future health index 2021

# A resilient future

## Healthcare leaders look beyond the crisis

## Australia

The Future Health Index is commissioned by Philips

# Contents


**03** Australia overview

**04** Foreword

**05** Research premise

**06** Learning from the past, optimistic about the future

**11** Taking a multi-speed approach to digital transformation

**16** Building sustainable systems to deliver future-proof care

**19** Conclusion

**22** Glossary of terms

**23** Methodology

**25** Sources

# Australia overview

Matt Moran

*Managing Director Australia & New Zealand, Royal Philips*

Since the beginning of 2020, the global community has been consumed by the COVID-19 pandemic and its devastating effect on health care systems worldwide. Widely praised as one of the few industrialised countries to have mounted an effective public health response, healthcare leaders are largely optimistic, believing the Australian health system showed the resilience needed to save lives, protect healthcare capacity, and adapt processes to ensure continuity of care to vulnerable communities.

Although the long-term impact of the pandemic on the Australian health system has yet to be truly understood, the Future Health Index 2021 report explores the perspectives of healthcare leaders on how actions today may impact their ability to plan for the future.

The pandemic paved the way for rapid acceleration and adoption of digital health technologies, while at the same time exposing weaknesses in existing data systems and interoperability. The successful outcomes resulting from the uptake in telehealth and remote monitoring provide a strong impetus and roadmap for healthcare leaders' future digital transformation investments.

Budget constraints, reimbursement models, and staff inexperience with digital technologies continue to be barriers, impeding leaders' abilities to prepare for the future. While questions around data privacy and ethics remain, Australian healthcare leaders are looking to invest in more innovative and advanced technologies like AI in the future, primarily to optimise operational efficiency and integrate diagnostics.

Healthcare leaders believe strategic partnerships are critical to drive successful digital transformation.

Calls to reduce the environmental footprint of the healthcare sector have been growing for years. The pandemic, alongside a series of nationally impactful natural disasters, has underscored the importance of thinking in terms of wider healthcare systems to achieve the best outcomes in healthcare. It's promising to see that healthcare leaders consider the greening of healthcare a top priority in the coming years.

Moving routine care away from the hospital has the potential to increase resilience and build a more sustainable healthcare system. Strong, long-term partnerships between Australia's public and private healthcare systems will continue to be paramount in driving our healthcare digitalisation journey forward, helping to manage challenges like data interoperability and consistent care delivery. Moreover, these partnerships will help ensure a sustainable innovation program is realised across Australia's healthcare offering, not simply positively impacting the environment, but considering the broader meaning of sustainable development to include a richer understanding of operational and economic challenges. This will ensure Australia's developing healthcare delivery model is one that can continue to grow.

Going forward, we need to capitalise on the positive unintended consequences of this pandemic and nurture the additional resilience we have gained. The Australian experience provides significant lessons that can shape our response to future global crises.

# Foreword

Jan Kimpen
*Philips Chief Medical Officer*

> *Amid the crisis, what stands out is just how skillfully the sector has risen to the challenge.*

**As we reflect on the past twelve months, it would be easy to feel dispirited. The global pandemic has taken a significant toll on patients and healthcare staff, obliging them to swiftly respond and adapt. Global healthcare systems have experienced unprecedented strain. Frontline healthcare workers have faced greater pressures than ever before leaving many suffering from burnout, while senior leaders have been charged with leading their institutions in the most trying of times.**

But amid the crisis what stands out is just how skillfully the sector has risen to the challenge. The Future Health Index 2021 report reminds us that although the world continues to battle the pandemic, there are pockets of positivity. This year's report explores how healthcare leaders are meeting the demands of today as they prepare for an uncertain future. It uncovers their experiences, priorities, and aspirations. And while acknowledging the difficulties presented by the pandemic, the findings reveal a sense of optimism, resilience, and hope for a brighter future.

Over the past year, it's clear and understandable that most healthcare leaders have been focused squarely on patient care. But even as they navigate these challenges, many express an appreciation for, and anticipated adoption of, value-based care.

Healthcare leaders have seen firsthand the part that digital health technology has played in recent months, helping to ensure the continued delivery of care in incredibly difficult circumstances. As a result, many are reassessing their facility's technological capabilities as they consider what's next. Smart collaborations and meaningful partnerships will be critical to achieve digital transformation.

Encouragingly we can expect greener healthcare systems over the next three years, with most healthcare leaders pledging to prioritise sustainable practices within their facility.

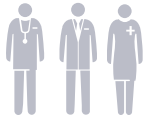
None of us can be certain of what the future holds. But what shines forth from this report is that healthcare leaders are committed to building a future that is sustainable, adaptable and – above all – resilient.

# Research premise

In its sixth year, the Future Health Index 2021 report is based on proprietary research across 14 countries.

The research considers how healthcare leaders* are meeting the demands of today and what the new reality of healthcare post-pandemic might look like. Specifically, the report explores the challenges they have faced, their investment in digital health technology, and a new emphasis on partnerships, sustainability and new models of care delivery, both inside and outside the hospital.

## This is the largest global survey analysing healthcare leaders.



Responses from almost

**3,000**

healthcare leaders

Across

**14**

countries

### Countries included in the research

| | | |
|---|---|---|
| Australia | India | Saudi Arabia |
| Brazil | Italy | Singapore |
| China | Netherlands | South Africa |
| France | Poland | United States |
| Germany | Russia | |

*Healthcare leader is defined as a C-suite or senior executive working in a hospital, medical practice, imaging center/office-based lab, or urgent care facility who is a final decision maker or has influence in making decisions.

