



# The Digitization of the Healthcare Industry:

Using Technology to Transform Care



# Contents

Executive Summary.....	3
Digital Transformation in Healthcare.....	4
Improving the Patient Experience.....	4
Driving Analytics Based on Medical Data.....	5
Securing the World’s Most Valuable Data.....	5
A Game-Changing Capability: Telemedicine.....	6
More Centralized Operations and Management.....	7
Five Top Strategic Digital Imperatives.....	8
How to Transform Your Business Outcomes.....	10
Conclusion.....	12

## Executive Summary

Over the past few years, few industries have seen such dramatic changes as in healthcare. On the one hand, the healthcare sector is strong and growing, with a value of \$3.2 trillion in the United States.<sup>1</sup> With the dust finally settling on the Affordable Care Act, more than 10 million newly insured Americans<sup>2</sup> are bringing significant revenues to an industry shifting to more retail-like business, clinical, and operating models.

On the other hand, few sectors are experiencing such disruption. The new business models are more vulnerable to competition, increasing the pressure to reduce costs and meet stringent customer demands. Many are moving to risk-sharing, pay-for-value plans. In fact, a new task force of providers, insurers, and employers has committed to shifting 75 percent of business into contracts with incentives for health outcomes, quality, and cost management by 2020.<sup>3</sup> And companies must continue to secure the most valuable data on earth—electronic medical records—from a black market willing to pay top dollar for healthcare information.

To address these challenges, companies are increasingly investing in digital transformations that connect and enable analysis of every piece of data across channels, operation, and patient outreach. From providing personalized care options to gathering insights to addressing new care formats such as telemedicine and outpatient care, digital technologies are a crucial tool for providers, insurance, and medical service industries. By knocking down organizational silos, operators are able to profit from the advantages of a more interoperable model.

*A recent Cisco survey showed that 45 percent of companies still do not view digital disruption as a board-level concern, and only 25 percent consider that they are willing to disrupt themselves to compete.*

Despite the benefits, however, a recent Cisco survey showed that 45 percent of companies still do not view digital disruption as a board-level concern, and only 25 percent consider that they are willing to disrupt themselves to compete. Based on these figures, healthcare firms are leaving billions on the table in economic value over the next decade.<sup>4</sup>

There is no doubt that digital transformation will markedly change how they do business. Many healthcare companies still run on traditional lines, based on older technologies; siloed information; and cumbersome, complex networks. To achieve such a transformation, you will need to make critical decisions about new technologies and vendors that provide value and address your business imperatives.

Cisco's Healthcare Industries Group partners with you to help develop and execute on winning strategies. Named as a top "digital accelerator" by Gartner<sup>5</sup> and with decades of experience in serving global healthcare companies, Cisco leads in creating a new vision for digital business transformation. Based on our in-depth knowledge and best practices, Cisco is guiding healthcare practitioners through this transition to achieve true population health and gain all the benefits of digital disruption.

---

<sup>1</sup> "HRI's Top Ten Health Industry Issues of 2016," PriceWaterhouseCoopers (2016).

<sup>2</sup> "America's New Healthcare Economy: 3 Trends to Watch," by Bob Moritz, Fortune (Jan. 21, 2015).

<sup>3</sup> "Where Healthcare Is Now on March to Value-Based Pay," by Melanie Evans and Bob Herman, Modern Healthcare (Jan. 28, 2015).

<sup>4</sup> "Where to Begin Your Journey to Digital Value in the Private Sector," Cisco (2016).

<sup>5</sup> "Cisco a Leader in Gartner's Magic Quadrant," by Jeff Campbell, Cisco Blogs (June 2016).

# Digital Transformation in Healthcare

More Americans than ever before are receiving regular healthcare. But managing this onrush of literally millions of new patients has forced the industry to confront significant challenges. Providers and payers are having to transition to more scalable business models designed to handle higher volumes of consumers. These systems must be designed to help companies mitigate risk and enable new strategies for business and data management.

