

Radiology Services: Update on Progress – Cardiff and Vale University Health Board

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Summary report

Introduction

- 1 [Our 2017 report on radiology services](#) found that whilst the service was operationally well managed, the Health Board faced risks to current and future service delivery. These risks included reporting backlogs, rising service demand, staffing pressures and ageing equipment. We also found there was a lack of strategic and business planning.
- 2 The Auditor General's 2018 national report on [Radiology Services in Wales](#) also highlighted several issues threatening the sustainability of radiology services across Wales. These issues included staffing challenges; ageing and underutilised equipment; weaknesses in IT systems; long waits for examination results; and opportunities to improve scrutiny and strategic planning.
- 3 Both reports set out recommendations or action that the Health Board should address to improve workforce planning, equipment replacement programmes, modelling demand, maximising capacity, performance information and monitoring arrangements. The 2018 national report also identified additional challenges that required a co-ordinated approach by NHS Wales.
- 4 In 2019, the Welsh Government published an [Imaging Statement of Intent](#), setting out a commitment to adopt a new co-ordinated strategic approach to developing high quality, effective and sustainable imaging services. The National Imaging Programme Strategy Board (NIPSB) was established in 2019 to oversee the implementation of the Imaging Statement of Intent and promote innovation and new ways of working in imaging services in Wales. The NIPSB has been undertaking work to assess the progress made by NHS Wales.
- 5 Since we published our local and national reports on radiology services, the COVID-19 pandemic has changed the landscape in which the Health Board operates, posing new challenges and opportunities for service delivery. In addition, September 2020 saw the launch of the South Wales Major Trauma Centre, which is located at the University Hospital of Wales (UHW), with the expectation that this will increase demand for imaging, particularly unplanned imaging.
- 6 We undertook a high-level assessment of the progress made by the Health Board to address our recommendations. In undertaking this work, we:
 - asked the Health Board to complete a self-assessment of progress;
 - reviewed documentary evidence to support the self-assessment, as well as board and committee papers; and
 - interviewed several officers to discuss progress, current issues, and future challenges.
- 7 A summary of our findings is set out in the following section with more detailed information provided in **Appendix 1**.

Our findings

- 8 Our overall conclusion is that the Health Board **has improved the way it plans and delivers radiology services through strong management of the service. Good progress has been made to address our 2017 recommendations, but there is further work necessary. Pent-up demand from the pandemic could impact waiting times for scans and reporting of scans.**
- 9 In summary, the status of progress against each of the previous recommendations is set out in **Exhibit 1**.

Exhibit 1: status of 2017 recommendations

Total number of recommendations	Implemented	Ongoing action	No action	Superseded
8	3	4	1	0

Source: Audit Wales

- 10 We found that the Health Board has made good progress to address our recommendations, but there is more work to do to fully address our recommendations:
- the service has a good understanding of the day-to-day pressures it is facing and has processes in place to address reporting backlogs as they arise.
 - the service is not making good use of reporting radiographers to increase reporting capacity. Currently, the number of reports that need to be outsourced is relatively small.
 - the Health Board will need to ensure it sustains the recent performance in computerised tomography scans and improve magnetic resonance imaging scans.
 - the service has a new MRI suite which should lead to improvements in the patient experience and less time lost to equipment downtime due to failure.
 - radiology appraisal rates remain below the target level of 85% of staff achieving an annual appraisal. There is considerable variation between staff groups, but the service has taken steps to address the underlying issues in the worst performing areas.
 - mandatory training rates have improved, and performance is around the 85% target level, although the pandemic has had a negative impact in recent months.
 - the radiology directorate has improved workforce planning. Recruitment in some areas continues to be challenging, but the Health Board is successful in recruiting new radiography graduates. However, over representation of one demographic in the workforce may cause issues in the future.

- the radiology directorate has good relationships and regular communication with other directorates to inform demand and capacity, and to ensure appropriate prioritisation of patient referrals for diagnostic imaging. Steps are being taken to introduce an e-referral system.
 - the Health Board has introduced a new framework to prioritise equipment replacement.
 - there are appropriate arrangements to ensure operational monitoring of performance, and there are more performance measures reported within the directorate. Extraction of management information continues to be time consuming, although the Health Board is seeking a solution to improve this.
 - radiology operational plans do not set out specific, measurable, and timely actions for delivery, and therefore it is difficult to assess progress to deliver the plan.
- 11 In undertaking this assessment of progress update, we identified one new risk in relation to radiology services which is set out in **Exhibit 2**. The Health Board will need to make sure that it maintains oversight of this risk.

