Image Access Strategy and Consultation Report

Clinical Radiology

Report

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About RANZCR

The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit professional organisation for clinical radiologists and radiation oncologists in Australia, New Zealand, and Singapore. RANZCR is a membership organisation led by clinicians who are elected by the membership, with oversight from a Board of Directors.

We are the leaders in diagnostic, interventional, and cancer care medicine and associated subspeciality areas through engagement, education, and advocacy; and by supporting clinical excellence. Our Fellows play a critical role in the diagnosis and monitoring of disease, provide interventional treatments and targeted treatments for cancer.

Our evidence-based culture focuses on best practice outcomes for patients and equity of access to high quality care, underpinned by an attitude of compassion and empathy. As an organisation we are committed to diversity and inclusion, and to the training and professional development of our Fellows and trainees throughout their career. We are dedicated to enhancing the health outcomes of Māori, Aboriginal and Torres Strait Islander peoples and to increasing their participation in the professions of clinical radiology and radiation oncology by ensuring our educational programs support best outcomes for them. This includes a commitment to cultural safety in our organisation, for staff and members.

Our Purpose

To advance excellence in diagnostic, interventional and cancer care medicine, to optimise health outcomes for our patients and society.

Our Values

Respect

We treat each other, our members, and our stakeholders with the same dignity and respect that we would expect for ourselves. We hold each other to this standard.

Accountability

We take ownership and responsibility for our actions, behaviour, performance, and commitments.

Innovation

We encourage our people to imagine “what could be”; to be curious and brave. We recognise and celebrate new initiatives and advances in how we deliver our purpose.

Inclusivity

We foster an inclusive and safe workplace where our diverse people and members are all welcome.

Integrity

We maintain the confidence and trust of our stakeholders through our honesty, transparency, and authenticity.

Code of Ethics

The Code defines the values and principles that underpin the best practice of clinical radiology and radiation oncology and makes explicit the standards of ethical conduct the College expects of its members.

Abbreviations

Abbreviation	Title
ADIA	Australian Diagnostic Imaging Association
Agency	Australian Digital Health Agency
AHPRA	Australian Health Practitioner Regulation Agency
API	Application Programming Interface
ATNA	Audit Trail and Node Authentication
CDS	Clinical Decision Support
CT scan	Computed Tomography Scan
CSL	Common Services Layer
DICOM	Digital Imaging and Communications in Medicine
DICOM UID	Digital Imaging and Communications in Medicine Unique Identifier
DICOMWeb	Web-based extension of the Digital Imaging and Communications in Medicine standard
EMR	Electronic Medical Record
HCA	Health Connect Australia
HISL	Health Information Sharing Layer
HL7 FHIR	Fast Healthcare Interoperability Resources, modern healthcare data standard developed by HL7
HPI-I	Healthcare Provider Identifier – Individual
HPI-O	Healthcare Provider Identifier – Organisation
IHI	Individual Healthcare Identifier
IHE	Integrating the Healthcare Enterprise
IHE XDS-1	Integrating the Healthcare Enterprise Cross-enterprise Document Sharing for Imaging
IRWF	Import Reconciliation Workflow
IT	Information Technology
ITI-18	Registry Stored Query
MDT	Multidisciplinary Team
MoDI	Modernisation of Diagnostic Imaging
MHR	My Health Record
MRN	Medical Record Numbers
NLCSP	National Lung Cancer Screening Program
OAIC	Office of the Australian Information Commissioner
PACS	Picture Archiving Communication System
PDP	Policy Decision Points
PEP	Policy Enforcement Points
PRODA	Provider Digital Access
QIDOS-RS	Query Based on ID for DICOM Objects – RESTful Service
RANZCR	Royal Australian and New Zealand College of Radiologists
RBAC	Role Based Access Control
RIS	Radiology Information System
RRS	Radiology Referral Set
SBD	Share by Default
SSO	Single-Sign On
VNA	Vendor Neutral Archive

1. EXECUTIVE SUMMARY

The Image Access Strategy and Consultation Report articulates a national vision for transforming how diagnostic images are accessed and shared across Australia's health system. Lead by the Royal Australian and New Zealand College of Radiologists (RANZCR), in partnership with the Australian Diagnostic Imaging Association (ADIA) and the Australian Digital Health Agency (Agency), and facilitated by Nous, this report directly addresses the persistent fragmentation in image access that leads to duplicated scans, delayed diagnoses, increased costs and heightened clinical risk.

Despite substantial investment in digital imaging infrastructure, clinicians and referrers still face significant barriers to timely and comprehensive access to prior imaging. These obstacles result in workflow inefficiencies, incomplete patient records and frustration among healthcare professionals - ultimately compromising the quality and safety of patient care. The report draws on a robust evidence base, including a comprehensive analysis of current systems and policy settings, and engagement with stakeholders across the imaging sector. Through surveys, targeted consultations, and collaborative workshops, the recommendations are informed by the experiences, insights and aspirations of clinicians, technologists, administrators and industry partners.

The strategy aims to shift away from isolated, one-off integrations, to a national, federated model that allows clinicians to find and view prior images promptly, securely and in context, at the point of care. This approach, in line with Health Connect Australia (HCA) architecture, is designed to connect existing systems without the need for centralised storage or major re-platforming, leveraging common services such as identity, discovery, consent, and audit to ensure trust, privacy and seamless integration. This model is flexible, enabling jurisdictions and providers to adopt at their own pace, while remaining aligned with national programs and legislation.

Key recommendations include universal use of the Individual Healthcare Identifier (IHI), a national identity and authorisation framework through harmonised legislation, centralised search and discovery, flexible viewing and download capabilities to meet clinical needs, and broad participation in a comprehensive national image-sharing exchange.

This report also covers implementation considerations, outlining the importance of change management, training, and technical enablement to support adoption - particularly for clinicians and smaller providers. Similarly, risks to successful implementation - such as change fatigue, workflow disruption, incomplete participation, legislative complexity, and the need to build and sustain consumer trust - are acknowledged, with practical mitigation strategies proposed to ensure sustainable reform, based on consultations with a wide range of stakeholders.

Australia is now at a decisive crossroads. With strong sector consensus, policy alignment, and foundational infrastructure in place, there is an opportunity to deliver a nationally consistent, secure, and seamless image access solution. Implementing these recommendations, which have been validated by the providers who deliver care, will deliver tangible improvements to clinical outcomes, reduce unnecessary duplication and radiation exposure, and improve patient safety by ensuring clinicians have the right information promptly. Patients will benefit from faster, safer and more coordinated care, while the health system will realise efficiencies and cost savings.

2. ABOUT THIS REPORT

This report presents the outcomes of a sector-wide discovery and consultation process commissioned by RANZCR, in partnership with ADIA and the Agency. Its purpose is to provide an industry-prioritised set of recommendations and future state components for national diagnostic image access, supporting the advancement of secure, interoperable, and clinically embedded image sharing across Australia.

The report synthesises insights from a comprehensive landscape analysis of current systems, policy settings, and domestic and international models for image access. It draws on evidence gathered through targeted stakeholder engagement, including consultations with radiologists, referrers, allied health professionals, health informatics experts, cybersecurity advisors, vendors, and legal/regulatory specialists. The consultation process included a survey, two virtual and one in-person co-design workshops, and stakeholder interviews, ensuring broad representation and sector input.

Oversight and guidance for this project came from the RANZCR and ADIA Joint Informatics Advisory Committee, as well as the Image Access Advisory Committee, comprising of representatives from specialist medical colleges, standards organisations, Australian Government Department of Health, and the Agency.

Stakeholder engagement was central to the discovery process, with participants contributing perspectives on current challenges, ideal future states, and strategic opportunities. The report details the outcomes of these consultations, including key pain points, barriers, and enablers identified through workflow mapping and collaborative design sessions. It also summarises the needs and expectations of diverse stakeholder groups, ensuring that proposed solutions are aligned with real-world clinical and operational requirements.

These findings and recommendations are framed with the broader context of national digital health priorities, including alignment with HCA and the National Digital Health Strategy. The report highlights the urgency and feasibility of reform, given recent policy shifts, technological advancements, and growing sector momentum for interoperable, standards-based information exchange.

The report provides a high-level summary of stakeholder priorities and strategic opportunities, including foundational enablers (such as universal patient identification and unified identity/access frameworks) and image access-specific recommendations (such as unified search and flexible viewing capabilities). It also articulates the potential benefits of reform, including improved clinical outcomes, reduced duplication, enhanced patient safety, and foreseeable significant system-wide cost savings. Additionally, potential risks and dependencies identified through the consultation process are also described in detail.

Collectively, this report provides insights and recommendations to inform business case options the future design of a fit for purpose, national image sharing solution, ensuring that the designed technical architecture is complemented by adequate planning for change readiness and sustained support for providers and clinicians. By doing so, it aims to address longstanding fragmentation, strengthen continuity of care, and lay the foundation for innovation and efficiency across Australia's health system.

3. STAKEHOLDER ENGAGEMENT

This section sets to outline the approach, process and outcomes of stakeholder engagement undertaken to inform this report. It describes the structure of engagement activities and formats, stakeholder groups involved, and the methods used to capture diverse perspectives across the imaging sector.

3.1 Engagement approach

Stakeholder engagement was designed to be inclusive, iterative, and insight driven. This included three modes of engagement to ensure wide coverage across stakeholder groups. All modes were inclusive of both public and private stakeholders. This included:

3.1.1 Targeted consultations

One-on-one and small group discussions that surfaced current pain points, operational challenges, and strategic priorities from those directly involved in diagnostic imaging. These consults ensured representation from all relevant stakeholder groups, including:

- Radiologists and medical imaging technologists
- Referrers and other health professionals
- Health informatics and cybersecurity experts
- Technology vendors and product specialists
- Legal, privacy, and regulatory advisors
- Policy makers and system stewards.

These sessions enabled nuanced understanding of stakeholder-specific needs and fostered early buy-in for reform directions.

3.1.2 Sector-wide survey

A comprehensive sector-wide survey (n=246) was deployed to capture quantitative and qualitative data on image access needs, barriers, and user experiences, informing subsequent workshop design and validation. Key metrics include:

- Frequency and context of image access
- Perceived barriers to interoperability
- Satisfaction with current systems
- Appetite to reform and preferred future-state features.

