and migration complexity continue to be monitored, demonstrating that mechanisms are in place to identify and manage emerging delivery issues. To support delivery against the revised timetable, management advised that the third-party migration partner is due to mobilise in October 2026 and will deploy multiple migration pods concurrently, enabling activity to be completed at a faster rate than originally planned.

Recent reporting to Management Board and the Portfolio Delivery Committee has recorded programme status as 'Not Assessed' due to the pause of DPIF funding, which is in line with reporting guidance. However, reporting to the Programme Board has reflected an 'Amber/Red' status since April 2026.

Whilst delivery is being monitored against re-baselined milestones, progress remains materially behind the timelines originally envisaged within the Business Case which anticipated that 65% of workloads would be migrated by June 2026 and the milestones subsequently reflected within the 2025-28 and 2026-29 IMTPs. Migration activity has only recently commenced following delays experienced prior to programme mobilisation in mid-2025 and subsequent delivery challenges. Furthermore, migration resource status continues to be reported as 'Green' despite resource-related risks and challenges being regularly discussed through governance arrangements. Programme Board members have recently challenged whether milestone and resource RAG ratings accurately reflect current delivery conditions, including migration delays, infrastructure dependencies and resource pressures.

Key Findings		Risk & Impact	Agreed Management Action
1	**Programme Delivery Timescales and Reporting** The Cloud Transition Programme has experienced significant delays, resulting in the repeated re-baselining of key milestones and a compression of the planned migration schedule. Whilst management considers delivery by March 2028 to remain achievable, there is limited contingency remaining and successful delivery is increasingly dependent on continued funding certainty, supplier capacity, internal resource availability and the timely completion of migration activities. Although progress is monitored against revised baselines approved through governance arrangements, delivery remains materially behind the programme's original milestones and migration objectives, creating a risk that performance reporting may not fully reflect the scale of the delivery challenge.	Significant delays and compressed delivery schedules increase the risk that programme objectives, benefits and timescales will not be achieved.	**Agreed Action:** In order to reduce further delays, the operations directorate Senior Leadership Team meeting will receive weekly reports on the Cloud Migration Project and will seek to unblock any issues that will add further delay to migrations
			Expected Evidence of Implementation: Copies of weekly reports to the Ops SLT meeting
		High Priority	**Officer:** Chief Cloud Officer **Target Implementation Date:** September 2026
	Theme: Planning, Delivery & Deadline Management	Control Operation	

Objective 3: Cloud architecture, technical configuration, security controls, management and migration design decisions are appropriate, risk based and aligned with organisational standards.

Overview / Summary of Observations

DHCW has established appropriate architecture and assurance arrangements to support delivery of the Cloud Transition Programme. Evidence confirmed that cloud architecture decisions are aligned to organisational standards and have been subject to assurance reviews and approvals through governance structures.

Assurance over the Google Cloud Platform (GCP) Landing Zone (LZ) was limited as design and implementation activities remain in progress, with migrations not currently expected until Wave 5, which is now scheduled for 2027/28. Whilst governance and design activity are ongoing, discussions identified that further work will be required to establish and formalise operational ownership, and roles and responsibilities for the platform once workloads begin migrating, given DHCW's existing use of GCP within the National Data Resource (NDR).

The Azure Landing Zone (LZ) was delayed, but became operational in June 2026, and has been subject to extensive design, security and assurance activity. Evidence confirmed that key security, resilience and governance controls have been implemented and independently assured, with design decisions subject to appropriate governance review and approval. Delays to delivery were largely attributable to design refinements, security requirements and infrastructure dependencies. One area identified during fieldwork was the need to further clarify roles and responsibilities for monitoring and responding to Microsoft Defender for Cloud alerts between the Cloud Enablement and Cyber Security teams.

The programme, with the support of an external supplier, has undertaken significant migration planning activities. A detailed migration and modernisation plan has been developed, migration treatment assessments have been undertaken for a substantial proportion of in-scope applications, and arrangements are emerging to ensure service owners, technical teams and assurance groups are involved in migration decision-making. However, migration activity had only recently commenced during fieldwork and therefore limited evidence was available to demonstrate the end-to-end migration process in practice. As a result, testing focused primarily on the design and readiness of migration controls rather than their operational effectiveness.

