



United States

Taking healthcare everywhere

Addressing staff shortages and patient needs
with new care delivery models

The Future Health Index is commissioned by Philips





Contents

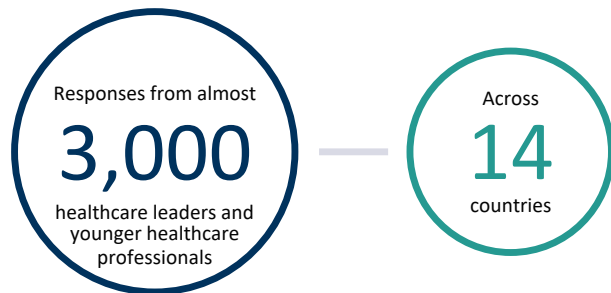
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Research premise

This is the largest global survey of its kind, analyzing 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

United States

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



Foreword

Fast-tracked by the pandemic, the past three years have given us a glimpse of the future of healthcare delivery: one that extends beyond hospital walls into the home and the community, with digital technology connecting care across settings. There is no going back now. This year's Future Health Index shows how healthcare leaders and younger healthcare professionals are united in their vision to innovate new care delivery models that meet patients where they are.

Healthcare leaders around the world are challenged with maintaining quality care through staff shortages, while financial pressures add to the strain. Meanwhile, patient expectations are also different from what they were pre-pandemic. As digital transformation has continued to accelerate in every aspect of our lives, from how we buy to how we work and learn, our best and most convenient experience anywhere is now what we expect *everywhere* – including in healthcare.

Healthcare leaders recognize that optimizing current ways of working will only get them so far. A new paradigm of care delivery is needed. The 2023 Future Health Index report offers clues to what that will look like. Investments in AI and virtual care continue to be on the rise, showing commitment from healthcare leaders to lean into the potential of digital technology to improve efficiencies, experiences, and outcomes. At the same time, they are looking to expand care delivery into lower-cost settings outside the hospital. Or, as I like to say, we are moving to a future of “your care, your way”, where patients will benefit from a wider range of virtual and in-person access points.

Younger healthcare professionals welcome this shift. In fact, as this year's survey findings show, they are asking for it. Younger healthcare professionals are keen to be at the forefront of digital innovation. Just like healthcare leaders, they envision a more personalized and connected approach to healthcare, orchestrated around the patient's needs, and with digital technologies such as AI supporting them in their day-to-day work.

But both groups also realize they cannot get there alone. Even more so than in previous Future Health Index reports, partnerships emerged as a key theme this year. Both healthcare leaders and younger healthcare professionals say that closer collaboration between providers is needed to deliver integrated patient care across settings. They also see a key role for data/IT providers and health technology companies, to help liberate data and turn it into meaningful insights when and where they are needed. And finally, they are turning to partners for help in improving environmental sustainability – an area where healthcare has much to gain.

I invite you to explore the survey findings in more detail in this report and reflect on what they mean for your organization. Where will you take healthcare next? I hope that, as you set out on that journey, you find inspiration from both current and future healthcare leaders.



When I think of the future of healthcare delivery, I think of ‘your care, your way’.

Shez Partovi

Chief Innovation & Strategy Officer and
Business Leader Enterprise Informatics, Philips

Key findings at a glance



Three main themes emerge from the 2023 Future Health Index, showing how US healthcare systems are innovating to address staff shortages and meet patient needs with new care delivery models.

Chapter 1

Putting patients at the heart of care

Healthcare leaders and younger healthcare professionals share a common vision for more patient-centered care. To make this vision a reality, they are launching more health equity initiatives than last year, and focusing resources on developing a deeper understanding of patients' needs. Virtual care investments continue as part of wider efforts to extend services beyond hospital walls. Finally, leaders are streamlining patient processes to improve overall satisfaction levels.