Theme 1

# Learning from the past, optimistic about the future

The lasting effects of the COVID-19 pandemic have exposed pre-existing weaknesses in healthcare systems around the world. Australia has grappled with staff shortages[1] and supply chain issues.[2] However, as a nation, it is seen as having mounted a comparatively strong response, with infection rates continuing to remain low.[3]

Australia's approach to the pandemic – notably building trust with citizens, using data to drive decision making and fostering effective private and public collaboration – has led to successes that can be replicated around the world.[4] Frequent testing, contact tracing and quarantine requirements from the outset have also been key to fighting the pandemic.[5]

Australian healthcare leaders face the future energised by the resilience shown over the course of the COVID-19 pandemic, and with a sense of optimism in spite of short- and long-term challenges. However, they recognise the need to improve operational efficiencies within their hospitals and healthcare facilities.

And while Australian healthcare leaders are more likely than those across most of the other countries surveyed to currently practice value-based care in their hospital or healthcare facility, the shock of the pandemic has derailed plans for payment model innovation for some.

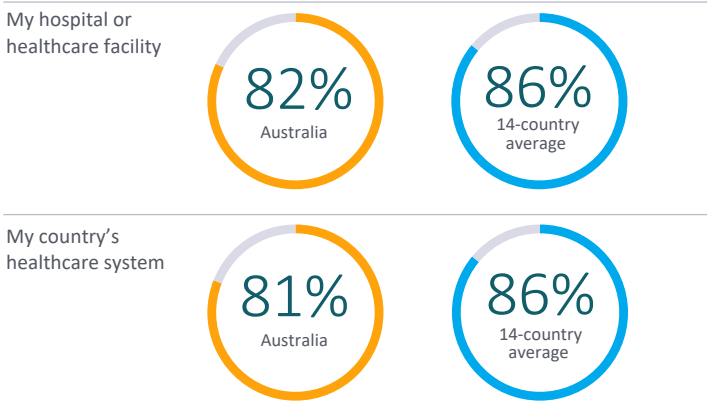
# Australian healthcare system shows resilience amid pandemic

### Leaders confident in their ability to bounce back after the pandemic

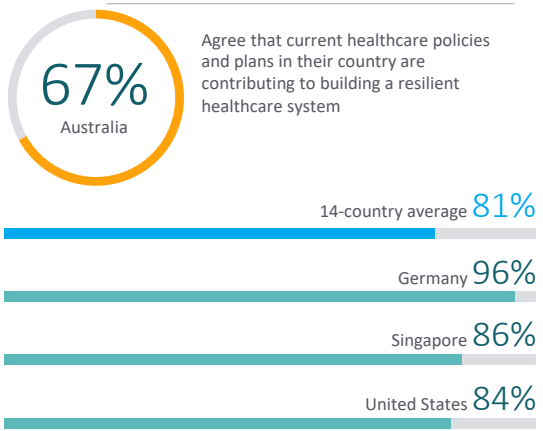
The pandemic revealed key vulnerabilities in the Australian healthcare workforce, including limited resources in remote areas.[6] However, most of Australia's healthcare leaders agree resilience has been shown by their hospital or healthcare facility as well as the country's overall healthcare system.

Amid the COVID-19 crisis, lockdowns aimed to ease pressure on the healthcare system, and the country benefitted from unprecedented cooperation between state and federal governments as well as the reformation of the National Cabinet.[7] These early initiatives may have contributed to Australian healthcare leaders' sense of resilience during the pandemic.

### Healthcare leaders who agree the following have shown resilience during the pandemic




Australian healthcare leaders have a positive view of government efforts, with roughly two-thirds agreeing current policies and plans are contributing to a resilient healthcare system, and a further 21% taking a neutral view. While fewer healthcare leaders in Australia share this belief compared to those across many of the other countries surveyed, post-pandemic policies focusing on the social determinants of population health, breaking down departmental silos and improved data sharing can reflect lessons learned from the pandemic.[8] These initiatives, if enacted successfully, have the potential to move more Australian healthcare leaders to become supporters of government efforts to build resilience in healthcare.



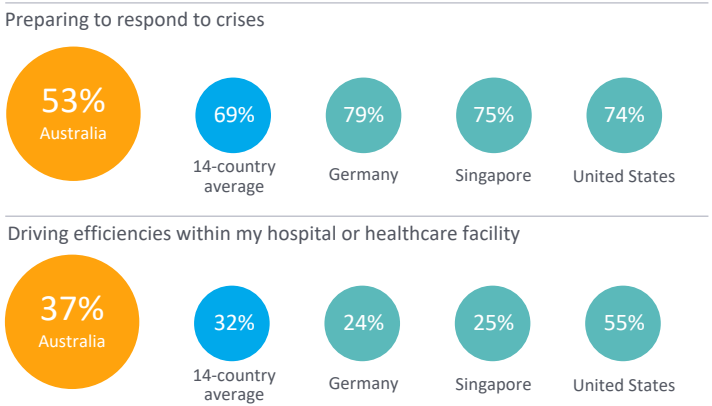

Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)

# Pandemic drives focus on efficiency

### Efficiency improvements key to future planning

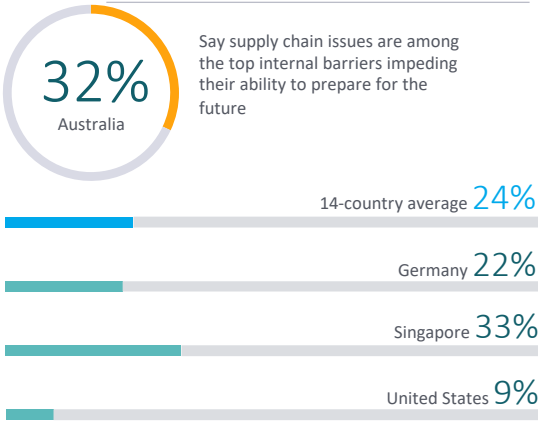
Preparing to respond to crises and driving efficiencies within their hospital or healthcare facility are currently among Australian healthcare leaders' top priorities. In fact, they are more likely than leaders across some of the other countries surveyed, including Germany and Singapore, to report that driving efficiencies is a primary priority today. Reevaluating, consolidating and digitising supply chains[9] are essential steps toward improving efficiency and combatting resource shortages within the Australian healthcare system.

