future health index 2021

A resilient future

Healthcare leaders look beyond the crisis

India

Contents

Foreword

As we reflect on the past twelve months, it would be easy to feel dispirited. The global pandemic has taken a significant toll on patients and healthcare staff, obliging them to swiftly respond and adapt. Global healthcare systems have experienced unprecedented strain. Frontline healthcare workers have faced greater pressures than ever before leaving many suffering from burnout, while senior leaders have been charged with leading their institutions in the most trying of times.

But amid the crisis, what stands out is just how skillfully the sector has risen to the challenge. The Future Health Index 2021 report reminds us that although the world continues to battle the pandemic, there are pockets of positivity. This year's report explores how healthcare leaders are meeting the demands of today as they prepare for an uncertain future. It uncovers their experiences, priorities, and aspirations. And while acknowledging the difficulties presented by the pandemic, the findings reveal a sense of optimism, resilience, and hope for a brighter future.

Over the past year, it's clear and understandable that most healthcare leaders have been focused squarely on patient care. But even as they navigate these challenges, many express an appreciation for, and anticipated adoption of, value-based care.

Healthcare leaders have seen firsthand the part that digital health technology has played in recent months, helping to ensure the continued delivery of care in incredibly difficult circumstances. As a result, many are reassessing their facility's technological capabilities as they consider what's next. Smart collaborations and meaningful partnerships will be critical to achieve digital transformation.

Encouragingly, we can expect greener healthcare systems over the next three years, with most healthcare leaders pledging to prioritize sustainable practices within their facility.

None of us can be certain of what the future holds. But what shines forth from this report is that healthcare leaders are committed to building a future that is sustainable, adaptable and – above all – resilient.

Jan Kimpen
Philips Chief Medical Officer

"

Amid the crisis, what stands out is just how skillfully the sector has risen to the challenge.

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.

Responses from almost

3,000
healthcare leaders

Across

14
countries

Countries included in the research

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

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

Learning from the past, optimistic about the future

India is among the countries most severely impacted by the COVID-19 pandemic.[1] The demands of testing, diagnosing and treating patients in high numbers have spotlighted pre-existing problems, like inadequate funding as well as shortages of healthcare workers and hospital beds.[2,3]

Despite their experience with the current crisis, healthcare leaders in India continue to express optimism*, agree current healthcare policies in place – such as Ayushman Bharat[4], which works to increase the accessibility of healthcare for vulnerable communities in India – are contributing to building a resilient healthcare system, acknowledge a real shift towards remote or virtual care and are considering the potential for future innovation in payment models, with the majority saying they plan to pursue value-based care in the future.

" *The quality of healthcare [available to Indians in the future] will be high. Infrastructure is developing very fast and equipment is readily available.*
Owner, Hospital, India

*Please note: This survey was fielded from December 8, 2020 – February 16, 2021. These findings reflect the perceptions of Indian healthcare leaders during this time period.

Pandemic drives current focus on remote or virtual care

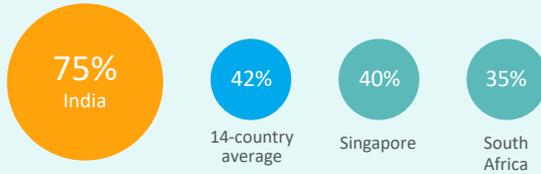**Significant challenges remain for Indian healthcare leaders**

Reported cases of COVID-19 grew significantly in India starting in March of 2021[5], and a chronic shortage of doctors – one per 1,456 Indians[6] – has only increased the burden on the national healthcare system. Indian healthcare leaders' top current priorities reflect these challenges, with a key focus on developing remote or virtual care capabilities and responding to crises.

