

# Transforming Healthcare



# The future of healthcare in your hands

Harness the power of digital technology to  
improve quality of care and reduce costs



# The future of healthcare in your hands

**Harness the power of digital technology to  
improve care and reduce costs.**



Today's changes and tomorrow's uncertainties are redefining your healthcare organization.

This year, we have seen significant changes across the healthcare continuum, including exponential growth in telehealth and virtual care, overnight increases in remote workforce, increased security concerns, disruption of traditional primary care models, shifts in care delivery sites, and prioritization of worker safety and wellness.

When healthcare organizations harness the power of technology, they can expand access to and deliver data-driven care, transform facilities, maintain

clinical and business continuity, address security, privacy and compliance, and create experiences that lead to improved health outcomes. And all along the way, new solutions help save time and money.

Our commitment to state-of-the-art healthcare lays the foundation for tomorrow. With 20 years of experience working with providers, payers, device manufacturers, medical research facilities, and pharmaceutical companies, our leadership is unmatched around the world. We make innovation possible at more than 17,000 healthcare organizations in 118 countries. Every day, Cisco pushes the boundaries of what's possible in healthcare.

Not sure where to start?  
We can help.

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# Healthcare of the future, today

Chapter 1

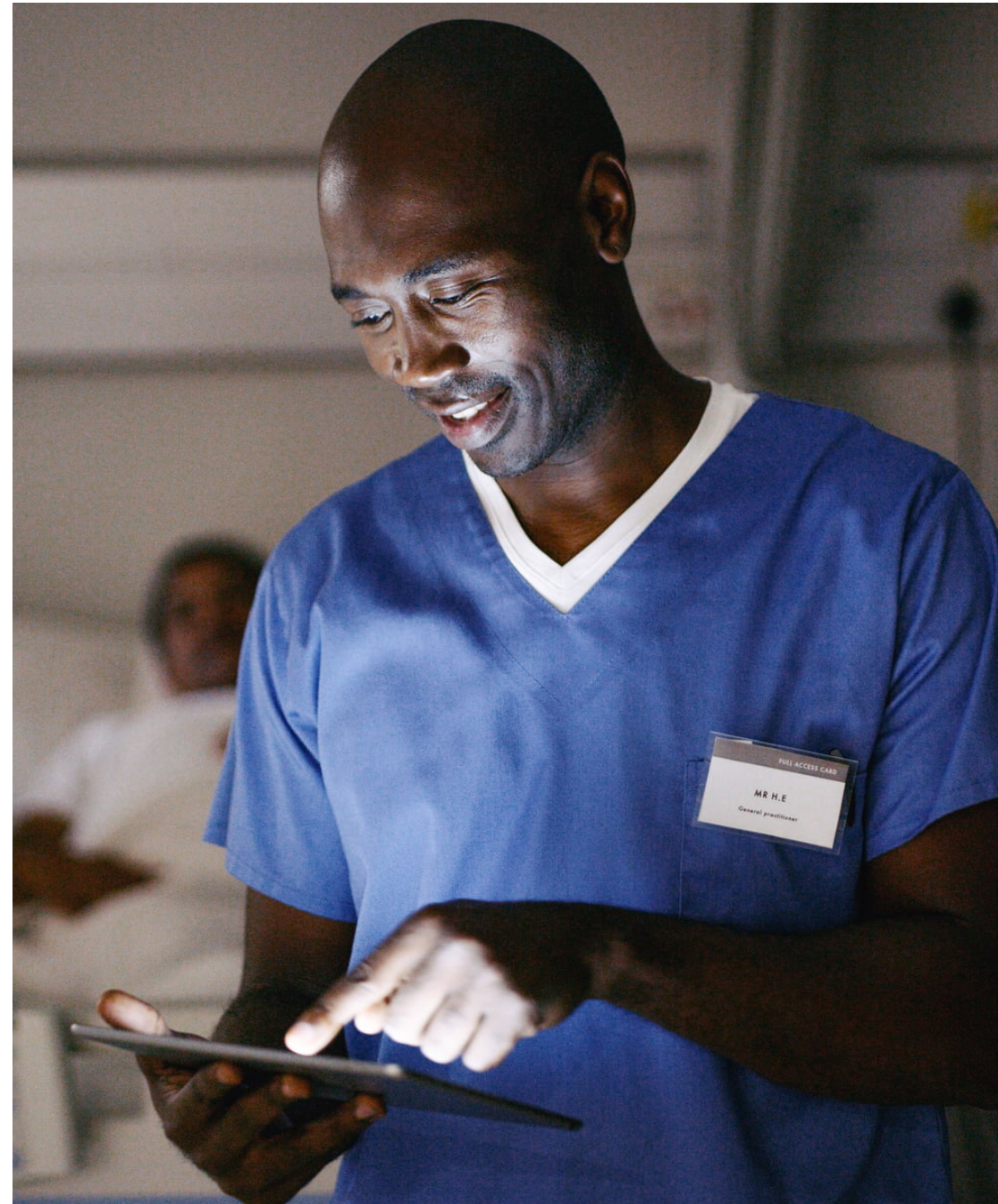
# Chapter 1:

