future health index 2021

A resilient future

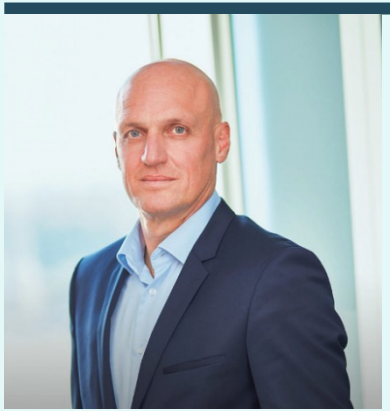
Healthcare leaders look beyond the crisis

South Africa

The Future Health Index is commissioned by Philips

Contents

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.

South Africa overview

Romulen Pillay
Managing Director, Philips South Africa

The past year has posed many challenges for the healthcare sector - patients and healthcare providers alike. However, these challenges have given rise to an innovative, resilient, and optimistic group of healthcare leaders in South Africa. This gives me an immense amount of hope as we continue to move forward, together, into the future.

Despite the ongoing challenges related to the Covid-19 pandemic, the findings of the Future Health Index 2021 report have shown that most healthcare leaders in South Africa are confident in the ability of the healthcare system to deliver quality care as they look toward the future.

Many healthcare leaders recognize the importance of value-based care and are either currently pursuing or plan to pursue a shift toward value-based care in the future – this demonstrates the resilience and commitment of South Africa's healthcare leaders in building sustainable, patient-centred healthcare systems that address the needs of our citizens.

Digital transformation remains critical to future-proofing our healthcare system. The findings have highlighted three key areas of priority: current investment in telehealth and remote patient care solutions, more investment in artificial intelligence (AI) in the future, and engagement in strategic partnerships and collaborations with other hospitals and healthcare facilities as well as health technology companies.

It is inspiring to see that many healthcare leaders expect their focus to shift toward addressing the environmental footprint of their hospital or healthcare facility to becoming a more socially responsible healthcare provider.

There is a clear roadmap for the future and in support of this, we at Philips, remain committed and invested in developing sustainable innovation in healthcare technology for South Africa.

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

While South Africa has seen more cases of COVID-19 than any other country in the continent[1], strict lockdowns at the onset of the pandemic and experience based on prior health emergencies have helped the country through the worst of the crisis.[2,3] However, a COVID-19 variant, which potentially is more contagious, was discovered in South Africa in late 2020, leading to global concerns around its transmission and whether current vaccines will work effectively against it.[4]

Despite the difficulties faced by healthcare leaders since the start of COVID-19, data from the Future Health Index 2021 report reveals that the majority are feeling optimistic about the future. In South Africa, most healthcare leaders are confident in the ability of their country's healthcare system to deliver quality care as they look toward the future and agree that it has shown resilience during the pandemic.

This contrasts with findings from the Future Health Index 2020 report, however, where younger South African healthcare professionals were less likely than those across many of the other countries surveyed to have a positive perception of the healthcare system in their country.[5]

Although some South African healthcare leaders have been forced to deprioritise their shift toward value-based care as a result of COVID-19, it is still a key focus within the country's healthcare sector. In fact, many healthcare leaders in South Africa are either currently pursuing a shift toward value-based care or plan to pursue a shift toward the outcome-based payment model in the future.

Responding to the pandemic

South Africa prioritises crisis response and a shift to remote or virtual care

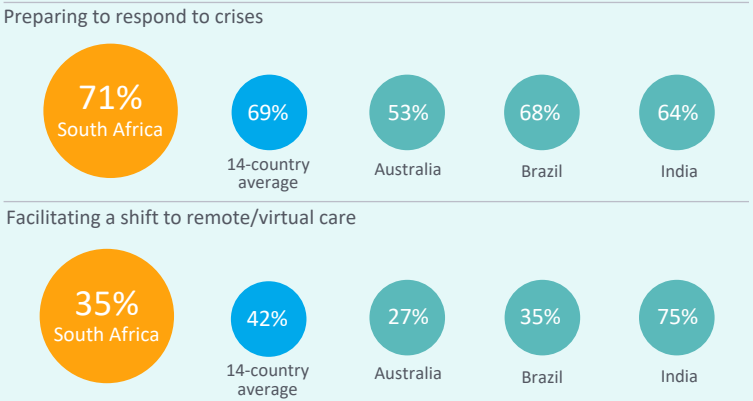
With the nation battling its second wave of infections at the beginning of the year[6], during the time this research was conducted, the COVID-19 pandemic has unsurprisingly dominated the agenda of healthcare leaders in South Africa.

