NIIN
National Industry
Innovation Network

Health x Digital Transformation Report 2026 | 2027

AI x HEALTH | The Next Generation of Healthcare

NOVEMBER 2026

CISCO

Health <Transformation> Lab

Foreword

Artificial intelligence is changing what is possible, and doing so at extraordinary speed.

We are moving beyond systems that simply analyse information or answer questions. AI can increasingly reason, coordinate and act. In healthcare, that opens up remarkable opportunities: detecting disease earlier, helping clinicians make better decisions, improving how hospitals operate, and giving health professionals more time to do what matters most: care for people.

But there is a gap between what AI can do and what we are ready to do with it.

I see this constantly. We have extraordinary researchers, clinicians and innovators with ideas that could make a real difference. Too often, what holds them back isn't imagination or expertise. It's access to the right tools, the right data, secure infrastructure and environments where they can experiment safely.

That is a challenge we can solve.

It requires investment in trusted, sovereign AI infrastructure. It requires governance that enables responsible innovation rather than simply constraining it. And it requires us to connect the capabilities of industry, universities, government and healthcare in ways that make innovation easier to translate into practice.

This is why the National Industry Innovation Network and its Health Alliance matter.

This report demonstrates both the scale of the opportunity and what it will take to realise it. Importantly, it shows that NIIN is already putting many of these foundations in place, connecting remarkable capabilities and delivering practical innovation across the health ecosystem. We have made real progress, but there is so much more we can achieve together.

The opportunity is not simply to develop more AI applications. It is to build the foundations that allow our health systems to keep learning, improving and adapting as technology evolves.

Australia has the talent, the research capability and the ambition to help lead this transformation.

The next generation of healthcare will depend on what we choose to build together.



David Siroky
AI Chief Technology Officer,
Asia Pacific, Japan and Greater China, Cisco

Contents

Executive Summary

Introduction

01 The National Industry Innovation Network 8

From Innovation Network to Transformation Platform 8

An Engine for Health Innovation 9

An Integrated Network of Health Labs 10

Driving Momentum: Evolving from Vision to Impact 11

The Next Frontier: Extending the Platform Across the Asia Pacific 12

02 The AI x Health Opportunity 13

Understanding a Rapidly Changing AI Landscape 14

Conversion and Tectonic Shifts: From Prediction Towards Action 15

AI Across the Health Ecosystem 17

Building on the NIIN Health Alliance Impact Framework 20

The Adoption Gap: AI Capability is Advancing Faster than the Capacity of Health Systems to Adopt it 21

From Better AI to Better Health 24

03 AI x Health in Action 25

Case studies from across the NIIN Health Alliance

04 The NIIN AI x Health Platform 48

Priorities for the Next Phase 51

Building Australia's Capacity for Adaptive Systems 52

Executive Summary

AI X HEALTH | THE NEXT GENERATION OF HEALTHCARE

THE NEXT GENERATION OF HEALTHCARE IS TAKING SHAPE

Artificial intelligence is moving beyond predicting and generating information towards systems capable of reasoning, coordinating and acting. The possibilities for healthcare are expanding accordingly.

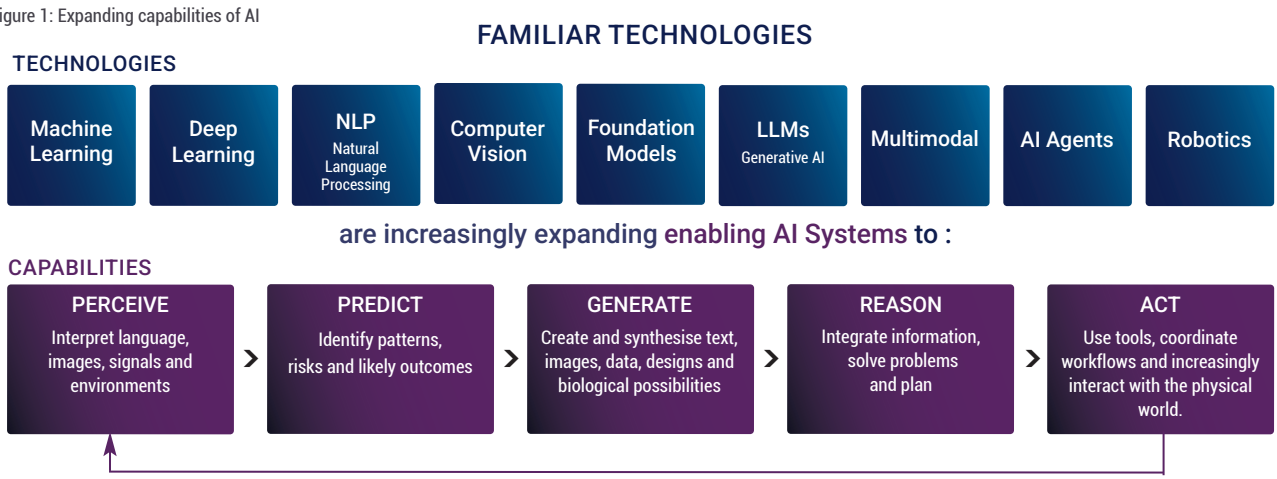
AI is entering a new phase. Advances in machine learning, generative AI, reasoning systems, connected sensing and robotics are converging, creating opportunities to transform how healthcare is discovered, delivered and organised.

These capabilities can accelerate scientific discovery, support more personalised care, improve health system operations and enable earlier intervention and prevention.

Across these domains, the potential impact is substantial: better patient outcomes, stronger health workforces and more intelligent built and digital infrastructure.

But technological possibility does not automatically translate into better healthcare.

Figure 1: Expanding capabilities of AI



These capabilities are increasingly combined and applied across health to accelerate discovery, enhance care, optimise operations and enable earlier, more personalised and preventive health.

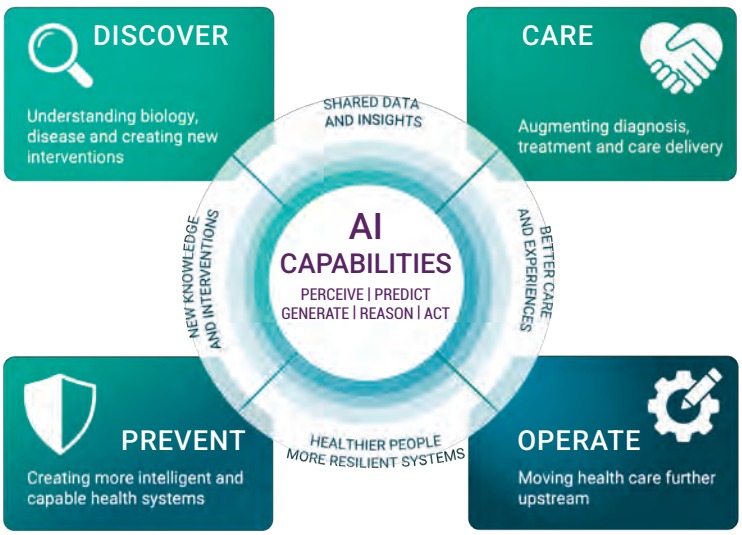


Figure 2: The Discover | Care | Operate | Prevent Model

CLOSING THE AI ADOPTION GAP

AI capability is advancing faster than the capacity of health systems to adopt it safely, effectively and at scale.

AI technologies can improve in months. Health systems require time to develop infrastructure, establish governance, integrate technologies into clinical workflows, generate evidence and build workforce capability.

The result is an emerging **AI Adoption Gap** between what technology makes possible and what health systems can responsibly adopt.

CLOSING THIS GAP REQUIRES SIX INTERCONNECTED CONDITIONS

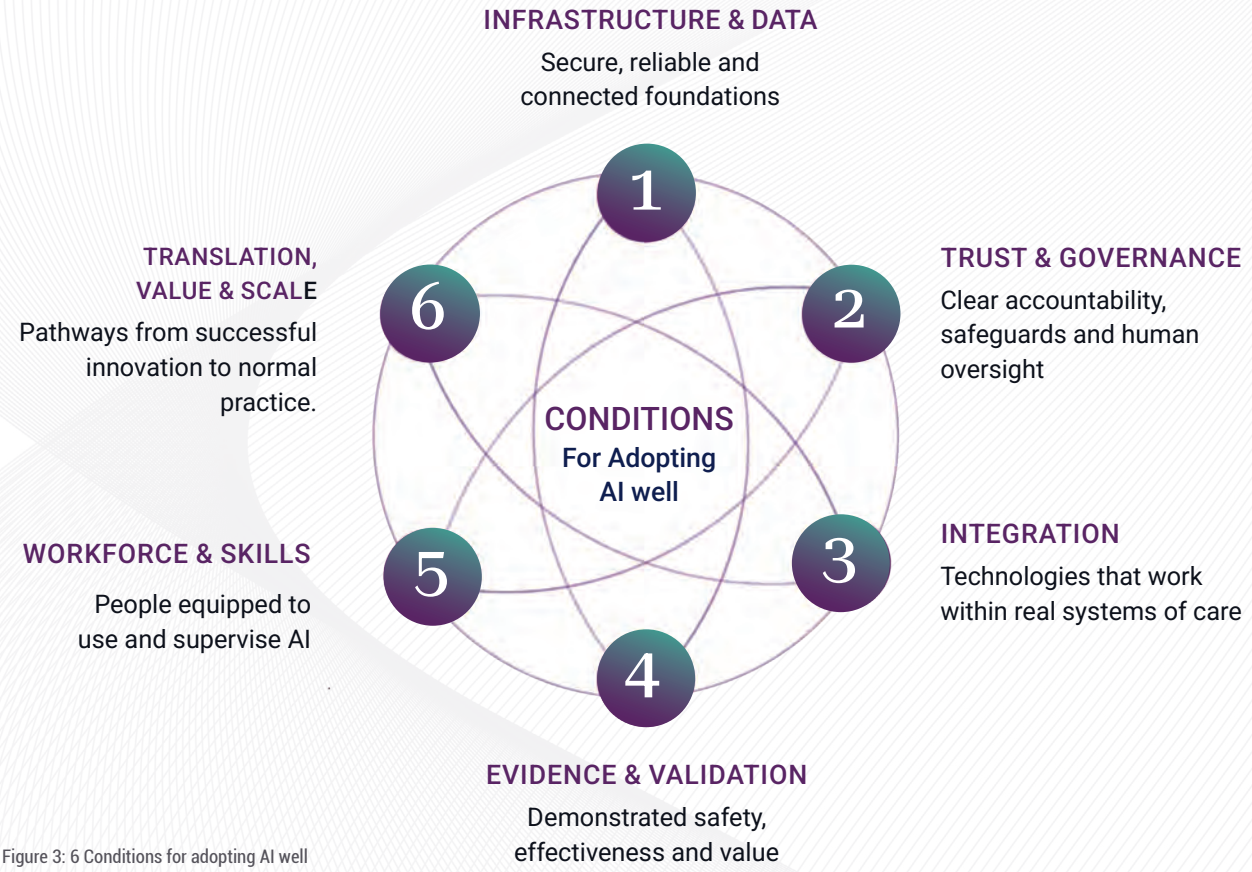


Figure 3: 6 Conditions for adopting AI well

The challenge is not simply to develop better AI, it is to build health systems capable of putting AI to work.

FROM AI ADOPTION TO ADAPTIVE HEALTH SYSTEM

The next frontier is not simply AI adoption. It is adaptation.

AI will continue to evolve. Health systems cannot respond through an endless succession of isolated technology projects.

They need the enduring capacity to recognise emerging opportunities, evaluate them critically, integrate what works, manage risks and continually improve.

This is the foundation of an adaptive health system

1 **BUILD TRUSTED FOUNDATIONS**
Secure infrastructure, connected data and responsible governance

2 **TEST AI IN REAL HEALTH SYSTEMS**
Co-design, experimentation and practical evaluation

3 **BUILD WORKFORCE CAPABILITY**
Skills, judgement and confidence to work effectively with AI

4 **TURN EXPERIMENTATION INTO SHARED LEARNING**
Connect evidence and experience across organisations and responsible governance

5 **ENSURE AI CREATES CAPACITY FOR BETTER CARE**
Demonstrate improvements in outcomes, access, workforce experience and health-system performance.

THE NIIN OPPORTUNITY

The NIIN is already building many of these foundations through its laboratories, innovation environments, partnerships and emerging initiatives such as the Sovereign AI Cloud and NIIN Skills Challenge.

The opportunity now is to connect these capabilities more deliberately, evolving from an innovation network towards a national platform for adaptive health-system transformation.

By enabling experimentation, building adoption capability and connecting learning across organisations, the NIIN Health Alliance can help Australia respond not only to today's AI technologies, but to successive generations of innovation.

The next generation of healthcare will be defined not simply by the technologies we adopt, but by our capacity to learn, adapt and transform together.

Introduction

THE NEXT FRONTIER IS ADOPTION

Artificial intelligence is advancing faster than health systems can absorb it. But we can change that.

AI is moving rapidly from specialised applications towards systems capable of generating, reasoning, coordinating and acting, while increasingly converging with connected devices, robotics, data infrastructure and intelligent environments. The possibilities for healthcare are expanding accordingly.

But technological capability does not automatically translate into better healthcare. The central challenge is increasingly one of adoption: where emerging technologies create genuine value, how they can be integrated into real care environments, what evidence and safeguards are required, and how workforces can use them effectively.

This creates an emerging AI Adoption Gap between what technology makes possible and what health systems are ready and able to adopt safely, effectively and at scale.

This report explores that gap and what will be required to close it. Building on the NIIN Health Alliance's previous Health x Digital Transformation reports, it moves from identifying technological trends towards understanding how health systems can learn, experiment and build the capacity to adopt emerging technologies well.

The next phase of health transformation will depend not only on better technology, but on the infrastructure, evidence, governance, skills, environments and collective learning needed to put that technology to work. More fundamentally, it will require health systems to develop the enduring capacity to evaluate, adopt and adapt as technologies continue to evolve. The NIIN Health Alliance is evolving around this opportunity: from a network that connects capability towards a national platform for collective learning and the development of more capable, adaptive health systems.

01 The National Industry Innovation Network

A NATIONAL PLATFORM FOR AI-ENABLED HEALTH TRANSFORMATION

From Innovation Network to Transformation Platform

The National Industry Innovation Network (NIIN), led by Cisco Systems, brings together industry, universities and government to apply digital technology to major economic and societal challenges.

What began as a network connecting capabilities is increasingly becoming a platform capable of mobilising them around shared challenges. Today, seven innovation centres, eight Research Chairs, five health-focused labs and specialised technology labs connect industry, health agencies, hospital operators, researchers and students across Australia.

The significance of this network lies not simply in the number of capabilities it contains, but in how they can work together. Complex challenges in health rarely sit within a single discipline, institution or technology.

They require research, technology, health-system insight, workforce capability and pathways to implementation to connect.

The NIIN provides infrastructure through which those connections can be made. It comprises multiple elements:

- **Research Chairs:** Bridge between academic research, curriculum, and industry needs to ensure innovation moves from theory into real-world application.
- **Innovation Centrals:** Network of centres focused on driving partnership value and project execution to develop innovative business solutions that create opportunities and disrupt industries.
- **Specialised Health Labs:** Subject-focused centres where researchers and industry co-design and pursue industry or technology specific goals.
- **Industry Alumni Program:** Harness the wealth of expertise amongst industry and business leaders to enhance university-led initiatives through technical direction, mentorship, and innovation.