3.1.3 Workshops:

Three co-design workshops were conducted to validate insights and co-create future-state requirements to inform the strategic opportunities in this report:

- **Two virtual workshops (July 2025):** Focused on capturing diverse clinical, technical, and user perspectives, validating pain points, and co-creating future-state requirements. Included breakout sessions focused on discovery, co-creation and prioritisation of opportunities. Survey results were presented and discussed, highlighting key barriers such as fragmented systems, inconsistent authentication and limited interoperability.
- **One in-person workshop (August 2025, Melbourne):** Brought together stakeholders from across the sector to co-design the ideal future-state experience, identify enabling solutions, and assess implementation feasibility. The session included breakout activities where participants engaged in workflow mapping, enablers and blockers and relative prioritisation of solution components. Outputs included validated challenges, co-created opportunities and prioritised solution components to inform the strategic recommendations. This is a clause in section 2. It can be referred to as clause 2(a) of this policy document.

4. STRATEGIC CONTEXT

Medical imaging is a cornerstone of modern healthcare, supporting every stage of the patient journey from early detection and diagnosis to treatment planning and monitoring. Improving access to imaging across providers and platforms enhances care quality, safety, efficiency and is essential for continuity of care.

Over the past decade, national efforts and various digital health initiatives have advanced elements of interoperability in radiology - improving referral and results flows, piloting exchange models, developing and adopting standards. Yet access to prior diagnostic images remains fragmented. Providers operate heterogeneous platforms with inconsistent identifiers, consent and retention practices; standards conformance varies, causing workflow disruption, duplicate scans and delays in decision making.

Key initiatives shaping today's context include:

- **RANZCR and ADIA leadership:** Joint initiatives such as the *Roadmap for Clinical Image Sharing*[(1)] and the *2021 Interoperability White Paper*[(2)] set out national priorities for image sharing, including registry and federated models, single sign-on, and strong cybersecurity.
- **Ngamuru Advisory Report (2018)[(3)]:** This is a report of a 'Diagnostic Sector Interoperability Visioning Workshop' hosted by the Agency in October 2018, with members of the Diagnostic Imaging Steering Committee. The purpose of this workshop was to contribute views that will inform future work by the Agency, and the National Health Interoperability Roadmap, across technical, operational, financial, and cultural domains:
    - Share and discuss stakeholder vision, goals, activities and priorities for sharing of patient information in diagnostic imaging.
    - Determine areas of alignment and misalignment, and consider how they can be resolved
- **Modernisation of Diagnostic Imaging (MoDI):** A $37 million program focused on electronic requesting and improving access to prior imaging, particularly in rural and regional settings.
- **Current collaborative work:** RANZCR and ADIA are leading the development of a National *Image Access Strategy*, aligned with the *National Digital Health Strategy (2023-2028)*[(4)] and HCA.[(5)]

These efforts sit within a broader national agenda to modernise digital health infrastructure, improve interoperability, and ensure equitable access to imaging across all care settings.

4.1 There is a positive environment for reform

- **Policy and infrastructure momentum:** Re-platforming and policy shifts around My Health Record (MHR), growing capability in Picture Archiving Communication System (PACS) environments, and the emergence of HCA provide a stronger foundation for national consistency.
- **National alignment:** There is now strong alignment with national digital health priorities, including the *National Digital Health Strategy (2023 - 2028)*, the *National Healthcare Interoperability Plan*, and HCA.[(4-6)] These frameworks call for connected, person-centred care and secure, interoperable digital infrastructure.
- **Sector readiness:** The sector is mobilised around clinical safety, privacy, and auditability, and many of the enabling building blocks - national identifiers, modern authentication, common services, and mature standards such as DICOMweb, HL7 FHIR, and IHE profiles - are available for scaled adoption.
- **Urgency and productivity:** Fragmented image access continues to drive unnecessary duplication, delays, and risks to patient safety. At the same time, policy alignment, government priorities, and stakeholder consensus have converged to make national action both urgent and achievable. The Image Access Survey results indicated that the median time spent locating and retrieving prior images per week was over four hours per respondent, and over 15 hours for operational/technical staff. This is important because 85 per cent of survey respondents indicated that they require access to prior images daily, or multiple times a day, yet 70 per cent are dissatisfied with the current processes.

4.2 The Strategic Task

The strategic task was framed through a collaborative initiative led by RANZCR, the Agency, and ADIA. This coalition initiated a national discovery process to address fragmented access to prior medical images and inform the development of a National Image Access Strategy.

The strategic ask is to shift from isolated, one-off integrations to a national, comprehensive model that enables clinicians to find and view prior images quickly, securely, and in context - wherever care is delivered. This transformation is essential to reduce duplication, delays, and clinical risk, while improving continuity of care and system efficiency.

Key design principles:

- **National connectivity:** Link existing systems without requiring centralised storage or major re-platforming.
- **Standards-based interoperability:** Utilise common services such as identity, discovery, consent, and audit to ensure trust and seamless integration.
- **Incremental rollout:** Enable jurisdictions and providers to adopt the model at their own pace, while remaining aligned with national programs like HCA and the National Digital Health Strategy.

Clinical and operational drivers:

- Fragmentation in Australia's imaging ecosystem leads to avoidable delays, unnecessary duplicate scans, and increased clinical risk.
- Clinicians require timely access to prior studies to make informed decisions and deliver efficient care.
- The strategy must be vendor-neutral, technology-agnostic, and embedded within clinical workflows.

This strategic task emerged from stakeholder workshops and targeted consultations involving clinicians, technologists, policy leaders, and industry representatives. The ask was shaped by feedback gathered during sessions such as Image Access Workshop 3, which bought together software vendors, standards organisations, hospitals, and government partners.

The opportunities developed through this process are intended to guide the government and sector leaders in implementing secure, standards-based image access reform across Australia.

5. STAKEHOLDERS NEEDS AND EXPECTATIONS

This section synthesises the insights gathered through the discovery process outlined in Section 3, translating stakeholder perspectives into actionable requirements for future-state imaging workflows. It presents a structured view of stakeholder groups, their roles across the imaging journey, and the specific needs and expectations that emerged through consultations, surveys, and co-design workshops.

The engagement process surfaced consistent themes across stakeholder groups, including:

- **Fragmentation and inefficiency:** Current systems are not meeting clinical needs. Radiologists and referrers expressed significant dissatisfaction with access to prior images, citing delays and incomplete records as common issues.
- **Operational burden:** Clinicians reported spending substantial time locating and retrieving images, which detracts from patient care and contributes to workflow inefficiencies.
- **Barriers to interoperability:** Key pain points included fragmented platforms, inconsistent patient identifiers, and lack of standardised access controls. These issues hinder seamless image sharing and continuity of care.
- **Sector appetite for reform:** There is strong support for transitioning to a comprehensive, standards-aligned model for image sharing. Stakeholders emphasised the importance of vendor neutrality, privacy safeguards, and auditability.
- **Co-designed opportunities:** Workshops identified and prioritised strategic opportunities, including:
    - Universal patient identification
    - Unified identity and access frameworks
    - Centralised search and discovery
    - Secure download and viewing capabilities.

Stakeholder landscape

The imaging ecosystem involves multiple stakeholder groups, each with distinct roles and expectations across the workflow:

- **Requesting clinicians:** Initiate imaging requests and rely on timely, accurate results to inform care decisions.
- **Medical imaging technologists:** Receive referrals, prepare patients, acquire images, and ensure quality before hand-off.
- **Radiologists:** Interpret images, generate reports, and provide clinical advice.
- **Patients and carers:** Experience the process end to end and expect safe, efficient, and equitable access.
- **Health service administrators and Information Technology (IT) teams:** Enable systems, governance, and interoperability to support clinical workflows.

What this section covers

This section steps through four core workflows that represent critical stages of the imaging journey:

- **Workflow 1A, Image Acquisition and Interpretation, Medical Imaging Technologists:** From the receipt of the referral and patient preparation through protocol execution, image capture and first-pass quality assurance, concluding with hand-off for interpretation.
- **Workflow 1B, Image Acquisition and Interpretation, Radiologists:** Reviewing priors and clinical context, interpreting studies (including sub-speciality workflows), generating a report, and communicating results.
- **Workflow 2A, Image Request and Delivery of Care, Healthcare providers who require direct access to images:** Results distribution and clinical care use from healthcare providers that require direct access to images to provide care within their scope.

- **Workflow 2B, Image Request and Delivery of Care, Healthcare providers who mainly use the reports of prior studies but may require support from the images themselves:** Results distribution and clinical use of imaging information from healthcare providers to support care within their scope.

Each workflow is paired with a visual representation that highlights key pain points - such as discoverability, authentication, retrieval, and usability - and maps them against the desired future-state experience. This format enables clear traceability from stakeholder needs to system requirements and sets the foundation for the strategic opportunities outlined in the next section.