Accordingly, preparing to respond to crises is currently among their top priorities, in addition to facilitating a shift to remote or virtual care – which has become essential to maintain access to healthcare professionals amid the pandemic. In both of these areas, South African healthcare leaders are on par with the average of those surveyed across the 14 countries.

At the beginning of the COVID-19 pandemic, South Africa entered a strict lockdown that included military enforcement throughout the country.[7] In 2021, the country has continued to battle with high case numbers and new contagious variants, despite some progress around its vaccination campaign.[8]

These challenges have led South African healthcare leaders to focus on present-day needs, at the expense of planning for the future. Roughly half cite the current crisis as one of the top external forces impeding their ability to prepare for the future, in addition to technology infrastructure limitations (33% vs. 17% 14-country average).

Top current priorities of South African healthcare leaders:



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

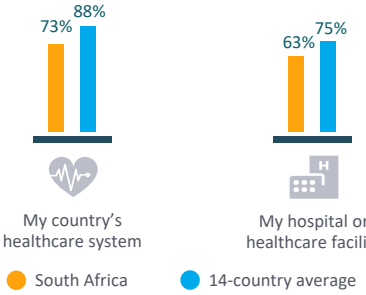
A sense of optimism for the future

Most South African healthcare leaders are confident about what lies ahead

Despite the hardships posed by the COVID-19 pandemic, the majority of South African healthcare leaders are confident in the ability of their national healthcare system, as well as their own hospital or healthcare facility, to deliver quality care as they look to the future.

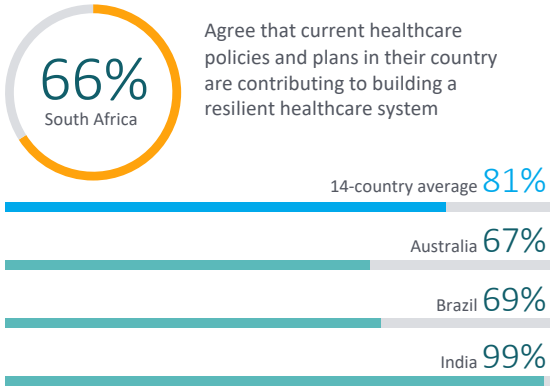
While they feel less confident compared to those across many of the other countries surveyed, roughly three-quarters of South African healthcare leaders also agree that their hospital or healthcare facility (79%) and their country's healthcare system (70%) have shown resilience* during the pandemic.

Healthcare leaders who are confident in the ability of the following to deliver quality care as they look toward the future



Roughly two-thirds of South African healthcare leaders also believe that the current healthcare policies and plans in their country are contributing to building a resilient healthcare system.

To strengthen the South African health system amid COVID-19, President Cyril Ramaphosa has focused on "integrating services between the public and private sector and improving co-ordination between different spheres of government."[9]



Base (unweighted): Total healthcare leaders (South Africa n=200; 14-country avg. n=2800; Australia n=200; Brazil n=200; India n=200)
*Resilience as stated here is defined as the capacity to quickly recover from challenges.

A mixed view on value-based care

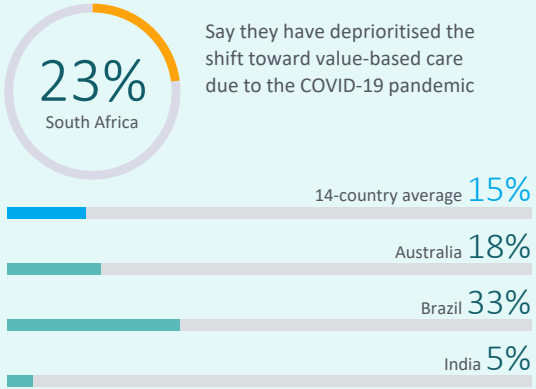
COVID-19 prompts a pause in move to value-based care, but future adoption expected by some

