Te Whatu Ora
Health New Zealand

14 August 2023

9(2)(a)

Tēnā koe

Thank you for your email on 8 August 2023, which has in part been considered under the Official Information Act 1982 (the Act):

> *"Does Te Whatu Ora recognise that Dr Wolf is raising legitimate safety concerns?*
>
> *What were the conclusions of the external review? Will you release to us now, without delay, a copy of the review? What actions are being taken in response to the review?*
>
> *Are the problems that Dr Wolf has raised confined to practices in Hawkes Bay or are they present in other regions?*
>
> *How do you respond to Dr Wolf's allegations that Te Whatu Ora leadership has been involved in a "conspiracy" to knowingly withhold information from the public about unsafe practices? Why hasn't Te Whatu Ora made these safety issues public before now?"*

Please see attached a copy of the *Report on External Review of Te Whatu Ora Te Matau a Māui Hawke's Bay Radiology Services*. This is being released to you in its entirety.

When the report was first requested by media, Te Whatu Ora's legal advice was that the Protected Disclosure Act had primacy over the OIA, and we needed to take all necessary steps to uphold the protected disclosure to avoid the whistle blower's identity from being revealed.

The protected disclosure regime is an important mechanism to give people confidence to raise issues, and for their identity to be protected.

As an employer Te Whatu Ora has a responsibility to do the right thing under the Protected Disclosure Act.

For example, under the Act a whistle blower has protections, including related to employment, which as an employer we need to uphold.

Since declining to release the report the whistle blower has provided significant information to the media. Given this we have sought and received permission to release the review report from the whistle blower.

The *Report on External Review of Te Whatu Ora Te Matau a Māui Hawke's Bay Radiology Services* made 18 recommendations broadly related to:

- stabilising the radiology information system and having it ready to perform as a regional system
- process steps related to e-order and sign off of diagnostic results
- wider considerations related to clinical governance, leadership and culture, and progress on implementing an electronic health record (itself a longer-term consideration).

Of the 18 recommendations five have been implemented/completed, 11 are in progress and two have been accepted in principle but our response is yet to begin.

How to get in touch

If you have any questions, you can contact us at hnzOIA@health.govt.nz.

If you are not happy with this response, you have the right to make a complaint to the Ombudsman. Information about how to do this is available at www.ombudsman.parliament.nz or by phoning 0800 802 602.

As this information may be of interest to other members of the public, Te Whatu Ora may proactively release a copy of this response on our website. All requester data, including your name and contact details, will be removed prior to release.

Nāku iti noa, nā

Peter Alsop
Chief of Staff, Office of the Chief Executive

Report on External Review of Te Whatu Ora Te Matau a Māui Hawke's Bay Radiology Services

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Table of contents

Abbreviations 3
Executive summary 4
Acknowledgement 11
Background and context 11
  Review process 12
  Documents reviewed 12
  Staff interviewed 13
  Radiology department - current state 13
  RIS/PACS system 14
  Regionalisation 15
Key themes and findings 16
  Wider system context 17
  Cultural safety expectations 18
  Patient safety 18
  Staff welfare and safety 18
  Clinical governance 19
  Technical issues 20
    1. Prior studies not being visible to reporting radiologists 20
    2. Radiology reports not being delivered to referrers 20
    3. Linking body parts 20
    4. Outsourced reporting issues 21
    5. Radiology order entry system 21
    6. Empty report 22
    7. Stability 22
    8. Performance 22
    9. Separate PACS archives 22
    10. Support processes 22
    11. Clinical portal 23
    12. Integrated vs interfaced electronic health records 23
  Organisational culture 23
  Lack of an enabling environment 23
  Procurement 24
Recommendations 24
Appendices 30

Abbreviations

BSW	Blue spinning wheel
CIO	Chief information officer
CMO	Chief medical officer
CT	Computed tomography
DE	Digital enablement
ED	Emergency department
FTE	Full time equivalent
H&SS	Hospital and specialist services
IANZ	International Accreditation New Zealand
IMPB	Iwi Māori Partnership Board
PACS	Picture archiving and communication system
RCP	Regional clinical portal
RFP	Request for proposals
RIS	Radiology information system
SOP	Standard operating procedures

Executive summary

The review of Te Whatu Ora Te Matau a Māui Hawke's Bay Radiology Services concurs with a number of the findings outlined in the reports submitted to the Te Whatu Ora board. Review of documentation, including these reports combined with the interviews of staff paint a picture of staff exhausted by information systems that hamper their efforts to provide safe and efficient care to their patients.

Many of the issues raised are not new, and in summary clinicians have endured more than a decade of poor performance, frequent workstation crashes and unsafe processes within the radiology department.

There is a tendency to not report issues due to the lack of adequate follow up or resolution. What presented during the site visit was a culture of learnt helplessness and general acceptance of inadequate technology which has impacted clinical practice. This does not support workplace wellbeing or the ability for clinicians to feel that they are able to care for the whānau they serve in a way that reflects their desire to provide the best care they can.

This culture of learned helplessness extended to staff outside of the radiology department. There was a sense from the onsite visit that clinical risk and clinicians' perceptions of this has not being adequately acknowledged within the organisation for some time. Equally there is a lack of the follow up accountability that is required to address these risks. Feedback suggested that as a result there is antipathy to raising concerns as there is little evidence that clinician voice is adequately being responded to in a timely or comprehensive manner. It was reported that these issues were raised within the previous district health board (DHB) structure, with lack of tangible feedback or acknowledgement of the seriousness of the issues being raised.

A leadership structure review recognised the need and desire for change and was the driving process behind the recent clinical governance restructure. Whilst it is acknowledged that many of the issues described in these recent reports have been present for some time, the historical lack of responsiveness remains present in people's perceptions and the restructure will take time to drive the desired culture changes.

The support model (Local PACS team, Local DE team, Regional PACS, TAS, NZ Vendor, Global Vendor) is complex and has not facilitated good progress in application development, operational support, issue resolution and delivery of the strategic benefits. Support and issue resolution processes must discriminate between defects that may lead to patient harm and must be resolved, and customer requests that reflect historical ways of working or lead to efficiency gains. The complexity of the environment and the support model blur the lines of responsibility and authority, again contributing to the learned helplessness in the radiology and clinical teams.

There are issues with the current systems and the manual workarounds that staff have developed over many years. The summation of feedback on the RIS/PACS is that the system is not performing adequately for safe and efficient practice. There have been issues with it being 'too customisable', being the first implementation within Aotearoa and of note there are still multiple logged issues that remain unresolved years after being identified. One

clinician noted to us “there has not been a single day in 12 years without an IT issue related to this system”.

There have been issues moving to a regional instance of RIS. Pre-regionalisation there was a direct relationship with the vendor and weekly hui now there is no direct relationship with TAS used as the conduit to address issues. The lack of relationships and direct link to vendor has resulted in the significant amount of manual work arounds that are occurring within the department. It was stated while on site that ‘lack of consistency is the only consistency’.

Any further implementation of this technology within the Central Region needs significant consideration in the context of current findings within this report. There is a project to form the Aotearoa radiology IT strategy led by the National Radiology Advisory Group. It is important to note that the selection, configuration of and migration to, another solution will take time however this process must not prevent continued investment in the current RIS/PACS given the ongoing safety and efficiency issues which need to be addressed.

Wider system context

The wider health reform implementation and system changes that are currently occurring throughout Aotearoa require acknowledgment. This report and the recommendations being made are in the context of substantive system change and the focused embedding of a Tiriti-dynamic health system, the requirement to eliminate inequities in health outcomes for Māori and deliver on the aspiration of the Pae Ora legislation. The scope of this initial review has not included review of individual patient outcomes, or by ethnicity, and specifically the impact of these issues within the Radiology Service on whānau Māori. However, there is no doubt that there will be an impact on Māori whānau accessing radiology services at Te Matau a Māui with a population of 27% Māori within the entire Te Matau a Māui region.

Nationally we know that our existing health system has failed Māori and that change is critically necessary. It is vital that implementation of the changes being recommended within this report are approached with a genuine commitment to implementing Te Tiriti O Waitangi, equity, and to providing services that are culturally safe and acceptable. This will mean the need for a partnership approach to the implementation and addressing of these issues, with a focus that keeps whānau at the heart of all potential solutions and delivers actual results.

