Australian Government
Department of Health and Aged Care

Digital Health Blueprint

2023–2033

A more personalised and connected health and wellbeing experience for all Australians

Acknowledgements

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Trademarks

Terminology used in this document

In this document, we only use the term 'patient' to refer to a person receiving treatment for a disease or injury. When referring to people in the community involved in services related to health and wellbeing, we may use the term 'consumers', 'people' or 'Australians' as appropriate. These terms should be considered inclusive of non-citizens making use of the health system. The term 'healthcare provider' includes individual health professionals and the organisations for whom they work. 'Healthcare' is used as an adjective (for example, 'healthcare provider'), while 'health care' is used as a noun (for example, 'primary health care').

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Minister's introduction

Hon Mark Butler MP
Minister for Health and Aged Care

The Digital Health Blueprint 2023–2033 is a ten-year roadmap to ensure that digital systems drive better care for all Australians. Digital health technologies enable more efficient and collaborative healthcare for both patients and practitioners. They provide more affordable, convenient, and accessible care to people. All while delivering better care and better health outcomes.

This Blueprint is all about how we carefully design digital and data reforms to:

- ensure health information follows patients through the health system, so they can actively participate in, and make informed decisions about, their care;
- enable our world-class healthcare professionals to access a joined up, real-time view of their patients' health information at the point of care;
- make our health system more responsive to emerging technologies, while ensuring the safe and secure use of health data.

The Blueprint recognises that Australians want to be more involved in their own health care. They want health services to be person-centred and for their medical records to be complete, understood, and accessible to their treating healthcare providers, no matter where care is provided.

This is why the Albanese Government has already invested $950 million in digital health. Our digital reforms are essential to strengthen Medicare and ensure it meets the need of patients today and into the future.

The Blueprint also recognises that over the next ten years, secure and standardised data sharing between clinical systems, in real-time, will ensure our health workforce has the tools it needs to provide multidisciplinary, team-based care, particularly to patients with complex conditions or in regional, rural and remote Australia.

Implementing the Blueprint will require national collaboration. A number of actions will require consideration, including where funding is required. As the steward of Australia's healthcare system, the Commonwealth will work in partnership with consumers, healthcare professionals, the health sector, state and territory governments and the health software industry, to ensure we succeed.

I want to acknowledge and thank all of the consumers and healthcare professionals that had input into the development of the Blueprint. I also want to thank the Department of Health and Aged Care, for developing the strategy. I look forward to working together with all our stakeholders to strengthen Medicare for the 21st century.

Part 1

Understanding the health and wellbeing expectations of Australians

Australia's health system, like many others around the world, is in a time of change and great opportunity. Key shared challenges include increased chronic illness, ageing populations, and increasing healthcare costs. Consumers are at the centre of how we address these challenges and shift the focus towards prevention rather than treatment to ensure Australia's health system sustainability.

Australians increasingly expect digital capabilities to support their health and wellbeing journey. The Australian Government Department of Health and Aged Care (the Department) has actively engaged with, and understands, the evolving expectations and needs related to digital health. This understanding is informed by insights from consumers, healthcare providers, and the research, development, and industry communities.

What consumers expect and need

Consumers expect greater access to their health information, which will accompany them throughout their health journey. This supports their right to make informed decisions about their health and wellbeing. It includes having greater access to and choice of healthcare providers and having access to inclusive, culturally appropriate, equitable and usable ways to engage with these healthcare providers in a convenient and accessible way.

Australians value meeting face-to-face with their healthcare providers; however, many consumers are already using digital tools and services to manage their health and wellbeing. The healthcare experience can be improved by consumers and healthcare providers using digital devices like smart phones, apps and websites; and the availability of near-real-time data to support and enhance these services.

What the healthcare workforce expects and needs

Healthcare professionals face workforce pressures and resource constraints while also navigating the demand to rapidly incorporate research into their care delivery. Seamless integration of workflows will better support the workforce to enhance care delivery and enable healthcare professionals to work collaboratively as part of their patients' care team. Greater access to their patients' key health information at the point of care will support healthcare providers in delivering safer and more personalised care.

As both consumers and healthcare providers adopt more digital tools and services, Australia's health system must evolve to match the digital standards seen in industries like government, retail, and banking. Embracing these advancements not only enhances healthcare delivery but also streamlines administrative tasks, allowing healthcare professionals to focus more on direct patient care.

What is needed to support a learning health system

Digital health underpins a modern learning health system. In this system, knowledge obtained during daily clinical practice is uniformly recorded, offering valuable data insights that enhance patient outcomes and promote sustainable care. This interaction of clinical practice and knowledge gathering informs and supports a continuous cycle of improvement in safety, quality and health outcomes [1].

The consistent recording, use and reuse of data will enable researchers, innovators, collaborators and industry to contribute to growing a learning health system. Better use of data will make the health system more connected. This will ensure Australians receive the right services, in the right settings, at the right time, enhancing health equity.

Greater connection through better utilisation of data will also support public health planning and investments that drive innovation and research, supporting the development of a learning health system. Enhanced connection requires ongoing stewardship and a view to anticipate and manage the flow of health information, including potential risks such as data security.

Our vision for digital health in Australia

Trusted, timely and accessible use of digital and data underpins a personalised and connected health and wellbeing experience for all Australians.

Our vision is centred on the use of digital and data to improve how health services are accessed, used and delivered to **help consumers live healthier lives** [2].

We consider digital health as **health and wellbeing in an increasingly digital world** [3]. It is part of a seamless healthcare experience and a connected health system.

Digital health will play a key role in delivering a health system that:

- **places the consumer and their trusted carers at the centre of their health and wellbeing journey**
- **improves the ability to prevent disease and promote health and wellbeing**
- **is more affordable, convenient, accessible and equitable for all Australians**
- **responds to the evolving needs of healthcare providers, researchers and innovators.**

Digital capabilities are key in bringing together improvements in digital tools and services with the skills and abilities required to use them. While digital capabilities in health care are not yet equally available and accessible to all Australians, we understand the need to work towards more universal availability and access to meet these expectations.

Why have we developed a Blueprint for digital health?

The Department plays a unique stewardship role, spanning the entire health system, enabling it to drive unified, national approaches to health care.

Establishing the Blueprint, and its accompanying Action Plan, is a major step towards unifying and prioritising the Australian Government's substantial, long-term investment in digital health, guiding its application to support long-term health reform priorities.

Our strategic priorities aim to help Australians access and manage their health information, and strengthen digital health foundations through policy, legislation and standards that are proactive and long-lasting. These strategic priorities will also support a learning health system by strengthening Australians' trust in data and its appropriate sharing and reuse to deliver healthcare improvements and encourage innovation.

The Blueprint complements other national, state and territory strategies and plans, including the *National Digital Health Strategy* [4], by outlining the desired outcomes for the Department's areas of responsibility to complete a federated view for the role of digital health in the Australian health system.