Exhibit 2: new risk identified during our work

New risk	
Area	Description
Increased demand due to COVID-19-suppressed demand	There is an unknown level of 'pent-up' demand as a result of patients having treatment delayed or not visiting their GP during the pandemic. This pent-up demand could significantly affect the radiology service's ability to respond to referrals and report images in a timely manner, leading to increased waiting times for both scans and reporting of scans.

Source: Audit Wales

Recommendations

- 12 In undertaking this work, we have made no new recommendations. However, the Health Board needs to continue to make progress in addressing our previous recommendation which has yet to be fully implemented. This is set out in **Exhibit 3**.

Exhibit 3: previous recommendations not yet fully implemented

2017 recommendation not yet fully implemented

- R2 Over the next year, increase appraisal rates for non-clinical radiology staff to at least the level of all other radiology staff.

Appendix 1

Progress to address our 2017 recommendations

Exhibit 4: assessment of progress

Recommendations to be addressed	Status ¹	Summary of progress
<p>R1 Develop an action plan detailing how reporting backlogs will be managed sustainably, by for example:</p> <ol style="list-style-type: none"> making short-term use of outsourcing, whilst workforce and training plans are developed; ensuring that radiographers already trained to report are fully utilised; and establishing whether more radiographers need to be 	Amber	<p>Our 2017 report highlighted that the Health Board frequently did not meet its target of reporting images within ten days across all modalities. Since then, the trend for the percentage of patients who wait longer than ten days for their images to be reported has generally reduced. Reporting time improved significantly at the beginning of the pandemic in March 2020, as imaging activity reduced to very low levels. Since then, there has been an increase in reporting times, reflecting the increase in imaging activity as the Health Board began to recover routine service delivery. The increase in patients waiting more than ten days for a report is not evenly spread across all modalities²:</p> <ul style="list-style-type: none"> for computerised tomography scans (CT scans), in August 2019, the percentage of patients waiting more than ten days for a report was 27%. The percentage of patients waiting more than ten days for their image to be reported reduced to 0% in March 2020. However, in

¹ Green indicates that the recommendation has been achieved; Amber indicates ongoing action to address the recommendation; Red indicates that insufficient or no progress has been made; and Blue indicates that the recommendation was superseded.

² Our analysis is based on data provided by the Health Board, covering September 2018 – August 2021.

Recommendations to be addressed	Status ¹	Summary of progress
<p>trained and how this will be achieved.</p>		<p>August 2021, 7% of patients waited more than ten days for their image to be reported, but performance continues to be better than before the pandemic.</p> <ul style="list-style-type: none"> • magnetic resonance imaging (MRI) scan reporting times were falling before the pandemic, but more recently the percentage of patients waiting more than ten days for a report has risen to 2018 levels. In October 2018, 69% of patients waited more than ten days for their MRI report (this was the highest percentage point). In May 2021, 75% of patients waited more than ten days for their MRI scan to be reported. Most recent figures show a slight improvement; in August 2021 the figure is 62%. • ultrasound reporting time performance is better than CT and MRI. The percentage of patients waiting more than 10 days for a report is low and has not exceeded 4% since September 2018. Most patients receive an ultrasound report within a day of receiving the scan. Ultrasound has seen a small increase in the percentage of patients waiting more than 10 days for a report, from a figure of 1% to 2% during the height of the pandemic to 4% in August 2021. <p>Action taken by the Health Board to monitor and improve waiting time performance includes:</p> <ul style="list-style-type: none"> • weekly monitoring of reporting times. A list of patients and the date of their scan is shared with clinicians so that they can make decisions about which reports to prioritise. Reporting time performance is reported to the Clinical Board each month.

