future health index 2022

India

Healthcare hits reset

Priorities shift as healthcare leaders navigate a changed world

The Future Health Index is commissioned by Philips

Contents

Research premise

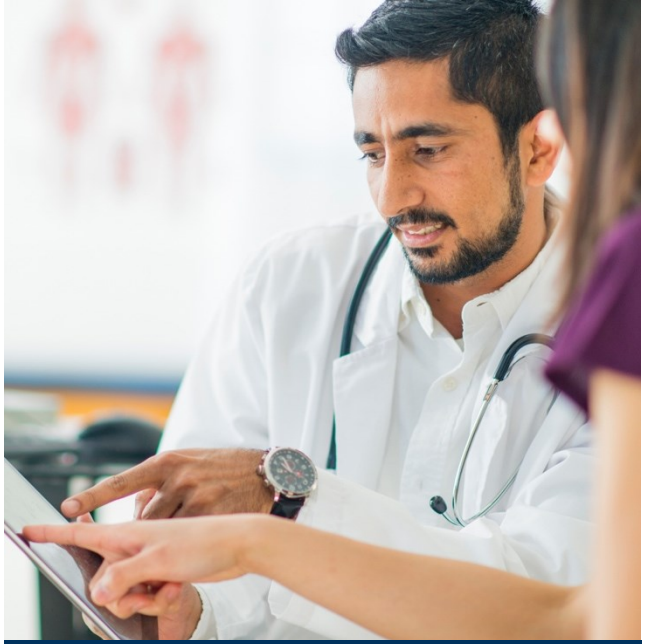
This is the largest global survey analyzing the top priorities and concerns of healthcare leaders*.

The Future Health Index 2022 report – now in its seventh year – is based on proprietary research conducted in 15 countries.

In 2022, the Future Health Index focuses on how data and advanced analytics are giving healthcare providers new tools which enhance their ability to deliver care to all sectors of their communities, both in and out of traditional hospital settings.

Responses from almost **3,000** healthcare leaders

Across **15** countries



Countries included in the research

Australia	India	Russia
Brazil	Indonesia	Saudi Arabia
China	Italy	Singapore
France	Netherlands	South Africa
Germany	Poland	United States

* Healthcare leader is defined as a C-suite or senior executive decision-maker/influencer working in a hospital, medical practice, imaging center/office-based lab, ambulatory center or urgent care facility.

Foreword

Over the past two years, pressure on the healthcare industry has been unrelenting. The pandemic has continued to challenge resources, systems and the provision of care at every turn and in every country around the world. Today, as we emerge from the pandemic, we see healthcare leaders refocusing on a number of new and existing priorities, from addressing staff shortages, to extending care delivery, to leveraging big data and predictive analytics, as they navigate new realities in medical management.

The Future Health Index 2022 report provides a detailed picture of the most pressing priorities for today's healthcare leaders – and reveals what they plan to do about them. Top of the list are staff satisfaction and retention, which have become increasingly difficult to maintain in a sector facing widescale labor shortages. Next is the drive to extend care delivery beyond hospital walls, which has been accelerated by the pandemic, and continues to fuel investments in digital health technologies and capabilities.

Meanwhile, as we highlighted in last year's report, a sharp focus on social responsibility has had a positive effect in promoting greener healthcare systems. However, for some, the change has not been fast enough, with our latest research revealing that many leaders are now accelerating their sustainability plans, in line with the evolving expectations of patients.

Finally, unlocking the power of big data and predictive analytics has presented some of the most significant opportunities for healthcare leaders to improve the quality, cost and speed of care. But the pace of development is slow, and leaders recognize the need to strengthen their investments with strong strategic partnerships, staff training and governance in order to maximize their returns.

In summary, this 2022 report reflects a resetting of priorities and of care delivery itself, as healthcare leaders navigate a fundamentally changed world.

"As we emerge from the pandemic, we see healthcare leaders embarking on a reset.

Jan Kimpen
Philips Chief Medical Officer

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Emerging from the pandemic, healthcare leaders reassess their needs

Staff are the priority

As India emerges from the effects of the pandemic, the country's healthcare leaders are reassessing their priorities. Staff satisfaction and retention have become two of the most pressing issues following almost two challenging years for healthcare staff. Prioritizing their needs will play a vital role in ensuring adequate and consistent care for the country's more than 1.4 billion citizens.

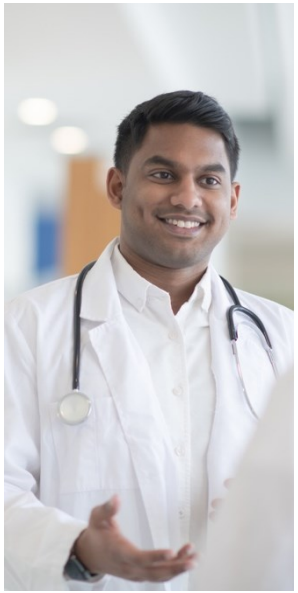
A new approach to care pathways

Driven by the demands of the pandemic, digitization quickly proved to be an efficient and effective way of managing health and delivering care in India. Technology investments are currently focused on enhancing digital health records and embedding telehealth.

There are plans in place to further extend healthcare beyond hospital walls. India's healthcare leaders hope these plans will be supported by advanced technologies to create a resilient, sustainable and patient-friendly system of care.

The following insights explore the priorities of India's healthcare leaders, and how their planned investments in technology to fuel remote care can help create a more resilient healthcare system.

Healthcare leaders focus on staff satisfaction and retention



Adopting a more responsive approach to staff needs

Throughout 2021, the Indian healthcare system was overwhelmed by the second wave of the pandemic. It exposed gaps in the health infrastructure, such as shortages in equipment, beds, and staff*.

These challenges have left healthcare workers exhausted and demotivated, leading to strikes as they push for better salaries and more support from their employers**.

