future health index 2024

Better care for more people

Bridging the gaps in healthcare

Saudi Arabia Report

Contents

Research premise

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

In 2024, the Future Health Index, now in its ninth edition, explores how healthcare leaders view their organization's ability to deliver timely, high-quality care to everyone. The report focuses on the gaps that stand in the way, as well as examining ways of overcoming them.

This year, the Future Health Index is based on proprietary quantitative research conducted in 14 countries and supported by qualitative interviews in four of these countries: Singapore, South Africa, the United Kingdom, and the United States.

Responses from almost

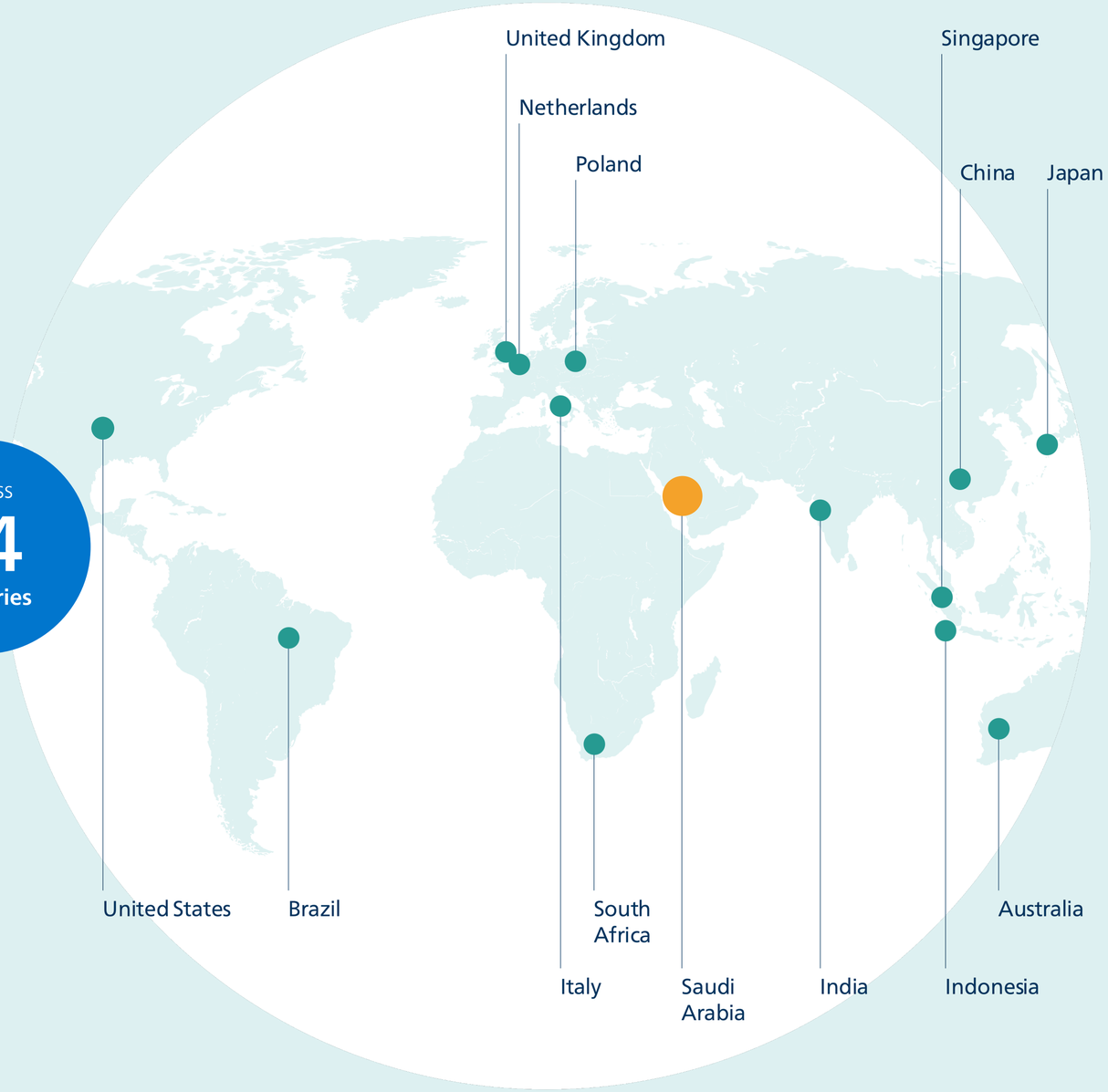
3,000

healthcare leaders

Across

14

countries



Delivering better care for all

The 2024 Future Health Index report for Saudi Arabia presents the significant progress and promising opportunities in delivering better care for all. It unpacks how Saudi Arabian healthcare leaders recognise the healthcare system's transformation, marked by its pioneering adoption of AI, the positive impact of virtual care and automation on workforce pressure, and its collective commitment to sustainability.

We are proud to be part of the efforts supporting the ongoing transformation of the healthcare sector. We recognize its broader impact and crucial role in positioning Saudi Arabia, as we collaborate to achieve the goals of Vision 2030.

Our Future Health Index KSA 2024 research reveals that Saudi Arabian healthcare leaders recognize the positive impact of virtual care on staff and patients. They have seen several benefits of virtual care integration such as increased staff support for complex patient management, improved patient appointment attendance and expanded more capacity to serve patients.