The guiding Interim Health Plan; Te Pae Tata aims to unify the health system, ensuring that all those who work in health operate with a ‘one system’ culture and ethos. These national recommendations within Te Pae Tata, if implemented will also help to support the specific recommendations within this report.

Cultural safety expectations

There is a need for the Te Matau a Māui Hawkes Bay radiology services and wider Hospital and Specialist Services to ensure a workplace that values, supports and protects Māori whānau from discrimination and racism. To do this there will need to be greater focus on building a clinical radiology workforce that reflects the population that it serves. This includes reviewing how the workforce can better support New Zealand trainees and the whole of organisation expectation of cultural safety. Cultural safety training will help make a tangata

tiriti workforce of healthcare professionals who are conscientised around racism and bias. Everyone will bring this awareness into their service to improve quality of care. Part of what will be required is the ability of the Te Matau a Māui as a system to build their ability to review their service data, cut all data by ethnicity and identify and implement solutions to address any apparent inequities and monitor the impact of these actions.

In summary this review highlights the need for expedient implementation of the reformed health system to better meet needs of whānau accessing radiology services within Te Matau a Māui.

Key themes

The following key themes have been identified within the review:

- **Te Tiriti O Waitangi Obligations**
- **Patient safety issues**
- **Staff welfare and safety**
- **Clinical governance**
- **Technical issues**
  Numerous technical issues were identified, which include the following:
  - Prior studies not being visible to reporting radiologists
  - Radiology reports not being delivered to referrers
  - Linking body parts risk
  - Outsourced reporting issues
  - Radiology order entry system
  - Empty reports
  - Stability of the system
  - Performance Issues
  - Separate PACS archives
  - Support process issues
  - Clinical Portal Issues
  - Integrated vs interfaced electronic health records.
- **Organisational culture and lack of an enabling environment**
- **Communication issues**
- **Ethical issues**

The report outlines 18 recommendations for implementation:

Recommendation 1: Establishment of a Te Whatu Ora Report Oversight Group

The immediate establishment of a working party which is adequately resourced to oversee implementation of the recommendations in this report. The first priority of this group is to prioritise and establish timelines with appropriate clinical engagement, for addressing each recommendation however the report authors wish to highlight that recommendation 2 should be addressed with urgency. Essential is the need for an appropriate partnership approach - taken to ensure the voice and expectations of whānau Māori are adequately addressed through this process.

Recommendation 2: Reduction and investigation into patient harm

- There are steps which should be taken immediately to reduce the risk of further patient harm:
  - Ensure that reports that fail to be received by the clinical data repository are identified promptly and resent.
  - Ensure that clinical staff are aware how to access reports through the RIS/PACS if they are not available in Portal.
  - Ensure that clear standard operating procedures (SOPs) for imaging multiple body parts/regions are in place, that all staff are trained in the appropriate workflow and are consistently following the SOPs.
- The memo from Tim McElroy to the Regional CIO Group dated 12th September 2022 suggested that the likelihood of incidents occurring that could lead to death or serious life changing events. It is uncertain if this memo has been responded to formally however this needs to be further investigated to ascertain what level of truth there is to this comment.
- It is recommended that a full review be undertaken to determine to what degree the issues raised within this report and the original memo, have contributed to patient harm. We are aware that this review has not addressed all the concerns raised in the report Systemic Errors of Data Management or incorporated the regional voice and it is important that the wider review does so.
- An assessment should be undertaken at other hospitals in the region to determine if the risks outlined in these reports are present with these organisations. This investigation should ensure it reports findings with ethnicity breakdown to accurately assess what the impact has been on whānau Māori accessing these services.

Recommendation 3: Clinical governance

- The current subregional ELT and Radiology Clinicians should meet weekly to discuss issues, where they are tracking resolution wise and what mitigation has been put in place to manage risk – this must be developed into a robust response and feedback mechanism so there is both a vehicle to raise issues and a process by which they are resolved, and issues closed off.
- There should be identified clinical governance mechanisms or forums for clinicians throughout the H&SS system to raise issues and have them logged including the ability to raise further to regional or national levels as required. This function naturally sits with the recently established Health Services Clinical Governance Board which should have clear reporting lines.
- The risk register needs to gain a level of effectiveness in that there are processes for resolution and escalating once the risk is entered. Effective clinical risk management can only occur with the full engagement of clinical staff who must see that it adds value.
- There needs to be clarity for staff who and where to go to when issues arise and mechanism for formal feedback / process when problems identified.
- There needs to be a process to ensure recommendations from external reviews such as the IANZ and Canterbury reports are addressed.

Recommendation 4: Te Tiriti O Waitangi obligations

There is a need for the Te Matau a Māui radiology services and wider Hospital & Specialist Services to ensure a workplace that values, supports and protects Māori whānau from discrimination and racism.

- Ensure there is a whole of organisation expectation of cultural safety education and training linked to national expectations and guidance.
- Enable the radiology department to be able to view treatment data by ethnicity and acting on the results accordingly.
- Enable the Te Matau a Māui system to identify and implement solutions to address inequities and monitor the impact of actions taken.
- Enable monitoring of unwanted variation in service access and outcomes.
- Application of equity measures for radiology services.
- Any implementation of recommendations must take a partnership approach and ensure engagement with Māori, including but not limited to IMPB input, Hauora Māori kaimahi within the Te Matau a Māui H&SS system, Te Aka Whai Ora Regional Director, and H&SS oversight.

Recommendation 5: RIS/PACS implementation

- An investigation into potential conflicts of interest is considered in relation to procurement of the Carestream RIS/PACS system in the Te Manawa Taki region given it was known there were multiple issues in the Central Region. The review team is not in position to make comment on this however it would be prudent that this is followed up with further investigation.
- Pause further RIS/PACS implementation whilst this report and recommendations are considered.
- There is a review of the RIS/PACS implementation regionally and whether this technology offering is appropriate to better determine what the risk of harm is within the region. Noting also that there is a project to form the Aotearoa radiology IT strategy led by the National Radiology Advisory Group. This process must not however prevent continued investment in the current RIS/PACS as the selection and configuration of and migration to another solution will take time and there are ongoing safety and efficiency issues with the current versions which need to be addressed.

Recommendation 6: Prior studies not being visible to reporting radiologists

- Verify that the PACS settings can be changed for reporting radiologists and that this will reduce the risk of not viewing body parts/scan areas through better visibility in the reporting area.
- Verify that these settings have been changed for all reporting radiologists at Te Matau a Māui Hawke's Bay.
- Ensure that instructions for these changes are readily available for implementation during the induction of locums/new recruits.
- Circulate the instructions to other departments in the Region (and Te Manawa Taki if appropriate).

Recommendation 7: Radiology reports not being delivered to referrers

- Confirm that all internal referrers can receive electronic reports.
- Set district expectation that all referrers will view and accept reports electronically (with delegation as appropriate).
- Establish processes for team sign-off (eg, ED) and allocate time for task.
- Run regular reports for radiology reports that are viewed and those that are accepted.
- Manage poor performance through the CMO.
- Put in place processes to “tidy up” misdirected reports due to missing or incorrect encounter numbers.
- Cease paper reports for internal referrers.
- Work with external providers to ensure they have inbox for electronic reports and set expectation that paper reports will be phased out within a reasonable period (eg, 3–6 months).

Recommendation 8: Linking body parts

- Verify that the suggested alternative workflow for multiple body parts will reduce the risk of not viewing or reporting body parts/scan areas, or of reports not being visible due to folders containing no images.
- Verify that these processes have been documented and circulated to all relevant radiology staff at Te Matau a Māui Hawke’s Bay.
- Ensure that instructions for these processes are readily available to new staff.
- Circulate the instructions to other departments in the Region (and Te Manawa Taki if appropriate).