Digital transformation enables the continual build-out and extension of services and data, while coordinating services across the care continuum to support population health. Population health strategies are the ways in which companies achieve positive health outcomes for a group of individuals, including the distribution of these outcomes within the group. Digitization has the potential to affect every aspect of care delivery and operations, enabling smarter choices and better utilization of time and resources and allowing people to spend more time on patient interaction at the point of care.

## Improving the Patient Experience

The path to good consumer care is complex and sophisticated, with multiple touchpoints and sources of data. Unlike other industries, the patient's customer journey is ongoing, as opposed to lasting through only a single purchase or experience. And, as opposed to other industries, the journey might literally mean life or death for the patient. For this reason, it is critical to build a long-term, loyal relationship with each consumer.

*Digitization has the potential to affect every aspect of care delivery and operations, enabling smarter choices and better utilization of time and resources and allowing people to spend more time on patient interaction at the point of care.*

Today almost every industry must address "the Amazon effect": The expectation by consumers that they will receive the same level of personalization and intense contact that they enjoy with online retailer Amazon. This is especially important at a time when Baby Boomers are becoming more tech savvy and demanding. They are paying out of pocket with high-deductible plans, and they have more options available to them for routine care from nontraditional sources.

The result? They are picky. This generation of patients is not willing to spend time on traditional processes and paperwork; they want immediate access to doctors, lab results, and contact centers. As with Amazon, they want price transparency and supporting data to help make healthcare decisions. They expect a level of convenience similar to what is available in retail and banking<sup>6</sup>, and they will use social media to let everyone know whether or not they get it.

Such expectations can offer new opportunities for healthcare operators. For example, Cisco offers intelligent contact center and real-time communications solutions that make it easier to create a more patient-centric approach to healthcare. They facilitate access to medical care from any device and offer collaboration tools that support voice, chat, video, and document sharing. With these tools, the provider achieves a 360-degree view of the patient in real time, and the patient an overall omnichannel experience.

Digital transformation also moves patient care to a new level of intimacy and information. In the coming years, millions of patients will undergo their first virtual care appointment, utilize their first wearable wellness app, and use their smartphones as a diagnostic tool. FDA-approved medical devices connected by the Internet of Things (IoT) are already being used in the hospital to track and monitor patient status, at home to manage long-term conditions and medications, and in the clinic to support basic procedures. By fueling more innovative approaches to care, these new experiences are evolving patient expectations and realizing the dream of care anywhere, anytime.<sup>7</sup>



<sup>6</sup> "New Health Economy," PricewaterhouseCoopers Health Research Institute (April 2014).

<sup>7</sup> "HRI's Top Ten Health Industry Issues," PriceWaterhouseCoopers

## Driving Analytics Based on Medical Data

Since 2009, the healthcare industry has gone through a major transformation with the adoption of electronic medical records (EMRs). In compliance with government regulation, providers, payers, and other medical organizations have undertaken the long-term project of securing every patient medical record electronically.



However, the work doesn't stop there. Digitization is a still more complex process that affects every relationship, piece of data, and interaction through the business over time. For example, right now healthcare providers are using analytics to support the guest experience with apps such as location (to track patients and assets) and for wayfinding, mapping, and scheduling. But this technology can do much more, offering enormous promise in big data and mass records analysis to help you understand, address, and provide high-quality healthcare.

Based on such capabilities, data gathered from traditional sources such as data centers and customer-managed relationship (CMR) systems can be combined with data from new sources such as mobile networks, in-camera video diagnostics, medical devices, equipment sensors, and even social media.

The resulting insights can be used to help manage complex care projects involving several specialists or help nurse prac-

titioners fulfill basic medical needs. They can make hospital staff more efficient, track critical equipment, and simplify inventory management or help identify bottlenecks and adapt workflows for more effective use of resources. They help manage patient safety, secure facilities, administer building systems, oversee pharmaceuticals, track schedules, and enable telemedicine.

Traditional models for collecting and processing healthcare information are ripe for disruption. Digital transformation provides unparalleled access to analytics that are driving rapid changes in the industry.

