future health index 2021

A resilient future

Healthcare leaders look beyond the crisis

Singapore

The Future Health Index is commissioned by Philips

Contents

Foreword

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Whilst it is impossible to predict what the future holds, the resilience that Singapore's healthcare system has shown over the past year, and the unwavering commitment of its leaders, healthcare workers and people, is truly inspiring, providing hope for a bright future

2020 has been a year like no other for health systems around the world. The global pandemic has placed unprecedented strain on frontline workers, and senior leaders have had to make decisions under the most difficult circumstances. Yet, although the battle against the pandemic is far from over, the Future Health Index 2021 report gives us cause for optimism.

Singapore's swift and decisive response to containing the pandemic has been globally praised and now, twelve months on , this year's report reveals that the country's healthcare leaders are feeling confident about the future. And with good reason.

Encouragingly, they remain resolutely committed to digital transformation and pursuing a shift to value-based care, too.

Singapore's previous emphasis on telehealth have paid dividends during the pandemic, establishing a strong foundation that the country can build on as it looks towards a post-pandemic recovery. The pandemic has also been a catalyst for changing social attitudes towards remote and digital care delivery, paving the way for Singapore to start using artificial intelligence in more meaningful ways beyond administrative tasks. It is also moving routine care delivery outside the hospital walls.

Many are aware that they can't do this alone and the Future Health Index 2021 report finds that they are open to the possibility of smart collaborations and partnerships to drive digital transformation forward.

Another cause for optimism is that Singapore's healthcare leaders are expecting to prioritize implementing sustainability practices in the next three years as well - a welcome step in the battle against climate change.

Whilst it is impossible to predict what the future holds, the resilience that Singapore's healthcare system has shown over the past year, and the unwavering commitment of its leaders, healthcare workers and people, is truly inspiring, providing hope for a bright future.

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 analyzing 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

Singapore's national health system has fared remarkably well over the past twelve months, with its pandemic response seen as exemplary by observers in the Asia-Pacific region and beyond. Healthcare providers in Singapore drew on the experience of the 2003 SARS outbreak to maintain safe levels of care during the current crisis.[1] Aggressive testing and case reporting, swift interventions to promote social distancing and frequent public health communications were at the core of Singapore's successful containment strategy for COVID-19.[2]

While the pandemic has undoubtedly affected their ability to plan for the coming years, Singaporean healthcare leaders are optimistic about the future. They believe the healthcare system has shown resilience during the crisis, agree that government plans and policies have made a positive contribution and are confident in their ability to deliver quality care to citizens as they look ahead.

The Ministry of Health Committee of Supply has already begun a new initiative that ensures Singaporean citizens continue to have access to quality and affordable care.[3]

COVID-19 has not slowed Singaporean healthcare leaders' shift away from volume-based metrics for measuring the performance of their hospital or healthcare facility. Many of Singapore's hospitals and healthcare facilities have either fully embraced value-based care or are continuing to pursue it.

Exemplary resilience amid a global pandemic

Singaporean healthcare leaders ready to bounce back after COVID-19

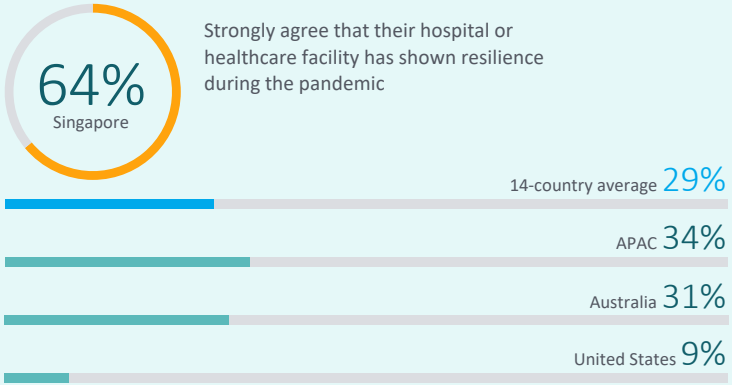
Over the last six years, the Future Health Index report has explored the readiness of countries to address global health challenges and build efficient health systems. In the face of a global pandemic, this year's research builds on the past by examining the resilience of healthcare systems.

