



5 Year Productivity Inquiry: Australia's Data and Digital Dividend

Introduction

There has been significant growth in the use of digital health technologies and information during the COVID-19 pandemic, and the 5-year Productivity Inquiry: *Australia's data and digital dividend – Interim Report* (Interim Report) is timely.

The Australian Digital Health Agency (the Agency) is of the view that digital technology is central to better connecting Australia's world class health system, supporting patients and healthcare providers with access to information that improves care services. It also drives better consumer experience and improves health and wellbeing outcomes for all Australians. This includes supporting new models of healthcare, such as virtual care and the expansion of multidisciplinary models of care.

Digital solutions have supported millions of Australians to manage their health when affected by bushfires, COVID-19, and floods, and on the back of this there is growing consumer demand for access to and control of their health information and health services. We have the digital foundations in place, so it is time to drive the use of these systems to increase productivity through consumer-centred care, improve health workforce efficiency and build sustainability in the health system.

In addition to supporting clinical care, digital health systems have the capacity to provide longitudinal, population-level and detail rich health data that also has a productivity dividend. Data insights can guide and target health services planning and treatments, inform policy development and research, to further improve the quality, safety, and experience of Australia's healthcare system.

Policy settings that support harmonisation, engagement and use are crucial to accelerating the adoption of a system which, in turn, encourages greater utilisation of healthcare information to realise better health outcomes, productivity and community wellbeing.

About us

The Agency's vision is a healthier future for Australians through connected healthcare. Funded by the Commonwealth and the States and Territories in recognition that digital health must be a national enterprise, the Agency plays a key role in connecting Australians to a modern healthcare system that ensures they can access the care they need, when and where they need it.

Due to its unique role in the health ecosystem, the Agency has embarked on a significant program to modernise national infrastructure to support connected care and enable secure and seamless access to health information. This program can deliver significant benefits through better health outcomes for consumers, better integration and support for healthcare providers, and savings for governments.

My Health Record is continuing to grow as consumer and healthcare provider demand calls for safe, accessible, integrated health information. As the connected health system continues to expand, we will oversee ongoing development and review of digital infrastructure to ensure personal and health information is kept safe and secure. The Agency works with a range of partners to support implementation, use, and adoption of digital tools and technology. This includes building digital literacy and providing information and training on use of the My Health Record system.

The Agency was established by the Public Governance, Performance and Accountability (Establishing Digital Health Agency) Rule 2016 and performs the role of System Operator for the purposes of the *My Health Records Act 2012* (Cth). The Agency also has data and digital specific responsibilities under various other legislation, including the *Privacy Act 1988* (Cth) and the *Healthcare Identifiers Act 2010* (Cth).



Key Points

Use of digital technology and data in the Australian economy

Digital health use and cultural change associated with the COVID-19 pandemic

COVID-19 provided the impetus for a significant increase in access to health information digitally, amongst both healthcare providers and individuals. For example, use of My Health Record amongst Australians grew from 19.4 million views to 76.2 million views in the twelve months to 30 June 2022, an increase of 292 per cent. Amongst healthcare providers use of My Health Record grew from 13.3 million views to 33 million views in the twelve months to 30 June 2022, an increase of 148 per cent¹. These figures illustrate the role COVID-19 played in accelerating adoption and usage and shows that Australians are increasingly engaging with My Health Record, using it as a means of staying informed and taking control of their health.

Additionally, COVID-19 saw changes to the way health services are delivered. Between March 2020 and July 2022, 118.2 million telehealth services were delivered to 18 million patients, and more than 95,000 healthcare providers have now used telehealth services². Between the May 2020 launch of electronic prescribing and September 2022, more than 82 million electronic prescriptions have been created³.

Digital health solutions played a valuable role in supporting Australians to access both their health information and health services, particularly vulnerable populations such as Aboriginal and Torres Strait Islanders and people with a chronic health condition.

Potential benefits associated with greater adoption of digital health

Foundations for digital health

The Agency has a lead role in developing and operating Australia's national digital health infrastructure underpinning the delivery of health across care settings and jurisdictions. Despite the Agency's relatively short history, we are adding tangible value to the national health system. We are confident we have key pillars in place to streamline, extend and support the future of Australian healthcare.