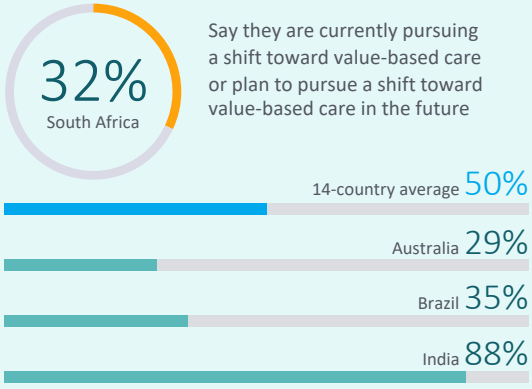
Value-based care aims to pay for value rather than volume by incentivising providers and other stakeholders to improve access to care and health outcomes while reducing the cost of care. As South African healthcare leaders continue to adapt to the urgent needs of the COVID-19 crisis, however, about a quarter say they have deprioritised the shift toward value-based care at their hospital or healthcare facility due to the pandemic.

Only 8% of South African healthcare leaders say they are currently practicing the outcome-based payment model.

But there is optimism for future adoption, with roughly a third either currently pursuing a shift toward value-based care or planning to in the future. This shift will undoubtedly lead to positive changes in South Africa, where less than 20% of the population have access to private healthcare through health insurance.[10]

Adoption of value-based care





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

Theme 2

Taking a three-step approach to digital transformation

As healthcare leaders in South Africa adapt to the immense changes of the past year and plan for the future of care, they appear to be taking a three-step approach to digital transformation.

Short-term investment in **telehealth** and **remote patient monitoring solutions** to assist in delivering care during the pandemic. Regulatory changes amid COVID-19 have accelerated adoption.[11]

Increased investment in **artificial intelligence (AI)** in the near future, as leaders look to the technology to optimise operational efficiency.

Partnership and collaboration with other private hospitals or healthcare facilities as well as health IT or informatics companies to facilitate the use of these technologies.

However, South African healthcare leaders acknowledge that staff inexperience with new technologies is a barrier they must overcome in order to facilitate the implementation of digital health technologies within their hospitals and healthcare facilities and successfully prepare for the future.

Step one: build a lasting digital health legacy

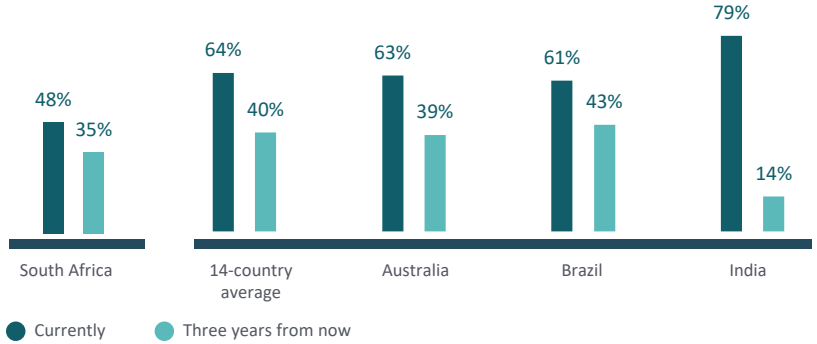
Pandemic drives investment in telehealth and remote monitoring

Around the world, healthcare systems have had to adapt to new models of virtual or remote care delivery. South African healthcare leaders are reflecting this change in their budget priorities, with roughly half currently investing most heavily in telehealth, ahead of other health technologies including digital health records (34%) or AI (15%).

Government policy has helped boost telehealth adoption since the beginning of the crisis. For example, following the initial lockdown in March 2020, the Health Professions Council of South Africa (HPCSA) relaxed telehealth guidelines throughout the country to allow for virtual patient visits.[11]

Additionally, about a quarter of South African healthcare leaders are currently investing most heavily in remote patient monitoring solutions, such as cardiac implant surveillance or vital-sign sensors at home, which have become increasingly essential as a result of COVID-19. In fact, they are investing in these technologies today at higher rates than healthcare leaders across many of the other countries surveyed (26% vs. 18% 14-country average).