Recommendation 9: Outsourced reporting issues

- Work urgently with Everlight to ensure that it is clear the scan area/body parts requiring reporting and that the report is associated with the appropriate images.
- Look at turnaround time for clinically urgent imaging and establish any causes of delays to reduce the turnaround time to a clinically appropriate level eg, 1 hour for acute overnight CT.
- Investigate ways to provide clinicians with reports earlier eg, RIS or Everlight portal if the delay is getting the report into RCP.
- Where possible avoid the need for manual processes for copying and pasting out of hours reports.

Recommendation 10: Radiology order entry system

- Identify the specific actions that cause issues – for example multiple examinations requested on one order.
- Quantify the risk once the causative actions, consequences and current mitigations are clarified.
- If remedial work cannot overcome issues, consider tactical move to alternative order entry solution while awaiting decision on RIS/PACS RFP.

Recommendation 11: Empty reports

- Work with Philips to try to prevent saving of empty reports.
- Ensure all radiologists are aware of the risk – may be able to reduce frequency of occurrences through awareness of causative actions and education. Work with DE/Philips to search for empty reports to quantify and assess risk of past occurrences; assess need for reporting studies and open disclosure of harm if caused.

Recommendation 12: Stability

- Reassess user experience following infrastructure upgrades.
- Performance: Reassess user following infrastructure upgrades and changes to database.

Recommendation 13: Separate PACS archives

- Provide information and education to clinicians on how to select appropriate PACS archive when logging in to enterprise viewer.

Recommendation 14: Support processes

- Replace current processes which separate radiology operational staff from vendor technical staff and use shared services resources as enablers.
- Refresh list of outstanding issues, prioritise by risk and share with stakeholders (including radiology team and Te Matau a Māui Hawke's Bay executives).
- Update risk register to reflect risks/issues and allocate appropriate resources to address these within appropriate clinical governance structures (as per recommendation 2).

Recommendation 15: Integrated vs interfaced electronic health records

- Te Whatu Ora Board to ask Data & Digital to consider the challenges of interfaced "best of breed" systems and feed this into strategy.

Recommendation 16: Workforce

- Undertake a full job sizing exercise to review and agree the appropriate service size for the radiology department based upon current workload.
- Consider strategies to develop a sustainable radiology workforce at Te Matau a Māui Hawke's Bay, ideally this should be informed by workforce taskforce priorities and work already underway in this regard.
- There is a need for the Te Matau a Māui radiology services and wider Hospital and Specialist Services to ensure a workplace that values, supports and protects Māori whānau from discrimination and racism. To do this there will need to be greater focus on building a clinical radiology workforce that reflects the population that it serves. Further investigation should include solutions regarding pipeline supply of New Zealand radiology trainees to work at Te Matau a Māui during their training, and a specific focus on building Māori kamahi capacity and capability within the radiology

workforce. This may require a regional solution to be created to support this approach.

Recommendation 17: Safety First

- Review the Safety First roll out to establish if there are any professional groupings or services who require training / education. This review of Safety First should also include if any areas require upskilling or refresher training as there was a reported lack of understanding by some of the medical workforce regarding the scope of the rollout.

Recommendation 18: Establishment of a National Radiology Clinical Network

- Explore potential linkages and benefits in the establishment of a National Clinical Service Network for radiology as one of the clinical networks to be developed in 2023/24.
- This group may also be able to provide overarching governance to standardise regional and national approaches and guidance. Including ensuring a Te Tiriti dynamic throughout the network, equity prioritisation, standardisation of clinical approaches and guidelines, the ability for different approaches to be taken for workforce recruitment and retention.
- This network should enable the driving of consistency in delivery of specialist and hospital radiology services. Ensuring that the quality and outcomes of care are consistent across Aotearoa, while also recognising the variance that may be required at locality / IMPB level to ensure community needs can be met.

Acknowledgement

The reviewers acknowledge the reports that have helped formed their overall findings. In particular the original report information supplied by one of the clinicians within this environment. Of note many of this report’s current findings concur with a number of the previous reports’ findings. Due to the scope of this review a number of issues previously raised were not able to be addressed, however these concerns still remain valid.

Background and context

The interim National Clinical Director Medical - Te Whatu Ora and interim Chief Medical Officer Te Aka Whai Ora initiated an independent review into Radiology Services after receiving a report titled: Systemic Errors of Data Management. The report is a comprehensive two-part document produced by a consultant radiologist working at Te Whatu Ora Te Matau a Māui Hawke’s Bay in which serious patient safety concerns are expressed relating to the radiology information technology (IT) systems in Te Whatu Ora Te Matau a Māui Hawke’s Bay and potentially the wider central region.

The scope of the review is outlined in the terms of reference (Appendix 1) and its purpose is to evaluate the seriousness of the issues and concerns raised in the report. Specifically, the reviewers have been asked to consider:

- are there issues related to the IT systems that have caused patient harm in the past?
- are there issues that have potential to cause harm in the future?
- what factors may have contributed to the issues raised in the reports?
- are there any immediate actions which need to occur to reduce risks to patients?
- do there need to be further and more extensive review(s)?

The review terms of reference focus primarily on Te Whatu Ora Te Matau a Māui Hawke's Bay, but it has become evident that some of the issues go beyond the radiology department and some of the issues are likely to be evident across the region.

Review process

The review team comprised members from within Te Whatu Ora and Te Aka Whai Ora (but external to Te Matau a Māui Hawke's Bay) and an independent reviewer from the Health Quality and Safety Commission.

The scope and depth of the review was limited by the timeframes for producing a report and was by necessity high level. The report presents the findings and recommendations from a review of the concerns raised in the tabled reports, a review of documents and information provided by Te Matau a Māui Hawke's Bay (outlined below) and interviews with key members of staff during a site visit on 3 February 2023. The review team valued the opportunity to meet with members of the management team and senior medical staff and hear in person the challenges faced by all involved.

The team did not have the opportunity to meet with regional stakeholder groups however it is recognised within the review that some of the issues arising relate to changes that have occurred with implementation of a regional RIS system.

The review team recommend that going forward there is greater involvement with Māori leadership within Te Matau a Māui, including IMPB input, and that whānau voice is incorporated within any approach as the scope of this initial review was heavily weighted to clinician voice and there is a need to more adequately understand the impact of these issues on the population that Te Matau a Māui is serving.

Documents reviewed

In writing this report the team was provided with the following documents. Key findings and relevant information from some of these are incorporated in the review.

- Systemic Errors of Data Management, Part 1: Rights 4(2), 4(4) and 4(5)
- Systemic Errors of Data Management, Part 2: Multivendor System Failure
- Memo: Regional RIS/PACS – Clinical Risks/Concerns 12/09/2022
- IANZ Medical Imaging Service Accreditation Assessment Report 04/08/2022
- Report on Backlog of Reporting Data 21/01/2023
- Report on Waitlist Data
- External Peer Review of Hawke's Bay District Health Board Radiology Service January 2017
- Report on Examination Volumes 2021/22

- Terms of Reference; Central Region Regional Radiology Steering Group
- Presentation: TAS Digital Imaging Strategy May 2021
- Memo: Tiger Teams Update for Directors, COO's, and CIO's January 2023
- Report: Hawke's Bay RRIS/PACS Observations and Challenges - Hawke's Bay Regional RIS challenges 27/09/2022
- Report: Regional RIS Post Go-Live Incidents 02/02/2023
- Consultation Document Health Services Leadership Structure March 2021
- Final Decision Document and Implementation Plan: Health Services Leadership Structure May 2021

Staff interviewed

Bryan Wolf – Consultant Radiologist

Kai Haidekker – Head of Department Radiology

Michael Mackrill - PACS Administrator

Crispin Porter – Clinical Director Acute Medical Services & Chair Health Services Clinical Governance Board

Simon Harger – Head of Department Emergency Department

Anne Speden – Executive Director Digital Enablement

Angela Fuller – Radiology Manager

Paula Jones – Service Director Acute and Medical

Chris Ash – Interim Lead H&SS

Robin Whyman – Chief Medical and Dental Officer

Karyn Bousfield-Black – Chief Nursing Officer/Director of Patient Safety & Quality

Radiology department - current state

The radiology department provides specialist services to Te Whatu Ora Te Matau a Māui, Hawke's Bay district which is home to over 178,500 people. Hospital services are provided from the Hawke's Bay Soldiers Memorial Hospital (Hawke's Bay Hospital) and rural health centres at Wairoa, Napier, Central Hawke's Bay and Springhill Treatment Centre. Services include medical, surgical, maternity, paediatrics, older persons/rehabilitation, and mental health and addiction services.