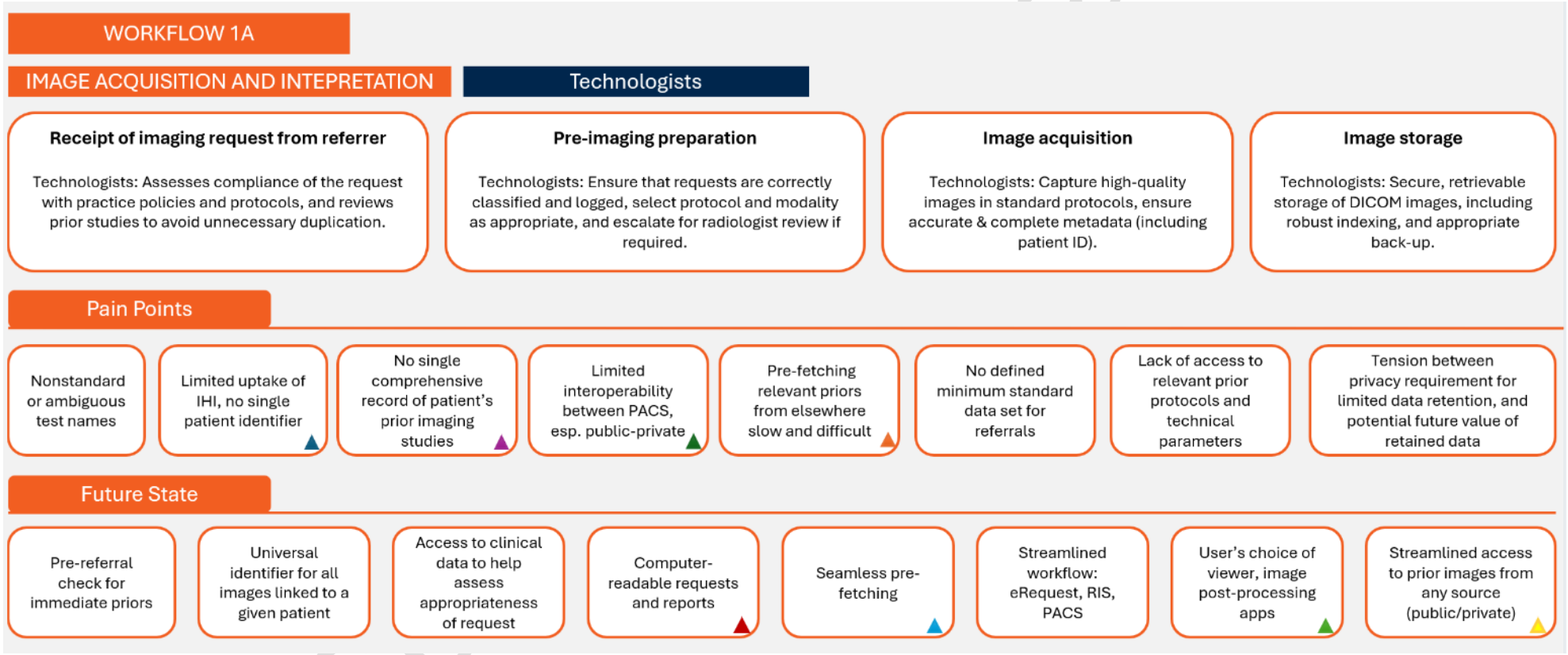
Evidence base and methodology

The workflows presented are derived from the landscape analysis and targeted consultations. They were validated through two virtual co-design sessions and one national in-person workshop. While not exhaustive of every real-world variation, the workflows serve to illustrate common challenges and expectations. Future-state pathways are dynamic and may not align perfectly step-by-step; the visuals prioritise clarity and usability over exhaustive representation.

The visuals are designed to spotlight key pain points at each step - particularly discoverability, authentication and authorisation, retrieval and viewing usability, and the operational/clinical impacts that flow from these issues - paired with a succinct description of the future experience users expect.

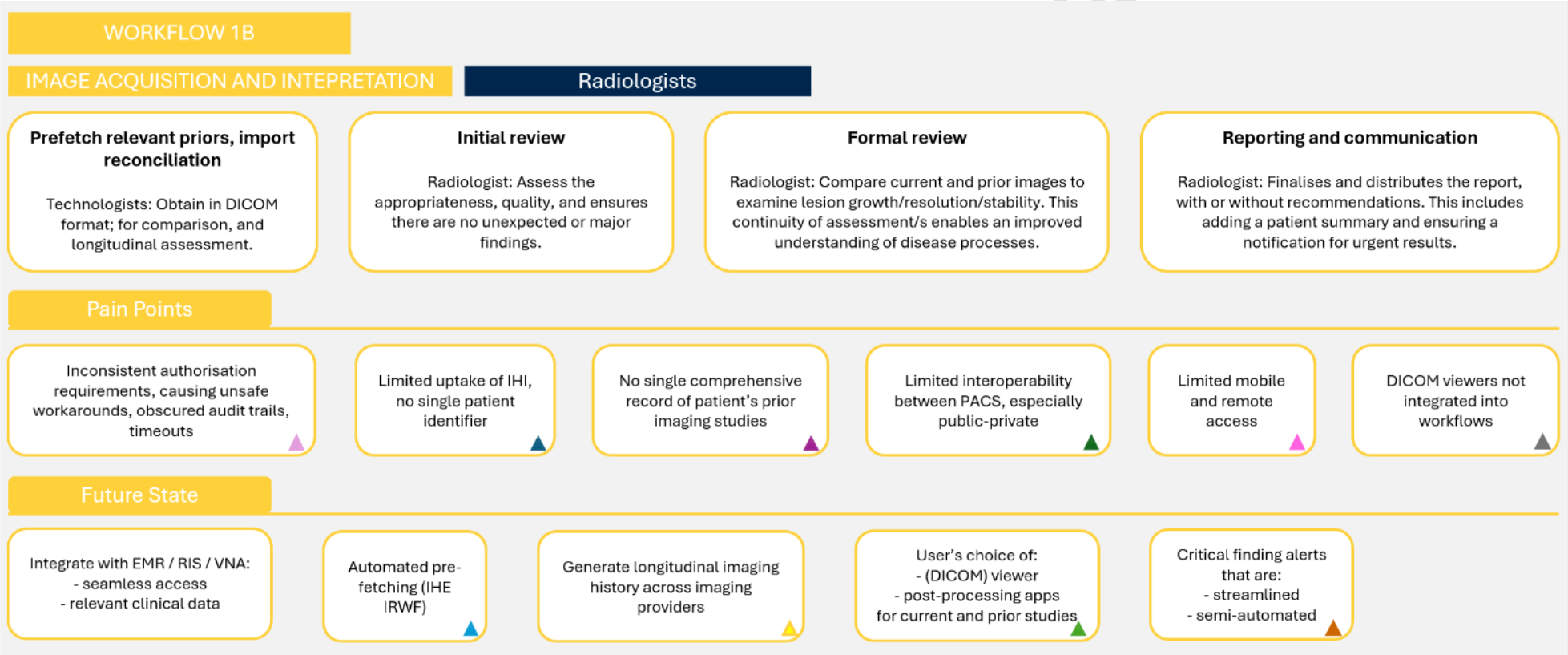
5.1 Workflow 1A: Image Acquisition and Interpretation: Medical Imaging Technologists

Medical imaging technologists (Technologists) are central to the imaging workflow. Their work begins with reviewing referrals, preparing patients, selecting protocols, and acquiring high-quality images. This relies on accurate referral information, effective scheduling, and proper patient preparation. Once images are captured, technologists ensure they are stored and transferred correctly, enabling radiologists to interpret efficiently and return timely reports that support clinical decision-making.



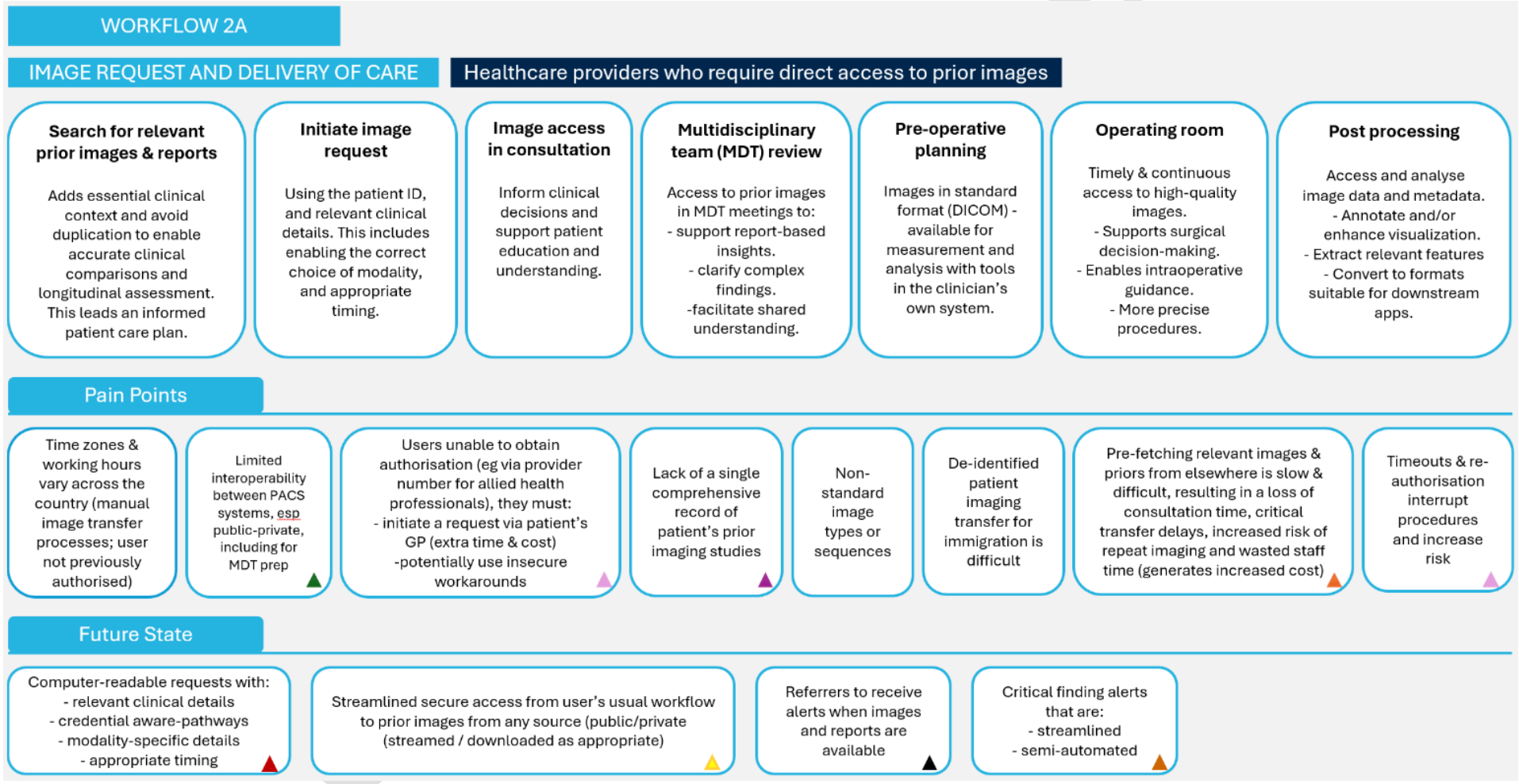
5.2 Workflow 1B: Image Acquisition and Interpretation: Radiologists

Radiologists interpret medical images to provide diagnostic insights that guide patient care. Their work depends on high-quality image acquisition and access to complete clinical data. By reviewing prior studies and analysing current findings, they generate structured reports that deliver actionable information to clinicians, informing treatment decisions and supporting continuity of care.