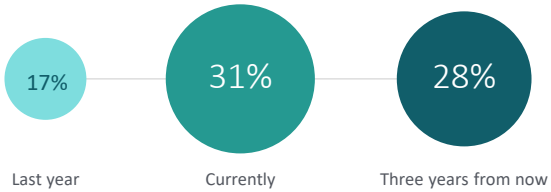
A lack of funding is not new to Indian healthcare leaders. Before the pandemic, health spending in India accounted for just 3.6% of GDP – less than half of that of many other countries***. However, the onset of the pandemic exacerbated the problem of underfunding.

Aware of these frustrations, Indian healthcare leaders have focused on offering their staff better support by addressing issues such as wellbeing and satisfaction. In 2022, 31% of leaders are prioritizing staff satisfaction and retention, a significant increase from the previous year when only 17% did so.

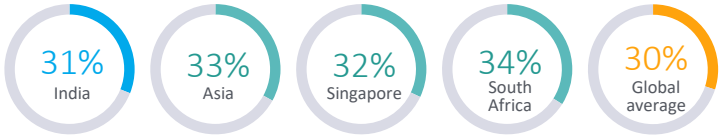
Today, they are convinced that staffing issues will persist into the foreseeable future, with over one-quarter (28%) saying they expect to continue placing staff needs at the top of their agenda three years from now.

Healthcare leaders in India are not alone in focusing on staff satisfaction: it tops healthcare leaders' priorities around the world.

Staff satisfaction and retention is expected to remain a top priority in India



Staff satisfaction and retention is a top priority today in most countries, with around one in three leaders putting it at the very top of their agenda



* https://economictimes.indiatimes.com/magazines/panache/24-hr-shifts-staff-shortages-low-pay-indias-covid-battle-takes-a-toll-on-doctors/articleshow/83171537.cms?from=mdr
** https://www.business-standard.com/article/current-affairs/burnout-depression-soars-among-indian-healthcare-workers-in-covid-crisis-121052600110_1.html
*** https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/7/1/index.html?itemId=/content/publication/ae3016b9-en&_csp_=ca413da5d44587bc56446341952c275e&

Telehealth gains prominence as leaders plan ahead

An acknowledged need to boost telehealth

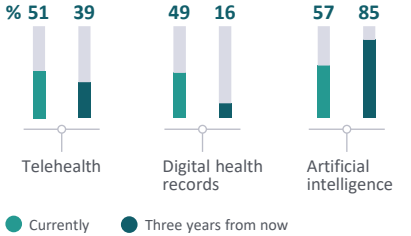
Telehealth accounted for less than 5% of India's overall healthcare IT market before the pandemic. However, the crisis accelerated the adoption of this technology, enhancing accessibility of treatment for those in rural areas*. Somewhat skeptical of telehealth before the pandemic, India's physicians are now overwhelmingly supportive of the adoption of remote care solutions. While 33% state that a shift to virtual care is among their key priorities, 51% say that telehealth is currently a top investment area, with online patient visits (32%) receiving more investments than healthcare professional-to-healthcare professional virtual solutions (23%).

Investments in telehealth have been accompanied by the accelerated adoption of digital health records (DHR), a necessary foundation for delivering remote care. In 2021, four years after establishing the National Digital Health Authority (NDHA)**, the Indian government officially launched the National Digital Health Mission***, a program intended to support the establishment of integrated digital healthcare infrastructure across the country. The government's efforts to make healthcare data-driven are reflected in the investment priorities among Indian healthcare leaders, with half (49%) citing digital health records as a top investment.

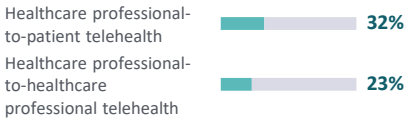
And plans to invest in artificial intelligence

To create a more resilient, future-ready healthcare service, leaders are looking at new, technology-driven ways of improving care. While Indian healthcare leaders anticipate that investments in telehealth will decline 12 percentage points over the next three years, in the same time frame they expect the current level of investment in artificial intelligence to double - an increase of 28 percentage points. The AI applications that appear most attractive to India's medical leaders include integrating diagnostics (22% now, 32% in three years), optimizing operational efficiency (18% now, 37% in three years), predicting outcomes (18% now, 32% in three years) and clinical decision support (16% now, 33% in three years).

Telehealth and digital health records are key investment areas today



Healthcare leaders in India are investing more in patient-facing telehealth



National Digital Health Mission set to spearhead change

In September 2021, after a year-long pilot program conducted across six union territories, Indian Prime Minister Narendra Modi officially announced the rollout of India's National Digital Health Mission (NDHM), also known as the Pradhan Mantri Digital Health Mission****. Its objective is to support universal health coverage in India by establishing a digital healthcare infrastructure and creating three foundational platforms: the doctor's registry, health facilities registry, and the health ID – a database of electronic patient records. In the long term, NDHM is to make the healthcare system more efficient by facilitating easier data exchange between healthcare facilities and making providers more accessible for patients, ultimately leading to better quality care countrywide.

* https://www.computerweekly.com/news/252513585/India-warms-to-telehealth-amid-pandemic
** https://www.nhp.gov.in/nhpfiles/national_health_policy_2017.pdf
*** https://www.latestly.com/agency-news/india-news-nationwide-rollout-of-pradhan-mantri-digital-health-mission-by-modi-on-sep-27-2876418.html
**** https://www.latestly.com/agency-news/india-news-nationwide-rollout-of-pradhan-mantri-digital-health-mission-by-modi-on-sep-27-2876418.html

Demand for extending care delivery is growing

The rise of ambulatory health services

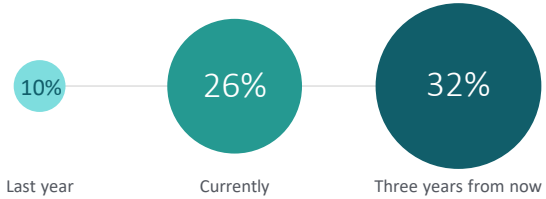
As India grapples with the lingering effects of the pandemic, it has become clear that leaders' focus on extending medical care beyond hospital walls will continue for the foreseeable future.

