

Brazil

Taking healthcare everywhere

Addressing staff shortages and patient needs
with new care delivery models





Contents

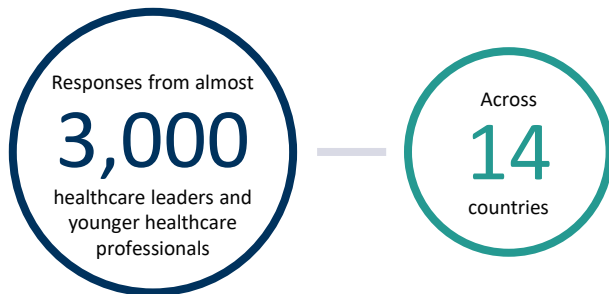
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Research premise

This is the largest global survey of its kind, analysing the priorities and perspectives of healthcare leaders and younger healthcare professionals.

The Future Health Index – now in its eighth year – is based on proprietary research conducted in 14 countries.

In 2023, the Future Health Index explores how healthcare leaders and younger healthcare professionals view the role of new care delivery models, which integrate physical and virtual care within and beyond hospital walls.



Countries included in the research

Brazil

Australia
China
Germany
India
Indonesia
Italy
Japan
Netherlands
Poland
Saudi Arabia
Singapore
South Africa
United States



Foreword

Welcome to the Future Health Index 2023 report, based on proprietary research from almost 3,000 respondents across 14 countries, including Brazil.

For eight consecutive years, we have been researching aspects of digital healthcare in Brazil. I remember when we started this journey, focused on the factors to move toward a more integrated systems of healthcare: access to healthcare, integration of health systems and adoption of connected care – all of which remain very valid today. This year's report illustrates the shared vision of healthcare leaders and their younger counterparts: a vision of more interconnected, convenient, and sustainable healthcare, delivered across diverse care settings, all powered by the transformative force of digital technology and AI. However, this vision necessitates greater collaboration, both within healthcare organizations and beyond.

Collaboration is essential for healthcare leaders and younger professionals in Brazil as they grapple with a multitude of challenges. The report provides insights into how they recognize the need to form diverse partnerships to expand the reach of healthcare services within communities. Notably, they place significant emphasis on engaging with IT and data providers as key collaborators in this effort. For younger healthcare professionals and healthcare leaders alike, partnering across the healthcare ecosystem is key to delivering more integrated care that improves patient outcomes.

Digital health technologies can help reduce the impact of workforce pressures. Staff shortages persist in Brazil, with rural regions being particularly affected. The research reveals healthcare leaders are increasingly looking to technology providers as a means to mitigate the consequences of these shortages and are streamlining processes to improve efficiency. Technology investments are welcomed by younger healthcare professionals, for whom digital technology is a key factor in choosing where to work.

Brazilian healthcare leaders are increasingly adopting artificial intelligence (AI) in their healthcare facilities, leveraging its capabilities to enhance operational efficiency and incorporate diagnostic tools. Further, healthcare leaders have a positive outlook on virtual care, especially in the realm of healthcare-professional-to-healthcare-professional interactions. All these actions contribute towards bringing care closer to the patient.

As you delve into the following pages, we invite you to explore the insights and transformative potential revealed by the FHI 2023. I hope the report inspires you to work towards a future where healthcare is truly patient-centered and interconnected, providing the highest quality care despite the challenges of today.



Faced with workforce shortages and financial challenges, healthcare leaders and younger professionals share a common vision: leveraging AI, virtual care and digital technologies to bring care closer to patients. Collaboration and partnerships will be key to achieving this'.

Fabia Tetteroo-Bueno
Zone Leader Latin America, Philips

Key findings at a glance

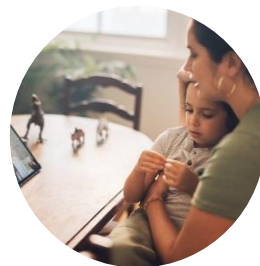


Three main themes emerge from the 2023 Future Health Index for Brazil, showing how healthcare systems are innovating care delivery to meet evolving patient needs with increasingly strained resources. Each of these themes is explored in more detail in the following chapters.

Chapter 1

Partnering across the healthcare ecosystem

Healthcare leaders and their younger colleagues are looking to a broad range of partnerships to extend healthcare delivery. Collaborations with IT and data companies are also key to overcoming some of the challenges they face around delivering care in new ways. In addition, they remain committed to furthering environmental sustainability initiatives, despite encountering multiple challenges.



Chapter 2

Tackling staff shortages through digital innovation

Faced with acute workforce shortages, healthcare leaders and younger professionals turning to technology providers for support. Many younger healthcare professionals also see the availability of technology as a key factor in their choice of workplace. Meanwhile most leaders are experiencing financial pressures too, with some exploring both efficiencies and new revenues streams as a solution.



Chapter 3

Bringing care closer to the patient

Healthcare leaders and younger healthcare professionals share a common vision for technology enabled care that meets patients where they are. Both groups continue to embrace AI for both operational and diagnostic purposes. Virtual care is another core focus for them.



1

Partnering across the healthcare ecosystem

For Brazilian healthcare leaders and younger healthcare professionals, partnerships are critical if they are to resolve the many challenges they face. They look to a broad range of partners to extend care delivery across communities. Collaborations with IT and data providers are particularly important.

Environmental sustainability remains a priority for Brazil's healthcare leaders. All are taking steps to improve sustainability but face barriers as they do so. They recognize the value of working in partnership on such programs.