### Top current priorities of Australian healthcare leaders:




### Australia's unique healthcare challenges

The pandemic highlighted glaring issues in Australia's medical supply chain, which relies on supplies from over 100 countries.[2] Following bushfires early in 2020, a nationwide shortage of face masks made Personal Protective Equipment (PPE) especially challenging to procure.[9] Against this backdrop, Australian healthcare leaders are more likely than those across many of the other countries surveyed to see supply chain issues as among the top internal barriers impeding their ability to prepare for the future.




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)

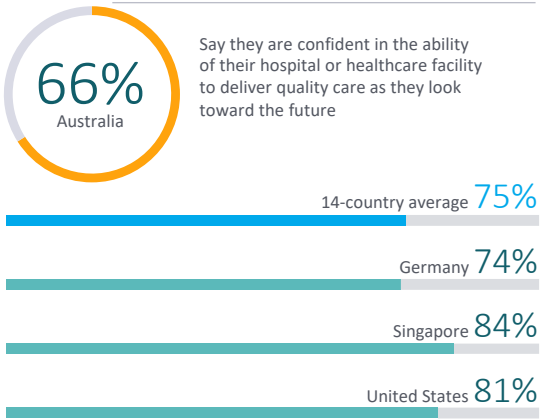


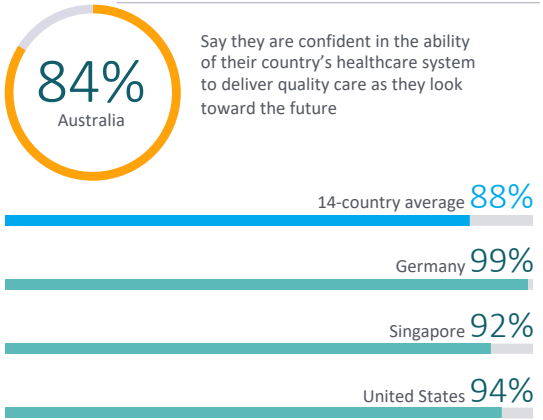
# A sense of optimism for the future

### Healthcare leaders confident in the delivery of quality care in Australia, though uncertainty remains

Australia's healthcare leaders are displaying optimism for the future. Most have confidence in their hospital or healthcare facility and the healthcare system in Australia to deliver quality care as they look toward the future.

Healthcare funding from the federal level is set to increase in Australia.[10] However, challenges around a lack of coordination between healthcare facilities, the prioritisation of prevention or wellness promotion, and inefficiencies in resource utilisation[11] might contribute to slightly lower levels of confidence among the nation's healthcare leaders in the ability of their own hospital or healthcare facility, in comparison with other healthcare leaders surveyed.




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)

# Crisis sparks a reappraisal of value-based care

As seen in many countries, COVID-19 has forced some (18%) of Australia's healthcare leaders to deprioritise their hospital or healthcare facility's pursuit of value-based care. However, roughly one-fifth say they are already practicing value-based care in their place of work, a higher proportion than healthcare leaders across most of the countries surveyed (19% vs. 10% 14-country average). At the same time, around a third (35%) have either decided against value-based care or never pursued the outcome-based care model – running contrary the progressive reputation Australia's healthcare system currently holds.

For those in Australia who are hesitant about adopting value-based care, the difficulties seem to lie in making a smooth transition away from the pay-per-service model. Federal and state governments are currently collaborating to restructure the National Health Reform Agreement (NHRA), with one key reform being paying for value and outcomes in healthcare, and another driving joint planning and funding at a local level.[12] Together these reforms will help facilitate long-term payment model innovation in Australia.

**Adoption of value-based care**


We are currently pursuing a shift toward value-based care

14-country average 18%


We started pursuing a shift toward value-based care but decided against it (i.e., returned to a fee-for-service model)

14-country average 15%

> *The time to move to a value-based approach to healthcare funding is now and that's why we have recommended funding models that support the specific needs of the local communities and incentivising stakeholders to cooperate in standardised tracking of health outcomes.*[6]
> **Alison Verhoeven, Chief Executive, Australia Hospital & Healthcare Association**

Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800)

Theme 2

# Taking a multi-speed approach to digital transformation

Between March 2020 and March 2021, more than 54 million telehealth services took place in Australia[13] – a remarkable acceleration in the uptake of digital health technology over the past year. This shift will likely have profound effects on healthcare leaders' future digital transformation investments in the coming years.

Australian healthcare leaders are investing in telehealth today, to maintain care delivery. As leaders look to the future, predictive technologies and artificial intelligence (AI) will increasingly become investment targets. A national AI ethics framework will guide further implementation of this technology in healthcare[14], while near-term utilisation will focus on operational efficiencies.

At the same time, many Australian healthcare leaders see strategic partnerships and collaborations as a key means to successfully adopting digital health technologies. Partnerships with industry agencies like the World Health Organization Western Pacific Regional Office exist in the present to some extent[15], but Australian healthcare leaders seek to collaborate primarily with health IT or informatics companies to further drive digital transformation.