At the peak of the pandemic, hospitals overwhelmed with COVID-19 cases had to limit the number of outpatients in their facilities*. Ambulatory centers were developed to accommodate the overspill. These have now become the clinics of choice for many people who prefer them for diagnosis and test-related services** over more traditional healthcare facilities.

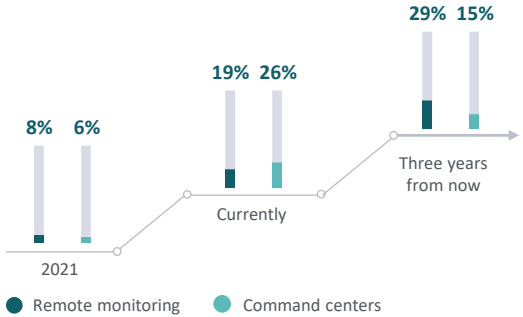
Last year, just 10% of Indian healthcare leaders viewed extended care delivery as a top priority. Today, that figure has more than doubled, with 26% of leaders prioritizing extended care delivery and 32% expecting it to remain a top priority in three years.

To facilitate this focus, leaders are increasing their investment in remote monitoring technologies. Up from 8% in 2021, 19% of Indian healthcare leaders currently consider remote patient monitoring as a key investment, and this figure jumps to 29% in the next three years. Leaders are also putting more investment into centralized command centers, which can also facilitate extended care delivery by enabling operations across geographies.

Indian leaders prioritize extended care delivery now and in three years



Indian leaders invest in remote monitoring and command centers



Hospitals Without Walls initiative set to support an overloaded healthcare system

To support India's healthcare system, the Center for Medicare and Medicaid Services (CMS) launched Hospitals Without Walls***, an initiative to combat problems caused by an overloaded healthcare system. It forms part of the national emergency plan created when COVID-19 cases surged across the country.

The initiative includes Ambulatory Surgery Centers (ASC), outpatient health clinics designed to assist patients that do not require overnight stays in the hospital. ASCs have helped combat the overwhelming surge the healthcare system experienced at the time of the pandemic. As the pandemic begins to ease and case numbers continue to fall, the number of ASCs is expected to be reduced by the authority of the CMS.

* https://www.prnewswire.com/in/news-releases/global-outpatient-screening-services-market-will-grow-to-us-17-091-65-mn-by-2028-growing-at-a-cagr-of-15-9-over-the-forecast-period-says-absolute-markets-insights-837972568.html
** https://www.ecareindia.com/blog/covid-19-update-ambulatory-surgery-centers-and-cms/
*** https://www.ecareindia.com/blog/covid-19-update-ambulatory-surgery-centers-and-cms/

Sustainability is rising to the top of India's healthcare agenda

A gradual shift to a greener future requires investment and collaboration

According to a recent study from Healthcare Without Harm*, the level of India's healthcare emissions is 1.5% of the country's climate footprint – the global average is 4.4%. However, India is one of the top ten countries in terms of the size of its healthcare carbon footprint**.

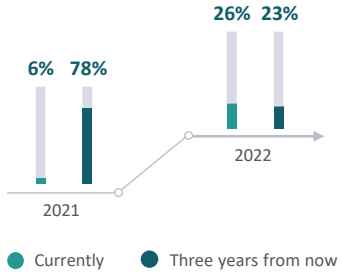
With the sheer size of the country's burgeoning economy and its growing population, it's no surprise sustainability has become a top priority.

Last year, only 6% of healthcare leaders in India perceived sustainability as a top priority, although 78% agreed it would become a priority over the next three years. Today, the shift from plans to action is clearly visible, as 26% say sustainability is at the top of their agenda, with 23% expecting to prioritize it in three
years' time.

Despite the pressure for environmental improvements, healthcare leaders are aware that the shift toward sustainability needs to happen gradually, through both governmental regulations and the efforts of healthcare facilities. Cost is the principal obstacle for most healthcare facilities and investment will be crucial to rapidly deploy sustainable solutions. This may be why prioritization of sustainability falls in three years' time.

Public sector initiatives, such as the CREDA solar electrification project in Chhattisgarh, show some of the benefits that such investment in green energy can bring and highlights the importance of collaboration between organizations including renewable energy departments, health departments, distribution companies and healthcare facilities*** in bringing India closer to its clean energy 2022 and 2030 targets.

Indian healthcare leaders have fast-tracked sustainability



Lessons from Chhattisgarh's healthcare transformation through solar electrification

In 2018, the Chhattisgarh State Renewable Energy Development Agency (CREDA) and the Indian State Health Department joined forces to install, operate and maintain solar panels in healthcare facilities across rural India****. As part of this groundbreaking project, 900 health centers and hospitals were equipped with solar systems and energy-efficient appliances which served to reduce their dependence on unreliable grid-energy supplies while lowering their carbon footprint. As a result of these new energy sources, health centers have been able to provide uninterrupted 24/7 care with all necessary equipment functioning fully, benefitting around 80,000 patients daily. The program has also delivered a reduction in energy costs and has contributed to increased operational efficiency, enabling the implementation of internet-based services due to reliable connectivity.

* https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_092319.pdf
** https://www.expresshealthcare.in/news/sustainable-hospital-infrastructure/431984/
*** https://www.csis.org/blogs/new-perspectives-asia/solarizing-indias-healthcare-system
**** https://ashden.org/winners/creda/

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Unlocking the power of data

Limited technology infrastructure hampers data use

Data is increasingly used in both operational and clinical settings across India's healthcare system. The result is greater efficiencies and swifter, more informed decision-making that leads to more effective treatment for patients. For many healthcare leaders, data has also become a key component of extending care beyond the hospital. However, they face serious challenges related to the country's infrastructure, including power outages, connectivity issues and slow internet speeds, which are impeding their efforts to digitize and use data more fully.