## Healthcare of the future, today

Imagine a hospital or clinic. Clinicians seamlessly engage with patients and care teams on mobile devices in a highly secure environment, expanding their reach within a facility and around the world. Wi-Fi and sensors securely connect the hospital to a cohesive data infrastructure that dramatically improves operational efficiency and workflows.

Outside of the facility, patients can access the care they need with mobile-first applications for scheduling and care coordination. And when an in-person appointment isn't possible – patients can easily consult with their care teams through telehealth, from any place at any time, securely.

**Is this your reality? It could be.**



Today's patients expect the same access to technology in healthcare that they get from other consumer services. That means experiences like virtual care, remote consultations, seamless connectivity inside a care facility, and location-aware mobile services are quickly becoming the new norm. And above all, these experiences must be secure, as protecting patient data and privacy are non-negotiables.

Today's staff require a secure digital environment that makes more efficient workflows possible, with access to the systems they need from any device or location, at any time. Given the current health crisis, there is also a more critical need to prioritize the safety and wellness of clinicians and staff in the care facility through remote consultations, clinical communications, location services and shifting sites of care when needed.

To survive in this changing world, it's clear that healthcare delivery must evolve. The same is true for your network. This means moving from manual, rigid, and device-centric to automated, flexible, and software-driven. This means shifting the focus for analytics from hindsight to real time. And it means embedding security throughout the network and your organization to help protect your patients, data, and devices.

That's where Cisco healthcare comes in. As leaders in digital transformation, Cisco has the innovative solutions you need to deliver cutting-edge care.

[Hear from IDC on how to best prepare for the next normal in healthcare, today>](#)

## To support these trends, the strategic plan of today's healthcare organizations must include:

Secure applications, devices and connectivity to support virtual care

*Demand for virtual visits expected to surge beyond 1 billion in 2020<sup>1</sup>*

Bring your own device policies to enable secure mobility

*71 percent of clinicians said their hospital allows BYOD use.<sup>2</sup>*

IoT, IoMT and smart hospital technologies to streamline processes and spur innovation

*The average number of connected medical devices per room is 15-20<sup>3</sup>*

An integrated and holistic cybersecurity strategy to mitigate risk and keep data secure

*\$6.45M the average total cost of a data breach for healthcare providers in the US<sup>4</sup>*

A plan for maintaining clinical and business continuity in times of crisis

*30% of healthcare IT execs believe that their organization is ready for remote work<sup>5</sup>*



# Breaking down the barriers to care

Chapter 2



# Chapter 2:

## Breaking down the barriers to care

The goal of any modern healthcare facility includes personalizing patient experiences and increasing care access while protecting patients and their data. On top of that, keeping costs down is a major concern, especially in light of reduced budgets and canceled elective procedures as a result of the current health crisis.

Healthcare organizations today face an even wider variety of challenges. From securely enabling virtual care, to reimagining and redesigning the care delivery model, to transforming facilities and ensuring the safety of clinicians and staff – there’s a lot to plan for and consider.

To transform care delivery, adapt to evolving technology, strategize for short and long-term clinical and business resiliency and change patient expectations—all in an uncertain environment—start by asking these questions:



# How can we deliver the best patient experience?

## **On-demand care and the new digital front door**

Today, the way patients seek care has changed to a click, call and chat priority. Omnichannel virtual care contact centers have become a critical tool in the patient intake process. And without the right technology, patients get frustrated quickly. In fact, the average length of a phone call spent scheduling a medical appointment is 8.1 minutes.<sup>6</sup> And, 82% of consumers expect the same access to technology in healthcare that they get from other consumer segments.<sup>7</sup> Patients demand seamless access to care through mobile-first scheduling, communication and virtual consultations. Do you have the technology needed to support these digital experiences?