Migration treatment assessments have been completed using the 6Rs framework, which is used to determine the appropriate migration strategy for each application. Proposed migration approaches range from rehosting (‘lift-and-shift’), a simpler migration option with lower associated cloud benefits, to more complex refactoring activities, which require greater effort and architectural change but deliver fully cloud-native applications. While the assessments identified a target platform for each application, the review found that a significant number of migration decisions remained subject to further assessment or stakeholder validation. Product owner engagement was also identified by management as a challenge, creating a risk that migration assumptions and treatment decisions may require amendment as delivery progresses causing further delays. To mitigate this the team are disseminating follow up communications to product owners to validate proposed treatments, dependencies and risks.

Evidence reviewed indicates that programme delays have reduced the time available to undertake optimisation and re-platforming activities that formed a key component of the Business Case approved in September 2024. The Business Case identified the ‘Migrate, Optimise and Re-platform’ option as the most beneficial approach and the only option with a positive Net Present Value (NPV). Management has acknowledged that, to achieve the March 2028 delivery target, the programme is likely to adopt a greater proportion of rehost (‘lift-and-shift’) migrations than originally envisaged. Whilst this approach may support achievement of migration milestones and reduce reliance on existing data centre infrastructure, it is likely to defer optimisation activities and reduce the extent to which the full cloud benefits can be realised within the programme lifecycle.

Management advised that a refresh of the Business Case is currently underway, which will provide an opportunity to reassess the programme's costs and benefits.

Key Findings		Risk & Impact	Agreed Management Action
2	**Migration Treatment Plans/Benefits** The approved Business Case is based on a 'Migrate, Optimise and Re-platform' approach intended to maximise efficiency savings, cost avoidance and wider cloud benefits. However, review of migration planning identified that a number of migration treatment decisions remain subject to further assessment, stakeholder validation and detailed migration-wave planning. Programme delays have also reduced the time available to undertake optimisation and re-platforming activities before key migration deadlines. Management acknowledged that, in order to achieve the March 2028 delivery target, the programme is likely to adopt a greater proportion of rehost ('lift-and-shift') migrations than originally envisaged. Whilst this approach may support the timely migration of services, it is likely to reduce the extent to which the operational, technical and financial benefits assumed within the Business Case can be realised by March 2028. There is also a risk that additional funding, specialist skills and organisational capacity will be required beyond programme closure to undertake deferred optimisation activities and achieve the intended long-term cloud benefits.	Reduced optimisation and increased rehosting may limit benefits realisation and require additional post-programme funding, skills and capacity.	**Agreed Action:** To maintain a log of: • decisions where the compressed timescale materially changed the migration approach for a product/service. • opportunities identified during migration which could result in further benefits. This log will then be transferred to the product backlog for implementation as resources permit.
			Expected Evidence of Implementation: Log created and maintained
		High Priority	**Officer:** Chief Cloud Officer **Target Implementation Date:** March 2027
	Theme: Strategy	Control Design	

Objective 4: Appropriate resourcing arrangements are in place, including skills, capacity, and financial controls, to support delivery of the cloud transition and the sustainable operation of cloud services.

Overview / Summary of Observations

As previously highlighted, the programme experienced significant disruption following the Welsh Government's review and pause of Digital Priorities Investment Fund (DPIF) funding during 2026. Whilst capital and revenue funding has subsequently been approved for 2026/27, no assurance has yet been provided regarding funding beyond this period, which does reflect a risk that there could be further programme delays in the future. The funding delay in 2026 had a considerable impact across all three programme workstreams, but particularly the Migration and Optimisation, and Change and Adoption workstreams, where future delivery is reliant on third-party suppliers.

Financial management, forecasting and supplier oversight arrangements have been established to support delivery of the Cloud Transition Programme. In addition, FinOps principles are being adopted to support cloud cost management. Forecasting models, cloud cost dashboards, cost allocation reporting, budget monitoring and anomaly detection processes have been developed, with cloud consumption oversight embedded within programme governance arrangements. As migration activity was only commencing during fieldwork, evidence of the effectiveness of these arrangements at scale was limited and testing was focused largely on the design and readiness of controls rather than live operational outcomes.