Building capabilities and strategic partnerships are key to better data utilization

Unlocking the potential of data may be a challenge, but healthcare leaders are confident in their abilities to use the data they have. One major task ahead is to ensure they are focused on further advancing internal expertise among hospital staff, ranging from healthcare workers to C-suite executives. At the same time, implementing robust data privacy and security protocols is critical to safeguard the information used and mitigate the risks of any data being compromised.

Aware that they may lack the resources to realize the full potential of data on their own, healthcare leaders across India are looking to collaborate with external partners to help accelerate their data journeys. While they most want to partner with other healthcare facilities, many acknowledge that collaborating with health technology companies could help them lessen the burden of infrastructure challenges, paving the way to a more efficient data-driven future.

The insights that follow explore how healthcare leaders are using data, the barriers they face, and how strategic partnerships can support more comprehensive data utilization.

Indian leaders are confident about the value that data can bring

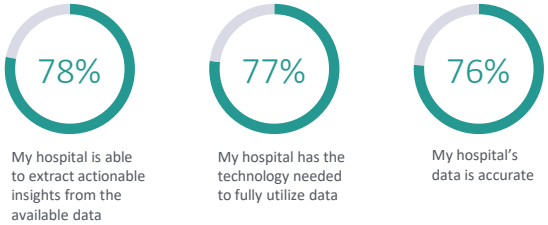
Healthcare leaders are confident in their ability to make better use of data

Most healthcare leaders in India say they are highly confident in their abilities to use the data at their disposal, with 78% reporting that their facility can extract actionable insights and 77% stating they have the necessary technology to do so. Most – 76% – are also certain that the data available to their facility is accurate.

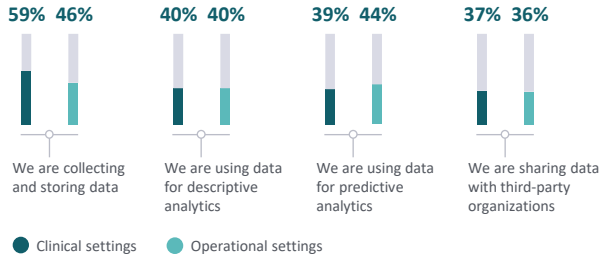
Currently, 59% of Indian healthcare leaders report they are collecting and storing data in clinical settings and 46% do so in operational settings. Additionally, across both areas, 40% say they are using data for descriptive analytics, but when it comes to using data for predictions, leaders in operational settings are ahead of their clinical colleagues (44% vs 39%).

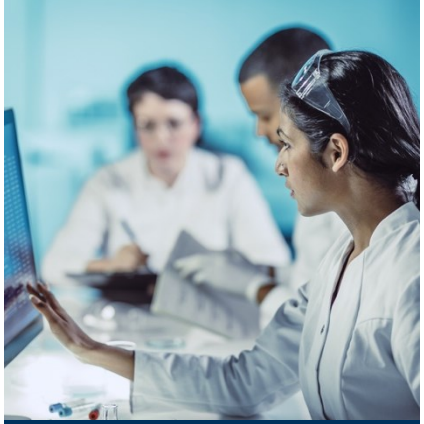
In 2021, India faced multiple regulatory changes aimed at creating the infrastructure to support a more data-driven approach to healthcare, promoting innovation and reducing health-related risks with the help of technology*. These changes were supported by government initiatives, such as the National Digital Health Mission (NDHM)**, which was the follow-up to the National Health Policy adopted in 2017***.

Indian leaders are confident in their ability to utilize data



Healthcare leaders in India are already collecting, sharing and using data across settings





National Health Policy paves the way for a future of digital healthcare

India's National Health Policy****, launched in 2017, has been instrumental in building the foundation for a national, fully integrated healthcare infrastructure. The initiative led to the creation of a federated integrated health information architecture, called Health Information Exchanges and National Health Information Network, which is set for completion by 2025. By ensuring data collection is consistent and integrated across the country, the Indian healthcare system will become more efficient, transparent and accessible, with easier data exchanges between facilities.

* https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/technology-is-going-to-play-a-key-role-in-indias-roadmap-for-health-infrastructure-etilc-members/articleshow/81683674.cms
** https://www.latestly.com/agency-news/india-news-nationwide-rollout-of-pradhan-mantri-digital-health-mission-by-modi-on-sep-27-2876418.html
*** https://www.nhp.gov.in/nhpfiles/national_health_policy_2017.pdf

Infrastructure hurdles pose a challenge to efficient data use

I would like to make it clear that medical data must be handled with great care. This means that data protection, the individual protection of the patient, must be absolutely guaranteed.

Operation Room Department Head
Urban hospital

Indian healthcare leaders encounter infrastructural limitations

While Indian healthcare leaders say their facilities are well-positioned to adopt a more sophisticated approach to data adoption, they have been frustrated by several fundamental barriers. Foremost among these is the inconsistency of technology infrastructure, with common issues such as slow internet, power outages and connectivity issues disrupting data transfers and impeding the use of advanced digital technologies.

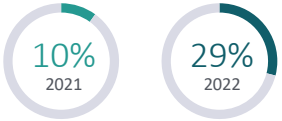
These issues must be addressed before India can herald a new era of digitalization in healthcare, according to the National Digital Health Blueprint*. With an internet penetration rate of just 47% in early 2022, India falls behind many other countries: the global average is 68%**.

Infrastructure limitations were recognized as a barrier to the adoption of digital health technologies by 10% of Indian healthcare leaders in 2021, a number that has almost tripled to 29% today.

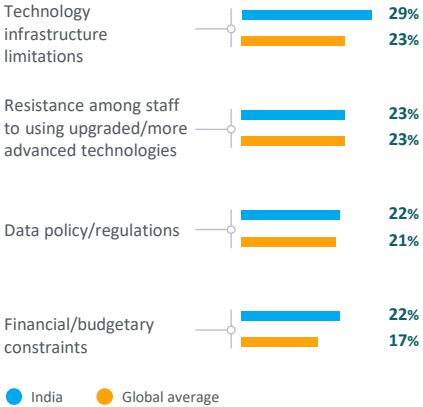
Additional barriers to full data use include resistance among staff to using more advanced technologies (23%), budgetary constraints (22%), and data policy and regulations (22%). The latter concern should be addressed by the country's new regulations for personal and healthcare data protection. Without such rules, healthcare leaders are prevented from implementing more advanced data infrastructure that involves aggregated data storage, such as cloud-based services***.