# Building a lasting digital health legacy

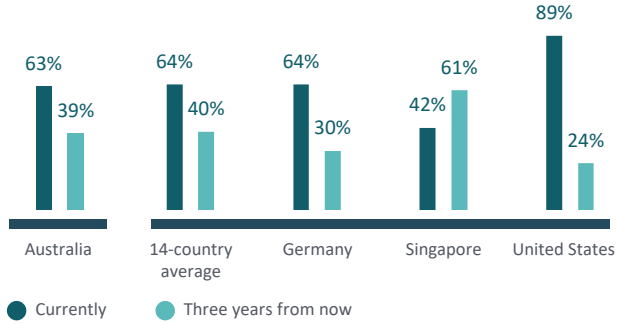
### Australian healthcare leaders invest heavily in telehealth

In the 1990s, telehealth was seen as an innovative way to bring healthcare services to remote communities in Australia[16], and in 2020 it became an essential means of care delivery for Australian citizens during lockdown. The technological investment priorities of Australian healthcare leaders reflect this new reality, with strong investment in telehealth today, followed by an anticipated tapering off in the future. Healthcare leaders' current focus on telehealth investment is matched by the federal government, which announced in April 2021 that it was extending financial support for telehealth services until the end of the year.[13]

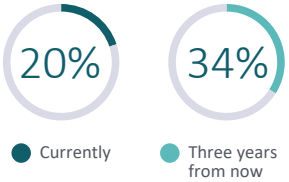
While investment in telehealth overall is expected to decline over the coming years, many Australian healthcare leaders express a desire to invest specifically in healthcare professional-to-patient telehealth in the future. Policy changes will continue to drive the use of this technology in the years to come, including the creation of incentives for providers to use telehealth for patient visits and the addition of telehealth to Medicare's list of reimbursable covered services.[17]

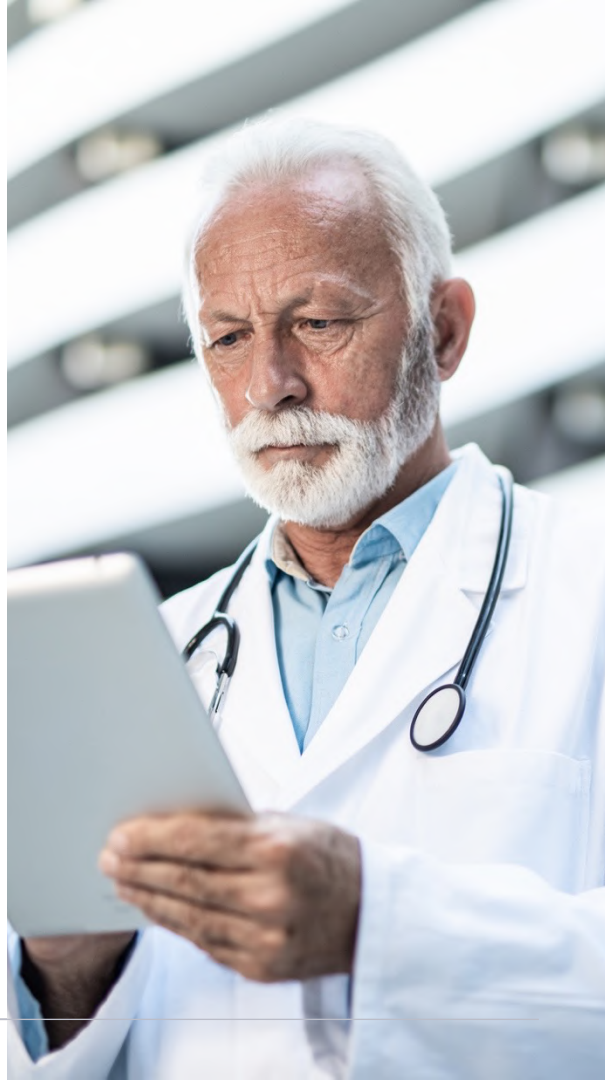
Moving from telehealth to a more comprehensive virtual healthcare system will require a continued, long-term focus on funding, governance and healthcare policy.[18]

**Healthcare leaders who say telehealth^ is one of the digital health technologies they are most heavily investing in now and in the future**




**Healthcare leaders in Australia who say healthcare professional-to-patient telehealth is one of the digital health technologies they are most heavily investing in now and in the future**



Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)
^Telehealth as stated here is representative of both healthcare professional-to-patient telehealth as well as healthcare professional-to-healthcare professional telehealth

# Investing in artificial intelligence (AI) for tomorrow

### Investment in predictive technologies, such as AI and machine learning, set to rise

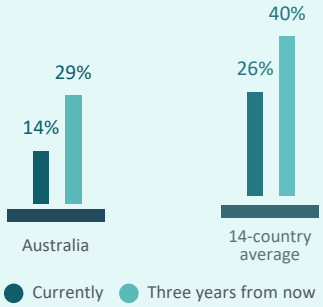
While few Australian healthcare leaders currently feel that the implementation of predictive technologies, such as AI and machine learning, is an area most in need of investment to be prepared for the future, roughly a third believe their hospital or healthcare facility will need to invest in the technology three years from now.

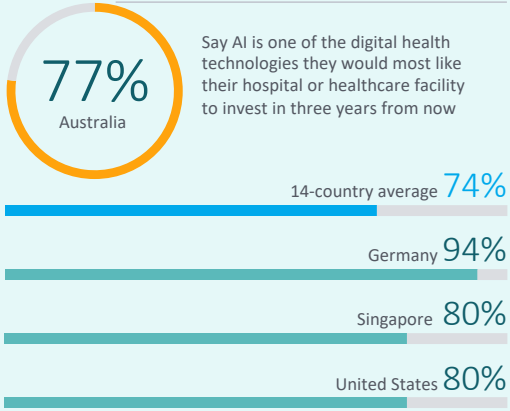
### Australian healthcare leaders prioritise AI to streamline operational efficiency

Healthcare leaders in Australia are taking a measured approach to AI, thinking through not just the adoption of the technology but ultimately how it will be used. In the Future Health Index 2020 report, some younger Australian healthcare professionals cited AI to optimise operational efficiency as a digital health technology that would most improve their work satisfaction (27%) as well as patient care over the next five years (21%).[19]