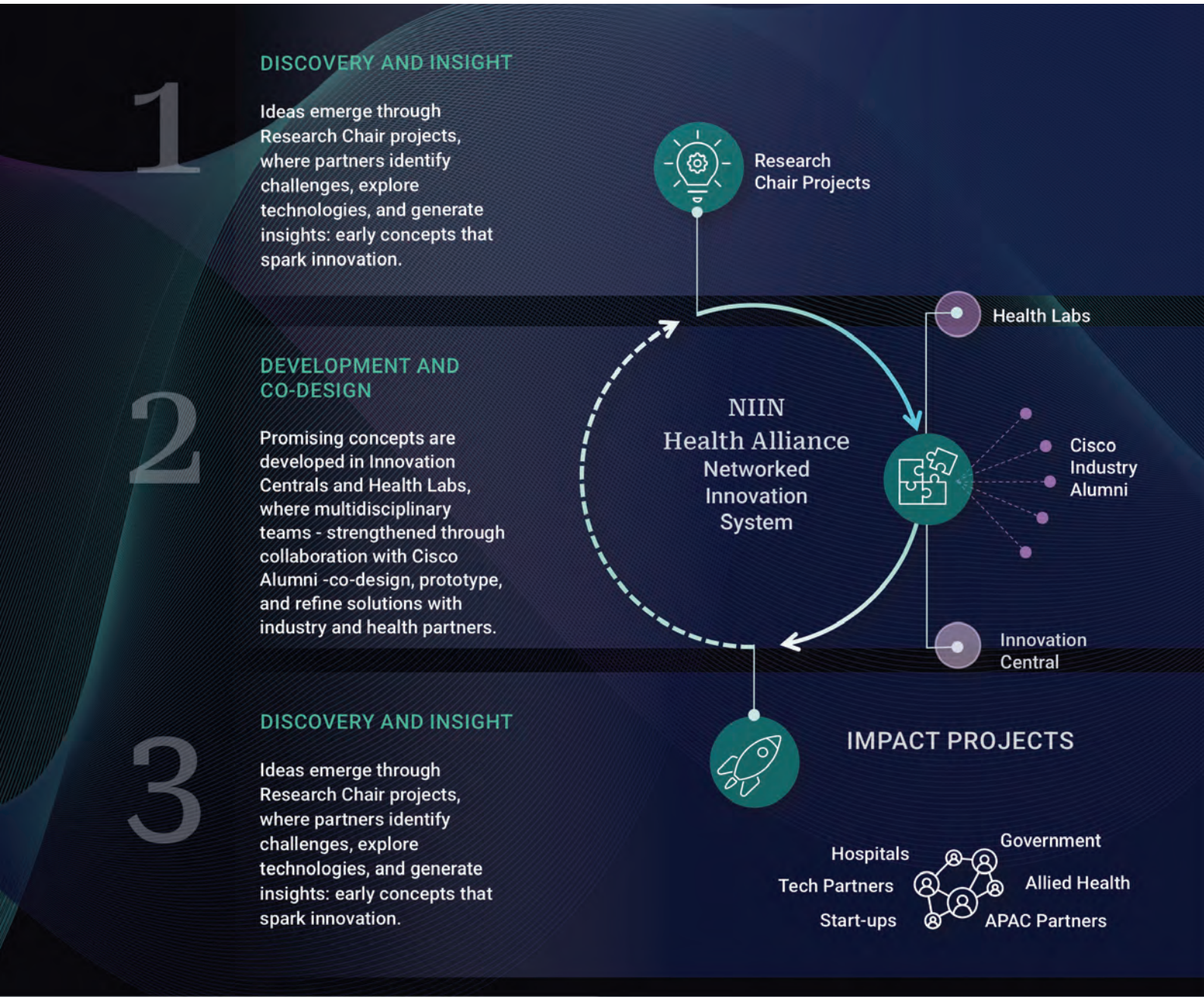


An Engine for Health Innovation

Health is the NIIN's first industry vertical. Through the NIIN Health Alliance, health-focused labs, Research Chairs and Innovation Centrals operate as a connected system spanning research, technology development, applied experimentation and translation.

The Alliance's university-industry laboratories are more than individual research centres. Together, they create environments in which ideas can be explored, technologies co-designed and tested, and innovations translated towards real-world application.

By combining complementary strengths, the Alliance creates a capability-rich ecosystem spanning the journey from concept towards care. This is an important NIIN differentiator: connected infrastructure through which emerging technologies can be tested, refined and understood in the contexts in which they will ultimately need to operate.



An Integrated Network of Health Labs

A DEEP DIVE INTO THE ALLIANCE'S POWERFUL - LINKED - INNOVATION ENVIRONMENTS

"What the NIIN brings together is not just one great professor or one interesting unit, but a full network."

Reg Johnson, Director, Education & Strategic Industries
Cisco Australia and New Zealand

The NIIN Health Alliance brings together a unique network of university-industry laboratories and Innovation Centrals, that operate as one integrated system. Much more than research centres, these labs are living environments where ideas are tested, technologies are translated, and innovations are scaled into practice. Together, they bridge discovery and delivery, linking research, industry, and clinical partners to accelerate change across the health ecosystem.

ACTION LAB MALAYSIA, MONASH UNIVERSITY Kuala Lumpur

A network of multidisciplinary researchers dedicated to community-driven health-focused digital innovation, inclusive health care access and data governance

DIGITAL IN HEALTH | ACTION RESEARCH | INCLUSIVE RESEARCH INFRASTRUCTURE

INNOVATION CENTRAL SINGAPORE, CURTIN UNIVERSITY Singapore

A world-class collaboration hub where clinicians, technologists, and researchers co-develop and trial next generation health solutions through translational research and prototype-ready innovation linking universities, industry and government

HEALTH RESEARCH | CYBER | COMPUTING | ENGINEERING

UNISC-CISCO DIGITAL HEALTH PRODUCTIVITY LAB Sunshine Coast

A user-centred design and evaluation environment where older adults, clinicians, and students co-create and trial digital-health solutions that enhance usability, accessibility, and productivity.

AGED CARE | WORKFORCE PRODUCTIVITY & TRANSFORMATION

FLINDERS-CISCO DIGITAL HEALTH DESIGN LAB Adelaide

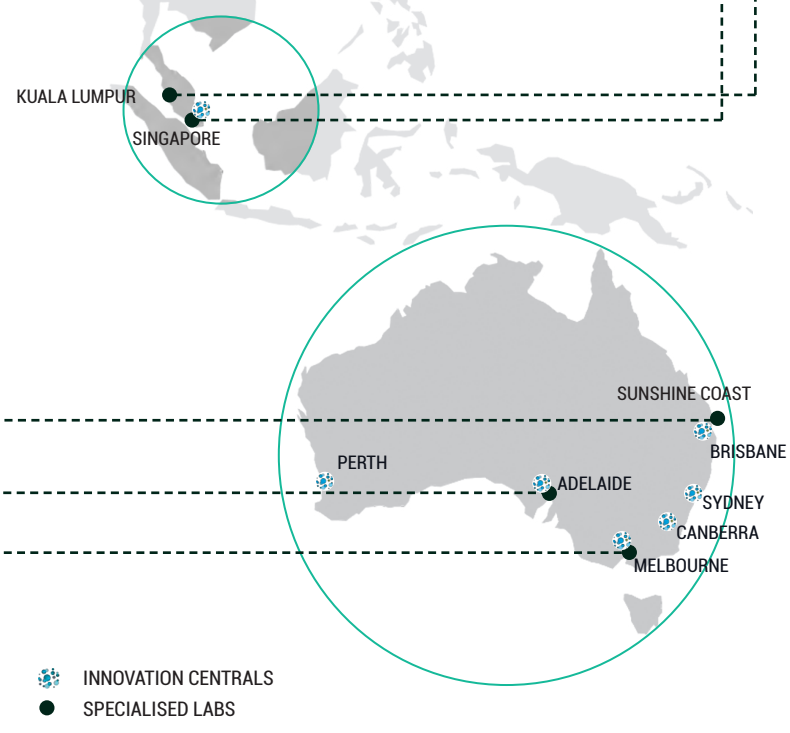
A national exemplar in translational digital hospital research, specialising in wireless, zero-trust cybersecurity, digital infrastructure readiness, alignment of patient and clinician experience.

INFRASTRUCTURE MATURITY | INFORMATION EXPERIENCE | SAFE WIRELESS | CYBERSECURITY

RMIT-CISCO HEALTH TRANSFORMATION LAB Melbourne

Australia's coordinating hub for the NIIN Health Alliance, driving prototyping, workforce skilling, and policy-linked research that bridges technology and care delivery.

USER-CENTRED DESIGN | WORKFORCE TRANSFORMATION | PUBLIC POLICY INTERFACE



Driving Momentum:

EVOLVING FROM VISION TO IMPACT

Digital technology is reshaping the possibilities for healthcare at unprecedented speed. Advances in artificial intelligence, connected systems, intelligent devices, robotics and data infrastructure are expanding what health systems can understand, predict and do. Realising this potential, however, depends on more than technological progress. Questions of trust, safety, ethics, security, workforce capability, integration and evidence will determine whether emerging capabilities translate into meaningful improvements in care.

For the NIIN Health Alliance, this creates an opportunity to evolve beyond connecting academic expertise, technological capability and health system insight. Its role is increasingly to help establish the conditions in which emerging technologies can be explored, evaluated and translated into practice, supporting health organisations to make informed decisions about their safe and responsible adoption.

Across the Alliance, applied projects and workforce initiatives are already building this capacity. These examples, explored in Section 03 and Section 04 of this report, demonstrate how emerging technologies can be examined in different care environments, revealing both their potential applications and the practical considerations that shape their value. Strengthening governance and coordination through mechanisms such as the Health Alliance Advisory Committee and NIIN Council provides an important foundation for connecting these activities and supporting shared priorities.

The next step is to build on this foundation by strengthening the Alliance's role as a national learning platform for health transformation. No single organisation can independently navigate the pace, complexity and system-wide implications of technological change. By enabling insights from experimentation to inform future decisions, and connecting learning across research, industry and healthcare settings, the Alliance can help accelerate understanding of what works, under what conditions, and what is required to implement and sustain effective solutions.

Ultimately, the measure of progress is not the volume of technology adopted, but the value it creates for patients, workforces and health systems. This means prioritising better patient outcomes, safer and more equitable care, stronger workforce capability and wellbeing, and more resilient health services. Emerging technologies should support these objectives while remaining fit for purpose, trusted by those who use them and responsive to the needs of the people and communities they serve.

> "Without this type of Alliance, the VVED evaluation, women's health navigation work and sepsis-risk analysis might have remained separate research or service-improvement activities."

University Partner,

NIIN Health Alliance Survey 2026

See Section 03 to explore Case Studies 01, 04 and 11.

The Next Frontier

EXTENDING THE PLATFORM ACROSS THE ASIA PACIFIC

The forces reshaping health systems in Australia are part of a broader and highly diverse regional transformation. Across the Asia Pacific, health systems are navigating rising noncommunicable disease, ageing and multi morbidity, workforce shortages, mental health needs, infectious disease, climate pressures and persistent inequities in access.

This diversity makes the Asia-Pacific not a single digital health market or pathway, but a set of distinct environments in which the possibilities and limitations of emerging technologies can be understood.

The opportunity for the NIIN Health Alliance is therefore not simply geographic expansion. It is to develop a connected regional platform for reciprocal learning, experimentation and shared capability.

This activity is already underway. Curtin University and Cisco have established an Innovation Central in Singapore, a NIIN Health Alliance presence has been established in Malaysia through Monash Malaysia.

Efforts are now underway to extend the NIIN Health Alliance's connectivity and presence across the broader Asia Pacific region, with emerging opportunities and relationships being explored in countries including Vietnam, India and Japan.

As these relationships deepen, technologies and approaches can be explored across different health-system contexts rather than assuming that solutions developed in one environment can simply be transferred to another. Evidence and learning can move in both directions: Australian experience can contribute to regional transformation, while different regional contexts can generate new insights into adoption, implementation and value.

This extends the Alliance from a national network of innovation activity towards a connected regional learning platform for responsible digital health transformation.



"The central challenge, in a sense, is how do we seize opportunity in the context of complexity?"

Professor Vishaal Kishore

Chair, NIIN Health Alliance Advisory Committee
Executive Chair, RMIT–Cisco Health Transformation Lab

02 The AI x Health Opportunity

AS AI CHANGES, THE POSSIBILITIES FOR HEALTH CHANGE WITH IT

Artificial intelligence has been part of the Health x Digital Transformation story from the beginning.

In our first report, the NIIN Health Alliance identified Augmented Intelligences as one of five Transformation Dimensions reshaping health. Our second report moved from identifying trends towards learning through action, highlighting AI and the rise of intelligent agents as one of the key directions emerging from work across the Alliance.

The landscape has continued to move quickly.

Machine learning and deep learning continue to power specialised applications in areas such as diagnostics, prediction and computer vision. At the same time, large language models and other foundation models have expanded the range of tasks that AI can perform. Models are increasingly multimodal, able to work across combinations of text, images, audio, signals and other forms of data. AI systems are also moving beyond producing predictions or content towards autonomous and agentic capability – including reasoning, planning, using tools and undertaking sequences of actions. Beyond the digital environment, advances in robotics, sensing and embodied intelligence are bringing AI increasingly into the physical world.

These developments are important individually. More significant, however, is their convergence.

AI is increasingly less a discrete technology than an enabling capability running through other areas of health transformation. It is being combined with digital twins and simulation, connected devices and remote care, robotics and smart environments, genomic and biological data, and the infrastructure through which modern health systems operate.

The question for health is therefore changing.

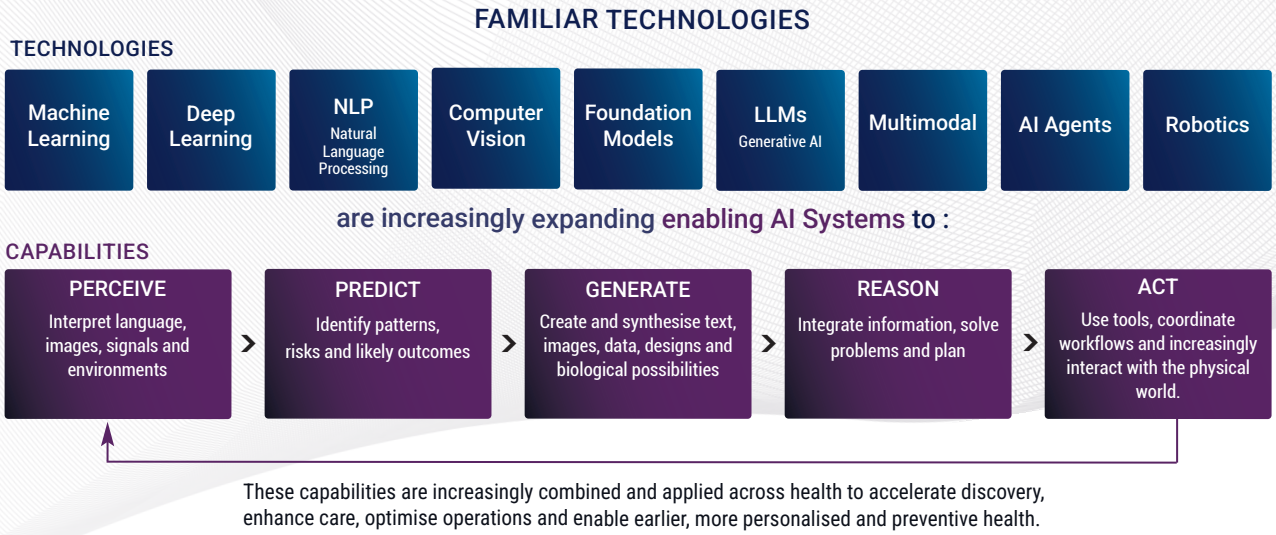
It is no longer simply 'where might we use AI?' but increasingly 'how can expanding AI capabilities underpin transformation across health, translating into better health outcomes, a more capable workforce and more intelligent and adaptable health systems?'

This shifts the focus from individual applications to the conditions that enable AI to work coherently across the systems in which care is delivered. In reality, interoperability, connected data, workflow integration, workforce capability and effective governance all become critical in reducing the friction between digital tools, organisations and existing ways of working. Which asks us, perhaps most crucially:

'What conditions are required for translation to occur safely, responsibly and at scale?'

> "What AI is unlocking is - access to every kind of PhD you want in your pocket."
>
> **David Siroky**
> AI Chief Technology Officer,
> Asia Pacific, Japan and Greater China, Cisco

Understanding the Rapidly Changing AI Landscape



NO LONGER ONE — NOW MANY

Artificial Intelligence is not a single technology. Nor has it ever really been.