Technology infrastructure limitations are a growing barrier to data utilization in India

Technology infrastructure limitations



Indian leaders cite technology infrastructure limitations as their biggest barrier to using data



* https://abdm.gov.in/NDHB
** https://www.statista.com/statistics/227082/countries-with-the-highest-internet-penetration-rate/
*** https://d1.awsstatic.com/institute/Cloud%20for%20Healthcare_Overview.pdf

Leaders look toward solutions to mitigate data challenges

Cloud computing tools and staff training will boost data use

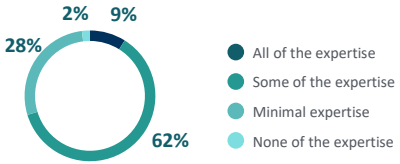
While Indian healthcare leaders struggle with infrastructure hurdles, they are also identifying ways to improve data utilization in their facilities.

One of their top means of tackling the issue is to increase the level of knowledge and expertise among hospital staff. Currently, 62% of leaders agree that their hospital has some of the expertise needed to fully utilize data, yet just 9% believe they have all the capabilities they need. This suggests that there is room for improvement – 37% of leaders say more overall internal staff expertise is needed and would support their facility in making more comprehensive use of their data, while 20% want to see their staff trained in data usage.

Leaders in India also prioritize data security and transparency. With India currently lacking established data protection policies, the burden of securing the collected data lies with the healthcare facilities. Establishing and implementing proper data security and privacy protocols would allow for better data usage according to 27% of leaders, while 23% believe data utilization would benefit from more clarity on how data is being used.

Another approach is to hire data specialists – a strategy supported by 21% of leaders who recognize that expertise in data management is necessary on all levels. One-quarter (25%) say having a data strategy developed at an executive level, e.g., by a chief data officer, would be helpful to improve data utilization. The implication is that building confidence in data needs to come from the top.

The majority of Indian healthcare leaders have some of the expertise needed to fully utilize data

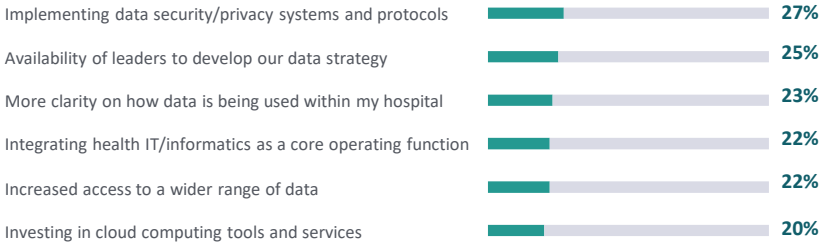


Healthcare leaders say elevating staff expertise would benefit data utilization

Availability of data specialists to manage and analyze data

Training/educating staff on usage

How data utilization can be best supported



Strategic partnerships help to overcome these challenges

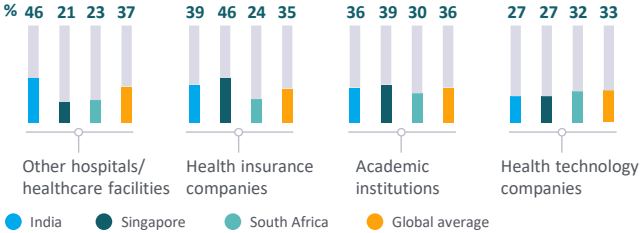
Collaboration will accelerate digital healthcare

To help alleviate barriers to data utilization, Indian healthcare leaders want to collaborate with external partners. Almost half (46%) cite other healthcare facilities as their preferred partner. This is considerably higher than their colleagues in South Africa (23%) or Singapore (21%) and is a clear step toward improving care in the countryside and smaller cities, as it enables clinics and facilities with fewer resources and less specialty expertise to tap into the experience and services of larger hospitals.

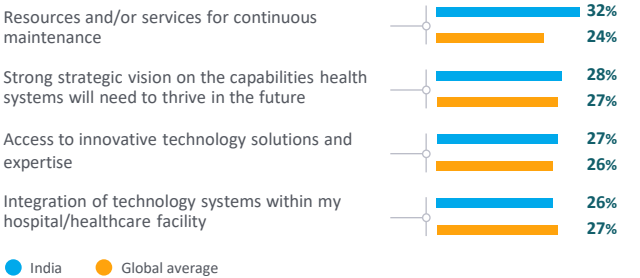
Indian healthcare leaders are also interested in collaborating with health technology companies (27%). Working with these organizations is likely to bring extra resources and maintenance support, according to 32% of leaders. At the same time, 27% say such partnerships would also deliver access to innovative technology for hospitals, while 26% believe it would pave the way to integrating new technology into existing systems.

While the leaders recognize that partnering to bolster technology infrastructure is crucial, they also understand that the potential of partnerships with technology companies goes further, opening possibilities of collaboration on strategic vision (28%), and setting the healthcare facilities up for success in the data-driven future.