The department, led by a long-standing Head of Department, employs 11 radiologists with an establishment FTE of 8.7. The department clearly has significant radiologist resource constraints given the external review in 2017 recommended 10.98 FTE for the workload at that time. This external review (undertaken by Christchurch Radiology Department) also identified issues with the RIS/PACS system impacting on quality, and the efficiency and productivity of the radiology department. These longstanding concerns about staffing levels were echoed in the International Accreditation New Zealand (IANZ) report dated 3-4 August 2022.

The workload of the radiology department is outlined fully in Appendix 2 and indicates that a significant amount of the workload is outsourced. This is particularly concerning given the issues related to management of outsourced reports within the current systems and which can lead to delays in reports being available, parts of studies being unreported and some reports not being visible to clinicians.

	In-house	Outsourced Report Only to Everlight	Outsourced Exam & Report	Outsourced Exam Only - TRG
Total Examinations	**103,746**	**38,563**	**10,251**	**1,377**

RIS/PACS system

The Radiology information system (RIS) is the "engine room" of the radiology department. RIS functions include:

- holding patient demographic data and referrer details
- receiving radiology referrals/orders
- enabling the triage of radiology referrals
- enabling the correct protocol to be assigned to the examinations to be performed
- maintaining and managing the radiology waiting list
- appointment scheduling and passing the patient information onto the machine eg, CT scanner
- creation and storage of radiology reports (may be handled by the PACS rather than the RIS)
- Management reporting (eg, waiting times)

The PACS consists of a store for images +/- radiology reports, which can be accessed by clinical staff and is used by radiologists to report examinations.

Carestream was selected to replace the previous Hawke's Bay RIS PACS (GE Centricity) in a project that commenced around 2008. The applications were initially deployed locally into the District Health Boards (DHBs), but with the long-term plan to bring all the DHBs (now Te Whatu Ora Districts) onto a Regional RIS. This has several theoretical advantages, but it has caused problems in terms of decision-making, vendor and regional IT capacity and application design. Although one of the strengths of Carestream identified during the procurement process was its configurability, this has also contributed to some challenges due to variation in user configurations and processes.

Hawke's Bay Radiology staff recounted that there have been ongoing issues since the first Carestream installation and issues have gone unresolved for over a decade. Indeed, the International Accreditation New Zealand (IANZ) issued a Major Non-conformance notice in their report dated 15/9/22:

> "The service is required to ensure computers are maintained to ensure proper functioning and provided with environmental and operating conditions necessary.

> The service continued to experience challenges to the Regional IT platforms, affecting reporting functionality in particular. Poor speed and functionality was evident across all platforms on a frequent basis with episodes of inconsistent performance across terminals and geographic locations. Problems had been ongoing for many years with no adequate resolution. Extreme frustration and profound morale issues with continual failures was evident with increased risk of error a primary concern. Despite investigation, no adequate reason or solution has been able to be established. Lost reports resulting in the necessity for re-reporting along broken concentration due to failures culminated in frustration and morale distress. Discussion with personnel indicated issues occurring in one geographic region may adversely impact other regions, with no apparent reason identifiable."

This notice was agreed for clearance by 22 November 2022, it is unclear what the response to this has been.

Two other recent developments have increased the visibility of the ongoing issues:

1. Capital & Coast and Hutt Valley concerns about ongoing risks during planning to migrate to the regional Philips RIS which led to the writing of the regional memo.
2. Presentations to local and regional leaders identifying multiple risks and issues with the current systems.

Regionalisation

The following issues were raised around regionalisation:

- Regionalisation of the RIS/PACS system has created further challenges in addressing the local Hawke's Bay issues with the RIS/PACS and IT systems: the Hawke's Bay department's direct relationship with vendor has been disestablished.
- Addressing issues takes longer with considerable bureaucracy and multiple levels of escalation.
- There is less flexibility in making changes eg, adding new procedure codes.
- Performance and stability problems are worse due to increased load on applications and infrastructure.

A memo from Tim McElroy to the Regional CIO Group dated 12 September 2022 and endorsed by the regional clinical leads identifies five areas of concern and clinical risk.

1. Missing clinical results
2. Delayed or missed communication of results
3. End users not raising/accepting high clinical risks within the application/system
4. Reduced capacity/clinical capability due to lack of integration
5. Unavailability/poor performance of system

The memo suggests that the likelihood of incidents occurring related to the first four risks is certain and that the impact on patients could lead to death or serious life changing events. It is uncertain if this memo has been responded to formally however 'Tiger teams' were established in partnership between the Regional Radiology Steering Group and Regional Digital Health Services to look at the regional issues.

Overseen by the regional COO's and the Regional Data & Digital Executive, three teams are addressing issues with regional RIS administration, clinical risk management and future options for RIS/PACS. The third stream has issued a clinical statement which has been endorsed by the Regional Radiology Steering Group:

> *The Central region cannot await a national RIS/PACS as an alternative to the current platform as the clinical risk due to the lack of basic features (e.g. seamless integration with external Radiology providers) is too high and the timeframe for a national RIS/PACS is too long. Considering the proposed future developments of the current RRIS system, the central region Radiology services do not believe we will bridge the gap between the system and the features already in use for other RIS/PACS systems within Te Whatu Ora. The region must begin reviewing alternative platforms and determining the timeframe around which a change process could occur. This will inform decisions around both the current onboarding process and the end of the contract term in 2024.*

There was confidence in the management team that the establishment and work of the Tiger Teams plus the workarounds would address many of the issues raised. However, concerns were expressed by those interviewed that the regional Digital Enhancement Team were overwhelmed and had to prioritise regional issues so not having capacity to deal with the local problems and that workarounds do not address the root cause of the issue. It is important to make clear that whilst workarounds for these systems may need to be employed, and formally acknowledged, workarounds do not address the root causes of risks/issues and often do little to reduce risk. The current system is plagued by years of unmonitored and poorly documented workarounds that have made this a complex issue to solve. Indeed, there will need to be an organisational change to purposefully move away from these workaround processes.

Key themes and findings

The reports and the interviews with staff paint a picture of staff being exhausted by information systems that hamper their efforts to provide safe and efficient care to their patients. They have endured more than a decade of poor performance, frequent workstation crashes and unsafe processes. The systems have never reached the point where they would be described as satisfactory. Although some may criticise the staff for not logging all issues, the learned experience of the clinicians is that the issues are unlikely to resolved and that the upgrades either fail to resolve issues or lead to more problems.

There are deficiencies in the application/database design that may prevent it from performing adequately in the Central Region environment.

The support model (Local PACS team, Local DE team, Regional PACS, TAS, NZ Vendor, Global Vendor) is complex and has not enabled satisfactory progress in application development, operational support, issue resolution and delivery of the strategic benefits. Support and issue resolution processes must discriminate between defects that may lead to patient harm and must be resolved and customer requests that reflect historical ways of working or lead to efficiency gains. The complexity of the environment and the support model blur the lines of responsibility and authority, contributing to the learned helplessness in the radiology and clinical teams.

There appears to be a culture of learned helplessness at Te Whatu Ora Te Matau a Māui Hawke's Bay including outside of the radiology department, with a belief amongst staff that clinical issues and risks are known but no resolutions offered. It appears that when issues are escalated there is no information flow down to acknowledge these or proffer resolution.

Prior to the reports outlining the multiple issue with the current RIS/PACS system, there was a lack of executive visibility of some of those issues. This is a consequence of several factors including tolerance of the constraints and a reliance on workarounds, budgetary constraints, strategic intent over-riding issue resolution and on at least one occasion the failure to attribute a significant incident to systemic issues rather than clinician performance.

There is a project to form the Aotearoa radiology IT strategy led by the National Radiology Advisory Group. This process must not prevent continued investment in the current RIS/PACS as the selection and configuration of and migration to another solution will take time and there are ongoing safety and efficiency issues with the current versions which need to be addressed.