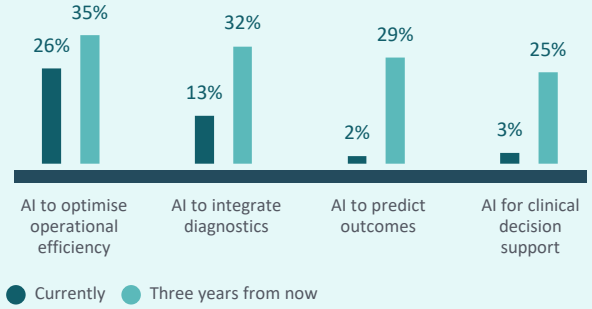
In the future, Australian healthcare leaders would like their investment in AI to primarily center around this area, in addition to integrating diagnostics and predicting outcomes. The desire to invest in AI for additional capabilities might also indicate that confidence in using the technology has grown. For example, in the Future Health Index 2019 report, Australian healthcare professionals reported lower levels of comfort using AI for diagnosis or treatment compared to those in many of the other countries surveyed.[20]

**Healthcare leaders who say their hospital or healthcare facility most needs to invest in implementing predictive healthcare technologies to be prepared for the future**




**Digital health technologies Australian healthcare leaders are most heavily investing in now and in the future: AI technologies**




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)



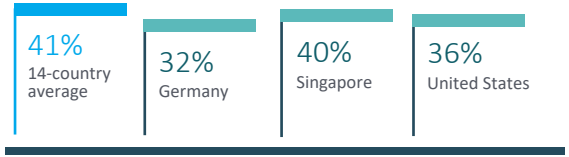
# Driving change with strategic partners

### Leaders look for new perspectives to help prepare for the future

Many Australian healthcare leaders recognise the value of investing in strategic partnerships to help adopt and use digital health technology within their hospital or healthcare facility.

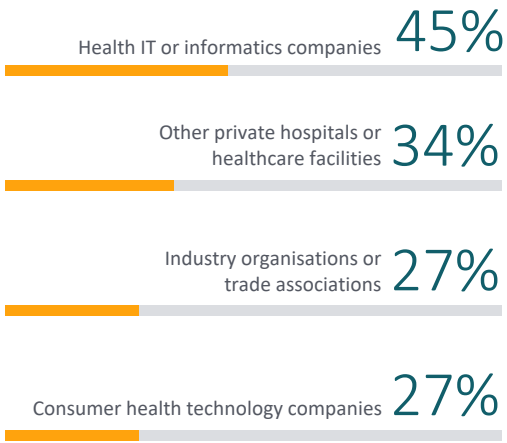
The Australian Department of Health's partnership with the World Health Organization Western Pacific Regional Office is one such example, which laid out a 2018-22 cooperation strategy aiming to enhance heath security, promote people-centered health systems, strengthen health regulation, including around digital health technologies, and achieve organisational excellence.[15]


Say their hospital or healthcare facility needs to prioritise strategic partnerships and collaborations to successfully implement digital health technologies




To continue driving digital transformation in Australia, healthcare leaders want to collaborate most with health IT or informatics companies. They are also more likely than those across many of the other countries surveyed to want to collaborate with industry organisations or trade associations.

### Top organisations Australian healthcare leaders want to collaborate with to drive digital transformation within their hospital or healthcare facility



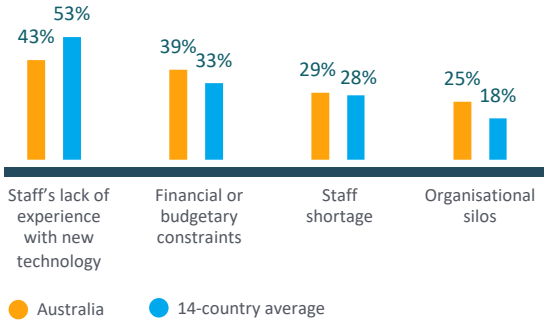

Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)

# Bold plans hit by limited budgets and staff inexperience

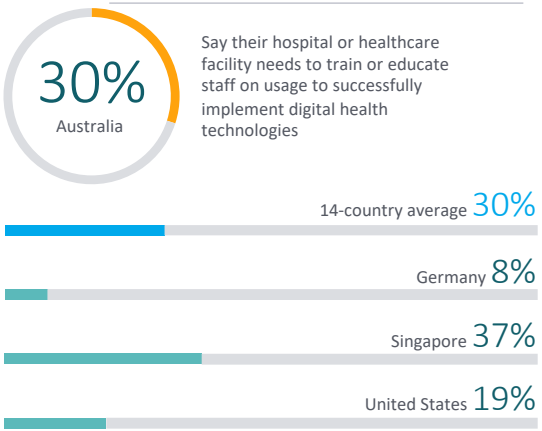
**Constrained budgets, staff inexperience and staff shortages are impeding progress, yet training is not a high priority**

Shortages of staff[1] and the lack of proper experience with digital health technologies are perennial issues for Australian healthcare leaders. In the Future Health Index 2020 report, roughly half (47%) of younger Australian healthcare professionals indicated they didn't know how to use digital patient data to inform care.[19] These findings are reflected in the views of Australia's healthcare leaders, who see their staff's lack of experience with new technology as a top internal barrier to preparing for the future.

**Top internal barriers impeding ability to prepare for the future**

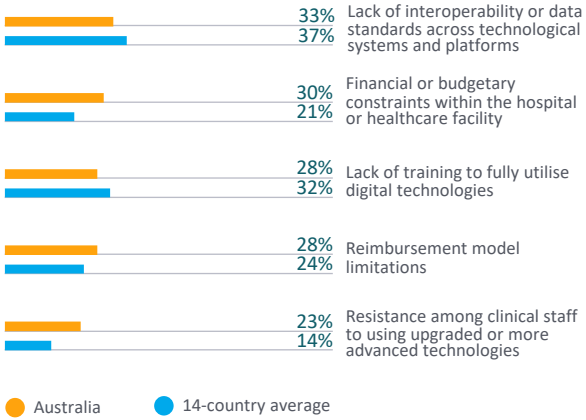



Despite these findings, staff training is cited by only around one-third of Australian healthcare leaders as an action that their hospital or healthcare facility needs to take to successfully implement digital health technologies. Meanwhile, a similar proportion of healthcare leaders (33%) feel their hospital or healthcare facility needs to hire staff with expertise in digital patient data.