The term encompasses a widening and increasingly interconnected collection of computational methods and systems. Some have been used in health for many years. Others are relatively new. Increasingly, they are being combined.

Machine learning and deep learning

Machine learning (ML) enables computer systems to identify patterns and make predictions from data without every decision rule being explicitly programmed. Deep learning, a subset of ML using multi-layered neural networks, has driven major advances in areas such as medical imaging, speech processing and biological analysis.

Natural language processing

Natural language processing (NLP) enables machines to analyse, interpret and generate human language. In health, it can help extract information from clinical records, structure unstructured data, summarise information and support communication.

Computer vision

Computer vision enables machines to interpret visual information. Applications range from radiology and pathology to monitoring physical environments, assisting procedures and interpreting signals captured through cameras and other imaging systems.

Generative AI, large language models and foundation models

Generative AI produces new content rather than simply classifying or predicting from existing information. Large language models, or LLMs, are perhaps its most visible expression. More broadly, foundation models are trained on large bodies of data and can be adapted to multiple downstream tasks rather than being designed for only one narrow application.

Health-specific foundation models are now emerging across areas including pathology, radiology, ophthalmology, genomics and biological science. Large multimodal models extend this capability further by accepting and combining different forms of input, such as text, images and other clinical data.

Multimodal AI

Health rarely presents itself in a single data type. A clinician may draw simultaneously on conversation, imaging, pathology, observations, physiological signals and longitudinal records. Multimodal AI seeks to integrate different forms of information in a similar way, creating the possibility of systems capable of developing richer representations of patients, biological processes and care environments.

Agentic AI

Most AI systems have traditionally waited to be asked a question or given a task. AI agents introduce greater agency. They can reason across multiple steps, access tools and information, formulate or follow plans and take actions towards defined objectives. Multiple agents can also work together, undertaking specialised roles within a larger task. This moves AI from being principally a source of analysis or advice towards becoming a potential participant in workflow and action.

The opportunity is significant. So too is the need for care. Current evidence for agentic AI in healthcare remains early. A 2026 scoping review found promising applications across clinical and operational tasks, but few rigorously validated real-world deployments.[5]

Physical AI

AI is also moving beyond the screen. Physical AI brings sensing, intelligence and action together in machines, devices and environments. It includes applications across robotics, autonomous and semi autonomous systems, intelligent medical devices, assistive technologies and smart care environments. Physical AI is not separate from the developments above. A robotic system, for example, may combine computer vision to perceive its surroundings, foundation models to interpret information, reasoning to determine an appropriate response and agentic capability to undertake action.

Conversion and Tectonic Shifts:

FROM PREDICTION TOWARDS ACTION

The technologies described above are increasingly converging. The result is a deeper shift: machines are acquiring increasingly interconnected capabilities to perceive, predict, generate, reason and act, extending AI from discrete tasks towards participation across entire systems.

Much of AI's established value in health has come from its ability to perceive and predict – critically, processing large volumes of information at speed. Algorithms identify abnormalities in images, detect patterns in complex datasets, classify disease, estimate risk and forecast demand. These applications remain important and continue to improve.

But the frontier is expanding.

Generative and foundation models allow AI to create and synthesise. Reasoning systems can work through increasingly complex problems. Agentic systems connect reasoning to action, using tools and undertaking sequences of work. Physical AI extends those capabilities into devices and environments.

These are not successive generations in which one form of AI replaces another. Predictive, generative, reasoning, agentic and physical capabilities will coexist, overlap and increasingly combine.

What changes is the range of roles that AI machines can perform.

AI Roles:

- **a tool:** undertaking a bounded analytical task;
- **an assistant:** helping people create, interpret or synthesise information;
- **a collaborator:** working interactively with people across more complex tasks;
- **an agent:** undertaking defined sequences of work with increasing independence; or
- **an embodied system:** perceiving and acting within the physical world.

The significance is not simply that AI can perform more tasks. It is that AI is moving progressively closer to decisions, workflows and actions that have consequences in the real world.

This matters particularly in health. An algorithm that flags an image for review creates a different set of consequences from an AI system that recommends a treatment pathway. An agent able to access systems, coordinate workflows or initiate actions introduces different questions again. A machine capable of physically interacting with patients or care environments raises the stakes further.

As AI moves closer to action, the question is no longer simply what AI can do. It is what authority AI should have, under what conditions, and with what safeguards.

The closer technology moves towards consequential decisions and actions, the more important evidence, accountability and meaningful human oversight become. The challenge is therefore to determine where AI should support human judgement, where it can augment or automate particular tasks, and where human agency and accountability must remain decisive. That principle should shape how health systems approach the next phase of AI adoption.

"Innovation is a function of systems. No matter how good, no matter how brilliant a component of that innovation system may be, it's just not going to fly if we don't do things together. Together or not at all."

Professor Vishaal Kishore

Chair, NIIN Health Alliance Advisory Committee
Executive Chair, RMIT–Cisco Health Transformation Lab

AI Across the Ecosystem

The expanding capability of AI creates opportunities across almost every part of health.

For this report, we organise those opportunities into our domains:

DISCOVER | CARE | OPERATE | PREVENT

These domains do not replace the Transformation Dimensions or Impact Domains developed in previous Health x Digital Transformation reports. Rather, they provide a simple way of mapping where AI can no be applied across the health ecosystem.

Together, they extend the field of view beyond the most visible applications of AI in clinical care.

> "When everybody says to me, Oh, it's very risky, I always say, 'So what is the counterfactual – what is the risk now?'... There is risk, big risk, now."

Professor Shelley Dolan
Chief Executive Officer, Royal Melbourne Hospital

THE DISCOVER | CARE | OPERATE | PREVENT MODEL

For complementary domains of AI opportunity across the health ecosystem

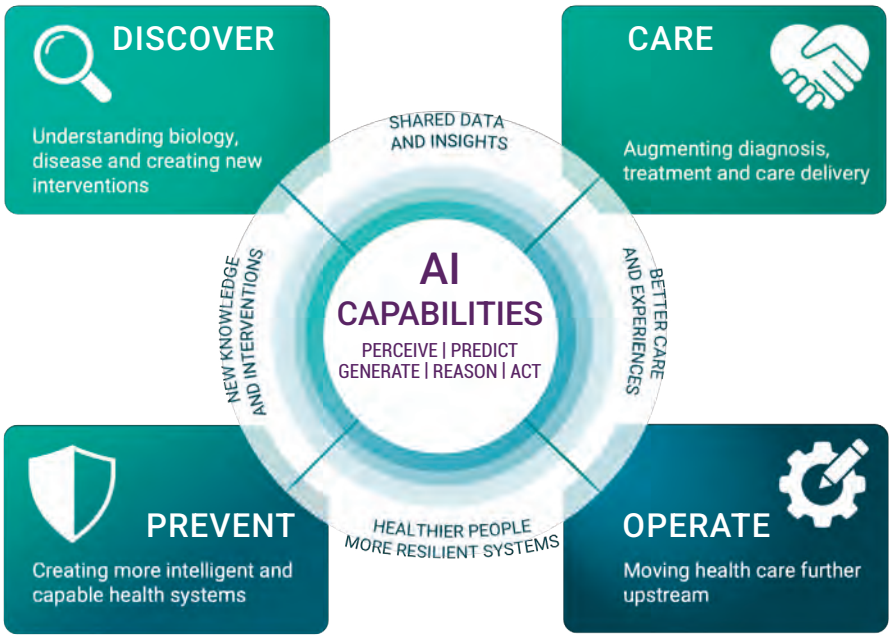


Figure 2: The Discover | Care | Operate | Prevent Model



DISCOVER

UNDERSTANDING BIOLOGY, DISEASE AND CREATING NEW INVENTIONS

AI is increasingly becoming part of the process through which health knowledge itself is created.

Machine learning has long been used to identify patterns across large scientific datasets. Foundation models and generative approaches now extend this capability into areas such as proteins, genomics, molecular design and biological systems.

Stanford's 2026 AI Index identifies AI-enabled science as a rapidly expanding field and describes virtual-cell models, genomic models and other computational approaches to biological discovery as an emerging frontier. These systems aim to model biological processes, identify candidate interventions and reduce the search space before experimental testing. Their outputs still require scientific and experimental validation, but their potential is increasingly significant.

AI can contribute across:

- **Biomedical and clinical research:** identifying patterns across complex datasets, synthesising literature and assisting research design.
- **Drug and therapeutic discovery:** screening compounds, modelling molecular interactions and generating candidate structures.
- **Genomics and precision medicine:** interpreting complex genomic data and identifying relationships between variation, disease and treatment.
- **Biomarker and disease discovery:** finding signals that may otherwise remain obscured across large and multimodal datasets.
- **Clinical research and trials:** supporting cohort identification, trial design, recruitment, monitoring and analysis.
- **Digital biological models and simulation:** using computational representations to explore biological behaviour before intervention in the physical world.



CARE

AUGMENTING DIAGNOSIS, TREATMENT AND CARE DELIVERY

Healthcare has been one of AI's longest-running application environments.

Machine learning and computer vision already support imaging, diagnostics, clinical prediction and decision support. Generative AI is expanding into areas such as clinical documentation, information synthesis and patient communication. Multimodal models create the prospect of integrating information that today sits across separate clinical systems and formats.

Stanford's 2026 review of AI in medicine points to growing deployment across clinical applications, including substantial uptake of AI-supported clinical documentation and continued growth in AI-enabled medical devices.

Applications include:

- **Diagnostics and imaging:** supporting the detection, classification and interpretation of disease.
- **Clinical decision support:** bringing together relevant information and surfacing possible courses of action.
- **Precision and personalised care:** using richer patient information to tailor assessment, monitoring and intervention.
- **Clinical documentation and knowledge support:** reducing administrative burden and helping clinicians access and synthesise relevant information.
- **Virtual and connected care:** combining AI with remote monitoring and communication technologies to support care beyond traditional settings.
- **Patient engagement and navigation:** providing information, supporting access and helping people navigate increasingly complex health systems.
- **Robotic and technology-assisted intervention:** combining sensing, AI and physical systems to augment clinical procedures, rehabilitation and care delivery.

The important opportunity is not AI replacing the clinical relationship. It is designing care in which technology expands what patients and health professionals can know and do, while preserving appropriate human judgement, accountability and prioritising connection.

OPERATE

CREATING MORE INTELLIGENT AND ADAPTABLE HEALTH SYSTEMS

Some of AI's most consequential applications may never be visible to a patient.

Health systems are complex organisations built around flows of people, information, resources, equipment and decisions. They are also under sustained pressure from workforce burnout and shortages, rising demand, constrained resources and growing complexity.

AI can help health systems become more responsive.

Applications include:

- **Workflow and administration:** automating routine processes, coordinating tasks and reducing avoidable administrative work.
- **Capacity and demand management:** predicting demand, optimising scheduling and improving the utilisation of beds, theatres and other resources.
- **Workforce planning and productivity:** supporting rostering, reducing administrative load and augmenting professional capability.
- **Logistics and supply chains:** forecasting needs, coordinating movement and reducing waste.
- **Infrastructure and asset management:** using sensors, analytics and intelligent systems to manage physical environments and equipment.
- **Information flow and communication:** helping relevant information reach the right person at the right time.
- **Agentic workflow orchestration:** using AI agents to undertake and coordinate defined processes across multiple systems and steps.

The opportunity is not merely to automate existing inefficiencies. It is to rethink how health systems organise work, information and infrastructure when machines can increasingly perceive, predict, coordinate and act. Critically also, to ensure the time and capacity gained are not simply directed towards productivity uplift, but are directed towards better care, sustainable workloads and the human needs of the workforce.

PREVENT

MOVING HEALTH FURTHER UPSTREAM

Health systems have historically been organised predominantly around episodes of illness and care.

AI, combined with connected devices, increasingly creates opportunities to identify risk earlier, monitor continuously and intervene before a problem becomes acute.

Applications include:

- **Risk prediction and stratification:** identifying individuals and populations at elevated risk.
- **Early detection:** finding subtle signals of deterioration or disease before they become readily apparent.
- **Remote monitoring and wearables:** combining continuous physiological or behavioural data with intelligent analysis.
- **Population health intelligence:** identifying patterns across communities and helping target interventions.
- **Precision prevention:** tailoring preventive strategies to individual characteristics and risks.
- **Behavioural and consumer health support:** using personalised information and interventions to support healthier choices.
- **Environmental intelligence:** connecting information about people, places and environments to anticipate emerging health risks.

The potential is a gradual shift from episodic response towards health systems that are more anticipatory, connected and preventive.

> "Those types of AI systems are not difficult to design — these types of AI systems that detect something early and bump it to the top of the queue."

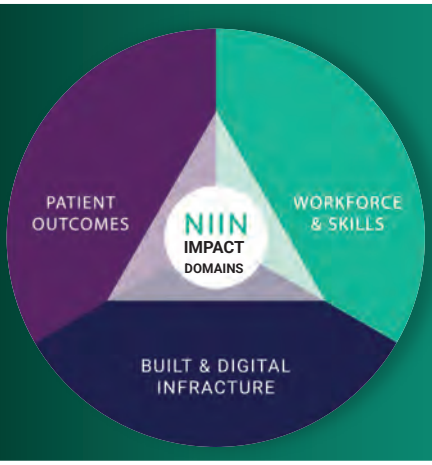
David Siroky

AI Chief Technology Officer.
Asia Pacific, Japan and Greater China, Cisco

Building on the NIIN Health Alliance Impact Framework

Where **Discover** | **Care** | **Operate** | **Prevent** describes where AI creates opportunity, our existing NIIN Health Alliance Impact Domains describe what we ultimately seek to transform.

The 2025–26 Health x Digital Transformation Report organised work across the Alliance around three domains:



1 **PATIENT OUTCOMES:** using technology and innovation to improve the quality, safety, accessibility, personalisation and experience of health and care.

2 **WORKFORCE & SKILLS:** building the capability of the people who deliver, manage and transform health, while using technology to augment their work.

3 **BUILT & DIGITAL INFRASTRUCTURE:** creating the physical, digital and data foundations required for modern, resilient and connected health systems.

AI intersects with all three. These frameworks describe different dimensions of the same transformation.

An AI application in Discover, for example, may ultimately produce a better therapy and improve Patient Outcomes, while requiring new research skills and data infrastructure.

An application in Care may improve diagnosis, but its value depends on clinicians capable of using it appropriately and systems capable of integrating it safely. AI applied to Operate may improve workforce capacity or infrastructure utilisation, while Prevent may depend upon connected devices, interoperable data and new capabilities across clinical and community workforces.

AI-enabled health transformation therefore cannot be understood through individual technologies or use cases alone. It emerges through the interaction of people, technology, workflows, data, infrastructure and institutions.

AI X HEALTH OPPORTUNITY	PATIENT OUTCOMES	WORKFORCE & SKILLS	BUILT & DIGITAL INFRASTRUCTURE
DISCOVER	New diagnostics, therapeutics and precision interventions	AI-augmented researchers and clinicians	New diagnostics, therapeutics and precision interventions
CARE	Earlier diagnosis, personalised and accessible care	AI-supported clinical work	Connected and intelligent care environments
OPERATE	Better access, flow and experience	Productivity, new roles and redesigned work	Adaptive, secure and responsive health infrastructure
PREVENT	Earlier intervention and improved population health	New prevention and population-health capabilities	Connected monitoring and intelligent data systems

FIGURE 2: AI x NIIN Health Impact Map

The Adoption Gap:

AI CAPABILITY IS ADVANCING FASTER THAN THE CAPACITY OF HEALTH SYSTEMS TO ADOPT IT

AI is already being used across health systems, but deployment at scale remains uneven. OECD and WHO assessments point to familiar barriers: fragmented data and infrastructure, regulatory and governance uncertainty, workforce preparedness and the difficulty of integrating AI into existing services.

This reflects a familiar lesson from the NIIN Health Alliance's own work.

