



 GE HealthCare

Reimagining Better Health 2023

Foreword **iii**

Overview **1**

Listening to the people at the heart of healthcare 2

The need to reimagine healthcare 3

The desire for better health and a more human experience unites us 4

Summary of key findings 5

Together, we can reimagine the future of healthcare 6

Key findings **7**

One common goal 8

Six trends evolving healthcare today 12

Nine barriers hindering progress 17

Appendix **29**

Glossary of terms 30

Methodology 31

Citations 34



What if we could create a world where healthcare has no limits?

At GE HealthCare, we're committed to serving our people, patients, and providers to deliver solutions that can help transform the future of healthcare. We commissioned this study in service of the healthcare industry: to listen to people at the heart of healthcare—patients and clinicians. We wanted to understand their needs and how they envision the future to help inform a path forward as the industry undergoes a seismic shift with emerging digital technologies, new care delivery models, an aging population and a workforce challenged by burnout.

While healthcare has attempted to be more personal and accessible, the study revealed a system that has become disconnected from the very people it serves. The good news is that patients and clinicians share the same vision.

Both desire a future of healthcare that is more human and flexible.

The Reimagining Better Health study provides insights into how we—healthcare industry leaders, government agencies, patient advocacy organizations, health systems, hospitals, clinicians, technology industry leaders and the public—can collectively work together to build that future. It is also a bold reminder of the barriers to overcome and a call to all stakeholders in healthcare to innovate and problem solve, with a focus on the needs of patients and the people who care for them.

Progress can create tension. In a specialized field like healthcare, resolving that tension is complex and requires transparency and collaboration across industries. I invite all of us to consider our role in overcoming the barriers, so all can benefit from a better care experience. Together, we can transform these insights into action to build a bridge to the future state—a more human and flexible healthcare system.

Peter J. Arduini
President & Chief Executive Officer

GE HealthCare



Overview

“

We need healthcare that allows caregivers to spend more time interacting with patients while reducing unnecessary healthcare expenditures for patients.

Healthcare should focus on health rather than treating disease, which drives a more active role in consumer well-being through health.”

Nurse, United Kingdom



Listening to the people at the heart of healthcare

To build the future of healthcare, the people at the center of the care experience—the clinicians and patients who face healthcare challenges every day—must be heard.

What do they value?

What are their expectations?

How do they view the future of healthcare?

Firsthand insights are critical to gaining a deeper understanding of systemic problems

and devising solutions that are sustainable. This is why GE HealthCare commissioned the Reimagining Better Health study.

By amplifying the voices of clinicians and patients, we shine a spotlight on their personal perspectives as a critical and frequently overlooked part of this conversation.

Their insights are essential to reimagining healthcare, and their partnership is the key to the healthcare industry's success.

“

Changes in healthcare are more likely to succeed when healthcare professionals have the opportunity to influence the change, feel prepared for the change and recognize the value of the change, including perceiving the benefit of the change for patients.”

Physician, United Kingdom

Reimagining Better Health study

Clinicians, patients and patient advocates participated in a quantitative survey across eight countries in North and South America, Europe and the Asia-Pacific region.

This cross-sampling considered diversity of economic maturity, geography and representation of a pure or hybrid form of the four basic healthcare models (Beveridge, Bismarck, national health insurance, and out-of-pocket).

This double-blinded survey with random sampling was conducted between August and October 2022 by a third-party market research firm.

The study also included a series of 24 one-hour long qualitative interviews with healthcare experts across geographies, clinical and patient advocacy roles and health system models.

All survey respondents were asked for their opinion based on their personal experiences.

Questions relating to technology solutions addressed their general perceptions and experiences with technology within their facilities and made no reference to any specific solutions or vendors.

Any references in this study to technology are inclusive of the entire spectrum of medical technology, such as medical devices, software solutions, electronic patient records and other digital workflow solutions.

Data that references 'clinicians' and 'patients' refers to these respondent groups. All information presented is derived from the Reimagining Better Health study, which includes qualitative interviews and the quantitative survey data, unless otherwise cited. A full methodology and details can be found on page 31.



2000

hospital-based clinicians with direct patient-care responsibilities, including physicians, nurses, technologists, technicians and therapists



5500

patients who were hospitalized and patient advocates who cared for hospitalized patients between February 2021 and September 2022



24

qualitative interviews with clinicians, patients, patient advocates, healthcare researchers and policy experts

The need to reimagine healthcare

Only 60% of clinicians and patients have high trust and confidence in their current healthcare system to provide the care and treatment that patients need.

The current state of healthcare is broken.

The World Health Organization forecasts a major global labor crisis for healthcare. By 2030, there will be a 13% shortfall of healthcare workers that are required to meet patient needs.¹ Even more disconcerting is that 1.4 billion of the world's population will be over 60 years old, putting even more strain on an already ailing system.²

Healthcare systems around the world face extreme pressure on multiple fronts. Many clinicians are burning out and actively considering leaving the healthcare industry. Patients are struggling to feel heard and get the care they need, and soaring costs are pushing the system to its breaking point. Each of these factors has eroded trust and confidence in the healthcare system.

These crises point to an unsustainable system with systemic problems and no easy solution. This requires deeper reflection and insights into fundamental questions:

How can clinicians be better supported so that they feel more fulfilled and proud of their profession?

How can care be delivered when and where patients need it?

How can data and technology revolutionize healthcare systems and improve care for all?

As the world continues to rebound from the COVID-19 pandemic, we have an opportunity to take a closer look at the challenges ahead and create a more sustainable healthcare system.

Global labor shortage and increasing healthcare demands

10 million
shortfall in global healthcare workers by 2030.¹

1-in-6
will be 60+ years old by 2030—
an increase of 400 million
from 2020.²

Clinicians are burning out

42%
are actively considering
leaving the healthcare
industry.

44%
do not feel fully
appreciated by patients
and patients' families

39%
do not feel a sense of
pride in their profession.

Patients lack trust and confidence

44%
lack confidence they
can access care in a
timely manner.

42%
have little trust in their
healthcare system providing
affordable care.

37%
have little confidence
they will be treated
when needed.

In a world where so much divides us, the desire for better health and a more human experience unites us

There is hope for the future of healthcare.

The Reimagining Better Health study revealed that clinicians and patients share many of the same fundamental values and expectations, regardless of country, healthcare model, clinical role, experience or demographics.

Ultimately, the desire for a more human and flexible healthcare experience is consistent, and both clinicians and patients put human needs at the heart of healthcare.

Healthcare is heading in the right direction.

The healthcare industry is already pushing for change and reform. The survey confirmed that clinicians and patients are in agreement with six trends that are shaping the future of healthcare.

Barriers are blocking the future.

Poor job satisfaction, the lack of interoperability, data security and the rapid pace of change are some of the concerns clinicians share about the future of healthcare.

While these barriers are consistent across all the surveyed countries, the degree to which a country experiences a barrier may vary.

The Reimagining Better Health study provides insights into how we can collectively work together to find a path forward.



1 common goal

is a healthcare experience that is more human and flexible, focusing on the needs of both clinicians and patients.



6 key trends

are already evolving and leading healthcare in the right direction.



9 barriers

stand in the way of reaching the common goal.

Summary of key findings

Clinicians and patients share a common goal for the future of healthcare.

The evolution of healthcare is already underway, with clinicians and patients agreeing with key trends shaping the future.

Analysis of the survey data identified barriers that must be overcome to reach a more human and flexible healthcare experience.

The infographic is divided into three main sections: a purple section for the common goal, a green section for trends, and an orange section for barriers. Each section features a large number and an icon representing the category.



1

common goal

A healthcare experience that is more human and flexible, focusing on the needs of both clinicians and patients.



6

trends

- Care team well-being
- Patient and care team partnership
- Smart and connected technology
- Harnessing big data
- Distributed care
- Predictive, preventative and precision medicine



9

barriers

- Poor job satisfaction
- Clinicians do not operate at the top of their licenses
- Clinicians want more communication, collaboration and technology skills
- Technology is not easy and intuitive to use
- Lack of access to data at the right time
- Low trust in Artificial Intelligence data for medical use
- Patient hesitation to share personal health data
- Low patient comfort in out-of-clinic facilities and staff
- Low clinician trust in self-administered test results

Note: While these barriers are consistent across all the countries surveyed, the degree to which a country experiences a barrier may vary.

Together, we can reimagine the future of healthcare

Clinicians and patients are calling for a more human and compassionate system.

Consensus is a rallying force and a significant step toward a more human and flexible future of healthcare.

To make meaningful progress, all stakeholders must understand the critical barriers hindering progress, so that we may work together to solve the problems disrupting our systems.

This report strives to amplify the perspectives and needs of the people at the center of healthcare. It is also designed to encourage discussions, partnerships, and actions with stakeholders across the industry. This includes, patients, the broad spectrum of healthcare workers, healthcare leaders, elected government officials, technology industry leaders and the public.

This is only the beginning, and GE HealthCare is committed to advancing this collective change.

Together, we can create a world where healthcare has no limits.

#ReimaginingBetterHealth

Share your perspective by using **#ReimaginingBetterHealth** to join the conversation and help pave the way to a more human and flexible healthcare system.



Key findings

“

In the future, I would like to have meaningful relationships with patients and families.”

Physician, USA





1 common goal

“

Getting genuine care and treatment. Not being 'just a case' that they need to clear as quickly as possible because everyone is short-staffed and over-worked. I have the utmost empathy for what the staff is going through as my mother was a nurse, but that empathy needs to go both ways.”

Patient, USA



Clinicians and patients are aligned in what they want:

A healthcare experience that is more human and flexible, focusing on the needs of both clinicians and patients



What is human and flexible?