Recommendations to be addressed	Status ¹	Summary of progress
		<ul style="list-style-type: none"> • the Health Board has established a ‘work-in-progress’ baseline number of scans that are waiting to be reported. If the number of work-in-progress scans breaches an agreed threshold, this triggers intervention (such as increasing outsourcing of reporting). • once outstanding reports have been brought to the attention of clinicians, if they think they will not be able to complete the report in a timely manner, the report will be outsourced. <p>The Health Board has a number of advanced practice radiographers who are trained to report on scans, but currently they are not fulfilling this role. Staff told us that this has the potential to become a retention issue as radiographers seek opportunities in neighbouring health boards which do make use of reporting radiographers. The Health Board should identify how many advanced practitioners it needs and how it can ensure they are utilised. Appropriately utilising advanced practice radiographers means they can maintain their skills and the Health Board will have greater flexibility to manage reporting times. Workforce planning is discussed in more detail in Recommendation 6.</p> <p>There is an unknown level of ‘pent-up’ demand as a result of patients having treatment delayed or not visiting their GP during the pandemic. This pent-up demand could significantly affect the radiology service’s ability to respond to referrals and report images in a timely manner, leading to increased waiting times for both scans and reporting of scans.</p> <p>Workforce planning is discussed in more detail under Recommendation 6.</p>