Current foundations include the My Health Record system, the Healthcare Identifier (HI) service, National Authentication Services for Health (NASH), Electronic Prescribing, secure message delivery, National Clinical Terminology Service (NCTS), and clinical document specifications work (SNOMED CT-AU). These well-developed, networked services allow the Agency to oversee rapid and secure transfer of information, networked care between health systems, and ensure that the consumer is at the centre of their healthcare journey.

With solid foundations in place, the Agency is now looking to the future to increase value from existing services and promote the development of new innovative products and services. Agency work is driving productivity and innovation in a range of areas, including:

- terminology and information exchange standards to support the interoperability of digital health systems
- enhancement to the My Health Record system to enable integration with third party mobile apps
- an interface to enable shared access and searching of multiple healthcare provider directories
- enhancements to the National Authentication Service so that healthcare providers and supporting organisations can securely access, encrypt, and share health information, and

¹ Australian Digital Health Agency My Health Record system data

² <https://www.digitalhealth.gov.au/initiatives-and-programs/telehealth>

³ Australian Digital Health Agency Electronic Prescribing data



- expansion of user-centred digital health tools by industry and technology vendors, playing a major role in building consumer confidence to engage with digital tools such as fitness and wellbeing applications and wearables.

While digital health infrastructure is still developing, the Agency's work to date has resulted in a foundation of services and products which underpin our future health strategies and allow implementation of digital health solutions for complex and dynamic health problems. These foundations can be built on to realise potential data and digital dividends across:

- safety and quality outcomes such as reducing prescribing of unnecessary medicines
- sustainability and efficiency such as reducing duplication of services
- patient experience such as providing patients and their carers access to health information making it easier to manage care
- provider wellbeing and experience such as reduction of administrative burden across the health system
- equity such as increasing healthcare access for people in remote areas.

The Agency has in place a benefits management framework that supports our ongoing monitoring of performance of digital health solutions, including My Health Record. A 10-year Benefits Evaluation Plan guides our benefits management approach. It was developed through widespread consultation across the health system. It includes continuous research, evaluation, and monitoring of My Health Record use, adoption, impact, and benefits realised across both healthcare providers and consumer groups. The insights gained are being used daily to guide Agency projects, programs, communications, and education strategies, as well as inform our product development roadmap.

Healthcare provider benefits

There is further scope for My Health Record to be used throughout a patient's healthcare journey, including support for multidisciplinary care and coordination of care between care settings (e.g., aged care facility to hospital). There is also further scope for the My Health Record system to be a system that all healthcare providers can rely on to make accurate and well-informed decisions about their patients – across all age groups and levels of medical complexity, including the maintenance of health and wellbeing.

There is broad agreement for the value of timely access to patient health information to support more personalised care and better clinical decision making. Accurate and complete clinical information is particularly important for a new diagnosis or prescribing medication. Reducing repeated, delayed, or avoidable services can decrease the financial and resource burden for organisations, but also increase the capacity and productivity of frontline healthcare providers. Over 250,000 hospital admissions each year in Australia are because of medication-related problems⁴, with medication errors (inappropriate use, adverse interactions) result in an estimated additional 400,000 presentations to emergency departments annually⁵. Healthcare provider experience and skills are difficult to replace and there are growing workforce shortages. Digital solutions should be part of the solution. Digital health systems can increase the capacity of providers by delivering accurate and timely information, reducing treatment time, avoidable services, and prevent prescribing errors and adverse interactions.

Clinical decision-making is at the core of quality healthcare. The value of My Health Record to clinical decision making has increased as more information is included. Agency research is showing that in GP

⁴ Lim R, Ellett LMK, Semple S, Roughead EE, 'The Extent of Medication-Related Hospital Admissions in Australia: A Review from 1988 to 2021' *Drug Safety*, 2022, 45(3):249-257.

⁵ [Medicine Safety: Take Care. Pharmaceutical Society, 2019](#)



consultations where My Health Record is being used, only 18% of consultations made a diagnosis in 2017 compared to 51 per cent in 2021⁶. Further, where My Health Record was being used in GP consultations, prescribing occurred more often⁷. Together, this data is demonstrating that My Health Record is starting to be used effectively and allowing more accurate and timely service delivery.