Chapter 2

Tackling staff shortages through digital innovation

Leaders continue to assign high priority to tackling staff shortages – their top priority last year. Signs of progress are already apparent, as younger healthcare professionals say that working in healthcare in 2023 matches their expectations. Workflow optimization is a popular initiative among leaders for uncovering new efficiencies, and AI and automation feature strongly in these efforts.



Chapter 3

Partnering to support communities and the environment

Leaders plan to broaden and diversify their partnership networks as they more broadly extend care into communities, prioritizing community centers, educational institutions, physician groups and NGOs. Both leaders and younger healthcare professionals are keen to partner for support in implementing technological and environmental sustainability initiatives. Younger healthcare professionals increasingly seek out organizations with strong policies on sustainability.

A woman with dark hair in braids is holding a young child. She is looking at a smartphone held in her left hand, which displays a video call with a female doctor. The child is holding a white object, possibly a thermometer, in their right hand. The background is a blurred indoor setting.

1

Putting patients at the heart of care

Despite significant financial and workforce challenges, US healthcare leaders are working to place patients firmly at the center of care this year.

For example, almost half are developing new health equity initiatives to help patients in underserved communities. Many are also broadening access to care through virtual technology investments, as well as partnerships with community centers and educational institutions.

Much more than their peers across the world, US leaders are also focusing their efforts on developing a deeper understanding of patients' needs, so they can ensure they meet those needs with new care delivery models.

Finally, in keeping with the global trend for this year, leaders are committed to streamlining patient processes. This approach is part of a wider initiative to leverage existing research and tools to improve patient outcomes.

Leaders listening and optimizing existing assets to improve patient satisfaction levels

Increasing patient satisfaction through new ways to deliver care

The combination of long waits, short appointment times and increasingly expensive medical bills in the US has led to a state known as "patient burnout", with satisfaction levels at an alarming low¹. In fact, even before the COVID-19 pandemic, a study² found that 43% of Americans were unsatisfied with their medical system, far more than the United Kingdom (22%) and Canada (26%). By the close of last year, only 12% of U.S. adults said health care was handled "extremely" or "very" well³.

This helps to explain why, despite the significant challenges facing US health systems this year from financial constraints to workforce shortages, leaders are committed to improving patient satisfaction. In fact, 38% of US leaders say that improving patient satisfaction is now their top priority (see figure 1).

Additionally, more than half (56%) of US leaders say they are now leveraging existing research and tools to deepen their understanding of what patients need from new care models, so they can tailor services accordingly (see figure 2). This is considerably higher than the global average (35%).

Optimizing existing resources while making considered, incremental technology investments

Keen to maximize patient outcomes while mitigating the impacts of this year's financial challenges, US healthcare leaders are exploring new purchasing models to lower costs.

In addition, 45% of leaders say they are making better use of the technology they have to ensure new ways to deliver care to improve patient outcomes. This figure is higher than the global average (33%).

Meanwhile, 44% are also looking to automate tasks to improve productivity (33% are doing so globally).

Figure 1:

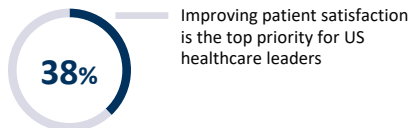


Figure 2: Actions US healthcare leaders are taking to improve patient outcomes



Streamlining to improve patient satisfaction

Though US leaders are working to streamline complex tasks and minimize waste in all areas, one streamlining initiative stands out this year: the refinement of patient processes, such as check-in and appointment booking. Among US leaders using tech to reduce the impact of workforce shortages, half have either already introduced mobile check-in or registration processes or are planning to do so (50%).

However, US leaders are not only streamlining patient processes for efficiency purposes. When asked to rank their priorities for this year, they placed improving patient satisfaction top of the list (38% cited it as a top priority), closely followed by driving operational efficiencies (34%). By streamlining processes such as appointment booking, a notorious source of frustration for patients, leaders recognize that they can tackle their top two priorities at once.