Achieving a more human and flexible healthcare experience requires fundamental changes in the way healthcare operates. The system must evolve to be smarter, easier and more collaborative.

The good news is that this evolution is already underway, and both clinicians and patients agree with the direction.

From siloed to collaborative care

Currently, a highly fragmented system is increasing the challenges of delivering quality patient care.

To eliminate inefficiencies and deliver a positive and effective care experience, clinicians and other skilled professionals must be empowered to work together in more collaborative ways.

From centralized to flexible access

Changing needs and rising expectations are putting pressure on hospitals and making it difficult for patients to get the care they need.

Patients desire more flexible access to care when, where and how they need it.

From manual to smart workflows

Inefficient workflows can routinely hinder the delivery of effective care. Care teams must be able to use interoperable, smart devices and systems to make data-driven patient care decisions.

From general to personalized care

The current system is frequently driven by a one-size-fits-all approach to care. Healthcare must be more customized to the individual to focus on disease prevention, detection and more holistic and effective treatment options.

Clinicians' definition of the future

What do clinicians want for the future of healthcare?

99% completely or somewhat agree with the following definition:

“Patients and care teams are more intimately linked together in a partnership via technology solutions.

Patient care and medical treatment will take place both within and outside of traditional clinical environments, such as in patients' homes.

The healthcare ecosystem is expanded to include a more varied range of healthcare workers, some of whom may not be present today.”

99%

of clinicians completely or somewhat agreed with this definition of the future.



Patients' priorities for the future

Greater flexibility in how, where and when healthcare services are delivered

Patients want more convenient interactions between patients and clinicians, as well as more accessible ancillary services, such as laboratory and imaging services.

Faster detection, evaluation and treatment

Patients want technology solutions that enable faster detection of potential health issues, facilitating more efficient evaluation and treatment.

Secure and accessible data

Patients want their personal health data to be secure and easily accessible, so that clinicians can access their health records as needed, regardless of the hospital or healthcare system.



Top priorities

Flexibility

Faster detection

Secure and accessible data



6 trends evolving healthcare today

“

When we first entered in healthcare, everything looked so different. It's constantly evolving and changing as it should. I look forward to seeing what comes down the pike.”

Crisis Counselor and Certified Patient Experience Professional, USA

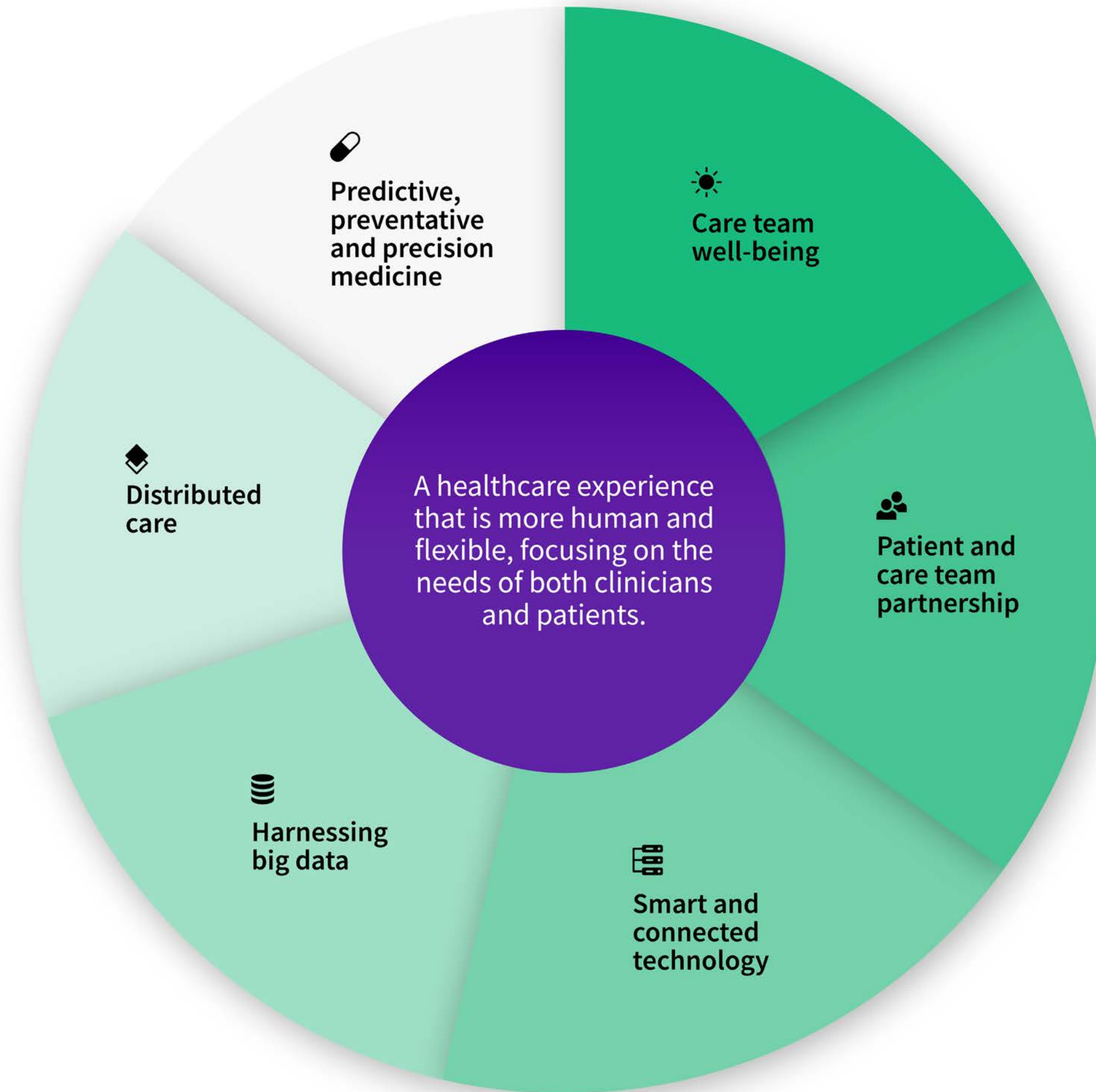


6 trends evolving healthcare in the right direction

The healthcare industry is already calling for change and reform, such as better working conditions, distributed care options and precision medicine.

There are six trends that are currently steering the system toward a more human and flexible healthcare experience.

And clinicians and patients agree with this direction.





Trend 1: Care team well-being

Current state

Clinicians cite poor work–life balance, inadequate compensation and pressure from health crises, such as the COVID-19 pandemic, epidemics, natural disasters and armed conflicts, as the top reasons they are leaving the industry.

Only **48%** of clinicians feel they have enough time and resources to care for both patients and their families. This number is especially low in suburban areas (**34%**).

Future state

The well-being of all care team members will be a priority.

Workforce planning will ensure clinicians have the resources, training, compensation and working environment they need to thrive and feel a greater sense of pride in their profession.

64%

of clinicians say fair working conditions for care teams are very important for a future system of care.



Fundamentally, there needs to be a culture shift to see the healthcare workforce as an asset. Today, the workforce is seen as a resource—and I think for a long time an expendable resource.”

Professor of Healthcare and Workforce Modeling, United Kingdom

Trend and Barrier numbering does not indicate an order of importance or impact. Themes are not presented in any particular order.



What's getting in the way?

- Barrier 1: Poor job satisfaction
- Barrier 2: Clinicians do not operate at the top of their licenses



Trend 2: Patient and care team partnership

Current state

Patients want more control over their health journey but struggle to find the care they need in a siloed system of multiple clinicians, departments and systems that do not always communicate or seamlessly integrate.

A total of **99%** of clinicians want patients and care teams linked together in a partnership via technology solutions.

42% of clinicians do not feel care team members collaborate well to efficiently deliver patient care.

Future state

Patients will play an active role in an integrated care team experience in which clinicians work together across disciplines to address the entirety of a patient's needs.

Improved care team collaboration

has the greatest potential to increase clinician trust and confidence in their health systems.



There must be proper integration between all the departments responsible for patient care.”

Nurse Practitioner, India



What's getting in the way?

- Barrier 3: Clinicians want more communication, collaboration and technology skills
- Barrier 5: Lack of access to data at the right time



Trend 3: Smart and connected technology

Current state

Patient data is still being collected across multiple devices and software systems that do not seamlessly integrate. Clinicians waste time and energy collecting and analyzing data separately, leading to burnout and inefficient workflows.

Future state

Healthcare will evolve into a connected ecosystem of smart technology, where medical technology works across organizational boundaries, regardless of manufacturer or operating system.

This will enable clinicians to access and analyze patient data in real time.

Artificial Intelligence will help clinicians enhance their workflows with smarter and faster clinical decision-making.

60%

of clinicians think it is very important to use advanced technology and make basic clinician tasks more efficient.



I would like to make more active use of automated systems to address our workforce crisis, which is increasingly aging, and there is a shortage of manpower.”

Advanced Practice Registered Nurse, South Korea



What's getting in the way?

- Barrier 3: Clinicians want more communication, collaboration and technology skills
- Barrier 4: Technology is not easy or intuitive to use
- Barrier 6: Low trust in Artificial Intelligence data for medical use



Trend 4: Harnessing big data

Current state

A total of 97% of all healthcare data in hospitals goes unused.³ The sheer volume of data is overwhelming, and clinicians do not have the time or skill sets to process or unlock its potential.

Future state

Big data will be used to its full potential and play a key role in improving operational and clinician workflow efficiency.

This transition will rethink technology infrastructure, round out care teams with data specialists and leverage smart and connected workflows to share data-driven learnings across different health systems.