The programme has recognised workforce capability as a key success factor and now has confirmed funding for a specialist training provider to deliver DHCW relevant cloud training, sandboxes and simulations. Skills and resource related risks are actively monitored, with risks relating to workforce readiness, training delivery, cyber capacity, performance testing capability and wider resource constraints being reported through programme governance arrangements. Evidence also demonstrated ongoing communication and engagement activity with product teams to support cloud adoption and readiness.

Whilst skills gap analysis and training plans have been developed, a training implementation plan produced by a third party is not yet being fully utilised due to service readiness constraints. Proposed training metrics are also not currently being monitored, and operational pressures continue to limit the time available for staff to undertake training activities. Although significant work has been undertaken to provide staff with development opportunities, management acknowledged that workforce readiness may not mature at the same pace as migration activity, creating a risk that some staff may not complete essential training before go-live.

The review also identified continued reliance on external suppliers and specialist resources to support key programme activities, including migration, testing and cloud capability development. Whilst this is consistent with the programme's delivery model, management has recognised the importance of transferring knowledge and skills into the permanent workforce as the programme matures. Workforce development, succession planning and knowledge transfer will therefore be critical to ensuring that cloud expertise and operational capability become embedded within DHCW and that the target Cloud Operating Model can be sustained beyond the migration phase. This is particularly important given that a number of senior programme personnel are engaged on fixed-term contracts and may leave the organisation prior to programme completion, creating a risk that valuable knowledge, experience and organisational understanding could be lost if effective succession and knowledge transfer arrangements are not established.

Key Findings		Risk & Impact	Agreed Management Action
3	**Resources, skills and capacity** The programme has undertaken significant workforce planning and skills development activity to support cloud adoption. However, delivery of the training implementation plan has been constrained by service readiness, operational pressures and competing priorities, resulting in a revised training model. Whilst knowledge transfer activities are in place, there remains a risk that key cloud and migration expertise is concentrated within a limited number of individuals and externally supported roles, potentially affecting the long-term sustainability of the Cloud Operating Model and increasing reliance on specialist resources.	Workforce readiness delays and reliance on specialist resources increase the risk that cloud capabilities will not be sustainably embedded.	Migration is a one-off activity, supported by external consultancy. Therefore, the focus of the programme's training is on the ongoing management of products in the cloud, skilling staff to use cloud native services, and operating Infrastructure as a Platform. **Agreed Action:** DHCW will work with the University of South Wales, as the appointed training provider, to implement role-based learning pathways for agreed priority teams. Team leads will validate role and capability requirements, identify learner cohorts, agree relevant practical labs and simulations, release staff to participate and support completion. Progress, capability uplift and readiness will be monitored through agreed dashboards and programme governance, with readiness sign-off retained by DHCW against the agreed Minimum Viable Readiness criteria.
			Expected Evidence of Implementation: Approved role profiles, learner cohorts and learning pathways; agreed lab and simulation plans; participation, completion and assessment outcomes; readiness dashboards and capability reports; and documented DHCW sign-off against the agreed Minimum Viable Readiness criteria for identified priority teams.
		Medium Priority	**Officer:** Chief Cloud Officer **Target Implementation Date:** 31 March 2027 (phase 1)
	Theme: Resourcing	Control Operation	

Appendix A

Assurance Opinion

 **Substantial**	Few matters require attention and are compliance or advisory in nature. **Low impact** on residual risk exposure.
 **Reasonable**	Some matters require management attention in control design or compliance. **Low to moderate impact** on residual risk exposure until resolved.
 **Limited**	More significant matters require management attention. **Moderate impact** on residual risk exposure until resolved.
 **Unsatisfactory**	Action is required to address the whole control framework in this area. **High impact** on residual risk exposure until resolved.
 **Advisory**	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 Findings

Priority	Explanation
High	Significant risk to achievement of a system objective OR evidence present of material loss, error, or misstatement. Poor system design OR widespread non-compliance.
Medium	Some risk to achievement of a system objective. Minor weakness in system design OR limited non-compliance.

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