A lack of interoperability across platforms is frequently cited as a pain point for healthcare professionals and could indicate why some of Australia's healthcare leaders perceive staff resistance to using more advanced technologies as among the top barriers to technology adoption. Regardless, the dramatic growth in digital care delivery over the past year may prompt Australia's healthcare leaders to map a bolder strategy for digitisation.

**Top barriers to the adoption of digital health technologies within the hospital or healthcare facility**




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800; Germany n=200; Singapore n=200; United States n=200)

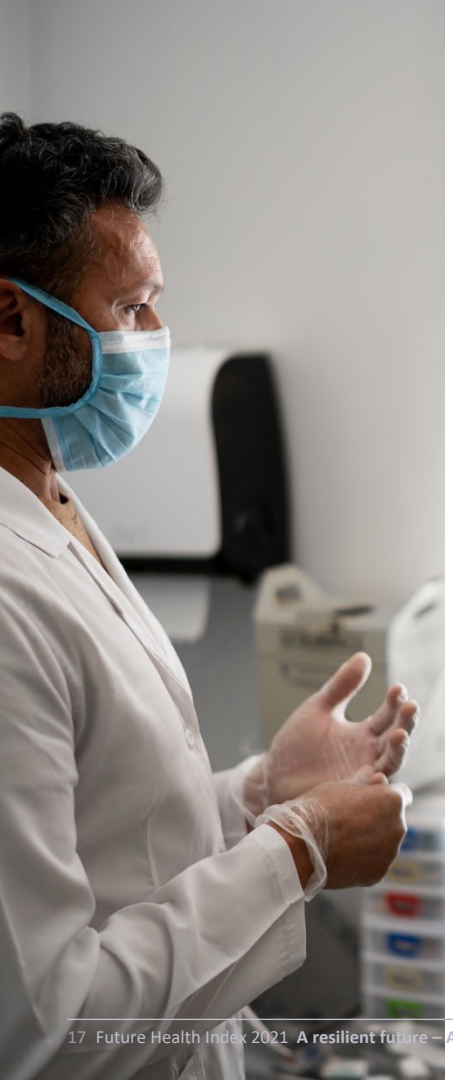
Theme 3

# Building sustainable systems to deliver future-proof care

The pandemic has offered an opportunity for healthcare leaders to rebuild a stronger Australian healthcare system. New conversations are being initiated and priorities are being set, with an increasing focus on moving care beyond the hospital walls and addressing the role of the healthcare industry in supporting the environment.

Moving routine care away from hospital settings has the potential to increase resilience and drive sustainability within healthcare systems. In the future, Australian healthcare leaders anticipate, on average, that roughly a quarter of routine care delivery will take place outside the walls of their hospital or healthcare facility.

Australian healthcare leaders expect the implementation of sustainability practices to be a top priority among their list of responsibilities in the coming years. This perhaps reflects the ambitious target set by the Australian Medical Association and Doctors for the Environment Australia for the healthcare industry to reach net zero carbon emissions by 2040.[21]

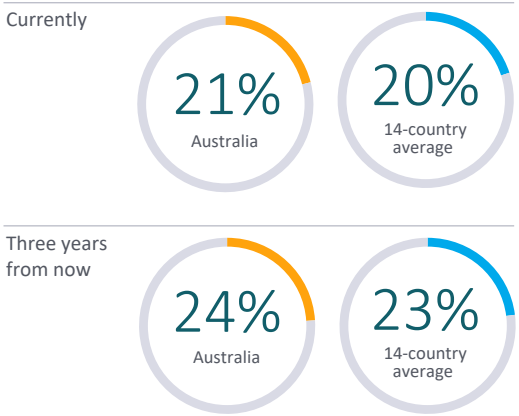




# Care moves beyond hospital walls

Currently, Australian healthcare leaders estimate, on average, that 21% of routine care delivery happens outside the walls of their hospital or healthcare facility. In the future, they expect a slight increase in the amount of routine care performed in a non-traditional setting, including out-of-hospital procedural environments.

**Average proportion of routine care delivery healthcare leaders believe is performed outside the walls of their hospital or healthcare facility**

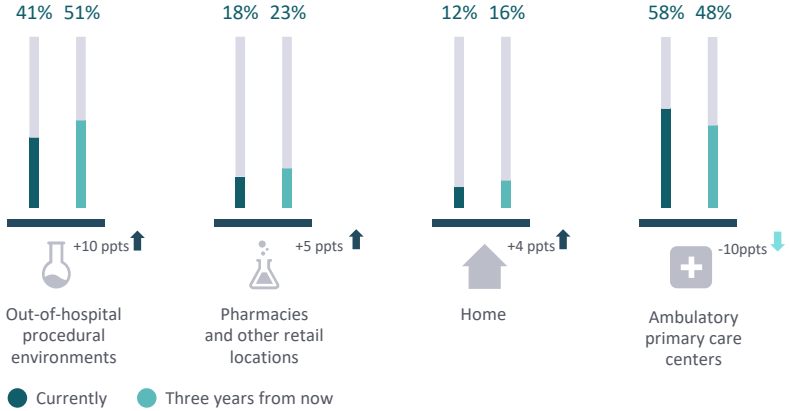



## The changing face of out-of-hospital care

According to Australian healthcare leaders, out-of-hospital procedural environments are expected to be the among the sites where routine care will be delivered most frequently to citizens in the years to come, outside of the hospital or primary care facilities. On the other hand, while over half cite ambulatory primary care centers as among the most used locations currently, use of these facilities is expected to decline in the future.

Additionally, Australia stands out from many of the other countries surveyed when it comes to the popularity of pharmacies and other retail locations as places for delivery of routine care, both now and in the future.