64%

of clinicians agree that collaboration between care teams and data specialists is needed to improve population health outcomes.



With AI or machine learning, you begin to integrate data in new ways to look for early warning markers of certain diseases, which you frequently can't see today because you just wouldn't have the volume of data to interrogate it.”

Physician, United Kingdom



What's getting in the way?

- Barrier 5: Lack of access to data at the right time
- Barrier 6: Low trust in Artificial Intelligence data for medical use
- Barrier 7: Patient hesitation to share personal health data



Trend 5: Distributed care

Current state

In many ways, COVID-19 significantly changed the way patients access care. By decentralizing care, the industry was able to relieve pressure from hospitals and bring care to the patient. This new paradigm has changed healthcare expectations. For example, telehealth use in the USA is **38 times higher** than before the pandemic.⁴

In addition, **54%** of patients who were hospitalized for COVID-19 are now comfortable with mobile clinics, while only **39%** of non-COVID-19 patients feel comfortable with this option. **One out of three** patients say access to technology solutions that reduce the frequency of hospital visits and enable home-based care is a priority.

Future state

Traditional healthcare facilities will focus on inpatients and specialized care for the elderly and acutely ill.

Other patients will depend on a decentralized network of care, including mobile clinics, telehealth, and in-home care. Instead of visits to care centers, patients will conduct basic self-monitoring, treatment and diagnostic testing in their homes.

54%

of clinicians agree that remote care is more flexible than in-person consultations.



Stronger monitoring of healthcare devices in homes and digital transformation are what the healthcare industry needs most today, promising fair and affordable health services and a more efficient way of living.”

Nurse, Germany



What's getting in the way?

- Barrier 2: Clinicians do not operate at the top of their licenses
- Barrier 4: Technology is not easy or intuitive to use
- Barrier 5: Lack of access to data at the right time
- Barrier 8: Low patient comfort in out-of-clinic facilities and staff
- Barrier 9: Low clinician trust in self-administered test results



Trend 6: Predictive, preventative and precision medicine

Current state

The rise of big data analytics and the growing popularity of genomic research point to a new frontier of healthcare that emphasizes wellness and preventive care over treatments and cures. **54%** of clinicians say healthcare that is focused on wellness is very important for the future. For patients, access to technology

solutions that allow for earlier and faster detection, evaluation and treatment of their health conditions is a **top priority** for the future of healthcare.

Future state

Clinicians will focus on wellness and provide more personalized care plans that enable rapid diagnosis and precision medicine to treat illness when it occurs.

Global health inequity will be addressed by identifying at-risk communities and providing preventive care to larger populations.

60%

of clinicians say healthcare that is personalized to the patient is very important for the future.



The current healthcare system places too much emphasis on the role of pharmaceuticals. Prevention of disease in patients should receive more attention.”

Physician, New Zealand



What's getting in the way?

- Barrier 4: Technology is not easy or intuitive to use
- Barrier 5: Lack of access to data at the right time
- Barrier 6: Low trust in Artificial Intelligence for medical use
- Barrier 7: Patient hesitation to share personal health data



9 barriers hindering progress

“

In all the hospitals that I have worked, I have seen doctors, nurses and physiotherapists work mostly independently and not in an integrated manner.”

Nurse practitioner, India



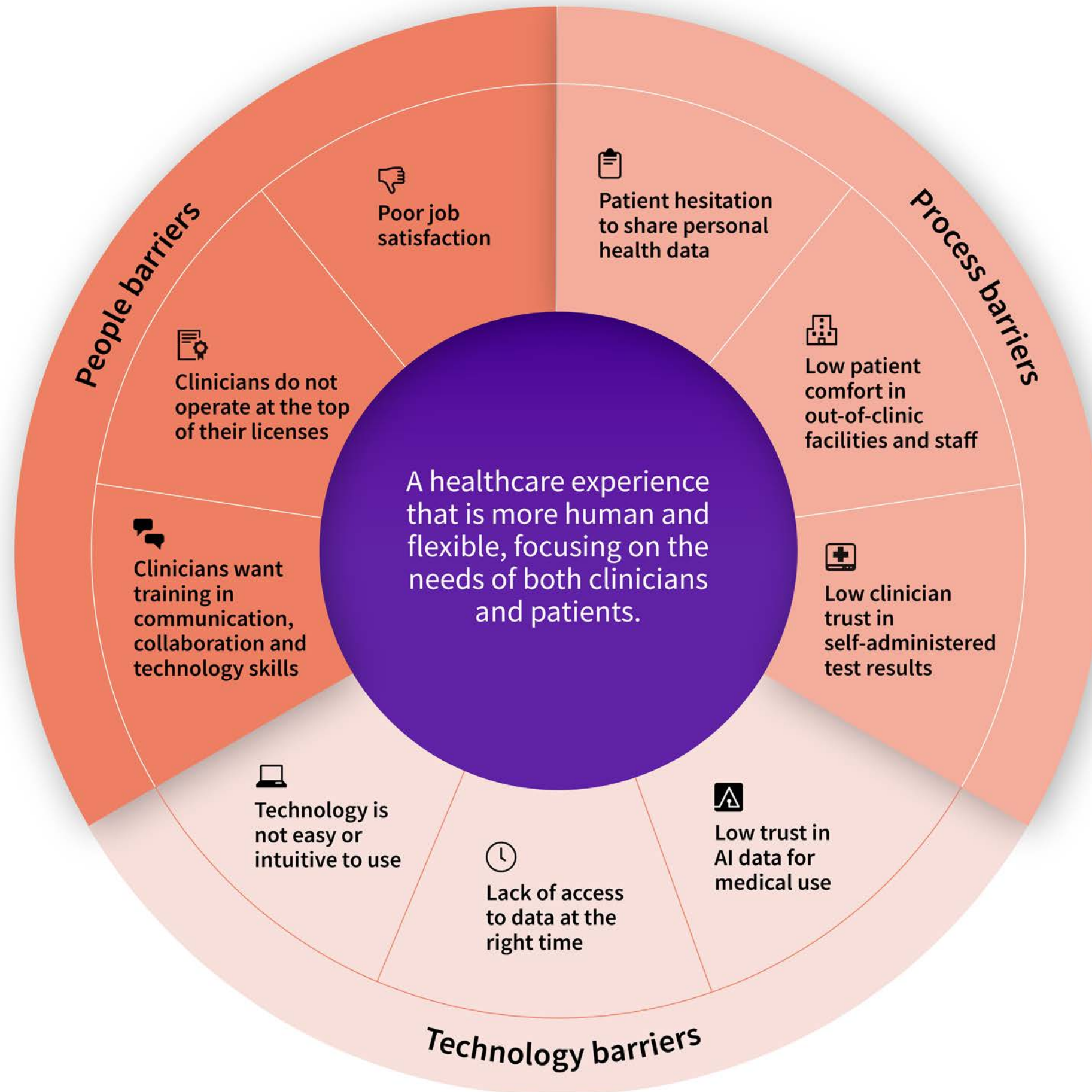
9 barriers the industry needs to overcome

While the healthcare industry has recognized the need for a new direction, clinicians and patients share concerns and problems with the current system. Analysis of the survey responses identified specific barriers that must be overcome.

For the healthcare system to work effectively and efficiently, people, processes and technology must work in harmony.

When any of these core pillars face barriers, the greater ecosystem begins to break down.

While these barriers are consistent across all the surveyed countries, the degree to which a country experiences a barrier may vary.



People barriers

Many clinicians are leaving the industry citing poor work-life balance, inadequate compensation and pressure due to health crises. At the same time, patients feel unheard and struggle to find the care they need in a highly fragmented and bureaucratic healthcare system.

How can the clinician and patient experience be improved while ensuring they feel valued, appreciated and understood?

42% of clinicians
are actively considering leaving the healthcare industry.

52% of clinicians
do not feel they have enough time and resources to care for both patients and patients' families.

43% of patients
do not feel heard by clinicians.

42% of patients
say clinicians empathize with their personal situation and how it affects their treatment.

Technology barriers

Clinicians find some technology not easy to use and are frequently spending a significant portion of their time looking for patient data. A lack of seamless data transfer between systems, data overload and potential data bias can present a burden to clinicians.

How can technology continue to evolve to remove data overload and data bias and streamline clinician workflows to remove these burdens?

40% of clinicians
have yet to be convinced that medical technology enhances their clinical workflow and promotes efficiency.

47% of clinicians
do not find that the medical technology they use is easy and intuitive.

55% of clinicians
feel they receive adequate training (initially and ongoing) to use available medical technology to its full potential.

55% of clinicians
state that Artificial Intelligence technology [in general] is not yet ready for medical use.

Process barriers

Clinicians and patients want more flexibility, but many are not ready to fully embrace a model of distributed care. Many patients lack trust that their personal health data is secure, and both patients and clinicians share low comfort in out-of-clinic care and self-testing.

How can confidence in distributed care be built?

33% of patients
are hesitant to share personal health data.

62% of patients
are not very comfortable with at-home or out-of-clinic testing.

39% of patients
feel their health data is not secure.

50% of clinicians
are not very comfortable with delivering clinical care outside the traditional clinical environment.

Barrier 1: Poor job satisfaction

Clinicians are overworked and burning out

Poor work-life balance was shared as the number one reason why clinicians are leaving their jobs, followed by inadequate compensation and pressure from health crises, such as the COVID-19 pandemic, epidemics, natural disasters and armed conflicts.

On average, 47% of clinicians convey that they do not feel fully supported by healthcare leaders and administrators. However, there are variations across countries, such as 64% in South Korea, 38% in Germany and 25% in China.

A total of 59% of clinicians believe having more time to interact with patients is very important, but 52% of clinicians do not feel they have enough time and resources to care for both patients and patients' families.