Leaders ramp up health equity initiatives to help patients in underserved communities

Health equity initiatives continue to rise

One of the few positive impacts of the pandemic was that it drew more attention to the needs of patients in underserved communities. For example, factors such as crowded conditions, air pollution, pre-existing health conditions and a lack of insurance were shown to significantly increase mortality risk in COVID-19 patients, revealing patterns that had long been known in public health⁴.

In response, US healthcare leaders are increasing their efforts to address healthcare inequities. In 2021, just 6% of leaders reported having health equity initiatives in place. This year, the number has increased to 11%, with 48% of leaders saying they are currently developing health equity initiatives (see figure 3). An additional 34% say they plan to develop initiatives in the next three years.

Inequities in the US health system currently cost around \$320 billion and, if left unaddressed, could exceed \$1 trillion in annual spending⁵. As a result, these initiatives are likely to have a positive impact on all US residents.

Partnering to deliver new services

Healthcare leaders intend to add a range of long-term care services to their portfolios over the next three years as they expand care into wider communities, including mental health (29%) and nutritional services (36%). In tandem, younger healthcare professionals want to increase access to routine care, with surgery centers, ambulatory care centers and office-based labs among the top selected answers. Health literacy and community-based patient education programs also rank highly among younger healthcare professionals. Delivering these services will require partnerships across the healthcare ecosystem.



Figure 3: Whether US healthcare leaders are addressing health equity at their hospitals/facilities

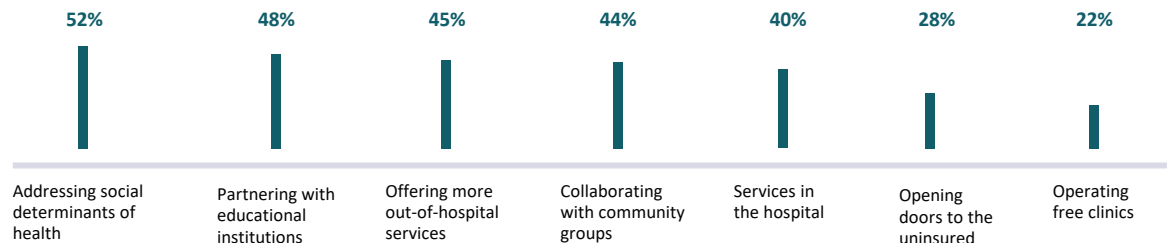


Addressing social determinants of health tops list of equity initiatives among leaders

Wide range of strategies deployed for addressing health equity

This year sees US healthcare leaders addressing health equity in a wide range of ways, from offering more out-of-hospital services (45%) to opening doors to the uninsured (28%). Top of the list this year (cited by 52% of leaders) is addressing social determinants of health, which shows encouraging acknowledgement among leaders of just how unique each patient's story is beyond the hospital or clinical office (see figure 4). Also encouraging is the fact that none of the respondents in this group cited 'my hospital/healthcare facility is not addressing health equity' this year.

Figure 4: How US hospitals/healthcare facilities are addressing health equity



Healthy People 2030

The Healthy People initiative has been active since 1979, after Surgeon General Julius Richmond issued a landmark report titled, 'Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention'. Now in its fifth iteration, the 'Healthy People 2030' framework follows recent recommendations made by the Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2030 (Committee)⁶.

This iteration centers around health literacy and social determinants of health, providing tools for action to help individuals, organizations, and communities advance health equity. For example, it aims to set national goals and measurable objectives for guiding evidence-based policies and programs. It also aims to provide accurate, timely and accessible data that can drive targeted actions to address regions and populations that have poor health, or are at high risk of poor health.

A healthcare professional, likely a nurse or doctor, is shown in profile, wearing a white lab coat and glasses. They are sitting at a desk in a clinical or hospital setting, looking at a computer monitor. The background is blurred, showing other medical equipment and a bright, modern environment. A large white circle with the number '2' is overlaid on the left side of the image.

2

Tackling staff shortages through digital innovation

The US healthcare sector, like those around the world, continues to face an unprecedented shortage of professionals across all care types. While the causes of these shortages are complex and varied, healthcare leaders remain united in assigning high priority to tackling staff shortages.