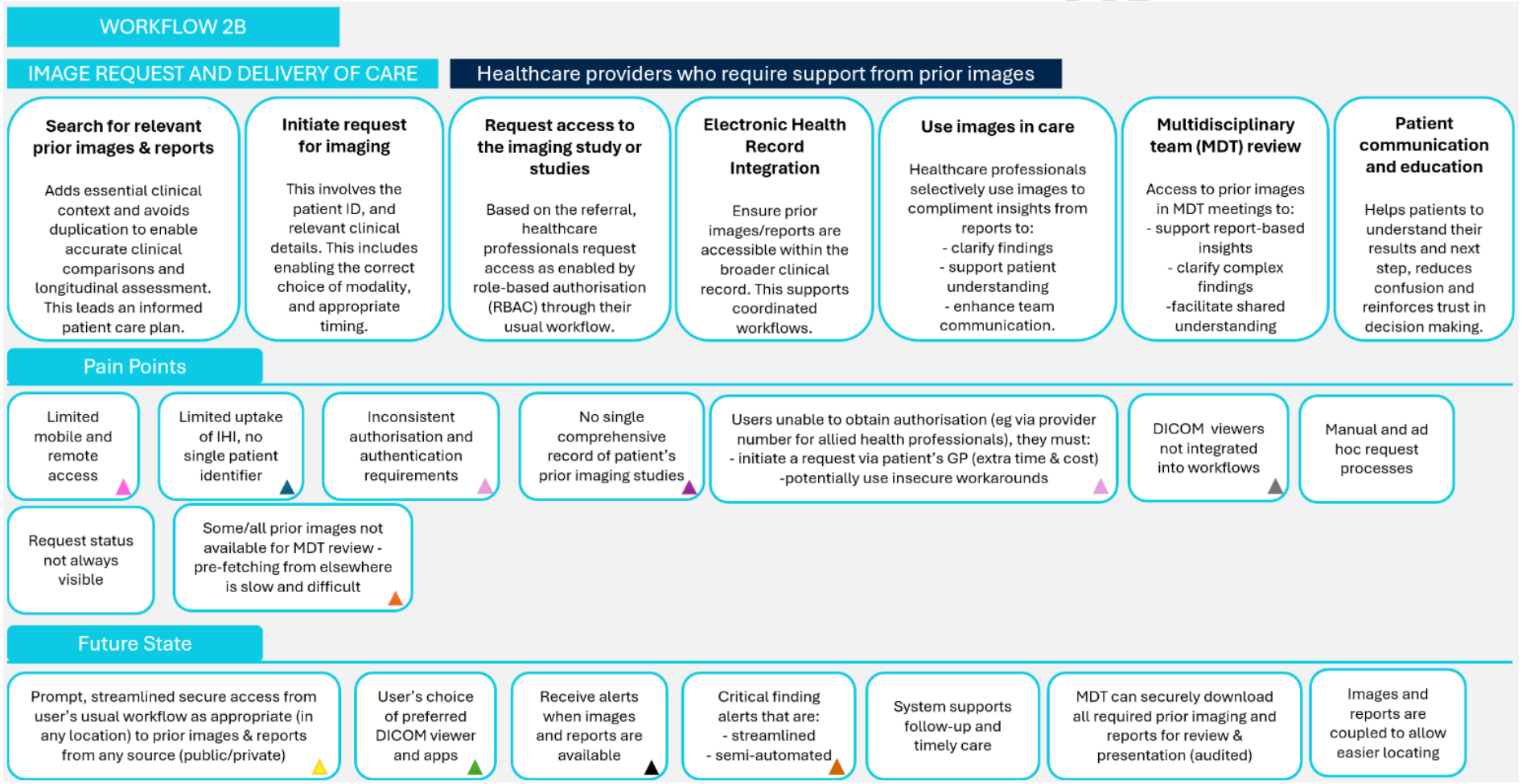
5.3 Workflow 2A: Image Request and Delivery of Care: Healthcare Providers Requiring Direct Access to Prior Images

Healthcare providers such as surgeons directly access imaging to support diagnosis, plan interventions, and guide treatment. Their effectiveness depends on timely radiology reports and interoperable systems for seamless access to prior and current images. By interpreting imaging in the clinical context, they make informed care decisions, coordinate follow-up, and facilitate referrals to other specialists.



5.4 Workflow 2B: Image Request and Delivery of Care: Healthcare Providers Who Mainly Use the Reports of Prior Studies but May Require Support from the Images Themselves

Healthcare providers such as GPs, care coordinators, and allied health professionals rely on imaging reports to support care planning and team coordination. Their role depends on accessible, well-communicated reports and the availability of prior images when deeper review is needed. By aligning treatment plans with imaging findings, they enhance care coordination, support patient education, and enable shared decision-making.

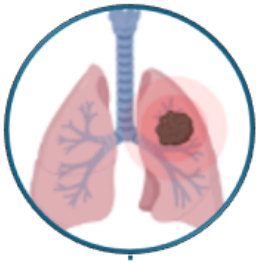


5.5 Representative future state journey 1

A participant of the National Lung Cancer Screening Program (NLCSP) receives a low-dose CT scan to screen for lung cancer. Ongoing longitudinal imaging is required to enable comparative analysis of nodule development over time.

The participant undertakes lung cancer screening close to their place of work. A low-moderate risk solid nodule is identified. The participant is advised to book a follow up low-dose CT scan in 6 months.

The participant schedules the most convenient location for their follow up visit in 6 months and sees a different imaging provider close to home. The radiologist queries Health Connect to locate previous DICOM images and comparatively analyse nodule development.



The nodule has grown and is classified as high risk as per the NLCSP Nodule Management Protocol.

The participant is referred to a respiratory physician or other relevant specialist linked to a lung cancer multidisciplinary team for investigation and management outside of the program.

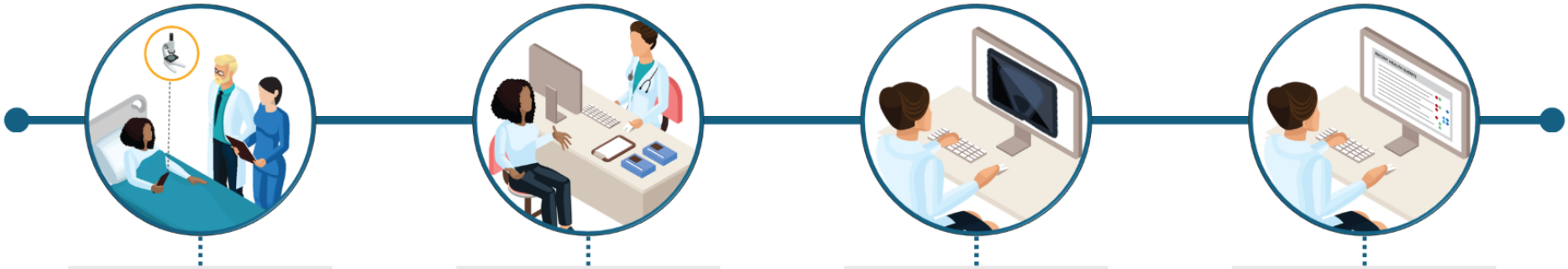
The MDT coordinator queries Health Connect to obtain access to all relevant images and reports, enabling comparative analysis for all MDT members prior to and during the meeting.

Lung cancer is confirmed, and the participant exits the screening program and referred onto a Radiation Oncologist as part of their treatment

Previous DICOM images are acquired for radiotherapy planning.

5.6 Representative future state journey 2

A consumer has early breast cancer diagnosis and will undergo a lumpectomy. The breast surgeon can view diagnostic imaging for the duration of the surgery and review longitudinal imaging for comparative analysis.



The consumer detects a lump in the breast and completes both a mammogram and biopsy. The lump is cancerous, and the consumer is scheduled to have the tumor removed.

The consumer arrives for her surgical appointment. The breast surgeon queries Health Connect to find previous diagnostic images and reviews recent biopsy results.

The surgeon loads the consumer's recent mammogram to their imaging system so it can be viewed for the entire duration of the surgery.

6-months later, the consumer completes a mammogram to monitor for signs of recurrence. The radiologist queries Health Connect for all relevant imaging for comparative analysis.

6. STRATEGIC OPPORTUNITIES

This section outlines strategic, vendor-agnostic opportunities to improve access to prior diagnostic imaging across Australia. These opportunities draw on insights from the landscape analysis, sector survey, and targeted consultations, as well as two virtual co-design sessions and one national in-person workshop. They are designed to guide implementation independently of specific vendor products or local deployment models.

During consultations, HCA architecture was presented as a reference model to test feasibility and fit-for-purpose design (noting HCA extends beyond imaging). Unlike a centralised repository, a federated model links provider PACS/Vendor Neutral Archives (VNAs) through common services for identity, directory, discovery and policy. This enables secure, standards-based exchange while keeping data with the custodian.

Key benefits of a federated national image-sharing exchange include:

- Interoperability without central storage (DICOMweb, IHE profiles, HL7 FHIR).
- Enhanced privacy, security and auditability by keeping data near source with consistent access controls.
- Jurisdictional autonomy and resilience, supporting staged, low-risk adoption across settings.
- Network effects as participation grows, increasing clinical utility system-wide.

The recommendations included in this section, address long-standing fragmentation and inconsistent access to priors by connecting all imaging providers through a secure, standards-aligned exchange. These recommendations are grouped into two categories:

Foundational enablers - identity and identifiers

1A. Make the IHI the universal patient identifier to consistently link imaging records

1B. Establish a national identity and authentication framework for prior image access:

Image-access specific requirements:

2A. Single access point: Unified search and discovery of prior imaging

2B. Meeting the clinical need: Flexible access that supports secure download and image viewing

2C. Establish and Sustain Support for Reciprocal Participation: Foster Comprehensive Nationwide Exchange

The tables below detail each recommendation and include the following information:

- **Opportunity:** States a high-level goal or initiative for improving image access.
- **Description:** Provides context and background, explaining the current state and the opportunity for improvement.
- **Pain points addressed:** Lists the specific problems or inefficiencies the opportunity aims to resolve.
- **Architectural requirements:** Breaks down how different components of digital health architecture can support realisation of the opportunity and details the technical enablers.
- **Other prerequisites:** Highlights additional conditions or dependencies that should be in place for successful implementation.
- **Stakeholder source:** Identifies where the opportunity originated and who has endorsed or prioritised it.