Wider system context

The wider health reform implementation and system changes that are currently occurring throughout Aotearoa require acknowledgment. This report and recommendations being made are in the context of substantive system change and the focused embedding of a Tiriti-dynamic health system, the requirement to eliminate inequities in health outcomes for Māori and deliver on the aspiration of the Pae Ora legislation. The scope of this initial review has not included review of individual patient outcomes, or by ethnicity, and specifically the impact of these issues within the Radiology Service on whānau Māori. However, there is no doubt that there will be an impact on Māori whānau accessing radiology services at Te Matau a Māui with a population of 27% Māori within the entire Te Matau a Māui region. Nationally we know that our existing health system has failed Māori and that change is critically necessary. It is vital that within all the changes being recommended within this report that implementation of solutions take a genuine commitment to implementing Te Tiriti O Waitangi, equity, and to providing services that are culturally safe and acceptable. This will mean the needs for a partnership approach to the implementation and addressing of these issues, with a focus that keeps whānau at the heart of all potential solutions and delivers actual results.

The guiding Interim Health Plan; Te Pae Tata aims to unify the health system, ensuring that all those who work in health operate with a 'one system' culture and ethos. These national

recommendations within Te Pae Tata, if implemented will also help to support the specific recommendations within this report.

Cultural safety expectations

There is a need for the Te Matau a Māui radiology services and wider Hospital & Specialist Services will ensure a workplace that values, supports and protects Māori whānau from discrimination and racism. To do this there will need to be greater focus on building a clinical radiology workforce that reflects the population that it serves. This includes reviewing how the workforce can better support New Zealand trainees and the whole of organisation expectation of cultural safety. Cultural safety training will help make a tangata tiriti workforce of healthcare professionals who are conscientised around racism and bias. Everyone will bring this awareness into their service to improve quality of care. Part of what will be required is the ability of the Te Matau a Māui as a system to build their ability to review their service data, cut the data by ethnicity and identify and implement solutions to address any apparent inequities and monitor the impact of these actions.

Patient safety

Discussions described a system in which patient safety issues are evident. It was suggested that other districts in the region could be having similar issues. The point was made by an interviewee of a reactive system, and it felt like the 'system wants an actual harm to occur before it does something'.

As identified above, due to the condensed nature of this review we cannot with absolute certainty, know the entire risk of harm currently occurring to patients. We note the examples given to us and able to be seen in the associated documentation supplied. This includes:

- issues with test results.
- unacknowledged and missing results.
- delayed reporting of a healed carotid artery dissection and continuation on anticoagulants unnecessarily.
- work arounds with potential issues including GPs being unable to access results.
- waiting four hours for the reporting of acute CT and reports coming through once patients had transferred from ED to Wellington for care.

In relation to harm events what we do know is that:

- known harm has been identified and documented
- inadequate responses have left staff feeling demoralized, burnt out and helpless
- work arounds have been created which led to increased workloads for staff
- harm events that are unreported are not referred to Accident Compensation Corporation (ACC).

Staff welfare and safety

This theme was one of the most apparent and required the interviewers raising the issue with the CMO immediately following the visit. It cannot be overemphasized that there are issues of clinician burnout and significant stress, leading to health and safety and overall wellbeing concerns for individuals. Support is required to these individuals and Te Whatu Ora as an employer has a duty of care to ensure an adequate response is provided.

Clinical governance

The issues with the RIS/PACS system outlined in the reports and echoed in our interviews with staff have been long standing. Staff expressed frustration at the time taken to have these addressed even when raised at the highest level including previous chief executives and they perceive that the risks were known but they felt 'beaten down'. When issues and risks were escalated, there was a failure to adequately feed back to the clinicians and managers working within the service who were raising those issues. Any acknowledgement, organisational risk assessment and accountability discussions relating to these did not filter back down to staff.

Staff report difficulties in using the adverse event reporting tool which they note as cumbersome. This combined with the feeling of not being heard has led to a sense of resignation that the issues are too complex and too difficult to be addressed and the sense of normalisation of clinical risks that are described in the reports.

There does not appear to have been a robust process for triangulating quality and risk issues across the organisation to enable the linking of information from the HDC complaint with clinical incidents, the risk register and other 'soft intelligence'. Staff reflected that historically their clinical governance structures were less than effective and there was a disconnect with clinical governance activities and priorities at an executive and Board level, and those of frontline staff. It was suggested that the previous Clinical Board function was built around the demands of the DHB Board, and this has now been replaced by the Health Services Clinical Governance Board. The latter was established following a Health Services Leadership Restructure which was undertaken to improve performance and promote quality care. The disconnect is perhaps reflected by the fact that whilst the senior management team were aware of performance issues (such as the BSW) with the RIS/PACS system, they did not have visibility, or a full appreciation of all the clinical risk issues outlined in the Systemic Errors of Data Management reports.

This latter point raises concerns about the effectiveness of the risk register and the process for escalating clinical concerns. Effective clinical risk management can only occur with the full engagement of clinical staff who must see that it adds value. Openness and transparency (including the acknowledgement to accept a risk) is essential in this process and if robust would negate concerns regarding differences in risk tolerance between individuals. It was mentioned that the issues raised in the report have been long standing and accepted by many clinicians however this does not absolve the need to revisit risks and re-evaluate. It is equally important that the risk register is not used inappropriately to escalate specific agendas.

The reports express concern that the seriousness of the current risks was unrecognised by Te Whatu Ora and by the spokesperson response to a Radio New Zealand article and the regional memo. This again highlights issues with risk analysis and management. It is unclear what local clinical input into the Te Whatu Ora response occurred, but clinical involvement should be routine practice and could have addressed these concerns.

The recent clinical governance restructure has seen a new non-executive clinical lead for their clinical governance committee appointed as chair. It is still early to know what the

impact of this will be, however concern was expressed that the health reforms and loss of the most senior local leadership has created a void and responsiveness to issues raised will be worse. It is important reporting lines and accountabilities for this group are clear as clinical governance structures in the reformed health system are established.

Technical issues

Multiple issues were raised in the reports and by other staff during the panel visit to Te Matau a Māui Hawke's Bay on 4 February 2023.

1. Prior studies not being visible to reporting radiologists

The legend for Figure 5 on page 32 of Part 1 (Systemic Errors of Data Management) suggests that a setting change may improve the visibility of the Examination description, reducing the risk of not identifying relevant prior studies. The effectiveness of this change should be verified. However, the multiple body part issue (below) may still prevent visibility of relevant prior imaging.

2. Radiology reports not being delivered to referrers

There is at least one case where a critical report was not delivered to the referrer leading to a 16-month delay in the diagnosis of malignancy (HDC Ref 18HDC00858). There are several reasons for reports not being delivered to the correct referrer, including the ordering clinician selecting the wrong encounter number (eg, inpatient episode or outpatient clinic) at the time of placing the order. The presence of incorrect/obsolete referrer information in at the time of ordering the radiology examination increases this risk. There are also instances where an encounter number is not available (community referrals or prior to a clinic visit).

Lack of a robust report delivery process is a widespread problem in NZ health settings due to a lack of consistent clinician, service and facility identifier codes and multiple order entry and clinical data repository systems, but some changes to process and behaviours may reduce the risk of harm.

At Te Matau a Māui Hawke's Bay, issues with the electronic delivery of reports and inconsistent clinician/referrer behaviour in terms of "accepting" reports means that there is lack of trust in the electronic report delivery and so printing of radiology reports continues. This is an unsafe practice as there is no way of verifying that a report sent to a printer has been printed, addressed correctly, delivered, or read. If all report delivery was electronic, then extracts could be run to ascertain which radiology reports had been read and/or accepted by a clinician. Clinical Portal does not allow creation of departmental filters to aid assurance of reports being read and accepted eg, ED reports must be searched for by Clinician, leading to problems with shift workers and during periods of leave.

3. Linking body parts

It is common to image multiple body parts during one radiology examination. This may be planned at the time of referral, or the need arises during the course of a planned

examination eg, a chest x-ray needed due to the development of a pneumothorax (air around the lung) during a lung biopsy procedure.