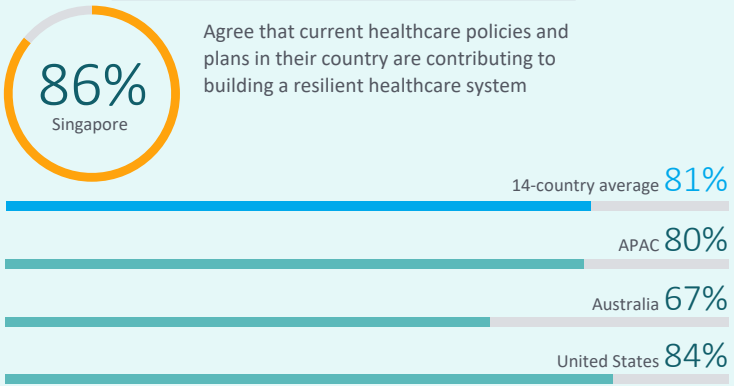
Singapore's healthcare leaders are the most likely of those surveyed in the Future Health Index 2021 report to strongly agree that their hospital or healthcare facility has shown resilience during the pandemic. Singapore's national health system continuously invests in its healthcare professionals and digital health technology, as evidenced in previous Future Health Index reports.[4] These investments likely contribute to the leading levels of resilience felt by Singaporean healthcare leaders.

Strong support for government healthcare policy from Singaporean healthcare leaders

Many factors contribute to resilience in healthcare, and formal legislation from the government in Singapore has a key role to play.

Healthcare leaders in Singapore are more likely than those across some of the other countries surveyed to believe their government's healthcare policies and plans are helping to build resilience. Work is already underway to ensure the lessons learned from the pandemic are not wasted. Emerging Stronger Together, Building for the Future is the Ministry of Supply's 2021 initiative that includes investments in infrastructure, training, salaries and healthy living programs.[3]





Base (unweighted): Total healthcare leaders (Singapore n=200; 14-country avg. n=2800; APAC [Australia, China, India, Singapore] n=800; Australia n=200; United States n=200)

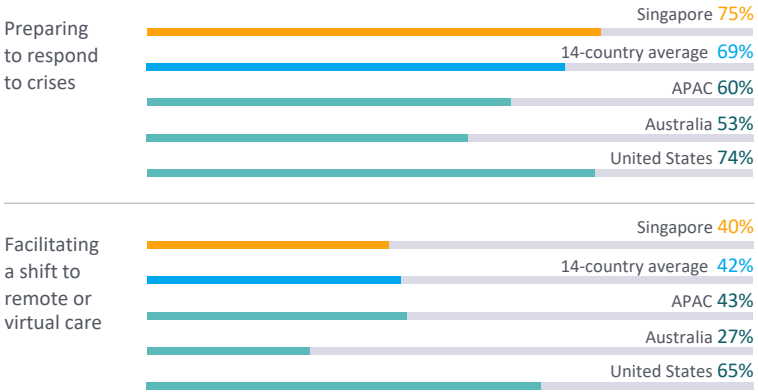
Crisis response is top priority for Singaporean healthcare leaders

A test of leadership

Singapore is often praised in the media for its handling of the pandemic.[2] This is reflected in the priorities of the country's healthcare leaders. In fact, Singaporean healthcare leaders are more likely than those in some of the other countries surveyed, including Australia, to state preparing to respond to crises is among their top priorities today.

Facilitating a shift to remote or virtual care is also important for many Singaporean healthcare leaders, in line with the average of those across the 14 countries surveyed.

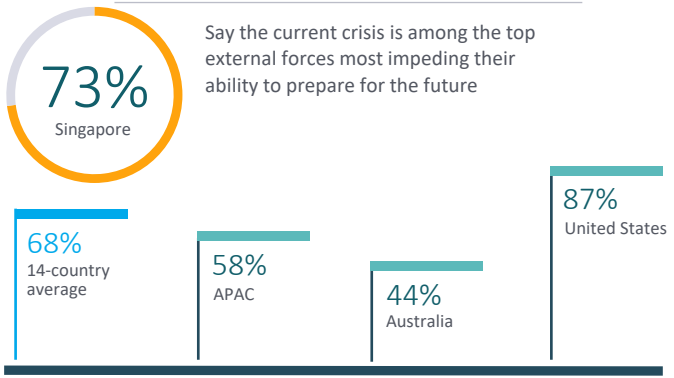
Top current priorities of Singaporean healthcare leaders:



Long-term planning remains a challenge for Singaporean leaders

Roughly three-quarters of Singaporean healthcare leaders say the current crisis is impeding their ability to prepare for the future. This problem is compounded by the fact that healthcare leaders in Singapore have a shorter business planning cycle than any of their peers across the 14 countries surveyed, approximately 1.85 years in advance on average (vs. 3.25 years on average across the 14 countries surveyed). This tendency towards short-term planning may be creating challenges for healthcare leaders looking to plan beyond the current crisis.