This year, leaders are focusing heavily on workflow optimization, taking much-needed steps to build new efficiencies into both internal and external processes. They are also increasing collaborations with other hospitals, specialist treatment facilities and health technology companies to reduce the impact of workforce shortages and overcome perennial technology barriers.

Healthcare leaders in the US are also using AI and automation to further their efficiency efforts and streamline their workflows, while helping to empower younger healthcare professionals who increasingly demand advanced technologies in the workplace.

Workflow optimization takes center stage

Improving workflows with AI and automation

For decades, labor-intensive manual workflows have limited both the speed and quality of healthcare services, while burning out staff in the process. Today, the top technology that more than half (55%) (see figure 5) of US healthcare leaders are either using or planning to use to tackle workforce shortages is workflow technology, for example picture archiving, communication systems and digital health records. This is a significantly higher proportion than the global average (38%) .

Figure 5

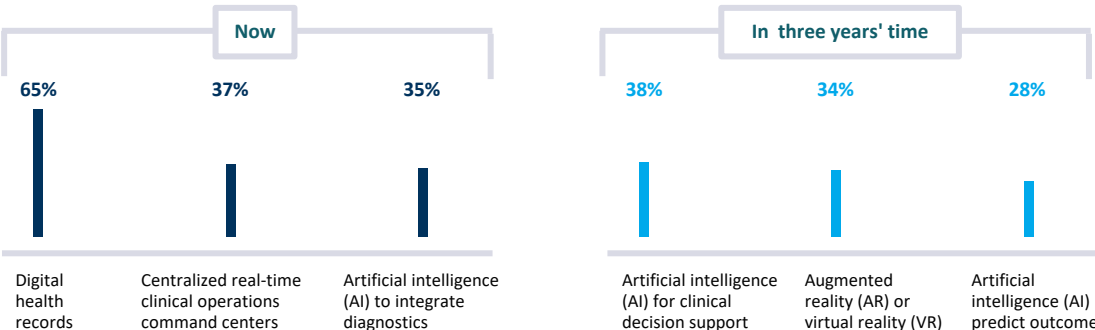


This concerted effort to improve workflows helps to explain the rise in AI investments over the past few years. For example, AI can enable predictive maintenance of medical equipment, preventing avoidable and costly disruptions that frustrate staff and patients. And on an enterprise level, AI can help forecast and manage patient flow from admission to discharge.

AI set to dominate digital health technology investments

In addition to workflow optimization, US healthcare leaders see high potential in AI for accelerating many other initiatives, which helps to explain the rise in investments in coming years. Today, they are prioritizing investments in digital health records (65%), which is their biggest digital health technology investment (see figure 6). In three years' time, however, US healthcare leaders expect to be investing most in AI for clinical decision support, with AI to predict outcomes also high on their priority investment list.

Figure 6: Healthcare leaders' investment in digital health technologies (top three selected)



Staff capabilities are augmented with advanced digital technologies

Investments double in AI for integrating diagnostics

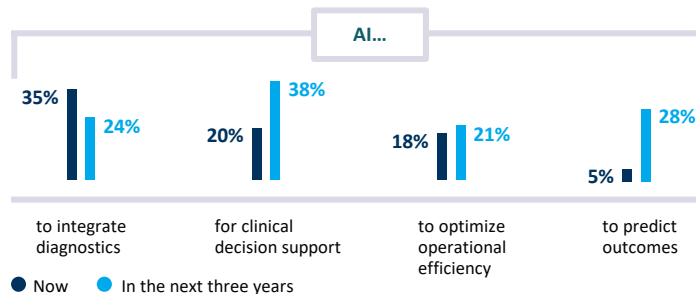
AI features heavily in aiding efficiency efforts this year, with AI for integrating diagnostics at the top of the list for US healthcare leaders. More than one-third (35%) say they are investing in this area today (see figure 7), a significant increase on last year's figure of 17%.