Where AI was once primarily utilized in operational settings, it is now widely adopted in clinical environments across the Kingdom, showcasing our pioneering efforts in AI integration, as well as our commitment to leveraging technology to enhance the delivery of healthcare. Our findings show that AI for clinical decision support is currently largely used in in-hospital patient monitoring, treatment planning, and preventative care and is adopted at rising rates with remote patient monitoring and medication management. Remarkably, 100% of healthcare leaders currently or plan to invest in generative AI technologies within their organizations paving the way for even greater efficiency.

The Kingdom's healthcare demonstrates a world-class commitment to environmental sustainability. Almost all Saudi Arabian healthcare leaders are focused on making a positive environmental impact. With this strong foundation, the local healthcare system is well-positioned to enable better care for more people.

However, achieving these ambitious goals requires collaboration and cannot be achieved in isolation. Healthcare leaders are looking for partnerships to ease staffing pressures, improve patient care and accelerate their transition to more sustainable healthcare. At Philips, we are committed to partnering with healthcare providers on this journey. We envision a future where people, regardless of, who they are or where they live, can access the care they need, when they need it.

Together, we have embraced the transformative potential of virtual care and automation to improve patient care and we remain steadfast in our commitment to sustainability. That's how we can ultimately deliver better care for more people.

"Healthcare in Saudi Arabia is marked by its pioneering adoption of AI, the positive impact of virtual care and automation on workforce pressure, and its collective commitment to sustainability. With this foundation, the local healthcare system is primed to enable better care for more people."

Akram Sirafy
General Manager – Philips Saudi Arabia

Executive summary

1

Empowering healthcare professionals

Healthcare leaders are looking to virtual care and automation to ease the burden of staffing shortages on healthcare workers and enhance patient care.

2

Bridging the insights gap

To harness the most meaningful insights from data, healthcare leaders are increasingly looking to AI, while recognizing the need for safe and responsible implementation.

3

Bridging the sustainability gap

In their bid to reduce environmental impact while improving financial stability, healthcare leaders are focusing on initiatives to protect both the future of healthcare and the planet.

1

Empowering healthcare professionals

Alleviating pressure on staff

Workloads are impacting staff in several ways

The Kingdom's government has increased healthcare spending to support the growing and aging population. However, higher rates of chronic disease and increasing staff shortages have created greater pressure for healthcare staff.

Over half of healthcare leaders (56%) acknowledge the impact staff shortages have on their workforce, reporting greater incidences of burnout, stress, mental health issues, deterioration in work-life balance and low morale. This finding is significantly lower than in the US where 92% of leaders say the same.

Likewise, while staff attrition is also a concern in the Kingdom, with 43% seeing an increased likelihood of staff leaving for other hospitals, locations or sectors, this result is lower than in the US (80%).

To help healthcare workers navigate current staffing challenges, the government has taken decisive action including the development of new medical schools and communicable disease prevention programs, along with the adoption of digital health technologies to help improve the efficiency of healthcare delivery.[1]

Healthcare leaders report staff impacts from workforce shortages

Virtual care and automation: key to alleviating staffing pressures

Providing support and flexibility for overstretched staff

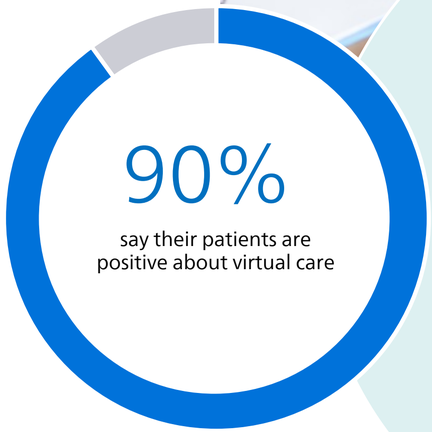
All Saudi Arabian healthcare leaders (100%) recognize the positive impact of virtual care on easing staffing pressures. The majority (90%) – significantly higher than the global average (72%) and the US (59%)– also report a favorable response to virtual care from patients.

The Kingdom's healthcare leaders see many benefits of virtual care, including increased capacity to serve more patients, greater staff support for complex patient management, and improved patient appointment attendance.

One-third of healthcare leaders (34%) also believe investing in virtual care helps to attract and retain staff by enabling flexible work arrangements, allowing healthcare organizations to provide a better work-life balance. Flexibility and remote working appeals to many staff, while also attracting future generations of healthcare professionals who value autonomy in their schedules and working environments.

Preparing for virtual care success

When it comes to focus areas for virtual care delivery, around one-third of leaders cite improving technology accessibility and internet connectivity in healthcare settings (34%), staff technical support (36%), and a more seamless patient experience between in-person and virtual care (38%).



Healthcare leaders report several benefits of virtual care integration

- 37% Increases staff support for complex patient management
- 34% Improves patient appointment attendance
- 34% Creates new career options for healthcare professionals who want remote working
- 33% Adds capacity to serve patients

Serving more patients in and outside hospitals

Healthcare leaders embrace remote patient monitoring across key areas

Remote patient monitoring solutions can help healthcare professionals offer the same level of care outside of conventional clinical settings, for example in the comfort of a patient's home – offering a better experience to the patient while reducing the strain on hospital staff.

The Kingdom's healthcare leaders have implemented remote patient monitoring in all areas, more so than the global average.

Such widespread implementation of remote patient monitoring is testament to their belief in its benefits, particularly for pre-operative care, elderly care and chronic disease management.

As they look to the future, healthcare leaders are shifting their focus to telestroke care, medication adherence and mental healthcare.