Crisis response impedes future planning efforts



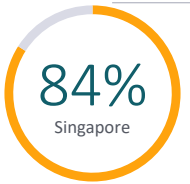
Base (unweighted): Total healthcare leaders (Singapore n=200; 14-country avg. n=2800; APAC [Australia, China, India, Singapore] n=800; Australia n=200; United States n=200)

A strong sense of optimism for the future

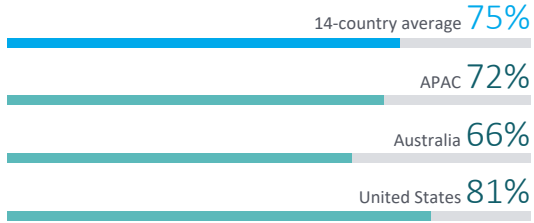
A bright future for Singapore's national health system

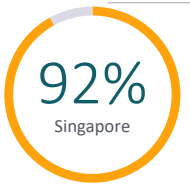
COVID-19 is radically redefining what every aspect of "normal" will mean for the future of healthcare. However, Singapore's healthcare leaders stand out among those in many of the other countries surveyed in showing optimism for the future of their hospital or healthcare facility.

The majority have confidence in their hospital or healthcare facility and the healthcare system in Singapore to deliver quality care in three years' time. In fact, around half (54%) of Singapore's healthcare leaders are very confident in their hospital or healthcare facility's ability to deliver quality care in the future – the highest rate of those across all of the countries surveyed.

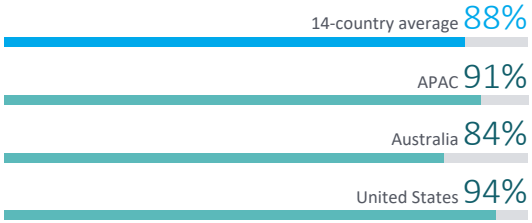


Say they are confident in the ability of their hospital or healthcare facility to deliver quality care as they look toward the future





Say they are confident in the ability of their country's healthcare system to deliver quality care as they look toward the future



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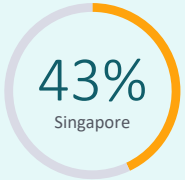
Embracing value-based care amid COVID-19

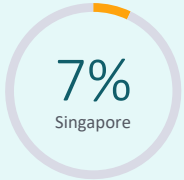
Volume-based performance metrics are being phased out in Singapore's hospitals and healthcare facilities

Only 7% of Singaporean healthcare leaders say the pursuit of value-based care has been deprioritized due to COVID-19. In fact, many are currently pursuing a shift toward value-based care. To date, Singapore's healthcare system is among the furthest along in the journey to value-based care, with Singaporean healthcare leaders also being among the most likely of those across the countries surveyed to be currently practicing value-based care (27% vs. 10% 14-country average). One initiative supporting the adoption of value-based care in Singapore is a data visualization platform established by the National University Health System. The tool monitors financial and quality performance indicators, enabling healthcare providers to improve healthcare outcomes while also lowering costs.[5]

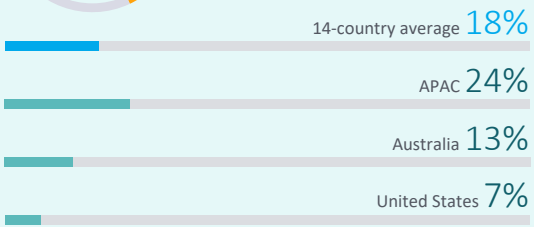
Adoption of value-based care

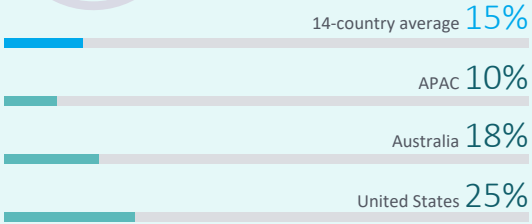


Say they are currently pursuing a shift toward value-based care



Say they have deprioritized the shift toward value-based care due to the COVID-19 pandemic





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Theme 2

Taking a multi-speed approach to digital transformation

The Future Health Index 2021 global report has identified a general trend towards a three-step approach to digital transformation, with investment in telehealth being prioritized today. Development of more advanced technologies such as artificial intelligence (AI) are expected to accelerate post-pandemic. Engaging in partnerships is then a final activity to lock in the benefits of both foundational (telehealth) and advanced digital health technologies.