Where health information is available it is increasingly relied upon. Benefits modelling shows where one healthcare provider has access to information uploaded by another healthcare provider it provides impetus for a 'network effect' across the health system, amplifying benefits realised for both users and funders. There is a growing body of evidence that information healthcare providers are uploading to My health Record is being viewed by other healthcare providers at an accelerated rate and the benefits are being realised for Australians in times of critical healthcare need.

Examples:

- In **natural disaster management**, such as during the eastern seaboard flooding of early 2022, healthcare providers turned to My Health Record to support locals. Whilst GPs practices were largely unavailable, pharmacies continued to operate and support the community. Pharmacy use of My Health Record spiked during this time and the role it played in supporting business continuity was enabled by fast and secure access to consumer information. Pharmacies were able to view a consumer's medical history and dispense medicines to those unable to access to their regular healthcare provider, essential for maintaining medication management plans. Access to My Health Record minimises the impact of disruptions to medical services by allowing providers to connect digitally when physical collaboration is not possible. Connected care, particularly during natural disasters, can promote health outcomes, quality of life, and independence, particularly for those with chronic conditions and complex medical histories.
- In **COVID-19 pandemic management**, use of My Health Record has supported the efforts of healthcare providers and governments through all phases, from essential lockdowns to easing of restrictions, and emergence of 'the new normal'. The later phases of COVID-19 saw an increase in My Health Record activity as consumers accessed their proof of vaccination. GPs and healthcare providers have been using My Health Record to check immunisation status and test results with an analysis of GP viewing of diagnostic testing over the last two years showing use of My Health Record information is growing.

A central digital portal for COVID-19 information, like My Health Record, has significant value for the Australian healthcare providers, with likely benefits including:

- a reduction in the amount of time for detailed patient histories to be gathered by healthcare providers
 - reduction in the delivery of avoidable services and complications through improved support for clinical decision-making, and
 - reduction in length-of-stay in hospital due to improved access to information.
- In **patient transitions** between primary and acute care, key clinical information is increasingly available in My Health Record, almost doubling in the last year. In the case of older Australians, if hospitalisations in older patients with a previous admission for adverse medication events could be reduced by 20%,

⁶ Australian Digital Health Agency, My Health Record Benefits Realisation: Outcome Health. Agency commissioned research with Outcome Health 2022

⁷ Australian Digital Health Agency, GP use of My Health Record research study 2022



modelling supports annual cost and resource savings accrue to State and Commonwealth Governments, saving numerous lives and increasing the capacity of expert healthcare provider teams⁸.

- A connected digital health system can assist with care delivery to people with **chronic health conditions**. Almost one in two Australian adults (46%) now have one or more chronic conditions, with those over 65 or living in disadvantaged areas most at risk⁹. Healthcare providers caring for these complex patients, particularly those working in emergency or remote healthcare, can use My Health Record as a centralised record of relevant health information. Connected systems support multi-disciplinary care by facilitating easy and secure sharing of information. Our research shows healthcare providers are using My Health Record more frequently for patients with chronic conditions compared to patients than with less complex patients. The prioritisation of COVID-related services in primary care during the pandemic resulted in partial or complete disruption to chronic disease management, including care for conditions such as hypertension, diabetes, and cancer¹⁰. Telehealth, in combination with My Health Record, has been critical for maintaining continuity and coordination of care. It enabled healthcare providers to monitor patients with chronic care remotely - continuing to supply them with regular medications, and issue referrals and requests for routine testing.

Healthcare consumer benefits

Access to health information can empower Australians. They can seek advice from their healthcare providers, building their understanding, health literacy and control of their health journey.

Research conducted by the Agency indicates that consumers want greater access to their health information, including:

- Most consumers would choose to digitally receive a prescription (84%), a referral (84%), a medical test referral (74%), test results (81%) or medical records (80%)¹¹
- 73% of consumers expect healthcare providers to always or usually '*Digitally provide my pathology and diagnostic results as soon available to the referring healthcare professional*' (and 87% amongst people aged 65+ years)¹²
- 71% expect healthcare providers to always or usually '*Digitally transfer my records back to my nominated GP*' (and 86% amongst people aged 65+ years)¹³, and
- 66% expect healthcare providers to always or usually '*Upload my health summary to My Health Record*' (and 70% amongst people aged 65+ years)¹⁴.