Two clinical use cases for AI are expected to see increased investment. The first is AI for predicting outcomes, in which 28% of leaders plan to invest. The second is AI for clinical decision support in which 38% of leaders plan to invest.

Both groups plan to ramp up virtual care investments

More than half of US leaders are using or plan to use digital health technology solutions to help reduce the impact of workforce shortages (56%). Among those planning to do so, 52% cite technology that connects with out-of-hospital settings. Leaders are also keen to increase their investment in healthcare professional-to-healthcare professional virtual care in the next three years (24%).

Figure 7: Investment in AI technologies by US healthcare leaders



Younger healthcare professionals in the US (35%) are more likely than their global counterparts (22%) to say they would like their facility to invest in healthcare professional-to-healthcare professional virtual care in the next three years. In fact, healthcare professional-to-healthcare professional virtual care is the top desired technology for future investment among younger healthcare professionals in the US.



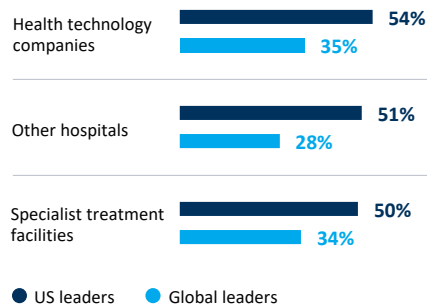
Leaders prioritize partnerships with health technology companies to address staff shortages

Leaders increasingly turn to partnerships to tackle shortages

US healthcare leaders believe collaboration is key to helping reduce the impact of workforce shortages this year, as discussed in the previous chapter. In fact, US leaders are more likely than their global counterparts to be collaborating with health technology companies and clinical-facing organizations for this purpose. For example, more than half (54%) of leaders say their hospital or healthcare facility is collaborating with health technology companies to tackle workforce shortages, which is significantly higher than the global average for healthcare leaders (35%).

Close behind, 51% of leaders named other hospitals as collaboration partners for tackling workforce shortages, a significantly higher proportion than the global average (28%), which suggests US leaders see particular value in pooling resources and expertise to combat this issue (see figure 10).

Figure 10: US leaders' preferred collaborators for overcoming staff shortages



Future partnership priorities shift as organizations expand the reach of services in their communities

Leaders diversify their partnership networks

US healthcare leaders are currently most likely to partner with diagnostic imaging centers (46%) and ambulatory care centers (53%), as they continue to seek support in addressing post-pandemic acute care needs. They are significantly more likely than their global counterparts to do so: only 28% globally currently partner with diagnostic imaging centers and 23% with ambulatory care centers (see figure 8).

Three years from now, however, these partnership preferences are set to change. For example, 31% of US leaders say they intend to prioritize partnerships with community centers (compared to 19% globally). Almost a third (30%) say they intend to prioritize partnerships with educational institutions (also 19% globally) (see figure 9). These differences are likely due to the way healthcare is paid for and regulated in these countries. Leaders are also keen to increase partnerships with physician groups (25%) and NGOs or trade organizations (20%).

External organizations US healthcare leaders' hospitals/facilities most likely to...

Figure 8: currently partner with

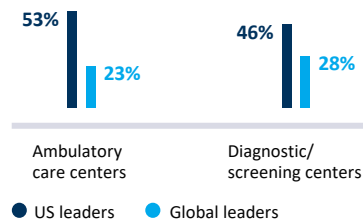
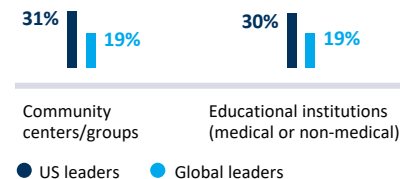


Figure 9: partner with in three years' time



Northern Westchester Hospital

Northern Westchester Hospital in Chappaqua, New York, showcases how healthcare leaders are looking to broaden their care services into more parts of their communities. Their Center for Healthy Living offers in-person and online education and health programming services including free health screenings, nutrition counseling and cooking classes. All the services are free (unless otherwise specified) and designed to support mental and physical health and wellbeing⁹.