## **Telehealth and virtual visits**

This year, virtual visits are expected to grow 124%.<sup>8</sup> To keep up with patient expectations and provide care at a distance, you need a strategy for secure voice and video technology. While recent events have served as a catalyst for telehealth, it's clear that virtual care is here to stay - and is quickly becoming the new normal for improving patient access to care and clinician productivity.

# How can we use data to provide better patient care?

## **Clinical communications**

In a hospital, a patient may interact with as many as 50 employees. If care teams cannot share information effectively, patient satisfaction and safety are impacted.<sup>9</sup> You need to strengthen your clinicians' ability to communicate and collaborate with everyone on the care team at all times, wherever they are.

## **Medical device integration**

Today, less than five percent of patient data is processed for clinical care and less than one percent goes into the EMR.<sup>10</sup> You must enable clinical distancing without sacrificing quality of care at scale. With a secure network architecture and switches, you can aggregate and remotely view contextual patient data from bedside medical monitoring devices.

# How can we protect our patients and their data?

## **Cybersecurity**

Healthcare is extremely vulnerable when it comes to cyber threats. The average per record data breach cost in healthcare is \$429, which is more than double that of any other industry sector.<sup>4</sup> Financial concerns are only one part of the equation. Patient safety can be at risk when hospital systems are compromised by cybersecurity breaches. Block threats, contain intruders, and improve visibility to protect your systems and patient data from cyberattacks with an integrated, end-to-end security portfolio.

## **Medical device security**

63% of healthcare organizations experienced a security incident related to unmanaged and IoT devices over the past two years.<sup>11</sup> Design and build secure and segmented networks to better protect administrative and research networks, medical devices, guest wireless devices, and more from cybersecurity threats.

# How can we save time and money?

## **Asset tracking**

One in three nurses wastes an hour per shift searching for equipment.<sup>12</sup> This is valuable time spent away from patients and can impact job performance. Leverage location data to enable clinical operational efficiency, improve patient throughput capabilities, and monitor asset utilization.

## **Mobile experiences**

The estimated cost in the United States due to missed appointments is \$150 billion each year.<sup>13</sup> You can't afford for patients to have missed or delayed appointments due to inefficiencies. To help patients navigate your care facility and streamline check in processes, enable wayfinding and digital intake on their personal devices.

## **Smart hospital**

The typical operating margin for a 500-bed community hospital is 1.8%.<sup>14</sup> How can you transform your facilities and enable a more customized, controlled and secure experience for your patients to help increase that operating margin? With smart hospital technology, you can build a connected and networked physical healthcare facility that will help optimize operations and save money.



# Exceptional experiences: Improving personalized health

Chapter 3

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# Exceptional experiences: Improving personalized health

Think about the last time you, a loved one, or a friend needed medical care. It can be an overwhelming, confusing, and often daunting experience.

There isn't a lot of transparency around what is happening, where you need to go, what you need to do—all of which compounds the stress of dealing with a routine visit or an ailment.



In healthcare, everyone has different priorities.

### Patient

How can you make my healthcare experience easy and seamless?

### Clinician

How can I better engage with patients and other care professionals, inside the hospital and virtually?



### Administration

How can our clinicians see more patients and extend their reach beyond the hospital?

### IT

How can I give visitors Internet access and protect our hospital's network and medical devices?



## 1. Making the appointment

70% of patients say scheduling ease is an important factor in their care experience.<sup>15</sup>

The first step in a patient's care experience is making the appointment.

Being able to seamlessly schedule appointments across a healthcare organization, access language interpretation services, and receive follow-up information makes a difference. Today's patients expect mobile-first, on-demand access to their care teams to easily communicate, schedule appointments and manage their treatment plan.

[Learn how solutions help make appointment scheduling and reminders easier for patients and clinicians](#)

## 2. Finding the doctor's office

30% of first-time visitors get lost and confused in hospitals, and 15% of repeat visitors report confusion.<sup>16</sup>

Health systems need to retain patients by creating a personalized digital experience. From patient navigation and blue dot turn capabilities to location-based services to digital intake forms, surveys and questionnaires, delivering a mobile-first experience can improve patient engagement and enhance your revenue.

### 3. Staying connected before, during and after the appointment

For 60% of patients, free Internet would completely or somewhat minimize frustration.<sup>17</sup>

Waiting for an appointment, doctor, test, results, or diagnosis—the time adds up. When a patient is dealing with the uncertainty of an illness, it is important for them to be able to browse the Internet easily and reliably and to stay connected with friends and family. It can help speed up the intake process, help patients be more comfortable, entertained, and less anxious, leading to patients who are in a better mood and easier to work with.