Indian healthcare leaders are among the most likely of those surveyed across the 14 countries to state facilitating a shift to remote or virtual care is a top priority today. According to DayToDay Health, this transformation in care delivery can also lead to the development of larger virtual health ecosystems in the future, over adoption of a singular telemedicine or telehealth capability.[7]
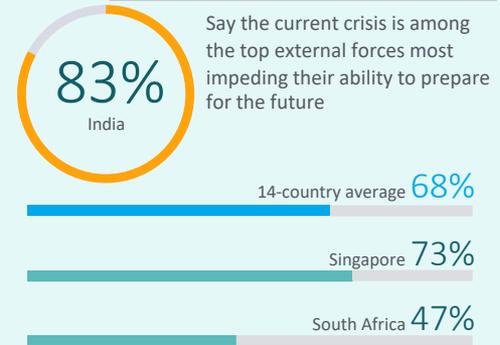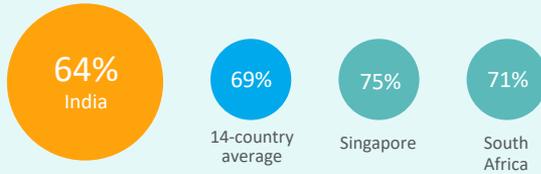
In light of the pandemic's unpredictable development in India, healthcare leaders are struggling to prepare for the future. Indian healthcare leaders are more likely than those in Singapore and South Africa to cite the pandemic as among the top external forces preventing them from planning for the future. Additionally, about a quarter (26%) of healthcare leaders in India see technology infrastructure limitations – such as slow internet or connectivity issues – as a top barrier. In the short- and long-term, this will make shifting to remote or virtual care especially challenging.

Top current priorities of Indian healthcare leaders:

Facilitating a shift to remote/virtual care

| 75% India | 42% 14-country average | 40% Singapore | 35% South Africa |

Preparing to respond to crises

| 64% India | 69% 14-country average | 75% Singapore | 71% South Africa |

83% India

Say the current crisis is among the top external forces most impeding their ability to prepare for the future

14-country average 68%
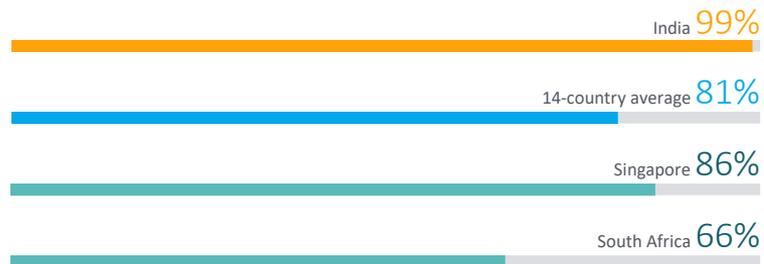
Singapore 73%

South Africa 47%

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800; Singapore n=200; South Africa n=200)

Government policies drive resilience in healthcare

Healthcare leaders in India near unanimously agree that the country's healthcare policies and plans are contributing to building a resilient healthcare system. For example, the Pradhan Mantri Jan Arogya Yojana (PM-JAY), a health insurance scheme under Ayushman Bharat, aims to increase access to needed healthcare services and minimize the cost of care for patients.[8] Reflective of the lessons learned to date, there is a desire for future policy to increase investment in public health, as well as for consistent and transparent healthcare protocols and procedures.[9]

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

India **99%**

14-country average **81%**

Singapore **86%**

South Africa **66%**

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800; Singapore n=200; South Africa n=200)
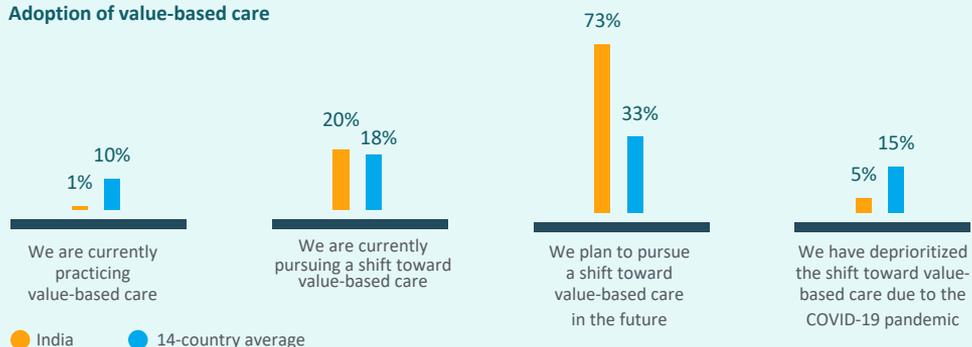
Pursuing a shift towards value-based care