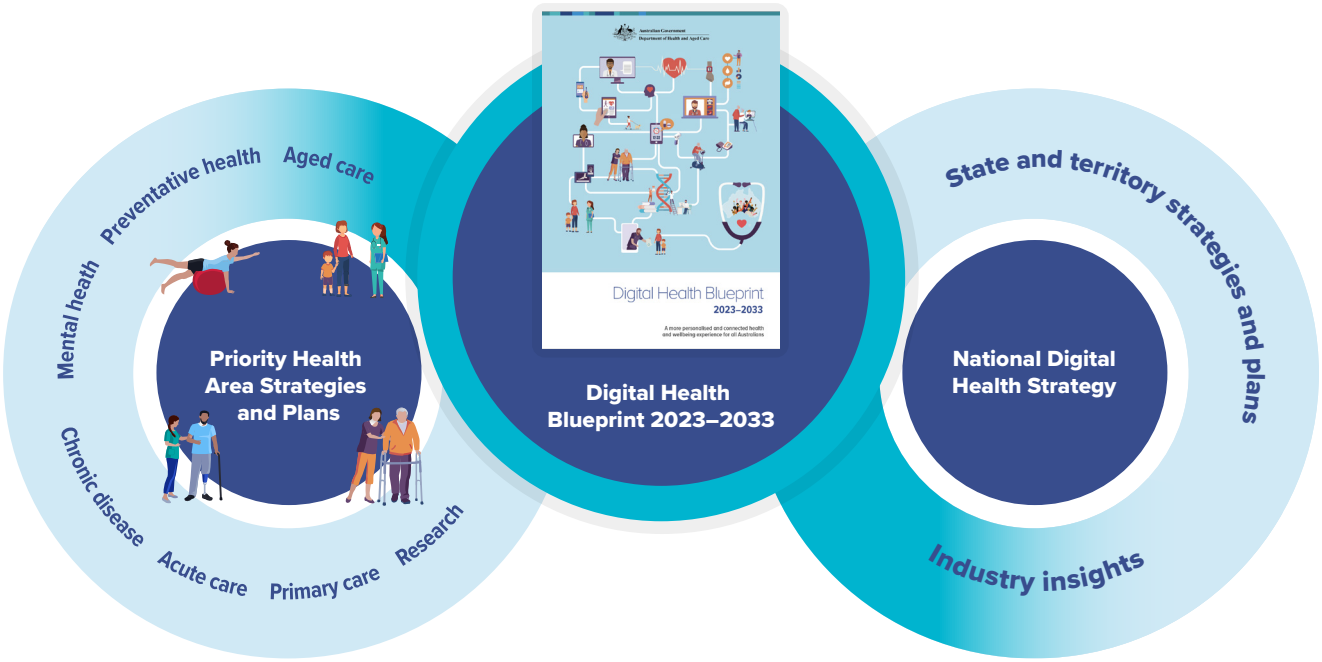


Figure 1: The broader policy and strategy context of the Blueprint

The Blueprint aligns with and supports the Australian Government's broader digital transformation agenda for health priority areas such as preventive health, primary care, mental health, chronic disease, aged care and medical research. By focusing the Blueprint on strengthening primary care, we align with broader health reforms in areas like aged care and mental health from *Australia's Long Term National Health Plan* [5]. This also reinforces our collaborative efforts with state and territory governments and private providers to provide acute care under the *National Health Reform Agreement* [6].

How will we deliver on this Blueprint?

While this Blueprint outlines our vision for health and wellbeing up to 2033, we acknowledge the evolving nature of digital health services and the need for continuous improvements through sustained, long-term investment.

Short-term horizon
2023–2025

Mid-term horizon
2025–2028

Long-term horizon
2028 onwards

The Blueprint is supported by an Action Plan that explains the initiatives we are investing in to build towards our target outcomes. We will continuously update this Action Plan to reflect the changing digital health landscape and our responses to these changes.

The initiatives listed in the Action Plan will spread across three horizons. This approach recognises that digital health capabilities are always improving, and we can get the best value from initiatives by building on existing foundations, making incremental improvements, identifying emerging opportunities and continuing to focus on connecting healthcare services.

A more personalised and connected health and wellbeing experience for all Australians

A principles-led approach

We have taken a principles-led approach to the delivery of our vision. These principles are fundamental to how we must work with our delivery partners for the design, development, implementation and adoption of digital health initiatives.

Person-centred

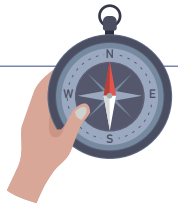
- data focuses on the person it is about
- systems are designed around the people who use them
- consumers easily access, use and understand information
- healthcare providers access consumer data when and where they need it as a natural part of their clinical workflow.

Collaborative

- by acting together, we can achieve more
- collaboration with a diverse stakeholder community enables meaningful implementation and use
- change is managed and outcomes improved through ongoing engagement and discussion
- planned activities consider sector-wide digital maturity levels and necessary uplifts.

Trusted

- consumers and healthcare providers trust the quality, accuracy, security and privacy of health data
- consumers control data consent for health care and research, trusting its appropriate use
- healthcare providers are confident in the tools they use to access and interpret data according to professional guidelines.



Enduring

- contemporary legislation, guidelines, policy, and funding supports bold reform designed for long-term benefits
- good governance ensures staying on course while adapting to digital health changes
- implementations are aligned with the modern health and wellbeing agenda for a sustainable healthcare system.

Focusing on the outcomes to make our vision real

To achieve our vision for digital health, we have adopted an outcome-focused approach to anchor and guide our work. Guided by our principles, we acknowledge that digital health enables improved health outcomes.

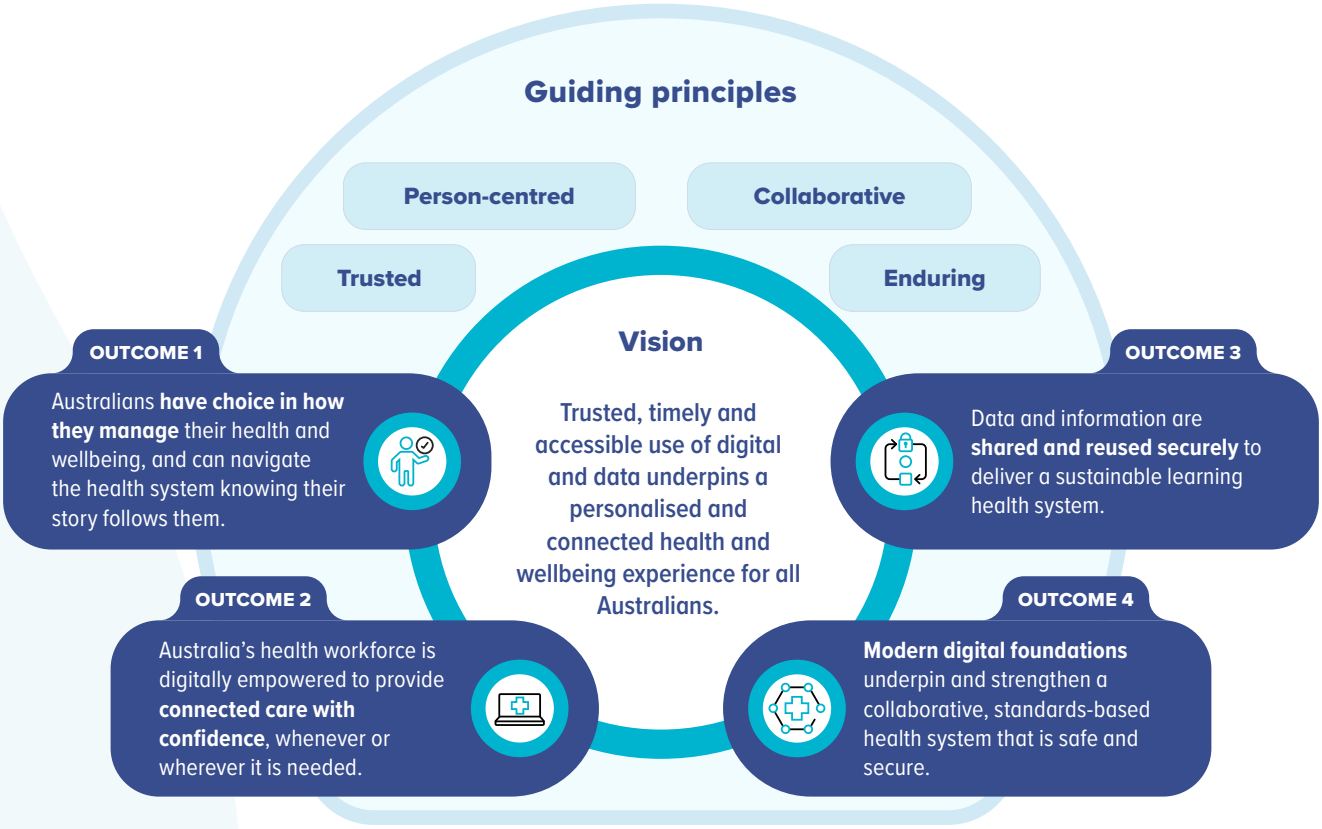


Figure 2: Our Blueprint for health and wellbeing by 2033

Delivering our digital health vision to support more personalised care and a connected health and wellbeing journey for all Australians cannot be achieved in isolation. It requires a clear approach and collaboration with consumers, our delivery partners, and the health sector more broadly.

This will take time, and sustained commitment is essential to deliver on the outcomes described in this document.

What informed this Blueprint?

This Blueprint is based on consultations and research with consumers, clinical healthcare providers, and non-clinical healthcare staff. It mirrors the public's views on digital initiatives within both government and industry.