Singapore's healthcare leaders have taken a markedly different path. Regulatory innovation around telehealth in recent years has enabled leaders to prioritize AI to alleviate the administrative burden on healthcare professionals. Over time, as social attitudes to AI shift, leaders expect to use AI in more meaningful applications, such as aiding clinical decision support, predicting outcomes and integrating diagnostics.

Healthcare leaders in Singapore are open-minded and increasingly looking at partnerships with a range of B2B and B2C healthcare companies as a way to drive digital transformation within their hospitals and healthcare facilities. As they do this, they are also wary of the need to balance innovation with concerns over data security and privacy.

Increased and diversified investment in telehealth and AI, coupled with active collaboration, can help to achieve a post-pandemic era defined by digitally-engaged patients who receive remote care in a less transactional manner – a key aim of the Integrated Health Information Systems (IHiS), Singapore's national health IT agency.[6]

Investments in artificial intelligence today to transform healthcare

Singapore leads in current AI investment

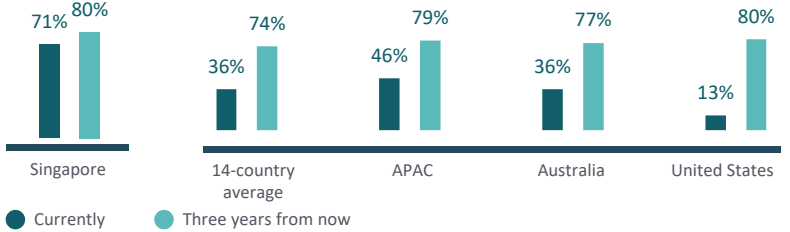
Around two-thirds of Singaporean healthcare leaders are currently investing in some form of artificial intelligence (AI), making them among the most likely of those surveyed to be currently investing in these advanced digital health technologies.

As new hospitals and healthcare facilities are built in Singapore, integrating AI into their facilities to deliver optimal patient care is a key consideration. For example, the Woodlands Health Campus, expected to open in 2023[7], will use AI for a range of routine actions such as filling in medical information and automating medication refills.[8]

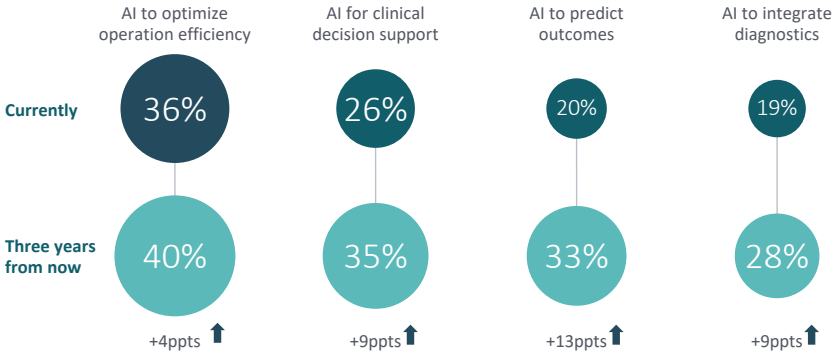
Currently, roughly one-third of Singaporean healthcare leaders are investing their AI dollars in optimizing operational efficiency, including automating documentation and improving workflows.

Prior to the pandemic, Steve Leonard, Chief Executive of SGInnovate, commented that "social adoption is a bigger challenge than the technology."[9] In three years' time, healthcare leaders expect to be using AI more frequently in aspects of care requiring social adoption and acceptance of the technology, such as supporting clinical decision making, predicting outcomes and integrating diagnostics. To sustain the pace of innovation in Singapore, unlocking AI's full breadth of capabilities will be important.