Healthcare leaders planning a shift toward value-based care, though uncertainty remains

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. The large majority of healthcare leaders in India are either currently pursuing a shift toward value-based care or are planning to do so in the future, and in greater numbers than those across most of the other countries surveyed.

However, despite this push toward innovation in payment models, Indian healthcare leaders interviewed as part of the Future Health Index 2021 express some concerns around how value-based care will be implemented. Some question a future where finance is tied to patient outcomes, as while treatment and prevention are always optimized for the best outcome possible, results are never guaranteed. In order for value-based care to be fully realized in India, cooperation will be needed between the government and healthcare providers to transform existing care delivery models, optimize resources and implement enabling policies.[10]

Adoption of value-based care

1% / 10%	20% / 18%	73% / 33%	5% / 15%
We are currently practicing value-based care	We are currently pursuing a shift toward value-based care	We plan to pursue a shift toward value-based care in the future	We have deprioritized the shift toward value-based care due to the COVID-19 pandemic

● India ● 14-country average

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800)

Taking a three-step approach to digital transformation

Indian healthcare leaders appear to be taking a three-step approach to digital transformation.

Short-term investment in **telehealth** to ensure healthcare access and availability during the pandemic. Guidance from the Ministry of Health and Family Welfare enabled rapid uptake.[11]

Investment in **artificial intelligence** (AI) to ramp up as the pandemic recedes, as leaders look to the technology to drive operational efficiency and improve care outcomes in the longer term.

Partnership and collaboration with other hospitals or healthcare facilities to facilitate the use of these technologies.

" *Nowadays patients have many apps to talk directly through a video call to a doctor and get solutions, so they don't have to come to a hospital or diagnostic centre for each and every issue.*
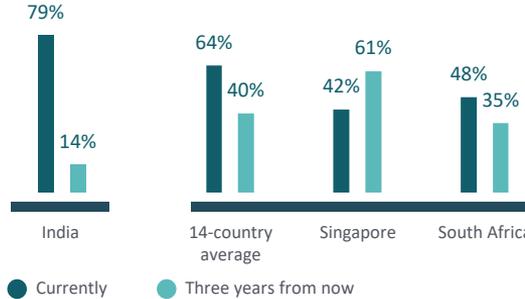**C-Suite, Imaging Center, India**

Healthcare leaders invest in telehealth during pandemic

Indian healthcare leaders invest in telehealth at higher rates than those in many other countries

Healthcare leaders in India are prioritizing current investment in foundational digital health technologies, with the goal of promoting greater access to care. For overwhelmed healthcare professionals, workload relief is an additional benefit of investing in certain digital health technologies, including telehealth.[12]

Healthcare leaders in India are currently investing in telehealth technologies at rates that exceed those in many other countries surveyed. The unprecedented popularity of telehealth during the pandemic has been recognized by the Ministry of Health and Family Welfare, which has released a set of telehealth guidelines to govern the physician-patient relationship more effectively.[11]

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

Bar chart:
- India: Currently 79%, Three years from now 14%
- 14-country average: Currently 64%, Three years from now 40%
- Singapore: Currently 42%, Three years from now 61%
- South Africa: Currently 48%, Three years from now 35%

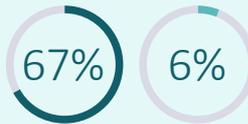● Currently   ● Three years from now

Investments to shift from telehealth to other digital technologies in the future
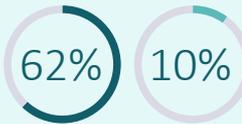
With healthcare professional and patient telehealth increasingly seen as a normal practice for healthcare professionals[13], healthcare leaders in India are planning to decrease their investment in the future and reallocate funds to more advanced digital health technologies.