Foundational Enabler 1A - Make the IHI the universal patient identifier to consistently link imaging records

Description

Australia already has a unique IHI issued for every individual who has a Medicare card or DVA card, is enrolled in Medicare, or by application. Healthcare identifiers allow matching of patient records, and this improves accuracy when health information is shared between health care providers. The IHI is supported by the Healthcare Identifiers Service and used by applications such as MHR.

However, the uptake and consistent use of IHI in imaging workflows varies significantly across jurisdictions and health providers. Many providers continue to rely on local Medical Record Numbers (MRNs) as the primary identifier on imaging records, which creates challenges for interoperability and on-demand image exchange. Other providers are unsure whether the IHI can be stored within the image metadata alongside other identifiers.

Opportunity exists to consistently use the IHI across all imaging workflows and systems to discover prior images, while enabling real-time translation between MRNs and IHI to ensure that all jurisdictions can participate in this ecosystem.

Pain point addressed

- **IHI capture and use is inconsistent** with reliance on MRNs which drives manual reconciliation, errors and inequity.
- **Duplicate imaging and records as priors are not searchable** by a consistent patient identifier, which in turn contribute to workflow inefficiencies.
- **Data fragmentation** across PACS, EMRs, RIS and other platforms creating burdensome administration tasks to manually locate prior imaging.
- **Equity gaps** as smaller providers struggle to have seamless discovery and cannot resource to effectively cover manual reconciliation.

Architectural requirements

Several components of the HCA architecture - including the Common Services Layer (CSL), Health Information Sharing Layer (HISL), and Health Service Delivery and User Interface Layer - are highly applicable to enabling this opportunity, provided they are strategically integrated and operationalised during implementation in alignment with national digital health standards.

Common Services Layer
These capabilities form the foundation for secure, standards-based interoperability across systems and can be leveraged through the following components:

- **Identifier translation:** Supports real-time conversion between local MRNs and national patient identifiers (e.g., IHI), enabling on-demand discovery of prior imaging.
- **Policy enforcement:** Offers a centralised policy engine for validating provider–patient relationships using IHI,

Health Information Sharing Layer
This layer supports unified discovery and secure retrieval of imaging data across diverse digital health systems, enabling connected care through the following components:

- **Directory integration:** Connects CSL and national provider/service directories to support scalable exchange.
- **Legacy system support:** Utilise edge adapters to map local identifiers (e.g., DICOM Patient ID) to IHI and facilitate the use of FHIR for cross-system discovery.

Health Service Delivery and User Interface Layer
This layer ensures clinical applications can present relevant access and consent controls at the point of care through the following components:

- **Consent "in-flow":** Clinical applications surface consent prompts, emergency access (break-glass) and disclosures, while relying on CSL for decisions and HISL for audited access.

Foundational Enabler 1A - Make the IHI the universal patient identifier to consistently link imaging records	
	HPI-I, and HPI-O, adaptable across multiple legislative and policy frameworks. • **Embedded consent controls:** Integrates consent, purpose-of-use, and auditing directly into clinical workflows, ensuring consistent application of privacy and access rules. • **MHR interoperability:** Enables linking between diagnostic imaging reports stored in MHR and image repositories held by custodians, using HISL patterns to discover, link, and launch retrieval workflows.
Other prerequisites	• **Legislation harmonisation** across jurisdictions, and jurisdictional work to enable IHI alongside MRNs during transition. • **On-demand prior search:** UI calls HISL discovery using IHI; where only MRN is available, the app invokes CSL IHI lookup first, then queries for priors. • **Adapters for PACS/VNA:** Gateways populate/validate IHI from MRN and issuer, ensuring FHIR/DICOM metadata (e.g. Imaging Study, Patient ID) carry the correct identifiers for cross-system search. • **Provider/service context:** Discovery and access are constrained to valid HPI-I/HPI-O relationships via CSL policy and HISL directory resolution.
Stakeholder source	This strategic opportunity was raised in all three Image Access Project Workshops, prioritised by clinical end-users, imaging technologists and vendor and industry stakeholders.

Foundational Enabler 1B - Establish a national identity and authentication framework for prior image access:	
Description	Establish a nationally consistent, secure, and scalable identity and access framework that enables clinicians and provider staff to seamlessly discover and access prior diagnostic imaging across systems, jurisdictions, and care contexts, ensuring privacy compliance and clinical appropriateness. Core components of this will be standardised authorisation and authentication. Stakeholders supported the implementation of access control such as Role Based Access Control (RBAC), and authentication such as Single-Sign On (SSO) to ensure that all users of this system have clear authorisation and access control to access prior images.

Foundational Enabler 1B - Establish a national identity and authentication framework for prior image access:		
Pain point addressed	• **User friction from log on complexity:** Multiple sign ins and session timeouts interrupt clinical workflow. • **Auditability gaps:** non-attributed access decisions and fragmented policy logs. • **Time to locate priors is unpredictable:** clinicians cannot easily log onto their systems or lack the permissions to locate priors smoothly, delaying decisions in acute care. • **Large administrative overhead** with manual provisioning and reconciliation.	• **No harmonised legislation:** Misalignment between Commonwealth and state/territory privacy laws complicates implementation. • **Lack of standardised approach:** Undefined national consent model with the absence of a standard approach to consent and purpose-of-use encoding. • **No structured change control:** Policy updates lack impact assessment and stakeholder oversight. • **Security risks:** inconsistent access rules, or over-exposure of imaging data.
Architectural requirements	The CSL of HCA Architecture may be relevant to supporting this opportunity, provided these components are appropriately leveraged during implementation. **Standardised authorisation:** • **Access policies catalogue:** Single, published set of access permissions applied uniformly across EMR/RIS/PACS, and viewers. • **Access policies enforcement implementation:** Maps clinical roles to minimum required permissions, reducing over exposure and improving auditability. Consider accounting for clinicians who work across multiple roles, in different institutions. • **Context-aware access:** Permissions adapt based on clinical context (emergency care relationships), supporting consent and purpose-of-use encoding. • **Policy infrastructure:** standardised policy decision points (PDP) and policy enforcement points (PEP) ensure consistent rule application across systems.	**Federated authentication:** • **SSO:** Enables clinicians to access multiple systems with one trusted identity, reducing login friction and session interruptions. • **Federated identity management:** Leverages national identity services (HPI-I/HPI-O/AHPRA) to establish trust across jurisdictions and providers. • **Unified audit trail:** End-to-end visibility of access events, improves accountability and support safety reviews.
Other prerequisites	• **Legislation harmonisation:** Align with Commonwealth and state/territory laws to remove ambiguity and facilitate interoperability. • **Consent models definitions:** Establish default care-relationship logic and consent workflows.	• **Governance:** Set up a change-control group with clinical, privacy, and safety leads to manage policy updates. • **Infrastructure re-use:** Build on lessons from MODI, PRODA, and Provider Connect to create a reuseable identity and access components.

Foundational Enabler 1B - Establish a national identity and authentication framework for prior image access:	
Stakeholder source	Lessons from MODI and PRODA highlight the need for hardened, scalable identity and access services that protect provider-shared data. This opportunity was frequently highlighted in all three workshops and across consultations, particularly by clinicians who frequently struggle with multiple logins and providers who are concerned about privacy and consent.

Image Access Specific Requirement 2A - Single Access Point: Unified Search and Discovery of Prior Imaging	
Description	**Establish a single access point** that enables clinicians to locate a patient's prior imaging, regardless of where it was captured or stored, this may be a single registry or a federation of these. This access point would enable users to search using patient identifier (e.g. IHI) and standardised exam identifiers/terminology standards (Radiology Referral Set) to identify prior images, reports and clinical context that exist in EMR, RIS, PACS, and national repositories to support real-time, cross-jurisdictional discovery.
Pain point addressed	• **Fragmented access pathways:** Clinicians currently navigate multiple systems to locate prior imaging, leading to delays and missed information. • **Delayed access to prior imaging:** Especially in acute care and time-critical scenarios, delays in accessing historical imaging can impact clinical decisions. • **Duplication of imaging:** When prior images can't be found, unnecessary repeat imaging occurs, increasing cost and patient exposure to radiation. • **Lack of metadata visibility:** Without indexed metadata, clinicians can't filter or prioritise relevant images efficiently. • **Inconsistent patient matching:** Without national identity constructs, cross-system discovery is unreliable, requiring patient matching algorithms. • **Inconsistent study identification:** without the use of standardised terminology by use of the structured RRS there will continue to be inconsistency with study identification when searching for prior imaging • **Equity gaps** as smaller providers struggle to have seamless discovery and cannot resource to effectively cover manual reconciliation.
Architectural requirements	Several components of the HCA architecture - including the CSL, HISL, and Health Service Delivery and User Interface Layer - are highly applicable to enabling this opportunity, provided they are strategically integrated and operationalised during implementation in alignment with national digital health standards.