Top areas where remote patient monitoring has already been implemented

		%
Pre-operative care	Saudi Arabia	64
	US	29
	Singapore	51
	Australia	45
	Global average	41
Elderly care	Saudi Arabia	64
	US	30
	Singapore	54
	Australia	60
	Global average	42
Chronic disease management	Saudi Arabia	63
	US	45
	Singapore	69
	Australia	53
	Global average	50

Top areas where remote patient monitoring is planned within the next three years

		%
Telestroke care	Saudi Arabia	48
	US	19
	Singapore	52
	Australia	50
	Global average	40
Medication adherence	Saudi Arabia	40
	US	28
	Singapore	34
	Australia	38
	Global average	35
Mental healthcare	Saudi Arabia	40
	US	20
	Singapore	32
	Australia	36
	Global average	33

Automation to boost productivity

Healthcare leaders acknowledge the role of automation in alleviating staff pressures

By 2030 it is predicted that up to 40% of work in the Kingdom's health sector could be automated.[2] Significant progress has already been made, including digitizing health records, automating administrative tasks, and clinical workflow management systems, with the goal of increasing productivity and satisfaction among healthcare workers.

Most of the Kingdom's healthcare leaders (92%) believe that the use of technology to automate repetitive tasks or processes is critical for addressing staff shortages in healthcare. The same proportion say automation will save healthcare professionals time by reducing their day-to-day administrative tasks.

Looking to the future, the biggest opportunities include implementing automation for medication management (44%), clinical documentation/note-taking (40%), and equipment maintenance and monitoring (38%).

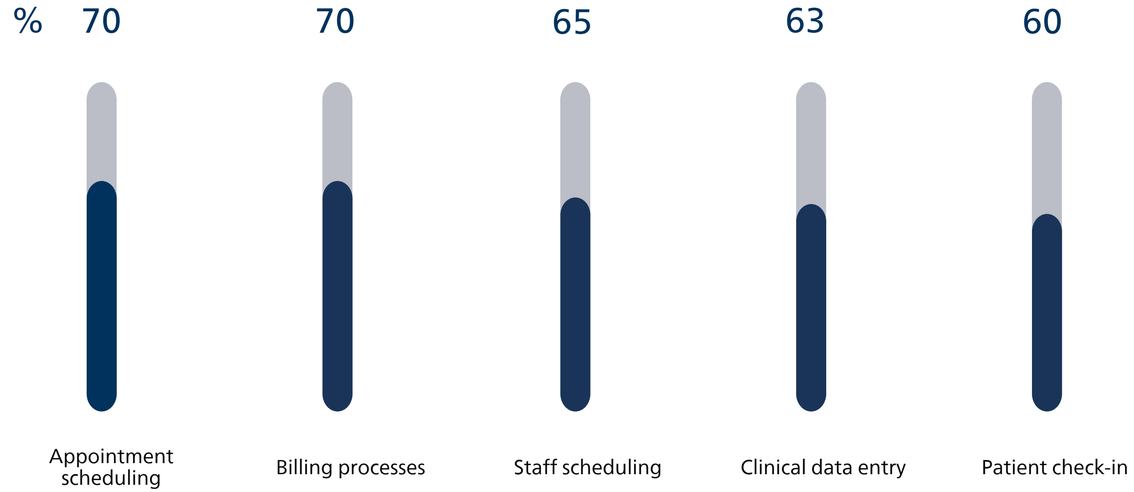
Skepticism stalls implementation

Although nearly all healthcare leaders (93% – compared to 76% of US healthcare leaders) believe that the use of automation will allow healthcare professionals to perform at their highest skill levels, three-quarters (71%) say that healthcare professionals themselves are skeptical about the use of automation in healthcare.

92%

of healthcare leaders regard automation as critical for addressing staff shortages by automating repetitive tasks or processes

Top five areas where automation has already been implemented



2

Bridging the insights gap

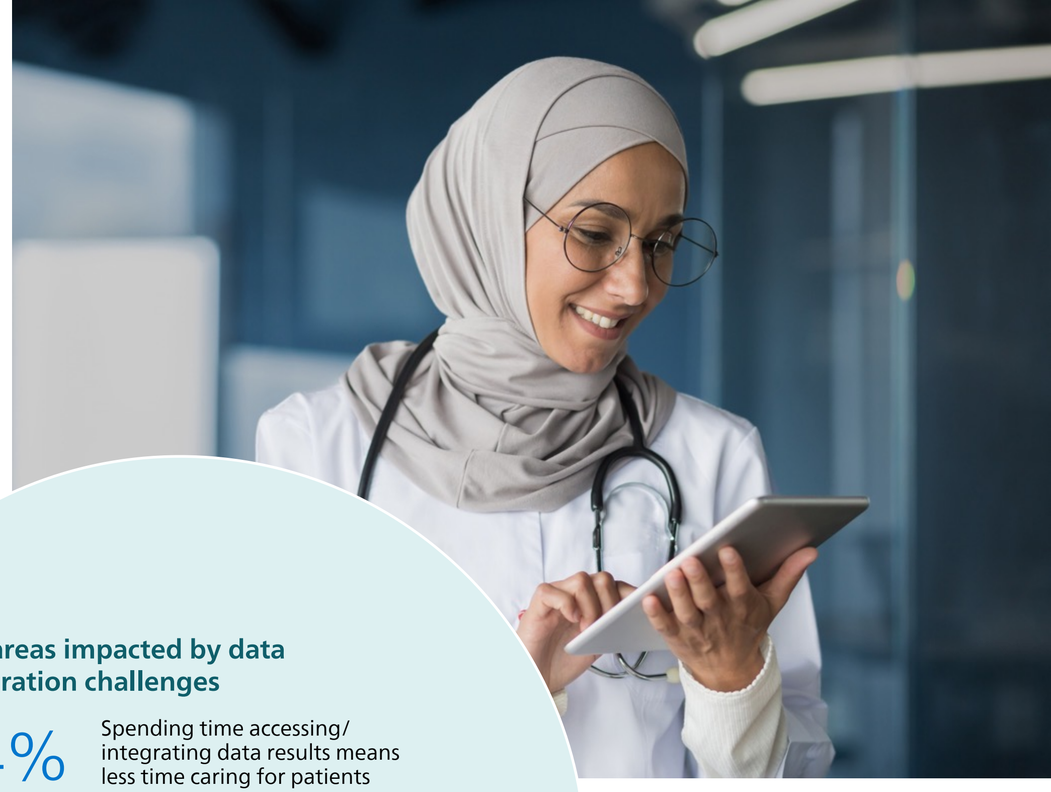
Turning disparate data into actionable insights