Collaboration key to extending care

The Brazilian healthcare system has made significant progress over recent years, including reducing the infant mortality rate and widening population coverage¹. However, several challenges remain, including unequal access to services and resources, often limited in rural areas and regions with higher poverty rates². Partnerships across the healthcare ecosystem are seen as a way to address this.

A shared belief in the power of collaboration

Almost half of younger healthcare professionals in Brazil (48%) want management at their facility to build partnerships outside of their healthcare system (see Figure 1). This is higher than the global average of 36%.

Similarly, when asked what, apart from more time with patients, would most younger healthcare professionals want to improve patient care, more than half (57%) said their top choice was closer collaboration with other organizations involved in care delivery. Again, this was higher than the global average (43%).

Data partnerships are vital

The 2022 Future Health Index report showed only 14% of Brazilian healthcare leaders said they had all the internal expertise to fully use the data available to them. Building on this, in 2023 35% of healthcare leaders are prioritizing partnerships with IT and data providers, their most selected partner. Such partnerships may offer access to the knowledge and expertise to better harness data, a key component in the delivery of modern, integrated healthcare.

Figure 1: Ensuring that collaboration addresses challenges



Expanding the reach of care through partnerships

Following IT or data providers, Brazilian healthcare leaders are currently most likely to be partnering with NGOs or trade organizations (29%), other hospitals and clinics (29%), physical rehabilitation providers (25%) and retailers/pharmacies (25%). The broad range of preferred partnerships illustrates a variety of ways to extend care in communities.

Wide variety of future partnerships desired

Looking to the future, Brazilian leaders expect to expand their partnerships. About one-quarter would like to partner with educational institutions (28%), health technology companies (27%) and emergency medical centers (25%). Meanwhile, younger healthcare professionals would most like to see partnerships with wellness providers and physical rehabilitation (both 28%), physician groups (27%), and NGOs/trade organizations and community centers (both 26%).

Overcoming barriers to greening healthcare

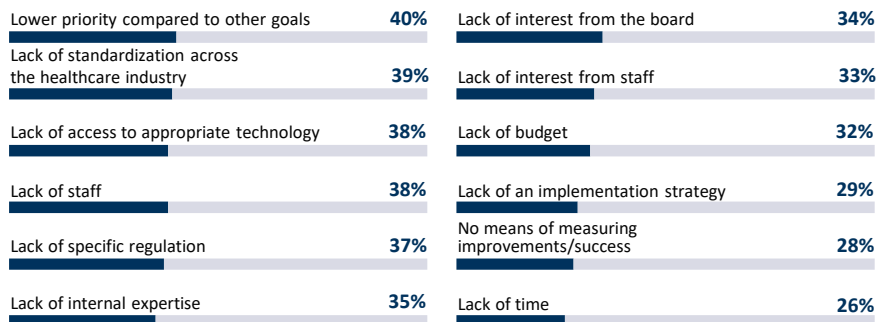
Competing priorities hinder green initiatives

The 2021 and 2022 editions of the Future Health Index saw a sharp increase in the prioritization of environmental sustainability among global healthcare leaders.

This year, while all Brazilian healthcare leaders (100%) are implementing sustainability initiatives, they face multiple obstacles in doing so. Their most cited challenge in implementing these initiatives, 40% say that sustainability initiatives are a lower priority compared to other goals (see Figure 2).

Other factors holding healthcare leaders back from implementing environmental sustainability initiatives include the need for more standardization across the healthcare industry (39%), a lack of access to appropriate technology (38%) and a lack of staff (38%).

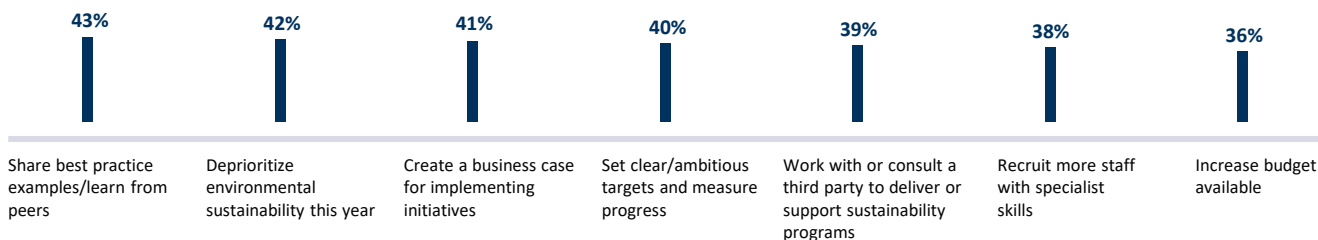
Figure 2: Barriers to implementing environmental sustainability initiatives according to Brazilian healthcare leaders



Leaders seek partnerships with their peers

Brazil's healthcare leaders recognize what is needed to overcome barriers to implementing environmental sustainability initiatives (see Figure 3). They are most likely to see sharing best practice examples or learning from their peers as a solution (43%). However, some leaders are obliged to make difficult decisions, with 42% saying that deprioritizing environmental sustainability this year may be a solution. Others cite creating a business case for implementing initiatives (41%) and setting clear and ambitious targets and measuring progress (40%).