When asked what is getting in the way of delivering quality care, clinicians named "ineffective workforce planning" and a "lack of technology skills in healthcare teams" as key barriers.

Poor work-life balance

is the **number one** reason why clinicians are leaving their jobs.

52%

of clinicians do not feel they have enough time and resources to care for both patients and patients' families.

“

The next generation doesn't want to work the 60 hours I did when I was at the bedside of patients or when I was a director.”

Advanced Practice Registered Nurse, USA

Trend and Barrier numbering does not indicate an order of importance or impact. Themes are not presented in any particular order.



How can workforce burnout be addressed?

Administrative work consumes **one-sixth** of U.S. physicians' working hours,⁵ pulling them away from their passion and purpose—delivering care and spending time with patients. Clinicians want more time for patient care.

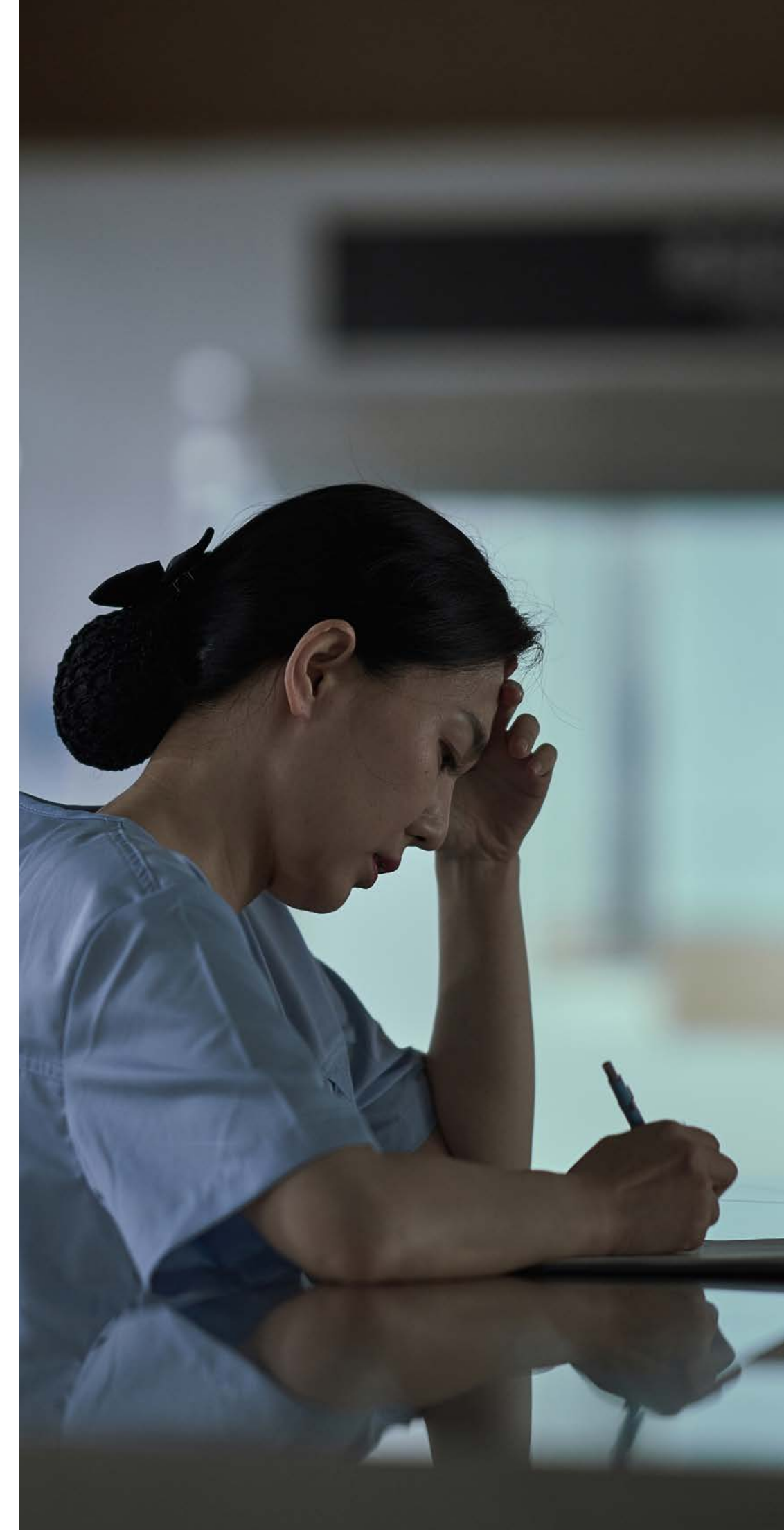
Clinicians are looking to improved workforce planning as a way to reduce burnout. As the healthcare industry grapples with burnout challenges, solutions such as redefined care team roles and responsibilities, improved training on workflow technologies and deployment of enterprise-wide software to better allocate resources should be considered.

“We need to eliminate the paperwork required by physicians or make more staff available to do work that doesn't require physician involvement.”

Physician, USA



This is a barrier to
Trend 1: Care team well-being



Barrier 2: Clinicians do not operate at the top of their licenses

Clinicians have untapped skills that could make a difference

On average, 44% of clinicians say they cannot work to the full extent of their training and/or education in their organization. 52% of clinicians working in smaller hospitals (<250 beds) say that they cannot work to the full extent of their training and/or education in their organizations.

In South Korea, the USA and United Kingdom, the number is even higher, with up to 61% of clinicians saying they could do more, which prevents many from helping patients in need.

Empowering clinicians to work at the top of their licenses ultimately relieves pressure on the system and helps them feel more fulfilled in their jobs. Patients have more options, doctors can focus on more serious cases and other clinicians can realize their full potential.

44%

of clinicians say they cannot work to the full extent of their training and/or education in their organizations.

54%

of clinicians state that some patient care responsibilities could be reallocated from clinicians to other healthcare workers.

“I’d like to see better use of all clinicians to the fullest extent of their training, abilities and licensure.”

Nurse Practitioner, USA



How can clinicians be empowered to work to the full extent of their licenses?

For a distributed model of care to succeed, a bigger pool of resources is needed.

Over half of clinicians (54%) state that some patient care responsibilities could be reallocated from clinicians to other healthcare workers.

Rethinking workforce planning and redefining roles could be a way to allow clinicians to operate at the top of their license—unlocking more resources for patient care.

“We’re going to have to deliver things differently because there aren’t enough people going into these professions... there’s not going to be enough doctors, there’s not going to be enough nurses.”

Nurse, United Kingdom



This is a barrier to
Trend 1: Care team well-being
Trend 5: Distributed care



Barrier 3: Clinicians want more communication, collaboration and technology skills

Clinicians want new skills to stay ahead of the curve

Clinicians share that they want more training within communication, collaboration and technology.

The pace of technological innovation is speeding up, and clinicians need to constantly climb the learning curve. A total of 45% of clinicians feel they do not receive adequate training (initially and ongoing) to use available medical technology to its full potential.

Moreover, patients expect more communication from care teams. Currently, only 57% of patients feel heard by clinicians, and only 59% believe care teams communicate in a clear and timely manner.

45%

of clinicians say they do not receive adequate training on how to use available medical technology to its full potential.

59%

of patients believe care teams communicate in a clear and timely manner.

“

Nurses are trained separately. Physicians are trained separately. Then they're thrown in a high-risk environment and are expected to perform as a high-functioning team.”

Advanced Practice Registered Nurse, USA



How do clinicians fit training into their busy schedules?

While clinicians want more education and training, they seldom have the time.

Clinicians have **identified the three critical skills** they want to be educated on:

1. Technology skills
2. Interpersonal and collaboration skills
3. Virtual patient care

There is an opportunity for clinical education programs to design course work on cross-functional collaboration along with continued efforts to ensure technology literacy is adequate for all clinicians.



This is a barrier to
Trend 2: Patient and care team partnership
Trend 3: Smart and connected technology

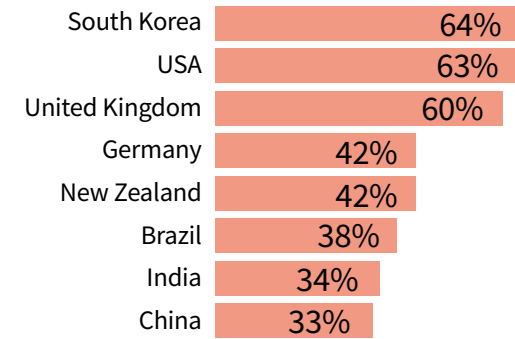


Barrier 4: Technology is not easy and intuitive to use

Innovations bring solutions, as well as unique challenges

On average, only 60% of clinicians say medical technology enhances their confidence, and only 58% trust medical technology to provide reliable data-driven insights for patient diagnosis and/or intervention.

Perception of technology not being easy and intuitive varies across countries:



Innovations in medical technology are opening up new possibilities in patient care. However, many clinicians are concerned about how difficult it can be to use and how technology solutions in general have the potential to complicate workflows rather than simplify them.

A lack of interoperability across technologies can result in clinicians needing to replicate work. In fact, 49% of clinicians do not experience seamless integration of medical technologies in their facilities.

New technology can come with a big learning curve, and when asked about their experiences with the technology they use in their hospitals, only 55% of clinicians feel they receive adequate training (initially and ongoing) to use it to its full potential.

47%

of clinicians do not find that the medical technology they use is easy and intuitive.

49%

of clinicians do not experience seamless integration of medical technologies in their facilities.

“Medical technology, in general, should be improved to increase the confidence of our clinicians and serve better healthcare services to our patients.”