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

Healthcare professional-to-patient telehealth: 67% / 6%

Healthcare professional-to-healthcare professional telehealth: 62% / 10%

● Currently   ● Three years from now

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800; Singapore n=200; South Africa n=200)
*Telehealth as stated here is representative of both healthcare professional-to-patient telehealth as well as healthcare professional-to-healthcare professional telehealth
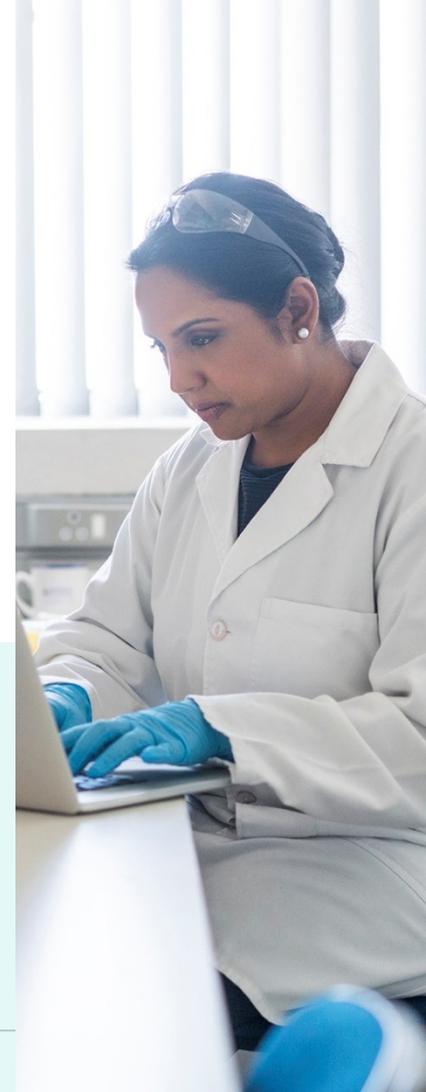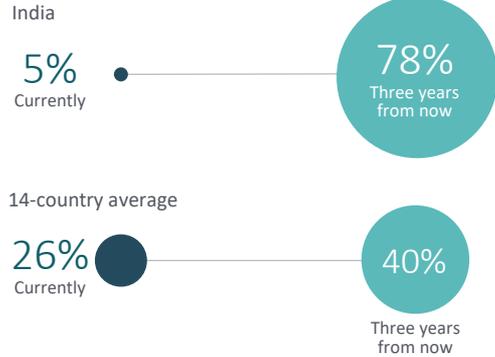
Heavy investments in AI technologies expected

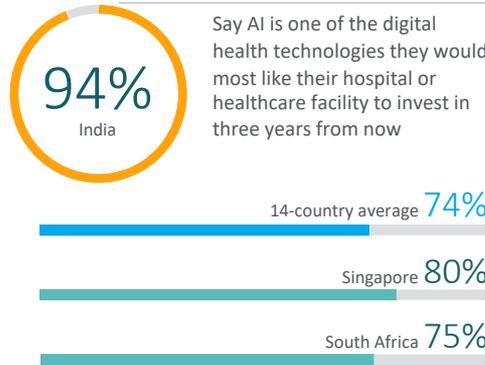**Indian healthcare leaders see value in predictive technologies**

Predictive technologies, such as AI and machine learning, have the potential to help alleviate India's shortage of healthcare staff by streamlining their responsibilities. At the same time, they can help patients gain more control of their health through consumer applications and virtual assistance.[14]