Overcoming data integration barriers to improve patient outcomes

While the Kingdom's healthcare leaders appreciate the opportunities offered by automation and virtual care, data integration can be an issue.

Effective patient care relies on accurate and timely access to data, but healthcare professionals often face challenges in accessing disparate data and integrating it into a cohesive patient story.

Around one-third of healthcare leaders say that data inefficiencies and time spent integrating data reduces their time with patients, causes unnecessary repeat tests, increases operational costs, reduces early intervention opportunities, and hinders clinical decision making.



Key areas impacted by data integration challenges

34%	Spending time accessing/ integrating data results means less time caring for patients
33%	Unnecessary repeat tests/scans due to data inefficiencies
33%	Increased operational costs due to inefficiencies
31%	Opportunities for preventive care or early intervention are missed
30%	Making informed clinical decisions is hindered

Improving patient care with data

Realizing the potential of data-driven insights

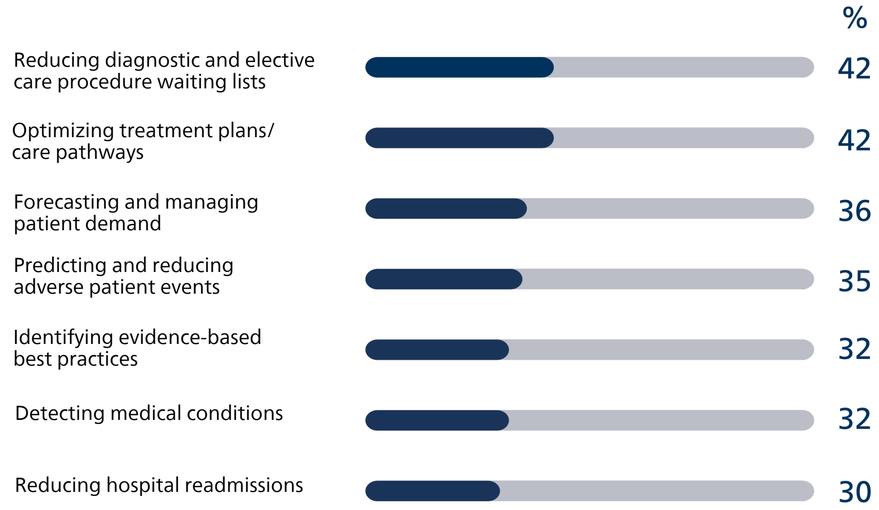
Healthcare leaders in the Kingdom see many opportunities to improve patient care by bringing data from different sources together in a meaningful way.

They believe data-driven insights could help reduce diagnostic and elective procedure waiting times and optimize treatment plans or pathways. They also see them as vital for patient demand forecasting, predicting adverse events, identifying evidence-based best practices, detecting medical conditions and reducing hospital readmissions – all essential for improving patient care.

To realize these possibilities, healthcare leaders acknowledge they need to get the foundations right first.

This involves changing how healthcare data is handled. To support timely, high-quality care for everyone, leaders believe that improved data security and privacy (32%), increased open access to anonymized data (32%) and patient education on informed consent (31%) are important. They also look for greater interoperability between different platforms (30%) and more transparency about how data will be used (30%) to harness the full potential of these insights.

Healthcare leaders believe data-driven insights can improve their organizations' ability to provide timely, high-quality care by:



Continued implementation of AI

Saudi Arabia is leading the way with AI implementation

Last year's Future Health Index showed the Kingdom's healthcare leaders have been embracing AI. More than three-quarters (77%) were already investing in AI, one of the highest results globally.

Leaders are supported with government funding and policies such as the Health Sector Transformation Program.[3] A key focus area is the use of AI is to both to empower healthcare providers to make better clinical decisions and to increase hospitals' access to patients' healthcare records.