Nurse Practitioner, Brazil



How can the next generation of innovation ease the workflow burden?

When clinicians struggle to use the technology available to them, it ultimately slows their workflow.

Innovation is iterative and with the vast number of manufacturers, devices and systems within any hospital system, the next generation will need to focus on easing this clinician burden with more intuitive design and greater device, system and data interoperability.

“When creating solutions, it is key to think both about the customer and the consumer or patient. Ask customers and consumers what they want, and build that into the solution.”

Health Policy Professional, USA



This is a barrier to
Trend 3: Smart and connected technology
Trend 5: Distributed care
Trend 6: Predictive, preventative and precision medicine



Barrier 5: Lack of access to data at the right time

Lack of data interoperability is slowing down treatment

Clinicians and patients want relevant patient health data to be available across systems and platforms. But overall, 41% of clinicians are not convinced they have timely access to reliable electronic patient records.

This number is even higher in South Korea (52%), the USA (48%) and New Zealand (46%).

For some countries, a constraining factor adding to the lack of access to data at the right time is inadequate access to electricity and equipment—which hinders the

use of electronic patient records and can exacerbate disparities in access to data.

Furthermore, 49% of clinicians say that in general, medical technologies at their facilities do not seamlessly integrate with each other, adding to the burden of inputting and accessing data manually.

Patients share similar concerns, with 35% expressing that the clinicians treating them do not have access to their relevant health data.

49%

of clinicians say medical technologies at their facilities do not seamlessly integrate with each other.

35%

of patients share concerns the clinicians treating them do not have access to their relevant health data.

“

[I would like to see] integration of various EMR platforms in the geographic area to allow for easier access when a patient travels to another facility for a procedure or second opinion.”

Nurse, Germany



How can massive amounts of data be harnessed?

While the healthcare industry has collected a significant quantity of data, it is consistently underutilized. Lack of data interoperability is a big headache for clinicians and hospitals, disrupting workflows and slowing down treatment. It is also impeding artificial intelligence from unleashing public health insights, holistic patient data and faster decision-making.

Leveraging data interoperability and artificial intelligence together may have the potential to deliver a more user-friendly solution.

“I would like to see a growing adoption of technologically innovative devices in ensuring timely care of patients. The medical field has been a little slow in this department. The time it takes to get patient records must be faster than the current system allows for.”

Physician, USA

“We need to build a more cooperative healthcare infrastructure and follow updated interoperability guidelines.”

Physician, Germany



This is a barrier to
Trend 2: Patient and care team partnership
Trend 4: Harnessing big data
Trend 5: Distributed care
Trend 6: Predictive, preventative and precision medicine



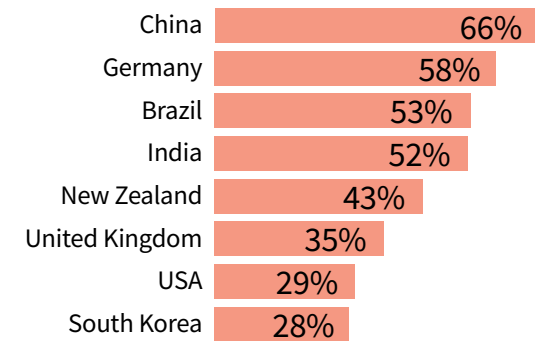
Barrier 6: Low trust in artificial intelligence data for medical use

Lack of trust is slowing down the AI revolution

Artificial intelligence (AI) is no longer just a promise of the future. In fact, 61% of clinicians believe that AI can support clinical decision-making.

However, 55% of clinicians state that AI technology is not yet ready for medical use, and 58% do not trust AI data. Clinicians with 16+ years of experience are even more skeptical, with 67% lacking trust in AI.

Percentage of clinicians who state that AI is ready for medical use:



58%

of clinicians do not believe AI data can be trusted.

44%

of clinicians believe AI technology is subject to built-in biases.

“

You have to rethink all your processes [when] you have these [AI] tools available.”

Physician, Brazil



Is skepticism about AI rooted in a lack of understanding?

“AI is just another tool, like a stethoscope. We’re well-trained as physicians to know every tool we use. But we’re not trained about AI.”

Physician, Brazil

Training clinicians on the value of AI and imparting a transparent understanding of what goes into developing it, how to use it appropriately and what its current limitations are, could help increase trust and adoption.

Accuracy is vital for AI’s success in healthcare.

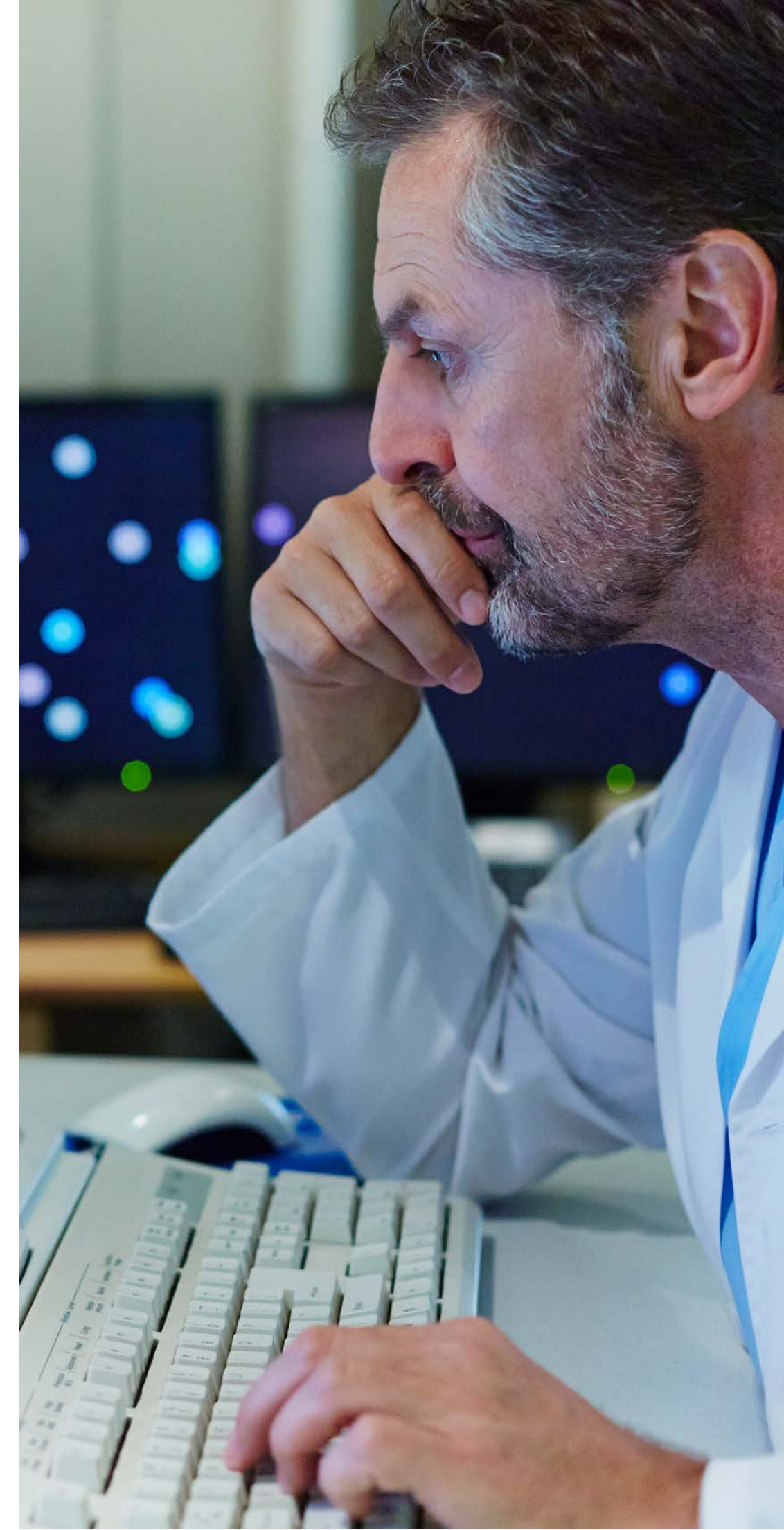
Understanding and thinking through how bias is introduced—such as preferences or exclusions in training data, how data is obtained, how algorithms are designed—will be critical as AI evolves.

“The same problems we have as a society are getting baked into AI. There’s racism in AI; there’s everything in AI that we as people have.”

Population Health, PhD, USA



This is a barrier to
Trend 3: Smart and connected technology
Trend 4: Harnessing big data
Trend 6: Predictive, preventative and precision medicine



Barrier 7: Patient hesitation to share personal health data

Patients are worried that their health data is not secure

Patients are willing to share their personal health data to get better treatment but hesitate due to concerns about data security. Only 61% of patients trust that their personal health data is secure today.

Patients' willingness to share their personal health data with their healthcare providers is crucial to providing effective treatment, improving medical research and

advancing public health. The problem is that patients are worried about data privacy.

According to data analysis, patients are more willing to share data and personal information if they believe it is secure.

33%

of patients say they are hesitant to share their personal health information data with relevant parties to improve their own treatment.

66%

of patients trust their general practitioners and 65% trust hospitals with their data.

“

I would like to see a stronger approach to data, alongside proper security measures.”

Patient, India



How can patients feel more confident that their data is safe and secure?

Data is critical for the success of distributed care and predictive medicine.

While patients are willing to share data to improve their healthcare, they are worried about data security. How do patients gain more confidence?

Transparency and education may be the key. Patient willingness to share their personal health information could perhaps be increased if they were educated by their primary physician's office or hospital:

What is the data being used for?

How does sharing data benefit patients?

