

A resilient future

Healthcare leaders look beyond the crisis

United States

The Future Health Index is commissioned by Philips

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Foreword



Joseph Frassica Head of Research the Americas and Chief Medical Officer North America, Philips The COVID-19 pandemic has tested the resiliency of health networks, technologies and most importantly, our healthcare workers, but it has also had a surprising impact on how healthcare leaders see the future of healthcare. In the U.S., the pandemic forced health systems to hit pause on their transition to value-based care, quickly pivoting to scaling emergency and ICU care to support their communities, while accelerating the use of telehealth technologies and other innovative approaches to care delivery. In the 2021 Future Health Index report, we find healthcare leaders taking the tough lessons learned in the crisis and applying them to the future of healthcare.

Telehealth is currently having its moment, with many of these leaders looking at new ways to extend care into their communities. At the same time, they also understand the need to invest in Artificial Intelligence (AI)-based solutions. As they tackle the challenges of operational efficiencies, data management and interoperability, they are also positioning themselves to take full advantage of this emerging technology. Encouragingly, they are also looking to tackle some of the biggest social issues that the pandemic has brought into sharp relief, including the need to address the issue of health equity. Over 68% of the healthcare leaders surveyed indicate that their hospital or health facility is either currently developing or intends to develop plans to address health disparities within socially disadvantaged communities. Sustainability similarly becomes a focus as 67% of leaders say that implementing sustainability practices three years from now is a top priority.

Moreover, these healthcare leaders understand that they can't go it alone if they are going to make a meaningful impact on healthcare, and are looking at strategic partnerships to help drive innovation. Whether it be with other hospitals, B2B health technology organizations or more traditional technology players, they are looking for partners to give their staff the digital tools they need to deliver quality care.

There will certainly be more challenges ahead, but today's healthcare leaders have a confident outlook for their own health systems and for the health of the nation.

Research premise

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

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

This is the largest global survey analyzing healthcare leaders.



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

Learning from the past, optimistic about the future

Despite the heroic efforts of medical staff, the COVID-19 pandemic has revealed long-standing vulnerabilities in healthcare systems around the world. At the same time, the crisis has also accelerated much-needed progress in care delivery for both patients and providers in the United States¹, including a radical shift to remote or virtual care.

As US healthcare leaders look ahead, they feel an increasing sense of optimism, and belief in the resilience of their own healthcare facilities and the US healthcare system as a whole.

Healthcare leaders in the US are also maintaining a focus on the adoption of value-based care. While the pandemic has necessitated an increased focus on volume over value metrics², roughly half of healthcare leaders in the US are planning innovation in payment models in the future.

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I'm really confident that treatment [is getting] better and better and better... it's really amazing what we can do when we get out of our own way.

IT Director, Hospital, US

US healthcare leaders tackle short-term pandemic challenges

Pandemic drives focus on virtual care

At the time this research was conducted, the United States healthcare system continued to grapple with very high patient numbers, lockdown orders, limited testing and stalled vaccine rollouts.² As a result, the majority of healthcare leaders in the US rank preparing to respond to crises as among their top priorities currently, in addition to facilitating a shift to remote or virtual care. They are more likely than their peers across many of the countries surveyed to prioritize this shift to remote or virtual care.

Top current priorities of US healthcare leaders:



Despite short-term challenges, leaders expect little long-term impact from staff burnout and attrition

Faced with over 1.8 million new hospital admissions of patients with COVID-19 between August 2020 and March 2021³, it is unsurprising that US healthcare leaders are more likely than those across most of the countries surveyed to cite the pandemic as one of the external forces most impeding their ability to prepare for the future (87% vs. 68% 14-country average).

While roughly half (47%) of healthcare leaders in the United States believe clinical burnout and attrition as a result of the COVID-19 pandemic will have at least a moderate impact in the short-term, only 12% expect this level of impact in the future. These findings correspond with the results of last year's Future Health Index Insights <u>report</u>⁴, where roughly three-quarters (79%) of younger doctors in the United States said their experiences as a healthcare professional working during the pandemic have had either no impact on their likelihood to stay in medicine or made them more likely to stay in the profession.