Healthcare leaders who say their hospital or healthcare facility most needs to invest in implementing predictive healthcare technologies to be prepared for the future
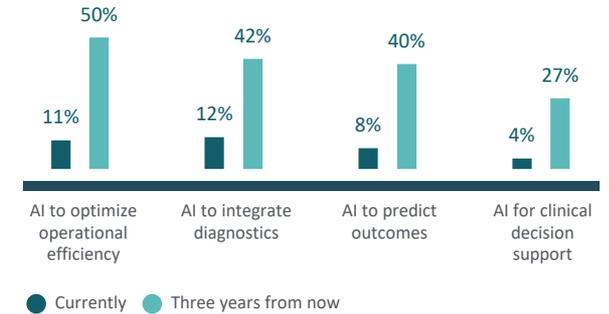
India

5%
Currently

78%
Three years from now

14-country average

26%
Currently

40%
Three years from now

Uniquely high future investment in AI expected in India

Roughly nine in ten Indian healthcare leaders would most like their hospital or healthcare facility to invest in AI in the near future – making them among the most likely of those surveyed across the 14 countries to plan future investment in this advanced technology.

94%
India

Say AI is one of the digital health technologies they would most like their hospital or healthcare facility to invest in three years from now

14-country average 74%

Singapore 80%

South Africa 75%

Indian healthcare leaders understand the benefits AI can offer healthcare and are planning to invest in the technology primarily to optimize operational efficiency, integrate diagnostics and predict patient outcomes. AI in healthcare can also be leveraged to support newer physicians in decision making.[15] By compensating for limited experience, AI can likely help address the shortage of healthcare professionals in India.

Digital health technologies Indian healthcare leaders are most heavily investing in now and in the future: AI technologies

	AI to optimize operational efficiency	AI to integrate diagnostics	AI to predict outcomes	AI for clinical decision support
Currently	11%	12%	8%	4%
Three years from now	50%	42%	40%	27%

● Currently   ● Three years from now

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800; Singapore n=200; South Africa n=200)

Open to strategic collaborations

Healthcare leaders look to diverse players to improve care models

Insufficient access to care and room for improvement in the patient experience are driving the need for healthcare innovation in India.[16] As healthcare leaders navigate these challenges, they are looking to outside voices to help introduce new thinking.

More than one-third (41%) of Indian healthcare leaders believe prioritizing strategic collaboration will help their hospital or healthcare facility successfully implement digital health technologies.
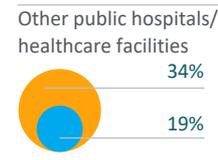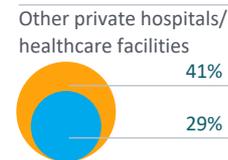
To drive forward digital transformation, Indian healthcare leaders want to collaborate primarily with other hospitals and healthcare facilities from both the private and public sectors.

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

Other private hospitals/
healthcare facilities
41%
29%

Other public hospitals/
healthcare facilities
34%
19%

41%
India

Say their hospital or healthcare facility needs to prioritize strategic partnerships and collaborations to successfully implement digital health technologies

Consumer health
technology companies
24%
19%

B2B health technology
companies
28%
16%

● India   ● 14-country average

41%
14-country average

40%
Singapore

31%
South Africa

Future plans hit by limited budgets, staff inexperience and shortages

Constrained budgets, staff inexperience and staff shortages are impeding progress, yet training is not a high priority

Staff inexperience and budgetary constraints are seen as the top internal barriers to preparing for the future for Indian healthcare leaders. These challenges risk delaying the adoption of digital healthcare technologies that could alleviate pressure on healthcare professionals' workloads and improve access to care.

Despite staff inexperience being seen as a top barrier to progress, very few healthcare leaders in India cite staff training as a priority. Instead, healthcare leaders in India (64%), and across the 14 countries surveyed (41%), believe budget reallocation will spur progress in the implementation of digital health technologies.