**Top locations (outside of the hospital or primary care facilities) for routine care delivery**




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800)

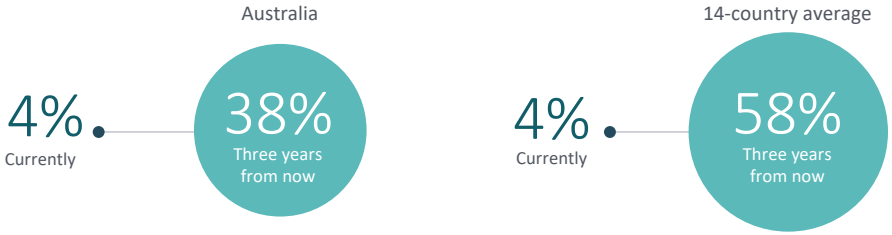
# A push toward sustainability

### Environmentally sustainable healthcare leaps up leaders' agenda three years from now

The healthcare sector is increasingly coming under the spotlight for the role it plays in emitting greenhouse gases. A pre-pandemic study estimated that Australia's healthcare industry contributed 7% of the nation's carbon footprint.[22] In March of 2021, the Australian Medical Association and Doctors for the Environment Australia called for the sector to strive for net zero emissions by 2040.[21]

The implementation of sustainability practices at their hospital or healthcare facility is expected to be a top priority for many of Australia's healthcare leaders in three years. However, they are less likely to anticipate this as a primary priority for the future than healthcare leaders across many of the other countries surveyed. This may be due in part to the fact that Australia has already taken a leading role in climate change preparedness. The Framework for a National Strategy on Climate, Health and Well-being for Australia, a world-first initiative launched in 2017, has worked to shed light on the importance of environmentally friendly practices in the health sector.[23]

**Healthcare leaders who say implementing sustainability practices at their hospital or healthcare facility is a top priority**




Base (unweighted): Total healthcare leaders (Australia n=200; 14-country avg. n=2800)

# Report conclusion

# Conclusion

## A vision of sustainable and patient-centered healthcare, enabled by smart technology

Exploring the findings of the Future Health Index 2021 report, several notable themes emerge as healthcare leaders consider what lies ahead:

Strong optimism among healthcare leaders

A roadmap for benefiting from smart technologies that considers the tools that are currently available to them

Growing interest in sustainability and environmental sourcing

An emphasis on strategic partnerships to foster innovation and deliver much-needed technology infrastructure

Increased anticipation of care delivery outside the hospital, driven by patient demand

# Appendix

# Glossary of terms

**Ambulatory primary care center**
Outpatient care centers (e.g., urgent care, walk-in clinics, etc.)

**Analog hospitals or practices**
Most or all patient data is handled in a paper-based format or using traditional communications, e.g., phone, fax, etc.

**Artificial Intelligence (AI)**
AI refers to the use of machine learning and other methods that may mimic intelligent human behaviors, resulting in a machine or program that can sense, reason, act and adapt to assist with different tasks.

**Augmented reality (AR)**
A technology that superimposes a computer-generated image on a user's view of the real world, providing a composite view. In healthcare, this can allow a surgeon, for example, to see live data or 3D medical imagery in their field of vision when performing procedures.

**B2B health technology companies**
Companies that sell products, equipment, or solutions to hospitals and healthcare facilities.

**Consumer health technology companies**
Companies that sell or provide wearables, health apps and other technology to the general public.

**C-Suite -1**
A hospital or healthcare executive who is a level below the role of C-Suite. Job titles can include head of department, senior partner, or director.

**Data privacy**
The culture expectations, organisational regulations and legislation that protect personal information from unauthorised use and dissemination.

**Data security**
Protecting data against unauthorised access.

**Digital health records**
Technology that can store a variety of health information, including medical history, test results, health indicators, etc. Digital health records can be used within a certain healthcare facility, across different healthcare facilities, by only the patients themselves, by one healthcare professional or across all healthcare professionals involved in a patient's care. Electronic medical records (EMRs) and electronic health records (EHRs) fall within the term 'digital health records'.

**Digital health technology**
A variety of technology that transmits or shares health data. The technology can take a variety of forms, including but not limited to home health monitors, digital health records, equipment in hospitals and health or fitness tracker devices.

**Digital hospitals or practices**
Simple/basic technologies are used, with most or all patient data and communications being handled electronically.

**Digital Transformation**
The integration of digital technology into all aspects of how a healthcare business interacts with patients, healthcare providers and regulators.

**Global non-governmental organisations**
Organisations such as WHO, World Bank, etc.

**Healthcare professional**
All medical staff (including doctors, nurses, surgeons, specialists, etc.), and excludes administrative staff.

**Healthcare professional-to-healthcare professional telehealth**
Virtual communication between healthcare professionals through sharing images, recommending treatment plans, etc.

**Healthcare professional-to-patient telehealth**
Communication between healthcare professionals and their patients via video calls, patient portals, etc.

**Healthcare leader**
A C-suite or senior executive decision maker/influencer working in a hospital, medical practice, imaging center/office-based lab, or urgent care facility

**Health IT/Informatics companies**
Companies that build communications protocols within healthcare systems (e.g., Cerner, Epic, etc.)

**Interoperability**
The ability of health information systems to work together within and across organisational boundaries, regardless of brand, operating system or hardware.

**Machine learning**
A process of AI that provides systems with the ability to automatically learn and improve from experience without being explicitly (re)programmed.

**Out-of-hospital procedural environments**
Care centers such as ambulatory surgical centers, office-based labs, etc.

**Predictive technologies**
A body of tools capable of discovering and analysing patterns in data so that past behavior can be used to forecast likely future behavior.

**Reimbursement model limitations**
Barriers to healthcare payments and benefits.

**Remote patient monitoring**
Technology that provides care teams with the tools they need to remotely track the health of their patients outside of conventional clinical settings (e.g., at home), collaborate with the patients' other healthcare professional(s) and help detect problems before they lead to readmissions.

**Resilience**
The capacity of hospitals or healthcare systems to quickly recover from challenges.

**Smart hospitals or practices**
Advanced connected care technologies are used, in addition to patient data and communications being handled electronically.