Figure 3: How Brazilian healthcare leaders plan to overcome barriers implementing sustainability initiatives



A shared responsibility for creating environmental sustainability standards

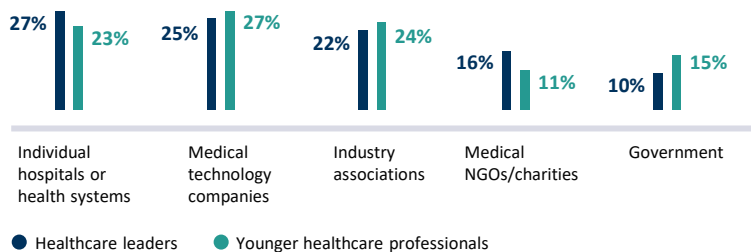
Medical technology companies and hospitals lead in creating standards

Both healthcare leaders and younger healthcare professionals in Brazil believe a range of organizations should be responsible for environmental sustainability standards in healthcare.

When asked which organization should be most responsible, healthcare leaders and younger healthcare professionals in Brazil share the same top three preferences (see Figure 4). More than one-quarter (27%) of Brazilian healthcare leaders ranked individual hospitals or health systems as their first choice.

A quarter (25%) of healthcare leaders in Brazil believe medical technology companies should be most responsible for creating environmental sustainability initiatives. In contrast, 27% of younger healthcare professionals attribute the responsibility to individual hospitals or health systems.

Figure 4: Organizations Brazilian leaders and younger healthcare professionals rank first as who should be responsible for creating sustainability standards



The range of organizations cited by both groups underlines the importance of collaboration and partnership across the healthcare ecosystem in the greening of healthcare.





Tackling staff shortages through digital innovation

Staff shortages continue to be an issue in Brazil, particularly in rural areas. Healthcare leaders are turning to technology providers to help reduce the impact of these shortages. It's an approach that is favored by younger healthcare professionals, many of whom actively seek out technological capabilities when choosing where to work, along with an emphasis on diversity, equity and inclusion.

Financial strains are another concern for the country's healthcare leaders. Most are taking steps to ease the pressures, including exploring new revenue streams and reducing length of hospital stays.

Managing the impact of workforce shortages

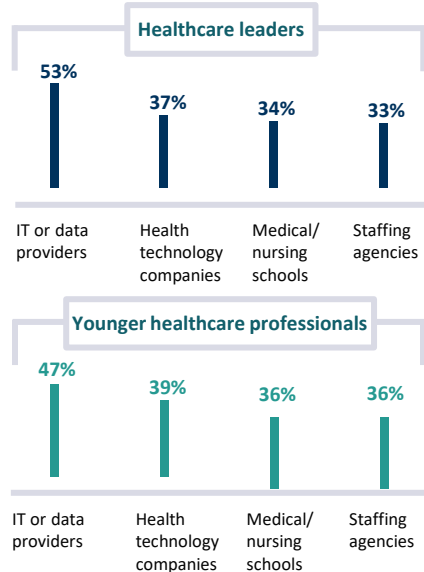
Partnering with technology providers

Like most other countries, Brazil faces a shortage of healthcare workers³. This is exacerbated by an uneven distribution of medical professionals across regions,⁴ making staffing issues worse in rural areas. To help ease these strains, Brazilian healthcare leaders are rethinking how and with whom they seek help to deliver care.

Just as Brazilian healthcare leaders selected IT or data providers as their top partner to improve patient outcomes, they are also more likely than their global counterparts (53% versus 31%) to collaborate with this group to reduce the impact of workforce shortages (see Figure 5). More than one-third (37%) see health technology companies as another important partner to help alleviate workforce pressures.

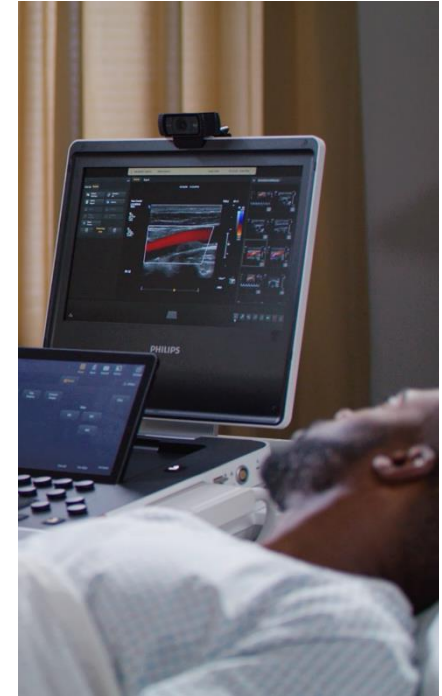
Younger healthcare professionals share the same views as leaders.

Figure 5: Organizations Brazilian healthcare leaders are collaborating with to reduce the impact of workforce shortages, and those younger healthcare professionals say they should partner with



Digital technologies part of the solution

In addition to partnerships, digital health technologies can help reduce the impact of workforce shortages. Of the healthcare leaders in Brazil who are using digital technology in this way, solutions that connect with out-of-hospital settings are a popular option (67%). Workflow technology and cloud-based technology to support access to information from any location (both 47%) are also important to them.