Image Access Specific Requirement 2A - Single Access Point: Unified Search and Discovery of Prior Imaging			
	Common Services Layer These capabilities form the foundation for secure, standards-based interoperability across systems and can be leveraged through the following components: • **Patient identity and matching:** Accurate patient matching requires consistent use of national identifiers (IHI, HPI-I/O). • **Study identification and matching:** Utilise standardised terminology (Radiology Referral Set) to efficiently and reliably identify and retrieve relevant prior studies within a patient's history. • **Consent management:** Incorporates consent consistent with how consent is managed at a national level. • **Metadata and standards:** Imaging metadata must be indexed and searchable using standards like FHIR ImagingStudy and DICOM UID.	**Health Information Sharing Layer** This layer supports unified discovery and secure retrieval of imaging data across diverse digital health systems, enabling connected care through the following components: • **Record Locator Service:** Enables querying across disparate PACS/VNAs systems without centralised storage. • **National metadata registry:** Indexes imaging metadata to support targeted search/pre-fetching of images, linked to national identifiers (IHI, HPI-I/O), endpoint (PCA) and standard terminology (RRS). • **Discovery architecture:** Decisions must be made between federated, centralised, or hybrid indexing models (e.g. QIDOS-RS, ITI-18, FHIR search)	**Health Service Delivery and User Interface Layer** This layer ensures clinical applications can present relevant access and consent controls at the point of care through the following components: • Pre-fetch relevant priors based on clinical context and to support Clinical Decision Support (CDS) where appropriate.
Other prerequisites	• **System participation:** Recommendation 2C *Establish and Sustain Support for Reciprocal Participation: Foster Comprehensive Nationwide Exchange.* Higher participation amongst all stakeholders ensures comprehensive coverage.		• **Legislation and governance:** Requires harmonisation of Commonwealth and state laws, and establishment of a governance group to ensure pragmatic implementation and change management. Including consideration for: ○ Data retention and archiving including duration of storage and access to archive ○ Offshore access to discovery for teleradiology

Image Access Specific Requirement 2A - Single Access Point: Unified Search and Discovery of Prior Imaging	
Stakeholder source	This strategic opportunity was raised in all three Image Access Project Workshops, prioritised by clinical end-users, imaging technologists and vendor and industry stakeholders. This strategic opportunity was also positively discussed with regards to the components of HCA, participants in the workshops noting how these could be leveraged in image access solutions.

Image Access Specific Requirement 2B- Meeting the Clinical need: Flexible access that supports secure download and image viewing	
Description	**Enable clinicians to view, download, and analyse images and associated metadata using their preferred tools and viewer types**, including native PACS viewers, zero-footprint viewers, and mobile-compatible platforms. **Enable secure download** tailored to use cases, with audit trails embedded. Download is needed to support advance image applications. This capability is essential to supporting image comparison, and diverse clinical workflows from emergency care to MDT preparation, and ensures access is secure, consent-aware, and auditable.
Pain point addressed	• **Viewer incompatibility:** Clinicians are often restricted to unfamiliar or limited viewers, reducing their ability to utilise the images. • **Workflow disruption:** Multiple logins and viewer transitions interrupt clinical workflow and reduce efficiency. • **Limited download options:** Lack of flexible download capabilities hinders MDT meeting preparation, offline access, advanced image manipulation, and comparison reporting. • **Gaps in patient-centred care:** This occurs when clinicians cannot access longitudinal images for comparison and continuity. This limits effective monitoring of disease progression and treatment response, especially in oncology and chronic conditions. • **Security and privacy risks:** Inconsistent access controls and lack of consent orchestration expose sensitive data.

Image Access Specific Requirement 2B- Meeting the Clinical need: Flexible access that supports secure download and image viewing	
Architectural requirements	Several components of the HCA architecture - including the CSL, HISL, and Health Service Delivery and User Interface Layer - are highly applicable to enabling this opportunity, provided they are strategically integrated and operationalised during implementation in alignment with national digital health standards. **Common Services Layer** These capabilities form the foundation for secure, standards-based interoperability across systems and can be leveraged through the following components: • **SSO and federated identity** so a clinician's authenticated session flows across viewers and repositories under consistent authorisation policies, as envisaged by HCA's common security/access capabilities. • **Integrates consent and privacy-aware controls:** This is part of HCA's common security/authorisation controls and Australian privacy/HI regulatory settings. Viewing and download must respect patient preferences and consent models. • **Audit trails:** All access and manipulation actions must be logged and linked to user identity and role. • **Legislative alignment:** Requires harmonisation of privacy laws to support cross-border image sharing. **Health Information Sharing Layer** This layer supports unified discovery and secure retrieval of imaging data across diverse digital health systems, enabling connected care through the following components: • **Metadata integrity:** Downloaded images must retain metadata for clinical context and auditability. • **Standards implementation:** Prefer open profiles/standards (IHE XDS-I for cross-enterprise discovery, DICOMweb for REST retrieval, FHIR for clinical indexing and links) to minimise bespoke integration and to align with HCA's standards-driven approach. **Health Service Delivery and User Interface Layer** This layer ensures clinical applications can present relevant access and consent controls at the point of care through the following components: • **Interoperable viewer/retrieve layer** supporting native viewer, zero-footprint viewers, and mobile compatible platforms, and enables manipulation functions. • **Download and export controls** to enable secure download options tailored to use-cases, with metadata and audit trails embedded in exported files. • **Viewer compatibility:** Must support native viewers, zero-footprint viewers and mobile platforms to meet diverse clinical needs.
Other prerequisites	• **Auditability:** Requires consistent, comprehensive audit trails to ensure traceability of user access, including who accessed what information, when, and why. Currently there are gaps in auditability and often logs are fragmented.
Stakeholder source	This strategic opportunity was raised in all three Image Access Project Workshops, prioritised by referrers.

Image Access Specific Requirement 2C –Establish and Sustain Support for Reciprocal Participation: Foster Comprehensive Nationwide Exchange	
Description	This opportunity will only be realised if the sector's prerequisites, outlined earlier in this section, are successfully addressed. The project also relies on a reciprocal participation model, meaning that stakeholders will not only request prior images, but also actively share their own imaging data. A nationwide image exchange depends on comprehensive participation that makes the network valuable and practical for providers and clinicians. Such participation requires providers to implement core interoperability and security capabilities that underpin the exchange. Further focused support for the sector is needed to promote widespread adoption and lessen any unnecessary load on participants. Recent advancements in digital health have primed the sector for change and will provide the catalyst needed to enable comprehensive nationwide exchange. Support for capabilities required include: • Publish and consume discovery endpoints and support retrieval using endorsed standards. • Bind exchanges to national identifiers and enforce access policies and consent through centralised authentication and authorisation models. • Maintain tamper-evident audit logs for all access events. These requirements are not standalone, rather they enable the broader goals of the strategy: flexible image access, unified search, unified authentication and authorisation and universal unique patient identification. The types of support that may be required by providers and clinicians include: • Clear guidance • Easy technical tools • Workflow support through standard operation procedures and quick reference guides • Training and communication • Consideration for funding of technical support for all providers • Initial implementation support to reach effective participation rates • Ongoing support, with clear escalation paths By addressing these enablers first, the exchange can deliver immediate utility, encourage voluntary adoption and create a network effect where each new participant delivers greater benefits for the entire health system.
Pain point addressed	• **Coverage gaps and inequity:** Higher (ideally universal) participation is required for national coverage, which will enable clinicians to reliably access priors across settings. • **Fragmentation and vendor lock-in:** Consistent obligations and procedures (discovery, retrieve, audit) reduce bespoke links and accelerate standards adoption (DICOMweb/IHE, FHIR ImagingStudy). • **Clinical delays and duplicate imaging:** Comprehensive discovery of priors across providers reduces repeat scans and time-to-decision for emergency, stroke, trauma, oncology and perioperative care. • **Image sharing obligation inconsistencies across jurisdictions and health care settings:** A national image-sharing exchange can bypass issues faced within and across jurisdictions and providers when sharing images.

Image Access Specific Requirement 2C –Establish and Sustain Support for Reciprocal Participation: Foster Comprehensive Nationwide Exchange	
Architectural requirements	Several components of the HCA architecture - including the CSL, HISL, and Health Service Delivery and User Interface Layer - are highly applicable to enabling this opportunity, provided they are strategically integrated and operationalised during implementation, in alignment with national digital health standards. **Common Services Layer** These capabilities form the foundation for secure, standards-based interoperability across systems and can be leveraged through the following components: • **Meta-data security (provider-vs-provider) and access governance:** Establish nationally consistent rules for metadata discovery, including RBAC and purpose-of-use filtering. Metadata exposure is minimised or segmented where competitive sensitivity exists. Governance is enforced via CSL policies, privacy frameworks, and access controls. • **Audit and compliance monitoring:** Implement Audit Trail and Node Authentication (ATNA)-style audit trails across all system participants (e.g. viewer, registry, repository), supported by centralised or federated audit repositories. Ensure uniform breach detection and response protocols to uphold national compliance standards. **Health Information Sharing Layer** This layer supports unified discovery and secure retrieval of imaging data across diverse digital health systems, enabling connected care through the following components: • **Metadata scoping and access controls:** Enforce consent-based access control at the discovery layer to ensure that queries return only metadata permitted by the care relationship and purpose-of-use. This safeguards privacy while supporting clinically relevant data access. • **Onboarding enablement for smaller providers:** Provide standard adapters/gateways and implementation guides (e.g. Agency developer toolkits, HI Service integration) to bridge legacy RIS/PACS to FHIR/DICOMweb/IHE profiles. This should include software and implementation support with consideration of regional and rural infrastructure and bandwidth limitations. **Health Service Delivery and User Interface Layer** This layer ensures clinical applications can present relevant access and consent controls at the point of care through the following components: • **Clinician-friendly access with SSO:** SSO/federated identity ensures clinicians can launch viewing/downloading workflows across systems without repeated logins, reducing friction while preserving policy enforcement from CSL/HISL. • **Operational support and training:** Use Agency provider resources and local enablement to embed new workflows (e.g. discovery of priors, consent prompts) directly in clinical systems, with clear escalation paths.

Image Access Specific Requirement 2C –Establish and Sustain Support for Reciprocal Participation: Foster Comprehensive Nationwide Exchange	
	• **Privacy and legal guardrails for identifiers and metadata:** Ensure that use of IHI, Healthcare Provider Identifiers - Individual (HPI-I) and Organisation (HPI-O) complies with permitted purposes under the Healthcare Identifiers Act and Privacy Act. Embed Office of the Australian Information Commissioner (OAIC) guidance into CSL policies to uphold privacy-by-design principles.
Other prerequisites	• **Conformance and accreditation:** Require conformance to be tested to relevant profiles and use recognised testing venues and tools before participation in the exchange. • **Incident response and breach notification:** Align exchange participants to consistent privacy and breach handling obligations (OAIC, HI Act), mapped to ATNA audit signals and monitored centrally. • **Implementation support** for all providers—public or private, big or small to reduce barriers to participation • **Inter-jurisdictional governance:** Establish a multi-jurisdictional and multidisciplinary governance group (clinical, privacy, legal) to harmonise state/territory and Commonwealth settings, with change control through HCA governance. • **Network incentives and policy levers:** Use program levers (funding, procurement conditions, conformance requirements) to accelerate voluntary participation, while maintaining a comprehensive model.
Stakeholder source	This strategic opportunity was raised in all three Image Access Project Workshops, prioritised by clinical end-users, imaging technologists and vendor and industry stakeholders.