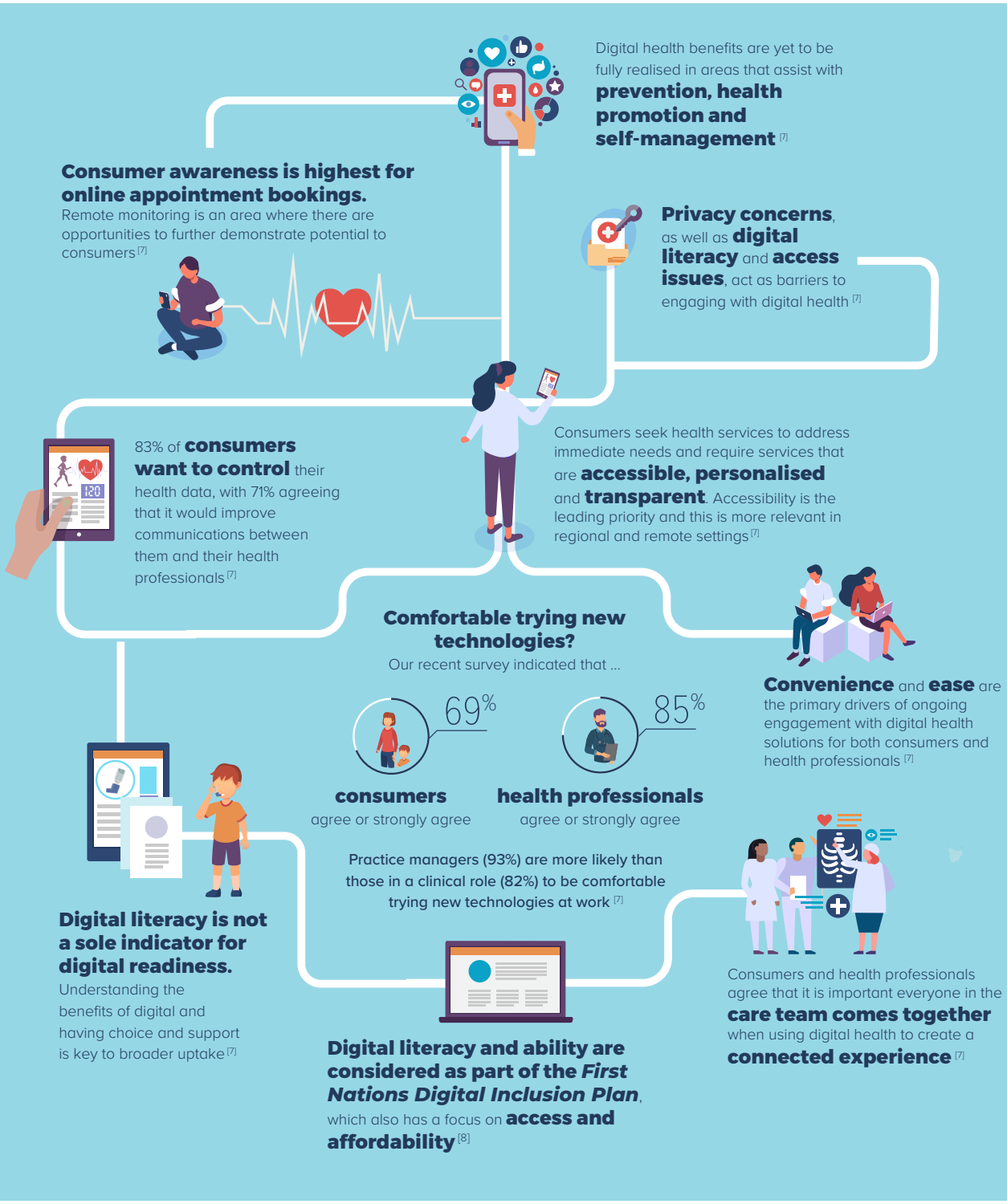


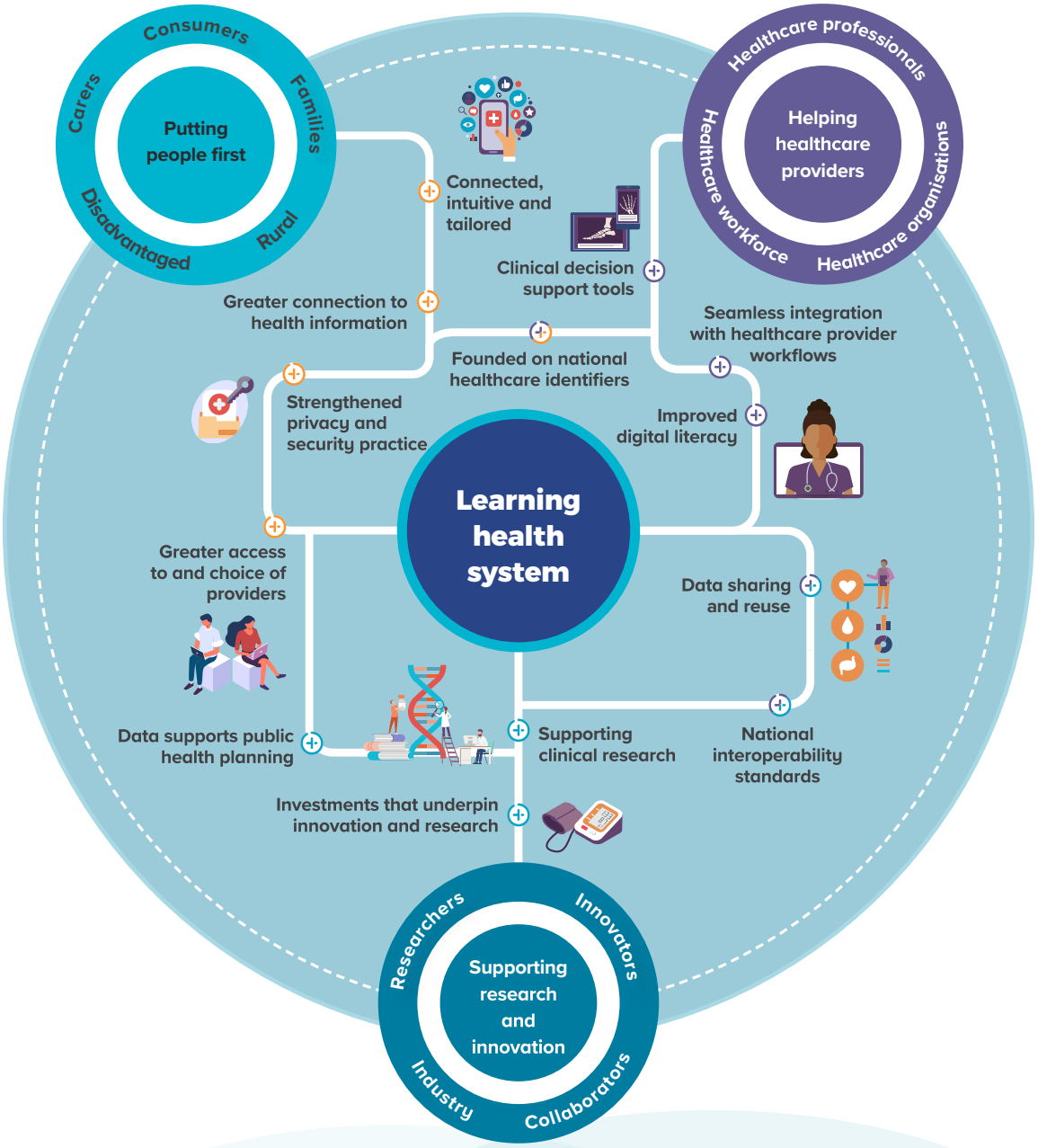
Figure 3: Snapshot of our consultation and research

Our commitments to digital health

We have high ambitions for Australia to achieve the world's best health system. Widespread digital adoption will be essential to achieve this desired outcome, and requires a commitment to user-centred design informed by consumer research and insights.

Australians benefit from access to convenient, consistent and trusted health information, services and better quality care.

Providers benefit from streamlined systems, tools and services to help deliver consistent, effective health care.



Researchers, innovators and collaborators will benefit from clarity around long-term policy and priorities, allowing industry to develop product roadmaps that consider client needs and public health policy.

Figure 4: Understanding to whom our commitments are being made

Putting people first

Australians want streamlined systems and tools for accessing reliable health information and care, including support for children, young people and older family members.

85%

of consumers
have already used online appointment bookings or expect to in the future [7]

Consumers seek convenient, personalised healthcare services with more choice in accessing care, wellbeing and support services.

68%

of consumers
say technology gives them more control of their daily life [7]

Through this Blueprint, we will target key outcomes that:

- enhance **access, choice, transparency and convenience** to health care through different service options, including face-to-face or virtual consultations and digital channels
- build the foundations for a connected care experience that **puts the consumer at the centre of their health and wellbeing** and gives them access to the key data and information they need
- **strengthen** through transparent data usage for a robust health system, service accessibility, and healthcare cost disclosure
- facilitate **seamless, safe team care** via shared information with healthcare providers, eliminating the need to repeat their health story and gaining control over access to their data
- **strengthen existing privacy, security and consent practices** to ensure the utmost security of their personal health data
- support **inclusivity, equity and usability by design** for a future where no Australian is disadvantaged.