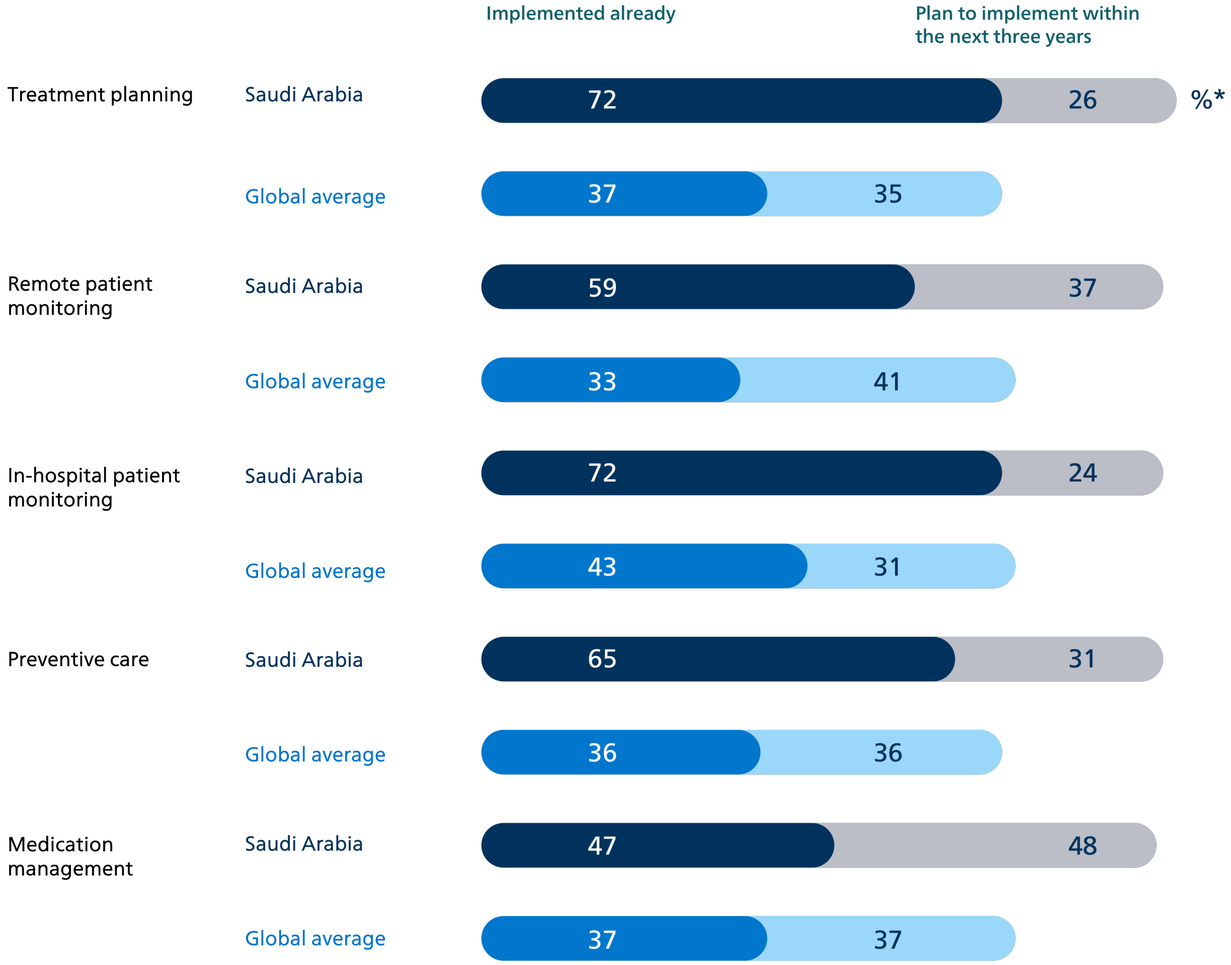
The results of the program are evident. Where once AI was used more in operational settings, today we see widespread use in clinical settings across the Kingdom. Healthcare organizations are most likely to have already invested in AI for treatment planning and in-hospital patient monitoring with plans to implement AI in medication management and remote patient monitoring ranking high for the next three years.

Overcoming data bias for responsible implementation

The Kingdom's healthcare leaders understand that AI must be implemented responsibly to avoid unintended consequences.

With most (87%) concerned about the impact of data bias widening existing disparities in health outcomes, they believe that making AI more transparent and interpretable (46%) and offering continuous training and education in AI (45%) are key to mitigating such risks.

Current and planned implementation of AI for clinical decision support



Saudi Arabia is ahead of the curve in generative AI adoption

Generative AI has caught the attention of the Kingdom's healthcare leaders in the past year, since its rapid emergence into the public domain. They recognize the benefits that generative AI could bring to care by unlocking new efficiencies and insights from patient data.

Their interest means that healthcare leaders in the Kingdom are currently investing in generative AI at a higher rate than the global average (29%) and the US (20%). Looking 12 months ahead, more leaders in Saudi Arabia are planning to invest in generative AI (49%) compared with the global average (33%) and the US (21%), although this gap narrows within the next three years (11% in Saudi Arabia, 23% global average).