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



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



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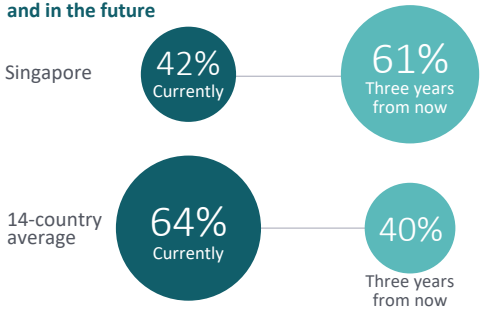
A renewed commitment to telehealth

Reaping the rewards of past investments

It appears the pandemic is prompting a renewed focus on telehealth as a foundational technology. Of those across the 14 countries surveyed, healthcare leaders in Singapore are the only ones to anticipate a substantial rise in investment for telehealth-related technology in three years' time.

Between 2018 and 2021, the Ministry of Health in Singapore formed a regulatory sand-box for telehealth to create a safe and controlled environment for the development of innovative healthcare models and services.[10] This may explain the relatively lower levels of telehealth investment today compared to three years from now.

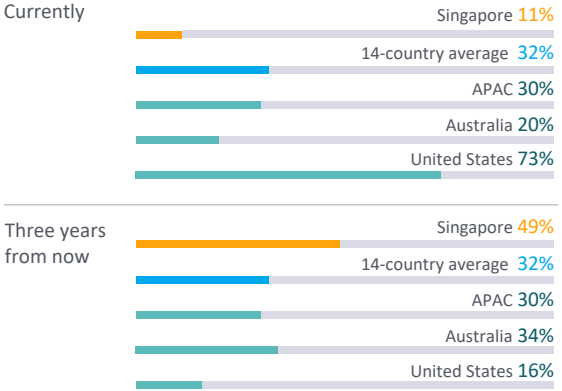
Healthcare leaders who say telehealth^ is one of the digital health technologies they are most heavily investing in now and in the future



The pandemic has demonstrated telehealth's potential to make accessing care more convenient for the public. Singapore-based telehealth apps saw strong user growth during the pandemic as the imperatives of lockdown swept away behavioral and economic barriers to uptake.[11]

Singapore's healthcare leaders say they will focus their investment in healthcare professional-to-patient telehealth as one step in a quest to provide more engaging and less transactional care for patients once the pandemic recedes.[6]

Healthcare leaders most heavily investing in healthcare professional-to-patient telehealth



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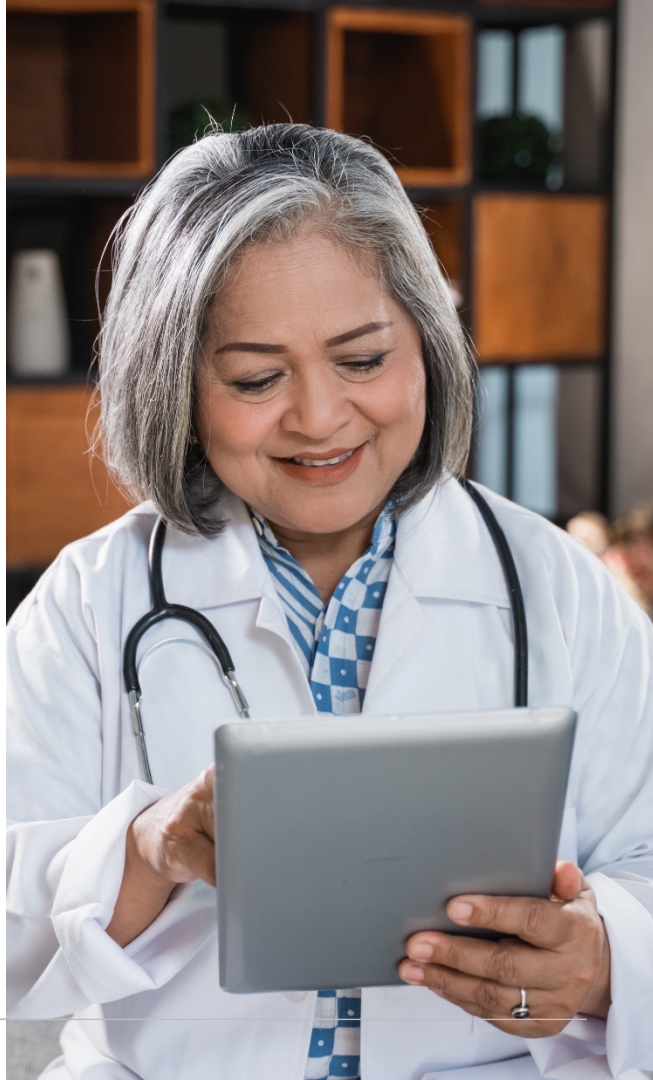
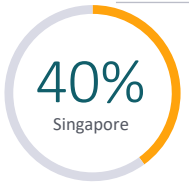
*^Telehealth as stated here is representative of both healthcare professional-to-patient telehealth as well as healthcare professional-to-healthcare professional telehealth