When I have informed healthcare, I know what's going on, I know exactly what's happening, before it happens [7]

Helping healthcare providers

Healthcare providers and their support staff want streamlined systems, tools and services to help deliver consistent, connected and effective health care.

We understand healthcare providers are typically time-poor and know they expect digital health solutions that enhance care delivery, streamline information access and align with their workflows.

83%

of healthcare providers thought it was important all healthcare providers use digital health technologies [7]

Better interoperability is the first step that would increase digital health use among clinical and nonclinical healthcare providers [7]

48%

of healthcare providers felt that Australia is yet to maximise the potential of technology to optimise consumer health outcomes [7]

Through this Blueprint, we will target key outcomes that:

- promote the use and enhancement of clinical systems that allow the easy sharing of **data** across a federated data ecosystem of clinical and other health systems, including My Health Record, clinical quality registries and screening registries
- build greater confidence that **systems are secure** and health information is protected
- support initiatives that promote **secure data exchange and interoperability** between the different clinical information systems used
- help healthcare providers develop their **digital literacy** and the skills needed to confidently use tools, services, and other new or emerging technologies
- **enhance data sharing for more** informed diagnosis, personalised treatment plans, and safer clinical practices through increased accuracy across care settings
- advance **efficient, flexible, value-based models of health care**, providing better patient outcomes
- do more to **align workforce policy** across the health portfolio with the enhancements to service delivery digital can provide
- help healthcare providers to deliver more effective and timely health care through informative, evidence-based **clinical decision support systems** and data-driven insights.

Supporting industry, researchers, innovators and collaborators

By harnessing the knowledge, experience, insight and creativity of a diverse group of collaborators, we can achieve our vision.

Using digital and data capabilities to develop a learning health system means addressing challenges such as diverse data sources and formats, inconsistent quality, complex access due to consent and administrative processes, and varied data governance across regions and funders, often caused by legislative barriers.

We have a key role in addressing barriers to digital adoption, in collaboration with our state and territory partners and the broader research community.

We also support a sector-wide approach, contributing to sustainable research investment, fostering innovative solutions, and building partnerships to establish a health ecosystem that continuously learns, adapts, and helps Australians live well longer.

This Blueprint identifies how we will target key outcomes that:

- support **investments that enhance** jobs and productivity; and strengthen Australia's economic resilience [9]
- modernise the use and reuse of public sector **data safely and securely**, unlocking its potential in line with community expectations [10]
- **translate research and innovation** into new and improved models of care
- help reduce the burden on tertiary care through research into **chronic disease and primary health care**
- support research into **preventive health** where physical, mental, social and cultural wellbeing can all benefit from meaningful digital interventions
- support a **wide range of research**, including into improving health literacy, particularly for socioeconomically and culturally diverse communities
- ensure that the **emerging technologies** that are being developed and adopted meaningfully support the health sector [11].

$20 billion

long-term investment
supporting Australian health and medical research [12]

Today's research is tomorrow's health care ***[12]***

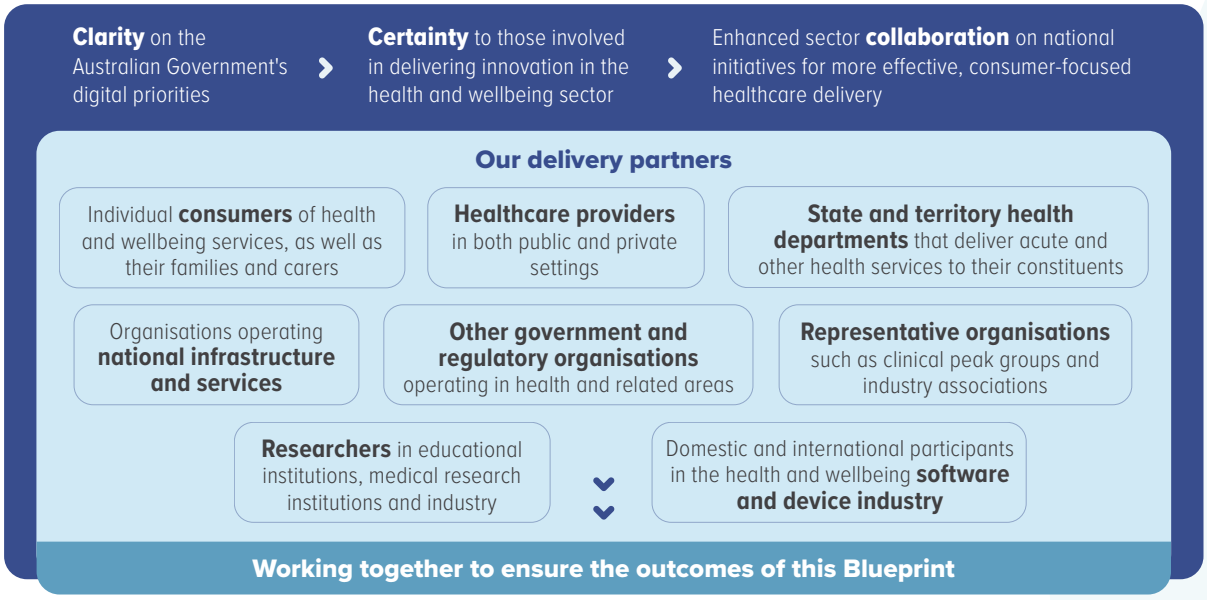
Delivering a digital future through strong partnerships and collaboration

While we have a leadership role in delivering digital health initiatives that support better health outcomes, we know we can't do this alone.

Australia's health system is a complex mix of organisations and individuals, priorities, responsibilities and capabilities. This means we need to work with our state and territory counterparts, the digital health industry, researchers, health and care providers, and consumers.

We recognise the importance of the diverse skills and perspectives of these groups in driving the reform agenda and supporting the delivery of health care in an increasingly digital world.

We are committed to ensuring there is:



Engaging all parts of the health sector, including Commonwealth, state and territory governments and other delivery partners, is crucial. This will allow:

- our work to better support national healthcare priorities
- consumers, healthcare providers, researchers, innovators and the sector to see clear outcomes
- the ability to more readily consider data access, data reuse, information exchange and interoperability when planning work
- for greater alignment with a broad range of stakeholders to support areas that require improvements in their digital maturity.

Case study:

Community collaboration for digital health standards

The Department is working with the health sector and the standards community to actively support collaborative standards development and adoption by the healthcare software industry. Through this approach, our delivery partners develop data and data exchange standards to support different clinical systems to more easily work together, connect and share health information and data between different care settings.

Our work with the CSIRO and our delivery partners has already produced:

- **data models and standard definitions** to ensure consistent data use across the primary care sector
- **agreed implementation guides** for Aboriginal and Torres Strait Islander health checks that meet national clinical standards
- **a reference implementation** based on SMART forms to support data collection and reuse.

Building on this success, we are partnering with CSIRO, the Australian Digital Health Agency and HL7 Australia to ensure the definition, capture and use of data standards such as SNOMED CT-AU and HL7 Fast Health Interoperable Resources (FHIR®). These standards enable diverse clinical systems to integrate seamlessly and share data more efficiently.

This collaborative approach delivers a way for software developers, clinicians and consumers to agree on the standards being used and supports increased industry adoption of those standards. This can reduce redundant development and accelerate healthcare improvements through enhanced data sharing, benefiting both providers and consumers.

The CSIRO will continue to lead a community process based on openness, transparency, consensus, agility and iteration; and aligned to the Australian FHIR Management Framework (AFMF). The AFMF will ensure production of high-quality Australian (national) FHIR specifications and implementation guides. The framework leverages international best practice and targeted consultation with states and territories, peak bodies and the health software industry.

The Department's role

The Department works with state and territory governments, the non-government sector and consumers to drive towards a digitally connected health system.

Our role is to provide **strong and consistent vision and leadership** to promote the adoption of national digital health capabilities in areas where we hold responsibility for policy, legislation and funding. We fund and deliver digitally supported health programs so all Australians can receive the healthcare services they need, when and where they need them. This approach is consistent with the key principles of the World Health Organization's *Global strategy on digital health 2020–2025* [13].

Figure 5: Digital maturity is an evolving process

Where there are opportunities for national alignment and collaboration, we provide leadership and coordination and, where required, build national foundations and capabilities to support all parts of the health sector in delivering a contemporary health system.

This allows us to:

- co-create and enable innovation with our delivery partners
- provide support to enhance digital maturity where needed across the health system
- establish the national foundations required to incentivise innovation and progression for more advanced parts of the health sector.

Through our work, we will support greater near-real-time access to health information at the point of care, data sharing and reuse to support longitudinal research for public health purposes and service planning and to inform the next generation of healthcare tools and services.