Top preferences for a strategic partner



Main benefits from collaborating with a health technology company



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How predictive analytics can supercharge care

Driving efficiency and effectiveness

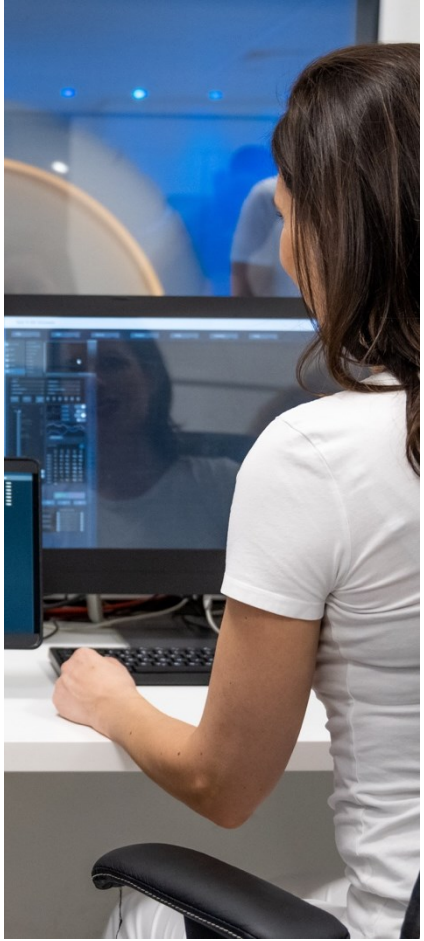
The potential of both predictive analytics and artificial intelligence to facilitate more efficient and effective care is recognized across the healthcare landscape in India.

With adoption of predictive analytics growing, leaders believe that these technologies have the potential to improve the quality of care overall, making it less expensive and more accessible, while allowing for improvements in population health management.

With the potential to support healthcare facilities in both clinical and operational realms, predictive analytics can not only facilitate better care but also improve patient and staff satisfaction.

However, while there is willingness to invest in the technology, barriers to implementation persist, with leaders expressing concerns about data privacy and security. Until these concerns are addressed, the full potential and benefits of advanced analytics technologies will not be realized.

The insights that follow consider the importance of predictive analytics for healthcare in India, concerns around trust, and some of the obstacles that must be overcome to drive implementation.



AI already proves useful for Indian healthcare leaders

Investments in AI will help to empower more robust healthcare analytics

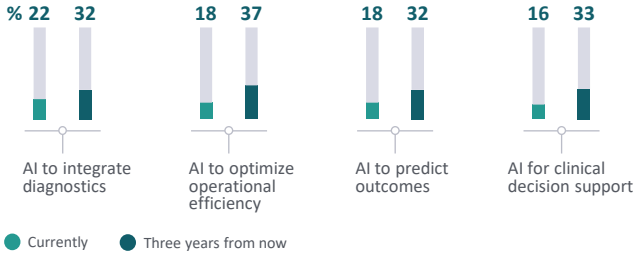
One area Indian healthcare leaders are focusing on is artificial intelligence (AI). Today, AI is considered a critical investment by more than half (57%) of healthcare leaders in the country, while 85% predict it will become a top priority three years from now. This demonstrates the increasing commitment of Indian healthcare leaders to expand and embed digital solutions to improve care.

At present, 22% of Indian healthcare leaders say their highest investments in AI are in the area of diagnostics. But looking ahead, 37% believe they will invest in AI most in operational settings in the future, where it will help with automating documentation, scheduling patients and staff, and improving workflow.

AI provided healthcare workers with a powerful tool during the COVID-19 pandemic, allowing healthcare professionals to gain a better understanding of the pandemic and to track and contain the virus. Both AI and predictive analytics were deployed to assist in analyzing patient data to help researchers determine hot spot areas, inform recommendations on strategies to quarantine people and slow the spread of the coronavirus*.

Leaders in India expect to double their investments in AI over the next three years

Investments in different areas of AI application



* https://www.businesswire.com/news/home/20200512005415/en/Outlook-on-the-Healthcare-Analytics-Market-in-India-to-2025---How-the-Market-Can-Be-Used-to-Combat-COVID-19---ResearchAndMarkets.com#:~:text=In%202019%2C%20healthcare%20analytics%20accounted,during%20the%202020%2D2025%20period.

The impact of predictive analytics on India's healthcare system

Predictive technologies can improve the quality and value of care

Predictive analytics is already playing a role in advancing healthcare in India. While still behind countries such as Singapore with a 92% adoption rate, the use of predictive technologies in the healthcare space in India is relatively high, with 59% of Indian healthcare leaders reporting they have already adopted – or are in the process of adopting – predictive analytics in their hospital or healthcare facility. This places India ahead of the global average of 56% and significantly higher than South Africa at 33%.

Indian healthcare leaders are also overwhelmingly positive about the benefits of predictive analytics, with 80% acknowledging potential benefits for operational settings, and 87% recognizing benefits in clinical applications. They cite treatment planning and assessment as the area within their hospital or facility that will see the biggest benefit from the technology (27%).

Looking beyond their facility, Indian healthcare leaders believe that predictive analytics could positively impact the overall quality of care, with 77% emphasizing its benefits for delivering value-based care and improving health outcomes. As a result of better care, 76% of leaders also expect that predictive technologies would enhance the patient experience, while 70% trust it would make population health management more efficient.

Increasing access to care

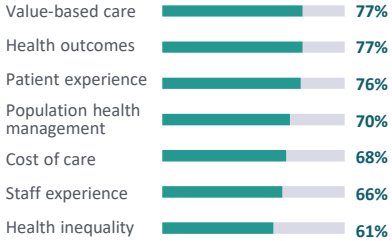
An additional perceived benefit of using advanced analytics technologies is the reduced cost of care, with 68% of leaders citing this as one of the areas where predictive analytics could have the biggest impact.