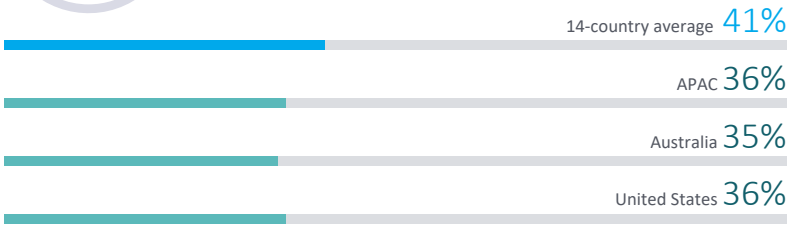
Driving change with strategic partnerships and collaborations

On par with the average of those surveyed across the 14 countries, many Singaporean healthcare leaders believe that prioritizing strategic partnerships and collaborations is necessary to successfully implement digital health technologies within their hospital or healthcare facility. These partnerships can help Singaporean healthcare leaders maintain their country's rapid rate of technology adoption into the future.

However, collaboration with other organizations is not a top investment priority for Singaporean healthcare leaders today, with only 6% saying engagement in strategic partnerships is currently needed to prepare their hospital or healthcare facility for the future.



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



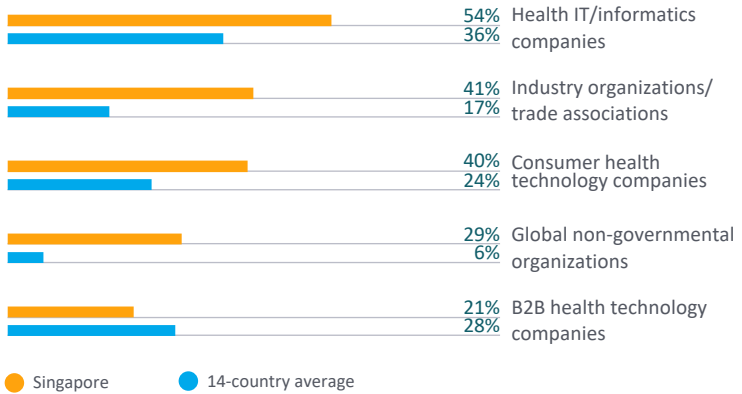
Base (unweighted): Total healthcare leaders (Singapore n=200; 14-country avg. n=2800; APAC [Australia, China, India, Singapore] n=800; Australia n=200; United States n=200)

Singaporean healthcare leaders seek different partnerships and collaborations compared to those in other countries

Singaporean healthcare leaders show an openness to collaborating with a variety of entities. They are more likely than their peers across all countries surveyed to want to cooperate with industry organizations and trade associations as well as global non-governmental organizations.

Singaporean healthcare leaders also want to collaborate with health IT or informatics companies as well as consumer health technology companies at higher rates than those across many of the 14 countries surveyed.

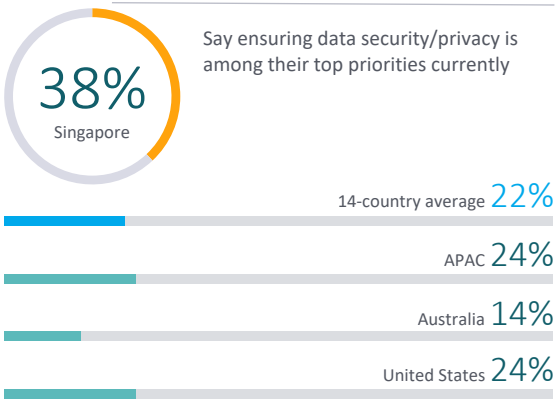
Top organizations healthcare leaders want to collaborate with to drive digital transformation within their hospital or healthcare facility