Bridging the divide between investing in solutions for existing skills shortages and the capital needed for new digital health technology investment is critical to the future of health in India.
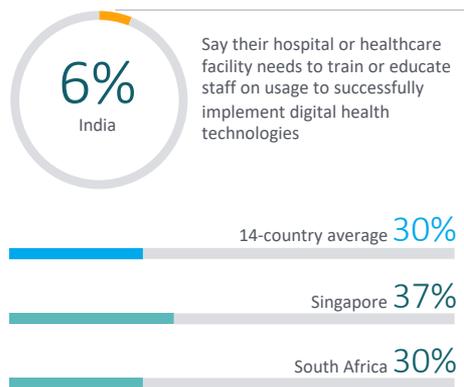
However, there are also specific barriers that healthcare leaders say prevent the adoption of digital health technology in their hospital or healthcare facility. Difficulties with data management and a lack of interoperability are more frequently cited as challenges in India, when compared to the average of those surveyed across the 14 countries. Though further down on the list, financial issues and lack of training reemerge as obstacles.

Top internal barriers impeding ability to prepare for the future

	India	14-country average
Staff's lack of experience with new technology	74%	53%
Financial or budgetary constraints	43%	33%
Legacy systems or technology limitations	23%	18%
Staff shortages	22%	28%

● India ● 14-country average

6%
India

Say their hospital or healthcare facility needs to train or educate staff on usage to successfully implement digital health technologies

14-country average **30%**

Singapore **37%**

South Africa **30%**

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

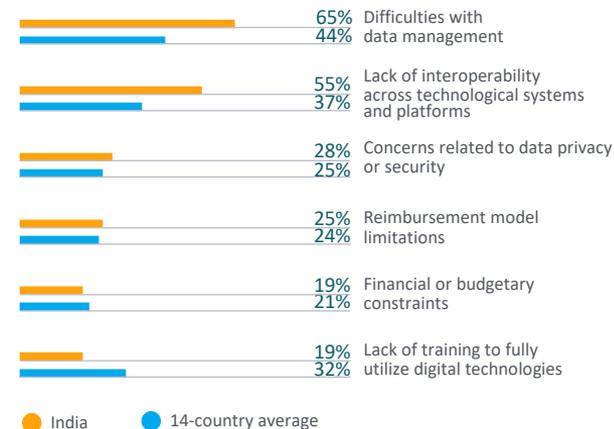|	India	14-country average	
Difficulties with data management	65%	44%	
Lack of interoperability across technological systems and platforms	55%	37%	
Concerns related to data privacy or security	28%	25%	
Reimbursement model limitations	25%	24%	
Financial or budgetary constraints	19%	21%	
Lack of training to fully utilize digital technologies	19%	32%	

● India ● 14-country average

Building sustainable systems to deliver future-proof care

As Indian healthcare leaders consider life beyond the ongoing pandemic, they are looking to new models for where and how care will be delivered.

Healthcare leaders in India estimate that, on average, roughly a quarter of routine care delivery occurs outside the walls of their hospital or healthcare facility today. This is among the highest proportions reported across the 14 countries surveyed. India's low-income citizens are starting to have more options for the type of care they receive too, due to insurance related policies[17], but more can still be achieved.

For the first time since 1982, India's overall CO2 emissions decreased in 2020.[18] Environmental organizations such as Carbon Brief believe the pandemic may provide the push needed to pivot away from fossil fuels in the long term and drive the Indian government to promote more cost-effective, clean energy sources.[18] Indian healthcare leaders recognize their role in this wider mission, and rate implementing sustainability measures within their hospital or healthcare facility as a top priority for the future, which includes environmentally conscious sourcing and recycling.