The Center for Healthy Living offers a successful model for how preventative care programs and extended care services can be delivered to the broader community. For healthcare leaders looking to scale their own services, partnering across the healthcare ecosystem (e.g. with technology partners, IT partners, community partners) can help expedite this process.



3

Partnering to support communities and the environment

This year, US healthcare leaders are not just increasing partnerships, but also evolving their approach.

While 2023 sees the continuation of partnerships with diagnostic imaging and ambulatory care centers as leaders seek further support in addressing post-pandemic acute care needs, their vision for three years from now is very different. Leaders intend to broaden their partnership networks to support the extension of care into the community, prioritizing community centers, educational institutions, physician groups and NGOs.

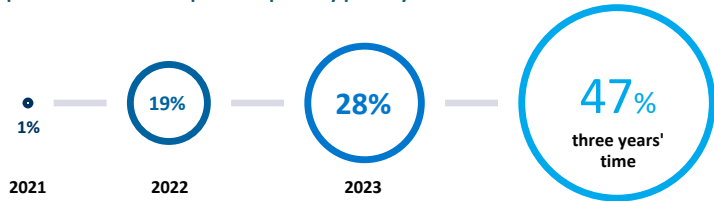
In addition, leaders and younger healthcare professionals are keen to leverage their partner networks to support the environment. In fact, environmentally sustainable healthcare continues to be of great importance to healthcare leaders in the US, and leaders recognize that partnerships across the healthcare ecosystem are crucial to accelerating initiatives. Younger healthcare professionals are also keen to work for organizations who have strong policies on sustainability.

Environmental sustainability continues to grow as a priority, but is impacted by economic challenges

Greening healthcare remains a top priority

Environmental sustainability continues to grow as a priority for US healthcare leaders. In 2021 just 1% saw it as a top priority. This number grew to 19% in 2022 and today is at 28%. In three years' time, 47% of US leaders say that 'implementing sustainability practices in their hospital' is a primary priority, making it the second most chosen top priority in three years, after extending care delivery beyond their hospital or facility (see figure 11).

Figure 11: US healthcare leaders who say that implementing sustainability practices in their hospital is a primary priority

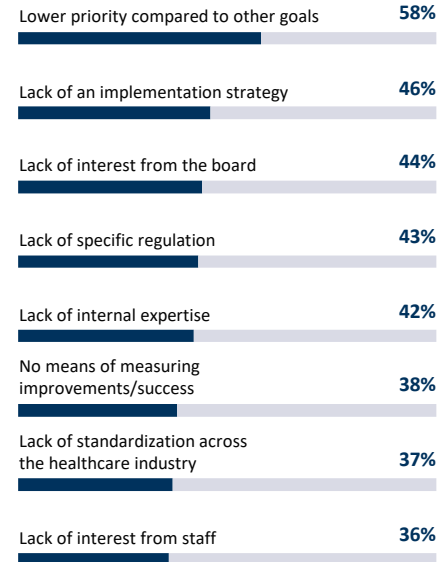


In tandem, younger healthcare professionals are choosing greener workplaces. They are most likely to rank strong policies on sustainability as an important consideration when choosing a place to work (45%). This is markedly higher than the global average of 35%. For healthcare employers seeking to stand out in a fiercely competitive market, this means that making a concerted effort to reduce their environmental impact is not just the right thing to do, it is also the key to attracting candidates and retaining staff in this eco-conscious workforce.

Multiple challenges stand in the way of sustainability progress

Despite these positive intentions, it is clear that the path to greener healthcare is far from smooth. When asked about the sustainability challenges they face this year, more than half (58%) of US healthcare leaders say that sustainability is now a lower priority than it has been (see figure 12). Almost half (46%) also say that they are held back from progress by a lack of a solid sustainability implementation strategy.