Technology is key to attracting and retaining talent

AI rises to the top for younger healthcare professionals

Younger healthcare professionals surveyed in this year's research welcome leaders' focus on technology. Being at the forefront of AI in healthcare emerged as a top-selected consideration for younger healthcare professionals in choosing a hospital or healthcare facility in which to work, as selected by 64% of respondents, higher than the global average (49%). Brazilian younger healthcare professionals also say it's key to

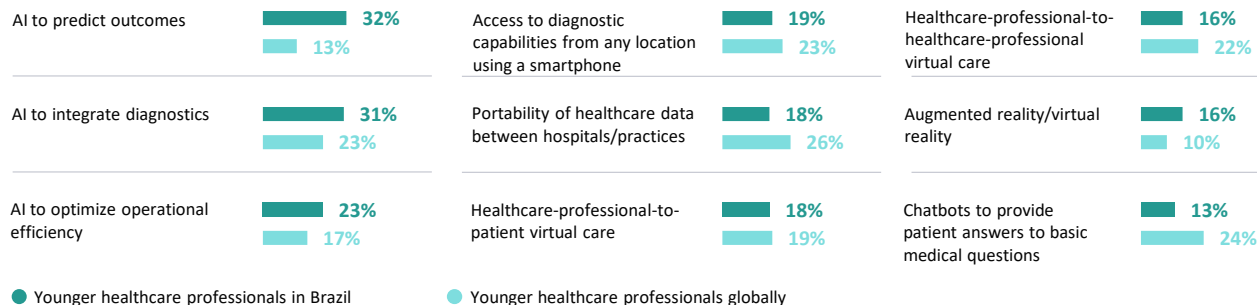
improving their work satisfaction (see Figure 6). When asked which type of AI would improve work satisfaction, they identified AI to: predict outcomes (32%), integrate diagnostics (31%) and optimize operational efficiency (23%) as those that would most improve their work satisfaction.

Workplace culture has a role to play

When asked about the most important considerations – besides technology – when choosing a hospital in which to work, Brazilian younger professionals cite culture and professional autonomy (both 50%). This points to the importance of cultural factors. Indeed, younger professionals in Brazil prioritize diversity, equity and inclusion more than all other markets surveyed, except the Netherlands. In Brazil, 45% say strong policies on diversity and inclusion is one of the most important considerations when choosing a workplace.



Figure 6: Technology to improve work satisfaction



New revenue streams help relieve financial pressures

Financial constraints persist

Workforce challenges are not the only issue facing Brazil's healthcare system. Funding remains a concern, exacerbated by demographic changes and the cost of responding to the COVID-19 pandemic⁵.

Healthcare leaders taking action

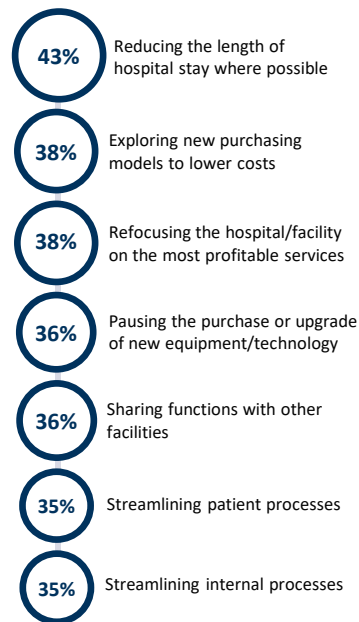
Reflecting these macro-economic factors, all Brazilian healthcare leaders say they face financial pressures (see Figure 7), more than the global average (96%).

Most (91%) are taking action to mitigate those financial pressures. Just over three-quarters (77%) say their primary tactic is identifying ways to build new revenue streams, a result higher than the global average (50%). However, Brazilian healthcare leaders (4%) are less likely than their global peers (19%) to say their hospital or healthcare facility is looking into new financing methods. The same applies to cutting costs (10% versus 18%).

Adopting cost-savings programs and operational changes

When it comes to specific financial solutions, Brazilian healthcare leaders are utilizing a mix of approaches. Favored options (see Figure 8) include reducing the length of hospital stay where possible (43%) and exploring new purchasing models to lower costs (38%).

Figure 7: Cost-savings programs and operational changes Brazilian leaders are using to reduce financial pressures



Financial pressures contribute to inequality

The global “Sustainability and Resilience in the Brazilian Health System” report, published in June 2023, the first of its kind in Brazil. The report included more than 40 public policy recommendations, aiming to ensure sustainable and equitable progress towards universal coverage throughout the country⁶.

Its findings included a worsening in public underfunding in the past 10 years. It also pointed to a growing imbalance between federal transfers and cost-of-service operations, meaning that the financial burden falls mainly on municipal governments. This is contributing to greater inequality in resource allocation, especially in relation to the distribution of doctors. The report’s recommendations include an increase in healthcare spending from 4% to 6% of GDP in 19 years, reallocation of resources according to population and epidemiological needs, as well as expanding the financial support for primary healthcare in the community.



3 Bringing care closer to the patient

Brazilian healthcare leaders continue to embrace AI within their hospital or healthcare facility. They are using it in several ways, including to optimize operational efficiency and integrate diagnostics. Younger healthcare professionals are equally enthusiastic about AI investments, with many expressing a preference for future AI investments for clinical decision support.

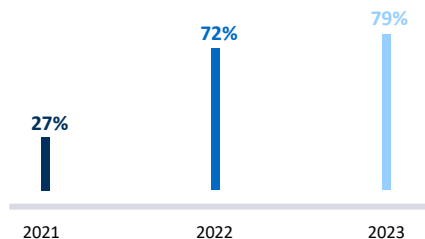
Healthcare leaders are also positive about virtual care. In particular, healthcare-professional-to-healthcare-professional virtual care is favored by both leaders and younger healthcare professionals. A clear appetite for bringing care closer to the patient, along with a broader range of services, is also in evidence.