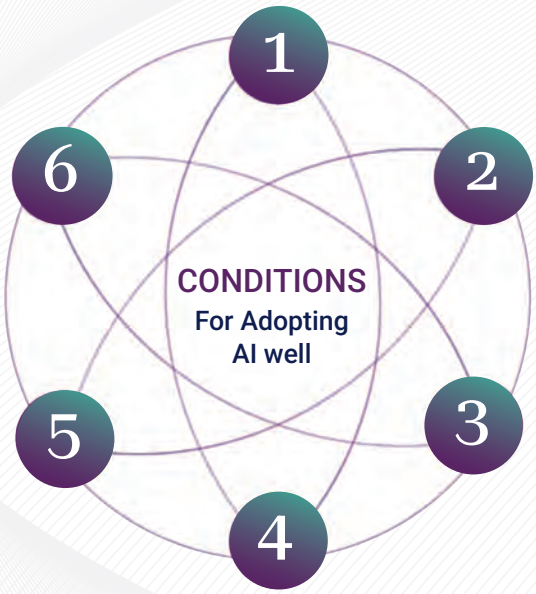
Innovation does not create impact merely because the technology works.

Impact depends on whether technology can operate within the realities of health systems: infrastructure, workflows, regulation, workforce capability, funding models and community expectations.

For AI, this challenge is amplified by the speed of technological change. Models can improve in months. Health systems cannot safely rebuild infrastructure, redesign workflows, establish governance, develop workforce capability or generate evidence at the same pace.

The result is an AI Adoption Gap: a widening distance between what technology makes possible and what health systems can responsibly adopt and scale.

CLOSING THIS GAP REQUIRES SIX INTERCONNECTED CONDITIONS



INFRASTRUCTURE & DATA
Secure, reliable and connected foundations

TRUST & GOVERNANCE
Clear accountability, safeguards and human oversight

INTEGRATION
Technologies that work within real systems of care

EVIDENCE & VALIDATION
Demonstrated safety, effectiveness and value

WORKFORCE & SKILLS
People equipped to use and supervise AI

TRANSLATION, VALUE & SCALE
Pathways from successful innovation to normal practice.

Figure 3: 6 Conditions for adopting AI well

1 INFRASTRUCTURE & DATA

Can an effective intervention become part of normal healthcare?

AI is only as deployable as the infrastructure and data on which it depends.

That includes compute capacity, networks, cloud and edge environments, cybersecurity and connected devices. It also requires data that is available, high-quality, appropriately governed and able to move between relevant systems. Fragmented systems and poor interoperability can constrain even sophisticated AI.

Infrastructure is therefore not simply the plumbing beneath AI. It is part of AI capability itself.

As AI becomes more deeply embedded in care and operations, resilience, privacy, cybersecurity and sovereignty become increasingly important.

2 TRUST & GOVERNANCE

Should AI act, under whose authority, and with what safeguards?

Health systems depend on trust.

Patients, clinicians, organisations and communities need confidence that AI is being used for legitimate purposes, that risks are understood and managed, and that responsibility remains clear.

This requires governance of privacy, safety, transparency, fairness and accountability, together with meaningful human oversight. WHO's guidance on large multimodal models emphasises these challenges as general-purpose AI systems expand into healthcare, scientific research, public health and drug development.

The closer AI moves to action, the more consequential these questions become.

A system that provides information requires one set of controls. An agent able to access systems, make decisions or initiate actions requires clear authority, permissions, boundaries, monitoring and escalation. Physical AI extends those questions into the material world.

Human oversight remains fundamental, but a nominal 'human in the loop' is not enough. Oversight is meaningful only where people can understand, challenge and, where necessary, control the system.

3 INTEGRATION

Can AI work within real systems of care?

A technology can perform extremely well in isolation and still fail in practice.

Health is delivered through workflows, teams, information systems, routines, physical environments and relationships. AI must work within this complexity.

Integration therefore means more than connecting an algorithm to an electronic record. It requires understanding where information flows, decisions are made, responsibility sits, systems interact and exceptions are handled.

Most importantly, AI must improve the way work happens rather than simply add another layer of complexity.

Successful adoption may therefore require redesigning workflows around new capabilities, rather than inserting AI into processes designed for another era.

4 EVIDENCE & VALIDATION

Do we know that it works where it matters?

Performance on a technical benchmark is not the same as health impact.

AI systems must be evaluated in the environments in which they will actually operate. Depending upon the application, this may require evidence of technical performance, clinical validity, clinical utility, safety, usability, equity and economic value.

This is particularly important for emerging agentic and multimodal systems, where technical promise is advancing faster than prospective and real-world validation.

For high-consequence applications, evaluation also cannot end at deployment. Models, data, environments and patterns of use can change over time. Evidence must therefore become continuous: validation before deployment, monitoring in use, and reassessment as systems and contexts evolve.

5 WORKFORCE & SKILLS

Can people use, supervise and work effectively with AI?

AI changes not only technology, but work.

Some tasks will be automated. Others will be augmented. New forms of work will emerge around supervising, validating and coordinating intelligent systems.

This requires more than AI specialists.

Health leaders need enough understanding to make informed strategic decisions. Health professionals need to use AI appropriately, recognise its limitations and exercise judgement when necessary. Technical teams need the capability to build and maintain safe systems. Organisations increasingly need people who can bridge clinical, operational and technological domains.

The challenge is therefore both AI literacy and AI capability.

The goal is neither a workforce that defers to AI nor one that resists it, but one capable of working critically, confidently and effectively with intelligent systems.

6 TRANSLATION, VALUE & SCALE

Can an effective intervention become part of normal healthcare?

Even technologies that are safe, effective and welcomed by users can become trapped between pilot and scale.

Translation requires pathways through regulation, procurement, commercialisation, funding and reimbursement, organisational decision-making and implementation. But it also requires a compelling answer to a simpler question:

Why should the health system adopt this? Who benefits? Who pays? What outcome, cost or activity changes? What investment is required to deploy and maintain the system? Can the intervention operate sustainably beyond a research grant or pilot program?

These are not peripheral questions. They determine whether innovation becomes infrastructure or remains an experiment.

The World Economic Forum's work on AI-enabled health similarly emphasises the need to move beyond isolated experimentation towards transformed operating models, shared digital foundations and demonstrable value if AI is to be adopted at scale.9 For health systems, success is therefore not the proliferation of AI pilots.Success is safe, effective and valuable AI becoming part of normal practice where it improves health.

From Better AI to Better Health

AI will continue to advance. Models will become more capable, new applications will emerge, and the boundaries between predictive, generative, agentic and physical systems will continue to blur.

But the central challenge for health is not simply to develop or acquire better AI. It is to translate increasing technological capability into increasing health capability.

That requires infrastructure and data, evidence and governance, integration and skills, and pathways to value, adoption and scale.

It also requires places where emerging technologies can be explored, tested, challenged and validated against real health problems.

No institution can create these conditions alone. Translating technological capability into better health also requires an ecosystem able to test emerging technologies against real health needs, evaluate their benefits and risks, build workforce capability and adapt as evidence and capabilities evolve.

The challenge is not simply to establish the conditions for adoption, but to sustain them as technologies, care environments and expectations change. This is increasingly the work around which the NIIN Health Alliance has been built: connecting the capabilities, partnerships and shared learning needed to help health systems adopt AI responsibly and effectively.

> “Using technology towards early diagnosis is obviously preferred in healthcare, but truly preventing disease from actually developing is a much more proactive approach.”

Distinguished Professor Madhu Bhaskaran

Discovery to Device Medtech Prototyping and Scale-Up Facility, RMIT

03 AI x Health in Action

EXPLORING THE EMERGING AI ADOPTION FRONTIER

The AI opportunity becomes meaningful when emerging capabilities are tested against the realities of healthcare. Across the NIIN, universities, industry and health partners are exploring how AI can address practical challenges across care, prevention and health system operations, while confronting the questions of integration, trust, evidence, workforce capability and value that determine whether an innovation can move beyond demonstration.

The examples in this section illustrate this transition from technological possibility to application. They are not presented as finished models of adoption, but as practical examples of how emerging technologies can be explored in context, what can be learned through experimentation, and what is required to move towards responsible implementation.

01 Women's Health Pathway AI Navigator | La Trobe University

02 Fall Detection to Intelligent Response | RMIT University

03 Preventing violence against health workers | University of the Sunshine Coast

04 AI-Supported Sepsis Risk Identification in the Virtual Emergency Department
La Trobe University

05 Digital Front Door | RMIT University

06 Rehabilitation Beyond the Hospital Walls | RMIT University

07 Closing the clinical skills gap with a voice-first training assistant | RMIT University

08 Balance Mat: An Accessible Tool for Postural Balance Assessment
University of Canberra

09 ColonAI: AI driven 3D reconstruction and immersive visualisation of the Colon for bowel cancer screening | University of Technology Sydney

10 Electronic Health Record De-identification | RMIT University

11 Remote Patient Monitoring Evaluation Effort | La Trobe University

Women's Health Pathway AI Navigator

LA TROBE UNIVERSITY INNOVATION CENTRAL MELBOURNE
DIGITAL INNOVATION HUB | NORTHERN HEALTH

01

THE CHALLENGE

Women experiencing menopause, pelvic pain, endometriosis, reproductive and mental health concerns and chronic disease often navigate fragmented services and experience delays in diagnosis, referral and treatment. Endometriosis alone affects approximately one in seven Australian women and can affect fertility and participation in education, employment and social activities.[1] Women may need to navigate multiple providers, referral pathways and sources of information that are not consistently connected. This creates avoidable uncertainty, duplication and inequity, particularly for women who face geographic, financial, cultural, language or digital barriers. The need for more coordinated and accessible care is increasing as health systems manage rising demand and seek to use digital tools without compromising safety, privacy or trust.[1]

THE AI INTERVENTION

Personalising navigation through fragmented women's health services

The proposed intervention is a sovereign, agentic AI navigator. It will first identify the person's health concern and relevant circumstances, then retrieve information from approved Australian clinical guidelines, patient information and local service directories. It will provide a personalised explanation of possible next steps, relevant services and questions to discuss with a health professional. The system will not diagnose or replace clinical care. It will operate within defined limits, identify uncertainty and direct the person to an appropriate clinician or service when escalation is required.

The project is currently being scoped with Northern Health and potential digital health partners. A three-to-four-month prototype pilot is planned. Privacy, security, clinical safety and human oversight requirements will need to be confirmed before testing.

AI Role: AI Assistant

- **Recommends:** AI suggests navigation options and next steps; a person decides whether and how to act
- **Escalates:** AI directs the person to a clinician or service when uncertainty, risk or predefined thresholds are identified



1.Australian Institute of Health and Welfare. Endometriosis in Australia 2023. https://www.aihw.gov.au/reports/chronic-disease/endometriosis-in-australia-2023

01

THE IMPACT

Advancing: Patient Outcomes

The intended impact is to improve patient outcomes, achieved through improving navigation, continuity and coordination across primary, specialist, hospital and virtual care.

With the project is currently in the scoping phase, a future pilot will assess the accuracy and appropriateness of navigation recommendations, time to identify a suitable service, user confidence, referral completion, clinician workload, safety events and equity of access.

LA TROBE UNIVERSITY

Northern Health

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap: Trust & Governance, Integration, Evidence & Validation

The project is currently being scoped. The next steps are to define the priority pathways, confirm the clinical and service information sources, agree the technical architecture, establish governance requirements and develop a prototype evaluation plan with Northern Health and relevant clinical and consumer stakeholders. Before being used in care, the project will need to demonstrate that the navigator provides reliable and understandable information, fits existing referral and clinical workflows, protects sensitive health information and handles uncertainty safely. Further work will also be required on consumer consent, monitoring, accountability, workforce roles, funding and integration with local service directories.

Contact Details: **Prof James Boyd** | **e: james.boyd@latrobe.edu.au**

Fall Detection to Intelligent Response

RMIT-CISCO HEALTH TRANSFORMATION LAB | REZONATE

02

THE CHALLENGE

Falls are the leading cause of injury hospitalisation and injury death in Australia. In 2024–25 there were 253,800 fall-related hospitalisations, accounting for 43.4% of all injury hospitalisations, and in 2023–24 falls were responsible for 6,722 deaths. Among people aged 65 and over the hospitalisation rate reaches 3,275.3 per 100,000, and falls are estimated to cost the health system more than $5 billion each year.

Technology that detects a fall is not new. What remains unresolved is whether detection on its own changes outcomes. A randomised trial across eighteen wards at four public and one private health service in Melbourne found that reducing the use of mobilisation alarms was no worse than continuing with them, and concluded that their routine use may represent a form of low-value care.

The challenge therefore lies not in detection, but in what happens next. Put another way: detection is not response – it is the start of a response.

The critical gap lies between an event being detected and a staff member reaching the patient. What has happened? Is the patient responsive? Are they injured? How urgent is the situation? What does the responding staff member need to know?

A conventional alarm can identify an event. It cannot necessarily answer those questions.

THE AI INTERVENTION

From alert to intelligent response

Within the Sandbox's simulated patient care room, camera-based detection identifies a fall and initiates a response sequence rather than generating an alert alone. Rezonate's kira assistant engages with the patient using natural language, establishing whether they are able to respond, whether they appear to be injured, and how urgent the situation is. The information gathered is passed to a staff member, together with an indication of urgency. Clinical staff remain central throughout - the assistant gathers information and escalates it; decisions about care remain with a person. Suited to situations in which the patient is able to respond, such as a fall, a bed exit, a patient-activated call, or early signs of deterioration.

Because the assistant speaks with the patient before staff are called, the approach also offers a means of distinguishing a genuine fall from a false alarm.

Privacy has been built into the design. Video is processed as it occurs and footage is not retained, so the system reports an event rather than producing a recording. The camera can operate without capturing information that identifies an individual, and the video feed can be switched off while detection continues.

AI Role: AI Agent

- **Acts:** When a fall is detected, the assistant begins speaking with the patient without a person in the loop at the time; what it did and what it found is reviewed by staff afterwards.
- **Escalates:** The assistant relays identified information and an indication of urgency to a carer. Clinical staff remain central point of decisions about care remain with a person.

CARE

PREVENT

02

THE IMPACT

Advancing: Patient Outcomes | Workforce & Skills

The solution is designed to support people at risk of falls, as well as carers and care providers, by enabling faster, more informed and coordinated responses when a fall occurs.

On an individual level, persons at risk of, or who have fallen may receive a more informed response that begins with an assessment of their wellbeing rather than an alarm alone. For nursing staff and carers, contextual information about what has happened and the apparent urgency could support more effective response and triage, as well as helping to distinguish genuine falls from false alarms. Hospitals and residential aged care providers could use this information to coordinate responses across a ward or facility, while clinical decisions remain with staff.

The response sequence has been demonstrated in a simulated setting, with but has not yet been trialled with patients, and so measurable impact on patient outcomes, staff workflows and service delivery remains prospective.

RMIT UNIVERSITY

rezonate

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:
Trust & Governance, Integration, Evidence & Validation

The response sequence operates from end to end within the Sandbox and has been demonstrated to visiting health services, industry partners and delegations.

The next stage is to develop it further alongside clinicians and health service partners, focused on an agreed use case, with the ultimate goal of trialling in a suitable care environment.

Residential aged care represents the strongest near-term opportunity and sits within the joint RMIT-Cisco-Rezonate initiative on aged care digital innovation already underway. Regional and remote services, where response times are longer, present a further opportunity.

System adoption will depend on demonstrating clinical value, workflow compatibility, reliability and user acceptance. Future trials will be used to assess whether the solution delivers these benefits in practice, assessing response times, urgency assessment accuracy, false alarm rates, alert management workload and privacy concerns, alongside the system's impact on patient outcomes, including injury severity and time spent on the floor following a fall, as well as general patient wellbeing and stress reduction post fall.