Figure 12: Main barriers US healthcare leaders face in implementing sustainability initiatives

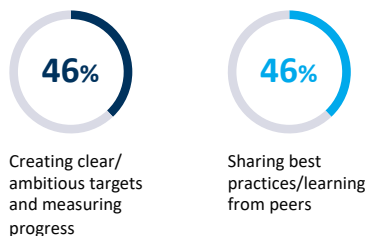


Taking steps to accelerate environmental sustainability initiatives

Partnerships a top strategy in overcoming sustainability challenges

To overcome challenges to their environmental initiatives, healthcare leaders see value in implementing a few key measures. There are two strategies cited by 46% of leaders for overcoming sustainability challenges: creating clear and ambitious targets and measuring progress, and sharing best practices or learning from peers (see figure 13).

Figure 13: US healthcare leaders are planning to overcome challenges to implementing sustainability initiatives



While the latter strategy clearly concerns partnerships, the former is also heavily tied to partnerships, namely with IT or data providers. This is because measuring progress in sustainability is a highly complex initiative that, among other factors, requires having access to high quantities of organizational data along with tangible metrics for success that can be tracked over time.

Developing sustainability standards

More than one in three (37%) healthcare leaders cite a lack of standardization across the healthcare industry as a challenge to implementing environmental sustainability initiatives. Even more (43%) say a lack of specific regulation is a challenge. But who should take the lead in developing sustainability standards in healthcare? At present, both US healthcare leaders (42%) and younger healthcare professionals (36%) are most likely to rank individual hospitals or health systems top for responsibility developing sustainability standards.

Others see a role for industry associations, medical NGOs or charities and medical technology companies – pointing to an opportunity for wider ecosystem collaboration in protecting the health of our planet as well.

Ultimately however, the US government will need to ensure that health-system sustainability is accountable through legislation, regulation and transparency, if the sector as a whole is to progress.

Ecosystem collaboration key to reducing environmental impact

Fully decarbonizing healthcare includes taking an end-to-end view of the entire value chain. This means actors across the healthcare ecosystem – care providers, health tech companies, pharma, suppliers, and others – collaborating to drive sustainable ways of working.

Supply chains drive over half of healthcare emissions. One way health systems can magnify their impact is to select suppliers who have committed to science-based targets for carbon reduction. By supporting and incentivizing suppliers to adopt such targets, organizations can achieve even greater impact than by simply lowering emissions from their own operations.

Some hospitals are already engaged in innovative collaborations to find less carbon-intensive solutions. Together with its suppliers, Stanford University Medical Center eliminated 1,200 tons of greenhouse gas emissions by replacing the anesthesia drug desflurane with much more climate-friendly alternatives such as sevoflurane¹⁰.

A female medical professional, likely a nurse or technician, is shown in profile, facing right. She is wearing a light blue surgical cap and green scrubs. Her hands, wearing white gloves, are interacting with a large medical monitor. The monitor displays a complex interface with various data points, graphs, and text, typical of a patient monitoring system. The background is a blurred hospital room with large windows and other medical equipment. The word "Conclusion" is overlaid in white text on the left side of the image.

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 realize this vision, both groups recognize that greater collaboration is essential, both within and beyond their organization.

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 use virtual care to meet patients where they are and increase care in underserved communities. They are turning to health technology companies and data/IT providers to alleviate pressure on staff with automation, AI, and data-driven insights that can help drive workflow efficiencies. 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 industry associations, NGOs 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 the delivery of environmental sustainability.

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 research 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 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 center/office-based lab, ambulatory center 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 specializations, 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 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.

* 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 center

Outpatient care centers (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 behaviors, resulting in a machine or program 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, programs, 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 decentralized 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 organizations

A nonprofit organization 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 optimize experiences.

Health technology companies

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

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.

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 organizational 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 centers such as ambulatory surgical centers, office-based labs, etc.

Payer

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

Predictive analytics

A branch of advanced analytics that makes predictions about future events, behaviors, 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 organizations 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 organizations – and can occur sequentially or simultaneously.

Younger healthcare professional

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

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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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