Collaborating with the health software and device industry is crucial to accelerate digital innovation, enhance service delivery, and improve both patient and provider experiences. This joint effort supports a learning health system, elevating care quality for all Australians.

To realise our vision and ensure sound digital governance aligned with national priorities, we will engage and unite a diverse range of stakeholders, including:

- health sector and industry stakeholders supporting the delivery of connected care
- formal and informal groups in which we work with the states and territories to progress digital priorities
- groups that coordinate alignment across all relevant Australian Government departments.

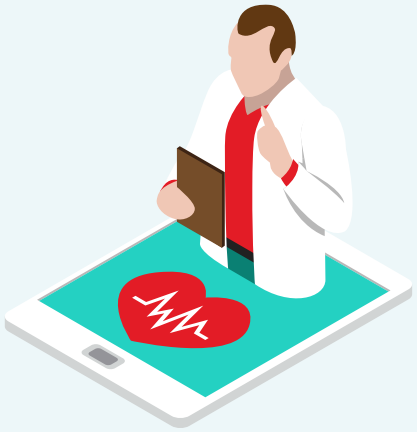
To support all Australians in adopting a digital approach to health and wellbeing, we need to consider other government priorities, including the digital economy agenda [9] and the *National Strategy for the Care and Support Economy* [14], to:

- address the issue of **equitable and reliable digital access**. Activities and infrastructure that promote equal access to technology, including internet connectivity and use of devices, are required. Digital support through community hubs will be needed, reinforced by sound data privacy, consent and sovereignty initiatives
- build **digital and health literacy and skills**. Ongoing development, education and community support will help consumers and healthcare providers feel safe, represented, and confident that they're getting the most out of the digital tools available to them
- promote how digital can support professionals in delivering **high-quality, personalised care** and health and wellbeing services to consumers when, where and how they need it. Vital face-to-face services will be enhanced with digital support, not replaced by digital-only approaches
- maintain **consumer and healthcare provider choice** at the heart of health and wellbeing service delivery
- ensure **digital identity** supports individuals to prove who they are when accessing online services
- use **digital platforms** to support Australians to navigate the care and support economy.

These considerations also help us support the Quintuple Aim for health care: improved consumer experiences, better outcomes, lower costs, clinician wellbeing and health equity [15].

Digital readiness for community challenges

Pandemics and the effects of climate change, such as widespread floods and fires, create many challenges for our communities.



Our digital readiness to provide health and wellbeing services at such times is crucial to our response. Alongside global factors like climate change, population mobility, health workforce shortages and a generational shift in consumer expectations, we anticipate significant community challenges over the next 10 years.

Examples of digital responses include:

- **digital records to support continuity of care:** When people are displaced, or when healthcare providers can't access their practices due to natural disasters, digital records such as cloud-based practice systems and My Health Record play a vital role in ensuring continued access to patient health information [16], [17]
- **telehealth:** Many health services adopted telehealth capabilities in response to the COVID-19 pandemic, allowing patients to safely consult their healthcare provider by phone or video call [18]. Embedded now as an ongoing part of Medicare, telehealth plays a critical role in ensuring consumers have access to healthcare services, when and where they need them, particularly in times of crisis
- **ePrescribing:** Electronic prescribing is an alternative to paper prescriptions. A national Prescription Delivery Service provides a secure platform for the exchange of prescription data between prescribers and dispensers. ePrescribing also complements the delivery of telehealth services [19], [20]
- **finding the right services:** Healthdirect Australia delivers the Service Finder, which helps people in Australia find and book care providers near them through a user-friendly search of the National Health Services Directory (NHSD) [21]
- **the importance of digital infrastructure and skills:** The recent bushfire emergencies and pandemic have highlighted the importance of resilient digital infrastructure [22], [23], as well as the skills needed to provide blended health care such as mental health support [24]
- **unscheduled (cross-border) patient care:** Australia is contributing to global efforts to establish an International Patient Summary (IPS) and investigate how it might be used in an Australian context. The IPS supports access to critical health information about patients outside their normal home location (international or local) in unexpected or unscheduled medical situations like emergencies or accidents [25].

Bringing it all together: A more personalised and connected health and wellbeing experience for all Australians

In developing this Blueprint, we have considered the needs of all Australians: consumers, healthcare providers, software developers, researchers and delivery partners.

Our aim is to provide a more personalised and connected health and wellbeing experience for all Australians between now and 2033. While this is aspirational, it can be achieved through genuine collaboration among all parts of the health system, including governments, the private sector and individuals.

We have highlighted four outcomes that focus on the development and adoption of digital to support the delivery of health care. These outcomes must be combined with new and improved models of care that can leverage these capabilities.

These changes align with the recommendations of the Productivity Commission which will see federal funding move towards service provision. Such services need to support sustainable funding programs to meet the increasing demand of an ageing population and increasing service expectations [26]. This shift will be supported in the health system through a stronger focus on prevention across broader primary care-based reforms. Digital health has a role to play in this change.

We have a clear role in stewarding and supporting the development of Australia's national digital capabilities for the health system. But we can't do this alone. This Blueprint and the accompanying Action Plan will help us in effectively communicating and implementing our intentions with our delivery partners, the broader health sector, and consumers. Together, we can achieve this vision for a health system that delivers better outcomes for all involved.

Part 2

What we are doing to meet Australia's digital health expectations

We will target four key outcomes to support the future of health and wellbeing services to 2033:

1. Australians have choice in how they manage their health and wellbeing, and can navigate the health system knowing their story follows them.
2. Australia's health workforce is digitally empowered to provide connected care with confidence, whenever or wherever it is needed.
3. Data and information are shared and reused securely to deliver a sustainable learning health system.
4. Modern digital foundations underpin and strengthen a collaborative, standards-based health system that is safe and secure.

Outcomes and action areas at a glance

These outcomes and the identified action areas will make sure initiatives are targeted and support a more connected, inclusive and personalised healthcare system.

Australians have choice in how they manage their health and wellbeing, and can navigate the health system knowing their story follows them

Action areas:

- helping Australians make informed choices
- supporting self-care and improved access
- leveraging the insights of consumers
- delivering transparency and strengthening trust
- ensuring an inclusive future
- connecting people's healthcare journey
- providing care where it is needed for all Australians
- encouraging consumer participation in emergency responses.

Australia's health workforce is digitally empowered to provide connected care with confidence, whenever or wherever it is needed

Action areas:

- collaborating with representative organisations for broader adoption
- linking skills development and career pathways
- driving towards national consistency in education and training
- promoting the need for digital skills and education in national priority health programs
- creating a trusted view of consumer data
- strengthening continuity of care
- delivering high-quality, trusted health intelligence and decision support.

Data and information are shared and reused securely to deliver a sustainable learning health system

Action areas:

- meeting public expectations for consent and data sharing
- delivering accessible, accurate and usable health data
- ensuring coordinated national investment and co-commissioning
- promoting efficiency and financial sustainability
- supporting precise research and analysis translated into practical care
- bringing innovation into the spotlight.

Modern digital foundations underpin and strengthen a collaborative, standards-based health system that is safe and secure

Action areas:

- ensuring systems are connected, are interoperable and can easily share information
- connecting data to the right person
- building resilient and secure systems
- strengthening foundations for emerging technology and devices
- promoting use and reuse of national infrastructure
- leveraging whole-of-government investments.

A connected care experience for consumers and healthcare providers

This Blueprint will steer us towards a seamlessly connected healthcare experience, ensuring consumers' health information consistently accompanies them across all care settings. By investing in national foundations and the necessary regulatory frameworks, we aim to support the technology innovation and adoption required for connected care across Australia's complex federated health and wellbeing system.