Greater engagement and participation in healthcare can drive better outcomes and assist healthcare teams meet the needs and priorities of patients. The Agency is committed to providing a service that firmly puts Australians at the centre of their healthcare management, enabling patients to make better and more informed choices.

⁸ Lim R, Ellett LMK, Semple S, Roughead EE, The Extent of Medication-Related Hospital Admissions in Australia: A Review from 1988 to 2021, *Drug Safety*, 2022, 45(3):249-257; Hamar GB, Coberley C, Pope JE, et al Effect of post-hospital discharge telephonic intervention on hospital readmissions in a privately insured population in Australia, *Australian Health Review*, 2018, 42(3):241-247.

⁹ Australian Bureau of Statistics (2020-21), *Health Conditions Prevalence*, ABS Website, accessed 18 October 2022.

¹⁰ Parkinson A, Matenge S, Desborough J, et al. The impact of COVID-19 on chronic disease management in primary care: lessons for Australia from the international experience. *Med J Aust*, 2022;216(9):445-448. doi:10.5694/mja2.51497

¹¹ Australian Digital Health Agency. Agency commissioned Healthcare professional/consumer polling 2022.

¹² Australian Digital Health Agency. Transitions in Care. Agency commissioned research 2022

¹³ Australian Digital Health Agency. Transitions in Care. Agency commissioned research 2022

¹⁴ Australian Digital Health Agency. Transitions in Care. Agency commissioned research 2022



Population level benefits

Population level health data can be leveraged to benefit the entire population, when supported by the legislation and appropriate policy. Analysis of data can provide important insights to support better resource allocation, policy planning and enhance health and medical knowledge about new and emerging diagnoses and treatments. Data derived from such systems can be analysed to inform the best approaches to health assessment, treatment, and outcomes. This includes health or medical research on effective health interventions as well as the effect of social and economic determinants of health. As more healthcare providers and consumers adopt and use digital health systems, more content is available in these systems and the data quantity and value increases for public health research purposes.

Given the size and quality of the My Health Record system, it is a powerful resource to identify, support and monitor progress in vulnerable communities and cohorts. Analysis of such health data can determine the effectiveness of different treatments and health initiatives to address and reduce health and social inequity. Initiatives linking data across the healthcare sector provide a more holistic view of patient lives and support the identification of structural, social, economic, and cultural determinants of health across various cohorts in the population.

Potential barriers to adopting new technologies and data

Digital and health literacy

The report notes that “...low digital literacy in some population cohorts can reduce their ability to consume essential services and undertake everyday transactions” (page 68). Digital literacy empowers consumers to take a greater role in managing their own health needs and increase engagement with healthcare providers to support effective whole-of-person care.

To realise the benefits of digital health, consumers require both digital and health literacy. They need to be able to navigate and use digital products such as My Health Record and understand the content of the information, and its relevance to them at a particular point in time. Low health literacy is associated with less use of preventative health care, increased hospitalisations, and a higher economic burden for treatment¹⁵. The ability to discern good information and facts from false information is critical to digital literacy, including knowing when online information is trustworthy.

The Agency works with many partners to build awareness, promote, and provide education in relation to digital health literacy. Under the Agency’s Consumer Digital Health Literacy Program, the Agency engaged Good Things Foundation and the Australian Library and Information Association (ALIA) to raise awareness and educate consumers on digital health literacy and My Health Record. Good Things Foundation trained 207 digital health mentors and is delivering online and face to face digital health training for priority population groups around Australia. A digital health mentor online resource and a digital health literacy handbook for consumers were also developed. Good Things Foundation is also engaged by the Department of Social Services and the eSafety Commissioner to support people with an introduction to myGov and linking government services including My Health Record.

ALIA, working with public libraries, health libraries, and Queensland Indigenous Knowledge Centres delivered training to library staff on digital health literacy, including My Health Record. As of February 2022, a total of 3,201 public library staff and interested community have completed the online training program. More than half of Australia’s public libraries have staff trained to support consumers, raising awareness and

¹⁵ Coughlin SS, Vernon M, Hatziageorgiou C, George V, Health Literacy, Social Determinants of Health, and Disease Prevention and Control, J Environ Health Sci, 2020; 6(1):3061.



understanding of My Health Record. Libraries also act as information points by displaying My Health Record posters, brochures and session information on in-library screens and websites.