Balancing innovation with data privacy and security

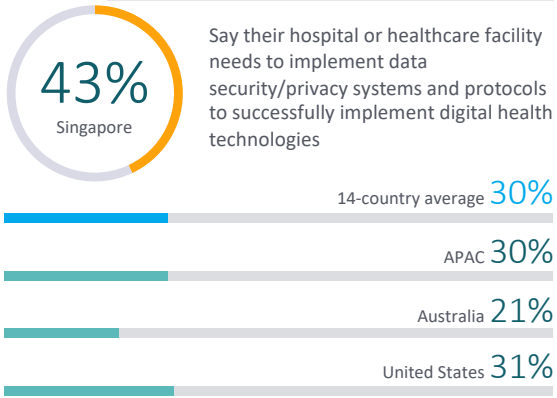
Data privacy and security as a key focus of healthcare leaders

Singapore's leading adoption of digital health technology means its healthcare leaders are also at the cutting edge of prioritizing data privacy and security. About one-third agree ensuring data privacy and security is among their primary priorities as a healthcare leader today, apart from maintaining the financial health of their hospital or healthcare facility and delivering high quality care. They are among the most likely of those across all countries surveyed to be currently prioritizing data privacy and security – safeguarding patient information.



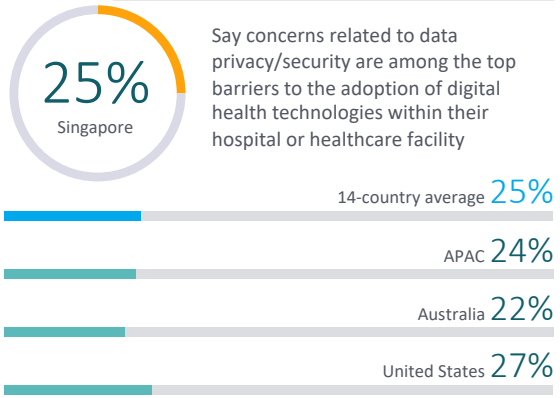
Innovation needed in platforms and protocols

Many Singaporean healthcare leaders also believe further action around the systems or protocols for data privacy and security is necessary. Data protection is a growing industry in the APAC region, and an evolution toward a holistic cyber protection strategy is underway in the private sector, potentially driving further attention to this area.[12]



Balancing privacy and innovation

However, some Singaporean healthcare leaders see data privacy and security concerns as barriers to the adoption of new digital health technologies. Healthcare leaders in other countries surveyed report similar concerns, suggesting that striking a balance between data privacy and healthcare innovation is challenging, regardless of the country's level of digital health technology adoption.



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Theme 3

Building sustainable systems to deliver future-proof care

Moving care beyond the hospital and into the community was a pre-pandemic priority in Singapore under the government's "3 Beyonds" strategy – moving beyond hospital to community, beyond quality to value and beyond healthcare to health – designed to update the national health system according to industry advancements and serve its aging population.[13] Singapore's healthcare leaders understand the value of delivering care locally in the community, and they see the locations in which routine care will be delivered changing over the coming years – with out-of-hospital procedural environments, the home and ambulatory primary care centers expected to increase in their use.

Singapore's Green Plan 2030, announced in March 2021, is a "whole-of-nation movement" to advance Singapore's sustainable development.[14] Healthcare leaders in Singapore will help play a role in tackling climate change. They see implementing sustainability practices in their hospital or healthcare facility as a key responsibility in the coming years.

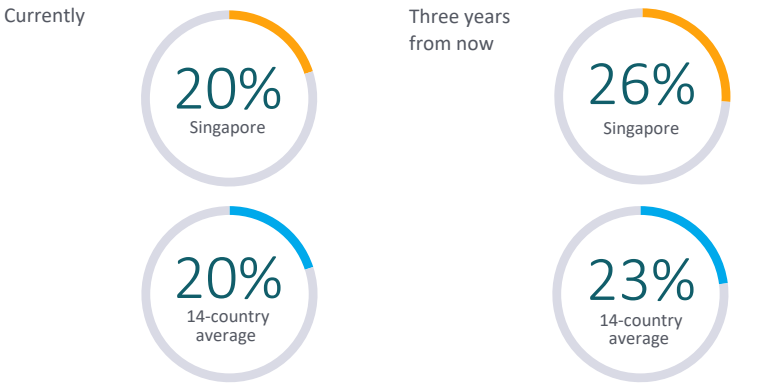
Care delivered beyond hospital walls

Beyond hospitals to communities

According to healthcare leaders, about one-fifth of routine care delivery, on average, is currently happening outside the walls of hospitals or healthcare facilities in Singapore. In three years' time, even more routine care is expected to be delivered in a non-traditional health setting, such as at home or in out-of-hospital procedural environments.