Level of impact of clinical burnout and attrition expected by US healthcare leaders on their hospitals or healthcare facilities due to the pandemic

Longer-term (once the pandemic recedes)



Note: due to rounding, percentages may not sum to 100 percent.

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



Theme 1 Learning from the past, optimistic about the future

A strong sense of optimism for the future

US healthcare leaders confident in the resilience of their healthcare system

Healthcare leaders in the US are more likely than those across many of the countries surveyed to say they are confident in the ability of their country's healthcare system to deliver quality care as they look toward the future.

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



Most healthcare leaders in the United States also believe that the policies and plans put in place during the pandemic are helping to build a more resilient healthcare system. For example, in March 2020, new federal requirements issued by the Centers for Medicare & Medicaid Services (CMS) empowered the US healthcare system to increase hospital capacity, expand the healthcare workforce and increase the use of telehealth.⁵

Healthcare leaders who agree that current healthcare policies and plans in their country are contributing to building a resilient healthcare system



United States

14-country average

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

Crisis sparks a reappraisal of value-based care

Value-based care aims to pay for value rather than volume by incentivizing providers and other stakeholders to improve access to care and health outcomes while reducing the cost of care. Despite the effects of COVID-19, the United States government has maintained its desire to link healthcare payments to value-based care – pushing for half of Medicaid and commercial contracts to be in value-based reimbursement models by 2025.⁶ In line with this, roughly half of US healthcare leaders say they are still planning to pursue it in the future despite the challenges of the pandemic, and in greater numbers than those across most of the countries surveyed.

Adoption of value-based care



25%

Say they plan to pursue a shift toward value-based care in the future

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



Base (unweighted): Total healthcare leaders (United States n=200)



Theme

Taking a three-step approach to digital transformation

As healthcare leaders in the United States adapt to the immense changes of the past year, they appear to be taking a three-step approach to digital transformation.



Short-term investment in **telehealth** to shore up care delivery during the pandemic. Key policy and reimbursement model changes enabled rapid uptake.⁷ Investment in **artificial intelligence** (AI) to ramp up as the pandemic recedes, and as leaders look to technology to drive operational efficiencies and improved care outcomes in the longer term. Partnership and collaboration with other private hospitals and B2B health technology companies to facilitate the use of these technologies.

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Al has great promise and I think it'll continue to permeate not just the EHR and the clinician point of view, but through the internet of things – all of the devices that will increasingly become integral to patient self-care and to their remote interactions with clinicians.

Chief Medical Informatics Officer (CMIO), Integrated Delivery Network, US



Step one: build a lasting digital health legacy

Healthcare leaders invest in telehealth during COVID-19

US healthcare leaders are currently investing in telehealth in higher numbers than those across the large majority of countries surveyed, suggesting large-scale recognition of the value of virtual care delivery. The foundational work in telehealth adoption and infrastructure development being done in the United States today will likely continue to deliver benefits in the future, even as healthcare leaders shift investment priorities to other technologies. Healthcare leaders who say telehealth^ is one of the digital health technologies they are most heavily investing in now and in the future



Investment priorities shift as leaders look to years ahead

Research from McKinsey⁸ found that 57% of US healthcare providers view telehealth more favorably than they did before the pandemic. As important as telehealth has become amid COVID-19, the Future Health Index shows that they expect their investment in telehealth to drop significantly three years from now. 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.

Types of telehealth healthcare leaders are most heavily investing in now and in the future



Base (unweighted): Total healthcare leaders (United States n=200; 14-country avg. n=2800; France n=200; Germany n=200; Netherlands 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 predictive technology and AI to increase dramatically in three years

Predictive technologies such as AI and machine learning have the potential to transform both the delivery of healthcare – through diagnosis, treatment and patient engagement – and also the working experience of healthcare professionals.⁹

For example, according to a study published in *Cancer*, the use of AI is enabling clinicians to review mammograms faster and with 99% accuracy, reducing the need for unnecessary biopsies.¹⁰

While US healthcare leaders are focused on getting foundational telehealth infrastructures in place today, as they look beyond the immediate needs of the pandemic, they see AI emerging as a key investment priority to help them prepare for the future of care.