The report describes several examples of problems with linked body parts causing problems with reporting and image display in PACS. It is suggested in the initial reports that these issues can be avoided if a different workflow is followed. The efficacy of this different workflow in reducing risk should be assessed and if successful embedded in standard operating procedures at Te Matau a Māui Hawke's Bay and other sites in the Region if appropriate.

4. Outsourced reporting issues

Everlight is a third-party organisation which provides reporting for images acquired at Te Matau a Māui Hawke's Bay. The Everlight report can omit body parts depending on the followed workflow, which risks significant findings being overlooked. ED provided a recent example of this occurring where a CT head and cervical spine were ordered for a paediatric patient, with the report being linked to the CT cervical spine folder but the images were placed in the CT head folder. As the CT cervical spine folder contained no images the report was not displayed electronically, leading to the delayed diagnosis of a cervical spine fracture.

Although Everlight is used for acute out of hours imaging, the report turnaround time is said to have increased. This may be related to IT/process issues and/or Everlight reporting capacity. The clinicians stated that it is not uncommon to wait four hours for a CT report out of hours, which is clinically inappropriate when dealing with trauma case or strokes needing thrombolysis. The delay may be in part due to the need for manual intervention by MRTs to copy and paste reports to allow them to be displayed in Clinical Portal.

Other providers perform imaging in addition to reporting of studies. Previous studies are often not identified as priors during the reporting process, leading to misdiagnosis or unnecessary repeat imaging.

The processes must be rapid and robust if report outsourcing is employed for time-critical imaging.

5. Radiology order entry system

Clinical Portal is used for internal (hospital) radiology referrals. This has significant limitations when multiple examinations or body parts are required to be imaged or if the order is modified after it is sent. This then prevents the report from being visible in Clinical Portal. Although the replacement of paper referral forms with electronic order entry for hospital referrals should lead to benefits, the implementation at Te Matau Māui Hawke's Bay appears to have created clinical risk and decreased report delivery performance.

6. Empty report

The PACS will mark a study as reported and the report as validated if a radiologist exits the study without creating a report. This should be prevented by the system, or if this is not possible then a query should be run against all reports to identify those where the report is empty, and those studies reported by a radiologist to ensure that significant findings have not been overlooked.

7. Stability

Users report that frequent crashes and episodes of poor performance continue to be experienced. Often there is no discernible pattern in terms of user, workstation of time of day. Instability causes inefficiencies but it also has the potential to cause error due to interruption of thought processes and reports in complex cases. Further infrastructure upgrades are planned for completion in February.

8. Performance

Blue spinning wheel (BSW) – this is often due to updates to the MFN PersonResource table (part of the RIS database) being pushed to all workstations. This occurs whenever additions or changes to the table occur, which is an expected and frequent occurrence. This is a flaw in the application design when deployed across multiple sites and services. Although some changes have been made to reduce the MFN PersonResource table size and infrastructure changes have been made (or are in process at the time of writing – February 2023), user feedback is that the BSW for > 5 seconds continues to be experienced. The same flaw introduces the risk of selecting outdated referrer details, leading to the report being delivered to the incorrect destination.

9. Separate PACS archives

Clinical staff noted that regional images may not be visible if they do not select the correct regional PACS archive when logging into the enterprise PACS viewer. Another member of staff was not aware of this. System design should make it easy to "do the right thing" and present all the relevant patient information to clinicians with the minimum number of mouse clicks.

10. Support processes

Although the vendor engineers and application specialists have worked closely in the past, new processes dictate that all contact must go through Digital Enablement and TAS, which can lead to delays, filtering of issues, the potential for key information to be "lost in translation" when conveyed by staff who are not familiar with radiology systems and/or the Te Matau a Māui Hawke's Bay configuration and additional delays. This change occurred around 2018 when the RIS began to be deployed across other regional locations.

The capacity of the vendor and support services to roll out updates on a six-monthly cycle was questioned. The duration of the project and turnover of project managers has meant

that 8-10 project managers have been assigned to the project over its lifetime which has caused problems.

11. Clinical portal

The current clinical portal is an issue and there are ongoing problems with assigning results. Not all results transferred to the appropriate clinician and there are issues with assigning test results ordered by locums and visiting clinicians. This is not a problem unique to Hawke's Bay but builds on other underlying risks.

As with the RIS/PACS system the regional approach has increased the time and complexity in getting local issues addressed.

12. Integrated vs interfaced electronic health records.

The report's author raises questions about the Te Whatu Ora Data & Digital strategy of continuing with interfaced "best of breed" IT systems in the Hira program. It is beyond the scope of this review to evaluate the advantages and disadvantages of this strategy, but it is noted that some of the issues and risks that have been identified could be mitigated or avoided by an integrated electronic health record (order entry incompatibility, report delivery and acceptance, adverse event/allergy alerts). The Hira program must address these issues if harm is to be reduced.

Organisational culture

There were a range of issues raised within the review process which are pertinent to culture and the wider system / organisational processes.

It is clear there are reports for over a decade of issues arising with this technology, processes, and associated workflows. Therefore, this issue is neither recent nor unknown about within the sub region and wider regional context.

There was general agreement that highlighting of the most recent issues were paramount to whistleblowing and that there is naturally concern that clinicians who continue to pursue this avenue of enquiry will suffer negative consequences as a result.

As described previously, evidence suggests there is indeed a culture of learned helplessness, further perpetuated by the current reform implementation and the changes in senior operational management for the sub region. There was commentary from staff that the system is now 'decapitated' due to the lack of leadership and changes in local organisational structures. This is likely to be compounded by the current reforms but all impacts on the overarching sense of workplace culture. It is acknowledged that the service restructure in 2021 was undertaken to address identified issues but also that organisational culture change takes a long time to embed.

Lack of an enabling environment

There is obvious lack of an enabling system and wider environment to support the issues and patient harm concerns that clinicians are raising around the RIS / PACS technology and

wider associated workflows and processes. The productivity loss due to poorly functioning technology and work arounds impact directly on whānau and their access to services.

There appeared to be a degree of learnt helplessness, exacerbated by 'clinicians who have learnt to continually do work arounds, as opposed to acknowledgement and addressing of problems. The feedback was given that when you raise issues you 'get no-where' and there is no clear process of sequential escalation through layers of management. In summary the current mechanism for raising clinical and patient safety concerns does not appear to be agile enough to meet clinical need and the culture is reactive not proactive.

An important consideration and relevant for the wider reform process is how to ensure the local voice is captured as part of regional process and decision making.

Procurement

Concern was raised in the reports about potential conflicts of interest in relation to procurement of the Carestream RIS/PACS system in the Te Manawa Taki region given it was known there were multiple issues in the Central Region.

The review team is not in position to make comment on this; however, it would be prudent that this is followed up with further investigation.

There is ongoing investment in the regional RIS/PACS solution, and it is important that this continues given this is an essential service. Any potential regional clinical risks that are identified because of this should be further investigated with appropriate clinician involvement.

Recommendations

The reviewers have asked to provide an analysis of issues identified and concerns detailed in the reports to Te Whatu Ora.

The report outlines 18 recommendations for implementation:

Recommendation 1: Establishment of a Te Whatu Ora Report Implementation Oversight Group

The immediate establishment of a working party which is adequately resourced to oversee implementation of the recommendations in this report. The first priority of this group is to prioritise and establish timelines with appropriate clinical engagement, for addressing each recommendation however the report authors wish to highlight that recommendation 2 should be addressed with urgency. Essential is the need for an appropriate partnership approach is taken to ensure the voice and expectations of whānau Māori are adequately addressed through this process.

Recommendation 2: Reduction and investigation into patient harm

- There are steps which should be taken immediately to reduce the risk of further patient harm:

    - Ensure that reports that fail to be received by the clinical data repository are identified promptly and resent.
    - Ensure that clinical staff are aware how to access reports through the RIS/PACS if they are not available in Portal.
    - Ensure that clear standard operating procedures (SOPs) for imaging multiple body parts/regions are in place, that all staff are trained in the appropriate workflow and are consistently following the SOPs.
- The memo from Tim McElroy to the Regional CIO Group dated 12th September 2022 suggested that the likelihood of incidents occurring that could lead to death or serious life changing events. It is uncertain if this memo has been responded to formally however this needs to be further investigated to ascertain what level of truth there is to this comment.
- It is recommended that a full review be undertaken to determine to what degree the issues raised within this report and the original memo, have contributed to patient harm. We are aware that this review has not addressed all of the concerns raised in the report Systemic Errors of Data Management or incorporated the regional voice and it is important that the wider review does so.
- An assessment should be undertaken at other hospitals in the region to determine if the risks outlined in these reports are present with these organisations. This investigation should ensure it reports findings with ethnicity breakdown to accurately assess what the impact has been on whānau Māori accessing these services.