Contact Details: **Health Transformation Lab** | **e:** admin@healthlab.com.au

Preventing Violence Against Health Workers

UNIVERSITY OF THE SUNSHINE COAST HEALTH PRODUCTIVITY LAB
SUNSHINE COAST HOSPITAL AND HEALTH SERVICE

03

THE CHALLENGE

Workplace violence and aggression are significant risks for health workers, particularly in settings caring for patients experiencing dementia, delirium or other conditions that may affect behaviour. In a Victorian survey of 4,891 nursing and caring professionals, 67% reported experiencing occupational violence or aggression in the preceding 12 months, with nearly one in five experiencing it weekly or daily.[1] National data also show that assault-related hospitalisations among healthcare workers more than doubled between 2015–16 and 2024–25, rising from 49 to 126 cases annually.[2] These incidents can cause physical injury and psychological harm, affect patients, families and other staff, and contribute to workforce pressures.[3] Preventing escalation requires staff to recognise changes in patient distress and respond appropriately. However, continuous video monitoring is not suitable for every clinical environment, particularly where privacy is paramount. There is an opportunity to explore whether emerging AI tools can provide earlier, more objective indications of agitation to support safer, more appropriately timed care.

THE AI INTERVENTION

Supporting earlier recognition of workplace violence risk

The University of the Sunshine Coast's Health Productivity Lab is developing a multimodal AI system to help staff recognise changes in patient agitation. The prototype uses computer vision models to analyse facial muscle movements associated with changes in expression, alongside a model that identifies broader body movements. Local sensors provide additional biometric data, with these inputs brought together in a dashboard designed to help staff understand changes in patient behaviour over time.

Edge processing through Meraki cameras offers a potential approach to processing visual data locally. The dashboard is intended to inform staff decisions about the timing of care interactions and whether environmental changes may be affecting patient distress. Staff perspectives have informed the co-design process. The system is intended to inform clinical judgement, not make decisions autonomously. Predicting agitation or violence from these combined signals remains to be validated in clinical settings.

AI Role: AI Assistant

Informs: AI presents information about changes in patient behaviour; staff interpret the information and make all care

PREVENT

1. *Occupational Violence and Aggression Experienced by Nursing and Caring Professionals. Victorian survey of 4,891 nursing and caring professionals. Journal of Clinical Nursing.*
2. *Australian Institute of Health and Welfare (2026). Injury hospitalisations among health care workers. National data for 2015–16 to 2024–25.*
3. *Victorian Auditor-General's Office (2015). Occupational Violence Against Healthcare Workers. Discusses physical and psychological impacts, effects on bystanders and patient care, and risk factors including dementia and delirium.*

03

THE IMPACT

Advancing: Workforce & Skills

The intended impact is to support workforce safety by helping staff identify changes in agitation, assess responses to environmental adjustments and better time care interactions.

A proof of concept is being refined in the Health Productivity Lab using older adult actors and a prototype dashboard. Funding has been secured for a pilot in an acute clinical environment to assess performance with patients and usefulness within staff workflows.

The pilot will explore whether the system can help staff identify changes in agitation, assess responses to environmental adjustments and better time care interactions, with the aim of reducing exposure to situations where violence is more likely.

UniSC Sunshine Coast Health

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:
Trust & Governance | Evidence & Validation | Integration | Workforce & Skills

The project is refining the model for an acute clinical feasibility study, with ethics approval being sought.

The next stage will require continued staff involvement in designing the dashboard, alert displays and workflow integration. Evaluation will need to establish whether the system provides reliable and useful information in real clinical environments, supports timely staff responses and avoids unintended consequences.

Before broader implementation, refinement of privacy, data governance, clinical safety, alert thresholds and staff acceptance will also be addressed.

Funding from the health service and a philanthropic donation supports progression towards the pilot, with the findings needed to inform future decisions about adoption and scale

Contact Details: **A/Prof Alison Craswell** | **e: acraswel@usc.edu.au**

AI-Supported Sepsis Risk Identification in the Virtual Emergency Department

LA TROBE UNIVERSITY, INNOVATION CENTRAL MELBOURNE | DIGITAL INNOVATION HUB | NORTHERN HEALTH VIRTUAL EMERGENCY DEPARTMENT

04

THE CHALLENGE

Sepsis is a time-critical condition in which delays in recognition and treatment can lead to serious deterioration, organ failure and death. The Australian Commission on Safety and Quality in Health Care reports more than 84,000 sepsis separations in Australian public hospitals in 2022–23 and identifies the need for early recognition and consistent best-practice care.[2] Existing sepsis prediction and alerting tools have largely been developed for patients already in hospital, where continuous observations, pathology and other clinical data are available. There is a significant gap in early risk identification for patients assessed before hospital arrival or through telehealth. This is particularly important for virtual emergency care, where clinicians must make decisions using information available remotely and may need to determine whether a patient can safely remain in virtual care or requires urgent escalation.

THE AI INTERVENTION

Identifying potential sepsis risk during virtual consultation

The proposed intervention would analyse clinical notes generated during a Virtual Emergency Department consultation to produce a three-level sepsis-risk signal. Available to the clinician during the consultation, the signal would support recognition of potential sepsis and prompt further assessment, clinical review or escalation where appropriate.

Seeking to supplement (rather than replacing) clinical judgement, the approach could provide an additional source of risk information when clinicians are assessing patients remotely, where direct examination and access to observations, pathology and other hospital-based data may be more limited.

In it's concept stage, the project brings together clinical expertise from Northern Health and the Victorian Virtual Emergency Department with the technical and research expertise from La Trobe University. This partnership aims to establish how the model could interpret clinical notes reliably, define meaningful risk categories and present alerts in a way that supports existing consultation and escalation workflows.

AI Role: AI Tool

- **Informs:** AI provides a risk signal; a clinician makes every clinical decision.
- **Escalates:** A predefined risk threshold may prompt the system to alert or hand he case to a clinician for review.



CARE



PREVENT

1. Australian Commission on Safety and Quality in Health Care. Sepsis Clinical Care Standard and Sepsis Hub.

2. Australian Commission on Safety and Quality in Health Care. Sepsis Clinical Care Standard.

3. Victorian Virtual Emergency Department.

4. Sher L, Jessup RL, Boyd JH et al. Outcomes of a state-wide virtual emergency department in Victoria, Australia: a linked data analysis of emergency department utilisation and hospital use. The Lancet Regional Health – Western Pacific, 2026. 5. Project concept and scoping materials, AI-Supported Sepsis Risk Identification in the Virtual Emergency Department, 2026.[MK1]

04

THE IMPACT

Advancing: Patient Outcomes

The intervention aims to address a gap in early sepsis risk recognition during virtual emergency care: earlier recognition of deterioration and safer decision-making in virtual and pre-hospital care.

By identifying patterns in consultation notes that may indicate elevated risk, the tool could help clinicians recognise when a patient requires closer assessment or escalation to in-person care. This may be particularly valuable when early signs are difficult to distinguish during a remote consultation or when information available to the clinician is incomplete.

If validated and appropriately integrated into clinical workflows, the intervention could strengthen decision-making about whether a patient can safely remain in virtual care or requires urgent face-to-face assessment.

Earlier recognition and escalation could reduce the risk of delayed assessment and treatment, support patient safety while helping clinicians make more consistent decisions across virtual consultations.

LA TROBE UNIVERSITY

Northern Health

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap: Integration | Evidence & Validation | Trust & Governance

The project is currently at concept stage, with an opportunity to develop an AI-enabled approach to earlier sepsis risk identification in virtual emergency care. The next step is to scope the model architecture with La Trobe and Northern Health, establishing available clinical notes, EMR compatibility, sepsis outcome definitions and how risk signals could be integrated into the consultation workflow.

Retrospective validation would assess the model's ability to identify sepsis risk and support timely clinical escalation, while examining false alerts, missed cases and performance across patient groups. This would provide an evidence base for refining the model and determining its readiness for controlled or simulated testing, where workflow integration, clinician response and alert burden could be explored.

Subject to promising results, the pathway towards a clinical pilot would require clinical safety assessment, privacy and ethics approvals, cybersecurity review and clear accountability for responding to alerts. Subsequent evaluation could examine whether the solution supports earlier recognition, more timely escalation and safer decisions about virtual versus face-to-face care. Ongoing monitoring of workflow fit, model performance and drift would help establish the conditions for responsible implementation and future scale.

Contact Details: **Prof James Boyd** | **e: james.boyd@latrobe.edu.au**

Digital Front Door

RMIT-CISCO HEALTH TRANSFORMATION LAB | ARCHITECH | CISCO

05

THE CHALLENGE

At a major Victorian regional hospital, highly skilled clinical staff were spending significant time on routine patient communication: pre-admission engagement, appointment confirmations and changes, and post-operative follow-up. These interactions are essential to the patient's journey but often require little or no clinical judgement, reducing the time clinicians can devote to direct patient care. Through the proof of value, ArchiTech identified approximately 1,625 hours of clinical time each year being consumed by administrative calls within the targeted clinical area.

The challenge reflects a broader healthcare issue, where manual, phone-based and fragmented processes can create delays, administrative friction and additional workload as patient volumes increase. The opportunity was to redirect clinical capacity from administration towards patient care while maintaining reliable communication with patients.

THE AI INTERVENTION

Connecting patient communication with more efficient care workflows

ArchiTech and Cisco have developed and validated a Digital Front Door, powered by Cisco Webex Contact Centre and demonstrated at the Health Transformation Lab Sandbox. Focusing initially on a high-volume clinical area, the solution uses AI and Agentic AI to connect patient events with digital engagement workflows covering pre-admission checks, appointment confirmation, rescheduling and cancellation, and post-operative communication. The AI capability was also demonstrated to assist appointment scheduling and sharing information with patients.[1]

Unlike a one-way reminder, the approach enables patients to interact with the workflows, with events and responses driving the next action. Exceptions and non-responses can be escalated to hospital staff, while clinical decisions remain with clinicians. Manual processes remain available as a fallback, sensitive clinical records stay within existing hospital systems, and, under the agreed production governance, patients are explicitly informed when they are interacting with an AI agent.

AI Role: AI Assistant

- **Acts:** The AI agent interacts directly with patients and automates defined routine tasks; hospital staff make every clinical decision and remain accountable.
- **Escalates:** The AI agent refers exceptions and non-responses to hospital staff.



1. ArchiTech, Digital Front Door proof of value documentation (unpublished), 2026.
2. ArchiTech, Digital Front Door in Healthcare, architech.net.au/digital-front-door-healthcare
3. Cisco, Digital Front Door: Transforming patient journey through innovation, 19 May 2026

05

THE IMPACT

Advancing: Workforce & Skills | Patient Outcomes

The projects Proof of Value validated five patient communication workflows end to end, demonstrating reduced administrative effort while retaining clinical oversight. Modelling identified approximately 6,500 interactions a year, with individual workflows estimated to save 10 to 30 minutes of staff time. The business case indicates that $47,000 to $75,000 of clinical capacity could be returned annually, with an estimated break-even period of 12 to 18 months. These modelled benefits have been validated against the pilot hospital's actual interaction data, providing a confirmed basis for the production investment.[1]

For clinical staff, this means less time on repetitive communication and more capacity for work that requires their expertise. Patients and families stand to benefit from more proactive and responsive communication across their journey, with greater access to digital options. The hospital, in turn, can increase communication volumes without manual effort rising at the same rate. Progress is measured across operational, patient and financial indicators, from staff time saved and escalation rates to patient response and experience, cost per interaction and actual savings against the business case.

Health <Transformation> Lab

architech

cisco

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap: Integration | Infrastructure & Data

With five workflows validated end to end and a pathway to production documented, the next steps to adoption are to confirm solution sizing and investment and agree a controlled production rollout.

Production adoption will design around workflow fit, clinical and operational governance, privacy and AI transparency, workforce change, funding and the ongoing measurement of benefits. The proof of value also identified earlier stakeholder engagement and change management as important lessons for future deployments.

Broader scaling and additional use cases represent the longer-term opportunity, including more conversational tasks such as an AI agent following up an incomplete pre-admission form by phone, a scenario demonstrated in the RMIT-Cisco Health Transformation Lab's Sandbox.

Contact Details: **RMIT-Cisco Health Transformation Lab | e: admin@healthlab.com.au**

Rehabilitation Beyond the Hospital Walls

RMIT-CISCO HEALTH TRANSFORMATION LAB | REBEE HEALTH

06

THE CHALLENGE

Demand for rehabilitation is rising as Australia's population ages[1] and the burden of chronic disease, injury and post-surgical recovery grows. Meeting that demand is not straightforward. There is a national shortage of some allied health professions, and those professionals are concentrated around major urban areas: in 2021 there were about 130 physiotherapists per 100,000 people in metropolitan areas, compared with about 30 in small rural towns.[2] Hospitals also face pressure to use limited clinical staff efficiently, deliver rehabilitation earlier and discharge patients safely without unnecessary delay. A 2026 study across two metropolitan tertiary hospitals found that patients waiting for inpatient rehabilitation occupied 18.8% of acute bed-days in the study cohort.[3] These pressures create a need for new rehabilitation pathways that better support recovery, make the most of workforce capacity and extend access to care.

THE AI INTERVENTION

Remote rehabilitation through digitally enabled synchronous care

outcome measures and physiological readings to support rehabilitation monitoring. Patients complete prescribed exercises or functional assessments while the AI-assisted system detects their movement and gives real-time visual and audio feedback through an on-screen avatar.[4] The platform turns this information into structured progress reports, helping clinicians monitor change, review adherence and identify patients who may need further assessment or tailored intervention. This supports more consistent monitoring between supervised sessions and allows rehabilitation to continue beyond the hospital. An integration with Cisco Webex, demonstrated in the RMIT-Cisco Health Transformation Lab's Sandbox, offers synchronous video consultation with the overseeing clinician.

AI Role: AI Tools

Informs only: AI provides information; clinical decisions remain with healthcare professionals

CARE

PREVENT

1. *Australian Bureau of Statistics, Population Projections, Australia, 2022 (base) – 2071*
2. *Australian Government Department of Health, Disability and Ageing, About allied health care*
3. *Patient flow implications of delayed access to inpatient rehabilitation in Australian acute hospitals, Australian Health Review, 2026*
4. *Feasibility and usability of a wearable sensor-based telerehabilitation program for home-based exercise in patients with lower limb amputation, Frontiers in Rehabilitation Sciences. Pilot study, ten participants.*

06

THE IMPACT

Advancing: Patient Outcomes | Workforce & Skills

In a published pilot at Tan Tock Seng Hospital in Singapore, ten patients recovering from lower limb amputation used the Rebee wearable sensor for home-based exercise. Participants recorded significant gains in hip strength, completed an average of 68% of their prescribed exercise and experienced no adverse events, although as a small pilot without a control group the findings are preliminary. A larger randomised controlled trial of a Rebee-supported, AI-assisted system, which recruited 407 participants across three Singapore community hospitals, is expected to report results in late 2026.

Scaling this solution across Australia could help the healthcare system manage growing rehabilitation demand, optimise scarce allied health resources, improve hospital bed utilisation and reduce avoidable delays in discharge. Patients could benefit from more timely, continuous rehabilitation and improved recovery, including those in rural and remote communities. Physiotherapists could monitor progress more efficiently using patient-reported outcome measures (PROMs), movement data and physiological readings, enabling more targeted care.

Health <Transformation> Lab

rebee

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap: Translation, Value & Scale and Evidence & Validation

Rebee has progressed beyond concept development, with deployments in public hospitals in Singapore and private hospitals in Malaysia.

The platform supports knee and hip replacement, muscle deconditioning and cardiac rehabilitation, with workflows for assessment, exercise prescription, progress monitoring and reporting.

Its next aim is to partner with Australian health services to adapt and validate these workflows locally. That would involve locally evaluating clinical outcomes, staff productivity, length of stay and safety, and addressing consent, privacy, data governance, system integration, the Therapeutic Goods Administration's evidence requirements for AI-enabled software, and sustainable funding.