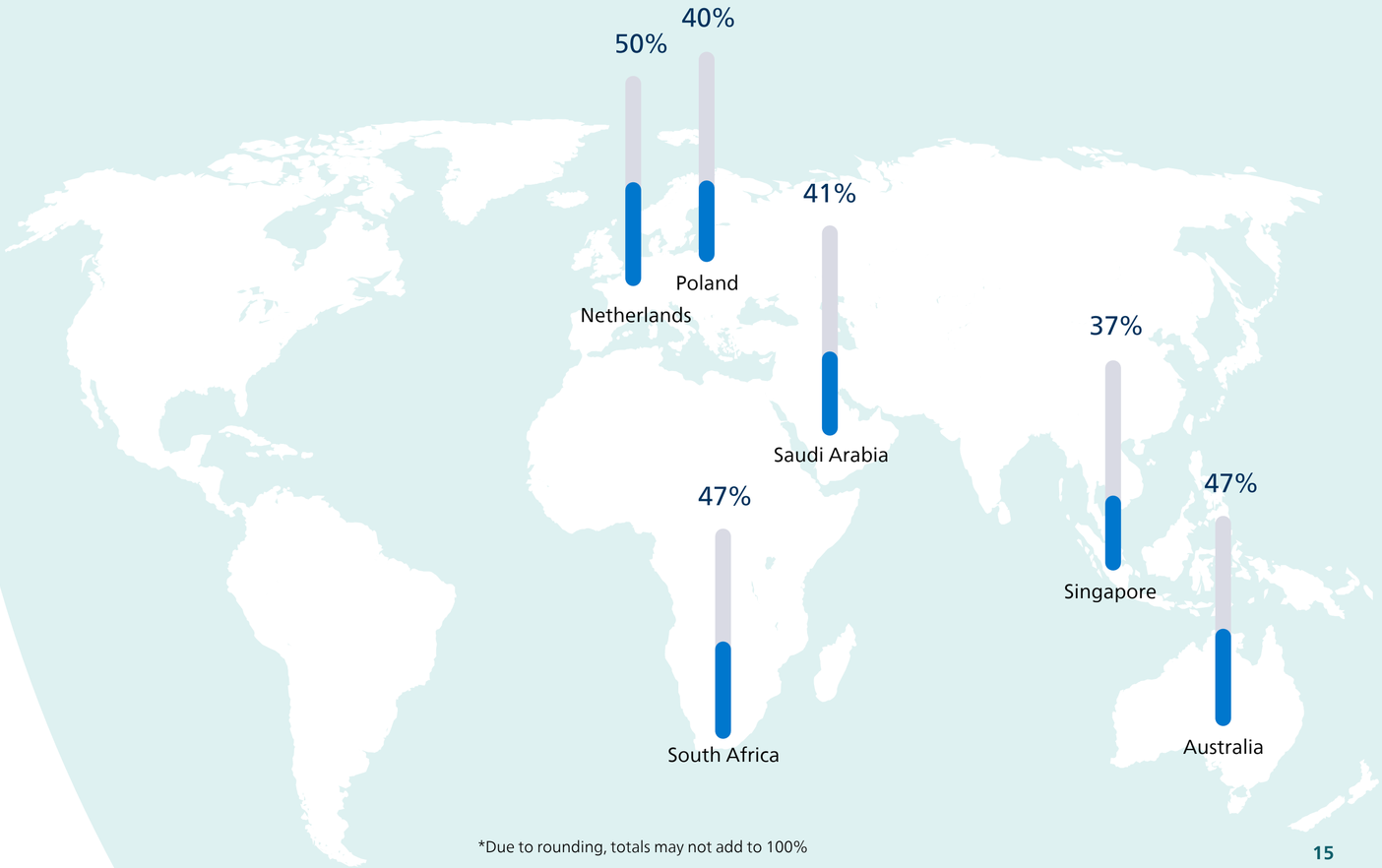
Investment in generative AI by healthcare organizations in Saudi Arabia*

100% say their organizations are currently or planning to invest in generative AI technologies

41% Currently investing

60% Plan to invest within the next three years

Top countries where healthcare leaders are currently investing in generative AI



*Due to rounding, totals may not add to 100%

3

Bridging the sustainability gap

Focusing on environmental sustainability

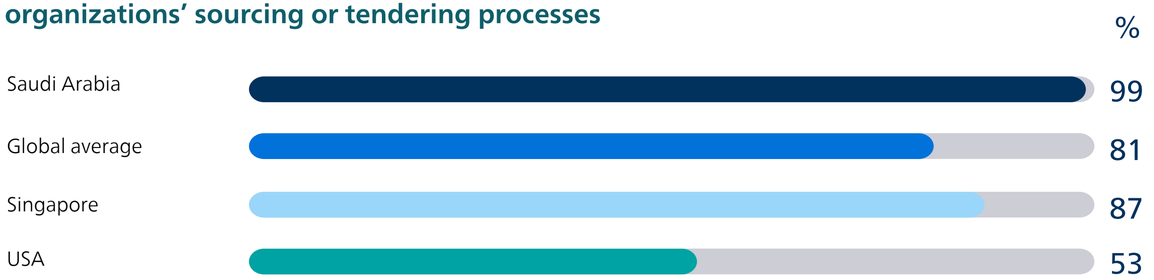
Environmental considerations are key to sourcing and tendering decisions

Healthcare leaders acknowledge that addressing the impact of the sector on the planet is no longer a matter of if – it is a matter of how.

The vast majority believe that reducing CO_2 emissions and the environmental impact of healthcare should be a top priority for governments (96%) and healthcare organizations (94%).

With this sense of urgency in mind and aligned with the Saudi Green Initiative to reach net zero emissions by 2060,[4] almost all (99%) healthcare leaders in Saudi Arabia are focused on making a positive environmental impact, saying that environmental criteria play a role in their sourcing or tendering processes, higher than the global average (81%).