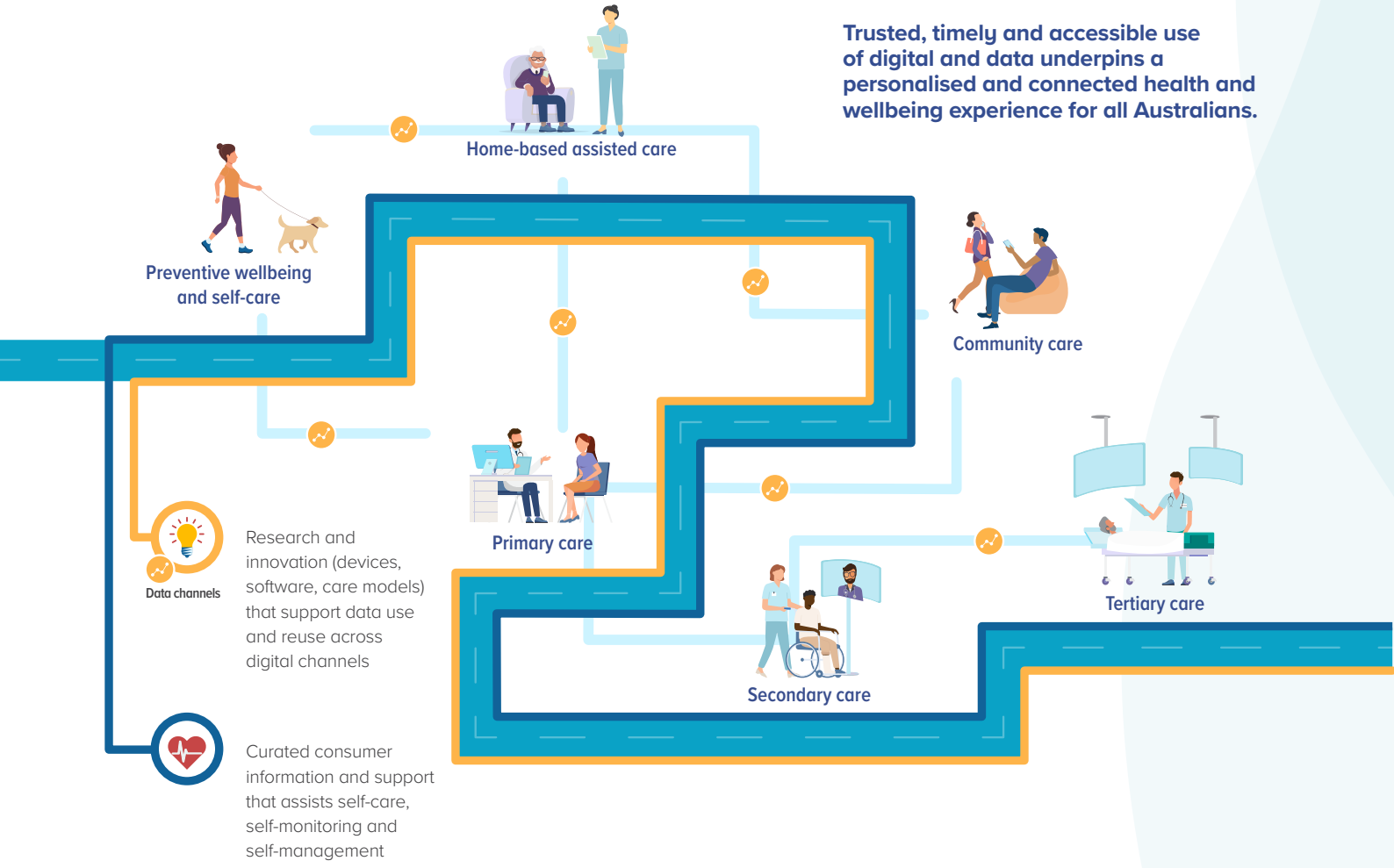


Figure 6: Digital health capabilities can support health and wellbeing services across the continuum of care

Enabling foundations

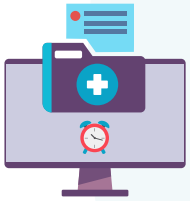
Australia already has strong foundations to support a digitally enabled health system. These need to be expanded on and embedded over the coming years to support truly connected care.

Digital health needs to be built on the following strong foundations:

- **Digital infrastructure:** Digital health and the broader digital economy rely on contemporary physical and virtual infrastructure for agile service delivery across diverse geographic locations.
- **Cyber security, safety, and trust:** Cyber security, safety and trust are crucial for healthcare providers and consumers to engage with technologies, services and platforms.
- **Systems and regulation:** Regulatory settings and systems must adapt and respond to evolving technology to ensure clarity in the sector and foster investor confidence.
- **Standards for interoperability:** Strong standards ensure longevity, interoperability, ease of use and investment agility in digital health.

Existing investments in digital foundations have delivered:

- **Healthcare Identifiers Service:** Healthcare identifiers connect the right information with the right individual at the point of care. This gives both health professionals and patients confidence that they are using the correct information.
- **National Authentication Service for Health (NASH):** Healthcare providers and supporting organisations use NASH to securely access and share health information.
- **My Health Record system:** Australia's My Health Record is a safe and secure online summary of consumers key health information that can only be seen by them, their healthcare providers and anyone they choose to share it with.
- **Real Time Prescription Monitoring (RTPM):** RTPM is a nationally implemented system designed to monitor the prescribing and dispensing of controlled medicines with the aim of reducing their misuse in Australia.



Outcome 1

Australians have choice in how they manage their health and wellbeing, and can navigate the health system knowing their story follows them

In a rapidly changing world, more people want to use digital solutions to access healthcare services to manage their health and wellbeing, regardless of their technical experience and skills.

We want to assist Australians in having choice and managing their health and wellbeing, if and how they want to.

By doing this, we can:

- transform the health system's focus from illness and disease to prevention and wellbeing [7]
- give consumers a greater understanding of their health, which can lead them to feel a sense of control, choice and understanding [7], [27]
- promote consumer self-care and management, in partnership with their healthcare providers, supported by access to reliable tools, data and knowledge [7]
- improve access for digitally inexperienced individuals, showcasing the benefits of digital health solutions [7]
- benefit populations at risk of limited access or poorer health outcomes by considering the social determinants of health and including information from across communities and different service providers
- encourage a collaborative healthcare provider – consumer relationship built on transparency and trust which places them at the centre of their healthcare experience [7]
- promote health participation and equity despite varied educational, geographic and economic differences of Australia's population [7]
- establish a connected health system to streamline care, reduce the need for consumers to repeat their stories, and minimise clinical risks and inefficiencies [28].

... all Australians should have access to the health care they need, when and where they need it ... Consumers expect health services to be accessible, personalised and transparent [7]

Action areas

We aim to empower consumers to actively participate in their care planning and have access to relevant patient histories and clinical data where appropriate. This will give consumers confidence in managing their health journey.

Helping Australians make informed choices

Contemporary health services will deliver user-friendly digital health channels, tools, and devices that provide reliable information on health and wellbeing, including virtual and in-person options and associated costs. Promoting and educating consumers about these digital options will enable consumers and healthcare providers to make informed choices tailored to individual needs.

Supporting self-care and improved access

Healthcare providers and consumers will have access to self-monitoring apps and devices, electronic referrals, telehealth services and systems that support care coordination across multiple providers. Access to their data will empower consumers, and their family and care-givers, to confidently manage their care, if desired, in partnership with healthcare providers.

Leveraging the insights of consumers

By leveraging insights from consumers, we will design user-friendly digital health and wellbeing solutions. Analysing patient reported outcomes (PROMS) and patient reported experience measures (PREMS) and other patient-generated data will enhance the delivery of primary health care, mental health services and aged care.

Delivering transparency and strengthening trust

Australians will have transparency into decisions made by healthcare providers and a better understanding of their care transitions across different healthcare settings. This will be achieved through nationally consistent approaches and standards that support near-real-time data and information exchange and use. Consumers will have improved access to their key health data and information in a language they understand through My Health Record and related digital channels like the My Health app.

Ensuring an inclusive future

The lack of digital access through circumstance or choice will not be a barrier to quality health care. The cultural safety of all individuals and services will be fostered, while paying particular attention to groups known to have experienced access issues or who have specific needs, including:

- Aboriginal and Torres Strait Islander people(s) [29]
- people in remote and rural locations
- culturally or linguistically diverse groups
- LGBTIQA+ people
- people in socioeconomically disadvantaged circumstances
- those with limited access due to disability, age, skills or choice.

A human rights based approach to areas such as health, ageing and disability will support delivery of this inclusive future [30].

Connecting people's healthcare journey

Improved access to information across health, aged care, disability and social services will deliver a consistent, holistic experience for consumers and healthcare providers. A connected health system will allow healthcare providers to share clinical information that describes each person's story.

Providing care where it is needed for all Australians

Australians unable to access face-to-face care will benefit from flexible models of care, with more services delivered virtually. Telehealth and remote health monitoring services will become more accessible through general practices and multidisciplinary care teams. Digital channels and improved health and digital literacy will enable those facing barriers to actively participate in their health and wellbeing.

The Regional Connectivity Program is making targeted investment in 'place-based' telecommunications infrastructure to deliver economic and social opportunities for regional, rural and remote Australian communities [9]

Encouraging consumer participation in emergency responses

Personal devices, such as mobile phones and apps, are essential in addressing community challenges in Australia, including future national emergency responses. Governments are responsible for providing digital channels and solutions, but consumer adoption is vital for obtaining near-real-time data to support public health responses.