Contact Details: **RMIT-Cisco Health Transformation Lab** | **e: admin@healthlab.com.au**

Closing the Clinical Skills Gap with a Voice-first Training Assistant

RMIT-CISCO HEALTH TRANSFORMATION LAB | REZONATE

07

THE CHALLENGE

Health services carry a continuous training load that does not fit neatly into a working day. New starters, rotating placement staff, agency and casual staff, and staff working nights all need access to the same onboarding material, protocols and process guidance, but they arrive at different times and often when an educator is not available to ask.

The material itself is usually not the problem. It exists, it has been approved, and it sits in a learning system or a document library. The problem is reaching it in the moment the question arises, in a form that answers the question rather than returning a fifty-page policy document. The result is that staff ask a colleague instead, which moves the load onto people already busy, or they proceed without asking.

There is a second gap behind the first. Educators generally cannot see what staff are actually struggling with. Course completion is recorded, but the questions people ask, the topics they return to repeatedly, and the places where the material does not answer the question are not captured anywhere. Training is revised on impression rather than evidence.

THE AI INTERVENTION

Dynamic skills: on-demand guidance for clinical learning and practice

RMIT's Health Transformation Lab and Rezonate AI are running a six-week sandbox pilot of Kira, a voice and chat assistant, over approved non-clinical training content.

Staff ask questions by voice or by text, e.g. covering how a process works, what a night shift protocol says, or where to find something during onboarding. Answers are retrieval grounded, meaning they are drawn from the specific approved documents loaded for that service and can be traced back to them rather than generated open-endedly. Where the assistant is not confident it has found the right answer, it escalates instead of guessing.

Safety guard sit across the entire solution. The assistant does not give diagnosis, medication or treatment advice, and the pilot is deliberately scoped to non-clinical training content only. There is no patient data, no connection to an electronic medical record, and no patient-facing use.

AI Role: AI Assistant

OPERATE

- **Informs Only:** The assistant answers questions from the approved training material loaded for that service; staff interpret the guidance and make every decision
- **Escalates:** Where the assistant is not confident it has found the right answer, it hands the question to a person rather than guessing.

Source: Australian Institute of Health and Welfare, Rural and remote health.

07

THE IMPACT

Advancing: Workforce & Skills

The six-week sandbox pilot will assess Kira's performance against approved non-clinical training content, establishing a foundation for evaluating its potential contribution to workforce capability, educator workload and training outcomes.

If scaled, Kira could provide staff with timely access to reliable, service-specific process guidance, reducing time spent searching documentation or interrupting colleagues for support. Beyond individual learning, aggregated interaction data could offer educators and workforce leaders visibility into recurring questions, knowledge gaps and limitations in existing training resources. These insights could enable more dynamic assessment of workforce capability and inform targeted, role-specific upskilling as service requirements, technologies and workflows evolve.

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:
Workforce & Skills | Trust & Governance | Infrastructure & Data

The pilot is deliberately small and bounded: six weeks, non-clinical content, no patient data and a single set of approved training materials. This defined scope enables testing within a sandbox, without requiring the full governance processes associated with clinical deployment, while also establishing clear limits on what can be concluded from the pilot. The transferable value lies in the underlying approach rather than the content itself. Grounded in approved materials specific to each service, the assistant could be replicated across health services, disciplines or university partnerships without rebuilding the underlying solution. Each implementation would retain its own protocols and training content, providing a scalable approach to service-specific workforce support.

Contact Details: **RMIT-Cisco Health Transformation Lab | e: admin@healthlab.com.au**

Balance Mat: An Accessible Tool for Postural Balance Assessment

UNIVERSITY OF CANBERRA COLLABORATIVE ROBOTICS LAB (CRL) | BALANCE MAT PTY LTD

08

THE CHALLENGE

Postural balance is essential for maintaining mobility, independence and performing everyday activities. Impaired balance is associated with an increased risk of falls, particularly among older adults and people with neurological conditions. Accurate assessment of postural balance is important for identifying early changes, monitoring progression and guiding rehabilitation.

Force plates are considered the gold standard for objective balance assessment, providing precise measurements of postural sway and stability.

However, these systems are often expensive, heavy and difficult to transport, and require specialist expertise to operate and interpret the results. This limits their use outside specialised laboratories and clinical settings.

There is a need for an affordable, portable and user-friendly device that can provide reliable, objective balance assessments without requiring extensive technical expertise. Such a solution could make balance assessment more accessible in clinical, community and aged care settings, supporting earlier intervention and personalised care.

THE AI INTERVENTION

Making postural balance assessment more accessible

The University of Canberra research team has developed Balance Mat, a portable and user-friendly device for objective postural balance assessment. The team first validated the device against gold-standard force plates and commonly used clinical balance assessment tools to establish its reliability and accuracy.

Building on this validation, the researchers integrated an AI layer that analyses postural sway patterns and classifies balance performance into three categories: poor, moderate and good. This provides an easy-to-understand interpretation of balance performance without requiring specialist expertise.

Balance Mat is particularly valuable for regular and continuous monitoring, allowing changes in balance performance to be tracked over time and potentially identifying early signs of deterioration or improvement following rehabilitation. Importantly, Balance Mat is not intended as a diagnostic tool, but rather as a decision-support and monitoring solution that complements clinical assessments and helps healthcare professionals make more informed decisions.

AI Role: AI Assistant

Informs: AI provides information; a person makes every decision.

PREVENT

CARE

- *Shrestha, A., Herath, D., Fearon, A., & Ghahramani, M. (2026). Technical and Clinical Validation of a Portable Optical Fibre Balance Mat for Quantifying Postural Sway in Older Adults. Sensors, 26(13), 4021.*
- *Shrestha, A., Herath, D., Fearon, A., & Ghahramani, M. (2025, May). Assessing the Reliability and Validity of a Balance Mat for Measuring Postural Stability: A Combined Robot-Human Approach. In 2025 IEEE Medical Measurements & Applications (MeMeA) (pp. 1-6). IEEE.*
- *Raj, I. S., Lim, Y. P., & Nosaka, K. (2025). Evaluating the test-retest reliability and comparability of postural sway measures from the Balance Mat and a force plate. Intelligent Sports and Health, 1(2), 79-85.*
- *Ghahramani, M., Hosseini, I., & Herath, D. (2022, October). Performance analysis of a postural balance assessment mat prototype using inertial sensor. In 2022 IEEE Sensors (pp. 1-4). IEEE*

08

THE IMPACT

Advancing: Patient Outcomes | Workforce & Skills

The Balance Mat has the potential to make objective balance assessment more accessible, affordable and easier to understand. For end users, it enables regular monitoring of postural balance, helping identify changes over time and supporting earlier intervention and personalised rehabilitation. For healthcare professionals, it provides an easy-to-interpret measure of balance performance without requiring specialised equipment or extensive technical expertise.

For Balance Mat Pty. Ltd (Australian SME), the project creates an opportunity to commercialise a locally developed, research-validated technology, expand into healthcare and aged care markets, and strengthen Australia's capability in digital health innovation.

Balance Mat
LIVE WELL LONGER

COLLABORATIVE ROBOTICS LAB

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:

Evidence & Validation | Translation, Value & Scale

The Balance Mat is already commercially available and used for postural balance assessment. The University of Canberra research team has validated the device against gold-standard force plates and commonly used clinical assessment tools. Recommendations from this research have already been implemented by the Australian SME industry partner to improve the product.

The addition of the AI tool, developed and tested to interpret postural sway and classify balance performance as poor, moderate or good, is not yet available for general use.

The AI functionality has been evaluated, with the next step to integrate this capability into the commercial product, making AI-supported balance monitoring more widely accessible.

Contact Details:
Maryam Ghahramani e:Maryam.Ghahramani@Canberra.edu.au |
Damith Herath e:Damith.Herath@Canberra.edu.au

ColonAI:

AI - DRIVEN 3D RECONSTRUCTION AND IMMERSIVE VISUALISATION OF THE COLON FOR BOWEL CANCER SCREENING

UNIVERSITY OF TECHNOLOGY SYDNEY DATA SCIENCE INSTITUTE
UNIVERSITY OF LISBON INSTITUTO SUPERIOR TECNICO

09

THE CHALLENGE

Bowel cancer is one of the most commonly diagnosed cancers and the second leading cause of cancer death in Australia, yet it is also among the most preventable. Detected at its earliest stage, five-year survival exceeds 90%, against roughly 72% across all stages combined[1]. Optical colonoscopy, the gold standard, is invasive, costly, requires sedation and bowel preparation, and depends on specialist facilities that are scarce in rural and remote areas, where screening participation is already lowest. CT colonography offers a less invasive alternative, reconstructing the colon in three dimensions for virtual examination, but its reliability hinges on accurate segmentation. Current general-purpose AI segmentation models miss polyps, ignore faecal matter and fail to delineate the colon wall, where precancerous lesions arise[2, 4]. Without reliable segmentation, CT colonography cannot be trusted as a scalable screening pathway.

THE AI INTERVENTION

Making postural balance assessment more accessible

ColonAI turns a routine CT colonography scan into a navigable 3D model of the colon. First, a deep learning model segments the colon from the CT scan, including fluid-filled regions that commonly hide parts of the bowel wall; it combines air-based segmentation with a 3D neural network trained to detect residual fluid, and has been benchmarked against general-purpose tools such as TotalSegmentator and MONAI Auto3DSeg[2, 4].

Second, the segmentation is reconstructed as a 3D surface and a centreline through the colon is extracted.

Third, the model is loaded into an interactive viewer where a reader flies through the colon interior, along the centreline or freely, to inspect the wall for polyps[3]. A companion tool, CORAL, lets radiologists annotate scans to grow the training data[5].

The work is at laboratory prototype stage at UTS, developed with Instituto Superior Técnico in Lisbon, using de-identified public CT colonography datasets. No Australian patient data has been used and there has been no clinical deployment.

AI Role: AI Tool

Informs: The model segments the colon from a CT scan and reconstructs it as a navigable 3D model; a reader inspects it for polyps and makes every decision

OPERATE

1. *Australian Institute of Health and Welfare. Endometriosis in Australia 2023.*

1. *Freire P, Maciel A, Pereira J, Jorge J, Moreira C. CLEAR: Colon segmentation with liquid error avoidance and refinement for VR colonography. IEEE VR Abstracts and Workshops (VRW), 2025.*
2. *Serras J, Duchowski A, Nobre I, Moreira C, Maciel A, Jorge J. Immersive virtual colonography viewer for colon growths diagnosis: design and think-aloud study. Multimodal Technologies and Interaction 024;8(5):40*
3. *Faria I, Cheng G, Adams N, Bin Haron Z, Zorzal E, Prasad M, Sonu M, Jorge J, Moreira C. Towards AI-driven high-fidelity virtual colonoscopy through accurate colon lumen segmentation. 3rd International Workshop on Medical Extended Reality (MedicalXR 2026), IEEE ISMAR 2026 Adjunct Proceedings, 2026 (accepted)*
4. *Cheng G, Bin Z, Adams N, Zorzal E, Vona F, Jaume-i-Capó A, Prasad M, Sonu M, Jorge J, Moreira C. CORAL: COlonography Radiology Annotation Lab. Proceedings of the 35th ACM International Conference on Information and Knowledge Management (CIKM 2026), Demonstration Track, Rome, Italy. ACM, 2026 (accepted)*

09

THE IMPACT

Advancing Patient Outcomes | Workforce & Skills

The proposed solution could provide radiologists with more complete and anatomically faithful 3D reconstructions of the colon, supporting interpretation of CT colonography and potentially improving the visibility and assessment of colonic lesions. By reducing fragmentation in existing reconstructions, it could improve the usability of 3D visualisation and support more efficient and consistent image interpretation.

If validated in clinical practice, the solution could contribute to improved polyp detection, reduced reporting time and greater inter-reader agreement.
More reliable interpretation could also support appropriate decisions about follow-up investigation, including referral for optical colonoscopy where indicated. For health services, improved diagnostic confidence and reporting efficiency could contribute to more streamlined diagnostic pathways and potentially improve access to bowel cancer investigation for rural and regional patients. These benefits would require evaluation against current practice, including diagnostic sensitivity, reporting efficiency, referral appropriateness and downstream patient outcomes.

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:

Evidence & Validation | Translation, Value & Scale

The project is currently at research prototype stage, with promising technical performance demonstrated on public test scans. Segmentation achieves a Dice score of **99.2%** and surface error of approximately 1 mm, compared with around **84%** and **22 mm** for general-purpose tools 3. These results demonstrate technical performance rather than established clinical impact.

The CT-to-3D colon pipeline has been published through IEEE VR 2025 1 and ISMAR 2026 3 workshops, with the annotation interface presented as a CIKM demo 4. An MSc thesis documenting the method is also due for completion in the coming months.

The next development phase will focus on a post-processing algorithm to remove artefacts from AI-generated masks, including holes and discontinuities, followed by release of a high-fidelity colon mask dataset. The model will then be fine-tuned on Australian CT scans ahead of clinical trials.

Progression towards clinical evaluation will require a clinical radiology partner, ethics approval for access to local CT colonography data, and an evaluation of compatibility with existing PACS and reporting workflows. An MRFF application to support this development program has been submitted.

Contact Details: **Catrina Moreira** | **e: Catarina.pintomoreira@uts.edu.au**

Electronic Health Record De-identification

RMIT UNIVERSITY

10

THE CHALLENGE

Australian hospitals generate vast volumes of electronic health record data that could accelerate AI-driven healthcare research and improve patient outcomes. However, these records contain protected health information, which prevents their use for AI development unless they are first securely de-identified.

Current research environments lack the sovereign, scalable computing infrastructure needed to process large clinical datasets efficiently while meeting the privacy, governance and data sovereignty requirements of Australian healthcare institutions. As a result, existing de-identification workflows within hospital environments are often slow, difficult to scale and unable to consistently achieve the quality required for secure data sharing with research institutions. This limits collaboration between hospitals and researchers and delays the development of new healthcare AI solutions.

THE AI INTERVENTION

Protecting patient privacy while preserving clinical data for research

The project uses large language models, transformers and other natural language processing models to automatically detect and remove protected health information from identifiable electronic health records, while preserving the clinical information required for research. The models are to be trained and fine-tuned on Australian clinical data, adapting them to local healthcare terminology and documentation practices to improve accuracy.

The aim is a continuously available, secure data platform in which clinical records are ingested, de-identified and stored, and authorised researchers can work with the data in a controlled environment. The project has been selected as a prototype workload for the NIIN Sovereign AI Cloud, which will provide the secure, scalable computing needed to process millions of clinical documents while keeping sensitive patient data within Australia and under Australian governance. With data and partners in place, the proof of concept is expected to run for approximately three months, limited to a single research project and a controlled dataset, with models processing clinical text continuously and retrained as new annotated data becomes available.

AI Role: AI Tool

Acts autonomously within defined limits: Processes clinical data in real time, with outputs subject to subsequent review

DISCOVER

Source: Australian Institute of Health and Welfare, Rural and remote health.

1. NIIN Sovereign AI Cloud workload nomination, Electronic Health Record De-identification, RMIT University, 2026 (unpublished)

10

THE IMPACT

Advancing Built & Digital Infrastructure

If the proof of concept succeeds, research using Australian clinical data could accelerate while maintaining regulatory compliance, and hospitals and research institutions could collaborate more closely through secure data sharing. The same foundation could then support broader healthcare AI applications, including clinical decision support, clinical information extraction and healthcare analytics. In the longer term, it could support a secure repository of de-identified Australian clinical data and the development of Australian healthcare foundation models. The pilot would evaluate de-identification accuracy, security, governance and operational workflows.

RMIT UNIVERSITY

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:
Infrastructure & Data | Trust & Governance | Evidence & Validation

The proof of concept is deliberately contained, running over a clearly defined pilot period so that the approach can be thoroughly validated before any broader deployment is considered.

If it succeeds, the project will be expanded to additional Australian healthcare organisations and larger clinical datasets, positioning the team to pursue larger collaborative funding with government, healthcare and industry partners. Throughout, the work must meet the strict privacy, ethical and governance requirements that apply to health records under Australian legislation and institutional policy.