The Agency works in partnership with national consumer peaks to promote awareness and uptake of digital health with consumers, these include the Council on the Aging, the Federation of Ethnic Communities' Councils of Australia, Consumers Health Forum of Australia, Carers Australia, LGBTIQ+ Health Australia, Mental Health Australia, and Advance Care Planning Australia. In addition to these organisations, the Agency plans to partner with People with Disabilities Australia.

The Agency's efforts to date have been focused on use of the My Health Record system but there is more to be done to build digital and health literacy more broadly. This includes supporting consumers to understand pathology tests, ongoing health management, and how to identify trustworthy source of information about health and wellbeing.

As noted in the Interim Report, digital literacy is also key to improving the productivity of the healthcare workforce. The Agency provides a range of education modalities including webinars, virtual classroom sessions, face-to-face sessions, eLearning modules, and podcasts on topics including My Health Record and electronic prescriptions. The Agency also provides supporting fact sheets, user guides and other education collateral and has ongoing monitoring mechanisms for evaluating the impact and effectiveness of these initiatives. Initiatives to equip Australia's health workforce for a connected, digitally enabled future are outlined in the National Digital Health Capability Action Plan¹⁶.

Regional connectivity

Connectivity can help overcome some access issues. Connectivity remains a challenge especially in rural and remote regions as the Australian Medical Association noted in the Scoping Review, *The Need for Better Digital Connectivity to Improve Health Care of Rural Australians*¹⁷.

According to the Digital Inclusion Index 2020¹⁸, inequities still exist in affordable access to digital technologies. Digital exclusion was largely linked to access and affordability, and despite heavy reliance on mobile technologies, affordability relative to income was a key barrier to use. Aboriginal and Torres Strait Islander people have lower scores across all domains of digital inclusion when compared to both Australia as a whole, and Australians in rural regions. Only 63% of Aboriginal and Torres Strait Islander people have access to Internet at home¹⁹.

Driving connected care by ensuring greater safe and secure sharing of clinical information

The Interim Report (page 56) suggests that My Health Record could be used to drive sharing of information and asks what changes would be required.

The foundations for a connected national health system are in place, including My Health Record, Health Identifiers and data and digital standards. To progress improving clinical information sharing, the Agency is working on developing an extensive digital infrastructure to deliver greater connectivity in a safe and secure environment. The data the Agency manages has recently moved to the Cloud, and we have additionally implemented an API Gateway. This provides an opportunity for seamless information exchange between commercial providers, governments, frontline care, and other providers without compromising the safety, security, and privacy of the individual's health information. With connected care a priority, this infrastructure will enable the Agency to continue to work with partners across health to drive digital health

¹⁶ <https://www.digitalhealth.gov.au/about-us/strategies-and-plans/national-digital-health-capability-action-plan>

¹⁷ <https://www.ama.com.au/articles/need-better-digital-connectivity-improve-health-care-rural-australians>

¹⁸ Roy Morgan Single Source, March 2020

¹⁹ Walker R, *et al.* Connection to... Addressing Digital Inequities in Supporting the Well-Being of Young Indigenous Australians in the Wake of COVID-19. *Int J Environ Res Public Health*. 2021; 18(4):2141.



reform to support better outcomes for all Australians and in turn building workforce productivity across the healthcare sector and support ongoing health system sustainability.

Policy and Regulatory settings

Much of the foundational technology is in place, and Australians are benefiting from this now, but there is more to do. The delivery of better connectivity in the healthcare system has driven work in interoperability, the networking of our federated health systems, and accessibility of information within the system.

Supporting the streamlining and standardisation of processes through robust policies and regulations will improve delivery speed and overall productivity, positively impacting information flow for decision-making.

Seamless integration between clinical information systems and national infrastructure is a vital part of supporting the workforce and reducing administrative burden. The Agency will continue to work with partners through the application of a standards-based approach, which helps to ensure consistency across the board and support health service delivery.