[See one patient's journey through the care facility >](#)

### 4. Following up with doctors from home

93% of physicians who have used telehealth say it improves patients' access to care.<sup>18</sup>

Patients demand the ability to receive care, regardless of their physical location. Especially in light of recent social distancing precautions, telehealth is quickly becoming widely adopted and accepted. Telehealth can save patients travel time and expense, while reducing physical contact and possible exposure in a care facility. For clinicians, it enables them to extend their reach beyond the hospital, see more patients and blend in-person and virtual appointments for schedule density.

[Experience the difference telehealth can make in the lives of patients and clinicians >](#)



# Safety first: Protecting patients and data

Chapter 4

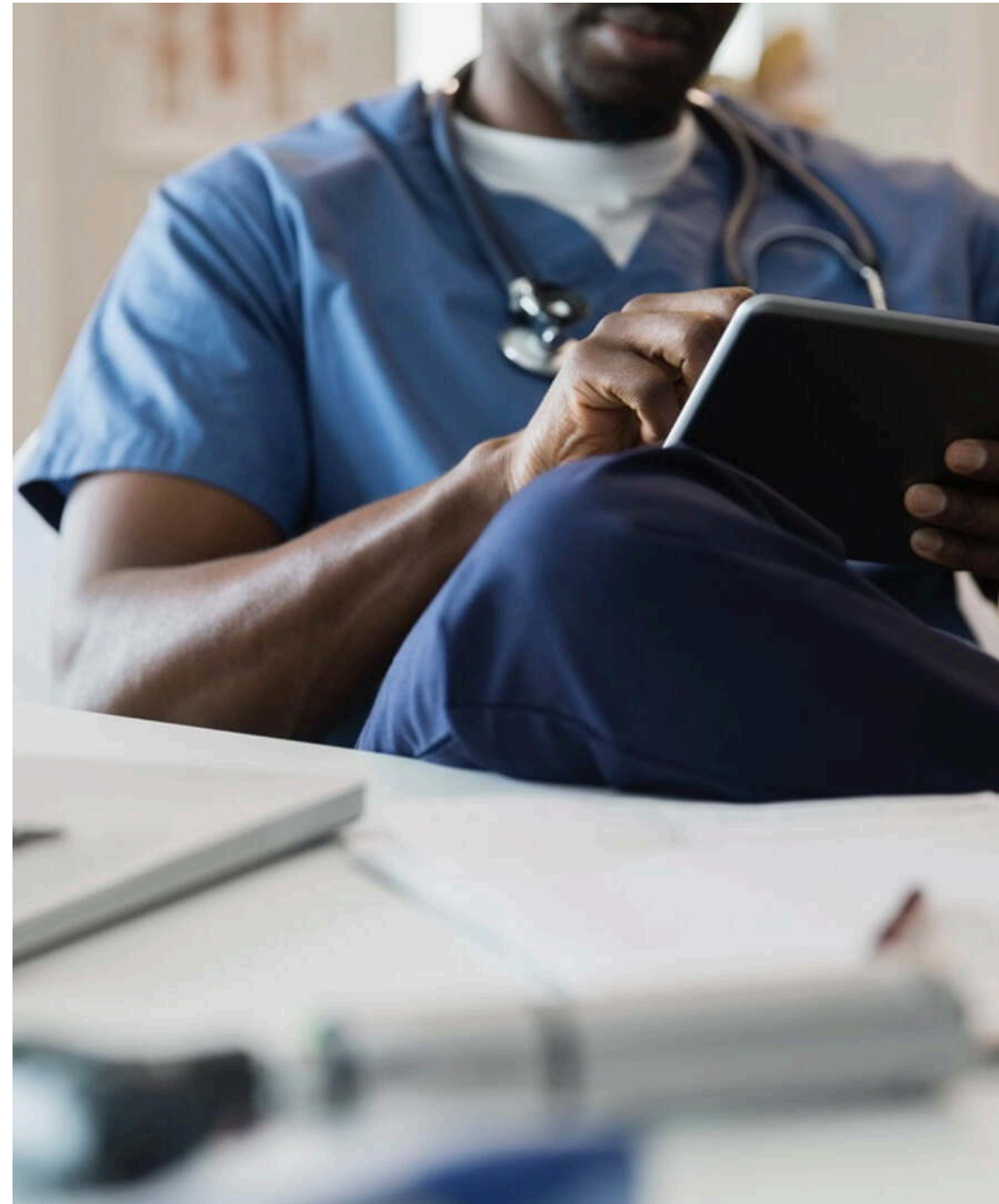
# Chapter 4:

## Safety first: Protecting patients and data

Every day, thousands of new medical devices are connecting to the network. Take a minute to picture the amount of data these devices are generating, transferring, and storing in addition to data from Electronic Health Records (EHR), clinical workstations, and smart hospital applications. All of that data needs protecting.