## Securing the World's Most Valuable Data

Healthcare records are among the most hacked data in the world. It is estimated that medical information is worth 10 to 20 times more on the black market than credit card data because of its potential for fraud, identity theft, and abuse.<sup>8</sup> To make matters worse, it is sometimes years before you know that anything is wrong. As Cisco Chairman John Chambers commented, "There are just two kinds of companies: Those that have been breached, and those that don't know it yet."

The Ponemon Institute estimates that data breaches cost the healthcare industry \$6.2 billion per year. In a recent study, nearly 90 percent of the healthcare organizations surveyed had

*It is estimated that medical information is worth 10 to 20 times more on the black market than credit card data because of its potential for fraud, identity theft, and abuse.*

had a data breach in the last two years, and 45 percent had more than five breaches in the same time period.<sup>9</sup> It may surprise you to learn that, while large breaches make news headlines, smaller breaches, such as those caused by employee negligence, may actually cause the most damage.<sup>10</sup>

In fact, many dangerous breaches may compromise fewer than 500 records.<sup>11</sup>

<sup>8</sup> "Your Medical Record Is Worth More to Hackers than Your Credit Card," by Caroline Humer and Jim Finkle, Reuters (Sept. 24, 2014).

<sup>9</sup> "Sixth Annual Benchmark Study on Privacy and Security of Healthcare Data," Ponemon Institute (May 2016).

<sup>10</sup> "Third Annual Data Breach Industry Forecast," Experian (2016).

<sup>11</sup> "Sixth Annual Benchmark Study," Ponemon Institute (May 2016).

Overall, healthcare across the industry is seriously under-invested in security, as is evidenced by several recent, very public breaches of electronic records, numerous HIPAA violations, and large fines paid by healthcare firms. And don't think that patients aren't paying attention: While more than half of today's consumers express themselves as willing to share personal data to improve care coordination, privacy is still a major concern. In fact, more than 65 percent say data security is more important to them than convenient access to imaging, test results, doctors' notes, diagnoses, or even prescriptions.<sup>12</sup> In a 2012 study, it was found that more than half of users have uninstalled or decided to not install an app due to privacy concerns.<sup>13</sup>



New threat vectors continue to emerge hand in hand with new technologies. For example, as the Internet of Things grows, experts are becoming concerned about the security of medical devices. Intensely valuable to advancing medical science, these devices are still far too vulnerable to malicious interference. For example, security researchers recently found thousands of medical devices that were left open to attack online, including anesthesia devices, medication infusion systems, and pacemakers.<sup>14</sup> Assaults on IoT components, including operational systems, embedded devices, and consumer tech, skyrocketed almost 250 percent in 2015 alone. In response, the HHS, OCR, FBI, and FDA have now published badly needed guidelines for medical device security.

Malicious uses of malware also remain a critical issue: Healthcare is four times more likely to be impacted by advanced malware than any other industry.<sup>15</sup> Just now, hospitals are the top target of “ransomware” attacks, in which hackers lock up parts of the organization's system and charge a ransom to release it. In early 2016, for example, a Los Angeles hospital suffered a ransomware attack that shut down or significantly damaged enough computers that managers were forced to revert to paper to continue operations. It ultimately paid \$17,000 in bitcoin to regain control of its systems. Currently three strains of ransomware (Powerware, Samsam, and Maktub Locker) are reported, though we can expect new strains due to the significant success of these attacks so far.

In 2015, 52 percent of company respondents to a PriceWaterhouseCoopers study said they have finally purchased cybersecurity insurance, a double-digit increase over the year before.<sup>16</sup> However, this really isn't enough. The industry recognizes that cyberrisk can create liabilities that are far greater than insurance policy coverage. Because cybersecurity falls squarely in the operational risk area, boards of directors are also asking risk managers to quantify cyberrisks and reduce the chance of loss.