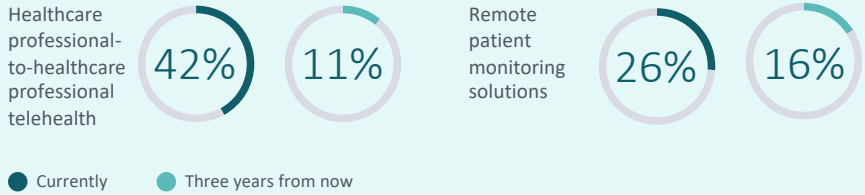
Healthcare leaders who say telehealth* is one of the digital health technologies they are most heavily investing in now and in the future



Priorities expected to shift over next three years

As important as telehealth has become during the pandemic, South African healthcare leaders expect their investment in telehealth and remote monitoring solutions to drop significantly three years from now, especially when it comes to healthcare professional-to-healthcare professional telehealth. One potential reason could be that leaders will have already built a lasting foundation upon which further digital transformation and future healthcare delivery models can be built.

Digital health technologies South African healthcare leaders are most heavily investing in now and in the future



Base (unweighted): Total healthcare leaders (South Africa n=200; 14-country avg. n=2800; Australia n=200; Brazil n=200; India n=200)
*Telehealth as stated here is representative of both healthcare professional-to-patient telehealth as well as healthcare professional-to-healthcare professional telehealth

Step two: invest in artificial intelligence (AI)

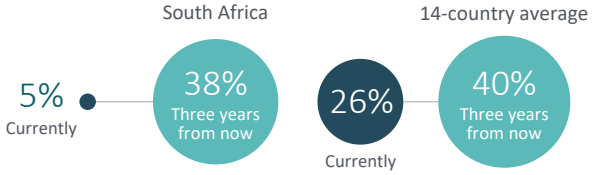
Investment in AI and predictive technologies expected to increase

Investment in digital health technology is growing rapidly across the continent, and South Africa is no exception. According to a report by Disrupt Africa, funding for health tech startups increased by 257.5% between 2019 and 2020.[12] Looking toward the future, both patients and healthcare leaders are turning their attention to advanced technologies like AI to transform care.

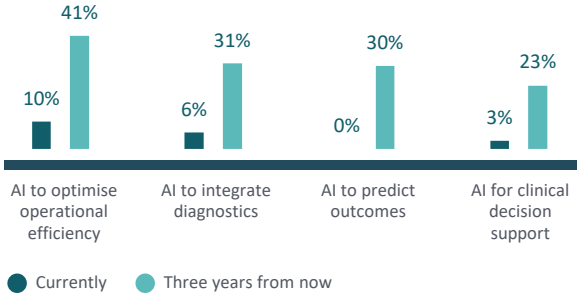
In three years' time, roughly a third of South African healthcare leaders believe their hospital or healthcare facility will most need to invest in implementing predictive healthcare technologies, such as AI and machine learning, to be prepared for the future. This is a significant growth from just 5% who say their workplace most needs to invest in these technologies today.

While investment is low currently, about three-quarters (75%) of healthcare leaders in South Africa say they would most like their hospital or healthcare facility to invest in AI technologies in the future, primarily to help optimise operational efficiency, integrate diagnostics and predict outcomes. Technology companies in South Africa are helping to facilitate these advancements in health, developing AI and machine learning for risk prediction and personalised diagnostics.[13,14]

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 South African healthcare leaders are most heavily investing in now and in the future: AI technologies