Recommendation 3: Clinical governance

- The current subregional ELT and Radiology Clinicians should meet weekly to discuss issues, where they are tracking resolution wise and what mitigation has been put in place to manage risk – this must be developed into a robust response and feedback mechanism so there is both a vehicle to raise issues and a process by which they are resolved, and issues closed off.
- There should be identified clinical governance mechanisms or forums for clinicians throughout the H&SS system to raise issues and have them logged including the ability to raise further to regional or national levels as required. This function naturally sits with the recently established Health Services Clinical Governance Board which should have clear reporting lines.
- The risk register needs to gain a level of effectiveness in that there are processes for resolution and escalating once the risk is entered. Effective clinical risk management can only occur with the full engagement of clinical staff who must see that it adds value.
- There needs to be clarity for staff who and where to go to when issues arise and mechanism for formal feedback / process when problems identified.
- There needs to be a process to ensure recommendations from external reviews such as the IANZ and Canterbury reports are addressed.

Recommendation 4: Te Tiriti O Waitangi obligations

There is a need for the Te Matau a Māui radiology services and wider Hospital & Specialist Services to ensure a workplace that values, supports and protects Māori whānau from discrimination and racism.

- Ensure there is a whole of organisation expectation of cultural safety education and training linked to national expectations and guidance.
- Enable the radiology department to be able to view treatment data by ethnicity and acting on the results accordingly.
- Enable the Te Matau a Māui system to identify and implement solutions to address inequities and monitor the impact of actions taken.
- Enable monitoring of unwanted variation in service access and outcomes.
- Application of equity measures for radiology services.
- Any implementation of recommendations must take a partnership approach and ensure engagement with Māori, including but not limited to IMPB input, Hauora Māori kaimahi within the Te Matau a Māui H&SS system, Te Aka Whai Ora Regional Director, and H&SS oversight.

Recommendation 5: RIS/PACS implementation

- An investigation into potential conflicts of interest is considered in relation to procurement of the Carestream RIS/PACS system in the Te Manawa Taki region given it was known there were multiple issues in the Central Region. The review team is not in position to make comment on this however it would be prudent that this is followed up with further investigation.
- Pause further RIS/PACS implementation whilst this report and recommendations are considered.
- There is a review of the RIS/PACS implementation regionally and whether this technology offering is appropriate to better determine what the risk of harm is within the region. Noting also that there is a project to form the Aotearoa radiology IT strategy led by the National Radiology Advisory Group. This process must not however prevent continued investment in the current RIS/PACS as the selection and configuration of and migration to another solution will take time and there are ongoing safety and efficiency issues with the current versions which need to be addressed.

Recommendation 6: Prior studies not being visible to reporting radiologists

- Verify that the PACS settings can be changed for reporting radiologists and that this will reduce the risk of not viewing body parts/scan areas through better visibility in the reporting area.
- Verify that these settings have been changed for all reporting radiologists at Te Matau a Māui Hawke's Bay.
- Ensure that instructions for these changes are readily available for implementation during the induction of locums/new recruits.
- Circulate the instructions to other departments in the Region (and Te Manawa Taki if appropriate).

Recommendation 7: Radiology reports not being delivered to referrers

- Confirm that all internal referrers can receive electronic reports.
- Set district expectation that all referrers will view and accept reports electronically (with delegation as appropriate).
- Establish processes for team signoff (eg, ED) and allocate time for task.

- Run regular reports for radiology reports that are viewed and those that are accepted.
- Manage poor performance through the CMO.
- Put in place processes to “tidy up” misdirected reports due to missing or incorrect encounter numbers.
- Cease paper reports for internal referrers.
- Work with external providers to ensure they have inbox for electronic reports and set expectation that paper reports will be phased out within a reasonable period (eg, 3–6 months).

Recommendation 8: Linking body parts

- Verify that the suggested alternative workflow for multiple body parts will reduce the risk of not viewing or reporting body parts/scan areas, or of reports not being visible due to folders containing no images.
- Verify that these processes have been documented and circulated to all relevant radiology staff at Te Matau a Māui Hawke’s Bay.
- Ensure that instructions for these processes are readily available to new staff.
- Circulate the instructions to other departments in the Region (and Te Manawa Taki if appropriate).

Recommendation 9: Outsourced reporting issues

- Work urgently with Everlight to ensure that it is clear the scan area/body parts requiring reporting and that the report is associated with the appropriate images.
- Look at turnaround time for clinically urgent imaging and establish any causes of delays to reduce the turnaround time to a clinically appropriate level eg, one hour for acute overnight CT.
- Investigate ways to provide clinicians with reports earlier eg, RIS or Everlight portal if the delay is getting the report into RCP.
- Where possible avoid the need for manual processes for copying and pasting out of hours reports.

Recommendation 10: Radiology order entry system

- Identify the specific actions that cause issues – for example multiple examinations requested on one order.
- Quantify the risk once the causative actions, consequences and current mitigations are clarified.
- If remedial work cannot overcome issues, consider tactical move to alternative order entry solution while awaiting decision on RIS/PACS RFP.

Recommendation 11: Empty reports

- Work with Philips to try to prevent saving of empty reports.
- Ensure all radiologists are aware of the risk – may be able to reduce frequency of occurrences through awareness of causative actions and education.

Work with DE/Philips to search for empty reports to quantify and assess risk of past occurrences; assess need for reporting studies and open disclosure of harm if caused.

Recommendation 12: Stability

- Reassess user experience following infrastructure upgrades.
- Performance: Reassess user following infrastructure upgrades and changes to database.

Recommendation 13: Separate PACS archives

- Provide information and education to clinicians on how to select appropriate PACS archive when logging in to enterprise viewer.

Recommendation 14: Support processes

- Replace current processes which separate radiology operational staff from vendor technical staff and use shared services resources as enablers.
- Refresh list of outstanding issues, prioritise by risk and share with stakeholders (including radiology team and Te Matau a Māui Hawke's Bay executives).
- Update risk register to reflect risks/issues and allocate appropriate resources to address these within appropriate clinical governance structures (as per recommendation 2).

Recommendation 15: Integrated vs interfaced electronic health records

- Te Whatu Ora Board to ask Data & Digital to consider the challenges of interfaced "best of breed" systems and feed this into strategy.

Recommendation 16: Workforce

- Undertake a full job sizing exercise to review and agree the appropriate service size for the radiology department based upon current workload.
- Consider strategies to develop a sustainable radiology workforce at Te Matau a Māui Hawke's Bay.
- There is a need for the Te Matau a Māui radiology services and wider Hospital and Specialist Services to ensure a workplace that values, supports and protects Māori whānau from discrimination and racism. To do this there will need to be greater focus on building a clinical radiology workforce that reflects the population that it serves. Further investigation should include solutions regarding the ability for New Zealand radiology graduates to work at Te Matau a Māui during their training, and a specific focus on building Māori kamahi capacity and capability within the radiology workforce. This may require a regional solution to be created to support this approach.

Recommendation 17: Safety First

- Review the Safety First roll out to establish if there are any professional groupings or services who require training / education. This review of Safety First should also include if any areas require upskilling or refresher training as there was a reported

lack of understanding by some of the medical workforce regarding the scope of the rollout.

Recommendation 18: Establishment of a National Radiology Clinical Network

- Explore potential linkages and benefits in the establishment of a National Clinical Service Network for radiology as one of the clinical networks to be developed in 2023/24.
- This group may also be able to provide overarching governance to standardise regional and national approaches and guidance. Including ensuring a Te Tiriti dynamic throughout the network, equity prioritisation, standardisation of clinical approaches and guidelines, the ability for different approaches to be taken for workforce recruitment and retention.
- This network should enable the driving of consistency in delivery of specialist and hospital radiology services. Ensuring that the quality and outcomes of care are consistent across Aotearoa, while also recognising the variance that may be required at locality / IMPB level to ensure community needs can be met.