Healthcare leaders say environmental criteria play a role in their organizations' sourcing or tendering processes



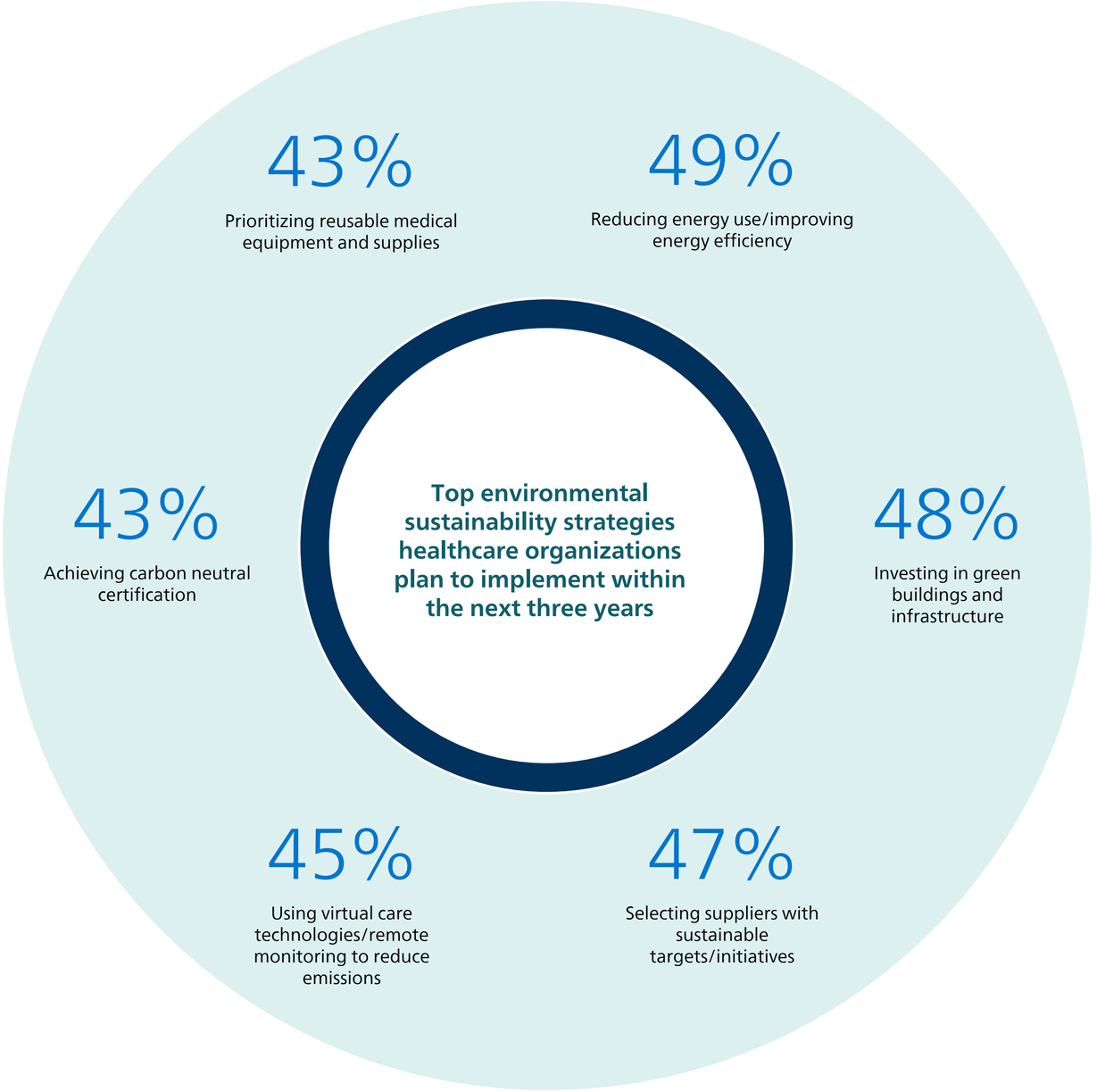
Reducing energy use and emissions

Leading the way with environmental strategies

The Kingdom's healthcare leaders are more likely than the global average to have already implemented most of the sustainability strategies asked about in our survey.

Over half of organizations (54%) are recycling waste wherever possible, according to Saudi Arabian healthcare leaders, and 53% are implementing sustainable procurement including circular equipment, the two highest results. This figure is significantly higher than the global average of 35%, Singapore (42%) and the US (22%). Leaders are also adopting virtual care technologies and remote monitoring to reduce emissions and are committing to carbon neutral certification (both 50%), again both higher than the global average of 31% and the US (9%).

Leaders are also planning for the future. Nearly half say their organizations are likely to reduce energy use within the next three years, with a similar number planning to invest in green buildings and infrastructure. This is higher than the global average (41%) and the US (28%).



Partnership is key for providing high-quality care for all

Healthcare technology companies and educational institutions play a vital role

Healthcare leaders in the Kingdom are looking to partnerships to alleviate staffing pressures, improve patient care and accelerate their transition to more sustainable healthcare.

As a result, they see a role for health technology companies and educational institutions in helping them improve the timeliness and quality of care for the patients and communities their organizations serve. Industry trade organizations also have a role to play, emphasizing the need for collaboration across the sector to drive systemic change.