Recommendations to be addressed	Status ¹	Summary of progress
<p>R2 Over the next year, increase appraisal rates for non-clinical radiology staff to at least the level of all other radiology staff.</p>	<p>Red</p>	<p>Our 2017 report set out that all radiologists, most radiographers and just under half of other radiology staff received an appraisal during the preceding year.</p> <p>Between June 2018 and May 2021, the overall appraisal rate across all radiology staff did not exceed 58%. The Health Board's annual appraisal target is 85%.</p> <p>The overall appraisal rate masks considerable variation between radiology staff groups. For example, in May 2021, appraisal rates ranged from a high of 73% in nursing and midwifery registered staff to a low of 4% in administrative and clerical staff. Over the period June 2018 to May 2021, appraisal rates in administrative and clerical staff did not exceed 8%. This means that over a three-year period, very few staff in this group have received an appraisal regularly, if at all.</p> <p>The Health Board completed a restructure of administrative and clerical staff within the radiology department in Summer 2021. The restructure identified a shortfall in capacity in administrative and clerical support. A new team leader post was created. However, the general manager post was vacant (at the time of writing this report) and being covered by four individuals. The Health Board expects that once the general manager and the new team leader post is filled, appraisal rates will improve, and the target rate (85%) will be met in the near future.</p> <p>Across other staff groups, we were told that it was challenging to find time to do appraisals and the associated preparatory work, particularly as all</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>appraisals are undertaken concurrently at the same point in the year. The pandemic has added to those pressures.</p>
<p>R3 Over the next year, increase mandatory training rates for all radiology staff to at least the Health Board target of 85%.</p>	<p>Amber</p>	<p>Our 2017 report identified that staffing constraints were hindering the ability for radiology staff to attend mandatory training.</p> <p>The Health Board's records show that since then and prior to the pandemic, although performance is variable, most of the time the radiology team is meeting the 85% compliance target. This is an improvement on 2017 performance.</p> <p>The pandemic has had an impact on the ability to deliver and attend mandatory training, and compliance rates have decreased slightly. For March, April and May 2021 overall compliance rates were 84%, 84% and 83% respectively. Delivery of training that is required to be face to face has been particularly challenging.</p> <p>Beneath the overall figure, there is some variance between radiology departments. In May 2021, compliance ranged from 89% to 75%. Two departments did not meet the 85% target, bringing the overall figure below target too. The two departments concerned are Ultrasound Services and Radiology UHW. The Health Board say that this reflects workforce challenges in these two areas.</p> <p>Training compliance data is reported each month to the clinical board.</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>Despite demands on staff time, particularly during the pandemic, the Health Board has largely been able to improve and sustain compliance with this target. Performance is at or near the 85% target, with some variability between departments.</p>
<p>R4 Liaise with referring clinicians when developing and reviewing guidance. Ensure all referring clinicians know where to access up-to-date versions of guidance.</p>	<p>Amber</p>	<p>Our 2017 report found that whilst clear referral guidance was in place, referring clinicians were unaware of it. We also concluded that the absence of an e-referral system was a risk.</p> <p>In July 2021, the Health Board established a clinical steering group that works with primary care to review clinical pathways in partnership. At the time of writing, the impact of the steering group's work was being evaluated and a report is due to be received by the Clinical Board's Quality, Safety and Experience Sub-Committee as soon as current pressures allow. The Health Board provided us with examples of referral pathways developed by the group. Referral pathways are regularly audited and reported to the sub-committee.</p> <p>Radiographers told us that there are open lines of communication between clinicians at hospital and radiology sites, so it is easy to have conversations about how and when to make referrals. Whilst the same level of connection with individual GPs does not exist, the Health Board indicated to us that that they did not receive a large number of inappropriate referrals.</p> <p>There are processes in place to communicate changes in protocol to GPs and the hospital will reissue referral guidelines to specific GPs where</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>necessary. When an inappropriate referral is received, the referrer receives information explaining why the referral was inappropriate. Currently, the Health Board does not have an e-referral system in place. The Health Board is developing an e-referral system for GPs to request imaging. The Health Board anticipates that when the system is in place it will be helpful in terms of ensuring that all relevant information (such as the make and model of pacemakers) is included in the original referral. This has the potential to make the referral process more efficient from an administrative perspective and to shorten waiting times for patients. The Health Board indicated it expected work to develop an e-referral system to begin in January 2022, with an exact implementation date to be confirmed.</p>
<p>R5 Over the next 12 months develop a radiology strategy which sets out:</p> <ol style="list-style-type: none"> a. where the service is now in terms of its demand, capacity and available resources; b. where the service needs to be; and c. how the service will achieve its aims. 	<p>Green</p>	<p>In our 2017 report we observed that the absence of a clear strategy for the radiology service was constraining its ability to set out sound operational plans.</p> <p>The radiology directorate does not have a strategy; however, each year it develops an operational plan. The plan sets out forecast demand, capacity, and workforce resources, including information on the direction of travel. Where there are known challenges that will impact directly on the service, the operational plan sets these out in more detail. Embedded within the operational plan is a risk register which sets out the major risks facing the service and the mitigation measures in place to offset their impact.</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>In terms of the service's medium and long-term aims, the plan also lists service-specific strategies that are in place for development of services such as the Single Cancer Pathway, regional development of a Paediatric radiology service and regional vascular centralisation.</p> <p>The Health Board is also in the early stages of discussing their short, medium and long-term plans to recover planned care from the pandemic with the Welsh Government. Depending on the outcome of those discussions, the Health Board could potentially see fundamental changes to its diagnostic pathways and resulting impacts to radiology service delivery.</p> <p>Radiographers also told us that they were proactive in engaging with other departments to establish what support they will need from radiography to progress their (the other departments') plans.</p>
<p>R6 Develop a workforce plan alongside the radiology strategy which identifies the baseline needed to sustainably meet radiology demand in a safe and timely way.</p>	<p>Green</p>	<p>In 2017 the Health Board did not have a workforce plan for radiology. Workforce planning now takes place as part of the annual operational planning process. Within the operational plan, there is a section on workforce, setting out the current establishment, risks, and requirements. The plan also includes links to specific workforce plans for porters, radiology department assistants and radiographers, setting out the priorities over the next 12 months and longer-term priorities in more detail, due to the challenges facing these particular cohorts.</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>Whilst the current workforce model and the recruitment and retention challenges are clearly articulated, a long-term plan for addressing all challenges is not included in the plans. Although the plans do include information on restructures that have already taken place where that is relevant.</p> <p>Some of the workforce shortage issues for radiologists and radiographers are UK-wide and the Health Board is therefore competing in a very competitive marketplace for scarce workforce resources. The plan notes the need to establish an all-Wales strategic solution as a matter of urgency.</p> <p>Overall, the Health Board has a better understanding of the challenges facing its workforce than it did in 2017.</p> <p>Radiographers told us that generally, the Health Board does not struggle to recruit radiographers. Turnover is not a particular concern, but where people do move on, it is usually related to the intensity of work, such as in UHW and the need to cover on-call services. UHW is the regional centre for several disciplines, which provides lots of experience and opportunities for staff, however, this does mean that there is a need to provide cover 24 hours a day, 7 days a week. Therefore, this can mean that opportunities presented by other health boards, which do not require the same degree of round the clock cover, can be attractive to some staff.</p> <p>Although the relative ease with which the Health Board attracts recent radiography graduates is positive, it is possible that a predominance of a particular age group within the workforce will cause problems in the future.</p>