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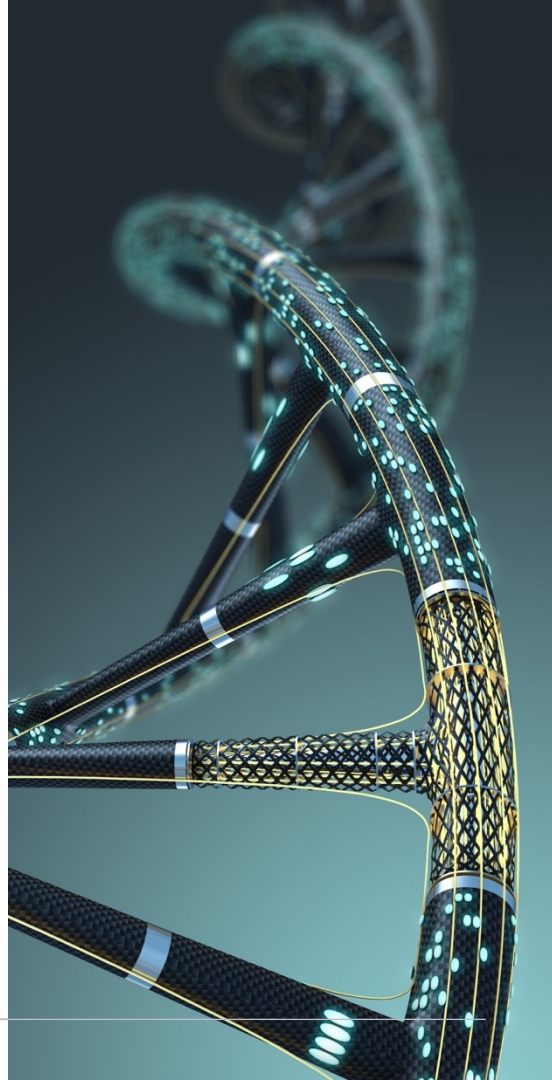
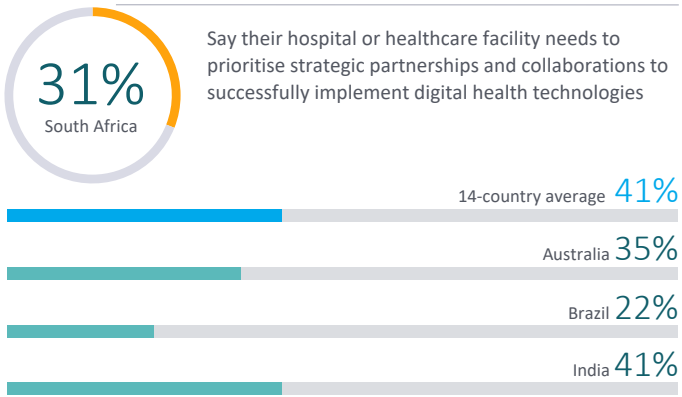


Step three: Drive change with strategic partnerships

Partnerships and collaborations seen as a catalyst for continuous innovation

Healthcare leaders recognise that driving digital transformation in the South African healthcare system will take a range of views, experiences and skillsets. Roughly one-third of South African healthcare leaders believe their hospital or healthcare facility needs to prioritise strategic partnerships and collaborations in order to successfully implement digital health technologies.

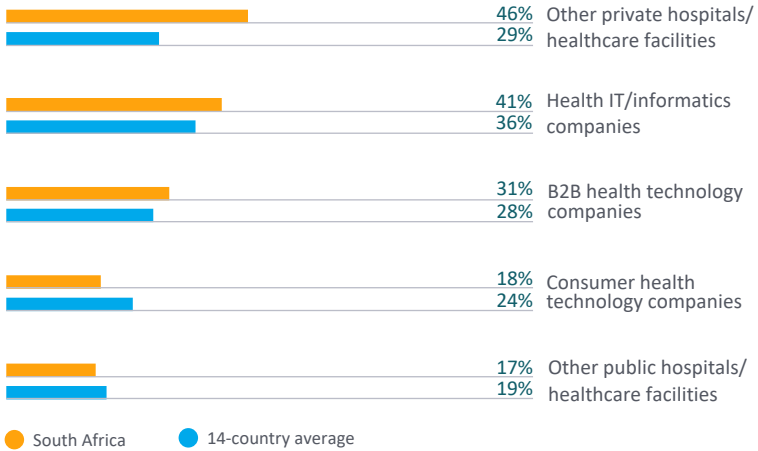
About a quarter also feel that their workplace most needs to invest in strategic partnerships three years from now to be prepared for the future (27% vs. 24% 14-country average). By cooperating with partners across the wider healthcare ecosystem, healthcare leaders can continue to foster innovation within their hospitals and healthcare facilities.



South African healthcare leaders aim to collaborate with a variety of organisations to accelerate digital transformation within their hospital or healthcare facility, however other private hospitals or healthcare facilities as well as health IT or informatics companies are seen as most valuable for these decision makers.