## A Game-Changing Capability: Telemedicine

The healthcare industry has been talking for years about enabling long-distance healthcare, or telemedicine. Now, with costs coming down and a huge increase in the social use of video across our society, telemedicine is emerging from niche status to the mainstream. A 2016 Reach Health study reports that two-thirds of healthcare professionals named telehealth or virtual care as a top priority, up 10 percent from the previous year.<sup>17</sup>

With a focus on shorter hospital stays and rigorous follow-through, digital transformation supports telemedicine based on video connectivity. For example, the growing Baby Boomer member population is motivating a shift to “aging in place” initiatives to help the elderly stay out of institutionalized care. Then again, approximately 20 percent of Americans today live in rural areas that do not have easy access to primary care or specialist services.<sup>18</sup> As well, the Washington Post reported that 80 million Americans live in an area with too few mental health providers. E-visits for behavioral health treatment will have particular appeal for younger patients already accustomed to online shopping and social media.<sup>19</sup> And, of course, even in large cities a percentage of patients find it difficult to get to the doctor's office.

<sup>12</sup> “America's New Healthcare Economy: 3 Trends to Watch,” by Bob Moritz, Fortune.

<sup>13</sup> “Privacy and Data Management on Mobile Devices,” Pew Research Center (Sept. 2012).

<sup>14</sup> “Thousands of Critical Medical Devices Open to Attack,” by Katie Dvorak, Fierce Healthcare (Sept. 30, 2015).

<sup>15</sup> “Healthcare Environmental Security Scan Report,” HIMSS, Vol. 1 (March 2016).

<sup>16</sup> “The Global State of Information Security Survey,” PriceWaterhouseCoopers (2016).

<sup>17</sup> U.S. Telemedicine Industry Benchmark Survey (2016).

<sup>18</sup> “The Promise of Telehealth for Hospitals, Health Systems, and Their Communities,” American Hospital Association (Jan. 2015).

<sup>19</sup> Ibid.

Telemedicine resolves many of these problems, and an American Hospital Association survey has shown that 70 percent of patients surveyed were comfortable with the idea of communicating remotely with their healthcare providers.<sup>20</sup> Based on digital technologies, they can benefit from faster access to care, more convenient management of conditions, and improved access to experts.



Telehealth also benefits medical providers. At a time when fewer doctors are servicing more patients, video appointments provide a time-effective option for helping those who are managing a known condition, for filtering some who might need to see a specialist, and for identifying those who should go immediately to the emergency room. Remote appointments are also more cost effective, minimizing impact on medical staff and services.

New laws requiring coverage of telemedicine-based services have now been implemented at the state level in many parts of the United States. Similarly, providers are becoming increasingly receptive to exploring payment models beyond fee-for-service reimbursement. Examples include institution-to-institution contracts and a greater willingness by patients to pay out of pocket for these convenient, valuable, on-demand services. Digital transformation makes it less costly and easier to deploy new types of care over distances.

## More Centralized Operations and Management

One of the greatest challenges healthcare organizations face is the silo: the multiple departments, data, resources, stakeholders, influencers, and decision makers that all play a role in the delivery of population health. These silos are the main reason why the patient journey tends to be so complex. However, studies show that digital transformation can help to ensure operational excellence, a strong digital services backbone, and on-going organizational redesign to create a more unified approach to the business.<sup>21</sup>

*IDC predicts that spending on public cloud computing will soar to nearly \$70 billion in 2016, and that the number of new cloud-based solutions will triple over the next four to five years.*

Digital business transformation, cloud, IoT, and analytics at the edge represent a tremendous opportunity to facilitate new business processes and outcomes. “To leverage the cloud or not to leverage the cloud” is a key question, and the main concern is the balance between security and accessibility of the data. Cloud computing has had a massive impact on technology innovation in the past decade. Research firm IDC predicts that spending on public cloud computing will soar to nearly \$70 billion in 2016, and that the number of new cloud-based solutions will triple over the next four to five years.<sup>22</sup>

Digital transformation also makes it faster and easier to integrate acquired systems and information into a single unified infrastructure, especially at a time when we are seeing a record number of mergers and acquisitions. In the year 2015 alone, healthcare mergers took place worth \$687.5B, topping all other industry sectors, according to a report by Dealogic.<sup>23</sup> Business strategies are heavily affected as organizations strive to unify patient populations, facilities, and technology infrastructure. Centralized operations management of clinics and facilities will also increase in an effort to gain control of patient access channels, keep patients in network, and achieve economies of scale.