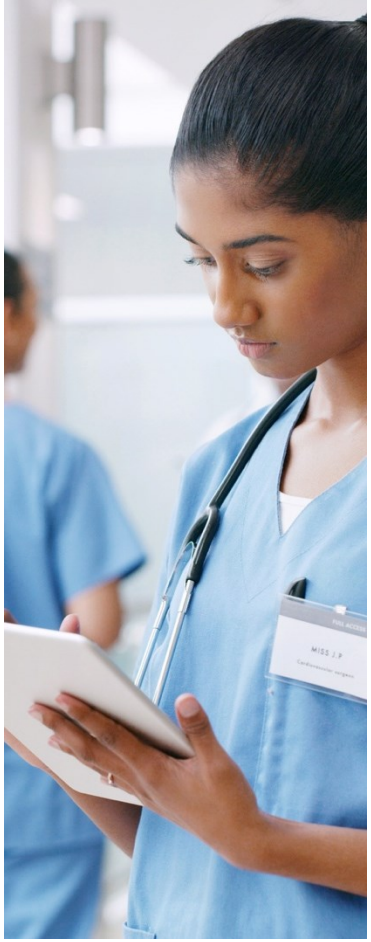
Aspects of care where predictive analytics can have most positive impact

80% agree predictive analytics could benefit my facility in operational settings

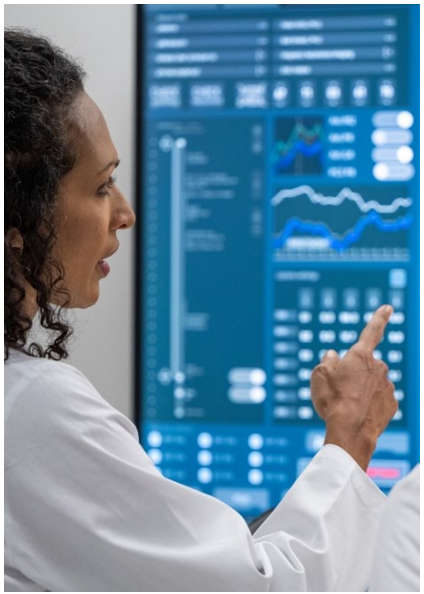
87% agree predictive analytics could benefit my facility in clinical settings

Indian healthcare leaders have a positive outlook on how predictive analytics can impact healthcare





Addressing data security is paramount to increasing adoption of predictive analytics



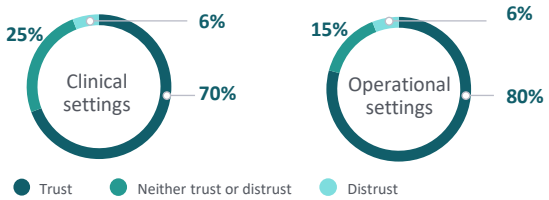
Trust in predictive analytics will grow with improved data security and privacy measures

Trust in predictive analytics among Indian healthcare leaders remains high, with 70% trusting the technology in clinical settings and 80% in operational settings.

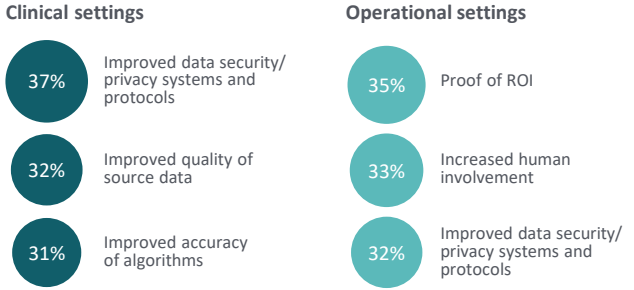
However, healthcare data breaches have been on the rise since the onset of the pandemic. Globally, the sector faced more ransomware attacks in 2021 than in any previous year, and more than any other critical infrastructure sector*. It is no surprise, therefore, that around one-third of Indian healthcare leaders in clinical (37%) and operational (32%) settings cite improved data security as the top factor to improve their trust in predictive analytics. Additionally, 33% want to see increased human involvement in data analysis in operations, while in the clinical realm, 32% look for improved data quality, and 31% want algorithm accuracy.

Aside from the data integrity-related factors, leaders in operational settings look for measurable indicators of the benefits of predictive analytics that would justify the investments in such technologies, with 35% stating that proof of ROI would enhance their trust in such technologies.

Levels of trust in predictive analytics among Indian healthcare leaders



Top three factors to strengthen Indian leaders' trust in predictive analytics across settings



* https://www.ic3.gov/Media/PDF/AnnualReport/2021_IC3Report.pdf

Conclusion

Conclusion

Jan Kimpen, Philips Chief Medical Officer

The Future Health Index 2022 paints a picture of a sector that has seen dramatic transformation in recent years, which has accelerated rapidly over the past 12 months. Rather than continuing to focus solely on the pandemic, we see today's healthcare leaders embarking on a reset – radically shifting their priorities to meet new realities in medical management. Specifically, leaders have indicated three key priorities for 2022 and beyond:

Improving the staff experience

With the sector facing a significant 15 million labor shortfall by 2030, improving the staff experience has become a top priority for today's leaders. This year's report has shown that leaders believe increased training in digital health technologies will be key to progress, helping staff feel less overwhelmed by data-centric processes and more ready to embrace new workflows. However, increased training is just one piece of the puzzle – fixing the labor crisis in the long term will ultimately depend on the successful coordination of governments, regulators and the industry as a whole to improve working conditions across the board.

Bridging the gap between the promise of predictive analytics and current usage

From data silos and interoperability concerns to technology infrastructure limitations, many factors are to blame for the uneven uptake of predictive analytics to date. The good news is, we're now seeing a number of leaders pioneering this technology and inspiring others to drive adoption in their own facilities. As more organizations reap the rewards of machine-generated insights in both clinical and operational settings, such as enhanced decision-making and lowered administrative burdens, we expect to see increased demand for peer-to-peer mentorships between early and late adopters, as well as strategic partnerships with health technology companies, bringing the whole sector up to speed.

Addressing threats to healthcare data security

With the industry experiencing record surges in data breaches, one in five leaders now cite data privacy and security as top concerns. This year's report has shown how effective initiatives like the European Health Data Space can be in addressing such concerns. However, the future of healthcare data security will depend as much on educational initiatives for leaders as it will on vendors following security-by-design principles – infusing security from product design and development through testing and deployment, with robust policies and procedures for monitoring, updates and incident response management, as has long been standard practice in other industries like financial services.