❝

[When thinking about sustainability in healthcare], biomedical waste and environmental sanitation are the issues we [need to] raise and give priority to.
Owner, Private Practice, India

Care moves beyond hospital walls

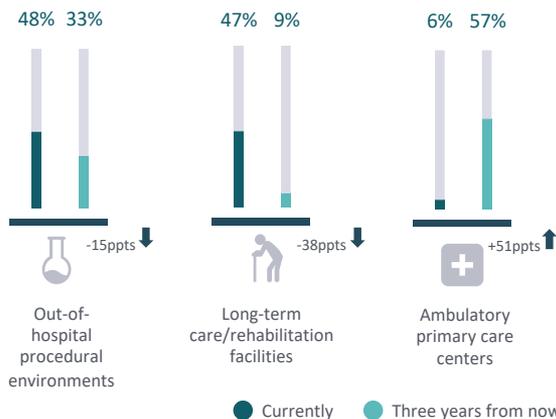### Ambulatory primary care centers to see the highest growth

Healthcare leaders in India estimate that, on average, around a quarter of routine care delivery is currently happening outside the walls of their hospital or healthcare facility. They expect this figure to increase marginally in the future, potentially providing more access to care for citizens despite a shortage of skilled workers.

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

Currently

26%
India

20%
14-country average

Three years from now

28%
India

23%
14-country average
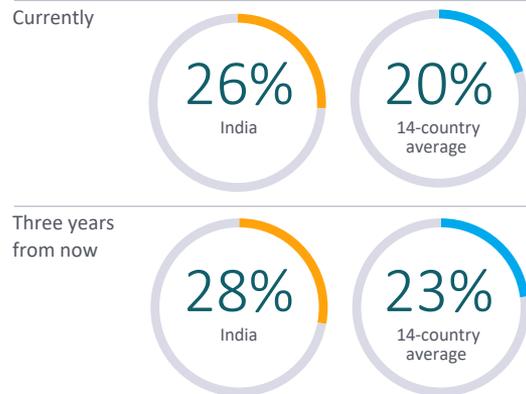
This slight growth in out-of-hospital care is accompanied by notable changes expected in the types of locations where this care will be delivered in the future. Indian healthcare leaders expect the use of ambulatory primary care centers to increase the most over the next three years, at the expense of routine care being provided in out-of-hospital procedural environments or long-term care facilities. India's Ayushman Bharat seeks to provide a financial safety-net for those living below the poverty line[17], expanding the locations available to them to receive care.

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

48% 33%   47% 9%   6% 57%

-15ppts   -38ppts   +51ppts

Out-of-hospital procedural environments

Long-term care/rehabilitation facilities

Ambulatory primary care centers

● Currently   ● Three years from now

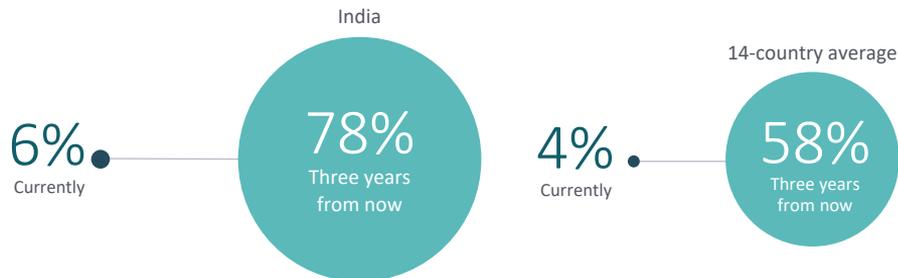Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800)

Push toward sustainability

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

In 2020, India recorded the first year-on-year decrease in CO2 emissions in nearly four decades.[19] Additionally, with government initiatives like the National Clean Air Programme, India is working towards promoting more renewable energy sources in the coming years.[18]

Indian healthcare leaders are increasingly recognizing the role healthcare plays in improving environmental sustainability and are set to make implementing sustainable practices within their hospitals and healthcare facilities a top priority for the future.