AI for efficiency a growing focus for Brazil

Investments in AI continue to grow

As they navigate workforce shortages and financial concerns, healthcare leaders continue to focus on AI (see Figure 9). More than three-quarters of healthcare leaders (79%) say they are investing in at least one AI technology, a result higher than the global average (59%). In fact, Brazil is among one of the top four markets to cite AI as their top focus.

Figure 8: Brazilian healthcare leaders investing in AI technology



Currently, 31% of healthcare leaders in Brazil are investing in AI to optimize operational efficiency, including automating required documentation; scheduling patients, staff and tasks; and improving workflow. This is higher than several other markets, including the US (18%), as well as the global average (19%). Meanwhile 27% are investing in AI to integrate diagnostics, 26% in AI for clinical decision support and 25% in AI to predict outcomes. Looking at future investments, 35% of healthcare leaders would like to invest in AI to predict outcomes, a jump of 10 percentage points. The proportion looking to invest in AI to integrate diagnostics also increases to 34%.

Investing in AI popular among Brazilian younger healthcare professionals

Younger healthcare professionals in Brazil share their leaders' perspective on AI investments. More than three-quarters (85%) say they would like to see their hospital or healthcare facility invest in at least one AI technology today, a result that is higher than the global average (61%).

When asked about their preferences for future technology investments, 36% of younger healthcare professionals in Brazil would like to see investment in AI for clinical decision support. This is in contrast to 26% of healthcare leaders that would like their hospital/facility to consider future investments in the same technology, and represents the largest difference between the two audiences.

Additionally younger healthcare professionals desire future investments in AI to optimize operational efficiency (34%), AI to integrate diagnostics (32%) and AI to predict outcomes (28%).

Building a national AI strategy

Regarding AI as a vital tool to improve productivity and quality of life while addressing social inequality, the Brazilian Ministry of Science, Technology & Innovation (MCTI) is developing a national AI strategy⁷ with health as one of four priority areas.

The strategy calls for the development of AI applications in two ways. First, through eight new AI applied research centers, an initiative jointly funded by the São Paulo Science Foundation (FAPESP) and the private sector. The second involves the acceleration of 100 AI-related innovation projects, many health-related. Examples of AI applications include risk assessment of repeat heart failure, diagnosis of intracranial hemorrhaging using images and monitoring patients for early sepsis risk using a cognitive AI robot.

Facilitating a shift to cement virtual care

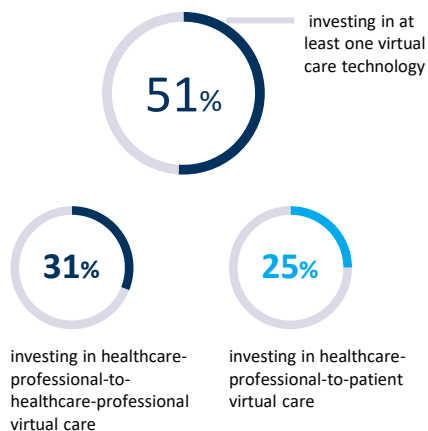
Virtual care is here to stay

During the COVID-19 global pandemic, Brazil temporarily approved telemedicine in several areas, a move that the government made permanent in 2023⁸. Consequently, virtual care is expected to continue to play a crucial role in the Brazilian healthcare landscape in the coming years.

Investments are peaking

Virtual care is welcomed by Brazilian healthcare leaders. More than half (51%) say their hospital or healthcare facility is investing in at least one virtual care technology (see Figure 10). However, 46% expect that they will be investing in at least one virtual care technology three years from now. While this figure is higher than the global average (32%), it reflects an international trend toward reductions in investments in virtual care over time. This is likely a result of spending shifting from capital investment to equipment and infrastructure maintenance.

Figure 9: Brazilian healthcare leaders' current investments in virtual care



Supporting the delivery of virtual care

When asked about the digital technology their hospital or healthcare facility is currently investing in, 31% of Brazilian healthcare leaders cite healthcare-professional-to-healthcare-professional virtual care, including consulting virtually with specialists, sharing images, and recommending treatment plans. Slightly fewer (25%) say they are investing in healthcare professional-to-patient virtual care, including consultations via video calls.

Younger healthcare professionals align with leaders on virtual care

Reflecting leaders' views, 43% of younger Brazilian healthcare professionals say they would like their hospital or healthcare facility to invest in at least one virtual care technology in the next three years. They also focus on healthcare professional-to-healthcare professional virtual care, with 31% wanting future investments in this area compared to 23% opting for healthcare professional-to-patient virtual care. Both results are higher than the global average (22% and 15%, respectively).

Virtual care services designed to improve healthcare access

As mentioned in Chapters 1 and 2, universal access to quality care remains an issue in Brazil. But healthcare leaders believe virtual care has the potential to help Brazil overcome some of its geographical and access-based challenges⁹. For example, in 2022, the public initiative UBS Digital provided \$3 million for telehealth solutions in Brazil's remote areas. These solutions were earmarked to enable services in cardiology, dermatology, endocrinology, and geriatrics¹⁰.