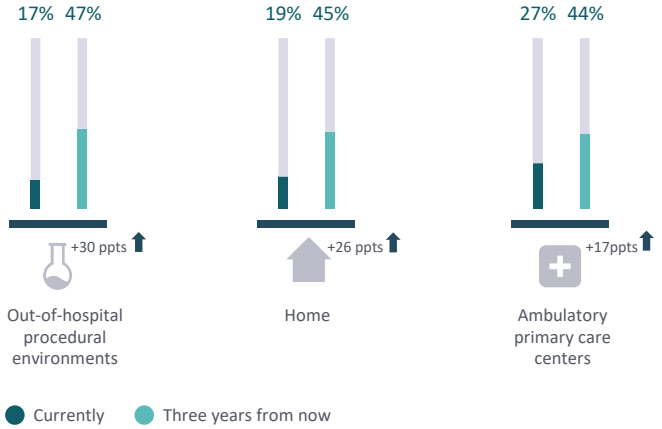
Bringing healthcare beyond the hospital and into the community is a core tenet of the "3 Beyonds" strategy.[15] This sheds light on why Singapore's healthcare leaders expect a sharper rise in the share of future routine care delivered in a non-traditional health setting compared to the average of those across 14 countries surveyed.

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



Some Singaporean healthcare leaders say ambulatory primary care centers and homes are in use to deliver routine care outside a hospital or healthcare facility today. Looking three years from now, locations such as out-of-hospital procedural environments, the home and ambulatory primary care centers are expected to account for a much greater share of out-of-hospital routine care delivery.

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



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

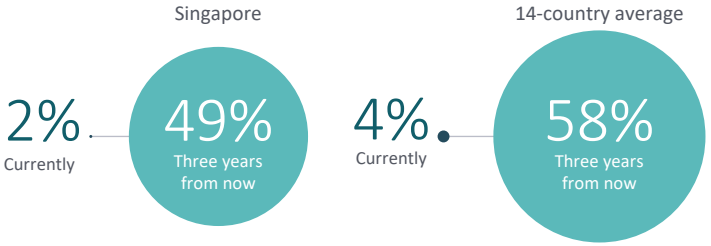
A groundbreaking push toward sustainability

The healthcare sector plays an important role in climate change. While hospitals and healthcare facilities contribute to climate change by emitting greenhouse gases, they are also on the front lines providing care to those affected by the consequences of environmental degradation.

The World Health Organization (WHO) defines a sustainable healthcare system as one that improves, maintains or restores health, while minimizing negative impacts on the environment.[16]

Singaporean healthcare leaders indicate implementing sustainability practices in their hospital or healthcare facility will be a key priority in the future. Integrating environmentally-conscious standards and practices into new hospitals and healthcare facilities from the outset will be critical to putting the industry on a more sustainable footing.

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



Ng Teng Fong Hospital[17], which opened to the public in 2015, is an optimal example of a hospital designed with sustainability in mind. The hospital's internal hot water supply is provided by solar energy. Harvested rainwater is the main source of irrigation for rooftop gardens, while NEWater is used in the cooling towers of the air-conditioning system. The hospital was recognized with an ASEAN Energy Award in 2017, along with many other design distinctions. To achieve a greener Singaporean health system, eco-friendly thinking will need to be applied to all national hospitals and healthcare facilities throughout the country.

Base (unweighted): Total healthcare leaders (Singapore 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 Singapore's healthcare leaders consider what lies ahead:

Strong optimism among Singapore's 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 practice
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, organizational regulations and legislation that protect personal information from unauthorized use and dissemination.

Data security
Protecting data against unauthorized 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 organizations
Organizations 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 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.

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 organizational 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 analyzing 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. Examples of this include cardiac implant surveillance, vital-sign sensors at home, etc.

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 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.

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 leaders in 14 countries (quantitative)
- Healthcare leaders in 5 countries (qualitative)

* 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 organization, 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) in their native languages. 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 localizations

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 languages, 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 United States. 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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