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

India

6%
Currently

78%
Three years
from now

14-country average

4%
Currently

58%
Three years
from now

Base (unweighted): Total healthcare leaders (India n=200; 14-country avg. n=2,800)

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:

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

Prioritization of current investment in digital health technologies such as telehealth to promote greater access to care

Addressing interoperability and data management challenges will be key to promoting adoption of digital health technologies

Growing interest in sustainability and environmental sourcing

Appendix

Glossary of terms

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

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

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

Augmented reality (AR)
A technology that superimposes a computer-generated image on a user's view of the real world, providing a composite view. In healthcare, this can allow a surgeon, for example, to see live data or 3D medical imagery in their field of vision when performing procedures.

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

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

C-Suite -1
A hospital or healthcare executive who is a level below the role of C-Suite. Job titles can include head of department, senior partner, or director.

Data privacy
The culture expectations, 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 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.

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

Sources

1. Covid map: Coronavirus cases, deaths, vaccinations by country
   https://www.bbc.com/news/world-51235105

2. Coronavirus: Indian hospitals run short of intensive care beds
   https://www.dw.com/en/india-coronavirus-health-crisis/a-55701052

3. COVID-19 | Is India's health infrastructure equipped to handle an epidemic?
   https://www.brookings.edu/blog/up-front/2020/03/24/is-indias-health-infrastructure-equipped-to-handle-an-epidemic/

4. PMJAY - All About Ayushman Bharat Yojana, Eligibility & Application Process
   https://www.bajajfinserv.in/insights/ayushman-bharat-yojana-are-you-eligible-for-the-pmjay-scheme

5. Coronavirus Pandemic (COVID-19) – the data
   https://ourworldindata.org/coronavirus-data?country=~IND

6. The doctor-population ratio in India is 1:1456 against WHO recommendation
   https://www.deccanherald.com/business/budget-2020/the-doctor-population-ratio-in-india-is-11456-against-who-recommendation-800034.html

7. Role of Digital Healthcare in Critical and Remote Care
   https://www.daytoday.health/daytoday-in-media-non-covid/role-of-digital-healthcare-in-critical-and-remote-care

8. About Pradhan Mantri Jan Arogya Yojana (PM-JAY)
   https://pmjay.gov.in/about/pmjay

9. What India Can Learn From Covid-19 To Build A Healthier Nation
   https://www.forbes.com/sites/madhukarpai/2021/01/17/what-india-can-learn-from-covid-19-to-build-a-healthier-nation/?sh=79adebc648f1

10. Value-based healthcare: Is India ready for a paradigm shift?
    https://www.pwc.in/assets/pdfs/healthcare/value-based-healthcare.pdf

11. Telemedicine Practice Guidelines
    https://www.mohfw.gov.in/pdf/Telemedicine.pdf

12. Telemedicine reduces healthcare workloads and increases access
    https://www.hpe.com/us/en/insights/articles/telemedicine-reduces-healthcare-workloads-and-increases-access-2004.html

13. Healthcare goes mobile: Evolution of teleconsultation and e-pharmacy in new Normal
    https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/health/2020/09/healthcare-goes-mobile-evolution-of-teleconsultation-and-e-pharmacy-in-new-normal.pdf

14. How AI is transforming healthcare in India
    https://cio.economictimes.indiatimes.com/news/next-gen-technologies/how-ai-is-transforming-healthcare-in-india/81285852

15. How artificial intelligence can help transform Indian healthcare
    https://health.economictimes.indiatimes.com/news/health-it/how-artificial-intelligence-can-help-transform-indian-healthcare/64285489

16. Collaboration is the key to disruption in healthcare
    https://www.expresshealthcare.in/strategy/collaboration-is-the-key-to-disruption-in-healthcare/417973/

17. India's government launches a vast health-insurance scheme
    https://www.economist.com/asia/2018/09/27/indias-government-launches-a-vast-health-insurance-scheme

18. India's carbon emissions fall for first time in four decades
    https://www.bbc.com/news/world-asia-india-52614770

19. Analysis: India's CO2 emissions fall for first time in four decades amid coronavirus
    https://www.carbonbrief.org/analysis-indias-co2-emissions-fall-for-first-time-in-four-decades-amid-coronavirus

www.philips.com/futurehealthindex-2021