Amid the COVID-19 pandemic, public-private partnership (PPP) in South Africa has helped mitigate the worst effects of the crisis and likely accelerated the transition toward the proposed National Health Insurance (NHI) policy.[15]

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



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

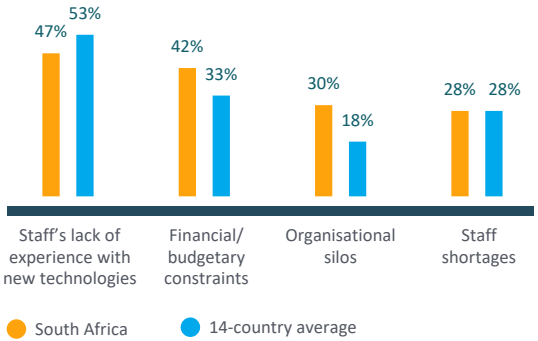
Bold plans hit by staff inexperience and financial constraints

Staff inexperience is an area of concern

As they continue to drive digital transformation within their hospitals and healthcare facilities, healthcare leaders in South Africa see several barriers that must be overcome to successfully leverage new technologies and prepare for the future.

Roughly half say staff inexperience with new technologies is among the top internal barriers impeding their ability to prepare for the future, in addition to financial constraints and organisational silos within their hospital or healthcare facility.

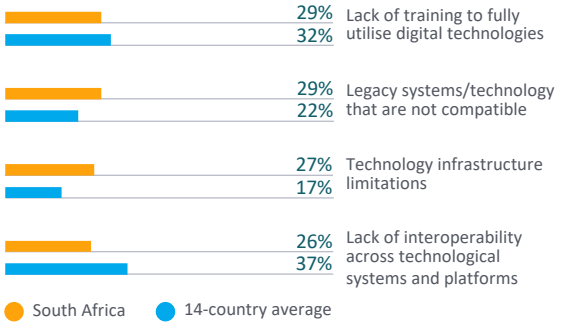
Top internal barriers impeding ability to prepare for the future



Around a quarter of South African healthcare leaders see staff shortages as a primary barrier to future planning, reflective of the stark shortcomings in the availability of healthcare workers seen in the country during the height of the COVID-19 pandemic.[16]

When it comes to the adoption of digital health technologies specifically, lack of training and legacy systems or incompatible technologies are among the top barriers for South African healthcare leaders. They are also more likely than healthcare leaders across many of the other countries surveyed to cite technology infrastructure limitations as a primary barrier.

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

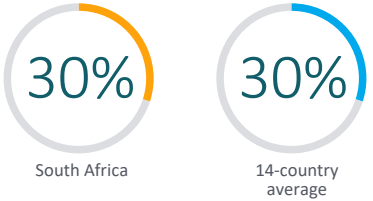


Staff training not a high priority

Although a lack of experience or training is reported to be a key hurdle for South African healthcare leaders, only about a third feel their hospital or healthcare facility needs to train or educate staff on usage to successfully implement digital technologies.

This is a key opportunity for improvement, especially given the findings of the Future Health Index 2020 report, where over half (61%) of younger South African healthcare professionals said that training on how to use new technologies would help ensure they are able to use digital patient data most effectively.[5]

Healthcare leaders who say their hospital or healthcare facility needs to train or educate staff on usage to successfully implement digital health technologies



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

Theme 3

Building sustainable systems to deliver future-proof care

As healthcare leaders in South Africa look to life beyond the current pandemic, they are preparing for changes in where and how care is delivered.

The current crisis has put new, unpredictable pressures on hospitals and other healthcare facilities in South Africa, specifically as it relates to capacity issues and overcrowding.[17] Accordingly, there is an increasing sense that the future of healthcare will include more routine care delivered outside hospital walls.

South African healthcare leaders are also showing increasing awareness of the broader social and environmental factors that play a role in healthcare.

In the midst of COVID-19, the South African government has reaffirmed its commitment to the economic, social and environmental pillars of sustainable development.[18] This focus has already led to the country's improved ranking in the Environmental Performance Index (EPI).[19]

Despite this progress, South African healthcare leaders are planning to do more to help drive sustainability in their sector. In the future, once the immediate needs of the crisis subside, many expect their focus to shift toward addressing the environmental footprint of their hospital or healthcare facility and becoming a more socially responsible healthcare provider.