Recommendations to be addressed	Status ¹	Summary of progress
		<p>As discussed in Recommendation 1, failing to appropriately utilise the skills of reporting radiographers potentially could lead to difficulties retaining this cohort of staff, particularly when neighbouring health boards may offer more opportunities in this area.</p> <p>The Health Board has taken part in the Streamlining Scheme³ facilitated by Health Education and Improvement Wales (HEIW). The effect of this has been that there is one annual recruitment process. Whilst there are undoubted efficiencies associated with this approach, there are also risks that the Health Board is not able to be as flexible and responsive as it needs to be changes in the workforce throughout the year.</p>
<p>R7 By mid-2017, develop an equipment replacement plan. The plan should include:</p> <ol style="list-style-type: none"> a. equipment priorities, requirements, and associated costs, and b. outline the risks to service/ patients of not achieving the 	<p>Green</p>	<p>In 2017, the Health Board had no equipment replacement programme in place.</p> <p>As in 2017, the radiology service has an asset register, this is an inventory of equipment listing dates of manufacture and installation. Each year, the Health Board reviews the asset register and risk assessments to identify the highest risk equipment needing replacement through the national imaging replacement programme.</p>

³ The Student Streamlining Scheme allows student nurses and allied health professions and healthcare science graduates to submit a single application to NHS Wales, with an indication of a preferred speciality and/or location. This removes the need to submit multiple applications.

Recommendations to be addressed	Status ¹	Summary of progress
<p>plan within the required timescales.</p>		<p>The Capital Management Group, which approves and monitors the Health Board's capital programme, also oversees the discretionary budget for equipment replacement. This was also the case in 2017.</p> <p>Large radiology equipment procurement is supported by the specialist estates service at NHS Wales Shared Services Partnership. Health Boards identify their priorities for improvement, which can allow economies of scale to be realised.</p> <p>Since March 2021, the Health Board has had a medical equipment management procedure and policy which sets out the framework for replacing equipment. Faults, downtime, and quality of images are all monitored and are factors in the prioritisation process.</p> <p>The Health Board has recently invested in a new MRI suite. Staff told us this had made significant improvements to the staff and patient experience.</p>
<p>R8 Strengthen directorate performance management by:</p> <ul style="list-style-type: none"> a. setting clear business and service objectives; and b. widening the range of performance measures aligned to the business and service objectives to include: <ul style="list-style-type: none"> – equipment downtime, 	<p>Amber</p>	<p>The Health Board has a range of performance information which it reports to the Clinical Board monthly. Each of the measures set out in our 2017 recommendation is covered, with the exception of equipment downtime, which is discussed with the company providing the maintenance contracts on a quarterly basis. It would be beneficial for the Clinical Board to also receive this information, in order to help understand waiting time performance.</p> <p>The Health Board is working with a range of different software systems that are not always compatible with each other. Therefore, it can be</p>

Recommendations to be addressed	Status ¹	Summary of progress
<ul style="list-style-type: none"> – vacancy levels, – the number of unreported images, – performance against internal referral; and – reporting times. 		<p>challenging and time consuming to extract information and present it in a way that is easily understandable.</p> <p>The Health Board is currently in discussions with an external party to provide a software solution that would allow the Health Board to improve management information extraction and presentation. The intent being to provide better visualisation of the data such as pinch points in the pathway and actual demand against forecast demand. Currently, the data is sourced from a number of systems, which can be time consuming to collate.</p> <p>The Health Board has a series of objectives, which are referenced in the operational plan. The plan identifies that the work of the service is relevant to the Health Board’s high level objective ‘have a planned care system where demand and capacity are in balance’. We did not see evidence that the radiology service has set its own specific radiology objectives. We would expect the radiology service to set out specific, measurable and timebound actions for delivery in its operational plan. This would allow the review of progress against delivering actions set out in the operational plan and identify where delivery was off-track to enable decisions to be made on mitigating actions.</p>



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