Appendices

Appendix 1

Te Whatu Ora
Health New Zealand

External Review

Te Whatu Ora Hawkes Bay Radiology

Terms of Reference

Background to Review:

The Te Whatu Ora Interim National Clinical Director- Medical has received a report titled: Systemic Errors of Data Management from a consultant radiologist at Te Whatu Ora Te Matau a Maui Hawke's Bay (Te Whatu Ora Hawke's Bay). The report is a comprehensive document in 2 parts (attached). The writer identifies serious quality and patient safety concerns related to the radiology IT system used in the Hawkes Bay. The writer summarizes their report as identifying *"several errors related to the Philips Carestream RIS/PACS environment and other Te Whatu Ora IT systems; as a recent memo warns, these errors contributed to "certain likelihood of a high impact event, including death or life changing delay in treatment." Readily identifiable causes include inadequate and poorly maintained IT systems, as well as unrecognized, high-risk workflows. These errors and the exhausting, futile reporting efforts led to demoralization and reduced well-being within broad segments of the Te Whatu Ora workforce. Those same unaddressed errors exposed Te Whatu Ora consumers and their whanau to emotional, psychological and cultural harm at a regional, population level over a period of years."*

The report has also been forwarded to the Te Whatu Ora Board and the Board's Clinical Quality and Assurance Committee, which has requested a review into the issues raised in the report is undertaken.

Purpose of Review:

This review is part of Te Whatu Ora's commitment to improve and protect the health and safety of patients and the public, and to ensure the effective conduct of Te Whatu Ora affairs by:

- Ascertaining as far as practicable the likely substantive significance of the concerns in the received report and on the basis of that;
- Recommend any further actions and/or investigations Te Whatu Ora should undertake.

The purpose of this independent external review is to evaluate the seriousness of the issues and concerns raised in a report received from a consultant radiologist employed at Te Whatu ora Hawke's Bay, to identify and address concerns of patient harm; and to make recommendations as to any further actions and/or investigations required.

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The review is not a comprehensive review but rather an initial review of the concerns and issues raised to reduce risks to patients and if there is patient harm to recommend any immediate actions. In addition, the review seeks to identify further investigations and actions based on the issues and likelihood of future patient harm.

Wherever possible, the review and recommendations should be focused on processes and systems rather than individuals. If any issues concerning an individual's conduct or practice are identified, these should be shared with the Sponsors, and where necessary other appropriate Te Whatu Ora executives.

A decision will be made on what, if any, further action or review is warranted after the independent external review report has been received and considered.

Review Sponsors:

The Sponsors for the Review are:

Dr Pete Watson, Interim – National Clinical Director - Medical, Te Whatu Ora

Dr Rawiri Jansen, Interim Chief Medical officer – Te Aka Whai Ora

Review Scope:

The scope of this review is limited to the issues identified in the report received and the concerns and issues identified by the writer in the Radiology IT system at Te Whatu Ora Hawkes Bay. However the report also includes wider concerns raised related to systems and practices in Te Whatu Ora and these issues are also within scope of the review.

Terms of Reference:

The external reviewers are asked to consider the following issues during the review.

1. The report (Parts 1 and 2) received from the consultant radiologist dated December 5th 2022.
2. Are there issues related to this IT system that have caused patient harm in the past and/or have the potential to cause harm in the future?
3. Identify factors that may have contributed to the issues raised including human, cultural and organisational factors.
4. Make recommendations for
    a. Any immediate actions to reduce risks to patients
    b. Further investigations and actions based on the issues and likelihood of serious future patient harm.

Review Methodology

The method of the review will be at the discretion of the reviewers but is likely to include:

Comprehensive review of the report provided including reference to any relevant quality standards and any other service documents, reports, policies and procedures.

Interviews with the report writer and any other relevant local, regional and national stakeholders.

Provide analysis of issues identified and concerns detailed in the report.

Develop recommendations for immediate actions to remediate identified patient harms and for any further investigations based on the issues identified at a local, regional and national level. Identify recommendations that may be of relevance for other agencies including the Ministry of Health, Health Quality Safety Commission and the Medical Council of New Zealand.

Review Panel:

The Review will be undertaken by a Review Panel consisting of 3 expert reviewers, one a Consultant Radiologist with IT expertise; one an external Quality and Clinical Governance leader and one a clinical leader from Te Aka Whai Ora.

NAME	POSITION TITLE	ORGANISATION
Stuart Barnard	Consultant Radiologist	Te Whatu Ora – Counties Manukau
Martin Thomas	Chief Medical Officer	Health Quality Safety Commission
Laura Aileone	GM Hospital & Specialist Services	Te Aka Whai Ora

Timeframes:

A confidential draft report will be completed within 4 weeks of initiation of the Review, accommodating reviewers' work commitments and leave.

Feedback on the draft report will be provided within 2 weeks, with the report finalised by the review Panel 2 weeks later.

Te Whatu Ora
Health New Zealand

Release of the Report:

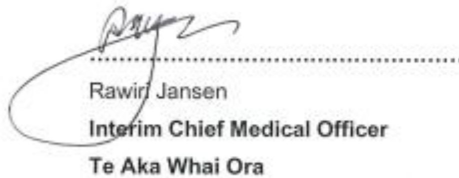
The report may require review by a legal advisor.

Te Whatu Ora will only release the review report in accordance with legal requirements e.g. Privacy Act, Health Information Privacy Code, Official Information Act and Health and Disability Commission Act.

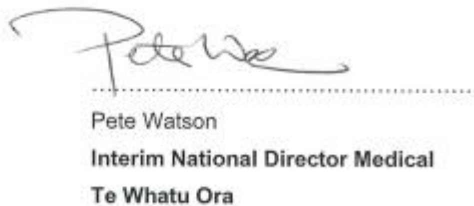
The usual process includes release of the terms of reference and the report to:

- Appropriate persons within Te Whatu Ora and Te Aka Whai Ora
- Health Quality & Safety Commission
- Health and Disability Commissioner and ACC *if requested.*

Signed:



Rawiri Jansen
Interim Chief Medical Officer
Te Aka Whai Ora



Pete Watson
Interim National Director Medical
Te Whatu Ora

15 December 2022

Appendix 2

Workload

Modality	In-house	Outsourced EVL Report Only	Outsourced Exam & Report	Outsourced Exam Only - TRG
Plain film (all facilities)	62,547	31,947		
CT	18,868	6,391		
Fluoro	2,059	0		
Nuc med	2,626	0		
MRI	4,582	0		
Ultrasound	11,864	225		
Angiography	1,200	0		
PET CT			250	
Mammography			3,000	
Breast MRI			35	
Cardiac MRI			40	
Dexa - bone density			355	
Community contract PF			6,565	
Defecating proctograms			3	
eGFR			3	
CT				727
MRI				650
Totals:	**103,746**	**38,563**	**10,251**	**1,377**

Appendix 3

NZCRMP Clause 5.3.11:N/C No: 4 Equipment – IT

Risk 15

The service is required to ensure computers are maintained to ensure proper functioning and provided with environmental and operating conditions necessary.

The service continued to experience challenges to the regional IT platforms, affecting reporting functionality in particular. Poor speed and functionality was evident across all platforms on a frequent basis with episodes of inconsistent performance across terminals and geographic locations.

Problems had been ongoing for many years with no adequate resolution. Extreme frustration and profound morale issues with continual failures was evident with increased risk or error a primary concern. Despite investigation, no adequate reason or solutions has been able to be established. Lost reports resulting in the necessity for re-reporting along broken concentration due to failures culminated in frustration and morale distress. Discussion with personnel indicated issues occurring in one geographic region may adversely impact other regions, with no apparent reason identifiable. In order to clear this Major N/C, the service is required to provide evidence of ongoing resolution initiatives with associated improvement in performance.

Agreed clearance date: 10 November 2022.