All things considered, our sector has taken stock and reprioritized in the wake of another year of transformations, and against a growing backdrop of complex challenges that will endure far beyond the pandemic, from staff shortages and security threats to the rapid rise of chronic diseases. Ultimately, we see healthcare leaders embarking on a reset to meet the demands of a fundamentally changed world – a world they hope to shape and improve with the help of data and predictive analytics.

Glossary of terms

Glossary of terms

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

Analog facilities
Most or all patient data is handled in a paper-based format or using traditional communications, e.g., phone, fax, etc.

Artificial intelligence (AI)
AI refers to the use of machine learning and other methods that may mimic intelligent human behaviors, resulting in a machine or program that can sense, reason, act and adapt to assist with different tasks.

B2B health technology companies
behaviours that sell products, equipment, or solutions to hospitals and healthcare facilities.

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

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

Early adopters of digital health technology
Early adopters are defined as leaders 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.

Early adopters of digital health technology and predictive analytics
These leaders are defined as those who are the first to adopt innovations in digital health technology and who have already adopted predictive analytics.

Early adopters of predictive analytics
Early adopters are defined as leaders who indicated that their hospital has already adopted predictive analytics or is in the process of adopting predictive analytics.

Global non-governmental organizations
A nonprofit organization that operates independently of any government.

Health equity or equality
The absence of unfair, avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality.

Health IT/Informatics companies
Companies that build communications protocols within healthcare systems (e.g., Cerner, Epic, etc.)

Health technology companies
Companies that sell or provide wearables, health apps and other technology to 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 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.

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 leaders who indicated that, compared to other hospitals or facilities, they adopt innovations later than most others.

Late adopters of digital health technology and predictive analytics
These leaders are defined as those who are among the last to adopt innovations in digital health technology and have no plans to adopt predictive analytics.

Late adopters of predictive analytics
Late adopters are defined as leaders who have not yet adopted predictive analytics but they are planning to in the future.

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

Out-of-hospital procedural environments
Care centers such as ambulatory surgical centers, office-based labs, etc.

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

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.

Quadruple Aim: Philips makes value-based care principles actionable by addressing the Quadruple Aim:

- Improved patient experience – improving the patient experience of care (including quality and satisfaction)
- Better health outcomes – improving the health of individuals and populations
- Improved staff experience – improving the work-life balance of healthcare professionals
- Lower cost of care – reducing the per capita cost of healthcare

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

Social responsibility
Individuals and companies have a duty to act in the best interests of their environment and society as a whole.

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.

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.

Voice recognition tools/software
A tool used to convert spoken language into text by using speech recognition algorithms.

Research methodology

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. With a growing list of competing needs facing healthcare leaders, the Future Health Index 2022 focuses on the expanding role digital tools and connected care technology is playing in the ability to deliver more accessible, affordable and customized healthcare.

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. Last year, the Future Health Index 2021 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.

In 2022, the Future Health Index concentrates on how healthcare leaders are now refocusing on the priorities and initiatives which were paused during the pandemic. They are increasingly incorporating data, advanced analytics tools and artificial intelligence to mitigate operational and clinical challenges and to enhance their ability to deliver care to communities both in and out of traditional hospital settings. With the pandemic in their rearview mirror, they are now looking to leverage their growing technology capabilities in a variety of directions. From rethinking how much care needs occur in a healthcare facility to expanding social responsibility and sustainability initiatives, technology is giving healthcare leaders the ability to execute customized strategies to fit the exact needs of their communities.

To provide a holistic understanding of the current healthcare systems around the world, the study upon which the Future Health Index 2022 is based incorporates insights derived from a quantitative survey and a series of qualitative interviews conducted around the world.

* 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.

Research methodology

2022 quantitative survey methodology

The quantitative portion of the study was executed by iResearch, a global business and consumer research services firm employing a mixed methodology of on-line and telephone surveying.

2,900 healthcare leaders in 15 countries (Australia, Brazil, China*, France, Germany, India, Indonesia, Italy, the Netherlands, Poland, Russia, Saudi Arabia, Singapore, South Africa and the United States) participated in a 15-20 minute survey in their native language from December 2021 – February 2022. 200 healthcare leaders in each of the 15 countries completed the survey, except in Indonesia, where the total sample was 100.

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)	Interview methodology
Australia	200	+/- 7.0	Online and telephone
Brazil	200	+/- 6.5	Online and telephone
China	200	+/- 7.5	Online and telephone
France	200	+/- 7.0	Online and telephone
Germany	200	+/- 6.5	Online and telephone
India	200	+/- 6.0	Online and telephone
Indonesia	100	+/- 6.5	Online and telephone
Italy	200	+/- 7.0	Online and telephone
Netherlands	200	+/- 6.5	Online and telephone
Poland	200	+/- 7.0	Online and telephone
Russia	200	+/- 6.0	Online and telephone
Saudi Arabia	200	+/- 6.5	Online and telephone
Singapore	200	+/- 8.0	Online and telephone
South Africa	200	+/- 7.0	Online and telephone
United States	200	+/- 7.5	Online and telephone
Total	2900	+/- 3.5	

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.

2022 qualitative interviews methodology

The qualitative portion of the Future Health Index 2022 was conducted by the KJT Group, a market research and consulting firm which specializes in the healthcare industry. To provide context and additional depth to the quantitative data, the quantitative survey results were supplemented with findings from a series of 45-minute interviews with healthcare leaders in their native language. These interviews were conducted during the month of March 2022. There were 30 participants, six from each of the following markets: Australia, China, Germany, the Netherlands and the United States.

* 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 population in each country. However, this is estimated since robust data is not available on the number of healthcare leaders in each country surveyed.

The Future Health Index is commissioned by Philips.

To see the full report visit
www.philips.com/futurehealthindex-2022

The Future Health Index 2022 report examines the experiences of almost 3,000 healthcare leaders and their expectations for the future. The research for the Future Health Index 2022 report was conducted in 15 countries (Australia, Brazil, China, France, Germany, India, Indonesia, 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 2021 – March 2022.

www.philips.com/futurehealthindex-2022