Contact Details: **Distinguished Prof. Karin Verspoor | RMIT University**

Remote Patient Monitoring Evaluation Effort

LA TROBE UNIVERSITY, DIGITAL INNOVATION HUB
VICTORIAN DEPARTMENT OF HEALTH (VIC DOH); DIGITAL HEALTH CRC

11

THE CHALLENGE

Remote patient monitoring is being used across acute care, chronic disease management, hospital-at-home, post-discharge care, maternity care, aged care and rural and regional health services. However, technologies are often evaluated inconsistently, making it difficult for health services to determine whether a system is safe, clinically effective, acceptable to patients and staff, equitable and worth investing in.

Australian evidence indicates that remote patient monitoring is generally feasible, safe and acceptable in a range of settings, but its benefits depend on how it is integrated into a defined model of care, including clear responsibilities for reviewing data and responding to deterioration.[1] There is also limited Australian trial evidence and limited consensus about the evaluation of AI-enabled monitoring, alerting and prediction.

A practical framework is needed to support consistent decisions about adoption, implementation, procurement and scale.

THE AI INTERVENTION

A guide for effective remote patient monitoring

The proposed initiative is an evaluation framework for AI-enabled and digitally supported remote patient monitoring rather than a single clinical AI tool. The framework would define the questions, measures and evidence required to assess a remote monitoring solution. It would consider the technology's intended use, data quality, prediction or alert performance, clinical workflow, patient and staff experience, safety, equity, privacy, cybersecurity, implementation, workforce impact and cost-effectiveness.

The framework would be developed through evidence review, stakeholder consultation and testing against real-world use cases. It would distinguish technical performance from meaningful patient and health-service impact. The work is currently focused on development, socialisation and evaluation. It is not yet a clinical deployment platform and would not itself make clinical decisions.

AI Role: (No AI present)

Informs only: The framework supports people to assess and make decisions about AI-enabled monitoring technologies, Supporting recommendations and decisions related to implementation, evaluation design or scaling

OPERATE

CARE

1. *Agency for Clinical Innovation, NSW Health. Remote patient monitoring: Evidence check. https://aci.health.nsw.gov.au/__data/assets/pdf_file/0011/959303/ACI-Remote-patient-monitoring-evidence-check.pdf*
2. *Agency for Clinical Innovation, NSW Health. Remote patient monitoring: Experiential evidence report. https://aci.health.nsw.gov.au/__data/assets/pdf_file/0004/962482/ACI-Remote-patient-monitoring-experiential-evidence-check.pdf*
3. *Oudbier SJ, Souget-Ruff SP, Chen BSJ et al. A systematic review of the impacts of remote patient monitoring. npj Digital Medicine, 2024. https://www.nature.com/articles/s41746-024-01182-w*
4. *Remote Patient Monitoring Evaluation Framework, La Trobe University, draft project materials, 2026.*

11

THE IMPACT

Advancing: Built & Digital Infrastructure | Workforce & Skills

The framework is intended to improve the consistency and quality of remote monitoring evaluations, helping health services identify which technologies and models of care are safe, effective, equitable and sustainable.

A future evaluation would look to measure framework usability, stakeholder agreement, completeness of evaluations, decision-making confidence, implementation readiness and the quality of evidence generated.

LA TROBE UNIVERSITY

VICTORIA State Government | Department of Health

FROM INNOVATION TO ADOPTION

Closing the Adoption Gap:
Evidence & Validation | Translation, Value & Scale

The initiative is in the development, socialisation and evaluation phase.

The next steps are to refine the framework, consult with health services, clinicians, consumers, technology developers and policymakers, and test it against selected remote monitoring use cases. Before broader adoption, the framework will need to be practical for different care settings, proportionate to risk and aligned with existing privacy, ethics, procurement, clinical governance and digital health requirements.

The longer-term aim is to support a common national approach to responsible remote monitoring evaluation.

Contact Details: **Prof James Boyd** | **e: james.boyd@latrobe.edu.au**

04 The NIIN AI x Health Platform

BUILDING THE CONDITIONS FOR ADOPTION

The examples in Section 3 illustrate both the expanding possibilities of AI and the challenges involved in translating those possibilities into health-system value.

Emerging technologies can combine increasingly sophisticated capabilities to perceive, predict, generate, reason and act. But their contribution to healthcare depends on how they operate within real environments, interact with people and workflows, and demonstrate value through evidence.

This reflects the central argument of this report: technological possibility does not automatically translate into health-system impact.

Across discovery, care, operations and prevention, realising the opportunities of AI requires health systems to develop the infrastructure, governance, evidence, skills, integration capabilities and pathways to value that enable responsible adoption.

> ‘Closing the AI Adoption Gap is therefore essential. But it is not the end of the challenge.’

AI capabilities will continue to evolve. New applications will emerge, existing technologies will improve, and the boundaries between predictive, generative, reasoning, agentic and physical systems will become increasingly blurred.

Health systems cannot respond through a succession of isolated technology projects, each requiring new infrastructure, governance arrangements, workforce training and implementation processes.

They need to develop the capacity to respond to technological change itself.

This means moving beyond the adoption of individual technologies towards health systems capable of continuously evaluating emerging possibilities, experimenting safely, integrating effective solutions and adapting as technologies, evidence and health needs evolve.

The six conditions for adoption identified in this report provide the foundations for this transition.

Infrastructure and data, trust and governance, integration, evidence and validation, workforce and skills, and translation, value and scale are not simply barriers to be overcome for individual technologies. They are capabilities that health systems must develop and sustain.

Secure infrastructure must support changing technological requirements. Governance must evolve as AI systems acquire new capabilities. Evidence and evaluation must extend beyond initial validation to encompass ongoing performance, safety and value. Workforce capability and models of care must develop alongside emerging technologies, while pathways to translation must enable effective innovations to become part of normal practice.

Together, these capabilities provide the foundations of an adaptive health system.

Such a system is not defined by the number of technologies it adopts, or the speed with which it introduces them. It is defined by its capacity to recognise emerging opportunities, evaluate them critically, integrate what works, manage risks and continually improve how healthcare is organised and delivered.

Adaptation does not mean pursuing technological change for its own sake. It means developing the institutional capacity to make informed decisions about when, where and how change creates value, while safeguarding patient safety, equity, privacy and accountability.

FROM ORGANISATIONAL ADAPTATION TO COLLECTIVE LEARNING

The next frontier is therefore not simply AI adoption, but the development of adaptive health systems.

Much of this capacity must be developed within individual health organisations.

Hospitals, health services and other care providers need the infrastructure, governance, evidence and workforce capability to evaluate and integrate emerging technologies into their own environments.

But health systems are interconnected. They share infrastructure, workforces, regulatory arrangements, funding mechanisms, knowledge and increasingly complex flows of information and care.

The conditions shaping AI adoption therefore extend beyond individual organisations, as does the knowledge generated through experimentation and implementation.

An approach developed in one care environment may offer insights relevant to another. A challenge identified during implementation may reveal a broader infrastructure, governance or workforce requirement. Even an unsuccessful experiment may help other organisations avoid repeating the same mistakes.

The applied innovation activities described in Section 3 illustrate how this learning can begin. By bringing together technology providers, researchers and health partners around practical challenges, they create opportunities to examine not only whether emerging technologies can perform particular tasks, but what their use reveals about workflows, governance, workforce requirements and implementation.

The broader opportunity is to ensure that these insights do not remain confined to individual projects.

This requires mechanisms through which evidence, implementation experience, workforce learning and governance approaches can move between organisations and settings, while recognising that solutions developed in one environment may need to be adapted for another.

An adaptive health system is more than a collection of organisations capable of adopting new technologies. It is a system in which learning can circulate, inform decisions and support continuous improvement across organisational and institutional boundaries.

No single organisation can independently develop all the capabilities, generate all the evidence or navigate all the challenges associated with emerging AI technologies.

The capacity to learn collectively therefore becomes an essential part of the capacity to adapt.

The NIIN Health Alliance: enabling adaptive health systems

This is where the NIIN Health Alliance is coming to the fore, with its seven innovation centres, eight Research Chairs, five health-focused laboratories and specialised technology laboratories, connecting industry, universities, government and health-system partners across Australia.

Through the NIIN Health Alliance, these capabilities contribute to a connected ecosystem spanning research, technology development, applied experimentation, workforce development and translation.

The network also benefits from mechanisms for governance and coordination, including the Health Alliance Advisory Committee and NIIN Council, which provide foundations for connecting activities and supporting shared priorities.

Individually, these capabilities contribute to innovation, experimentation and implementation. Connected through a national platform, they can strengthen the collective capacity of health systems to explore emerging technologies, develop the conditions for adoption and learn from experience.

> The opportunity is to build on the Alliance's existing foundations in three interconnected ways.

First, enabling experimentation and evaluation.

The Alliance's network of specialised laboratories, Innovation Centrals and technology partnerships

provides environments in which emerging AI capabilities can be explored against real health challenges.

Across the network, researchers, technology providers, clinicians and health organisations can collaborate to develop use cases, test assumptions, examine integration requirements and generate evidence before technologies are deployed more widely.

These environments also create space to identify limitations and determine where innovations require further development or are not yet ready for adoption.

Second, building the capabilities required for adoption and adaptation.

The Alliance can help strengthen the foundations on which responsible AI adoption depends, including secure infrastructure, connected data environments, governance and evaluation, workforce development and practical knowledge about integrating technologies into systems of care.

These are not simply capabilities required for individual projects. They are foundations that can help health organisations respond to successive generations of emerging technologies.

Third, connecting learning across the health ecosystem.

By connecting universities, health services, industry and government, NIIN can help ensure that knowledge generated through individual projects informs activity across different organisations and settings.

Sharing evidence, implementation experience, workforce learning and governance approaches can reduce duplication, accelerate understanding of what works and strengthen pathways from experimentation towards sustained adoption.

The case studies in this report illustrate the potential of this approach. Applied innovation environments enable technologies to be explored in context, generating insights into the infrastructure, governance, workforce and integration requirements that shape their adoption.

The opportunity is to connect these insights more deliberately, so that each project contributes not only to the development of a particular innovation, but also to the broader capacity of health systems to evaluate and adopt emerging technologies.

The NIIN Health Alliance's value lies not only in the projects undertaken across its network, but in the collective capability that can be developed by connecting them.

Together, these functions position the Alliance to evolve from a network connecting innovation capabilities towards a national platform supporting adaptive health-system transformation.

Extending adaptive capacity across the Asia Pacific

The opportunity for collective learning extends beyond Australia.

Across the Asia Pacific, health systems face shared challenges, including ageing populations, chronic disease, workforce pressures, constrained resources and inequities in access to care.

Yet they operate within different institutional, economic, technological and social environments.

These differences matter. An AI application that works effectively in one health system may require substantial adaptation in another, reflecting differences in infrastructure, workforce capability, clinical practice, governance and funding.

The NIIN Health Alliance's regional connections provide a foundation for reciprocal learning. Curtin University and Cisco have established an Innovation Central in Singapore, the Alliance has a presence in Malaysia through Monash Malaysia, and RMIT Vietnam is developing connections across ASEAN networks in digital health adoption and transformation.The objective is not simply to extend Australian solutions into new markets, but to connect technologies, evidence and implementation experience across different health-system contexts.

Regional diversity can therefore strengthen understanding of what works, for whom and under what conditions, contributing to more adaptive health systems across the region.

Priorities for the Next Phase

FROM AI ADOPTION TO ADAPTIVE HEALTH SYSTEM

FROM AI ADOPTION TO ADAPTIVE HEALTH SYSTEM

The next frontier is not simply AI adoption. It is adaptation.

AI will continue to evolve. Health systems cannot respond through an endless succession of isolated technology projects.

They need the enduring capacity to recognise emerging opportunities, evaluate them critically, integrate what works, manage risks and continually improve.

This is the foundation of an adaptive health system

1 **BUILD TRUSTED FOUNDATIONS**
Secure infrastructure, connected data and responsible governance

2 **TEST AI IN REAL HEALTH SYSTEMS**
Co-design, experimentation and practical evaluation

3 **BUILD WORKFORCE CAPABILITY**
Skills, judgement and confidence to work effectively with AI

4 **TURN EXPERIMENTATION INTO SHARED LEARNING**
Connect evidence and experience across organisations and responsible governance

5 **ENSURE AI CREATES CAPACITY FOR BETTER CARE**
Demonstrate improvements in outcomes, access, workforce experience and health-system performance.

"Shared testbeds, sandboxes and demonstration sites would provide earlier access to relevant technologies, data, clinical expertise and infrastructure, while allowing innovations to be evaluated in real-world settings."

University Partner,
NIIN Health Alliance Survey 2026

1 | BUILD TRUSTED FOUNDATIONS FOR ADOPTION

Health systems need secure, reliable and adaptable foundations for increasingly capable AI.

This includes computing capacity, appropriate data environments, interoperability, cybersecurity and clear approaches to privacy, sovereignty and accountability. As AI moves closer to clinical decisions and operational workflows, these foundations must enable technologies to be developed, evaluated and deployed with appropriate safeguards, clear responsibilities and meaningful human oversight.

They must also evolve as technological capabilities, applications and risks change.

What good looks like

- **Secure** appropriately governed environments enable sensitive health data to be used with clear accountability for access and use.
- **Infrastructure** supports emerging multimodal, agentic and advanced AI workloads without compromising privacy, security or sovereignty.
- **Governance** is embedded from the outset, with proportionate safeguards, defined responsibilities and meaningful human oversight.

NIIN Sovereign AI Cloud (SAIC):

SHARED INFRASTRUCTURE FOR AI-READY HEALTH INNOVATION

The NIIN Sovereign AI Cloud (SAIC) is emerging as shared enabling infrastructure for the NIIN network, providing an Australian-hosted environment for AI development, experimentation and evaluation involving sensitive data and models.

For the NIIN Health Alliance, this capability is particularly important. Healthcare AI increasingly requires access to substantial computing capacity while maintaining strong controls over sensitive information, cybersecurity, privacy, sovereignty and governance. The SAIC is designed to provide a secure environment in which universities and their industry partners can develop, test and evaluate AI applications without requiring each organisation to build the full infrastructure independently.

The SAIC also connects with the wider NIIN innovation ecosystem. Research Chairs, specialised laboratories and Innovation Centrals can bring complementary capabilities together around shared industry and research challenges. with the prototype and its first four pilot use cases being demonstrated at Cisco Live Melbourne 2026.

Electronic Health Record De-identification

One of the initial pilot use cases from RMIT University and Austin Health addresses a fundamental barrier to healthcare AI innovation: securely using sensitive Electronic Health Record (EHR) data for AI development and research.

NIIN in Action

2 | TEST AI IN THE CONTEXT OF REAL HEALTH SYSTEMS

Technical performance alone is not sufficient evidence of value.

AI must be evaluated within the workflows, environments and constraints in which it will be used. A technology that performs well in isolation may require substantial adaptation to work safely and effectively in practice.

Applied innovation environments enable health partners to co-design, prototype and evaluate emerging technologies, generating evidence about integration, usability, safety and value before wider implementation.

The objective is not simply to demonstrate that a technology works, but to understand whether, how and under what conditions it can create value within real systems of care.

What good looks like

- Testing considers the full system around an AI application, including workflows, interoperability, data quality, human factors, governance, safety and workload.
- Applied evaluation establishes whether a solution is ready to progress, requires adaptation or should not proceed to implementation.
- Health organisations can explore emerging technologies in neutral environments without requiring premature deployment into live clinical settings
- Evaluation connects to clear pathways for further validation, implementation and adoption, with insights informing future projects.

NIIN Health Alliance Applied Innovation Environments

SHARED INFRASTRUCTURE FOR AI-READY HEALTH INNOVATION

The NIIN Health Alliance connects specialised health laboratories and Innovation Centrals across Australia and the region, bringing together health, technology, research and industry capabilities. Together, these environments form a distributed platform for prototyping, workforce development and evaluating emerging technologies against health system challenges.

The RMIT-Cisco Health Transformation Lab illustrates this approach through its Sandbox, which brings together health partners, technology providers and multidisciplinary expertise to explore use cases, prototype solutions and examine implementation requirements. Its intelligent fall-response initiative (Section 3) demonstrates how AI capabilities can be tested in context, identifying potential value and implementation considerations.