Who actually has access to patient identifiable data?



This is a barrier to
Trend 4: Harnessing big data
Trend 6: Predictive, preventative and precision medicine



Barrier 8: Low patient comfort in out-of-clinic facilities and staff

Patients want flexibility but are not yet comfortable with distributed care

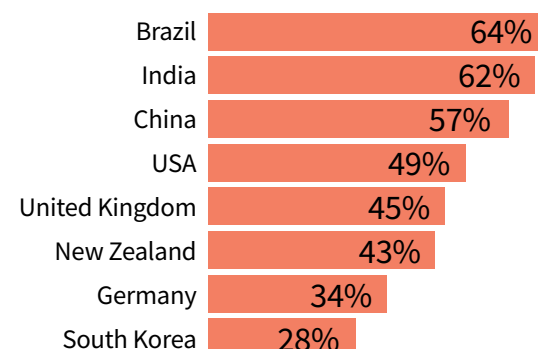
While patients rank flexibility in how, where, and when healthcare services are delivered as their number one priority, they lack comfort in out-of-clinic facilities and staff.

Less than 50% of patients are comfortable with any non-clinical location (50% urgent care facility, 45% pharmacy, 41% mobile health clinic and 38% at home with no supervision).

While 67% of patients trust their family doctor for healthcare advice, only 48% of patients trust healthcare workers who are not hospital doctors or nurses, midwives or pharmacists to provide appropriate health advice.

Interestingly, the trust levels are higher in Brazil, India and China.

Trust levels in healthcare workers to provide health advice (Not hospital doctors or nurses, midwives or pharmacists):



62%

of patients are not very comfortable conducting an unsupervised general health check at home.

50%

of clinicians are comfortable with delivering clinical care outside the traditional clinical environment.

“You know you’re trusting me as the patient to do a home examination correctly. That also assumes that I have some level of health literacy, which we know is actually fairly low.”

Patient, USA



Can supervision give distributed care a boost?

Now that the world is moving past the pandemic’s restrictions, the healthcare industry must identify new ways of increasing patient comfort with non-traditional care settings, including conducting health checks at home.

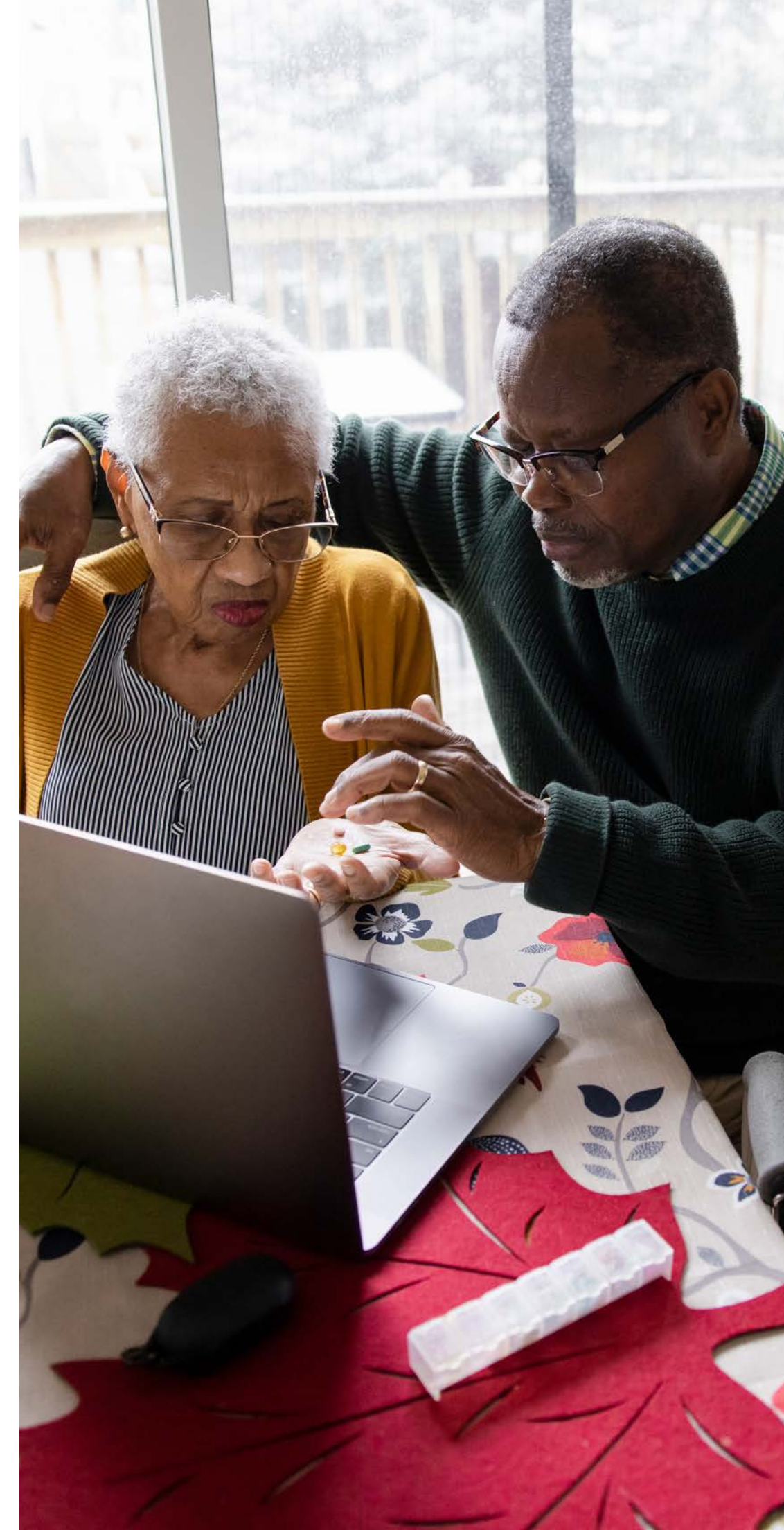
Online supervision may provide a solution.

Only 38% of patients feel comfortable conducting an unsupervised general health check at home, but confidence levels go up with a bit of supervision—even online by a healthcare worker (43%).

This small uptick may indicate a growing willingness to embrace remote care. As patients build confidence with supervision over time, they may become comfortable conducting check-ups on their own.



This is a barrier to Trend 5: Distributed care



Barrier 9: Low clinician trust in self-administered test results

Low trust in self-test results creates roadblocks

Both patients and clinicians want more flexibility in testing, but 49% of clinicians do not find the data from patient self-administered/reported testing to be entirely reliable. This lack of trust blocks progress.

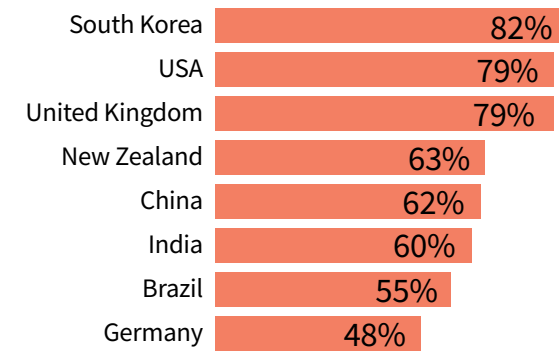
61% of patients are willing to conduct their own basic testing and examination at home to save time, but clinicians are skeptical about the accuracy of the results.

Only 52% of clinicians trust technology solutions, such as virtual care, telehealth and remote monitoring, for accurate patient diagnosis.

66% of clinicians are not very comfortable with patients conducting out-of-clinic testing without supervision.

Across countries, there is a significant difference in comfort levels.

Percentage of clinicians by country who are not very comfortable with patients conducting out-of-clinic testing without supervision:



66%

of clinicians are not very comfortable with patients conducting out-of-clinic testing without supervision.

49%

of clinicians do not find the data from patient self-administered testing entirely reliable.

“ [In the future, I expect that] the data from self-administered, self-examined and self-reported tests by patients is reliable.”

Radiology Technologist, Brazil



Can supervision make a difference?

Building trust in self-administered testing may need some hand-holding. While clinicians are apprehensive, 46% are comfortable with patients testing at non-clinical locations with online supervision from a clinician and 45% from a non-clinical healthcare worker.

As with patients, online supervision may be a path to gradually build trust and confidence until both clinicians and patients become accustomed to new testing methods.