7. POTENTIAL RISKS AND CONSIDERATIONS

The successful implementation of national image access initiatives depends not only on technical capability but on the ability to navigate a complex landscape of systemic and operational risks. Through an extensive landscape analysis and three stakeholder workshops, recurring challenges were identified that cut across jurisdictions and care settings, stakeholder groups, and domains.

These risks are not isolated issues - they are foundational concerns that can stall progress, erode stakeholder confidence, and compromise the integrity of any solution. They reflect structural and behavioural dynamics within the health system, including change fatigue, legislative uncertainty, and uneven readiness across providers and jurisdictions.

This section synthesises the most frequently cited risks and blockers, highlighting their strategic implications and outlining practical mitigation strategies for consideration. These insights are critical to ensuring that national image access reforms are not only technically sound but also socially, operationally, and politically sustainable.

Each subsection follows a common pattern:

- **Description:** Of the risk and where it shows up in practice.
- **Implications:** For clinical care, operations, privacy/security and trust.
- **Mitigations:** That can be actioned through policy, governance, technical enablement and change management.

The risks are grouped into two categories:

1. **General risks:** This category explores risks that are systemic, cross-cutting challenges that affect the broader implementation of national image access initiatives. They are not tied to any technical feature of the user workflow, but reflect foundational issues across jurisdictions, stakeholder groups, and domains. These general risks include:

- 7.1: Change Fatigue
- 7.2: Policy and Legislative Uncertainty
- 7.3: Digital Maturity Gaps
- 7.4: Consumer Trust

2. **Image Access Specific Risks:** These risks are comparatively more narrowly scoped and are tied to particular technical, operational or implementation aspects of image access. They may emerge in the context of particular use cases, workflows, or stakeholder groups. These image access specific risks include:

- 7.5 Resourcing Risk
- 7.6 Workflow Disruption
- 7.7 Incomplete Participation
- 7.8 Challenges in Sustaining Progress

7.1 Change fatigue amongst healthcare staff, participants and providers

Repeated waves of reform, digital system updates, and changing regulatory requirements are putting significant strain on healthcare professionals. Change weariness, which occurs when doctors and staff feel overburdened, alienated, or resistant to implementing new methods, is an inevitable consequence of the ongoing state of change. Healthcare personnel often experience disorientation and burnout as a result of the cumulative effect of recurrent cycles of change initiatives, particularly when these cycles are unfocused or overlap, as is the case in some jurisdictions like Victoria. Without effective messaging and harmonious communication, people are more likely to view reforms as burdensome than helpful, which will lower their willingness to interact positively with new systems.

Implications	Mitigations
• **Risk to clinical care:** May jeopardise patient outcomes by increasing the likelihood of workflow errors, delays, or retesting because of unfamiliar systems. • **Operations:** Increased disengagement, burnout, and worse employee morale, as well as more frequent turnover and resistance to digital change. • **Trust and Security:** Inadequate communication of the benefits and customised support can erode employee and customer trust. This can lower adoption rates, particularly during crucial early rollout phases.	• **All-inclusive, phased change management:** Include "digital sherpas" for phased onboarding, committed clinical champions, and real-time support. • **Training and resources:** Interactive, role-specific, modular training that prioritises workflow-relevant skills and can be adjusted to busy rosters. • **Stakeholder mapping:** To map change advocates in each clinical community and customise interaction. • **Feedback systems:** Constant monitoring such as surveys to spot problems early, modify training and change plans accordingly. • **Proactive alignment:** Between national and local initiatives, with centralised communication plans to reduce duplication/confusion

7.2 Policy and legislation uncertainty

Consultations indicate that there is a current lack of consistent interpretation of legislative requirements among stakeholders, with incomplete understanding of current and emerging legal frameworks governing medical image access, privacy, consent, and data sharing. This gap creates uncertainty and risk in implementing interoperable imaging solutions across clinical, technical, and policy domains.

Implications	Mitigations
• **High level of compliance risk:** Misinterpretation of privacy and consent laws could lead to breaches, legal penalties, or reputational damage. • **Uncertainty around data-sharing:** Providers may be unclear about their legal rights or obligations to participate, particularly where Commonwealth and state legislation diverge, resulting in reluctance to invest. • **Decreased stakeholder confidence:** Lack of clarity fosters fear and reluctance among clinicians, IT teams, and policy makers, reducing engagement and trust. Decisions on whether to participate will ultimately be made by management with clinical, operational and financial considerations in mind. • **Increasing fragmentation:** Inconsistent interpretations across jurisdictions or organisations can lead to non-standardised practices, undermining interoperability goals.	• **Harmonisation of federal and state legislation:** Work with government stakeholders to align privacy and data-sharing laws across jurisdictions. • **Consent model standardisation:** Define and communicate a nationally consistent consent model, including default care relationships, consent workflows, and emergency access provisions. • **Education and engagement:** Develop tailored materials for clinicians, vendors, administrators and policymakers that explain relevant legislation, privacy principles and consent models. • **Centralised legal guidance:** Establish a national legal reference group or advisory panel to provide consistent interpretation of privacy and consent laws. • **Integration with existing frameworks:** Leverage existing programs such as MHR, Share by Default (SBD), Provider Connect and HCA to demonstrate precedent and build trust.

7.3 Digital maturity gaps decrease effectiveness of image access solutions

Time is required to implement new digital health initiatives, particularly those involving complex policy reform and technical standardisation. National standards such as FHIR are foundational to interoperability, but often evolve incrementally, which can create misalignment between jurisdictions, as well as between practice setting types, at different stages of readiness. Misalignments could be worse in regional and rural areas.
Moreover, the nature of Australia's healthcare system means that each jurisdiction operates under its own governance structures, priorities and procurement processes. This adds a layer of negotiation and coordination that can delay consensus and implementation. For example, aligning on data governance, privacy protocols, and infrastructure investment requires sustained collaboration across departments, agencies, and vendors.

Implications	Mitigations
• **Increased jurisdictional misalignment:** Differences in readiness, priorities, and governance structures across states and territories can lead to inconsistent implementation and fragmented service delivery. • **Vendor and policy disconnect:** Vendors may develop solutions that align with one jurisdiction's requirements, but not others, creating inefficiencies and requiring costly rework to meet national standards. • **Lost clinical integration opportunities:** Misaligned rollouts can prevent seamless integration of digital tools into clinical workflows, reducing their utility and uptake by health professionals.	• **Early jurisdictional engagement:** Initiate dialogue with jurisdictions early to understand local timelines, priorities, and constraints. This enables coordinated planning and reduces surprises during implementation. • **Technical assistance and capacity building:** Offer tailored support to navigate standards (e.g., FHIR), integration challenges, and change management processes. • **Policy harmonisation:** Align policies across jurisdictions to reduce duplication, streamline governance, and support consistent implementation of privacy and consent frameworks. • **Jurisdictional working group or steering committee:** Establish a formal governance mechanism to oversee coordination, resolve issues, and ensure alignment across jurisdictions and vendors, towards shared outcomes. • **Vendor engagement protocols:** Create national guidelines for vendor engagement to ensure solutions are interoperable, standards-compliant, and adaptable to jurisdictional needs. • **Monitoring and evaluation mechanisms:** Build in regular review points to assess programs, identify misalignment early, and adjust plans as needed to stay on track.

7.4 Consumer mistrust may stall progress

Inability to acquire consumer trust inhibits willingness to participate and reduces the value of image sharing solutions if consumers opt out of sharing their relevant health data. Ongoing system reforms and new digital touchpoints can leave health consumers feeling overwhelmed, sceptical, or excluded. Without deliberate design for trust, equity, and usability, change fatigue can reduce adoption, increase complaints, and inadvertently worsen health outcomes.

Implications	Mitigations
• **Trust erosion and privacy anxiety:** High profile cyber incidents and unclear data flows can impact (and have previously impacted) consumer confidence. • **Consent confusion and control fatigue:** Consumers struggle to understand consent types, sharing scopes, and how to change consent preferences across providers and jurisdictions.	• **Publish plain English guidelines:** Highlight where images/metadata flow, who can access them, and why, leading with transparent designs, and clear outlines of the privacy aspects. • **Provide options for consumer visible access logs** and alerts for unusual activity, to protect consumer privacy and empower consumers.

7.5 Resourcing risks pose challenges, particularly for smaller providers

Stakeholders generally agree that the most important factor in determining the success of a national image access reform is consistent, predictable, and appropriately indexed resourcing. Feedback from all workshops and meetings consistently highlighted the type and scale of funding needed, particularly from representatives of regional and smaller providers.

The problem is complex and includes not only the purchase of new infrastructure (like viewers, gateways, and shared services), but also continuous funding for technical integration, privacy and security controls, user assistance, and most importantly, the thorough change management required to guarantee adoption after the initial launch.

In particular, smaller and rural providers cited a serious risk of not having sufficient resources for continuing maintenance and system improvements. Various stakeholders from different settings voiced concerns about bearing the costs of participation, particularly in situations where margins are narrow and the incentives for nationwide involvement are not entirely clear. Sources of support for ongoing changes, as systems develop were also of concern. A one-size-fits-all approach to resource allocation is not feasible in our environment. There is a general recognition that adequate resourcing over time is essential to prevent fragmented image access, ensure system reliability, and ensure continued provider participation.