US healthcare leaders expect to seek a range of benefits from the implementation of AI, with optimizing operational efficiency and integrating diagnostics being among the key areas for investment three years from now. Healthcare leaders who say their hospital or healthcare facility most needs to invest in implementing predictive healthcare technologies to be prepared for the future







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

Step three: drive change with strategic partners

Non-traditional players seen to help improve care models

As healthcare leaders consider ways to boost innovation in their hospitals and the broader healthcare system, non-traditional players such as technology companies can take an important role. These organizations have the potential to introduce new technologies and scientific discoveries to help improve care models.^{11,12}

In addition to reallocating budget to allow for investment, roughly one-third of US healthcare leaders say that prioritizing strategic partnerships and collaborations is necessary to successfully implement digital health technologies within their hospital or healthcare facility.

To drive forward digital transformation, US healthcare leaders want to collaborate most with other private hospitals and healthcare facilities as well as B2B health technology companies – at higher rates than the average of those surveyed across the 14 countries. Top organizations healthcare leaders want to collaborate with to drive digital transformation within their hospital or healthcare facility

Other private hospitals/healthcare facilities



B2B health technology companies



Health IT/informatics companies



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





Bold plans hit by lack of budget and staff experience

Constrained budgets, staff inexperience and staff shortages are impeding progress

US healthcare leaders face a number of barriers to progress, with financial constraints, staff inexperience with new technologies and staff shortages most frequently cited as impeding their ability to prepare for the future. In the Future Health Index 2020 report¹³, younger US healthcare professionals voiced similar concerns, with many feeling that their medical education failed to provide them with key non-clinical skills necessary for their day-to-day work.

Difficulties with data management and a lack of interoperability are among the biggest barriers to the implementation of digital health technologies cited by US healthcare leaders. Similarly, in the Future Health Index 2020 report¹³, most younger healthcare professionals in the United States (68%) said that interoperability between platforms needs to be improved to ensure healthcare data is used to its full potential.

Top internal barriers impeding ability to prepare for the future



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



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

Theme S

Building sustainable systems to deliver future-proof care

As healthcare leaders in the United States consider life beyond the pandemic, they are taking an active role to drive positive changes in where and how care is delivered.

COVID-19 has shed light on how socioeconomic factors can affect health outcomes. As healthcare leaders begin to look beyond the pandemic, they are looking closely at how they can do their part to improve health equity across the nation.

There is also a growing consensus among US healthcare leaders that more routine care delivery will take place outside the walls of their hospital or healthcare facility in the coming years, with the use of ambulatory primary care centers expected to increase. US healthcare leaders are making an overwhelming commitment to improving sustainability, pledging to address the environmental footprint of their hospital or healthcare facility once the immediate needs of the crisis subside.

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I think as technology for remote monitoring improves, you are going to see a lot more push to just have people at home And I think the pandemic really accelerated that initiative.

CEO, Private Multi-Practice Facility, US





Pandemic spotlights healthcare inequities

The US leads the world in many areas of healthcare innovation. But it also lags behind much of the industrialized world in improving care for some of its most vulnerable populations. Black, Hispanic and Indigenous communities in the US suffer from tremendous healthcare disparities – experiencing a greater burden of illness, disability and mortality relative to other groups.

The evidence is stark: Black infants are more than twice as likely to die before their first birthday as white infants.¹⁴ Amid the current pandemic, Black, Hispanic and American Indian or Alaska Native populations are at least 4.7 times more likely to be hospitalized for COVID-19 than non-Hispanic white people.¹⁵

US healthcare leaders recognize the role they have to play in addressing these inequities. While few of their hospitals or healthcare facilities have initiatives currently in place, roughly two-thirds are either currently developing plans to improve healthcare provision for disadvantaged groups, or plan to in the future. Hospital or healthcare facility's situation regarding initiatives to solve for health disparities within socially disadvantaged communities

6%

Currently have initiatives in place

Are currently developing initiatives or intend to develop initiatives in the future

68%

Care moves beyond hospital walls

Highest influx expected in ambulatory primary care

In three years, US healthcare leaders expect routine care delivery to grow outside the walls of their hospital or healthcare facility, with ambulatory primary care expected to see the biggest increase. Pharmacies and other retail locations as well as the home are also expected to grow in their use for routine care delivery.