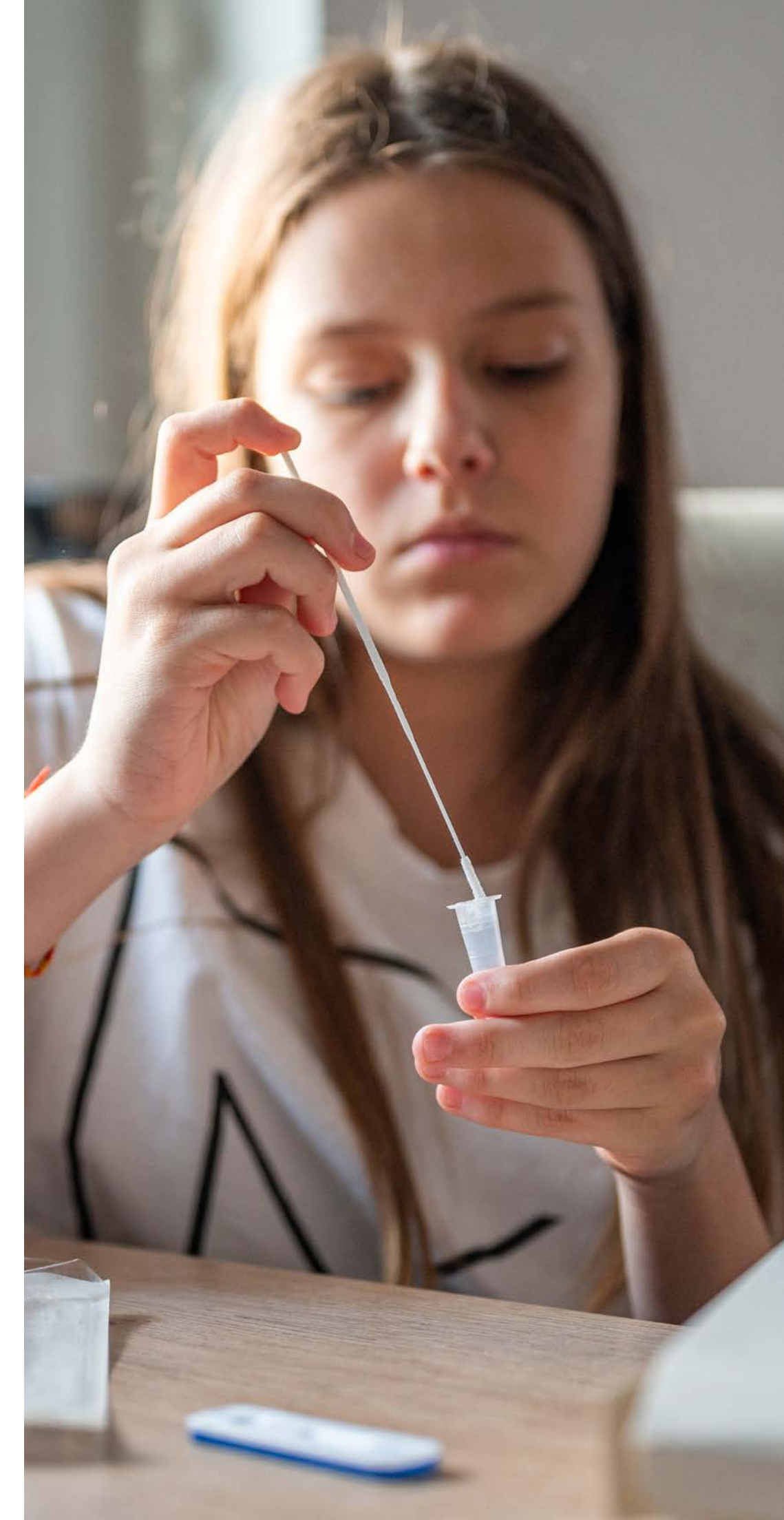
Can more telehealth usage make clinicians more comfortable with self-testing?

Normalizing telehealth may be a path to improving clinician confidence in self-testing. In countries with high use of telehealth, clinicians have greater confidence in patient testing and examinations.

For example, in Germany, where 72% of clinicians use telehealth often, 52% of clinicians are comfortable with patients conducting self-testing. However, in South Korea, where only 19% of clinicians use telehealth often, only 18% of clinicians are comfortable with patients conducting self-testing.



This is a barrier to
Trend 5: Distributed care



Appendix

“

I wish there was more convenient telemedicine so that results could be known more quickly during follow-up treatments or consultations.”

Patient, China



Glossary of terms

Artificial intelligence (AI)

Using machine learning models to search medical data and uncover insights can help improve health outcomes and patient experiences. Common roles for AI in medical settings include clinical decision support and imaging analysis.

Barriers

While the healthcare industry is evolving into providing a more human and flexible experience, patients and clinicians have called out problems and pain points. This study identifies nine barriers that are hindering progress.

Biases and inequality

Interpersonal and institutional biases and inequalities in healthcare mean that a patient's quality of care and access to care are limited based on personal characteristics, identities or traits, such as race or gender. Biases can be implicit or intentional.

Big data in healthcare

This comprises a large volume of aggregate patient data. Sources of data can include patient medical records, hospital records, medical exam results and testing machines.

Care team

This refers to a team of clinicians and healthcare workers that collectively deliver care to a particular patient.

Clinicians

Licensed healthcare professionals with direct patient contact, which may include diagnosing, ordering treatments or carrying out prescribed care for patients within the healthcare system.

In the context of the study, clinician was defined as a clinical role with direct patient contact.

A clinical role may include diagnosing, ordering treatments or carrying out prescribed care for patients within the healthcare system—for example, physicians, nurses, respiratory therapists, radiology technologists and sonographers.

Data specialist

This is an information technology expert who specializes in analyzing, collecting, storing and creating electronic data.

Distributed care

Distributed care means decentralizing healthcare and moving services to an alternative care setting that is closer to the patient—for example, in outpatient clinics and non-clinical environments, such as care at home and remote patient monitoring.

Healthcare model

In the broadest terms, there are four major healthcare models: the Beveridge model, the Bismarck model, national health insurance and the out-of-pocket model.

Healthcare system

A healthcare system consists of organizations, people and actions whose primary intent is to promote, restore or maintain health.

Healthcare workers

These include clinical and non-clinical staff working in the healthcare industry.

In the context of the study, healthcare workers were defined as non-clinical support staff who are involved in caring for the patient but are not clinicians.

For example, clerks, aides, administrators and social/case workers.

Interoperability

Interoperability refers to the ability of health information systems to work together within and across organizational boundaries, regardless of brand, operating system or medical device/hardware.

Patient

This is a person receiving medical treatment in a healthcare system. Throughout this study, when data is referenced, "patients" are defined as the Reimagining Better Health study respondent group, i.e., patients who were hospitalized between February 2021 and September 2022.

Patient advocate

A patient advocate supports patients and their families throughout the healthcare process. The advocates who participated in the Reimagining Better Health study, actively cared for a hospitalized patient between February 2021 and September 2022.

Patient care

Patient care means the provision of healthcare that includes the interactions between care teams and patients.

Population health

Population health is determined by the health status and health outcomes of a group of people rather than the health of an individual.

Precision medicine

This is a field of medicine that aims to improve health outcomes by precisely diagnosing and treating medical conditions, tailored to the individual patient.

It leverages the individual factors of disease, such as physiology and genomic indicators, and patient factors, such as the social determinants of health and lifestyle.

Smart technology

Smart technology uses big data, machine learning and AI to generate insights. Together, smart devices create an ecosystem that has the potential to seamlessly enhance clinician workflows.

Suburbs

A suburban area is an outlying residential district of a city.

Technology, technology solutions and medical technology

This refers to both physical medical devices and equipment, as well as digital systems and solutions used for patient care, such as, electronic health record systems and digital workflow solutions.

In this study, when respondents were asked about technology, the questions referred to their experiences with technology in their hospitals and not with regards to any specific technology solution or vendor.

Trends

This study identifies six trends that are evolving and leading the healthcare system to a more human and flexible experience. The qualitative study confirms that clinician and patient sentiments support these trends.

Methodology

The Reimagining Better Health study provides insights to help drive healthcare towards a more flexible and human experience.

Defining the future of healthcare encompasses many perspectives and characteristics. This study started by identifying points of consensus on key attributes of the future informed by a review of over 50 articles, journals, studies and reports on the topic of the future of healthcare (2021 to July 2022). It then continued with a series of 24 one-hour-long qualitative interviews with healthcare experts across geographies, clinical and patient advocacy roles and health system models.

To determine whether the people at the center of healthcare, clinicians and patients, held the same vision of the future, GE HealthCare commissioned a quantitative survey of 5500 patients and patient advocates, and 2000 clinicians.

This survey provided an understanding of the values and expectations that clinicians and patients have from diverse countries and healthcare models around the world.

The eight countries surveyed were selected as a cross-sample of differences across countries, taking into consideration size, economic maturity and representation of a pure or hybrid form of the four basic healthcare models.⁶

The countries surveyed were intended to be representative of global sentiment and were not universal. However, this respondent sample and the geographies represented revealed that clinicians and patients share many of the same fundamental values, expectations and barriers, regardless of country, healthcare model, clinical role, experience or demographic. Overall, there was consensus in the survey's findings across these categories, which was verified and upheld by the survey data. Ultimately, the desire for a more human and flexible healthcare experience was consistent.



50+

reports, articles and studies focusing on the future of healthcare were reviewed



24

qualitative interviews with clinicians, patients, patient advocates, healthcare researchers and policy experts



7500

patients, patient advocates and clinicians participated in the quantitative survey



Double-blinded quantitative survey methodology

A double-blinded online survey with random sampling was conducted from August to October 2022 by a third-party market research firm.

2000 clinicians

Hospital-based clinicians with direct patient contact.

Physicians

Nurses

- Nurses RN/LPN
- Nurse Practitioner/Doctor of Nursing Practice
- Advanced Practice Registered Nurses
- Midwives

Technologists, technicians and therapists

- Radiology Technologists
- Radiation Therapists
- Anesthesia Technicians/Assistants
- Cardiovascular Technologists
- Operating Room Technologist/Surgical Technologist
- Sonographers/Ultrasound Technologists
- Respiratory Therapists
- Physical/Occupational/ Speech Pathology Therapists
- Phlebotomists/Lab Technicians
- Certified Nursing Assistants
- Telemetry Monitoring Technicians
- Medical Technologists
- Electrocardiograph Technicians

5500 patients or patient advocates

Patients who were hospitalized and patient advocates who cared for a hospitalized patient between February 2021 and September 2022.