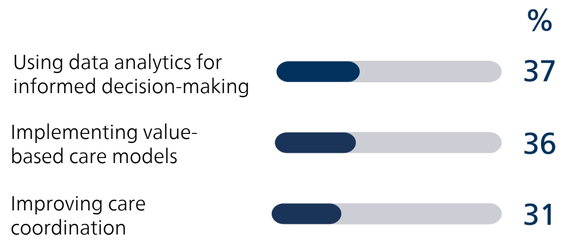
Reflecting many of the themes discussed in chapter 2, healthcare leaders see the strongest need for partnership in using data analytics for informed decision-making.

Around one-third of healthcare leaders say they need support in implementing value-based care models to improve healthcare for the communities in which they serve. Improving care coordination and enhancing technology integration and interoperability were also cited, reflecting a desire for a more structured and innovative form of healthcare.

Long-term collaboration key to moving beyond short-term fixes

In summary, healthcare leaders recognize it will take concerted efforts to move beyond short-term fixes and build the sustainable foundations that are needed to meet the present and future needs of patients – enabling timely, high-quality care for everyone.

Top three drivers for external partnerships



Top 5 organizations healthcare leaders consider having a role to play in improving the timeliness and quality of care for their patients and communities

34%	Educational institutions
34%	Health technology companies
30%	Industry trade organizations
28%	IT or data providers
28%	NGOs

Appendices

Research methodology

2024 quantitative survey methodology

The quantitative study was executed by GemSeek, a global business and consumer research services firm employing a methodology of online (CAWI) surveying.

2,800 healthcare leaders, 200 in each of the 14 countries included (Australia, Brazil, China*, India, Indonesia, Italy, Japan, the Netherlands, Poland, Saudi Arabia, Singapore, South Africa, the United Kingdom, and the United States), participated in a 15-to-20-minute survey from December 2023 to February 2024.

Where relevant, the survey was translated into the local language. 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.

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
Brazil	200	+/- 7.0	Online
China	200	+/- 7.0	Online
India	200	+/- 7.0	Online
Indonesia	200	+/- 7.0	Online
Italy	200	+/- 7.0	Online
Japan	200	+/- 7.0	Online
Netherlands	200	+/- 7.0	Online
Poland	200	+/- 7.0	Online
Saudi Arabia	200	+/- 7.0	Online
Singapore	200	+/- 7.0	Online
South Africa	200	+/- 7.0	Online
United Kingdom	200	+/- 7.0	Online
United States	200	+/- 7.0	Online
Total	**2,800**	**+/- 2.0**	

2024 qualitative interview methodology

The qualitative portion of the Future Health Index 2024 was also conducted by GemSeek. To provide context and additional depth to the quantitative data, the survey results were supplemented with findings from a series of 45-minute, English language interviews with healthcare leaders. These interviews were conducted from February to March 2024. There were eight participants, two from each of the following countries:
Singapore, South Africa, the United Kingdom, 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.

Sources

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10250784
2. https://www.mckinsey.com/industries/healthcare/our-insights/ten-ways-to-accelerate-the-benefits-of-digital-health-in-saudi-arabia
3. https://www.vision2030.gov.sa/en/explore/programs/health-sector-transformation-program
4. https://www.vision2030.gov.sa/en/explore/projects/saudi-green-initiative

Glossary of terms

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.

Automation
The use of technology and software solutions to perform tasks and processes with limited human involvement. It may involve the application of digital tools, machines, and computer systems to streamline and optimize various aspects of healthcare delivery, administration, and management.

Clinical decision support
The provision of information to help inform decisions about patient care.

Data bias
A flaw that occurs when certain elements of a dataset are missing, under-represented or over-represented.

Data-driven insights
Information gathered from the analysis of raw data and used to inform decision-making.

Data integration
Used here to refer to a variety of clinical and/or operational information amassed from numerous sources including but not limited to electronic medical records (EMRs), medical devices, and workflow management tools.

Decarbonization
The process of removing carbon, or material containing carbon, from a substance or object.

Generative AI
Artificial intelligence algorithms that can be used to produce content such as text, images, audio or other data in response to inputted prompts.

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

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 organization
The hospital or healthcare facility for or in which the healthcare leader works.

Healthcare professional
Individuals who are directly involved in providing healthcare services to patients (including doctors, nurses, surgeons, specialists, technologists, technicians, etc.).

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

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.

Social determinants of health
Non-medical factors that influence health outcomes, such as the conditions in which people are born, grow, work and live.

Staff
This refers to all employees within a healthcare organization, including healthcare professionals, IT, financial services, administrative support, facilities, 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.

Timely, high-quality care
For the purposes of this survey, this phrase reflects healthcare being provided to all patients and the communities served by a healthcare organization.

Underserved communities
Includes people who receive fewer health care services and/or encounter barriers to accessing health care services (e.g., economic, geographic, cultural, and/or linguistic barriers).

Virtual care
The use of telecommunication technologies that remotely connects a patient to a healthcare professional, or a healthcare professional to a healthcare professional.

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

The Future Health Index is commissioned by Philips.

To see the full report, visit
www.philips.com/futurehealthindex-2024

The Future Health Index 2024 report explores how healthcare leaders view their hospital's ability to deliver timely, high-quality care to everyone. A quantitative survey was conducted among almost 3,000 healthcare leaders from 14 countries (Australia, Brazil, China, India, Indonesia, Italy, Japan, the Netherlands, Poland, Saudi Arabia, Singapore, South Africa, the United Kingdom and the United States). This was supplemented by eight qualitative interviews of healthcare leaders, two from each of the following countries: Singapore, South Africa, the United Kingdom and the United States. Both the quantitative and qualitative research stages were conducted between December 2023 – March 2024.

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