A growing interest in extending care outside hospital walls

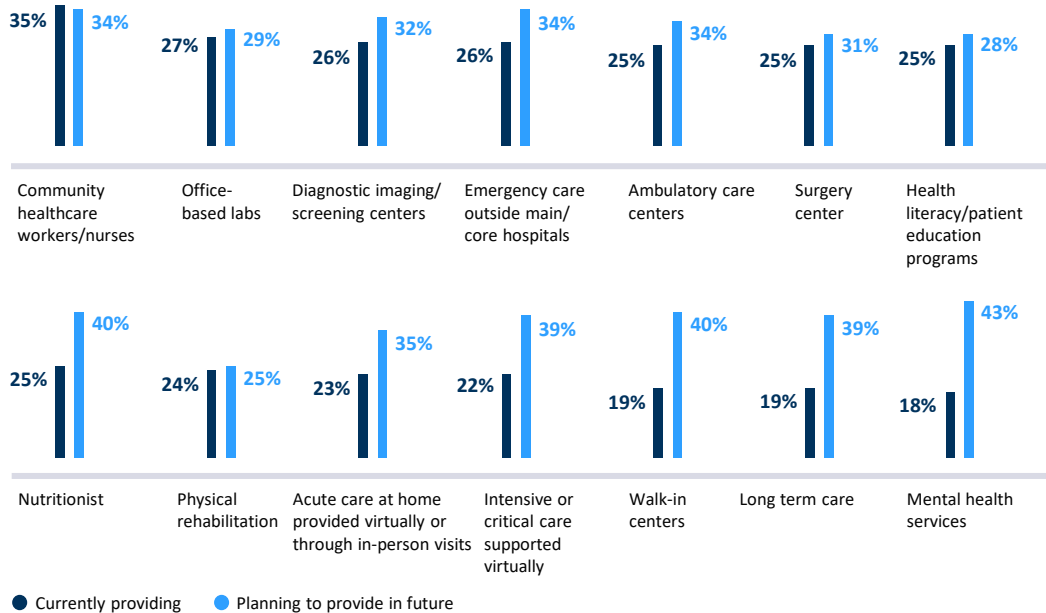
Expanding access to care

When asked more broadly where they are providing or planning to provide care in the next three years, Brazilian healthcare leaders continue to show a healthy appetite for bringing care into the community, making it available through a wide range of in-person access points (see Figure 11). For example, 35% already provide community healthcare workers and nurses and a similar number offer diagnostic imaging or screening centers and emergency care outside the hospital (both 26%).

They intend to make more services available to their community in the future, too. These include mental health (43%), nutrition services (40%) and walk-in centers (40%).

Taken together, these responses indicate that healthcare leaders are not only offering more access points closer to the patient – they are also taking a more holistic approach that considers different aspects of a patient's health.

Figure 10: Healthcare services that leaders are currently providing, or are planning to provide three years from now



Realizing the benefits of new ways to deliver care

Meeting patients where they are

According to healthcare leaders and younger professionals in Brazil, new care delivery models that integrate physical and virtual services within and outside hospital walls have several benefits (see Figure 12).

Their most selected benefit is improved patient education and awareness (49%). This selection dovetails with the second-highest ranking benefit for both groups combined: increased patient adherence to treatment (42%).

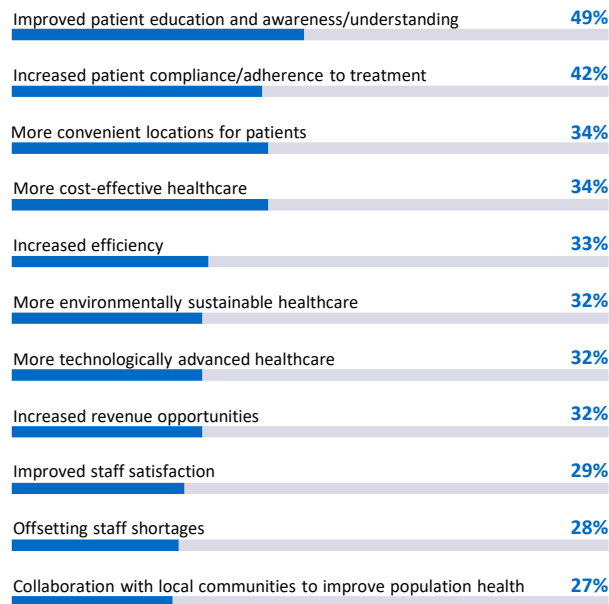
Brazilian healthcare leaders and younger healthcare professionals also see other patient benefits of new care delivery models. Both groups cite more convenient locations and more cost-effective healthcare (both 34%) as additional advantages.

Differing viewpoints on success factors for new models of care

While they agree on the benefits, Brazilian leaders and younger healthcare professionals have a difference of opinion on the key factors required to successfully deliver new models of care. The leaders cite several technology-based factors. Just over one-third (35%) say patient willingness to adopt new technologies, along with data interpretation skills within their hospital are key factors in determining the success and effectiveness of new care models.

However, while younger healthcare professionals in Brazil also cite some technology-based factors, their top choices are not the same. Just over one-third (37%) chose sufficient evidence of improved outcomes or cost effectiveness, while 36% selected data privacy and protection, considerably higher than the global average of 25%. Addressing interoperability and data standards across technological systems and ways to spread costs over time (both selected by 32%) were other important factors for younger Brazilian healthcare professionals.

Figure 11: Benefits of new ways to deliver care, besides improved patient outcomes, for Brazilian leaders and younger professionals





Conclusion

Building a collaborative healthcare ecosystem

Healthcare leaders and younger healthcare professionals share the same vision for the future: one in which healthcare is delivered in more connected, convenient, and sustainable ways across care settings, enabled by digital technology. Yet to fully realise this vision, both groups recognise that greater collaboration is essential, both within and beyond their organisation.