Implications	Mitigations
• **Clinical care:** Whole cohorts of doctors and patients could be left with incomplete, or inconsistent functionality if sustained resourcing is not available; duplication and fragmented image access would persist. • **Operations:** Critical gaps in the medical system are caused by smaller suppliers dropping out, or postponing upgrades. These reduce system-wide efficiency and decrease subsequent audit performances. • **System confidence:** When resource availability becomes inconsistent, providers are less inclined to join, the private sector is deterred from investing, and public trust in the reform is weakened.	• **Recognise the ongoing need for funding streams** that are linked to adoption, equity, and provider satisfaction metrics in addition to technical milestones. • **Create risk-based resource** stratification by recognising the gaps in current systems

7.6 Unintended workflow disruption

Image sharing reform will change everyday workflows, and radiology services are likely to experience transitional friction and initial cost pressures. These impacts arise from changed workflows, clearer obligations around data provenance and retention, and possible shifts in the distribution of work between providers and referrers. Proactive planning can minimise productivity dips, safeguard clinical quality, and minimise avoidable operating cost growth during the transition.

Implications	Mitigations
• **Short term workflow friction:** Increases in workload due to system transitions or additional steps required for compliance such as metadata tagging or audit logging. Additionally, changes in workflow may affect clinical workflows, such as MDT preparation, requiring adaptation and retraining. • **Distribution and retention obligations:** Providers may face increased costs associated with longer-term image retention, infrastructure upgrades and compliance with new sharing protocols, particularly if these are not offset by funding or reimbursement changes.	• **Phased implementation:** Allow teams to adapt at their own pace. Provide clear transition timelines, pilot programs and co-design support. • **Funding and incentive alignment:** Any new obligations must be matched with appropriate funding, particularly for smaller providers. • **Governance for metadata and access controls:** Establish clear governance around metadata visibility, access permissions, and auditability to address concerns about competitive disadvantage or data misuse.

7.7 Incomplete participation risks diminished utility

For a national imaging exchange to deliver meaningful clinical value, broad participation from providers is essential. Without this, the system risks fragmentation, incomplete coverage, and diminished utility for clinicians and patients. Integration is not solely a technical challenge - it also encompasses commercial, operational, and security dimensions that must be addressed through deliberate policy, governance, and support mechanisms.

Implications	Mitigations
• **Integration complexity and vendor cooperation:** PACS vendors may resist integration due to proprietary formats, commercial interests or competitive concerns. Legacy systems and lack of standardisation could further complicate interoperability, risking delays and fragmented implementation. • **Coverage gaps and clinical risk**: Incomplete participation could result in duplicate imaging, delayed diagnoses, and inconsistent access to prior imaging. This would undermine continuity of care and increases costs and patient risk. • **Governance, access control and competitive equity:** Without clear governance, providers may fear competitive disadvantage or misuse of shared data. There must be robust access controls and audit trails, and equitable data-sharing rules, to ensure providers can 'give' and 'take' imaging data securely and fairly. • **Security and privacy risks:** Centralised or federated access to imaging data introduces cybersecurity risks. PACS systems must comply with national privacy laws, ensure secure transmission and storage, and protect against unauthorised access or data breaches. Risks vary with the level of metadata shared, and the security of the system with which this data is shared. • **Operational and cost burden for smaller providers:** Smaller imaging providers may lack the technical capability or financial resources to meet interoperability requirements, risking exclusion and creating inequities in access and participation.	• **Early and ongoing vendor engagement:** Engage PACS vendors and providers from the outset to co-design integration pathways, address proprietary concerns, and align commercial incentives. Include vendors in governance forums to foster trust and transparency. • **Technical enablement and support:** Provide middleware solutions, cloud-based integration platforms, and technical assistance to smaller providers. These reduce barriers and ensures equitable participation. • **National standards and certification:** Develop and enforce nationally endorsed interoperability standards, including data formats, Application Programming Interface (APIs), and security protocols. Certification processes should validate compliance and promote trust. • **Security and privacy frameworks:** Implement robust cyber security standards, including encryption, identity management, and audit logging. Ensure compliance with national privacy legislation and establish clear breach response protocols. • **Governance and equitable access controls:** Establish a governance framework that defines data-sharing rules, minimum requirements, access permissions, and dispute resolution mechanisms. Ensure providers retain control over their data while enabling secure, reciprocal access

7.8 Challenges in attracting policy support

The most cited risk in Workshop 3 is the potential for changes in government, leadership or policy direction. Such transitions could result in a shift in priorities, deprioritising or delaying the focus on image access initiatives. This risk is particularly acute in large-scale, sector wide projects that require sustained commitment and alignment across federal, state and territory governments, as well as the private sector.

Implications	Mitigations
• **Loss of strategic focus and policy support:** New governments or leadership teams may shift priorities, resulting in reduced attention to, or funding for, image access reforms. This may necessitate renewed engagement with policy advisors and funding bodies to re-secure support and validate the strategic case for reform. • **Disruption of institutional memory:** Transitions in leadership or departmental staff can lead to loss of historical context, stakeholder relationships, and understanding of prior decisions. • **Delayed legislative or regulatory processes:** Policy changes or leadership turnover can stall legislative amendments or regulatory approvals needed to support interoperability, consent models or data-sharing frameworks. • **Reduced confidence across the sector:** Uncertainty about long-term government commitment may cause stakeholders (particularly vendors and providers) to hesitate in investing integration or system upgrades.	• **Cross-jurisdictional and bipartisan endorsement:** Broad-based support across political parties and jurisdictions insulates the initiative from electoral cycles and leadership changes. Position image access as a foundational health infrastructure priority. • **Dedicate regular check-ups** with stakeholders to maintain alignment with original objectives and the evolving landscape. • **Industry engagement and support:** Consult and codesign with industry to position for greatest chance of success • **Embedding within enduring national programs:** Align the strategy with long-term national initiatives such as HCA, the National Healthcare Interoperability Plan and the National Digital Health Strategy, ensuring continuity. • **Ongoing advocacy and sector mobilisation:** Continue engaging peak bodies, clinical leaders and industry groups to advocate for the initiative and reinforce its importance.

8. COST OF INACTION

All sector consultations and workshops have emphasised the growing systemic and human costs of inaction. Operational and IT staff are increasingly reporting significant time lost to inefficient and repetitive workarounds, such as retrieving physical media, handling faxes/emails, contacting other facilities, or reperforming scans when image transfer cannot be confirmed.

Without a reliable image sharing system, patients will likely face delays in clinical decision making and treatment, extended hospital stays, poorer outcomes, and unnecessary repeat scans, causing unnecessary radiation exposure. Inconsistent access to prior imaging will result in clinical decision making without the full clinical picture, heightening the risk of diagnostic errors. This poses significant risks in trauma settings, urgent clinical cases and oncology management.

These inefficiencies further undermine the return on investment on existing and prior IT infrastructure, diminishing the value of substantial digital health investments and threatening the success of broader digital transformation efforts. In the current era of heightened public and media scrutiny on national image sharing, the industry reputation of not delivering streamlined systems and subsequent risks to patient safety are further amplified.

The Agency is in the process of conducting a time and motion study to identify the impact of effort and cost caused by fragmented image access. The findings from this study will be incorporated into this document once it becomes available.

Implications	Mitigations
• **Clinical care:** Delays in care and fragmented data affect the quality of clinical decisions; patients are exposed to preventable harm. • **System cost:** Repetitive tasks, manual intervention, and ineffective procedures that ought to be phased out years ago take up time and money. Budget needs for maintenance accumulate, reducing the funds available for service expansion. • **Sector and workforce alignment:** As operational teams and frontline clinicians continue to face everyday inefficiencies, there is an increased need for sector advocacy and labour attrition.	• **Monitoring tools** that allow assessments of image retrieval time, duplicate imaging rates, and missed or delayed diagnoses due to image gaps, in efforts to improve processes. • **Use scenario-based cost-benefit** and risk-of-delay modelling in policy advocacy and business case justifications. • **Present image access reform as a crucial requirement for both safety and financial gain;** highlight the impacts on efficiency, patient safety, and reputational risk. • **Keep patient and clinical experiences central to advocacy and reporting,** ensuring their perspectives remain a priority. This will ensure the cost of inaction across financial, workflow and human dimensions are equally captured.

9. CONCLUSION

Australia currently has a pivotal opportunity to transform diagnostic image access and sharing nationwide. This report provides actionable recommendations aimed to remove longstanding barriers and deliver an interoperable, patient-centred imaging ecosystem - recommendations that have been consistently raised and validated by sector engagement and aligned with national digital health priorities.

The recommendations presented are the direct result of extensive engagement with clinicians, technologists, administrators, patients, and industry partners across the imaging sector. Through surveys, targeted consultations, and collaborative workshops, the sector has co-designed solution components that reflects real-world needs, challenges, and aspirations, while remaining grounded and feasible. This inclusive approach ensures that the opportunities identified are technically robust, practical, equitable, and responsive to those who deliver and receive care.

As this is a discovery phase, the report does not prescribe a single solution but rather sets out the critical opportunities and risks that must be addressed in the future design and implementation of a national image access environment. By thoughtfully addressing these opportunities - and proactively managing the risks - the sector can achieve a future where clinicians have immediate access to comprehensive imaging histories, reducing unnecessary repeat scans, minimising radiation exposure, and accelerating diagnosis and treatment. This will directly improve patient safety, reduce the risk of errors, and support better clinical outcomes, especially in time-critical scenarios such as trauma, cancer, and acute care.

A nationally consistent, secure, and seamless image access solution will also drive significant system-wide efficiencies, reducing duplication, streamlining workflows, and bringing cost savings. By embedding privacy, consent, and auditability at every step, the strategy will strengthen public trust and ensure that such reform does not come at the cost of patient rights, consent or safety.

The cost of inaction is high, and continued fragmentation will perpetuate delays, errors, and inequities in care, undermining both patient outcomes and the sustainability of the health system. By utilising the recommendations in this strategy and carrying forward the lessons and priorities that have surfaced through sector-wide engagement, Australia’s image sharing landscape can be significantly transformed, where every patient receives optimal care regardless of where they are. This is not just a technical reform - it is investment in safer, smarter, and more equitable healthcare.

10. CHANGES TO THIS DOCUMENT

The College may amend this document at any time and will ensure that future amendments comply with applicable law.

11. VERSION CONTROL

Version	Author	Reason/description of change	Date
V0.1		Draft for Image Access Working Group	31/10/2025
V0.2		Draft for JIAC and IAAC	14/11/2025
V.0.3		Draft for public consultation	21/11/2025

12. DOCUMENT OWNER

Document owner	Approved by
RANZCR Digital Health	Pending

13. ACKNOWLEDGEMENTS

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