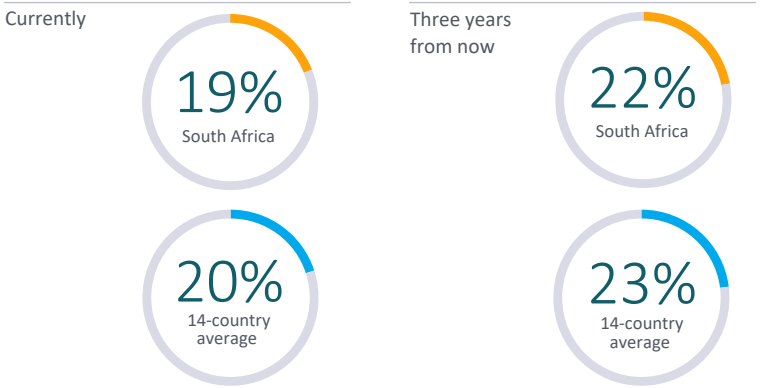
Care delivered beyond hospital walls

Growth expected in use of out-of-hospital procedural environments

According to South African healthcare leaders, about one-fifth (19%) of routine care delivery, on average, is currently performed outside the walls of their hospital or healthcare facility – which they expect to increase slightly to 22% in the near future.

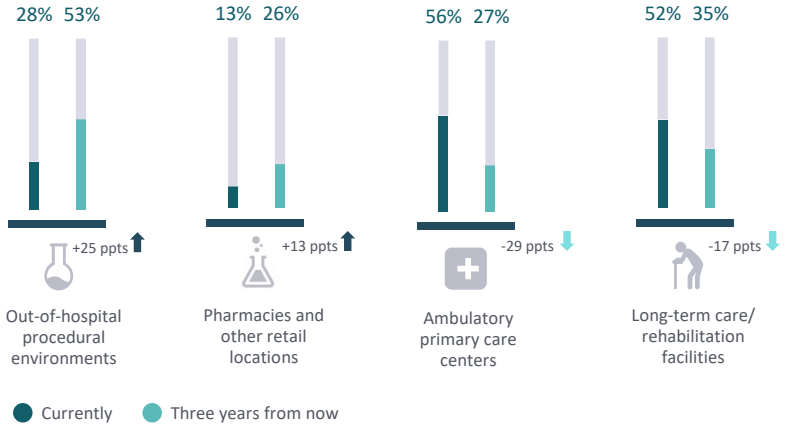
Despite this modest growth, facilitating care delivery in non-traditional locations is a key focus for South African healthcare leaders. In fact, they are more likely than those across most of the other countries surveyed to cite extending care delivery beyond the hospital or healthcare facility as a primary priority today (21% vs. 10% 14-country average). This priority is also reflected in South Africa's pending National Health Insurance policy, which aims to extend primary healthcare services beyond traditional locations and into the community.[20]

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



Ambulatory primary care centers and long-term care or rehabilitation facilities are the most frequently used sites for routine care outside of the hospital today. In the future, however, South African healthcare leaders expect this to change, with out-of-hospital procedural environments seen to become among the most frequently visited locations in the future. They also anticipate growth in the use of pharmacies and other retail locations.

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



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

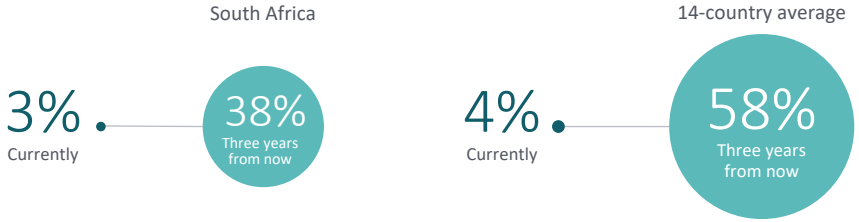
A growing emphasis on sustainability

Healthcare leaders around the world have become increasingly focused on promoting a more environmentally sustainable healthcare system, and those in South Africa are quite similar. While not a key focus today, 38% of South African healthcare leaders expect that the implementation of sustainability practices within their hospital or healthcare facility will be among their top priorities in the future.

The Environmental Performance Index (EPI) from Yale University suggests the country is improving in this area: South Africa's EPI country rank rose to 95th out of 180 countries in 2020, from 142nd in 2018.[19,21]

Environmental sustainability is also a key component of South Africa's Vision 2030 plan, which aims to curb emissions and promote energy efficiency across various industries.[22]

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



Healthcare leaders who say being a socially responsible healthcare provider is a top priority

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

Report conclusion

Conclusion

A vision of sustainable and patient-centred 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:

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 social responsibility

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, 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 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 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. 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 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) 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 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 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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