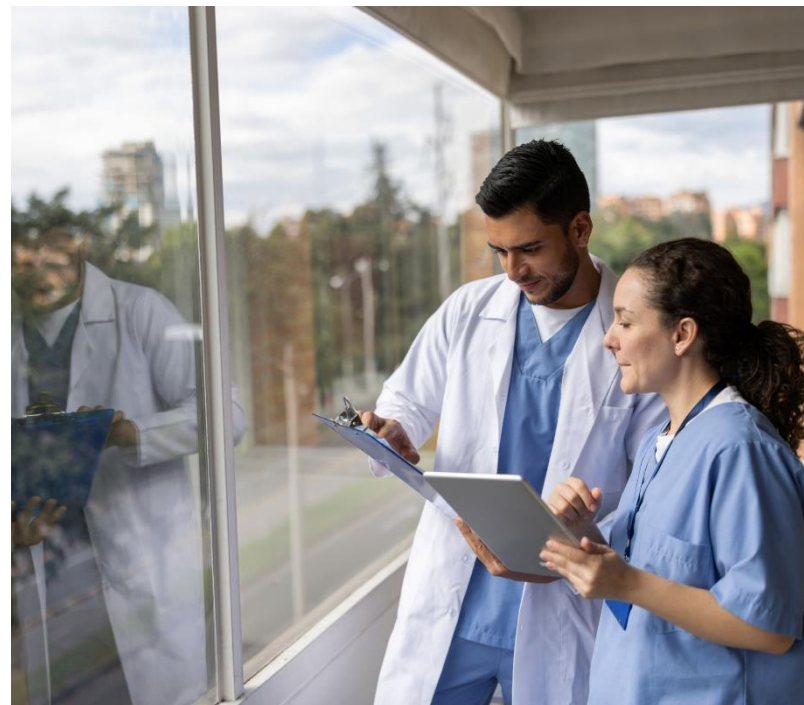
As this year's Future Health Index shows, collaboration is taking many different forms. Healthcare providers are partnering with other organizations across the healthcare value chain to offer more personalized and integrated care. They are turning to health technology companies and data and IT providers to alleviate pressure on staff with automation, AI, and data-driven insights at the point of care. And they are also looking to share best practices with other providers and specialized partners to make healthcare more environmentally sustainable.

Other stakeholders such as governments and payers have an equally crucial role to play in advancing new care delivery models. In partnership with all involved, they can help develop and implement the common standards

and incentives that are needed to reduce variation and promote harmonization across the healthcare ecosystem – whether it is to increase interoperability and facilitate the secure flow of data across care settings, or to support sustainable innovations and accelerate the decarbonization of healthcare.

Going forward, clinical and economic evidence of the benefits of new care delivery models will be an essential driver for further adoption by providers and payers. Small-scale pilots conducted in partnership can help generate that evidence, showing how digital innovations can improve patient health outcomes as well as the patient and staff experience. Similarly, being able to measure progress on environmental sustainability goals will help propel green initiatives in healthcare.

Ultimately, that's how both patients and the planet will benefit from new care delivery models which serve everyone, everywhere.



Appendices



Research methodology

Research overview and objectives

Commencing in 2016, Royal Philips has conducted original research every year with the goal of understanding the ways various countries around the world are addressing global health challenges and how they are improving and expanding their ability to care for their communities. Building and expanding on previous years, the Future Health Index 2023 focuses on addressing staff shortages and meeting patient needs with new care delivery models, speaking to both healthcare leaders and younger healthcare professionals* globally.

The first Future Health Index, released in 2016, measured perceptions of how healthcare was experienced on both sides of the patient-professional divide. The following year, the research compared perceptions to the reality of health systems in each country that was studied. In 2018, the Future Health Index identified key challenges to the large-scale adoption of value-based healthcare and overall improved access, evaluating where connected care technology could speed up the transformation process. In 2019, the Future Health Index explored the healthcare experience for both patients and healthcare

professionals and how technology was moving us to a new era of healthcare delivery transformation. In 2020, the Future Health Index examined the expectations and experiences of healthcare professionals aged under 40. In 2021, the Future Health Index report considered how healthcare leaders were meeting the continuing demands of the pandemic and what the new reality of healthcare post-crisis might look like. Last year's Future Health Index, the 2022 report, concentrated on the role of digital tools and connected care technology in meeting the complex needs of healthcare leaders.

In 2023, the Future Health Index looks to both healthcare leaders and younger healthcare professionals – those aged 40 and under – in 14 countries to quantify the experience and expectations of those in different roles and at various stages of their healthcare careers. It focuses on their perception of new care delivery models, which integrate physical and virtual care within and beyond hospital walls.

* Healthcare leaders are C-suite or senior executive decision makers/influencers working in a hospital, medical practice, imaging centre/office-based lab, ambulatory centre or urgent care facility. Younger healthcare professionals are defined as those aged between 18 and 40 who have completed their first medical/nursing degree and are working as a healthcare professional in a clinician role (all specialisations, except psychiatry/dental care).

2023 quantitative survey methodology

The quantitative study was executed by iResearch, a global business and consumer research services firm employing a mixed methodology of online and telephone surveying.

1,400 healthcare leaders and 1,400 younger healthcare professionals in 14 countries (Australia, Brazil, China*, Germany, India, Indonesia, Italy, Japan, the Netherlands, Poland, Saudi Arabia, Singapore, South Africa and the United States) participated in a 15-20-minute survey in their native language from November 2022 – February 2023. 100 healthcare leaders and 100 younger healthcare professionals in each of the 14 countries completed the survey.