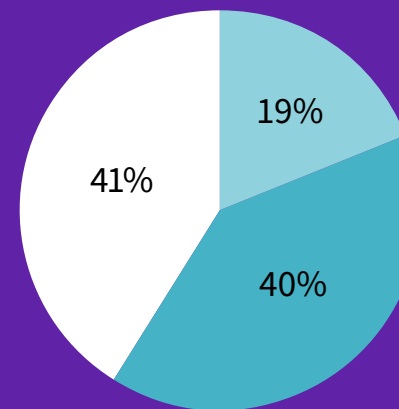
8 countries

- Brazil
- China
- Germany
- India
- New Zealand
- South Korea
- United Kingdom
- United States of America (USA)

Clinician survey

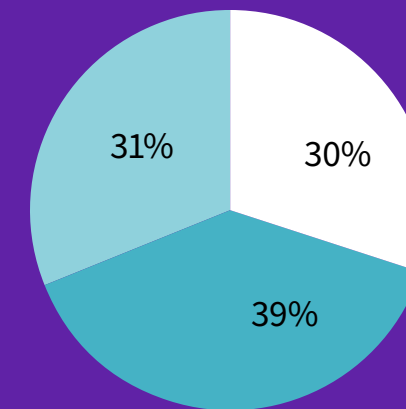
Role

- Physicians
- Nurses (NP, RN, LPN, APRN) and midwives
- Technologist, technicians and therapists



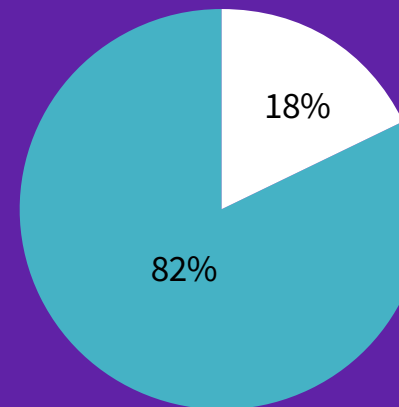
Facility

- Public hospital
- Private hospital
- Academic hospital



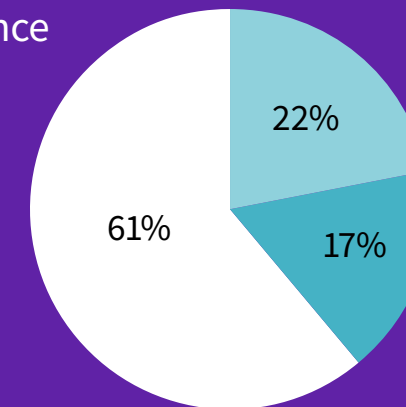
Area

- Urban
- Suburban and rural



Years of experience

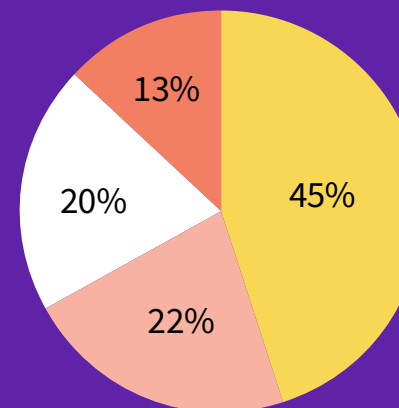
- < 6 years
- 6 – 15 years
- > 15 years



Patient survey

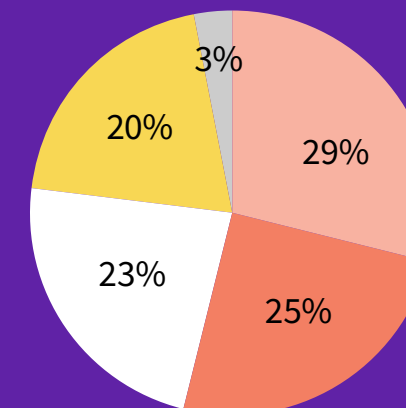
Education

- High school or lower
- Associates
- Bachelors
- Master's degree or higher



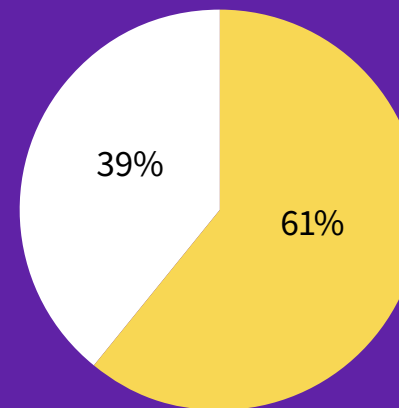
Income

- Bottom
- Lower middle
- Higher middle
- High income
- No answer



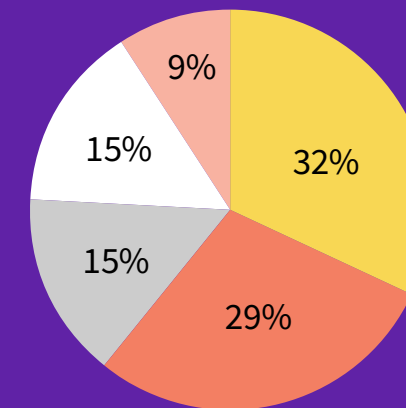
Area

- Urban
- Suburban and rural



Age

- 18–29
- 30–39
- 40–49
- 50–59
- 60+



Quantitative survey methodology

Research was conducted with clinicians and patients/patient advocates in eight countries from August to October 2022.

A separate survey was conducted with each stakeholder group:

- 2000 hospital-based clinicians with direct patient contact
- 5500 patients who were hospitalized and patient advocates who cared for a hospitalized patient between February 2021 and September 2022.

Respondents completed a 10–12 minute online survey in their native language from August to October 2022.

For the patient survey, the sample was boosted in China, the United Kingdom and USA.*

*In the total analysis, the results are weighted so each country counts equally.

Country	Clinicians	Patients/advocates	Methodology
Brazil	250	500	Online survey
China*	250	1000	Online survey
Germany	250	500	Online survey
India	250	500	Online survey
New Zealand	250	500	Online survey
South Korea	250	500	Online survey
United Kingdom*	250	1000	Online survey
USA*	250	1000	Online survey
Total	2000	5500	

Country	Clinicians confidence interval	Patients/advocates Confidence interval
Brazil	+/- 7.6-8.8%	+/- 5.4-6.2%
China	+/- 7.6-8.8%	+/- 3.8-4.4%
Germany	+/- 7.6-8.8%	+/- 5.4-6.2%
India	+/- 7.6-8.8%	+/- 5.4-6.2%
New Zealand	+/- 7.6-8.8%	+/- 5.4-6.2%
South Korea	+/- 7.6-8.8%	+/- 5.4-6.2%
United Kingdom	+/- 7.6-8.8%	+/- 3.8-4.4%
USA	+/- 7.6-8.8%	+/- 3.8-4.4%
Total	+/- 2.7 -3.1%	+/- 1.6 -1.9%

Driver analyses methodology

The Principal Component Regression (PCR) method was used to calculate the weights of each statement in driving trust and confidence.

This approach is widely used with data that have high multicollinearity, which is bound to happen with multiple questions designed to explore the depths within each sub-topic.

To ensure that each country was represented equally in the driver analysis, the same number of responses was drawn randomly when conducting the global analyses.

Clinician driver analyses

For the global driver analysis, an equal-sized sample of 245 interviews was randomly drawn from each country to ensure each country had the same weight.

The total sample was 1960. All results were significant at a 95% confidence interval.

Patient driver analyses

For the global drivers, an equal-sized sample of 490 interviews was randomly drawn from each country to ensure each country had the same weight. The total sample was 3920. All results were significant at a 95% confidence interval.

Country	Clinicians driver analysis R2	Patients/advocates driver analysis R2
Brazil	0.54	0.68
China	0.68	0.61
Germany	0.74	0.67
India	0.79	0.68
New Zealand	0.74	0.64
South Korea	0.60	0.69
United Kingdom	0.58	0.68
USA	0.53	0.71
Total	0.63	0.66

Citations

1. World Health Organization, "Global Strategy on Human Resources for Health: Workforce 2030: Reporting at Seventy-Fifth World Health Assembly," Departmental News, Geneva, June 2, 2022. <https://www.who.int/news/item/02-06-2022-global-strategy-on-human-resources-for-health--workforce-2030>
2. World Health Organization, "Aging and Health," World Health Organization News Room, October 1, 2022. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
3. World Economic Forum, "4 Ways Data Is Improving Healthcare," December 5, 2019. <https://www.weforum.org/agenda/2019/12/four-ways-data-is-improving-healthcare/>
4. Oleg Bestsenny, Greg Gilbert, Alex Harris, and Jennifer Rost, "Telehealth: A Quarter-Trillion-Dollar Post-COVID-19 Reality?," McKinsey, July 9, 2021. <https://www.mckinsey.com/industries/healthcare/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>
5. Steefie Woolhandler and David U Himmelstein, "Administrative Work Consumes One-Sixth of U.S. Physicians' Working Hours and Lowers Their Career Satisfaction," International Journal of Health Services, 2014. <https://pubmed.ncbi.nlm.nih.gov/25626223/>
6. Reid, T. R., "The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care," Penguin, 2010.

This report contains general information and the data conveyed are for illustrative purposes only and represent the aggregate of specific respondents' experiences and opinions. Its content does not necessarily reflect where or how GE HealthCare intends to operate in the future. Neither GE HealthCare nor its related entities (collectively, "GE HealthCare organization") are, by means of this report, rendering professional advice or services, and this report is not to be considered as an advisory material nor indicative of diagnostic statements. No representation (express or implied) is given as to the accuracy or completeness of the information in the report, and the GE HealthCare organization, its employees or agents shall not be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this report.

Participants were compensated for their time, where appropriate.

2022 GE HealthCare Reimagining Better Health study. Results on file.

JB25147XX

© 2023 GE HealthCare. GE is a trademark of General Electric Company used under trademark license.

For information, contact GE HealthCare ([gehealthcare.com](https://www.gehealthcare.com)).



GE HealthCare