Outcome 2

Australia's health workforce is digitally empowered to provide connected care with confidence, whenever or wherever it is needed

We value the health workforce's confidence and competence in adopting emerging technologies and utilising data effectively.

We aim to cultivate a digitally capable health workforce that is confident in a collaborative and participatory service culture, prioritising information sharing. This workforce will have up-to-date knowledge and experience in cyber security and privacy.

By doing this, we can:

- recognise the increasingly digitised society and socio-technical parts crucial to addressing current and future priorities and delivering care and services more efficiently
- prepare and equip healthcare professionals and organisations to adapt and thrive in a digitally assisted health environment, essential for effective health service provision and care [7]
- support foundational understanding of digital systems and data usage for professionals in the broader health sector, regardless of their role [31]
- establish skills development and career pathways in digital health, digitally enabled care; and leadership, including in changed and emerging roles
- implement a principles-based approach to support the funding and commissioning of new healthcare business models and programs [31]
- help healthcare providers select, implement and roll out digital health solutions and encourage healthcare provider engagement, which would increase adoption [7]
- focus on attracting, building and retaining skills in strategy, design, and delivery of emerging digitally enabled services, including virtual care, artificial intelligence (AI) and genomics.

Action areas

Building a confident national health workforce for digital health services is a complex task requiring collaboration with state and territory health departments and industry stakeholders.

Collaborating with representative organisations for broader adoption

Continuing collaboration with healthcare peak bodies will enhance awareness and adoption of digital across professions. We will facilitate cooperation between health workforce peak bodies and consumer groups, focusing on digital literacy, maturity and the co-design of key digital transformation initiatives.

Linking skills development and career pathways

There will be a direct connection between industry skills development and demands of digital healthcare. The skills development pipeline will focus on high-demand skills in areas such as medication management, medical diagnostics, genomics and virtual care. Targeted career pathways will retain professionals with specialised expertise and attract those with broader skillsets to health.

Driving towards national consistency in education and training

We will work with education providers including universities, registered training organisations and specialty program providers to establish a digitally confident health workforce through competency-based education and training programs. These programs will enable both clinical and non-clinical professionals to stay abreast of rapidly evolving digital approaches.

Promoting digital skills and education in national priority health programs

Digitally enabled programs targeting national health priorities will assist in using and sharing data in a coordinated manner. This will enable health services and professionals to meet the growing expectations of consumers for access to personalised care. Tools and connected national data will support the health workforce in adapting integrated ways of working within the existing complex technological landscape. Showcasing communities of practice that demonstrate success will support broader adoption and innovation.

Creating a trusted view of consumer data

Healthcare providers will co-design and have access to comprehensive and reliable consumer data from various systems and sources, improving treatment and care decisions. By overcoming information-sharing barriers, healthcare providers can collaboratively make informed decisions at the point of care for the patient, regardless of location or time.

Strengthening continuity of care

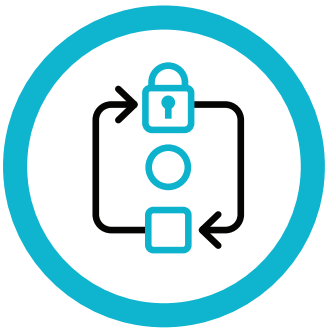
Connecting all points of care will create a seamless consumer experience, ensuring their health and wellbeing data follows them, regardless of the healthcare provider involved. Healthcare providers will have access to this data for shared care planning and multidisciplinary care team coordination, thereby enhancing delivery of individualised services.

Delivering high-quality, trusted health intelligence and decision support

Connected systems utilising AI analytics and reliable clinical data will deliver insights that enhance clinical decision support, personalised care, and population-level health and service delivery. Transparent information sharing, underpinned by consent and authorisation frameworks, will ensure the security and appropriate use of Australians' data.

Outcome 3

Data and information are shared and reused securely to deliver a sustainable learning health system



A sustainable learning health system depends on:

- affordable, efficient and effective health care that can be delivered across a diverse geography and population
- research and innovation, particularly in data use, reuse and translation to inform digital advancements
- maximised use of data, while maintaining privacy, confidentiality and consumer trust.

We already have valuable data and insights on the quality, safety, accessibility and performance of health and wellbeing services which we can use to support a learning health system.

By doing this, we can:

- provide reliable analytics, and gain valuable insights about healthcare delivery and the health ecosystem to drive continued excellence in service delivery [32]
- offer meaningful information and statistics to help all Australians
- analyse the health and welfare data we get from state, territory and Australian Government agencies, and use it to support better policy and service delivery decisions
- support national clinical quality outcomes datasets, managed by Clinical Quality Registries, in areas with the greatest burden of disease
- enable longitudinal analysis and benchmarking of clinical and patient-derived outcomes data
- offer significant opportunities for innovation in healthcare services, economic enterprise, research and development [33]
- make long-term commitments to research and innovation that can help all Australians [34]
- deliver future policy, legislation, regulation, national services and funding requirements to improve the health and wellbeing of all Australians [32]
- address the unique needs of Aboriginal and Torres Strait Islander people(s) and remote, rural and other culturally and linguistically diverse groups.

Action areas

We are building national data and analytical capabilities to adapt, innovate, change, learn and inform health system planning.

Meeting public expectations for consent and data sharing

We will prioritise informed consent, ensure authorised data access, and clearly showcase the benefits of research to consumers. A streamlined data sharing framework, supported by legislation, will establish national governance models that guide consent, trust, ethics, privacy and appropriate data use, while also respecting Indigenous Data Sovereignty.

Delivering accessible, accurate and usable health data

Investments in data collection, analysis and infrastructure, along with the use and reuse of this data, will optimise the value of the health system and reduce low-value care. Agreed standards for accessing trusted and reusable data will support service planning and sustainability.

Ensuring coordinated national investment and co-commissioning

Prioritising investment, funding and meaningful incentives is essential for system improvements. By consolidating and coordinating investments, we will maximise value and minimise duplication or overheads. Value-based models of care will enhance consumer and healthcare provider experiences while ensuring the sustainability of the health system.

Promoting efficiency and financial sustainability

Data-driven insights will support the goal of an efficient and financially sustainable health system as outlined in the *2020–25 National Health Reform Agreement* [6]. Along with states and territories, we will use these insights to ensure care is provided in the proper setting and in line with best practices and performance standards.

Supporting precise research and analysis translated into practical care

Research on disease and digital health interventions will inform policy, standards development and clinical practice, enabling healthcare providers to better understand the health needs of Australians. Evidence-based policies will meet patients' needs, streamline care, and translate research into solutions that benefit all Australians.

Bringing innovation into the spotlight

Australia's digital health industry will capitalise on the expanding global digital health market by promoting research and innovation with software developers, device manufacturers, and creators of digital care models.

Outcome 4

Modern digital foundations underpin and strengthen a collaborative, standards-based health system that is safe and secure

Digital health services rely on national foundations for safe, trusted and reliable access to care through digital channels.

We invest in and collaborate with our partners to establish these national building blocks for an effective digital health system.

By doing this, we can:

- ensure effective interoperability, trust and patient-centric care [7], [35]
- promote a share-by-default approach to data exchange and use [28]
- implement the necessary legislative and regulatory support for contemporary health information exchange [28]
- effectively connect patients and healthcare teams across different services and geographic locations [33]
- facilitate smoother transitions of care between different healthcare providers
- strengthen digitally enabled public and private health care for all Australians through continued investment in, and adoption of, key national infrastructure [28]
- minimise the duplication of national infrastructure or shared capabilities
- support standards development to ensure data consistency and the ability to share and compare data for multiple uses within the context it was created [28], [35]
- establish national infrastructure that is resilient, reliable, and able to withstand cyber attacks [36]
- implement contemporary technical architecture that will increasingly rely on cloud-based platforms to support innovation and care without boundaries
- ensure legislative reform and regulation supports interoperability and standards
- leverage industry and stakeholder knowledge and innovation [37].

Action areas

To meet the needs of a modern health and wellbeing ecosystem, foundations must be used nationally, built collaboratively and continuously adapted.

Ensuring systems are connected, interoperable and can easily share information

A share-by-default approach and strong digital foundations will enhance health service mobility, enable seamless patient information transfer, and aid informed decision-making for healthcare providers. National partnerships and sector-wide collaboration will help establish these standards. We will include agreed rules for technology, data and terminology in our procurement processes, encourage broad adoption across the health system and ensure regulators have the necessary data to inform risk-based responses.

Connecting data to the right person

By strengthening and modernising the regulatory framework for healthcare identifiers, we will enable more efficient connections between patients and healthcare teams across various services and geographic locations, building trust in digital healthcare identifiers, especially during emergencies. Consistent healthcare identifier standards will improve interactions between consumers and providers, streamline digital systems and enable seamless sharing of linked information.