What used to be the realm of science fiction is now real. Hackers might use an unprotected infusion pump on the network as a gateway to your hospital's data. A staff member might unknowingly download a malicious PDF attachment from an email. Or perhaps a virus has been lurking undetected in your network for some time.

Securing an ever-changing and complex IT infrastructure can be overwhelming. With the expanding attack surface in healthcare, threats are getting more serious—and healthcare organizations must find ways to address them.



# Protect the patients and data that matter most.

## How can we prepare before an attack?

### **Identify:**

#### **It's hard to protect something if you don't know what or where it is.**

To understand the risks to systems, assets, data, and capabilities, you need visibility into what is on your network, who is using network-connected devices, when network access is requested, and where the request is coming from.

### **Protect:**

#### **Deploying safeguards against inevitable cyberattacks is crucial.**

Protection can include everything from enforcing access control to managing data confidentiality. Firewalls are foundational to having the industry's most complete and open security platform. With world-class security controls, consistent policy and visibility, and the ability to integrate network and security, your healthcare organization can reduce costs and complexity.

# Protect the patients and data that matter most.

## How do we react during an attack?

### **Detect:**

**Many cybersecurity incidents go unnoticed for months, giving hackers ample time to explore your networks, locate sensitive information, and slowly and carefully extract it.**

Get global threat intelligence, advanced sandboxing, and real-time malware blocking to help prevent breaches in your healthcare organization. But because you can't rely on prevention alone, you need the tools to continuously analyze file activity across your extended network, so you can quickly detect, contain, and remove advanced malware.

Know who and what is on the network and exactly what is happening in real-time using telemetry from your network infrastructure. Detect advanced threats and respond to them quickly. Protect critical data with smarter network segmentation. And do it all with an agent-less solution that grows with your healthcare organization.

### **Respond:**

**The ability to respond to an attack is a bit like an insurance policy:**

No one ever wants to use it, but you have to have it when disaster strikes. You may have suffered a breach already but simply haven't discovered it yet.

Analyze the effects and spread of advanced malware for fast response. See which systems have been affected, how deep the malware has gone, and what steps you can take to recover quickly. Quarantine malicious code to protect other systems from infection.

## Did you know?

Cisco delivers a comprehensive security portfolio for healthcare organizations. World-class threat intelligence, a leading services organization, and an architectural approach lead to a more effective, simpler security solution. Now you can confidently address critical challenges, including patient-data privacy, medical device security, ransomware and other malware.

Learn more about [Cisco Secure](#) and [Cisco SecureX](#).



# Planning for short and long-term resiliency

Chapter 5



# Chapter 5:

## Planning for short and long-term resiliency

Change. It's constantly redefining our healthcare landscape, whether triggered by technology innovations, cultural shifts, or world events. Healthcare organizations understand this and plan for it, putting continuity and recovery plans in place to help them maintain normal operations as much as possible.

So, what made this latest event different? This time, organizations were faced with changes so large and so fast, there was no "normal" to return to.



Never before has your healthcare organization faced such rapid change. You're managing the acceleration of existing trends such as overnight increases in your remote workforce, increased security concerns and exponential growth in telehealth and virtual care. Couple that with the appearance of new dynamics such as prioritization of worker safety and wellness in the care facility, patient consumerism, shifts in care delivery sites and disruption of business models, and you've got a lot to think about when it comes to balancing acceleration and disruption.

This is where Cisco makes a difference. Because you need solutions designed and built for change at any scale across your organization, technology investments and business landscape.

Cisco business and clinical resiliency solutions allow you to reimagine and redesign your healthcare workforce and workplace with technology that helps provide a safer work environment for your clinicians and staff and a trusted experience for your patients.

Explore the possibilities of Cisco's business and clinical resiliency solutions for [secure remote work](#) and [trusted workplace](#).

## The Cisco Connected Experiences difference

Cisco Business Resiliency solutions, as a part of our Connected Experiences strategy, deliver on Cisco's commitment to drive the most trusted customer experience in the industry. With a breadth of portfolio and unmatched experience that spans networking, security, cloud, and collaboration, only Cisco can deliver a complete solution that both empowers your workforce to collaborate and get work done from anywhere and ensures your workplaces are always trusted environments.

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Thank you for reading

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