<sup>20</sup> “The Promise of Telehealth for Hospitals, Health Systems, and Their Communities,” American Hospital Association (Jan. 2015).

<sup>21</sup> “Designing Digital Organizations,” MIT/Sloan, Center for Information Systems Research (May 2016).

<sup>22</sup> “Public Cloud Computing to Reach Nearly \$70 Billion in 2015 Worldwide, According to IDC,” IDC (July 21, 2015).

<sup>23</sup> “2015: A Banner Year for Health Care Mergers and Acquisitions,” by John Russell, Chicago Tribune (Dec. 28, 2015).

# Five Top Strategic Digital Imperatives

In such a rapidly changing environment, you and your decision makers have the opportunity and the responsibility to make a profound difference in the way your business is run. Choices made today will affect not just current business, but the long-term stability of your company.

Cloud based or not, the most effective architectures will be designed to provide access to information across healthcare, in compliance with HIPAA, and providing a new degree of reporting to meet regulatory requirements for the GLBA, SOX, and PCI-DSS standards. Based on immediate access to information, providers are able to meet the industry's most basic needs: to manage the operation effectively and to improve the patient experience and build a long-term connection with that patient.

Cisco defines five digital imperatives as you prepare to set out on this journey:

## 1. Making Your Business Interoperable

The foundation of the healthcare digital transformation is an interoperable environment that enables the secure sharing of information across all levels. However, many organizations do not realize the full value from their digital projects because processes remain siloed, often becoming almost unmanageable. Companies that foster a strong IT and business strategy partnership reap a host of benefits, including improved collaboration and problem solving, actionable insights from data analytics, and pervasive security for both physical and digital assets.

*Choices made today will affect not just current business, but the long-term stability of your company.*

When tactical and overall strategic goals, data, priorities, processes, and tools do not align with those of other departments, there is increased risk of lost business, lower operational excellence and productivity, increased exposure to regulatory and compliance requirements, and higher operating and capital expenses. By knocking down silos and bridging the gap between business and IT, organizations can drive real-time agility and deliver new levels of business and operational efficiency as they connect everything, embrace analytics, and secure their technology and operations.

This is made possible by mobility combined with collaboration and location intelligence to create new efficiencies and drive revenue growth. For example, the Cisco® Converged Clinical Workflow family of solutions helps patients, clinicians, administrators, and families use data, voice, and video to collaborate more effectively to make better decisions, increase teamwork, boost productivity, and reduce costs.



## 2. Securing Data and Systems

To address new and continuing security challenges, digital transformation extends data and physical security across the system to protect information and safeguard patients and to help organizations manage financial, legal safety, quality, and compliance risk. Cybersecurity in healthcare has become a board-level priority over the past several years. While the focus has been on protecting and preserving the organization against threats, security investments also impact ability to achieve business growth.

However, most healthcare organizations are still secured by a complex mix of point solutions, based on siloed strategies. As a world leader in network security, Cisco relies on an in-depth methodology that prevents, defends, and remedies problems across the entire network. Multiple layers of security provide visibility, prevent breaches, or quickly resolve incidents when they occur. Healthcare providers need to choose tested and validated security solutions to protect patient and propriety information, meet regulatory and compliance guidelines, and preserve the company brand across functions and channels. Such an integrated approach also has the benefit of making your system less complex and fragmented and thus easier and less costly to run.



The philosophy of continuous security has been hugely successful for healthcare operators working with Cisco, allowing them to reduce breach detection from 200+ days to just 17.5 hours. With security underlying everything your company does, from guest experience to operations management, it works to protect your data no matter what the threat.