**Staff**
This refers to all staff, including physicians, nurses, administrative employees, etc.

**Sustainability**
Meeting the environmental needs of the present without compromising the ability of future generations to meet their own needs.

**Telehealth/Virtual care**
The distribution of health-related services and information via electronic information and telecommunication technologies.

**Value-based care**
The concept of healthcare professionals receiving reimbursement based on patient health outcomes rather than on the volume of tests or procedures completed.

**Virtual reality (VR)**
The computer-generated simulation of a three-dimensional image or environment that, using electronic equipment, can be interacted with by an individual in a seemingly real or physical way.

**Voice Recognition tools/software**
A tool used to convert spoken language into text by using speech recognition algorithms.

# Research methodology

**Research overview and objectives**

Since 2016, Royal Philips has conducted original research to help determine the readiness of countries to address global health challenges and build efficient and effective health systems. In the context of ever-growing pressure on resources and costs, the Future Health Index focuses on the crucial role digital tools and connected care technology can play in delivering more affordable, integrated and sustainable healthcare.

In 2016, the Future Health Index measured perceptions of healthcare providers and patients to produce a snapshot of how healthcare is experienced on both sides of the patient-professional divide. In 2017, it compared these perceptions to the reality of health systems in each country researched. In 2018, the Future Health Index identified key challenges to the large-scale adoption of value-based healthcare and overall improved access. It assessed where connected care technology can help speed up the healthcare transformation process. In 2019, the Future Health Index explored technology's impact on two aspects of the Quadruple Aim: the healthcare experience for both patients and healthcare professionals and how technology is moving us to a new era of continuous transformation. In 2020, the Future Health Index examined the expectations and experiences of younger healthcare professionals aged under 40 and how they can be empowered to meet the demands of tomorrow's healthcare.

The Future Health Index 2021 report considers how healthcare leaders* are meeting the demands of today and what the reality of health post-pandemic might look like. Specifically, the report explores the challenges they have faced, their investment in digital health technology, and a new emphasis on partnerships, sustainability and new models of care delivery, both inside and outside the hospital.

The research for the 2021 Future Health Index was conducted in 14 countries (Australia, Brazil, China**, France, Germany, India, Italy, the Netherlands, Poland, Russia, Saudi Arabia, Singapore, South Africa and the United States).

To provide a holistic understanding of the current healthcare systems around the world, the 2021 study combines a quantitative survey and qualitative interviews conducted from December 2020 - March 2021.

*Healthcare leader is defined as a C-suite or senior executive working in a hospital, medical practice, imaging center/office-based lab, or urgent care facility who is a final decision maker or has influence in making decisions.
**Survey data is representative of Mainland China only and does not include Taiwan or Hong Kong.

# Research methodology

### 2021 quantitative survey methodology

In partnership with iResearch Services, a global business and consumer research services organisation, a survey was fielded from December 8, 2020 – February 16, 2021 in 14 countries (Australia, Brazil, China, France, Germany, India, Italy, the Netherlands, Poland, Russia, Saudi Arabia, Singapore, South Africa and the United States of America) in their native language. The survey used a mixed methodology of online and telephone across all of the countries (as relevant to the needs of each country) with a sample size of 200 per country. The survey length was approximately 20 minutes.

The total sample from the survey includes:

- 2,800 healthcare leaders (Defined as a C-suite or senior executive working in a hospital, medical practice, imaging center/office-based lab, or urgent care facility who is a final decision maker or has influence in making decisions).

Below is the specific sample size, estimated margin of error at the 95% confidence level, and interviewing methodology used for each country.

| | Unweighted sample size (N=) | Estimated margin of error (percentage points) | Interview methodology |
|---|---|---|---|
| **Australia** | 200 | **+/- 7.5** | Online and telephone |
| **Brazil** | 200 | **+/- 6.5** | Online and telephone |
| **China** | 200 | **+/- 7.5** | Online and telephone |
| **France** | 200 | **+/- 6.5** | Online and telephone |
| **Germany** | 200 | **+/- 7.0** | Online and telephone |
| **India** | 200 | **+/- 5.5** | Online and telephone |
| **Italy** | 200 | **+/- 7.0** | Online and telephone |
| **Netherlands** | 200 | **+/- 6.0** | Online and telephone |
| **Poland** | 200 | **+/- 6.5** | Online and telephone |
| **Russia** | 200 | **+/- 7.5** | Online and telephone |
| **Saudi Arabia** | 200 | **+/- 6.5** | Online and telephone |
| **Singapore** | 200 | **+/- 8.5** | Online and telephone |
| **South Africa** | 200 | **+/- 6.5** | Online and telephone |
| **United States** | 200 | **+/- 7.0** | Online and telephone |

**Question localisations**

In some instances, certain questions needed to be adjusted slightly for relevance within specific countries. Care was taken to ensure the meaning of the question remained as close to the original, English version, as possible.

### 2021 qualitative interviews methodology

To provide context and key quotes to the quantitative data, the research was supplemented with 30-minute interviews among healthcare leaders in their native language, which was conducted from February 25, 2021 – March 12, 2021 and had 20 participants, four from each of the following markets: China, Germany, India, the Netherlands and the US. These interviews were conducted in participation with Heart and Mind Strategies.

*Estimated margin of error is the margin of error that would be associated with a sample of this size for the full healthcare leader population in each country. However, this is estimated since robust data is not available on the number of healthcare leaders in each country surveyed

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The Future Health Index is commissioned by Philips.
To see the full report visit www.philips.com/futurehealthindex-2021

The Future Health Index 2021 report examines the experiences of almost 3,000 healthcare leaders and their expectations for the future. The research for the Future Health Index 2021 report was conducted in 14 countries (Australia, Brazil, China, France, Germany, India, Italy, the Netherlands, Poland, Russia, Saudi Arabia, Singapore, South Africa and the United States). The study combines a quantitative survey and qualitative interviews conducted from December 2020 – March 2021.

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