Below shows 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) Healthcare leaders	Estimated margin of error (percentage points) Younger healthcare professionals	Interview methodology
Australia	200	+/- 6.0	+/- 6.0	Online and telephone
Brazil	200	+/- 5.5	+/- 6.5	Online and telephone
China	200	+/- 6.5	+/- 7.2	Online and telephone
Germany	200	+/- 6.0	+/- 6.8	Online and telephone
India	200	+/- 5.2	+/- 6.0	Online and telephone
Indonesia	200	+/- 6.5	+/- 6.5	Online and telephone
Italy	200	+/- 6.5	+/- 6.5	Online and telephone
Japan	200	+/- 5.5	+/- 6.0	Online and telephone
Netherlands	200	+/- 6.2	+/- 6.4	Online and telephone
Poland	200	+/- 5.5	+/- 6.0	Online and telephone
Saudi Arabia	200	+/- 6.0	+/- 6.5	Online and telephone
Singapore	200	+/- 5.5	+/- 7.0	Online and telephone
South Africa	200	+/- 6.5	+/- 6.8	Online and telephone
United States	200	+/- 6.0	+/- 7.0	Online and telephone
Total	2,800		+/- 6.23	

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.

* Survey data is representative of Mainland China only and does not include Taiwan or Hong Kong.

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

Glossary of terms

Ambulatory care centre

Outpatient care centres (e.g., urgent care, walk-in clinics, etc.).

Artificial intelligence (AI)

AI refers to the use of machine learning and other methods that may mimic intelligent human behaviours, resulting in a machine or programme that can sense, reason, act and adapt to assist with different tasks.

As-a-service models

Methods of delivering hardware, software and/or services on a subscription basis.

Automation

The application of technology, programmes, robotics or processes to support people in achieving outcomes more efficiently.

Data

Used here to refer to a variety of clinical and/or operational information amassed from numerous sources including but not limited to digital health records (DHRs), medical imaging, payer records, wearables, medical devices, staff schedule and workflow management tools, etc.

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/healthcare facilities, and health or fitness tracker devices.

Distributed care

Instead of having patients come into a central location, distributed care brings care to the patient. Increasingly, healthcare could be delivered through a decentralised network of ambulatory clinics, retail settings, and home-based monitoring, coaching, and treatment.

Early adopters of digital health technology

Early adopters are defined as those who indicated that, compared to other hospitals or facilities, they are among the first to adopt an innovation or they adopt innovations before most others.

Global non-governmental organisations

A nonprofit organisation that operates independently of any government.

Healthcare ecosystem

Describes people involved in care delivery (including patients, family members and caregivers), the locations of care and services provided, and how they work together to improve efficiencies and optimise experiences.

Health technology companies

Companies that sell or provide medical equipment, wearables, health apps and other technology to healthcare organisations, patients, and the general public.

Healthcare leader

A C-suite or senior executive working in a hospital, medical practice, imaging centre/office-based lab, or urgent care facility who is a final decision maker or has influence in making decisions.

Healthcare professional

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

Healthcare professional-to-healthcare professional virtual care

Virtual communication between healthcare professionals through sharing images, recommending treatment plans, etc.

Healthcare professional-to-patient virtual care

Communication between healthcare professionals and their patients via video calls, patient portals, etc.

Integrated care

Collaboration between the health and care services required by individuals to deliver care that meets patient needs in an efficient way.

Interoperability

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

Late adopters of digital health technology

Late adopters are defined as those who indicated that, compared to other hospitals or facilities, they adopt innovations later than most others.

New ways to deliver care

This defines the way in which health services are provided. New ways to deliver care combine the needs of patients, caregivers and providers, to achieve the best possible care through integrated services within and beyond hospital walls.

Out-of-hospital services/settings

Care centres such as ambulatory surgical centres, office-based labs, etc.

Payer

A payer is a person, organisation, or entity that pays for the care services administered by a healthcare provider. Payers are usually, but not always, commercial organisations like insurance companies; government or public sector bodies; or individuals.

Predictive analytics

A branch of advanced analytics that makes predictions about future events, behaviours, and outcomes.

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.

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.

Technology infrastructure

Foundational technology services, software, equipment, facilities and structures upon which the capabilities of nations, cities and organisations are built. This includes both IT infrastructure and traditional infrastructure that is sufficiently advanced such that it can be considered modern technology.

Telehealth/virtual care

The distribution of health-related services and information via electronic information and telecommunication technologies.

Workflows

A process involving a series of tasks performed by various people within and between work environments to deliver care. Accomplishing each task may require actions by one person, between people, or across organisations – and can occur sequentially or simultaneously.

Younger healthcare professional

A healthcare professional working in a clinician role (all specialisations, except psychiatry and dental care), under the age of 40.

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The Future Health Index is commissioned by Philips.

To see the full report, visit
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The Future Health Index 2023 report examines the experiences of almost 3,000 healthcare leaders and younger healthcare professionals and their expectations for the future. The research for the Future Health Index 2023 report was conducted in 14 countries (Australia, Brazil, China, Germany, India, Indonesia, Italy, Japan, Netherlands, Poland, Saudi Arabia, Singapore, South Africa and the United States). The study comprises a quantitative survey conducted from November 2022 – February 2023.

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