### 3. Empowering a More Efficient Workforce

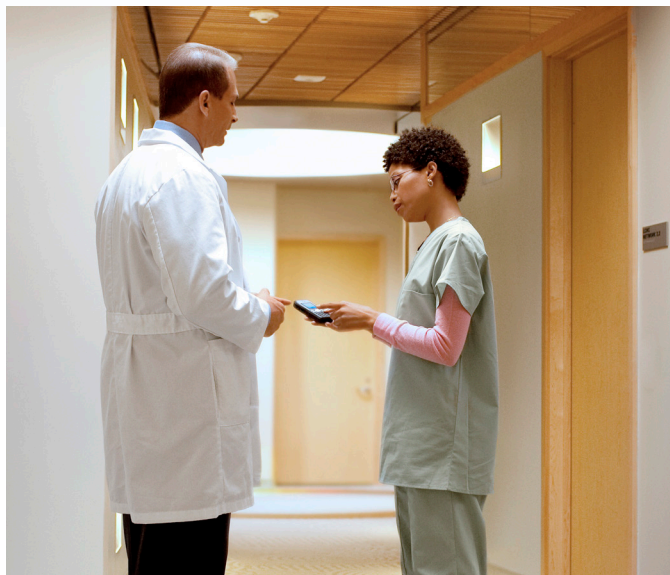
Today, there are not enough primary care doctors to care for the population of America. A number of studies estimate that by 2025 there will be a shortage of between 46,000 and 90,000 physicians, with specialists being the hardest to come by.<sup>24</sup> And some studies show that the doctors are already spending two-thirds of their time doing paperwork rather than seeing patients.<sup>25</sup> Nurse turnover is high, too. Nearly one in five new registered nurses (RNs) leaves their first job within a year. Costs associated with nurse turnover can be as much as \$6.4 million for a large acute care hospital and are associated with a significant decrease in quality of care.<sup>26</sup>

To make healthcare providers as productive as possible, therefore, many organizations are focusing on how new capabilities can help employees work better and faster, focusing their attention on patients instead of administrative tasks.

However, too often companies try to implement new solutions without allowing time for workers to learn how they can benefit from a different approach. As the company embarks upon its transformation journey, its culture needs to change to support the workforce.

A simultaneous problem is that the expertise of an older generation of workers is being lost to retirement. Collaboration solutions such as video and web conferencing enable the knowledge sharing and training that will be required to prepare the next-generation workforce, with minimal disruption to company operations. In addition, collaboration tools, wearables, and real-time analytics can help create a workplace environment that is more likely to attract and retain tech-savvy talent.

*The philosophy of continuous security has been hugely successful for healthcare operators working with Cisco, allowing them to reduce breach detection from 200+ days to just 17.5 hours.*



### 4. Creating an Innovation Environment

Agile IT, automated business processes, enhanced collaboration and decision making, and real-time insights: all of these factors combine to create a business that encourages innovation. With the flexibility to adopt new approaches, healthcare organizations will be more responsive to market change, consumer demands, and new approaches to care.

In a digital business, each employee becomes a decision maker at the appropriate level by adopting a dynamic management model that endows them with the tools, data, processes, and interactions they need to engage, evaluate, and execute in every aspect of their work. Decision-driven collaboration promises a deep and far-reaching payoff: millions of better decisions, both large and small, that are fact based, highly informed, and efficient.

On such information is built an intimate, always-evolving relationship with the patient. In an innovative environment that allows the rapid development of new services and capabilities, your organization is increasingly well positioned to deliver services to match each user's needs.

<sup>24</sup> "Too Many Patients, Not Enough Doctors" by Eric Sherman, Moneywatch (July 3, 2015).

<sup>25</sup> "Doctors Are Wasting Over Two-Thirds of Their Time Doing Paperwork," by Bruce Lee, Forbes (Sept. 7, 2016).

<sup>26</sup> "Policy, Politics, and Nursing Practice," Robert Wood Johnson Foundation (Sept. 2014).

## 5. Cultivating the Right Partners

Organizations also need to rethink their partner ecosystems. Cultivating the best network of vendors, partners, and contract workers is critical to an effective digital business transformation. By building your ecosystems around digitization, you also benefit from the “network effect” of other organizations’ efforts.

A cutting-edge innovation from a partner has little value if your organization lags in its own digital evolution. The best partners have deep, industry-specific expertise across analytics, security, and cloud, with the ability to provide not only IT services, but also strategic business consulting assistance. If not, things can go wrong in a hurry.