Building resilient and secure systems

We will ensure security, privacy and transparency remain top priorities in digital health to protect sensitive information. Strong national cyber security measures and transparent access controls will continue to be essential in protecting the data privacy of all Australians. Ensuring the resilience and robustness of national systems will be critical to support continuity of services regardless of community challenges.

Strengthening foundations for emerging technology and devices

We will create responsive and timely legislation, regulations, and policies to establish a safe and effective framework for emerging data sources and technologies. By harnessing modern technologies, we can develop healthcare solutions like remote care, smart homes and community-based services, shifting the focus of care from hospitals to homes. Embracing an agile approach to technologies and government processes will enable us to adapt to emerging technologies.

Promoting use and reuse of national infrastructure

We will optimise Australia's benefits by leveraging and driving greater adoption of existing investments, such as the Healthcare Identifiers Service and My Health Record system. Shared national infrastructure will reduce the costs related to duplicate systems. The underlying infrastructure, including governance and security settings, will involve consumers, the healthcare sector and industry.

Leveraging investments across governments

Cross-portfolio investments will strengthen national digital health capabilities. As governments adopt digital capabilities across various areas, investments in infrastructure and approaches will be maximised, reducing duplication and expediting the application of new tools and services.

Part 3

Changing the narrative of Australian healthcare

The aspirations and goals described in this Blueprint will change the way we talk about digital health and its role in health care into the future.

To illustrate this change, the following pages describe the health journey of a fictional Australian to show how digital health can make this journey easier and more convenient.

Oliver is a 75-year-old retiree living independently. He has well-controlled asthma and reflux, and has put on weight recently.

Let's look at an example of how health care could look for Oliver in the future.

Oliver has a good relationship with his GP, Amari, who is helping him manage his chronic illness.

His daughter Meg lives about an hour away, but arranges Oliver's care when he needs it. Oliver has made her an authorised representative in his My Health Record and she uses the My Health app to access his health data.

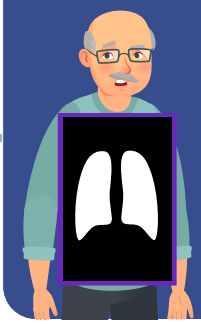
How this is supported by data and digital

Oliver recently had head cold symptoms including a chesty cough. To rule out COVID-19 as the cause, he took a home test. Although the head cold symptoms went away after a week, the persistent cough became debilitating. Oliver books an appointment with his usual GP, Amari.

Online appointment booking allows Oliver to see his GP's availability and makes it easy for him to find a time that is convenient for him.

After examining Oliver, Amari places him on a short course of corticosteroids, which have proved effective when his asthma has been triggered in the past.

Oliver is given an **ePrescription** allowing him to choose how he has his prescription filled. His pharmacist is **relieved of transcription tasks**, ensuring **accurate dispensing of medications**. Oliver can see this in his **My Health Record.**



After a week, Oliver's symptoms become worse, so Amari sends him to a pathologist to test respiratory viruses and pneumonia.

The results come back positive for pneumonia. Amari then orders a chest X-ray to check the extent of the infection. The radiologist reports a moderate infection.

Amari issues **eRequests** for pathology and diagnostic imaging. The pathologist and radiologist, having access to Oliver's **relevant medical history** via their clinical systems, use them in their evaluations. The results are accessible for Oliver in **My Health Record**, and for Amari and other clinicians **through their clinical information systems**.

Amari diagnoses a post-viral bacterial infection and prescribes Oliver oral antibiotics for the pneumonia.

Oliver is given an **ePrescription**. His other clinicians can see this medication in their clinical systems.

While Oliver is well supported by primary care, he also knows he can rely on Australia's acute care system when necessary, and that his health information follows him and is available when and where needed.

How this is supported by data and digital

Later that evening, Oliver develops an itchy rash and chest pain. He decides to go to his local public hospital.

The hospital can access Oliver's **recent medical history**, including allergies, pathology, radiology and prescriptions.

After reviewing Oliver's previous results, the treating clinician diagnoses a previously unknown allergy to the selected antibiotic. An alternative antibiotic is prescribed, and the allergy is recorded in Oliver's medical records.

The **allergy** and the new **prescription** are reflected in Oliver's hospital records and his **My Health Record**.

An ECG and blood tests are ordered to investigate the chest pain. The on-call cardiologist reviews the results and after further examination clears Oliver of heart disease. He notes that the chest pain and cough may be related to Oliver's reflux and that his cholesterol is elevated. Oliver is admitted overnight for observation.

Information about Oliver's tests, treatment and diagnosis are recorded by the hospital. **Health information exchange** means this data is then also available in his **My Health Record** and to Amari through her **clinical information system**.

After an uneventful night and reduction in his rash, Oliver is discharged. His GP has been alerted to Oliver's admission and the practice arranges for a follow-up visit.

A record of his **discharge is received** allowing practice staff to schedule a **follow-up appointment**.

Meg accesses her father's data using the My Health app and supports his transition home.

Accessing her father's data in the **My Health app** means Meg always has access to his key health information.

The next day, Oliver's GP Amari receives information about his admission to review. She has access to all his results and treatment during his hospital visit.

Oliver's GP has **near-real-time access** to his hospital medical records which she can incorporate into her own records as required.

Oliver also knows he can rely on a multidisciplinary team of healthcare providers to give him coordinated care supported by digital health systems.

How this is supported by data and digital

After a week, a subsequent X-ray shows Oliver's lungs are clear. This is confirmed by blood tests, which also show he is vitamin D deficient and confirm his high cholesterol.

An **eRequest** is issued for the pathology and radiology tests. His results are **available electronically** for Amari; they are also uploaded to **My Health Record**.

Amari begins treating Oliver for his hyperlipemia and vitamin D deficiency. Oliver still complains about a persistent cough and occasional chest pain. Amari suspects worsening reflux is causing both. She orders a Gastroesophageal Reflux Test (GRT) which is not available at the diagnostic provider Oliver previously used.

An **eReferral** is sent for the GRT, along with Oliver's recent diagnostic results and history. Oliver can book a time and location online that is convenient for him.

The GRT indicates Oliver is aspirating stomach fluids despite his current reflux treatment. Amari refers Oliver to a gastroenterologist for further support.

An **eReferral** is sent to the gastroenterologist. **Health information exchange** supports the specialist's access to Oliver's recent diagnostic results and history. He orders a further diagnostic test **prior to the appointment**, saving Oliver an unnecessary extra visit.

The gastroenterologist alters Oliver's reflux medications and recommends that he lose weight to reduce the reflux.

Oliver is issued an **ePrescription** for his revised medications. The gastroenterologist's **report** is available in the practice clinical information system and also for Oliver and Meg in his **My Health Record**.

Amari suggests Oliver join the MyMedicare program which assists patients with multiple chronic conditions. A care plan is created to coordinate his care team. Amari works with an exercise physiologist to improve Oliver's mobility and a dietician to help him reduce his weight.

MyMedicare ensures that funding supports Oliver's more complex care needs. The care plan is **available electronically** for all members of Oliver's care team. They can update the plan, and it is available to Oliver and Meg, who can help coordinate his appointments and self-care activities.

Oliver's multidisciplinary care team includes his respiratory physician and gastroenterologist, who work with Amari to ensure Oliver's treatment is optimised, and his daughter Meg, who helps Oliver make appointments. Oliver is followed up and is proactively monitored by his GP and allied health services, with his home help continuing.

Oliver starts using a **weight management app** to monitor his food and exercise. Meg can see his progress and encourage him to keep going. His GP can access the data to support clinical conversations with Oliver during regular appointments.

Digital and data can support Oliver and his healthcare team to provide quality outcomes.

Where to next?

This Blueprint has described our vision for a more personalised and connected health and wellbeing experience for all Australians. But how do we achieve this?

The accompanying Action Plan outlines the Department's initiatives to achieve this vision and the research and development needed to progress this work over the life of this Blueprint.

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Terms and abbreviations

Term/acronym	Description
HL7	Health Level Seven, an international standards development organisation
FHIR®	Fast Health Interoperability Resources
Consumer	Any person who uses health or wellbeing services, or supports somebody who does.
Healthcare provider	Any professional providing health or wellbeing services
CSIRO	Commonwealth Scientific and Industrial Research Organisation
SNOMED CT-AU	Clinical terminology used in health care
NHSD	National Health Services Directory
NDHS	National Digital Health Strategy
AFMF	Australian FHIR Management Framework
AI	artificial intelligence
IPS	International Patient Summary
NASH	National Authentication Service for Health
PREMS	patient reported experience measures
PROMS	patient reported outcomes