The University of the Sunshine Coast Digital Health Productivity Lab focuses on digital innovation in health and ageing, including and healthcare productivity.

The Cisco–Flinders Digital Health Design Lab connects digital infrastructure, cybersecurity and medical technologies with clinical and operational workflows.

Together, these environments demonstrate the value of a distributed innovation network, connecting complementary expertise across digital health, infrastructure, cybersecurity, healthy ageing and applied experimentation. The opportunity is to strengthen these connections, enabling projects to access relevant capabilities and insights to inform innovation across the Alliance.

NIIN in Action

3 | DEVELOP WORKFORCE CAPABILITY ALONGSIDE TECHNOLOGICAL CAPABILITY

AI changes work as well as technology.

Some tasks will be automated, others augmented, and new forms of work will emerge around supervising, evaluating and coordinating intelligent systems. Health professionals and other workers need the capability To understand, use and critically assess these technologies, recognising their limitations and exercising appropriate human judgement.

This requires more than general AI literacy. Workforce developmentmust be connected to real workflows and evolve alongside changing technologies, roles and models of care.

Importantly, AI adoption should create capacity for higher-value work, including professional judgement, relationships, Learning and care, rather than simply increasing expectations of productivity.

What good looks like

- AI capability is developed across clinical, operational, technical, administrative and leadership roles.
- Workforce development addresses interpretation, limitations, risk, supervision and human judgement, not simply technology use.
- Training is connected to real workflows and health-system contexts.
- Skills development evolves alongside changing technologies and roles, supporting higher-value work and sustainable workforce transitions

NIIN AI Skills Challenge

The NIIN AI Skills Challenge is developing a shared, practical foundation for understanding, assessing and strengthening AI capability across universities, industry and the health workforce. The initiative connects emerging technology with the practical skills required to use AI effectively and responsibly across different roles and settings.

The first phase, led by a NIIN AI Skills Working Group, is complete. Key outputs include:

- A draft NIIN AI Skills Taxonomy establishing a common language for AI capability.
- An AI Skills Framework aligned with recognised international frameworks, including DigComp and SFIA.
- Supporting framework-mapping resources and assessment tools.
- An initial prototype interface for exploring AI capability pathways and learning outcomes.

Together, these outputs provide a starting point for moving beyond broad discussions about AI literacy towards a more structured understanding of the skills people and organisations need as AI becomes more deeply embedded in work.

The next phase will focus on evolving the prototype into a practical digital platform that enables organisations to assess capability, identify skills gaps and inform targeted workforce development. By connecting these insights across the NIIN network, the initiative aims to better align learning with emerging industry and healthcare needs.

Feedback from participating institutions and industry partners will inform the framework's refinement and the platform's practical application. Elements of both are scheduled to be demonstrated at the NIIN stand during Cisco Live Melbourne in November 2026.

NIIN in Action

4 | TURN EXPERIMENTATION INTO SHARED EVIDENCE AND LEARNING

AI changes work as well as technology.

Technical performance alone is not sufficient evidence of value.Turn experimentation into shared evidence and learning.

Learning generated through individual AI projects can remain within the organisations undertaking them, limiting opportunities to build on experience, reduce duplication and inform decisions elsewhere.

Adaptive health systems require mechanisms through which evidence, implementation experience and lessons from both successful and unsuccessful initiatives can be shared. Evaluation must extend beyond technical performance to consider patient and workforce experience, safety, equity, workflow impact, cost and implementation readiness.

The case studies in this report illustrate how applied experimentation can begin to generate this knowledge. Their significance lies not only in the technologies being explored, but in the questions they raise about the conditions required for adoption.

Connecting these insights across projects and organisations can strengthen future decisions and develop more systematic approaches to evaluating emerging technologies.

What good looks like

- AI projects generate reusable evidence about what worked, what did not, under what conditions and what implementation elsewhere would require.
- Evaluation considers technical performance alongside patient and workforce experience, safety, equity, workflow impact, cost and readiness.
- Insights are shared through common frameworks, practical guidance, case studies and communities of practice.
- Evidence and implementation learning move between organisations and regional contexts, recognising the need for local adaptation.

Connecting Evidence and Experience

Through the NIIN Health Alliance, the Industry Alumni Programs, industry roundtables, cross-sector partnerships and knowledge-sharing activities connect researchers, technology providers, health organisations and government to exchange insights and identify collaboration opportunities.

Existing initiatives provide a foundation for collective learning. **The Health x Digital Innovation Series**, delivered with local Innovation Centrals, explores emerging technologies, showcases projects and identifies implementation opportunities. Similarly, Innovation Central Canberra and La Trobe's Digital Health Showcases bring researchers, technology developers, start-ups and health stakeholders together to explore practical applications and collaboration.

The Industry Alumni Program connects experienced technology professionals and former Cisco leaders with NIIN initiatives, contributing strategic insight, technical expertise and mentorship to strengthen industry engagement and support innovation translation.

The Digital Skills for Health pilot, delivered by RMIT, Cisco, Grampians Health and RMIT College of Vocational Education, is an exemplar of NIIN cross-sector partnership. Address critical digital skills gaps in Grampians hospital network, the pilot developed five training courses and reached 365 learners across three intakes. Sharing lessons through NIIN executive roundtables and forums has since created opportunities to inform workforce development across other hospital environments around Australia.

Building on these activities, NIIN can strengthen the capture and exchange of implementation evidence, workforce insights and governance approaches, enabling local experimentation to inform collective learning and support adaptation across diverse health-system contexts.

NIIN in Action

5 | ENSURE AI CREATES CAPACITY FOR BETTER CARE

The ultimate measure of AI adoption is not the sophistication of the technology or the number of applications deployed.

It is the value created for patients, workforces and health systems.

For patients and communities, this means safer, more accessible and effective care, alongside greater opportunities for prevention and earlier intervention.

For workforces, it means reducing unnecessary administrative and repetitive work, strengthening professional capability and agency, and creating more time for judgement, relationships and care.

For health systems, it means improving coordination, capacity, resilience and resource use, while supporting more equitable access and better outcomes.

These benefits must be demonstrated through evidence, including whether they reach different populations and services, whether new risks or harms emerge, and whether technologies continue to serve the needs of those affected by them in adaptive health systems, implementation is not the end of the process. Technologies and practices must continue to be evaluated, with the capacity to refine, expand, scale back or discontinue approaches as evidence changes.

What good looks like

- AI demonstrates measurable improvements in health outcomes, safety, accessibility, quality or experience, including for underserved populations.
- Workforce benefits are assessed through workload, professional agency, capability, time available for care and sustainable working conditions.
- Implementation demonstrates value across the wider health system, including coordination, resource use, capacity and equity.
- Outcomes continue to be monitored, with evidence informing decisions to adapt, scale back or discontinue technologies.

A platform for partnership

The NIIN Health Alliance's partnerships across healthcare, universities, industry and government provide channels to identify shared priorities, understand implementation needs and connect technology development with health-service challenges.

By bringing together technology development, applied experimentation, workforce capability and health-system insight, the Alliance can help ensure innovation is directed towards meaningful challenges and evaluated against outcomes that matter.

These partnerships also provide pathways through which evidence of value can inform further development, implementation and wider adoption.

Evidence of this can be seen in the development of AI-enabled Digital Front Door capabilities. Cisco technology partner ArchiTech is working with a number of NIIN universities to explored how Agentic AI assistants and automation could support patient access, routine enquiries, booking and care coordination. Its work has included scoping a Cisco-funded proof-of-value project with a district health service and collaborating with Innovation Central Canberra to examine relevant use cases, compliance requirements and barriers to adoption in aged care. This work illustrates how technology development can be connected to the practical needs and implementation constraints of healthcare providers.

NIIN in Action

Conclusion

Building Australia's Capacity for Adaptive Health Systems

Artificial intelligence is changing what is possible in health. But technological progress alone will not determine the future of healthcare.

The next generation of health transformation will depend on the capacity of health systems to understand emerging technologies, evaluate their potential, integrate them effectively and adapt as their capabilities and consequences evolve.

That capacity must be built.

It requires trusted infrastructure, capable workforces, environments for experimentation and evaluation, and mechanisms through which evidence and experience can inform practice across organisations and systems.

The NIIN Health Alliance brings together many of the foundations required for this transition. Its opportunity is to connect them more deliberately, transforming individual innovation activities into shared learning and strengthening the collective capacity of health systems to respond to emerging technologies.

Across Australia and the Asia Pacific, this creates an opportunity to build not simply more technologically advanced health systems, but more capable and adaptive ones.

The next generation of healthcare will not be defined simply by the technologies health systems adopt, but by their capacity to learn, adapt and transform as new possibilities emerge.

Australia has an opportunity not only to lead in the development and adoption of AI, but to help build the adaptive health systems that will shape the future of healthcare.

> The task now is to connect the capabilities that make it possible.

NIIN

Acknowledgements

The Health x Digital Transformation Report 2026–2027 has been prepared by the RMIT–Cisco Health Transformation Lab on behalf of the National Industry Innovation Network (NIIN) Health Alliance.

Its development has drawn on the insights, experience and expertise of a wide range of contributors across healthcare, technology, research, industry and government.

The NIIN Health Alliance and the Health Transformation Lab sincerely thank everyone who contributed to the development of this report, including those who participated in consultations, discussions and workshops, shared their research and experiences, and helped identify and develop the case studies featured throughout.

We particularly acknowledge the generous engagement and collaboration of colleagues across the NIIN network, including the Cisco Research Chairs, Innovation Centrals, specialised laboratories and members of the NIIN Health Alliance Advisory Committee. Their expertise, commitment and willingness to work across institutional and disciplinary boundaries are central to the strength of the Alliance.

We extend particular thanks to the following individuals for their contributions, guidance and support:

Adam Powick
Former CEO, Deloitte Australia, NIIN Council Member

Prof. Adeeba Kamarulzaman
President & Pro Vice-Chancellor, Monash University Malaysia, & WHO Adviser, NIIN Health Alliance Advisory Committee Member

Assoc. Prof. Alison Craswell
School of Health, University of the Sunshine Coast, Cisco Research Chair for Digital Health & Ageing, NIIN Health Alliance Advisory Committee Member

Assoc. Prof. Catarina Moreira
Associate Professor in Machine Learning, Data Science Institution, University of Technology Sydney

Brad Davies
Director, Vector Consulting, NIIN Secretariat

David Siroky
AI Chief Technology Officer, Cisco APJC, NIIN Health Alliance Advisory Committee Member

Prof. James Boyd
Chair of Digital Health and Innovation, La Trobe University

Jeremy Lee Commercial Director, APAC, Rezonate

Lincoln Dacy Co-Founder, Rebee Health

Distinguish Prof. Madhu Bhaskaran
Discovery to Device MedTech Prototyping and Scale-Up Facility, RMIT University

Dr. Maryam Ghahramani
Program Director in Engineering, Faculty of Science and Technology, University of Canberra

Reg Johnson
Director, Education and Strategic Industries, Cisco ANZ

Rob De Nicolo
NIIN Industry Alumni, RMIT University, NIIN Health Alliance Advisory Committee Member

Rob Russell
Founder & Managing Director, ArchiTech Network & Communications Solutions, NIIN Health Alliance Advisory Committee Member

Prof. Ross Young
Deputy Vice Chancellor (Research & Innovation), University of the Sunshine Coast, NIIN Research Chair Advisory Committee Chair

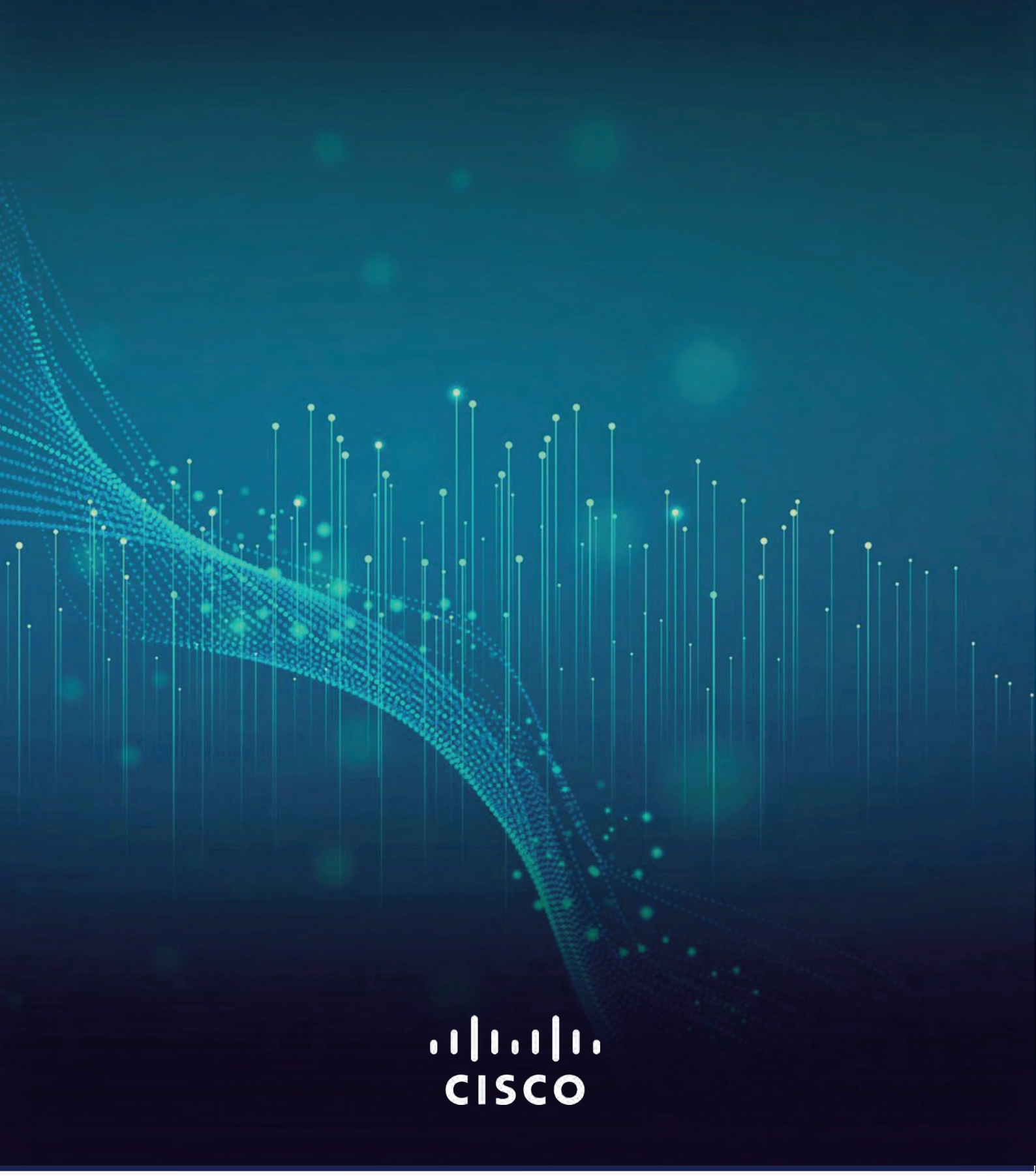
Prof. Shelley Dolan
EO, The Royal Melbourne Hospital

Stefan Leitl
Vice President and General Manager, Cisco Australia, New Zealand and Pacific Islands

Prof. Tom Bentley
Vice President, Strategy & Community Impact, RMIT University

Prof. Trish Williams
Digital Health Systems, College of Science and Engineering, Flinders University, Cisco Research Chair for Digital Health Systems Health Alliance Survey

Professor Vishaal Kishore
Chair, NIIN Health Alliance Advisory Committee
Executive Chair, RMIT–Cisco Health Transformation Lab



Adelaide University
UNIVERSITY OF CANBERRA
Curtin University
Flinders University
QUT Queensland University of Technology
The University Of Queensland AUSTRALIA
LA TROBE UNIVERSITY
RMIT UNIVERSITY
UniSC
UTS