For example, in just one year, 56 percent of security breaches (many of them widely publicized) occurred when cybercriminals exploited the vulnerabilities of a third-party vendor.<sup>27</sup>

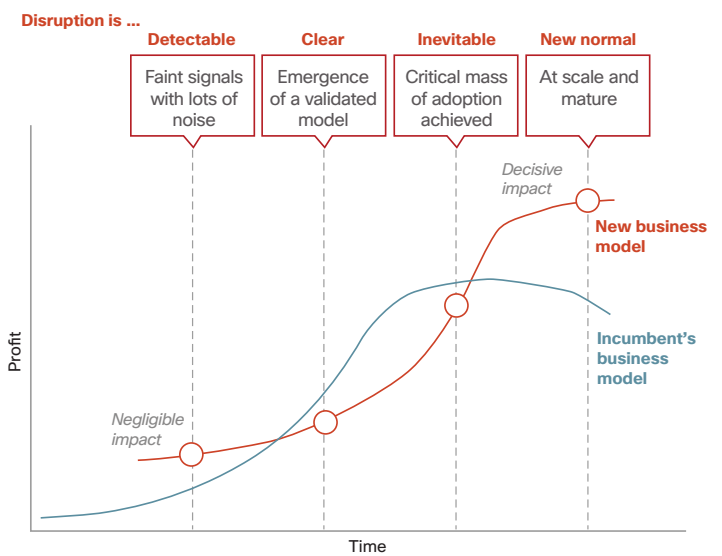
An experienced digital transformation partner helps to benchmark your organization’s digital maturity, envision what is possible, and take full advantage of established best practices.

## How to Transform Your Business Outcomes

Whether you are a healthcare incumbent or a new industry player, you need ways to respond to the challenges of digital disruption. There are several of these. The planning is long term, making it hard for people to get behind. Digitization is nonlinear, with several projects advancing simultaneously. It requires a major investment of time and effort, and it can take unexpected twists and turns along the way. It is important to plan how to manage change within the team, from top-down leadership to workers on the hospital floor. According to Chris Bradley and Clayton O’Toole, “Things are far murkier when one is actually in the midst of disruption’s uncertain, oft-hyped early stages.”<sup>28</sup>

Cisco believes that the healthcare industry must embrace disruption and take a business outcome approach to achieving board-level imperatives. Providers and payers need to partner with companies that are able to clearly demonstrate how digital solutions align with their business goals. This includes offering tech-to-business insights, building strong relationships across IT and business teams, and presenting solutions in the context of your imperatives. You also want to ensure that you realize the value of your investments and that you can take advantage of flexible delivery models (including financing of CapEx).

Cisco executes this transformation journey using a business outcome approach methodology. The business outcome approach identifies the strategic objectives of your organization and derives solutions that drive most effectively toward that outcome.



“An Incumbent’s Guide to Digital Disruption,” *McKinsey Quarterly* (May 2016)

<sup>27</sup> “HRI’s Top Ten Health Industry Issues of 2016,” PriceWaterhouseCoopers.

<sup>28</sup> “An Incumbent’s Guide to Digital Disruption,” by Chris Bradley and Clayton O’Toole, *McKinsey Quarterly* (May 2016).

## 1. Discovery

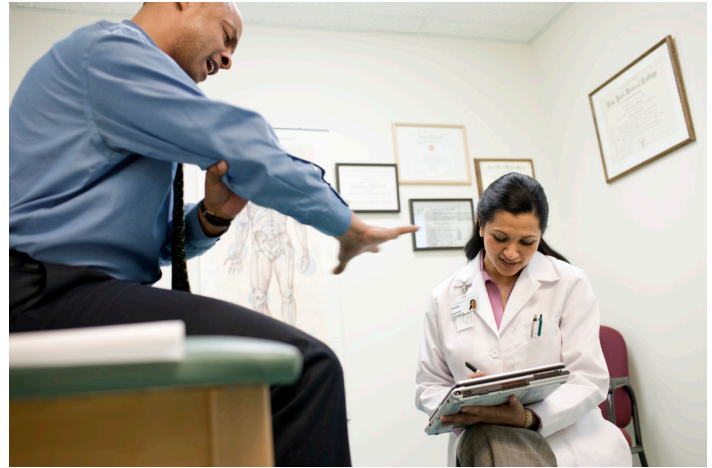
The business outcome approach first executes a robust discovery process to assess how digital solutions can achieve optimal outcomes for your particular business. This effort is not a single exercise, but a continuous process of analysis, documentation, and socialization throughout your organization and with the partner community. During this phase, Cisco uses multiple techniques for investigation and diagnostic assessment, including stakeholder interviews, customer journey mapping, subject matter expert interviews, and use case/best-practice alignment.