This may be due to an increased adoption of telehealth technology for ambulatory care since the start of the COVID-19 pandemic. In fact, according to the American Medical Association, ambulatory primary care at Cleveland Clinic pivoted from a rate of 10% virtual visits to 80% virtual visits in 2 months.¹⁶ The Centers for Medicare and Medicaid Services (CMS) also created the Acute Hospital Care at Home program to promote at-home hospital care to increase the capacity of healthcare systems dealing with a pandemic surge and to help keep patients safe.¹⁷

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



Average proportion of routine care delivery healthcare leaders

believe is performed outside the walls of their hospital or

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

An immense push toward sustainability

Sustainable healthcare to jump from bottom to top of US healthcare leaders' priority lists in the next three years

Non-governmental bodies such as the World Economic Forum are challenging the industry to help build a more sustainable healthcare ecosystem. This is particularly vital for healthcare leaders in the United States, since their sector is responsible for about a quarter of all global healthcare greenhouse gas emissions – more than any other nation.¹⁸ To address this, US government initiatives such as Healthy People 2020 have included objectives that advance environmental health.¹⁹ Across the 14 countries surveyed, healthcare leaders are planning a radical shift in their priorities, with the implementation of sustainability practices expected to become a primary goal three years from now. US healthcare leaders show an even stronger commitment to change than the average of those surveyed across the 14 countries.

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



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



Report conclusion



Conclusion



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

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



Strong optimism among healthcare leaders



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



Growing interest in sustainability and environmental sourcing



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



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

Appendix



Glossary of terms

Ambulatory primary care center

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

Analog hospitals or 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)

Al 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 30 medical imagery in their field of vision when performing procedures.

B2B health technology companies

Companies that sell products, equipment, or solutions to hospitals and healthcare facilities.

Consumer health technology companies

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

C-Suite -1

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

Data privacy

The culture expectations, organizational regulations and legislation that protect personal information from unauthorized use and dissemination.

Data security

Protecting data against unauthorized access.

Digital health records

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

Digital health technology

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

Digital hospitals or practices

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

Digital transformation

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

Global non-governmental organizations

Organizations such as WHO, World Bank, etc.

Healthcare professional

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

Healthcare professional-to-healthcare professional telehealth

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

Healthcare professional-to-patient telehealth

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

Healthcare leader

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

Health IT/Informatics companies

Companies that build communications protocols within healthcare systems (e.g., Cerner, Epic, etc.)

Interoperability

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

Machine learning

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

Out-of-hospital procedural environments

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

Predictive technologies

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

Reimbursement model limitations

Barriers to healthcare payments and benefits.

Remote patient monitoring

Technology that provides care teams with the tools they need to remotely track the health of their patients outside of conventional clinical settings (e.g., at home), collaborate with the patients' other healthcare professional(s) and help detect problems before they lead to readmissions. Examples of this include cardiac implant surveillance, vital-sign sensors at home, etc.

Resilience

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

Smart hospitals or practices

Advanced connected care technologies are used, in addition to patient data and communications being handled electronically.

Staff

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

Sustainability

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

Telehealth/Virtual care

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

Value-based care

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

Virtual reality (VR)

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

Voice recognition tools/software

A tool used to convert spoken language into text by using speech recognition algorithms.

Research methodology

Research overview and objectives

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

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

The Future Health Index 2021 report considers how healthcare leaders* are meeting the demands of today and what the 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 organization, a survey was fielded from December 8, 2020 – February 16, 2021 in 14 countries (Australia, Brazil, China, France, Germany, India, Italy, the Netherlands, Poland, Russia, Saudi Arabia, Singapore, South Africa and the United States) in their native languages. The survey used a mixed methodology of online and telephone across all of the countries (as relevant to the needs of each country) with a sample size of 200 per country. The survey length was approximately 20 minutes.

The total sample from the survey includes:

 2,800 healthcare leaders (Defined as a C-suite or senior executive working in a hospital, medical practice, imaging center/office-based lab, or urgent care facility who is a final decision maker or has influence in making decisions). Below is the specific sample size, estimated margin of error at the 95% confidence level, and interviewing methodology used for each country.

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

Question localizations

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

2021 qualitative interviews methodology

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

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

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The Future Health Index 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 (Austrials, 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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