## 2. Designing and Quantifying Value

Second, Cisco conducts a detailed architecture design that aligns existing capabilities with prioritized solutions to drive optimal outcome based on findings from the discovery stage. To help achieve this stage of digital transformation, Cisco starts by working with you to develop a business architecture roadmap (BAR). The roadmap outlines what you can do both now and over the next three to five years to achieve company goals while managing risk and compliance. It also helps to define what investments will best deliver a next-generation customer experience in the era of digital and mobile-centricity.

By providing a roadmap that charts your capabilities and value over time, we also help to “connect the dots” between business and IT capabilities. To gauge the tangible economic benefit of your digital transformation journey, Cisco performs a value at stake analysis: a three-step process that provides an “outside in” point of view to define, validate, and quantify the business outcomes that the proposed solutions will help drive for your firm:

- Phase 1: Cisco customizes a “value map” based on the solution use case hypotheses to show the logical linkage between the solution capabilities, business processes, primary business levers, and affected metrics that will generate financial outcomes.



- Phase 2: Cisco calculates an order of magnitude of potential financial effects using a proprietary financial model, based on publicly available data combined with industry benchmarks and assumptions.

- Phase 3: The value at stake results are presented to your stakeholders and provide a basis for further discussion.

The value at stake analysis is further refined by assumptions and approved data and metrics validated through the process, making it the basis for a more comprehensive business case.

## 3. Acceleration

The third stage of the business outcome approach is focused on solution acceleration, including deployment, measurement, and continuous improvement. Every outcome-based solution requires a detailed understanding of what will be achieved, as well as a detailed methodology for tracking and assessment to realize a viable return on investment.

However, technology change is not a solution in and of itself. Rather, transformation is a journey, one that includes organizational changes, workforce empowerment, and clear leadership. Accelerating your organization toward digitization requires fundamental transformation at all levels.

## Conclusion

Digital disruption offers an unprecedented opportunity to achieve competitive advantage. Recent Cisco research shows that most executives believe that four of top ten incumbents per industry will fail in the next ten years if they do not engage in digital transformation.<sup>29</sup>

This is not easy, especially if your company is currently doing well. Netflix CEO Reed Hastings commented a few years ago that most successful organizations do not think in terms of creating disruptive new customer services because they are afraid it will hurt their core business. He then added, “Companies rarely die from moving too fast, but they frequently die from moving too slowly.”<sup>30</sup> Today, we see the results of his thinking in the massive shift toward Internet streaming.

Cisco is positioned to guide and lead customers through the digital transition by defining, documenting, and measuring outcomes around population health. Our advisors serve as the bridge between the business, clinical, and technical teams within an organization, as well as the additional third-party partners that define the solution.

*Recent Cisco research shows that most executives believe that four of top ten incumbents per industry will fail in the next ten years if they do not engage in digital transformation.*

Cisco has more than 30 years of experience in the healthcare industry, offering a global view and extensive background in creating the infrastructure required for high-quality care. Based on our in-depth knowledge and best practices, we provide market-building solutions in digital patient experience, security, and compliance. As senior leaders, now is the time for you to formulate your actionable strategic plan that will take you from disruption to transformation.

For more information about how Cisco can help transform your business, contact us at [CiscoHealthcare@cisco.com](mailto:CiscoHealthcare@cisco.com).

---

<sup>29</sup> “Where to Begin Your Journey to Digital Value in the Private Sector,” Cisco (2016).

<sup>30</sup> “An Explanation and Some Reflections,” by Reed Hastings, NetFlix Media Center (2011).



**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)