White paper

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5 essential building blocks for digital health care transformation

A holistic IT strategy can help health care organizations **transform operations, better manage business process functions and positively impact clinical care**

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Introduction

Health care executives understand that a cohesive and modern IT ecosystem of infrastructure, applications, and services is needed to operate in today's challenging health care environment. A holistic IT strategy based on the latest technologies and proven best practices can deliver value and generate positive business and clinical outcomes.

On the administrative front, digital transformation supports improved efficiency, flexibility, security and interoperability across the entire business and revenue cycle. It can also significantly impact the quality of clinical care, including delivering better access to clinical data across systems and supporting innovative consumer-facing, patient-engaging technologies such as mobile health applications, wearable devices and a host of new applications.

How do we get there from here? Successfully navigating health care IT modernization starts by developing a strategy that effectively meets the following five challenges:

1. Adopt the right cloud strategy

Challenge

Choosing the right cloud strategy has never been more critical for health care providers. Changing regulations, decreasing margins, shifting patient expectations, new engagement models and your own unique digital strategy demand agile IT that can better deliver faster speed to market, increased scalability, better value and heightened security — all while addressing cost issues.

More than just selecting a public cloud, private cloud or hybrid cloud, today's provider needs a cloud/digitization roadmap that ties together its entire strategy and provides an efficient path to optimal clinical and administrative performance.

Addressing the challenge

Adopting the right cloud strategy can make health care more efficient and cost-effective. Organizations need to select the right cloud solution and then have strategies for implementing and managing the cloud, applying security standards, and ensuring availability and control.

Technology Executive Priority List[1]:

- Demonstrate the business value of IT
- Embed privacy and cybersecurity
- Inspire and innovate with technology
- Enable technology-driven insights

Consider these things:

Cloud engineering and operations though similar to data center engineering and operations, requires new mindsets and skills for your operations teams.

- **Operational considerations:** Switching from an on-premises installation means changes in how you operate.
- **Security:** Providers need to ensure they have a security architecture and governance model in place to prevent persistent threats and sophisticated attacks, thereby strengthening patient trust and preventing business process disruption.
- **Health Insurance Portability and Accountability Act (HIPAA):** Cloud-based health solutions must comply with HIPAA security controls, but providers must also extend security protocols for patient privacy, enforcement of laws and breach notification procedures.
- **Downtime:** Data needs to be available at any point, so you must have backup, continuity or multi-zone procedures, so any downtime on the cloud platform's side will not hurt productivity.
- **Automation:** Machine processing can dramatically improve efficiency and free up resources. Your cloud strategy must be able to support IT automation.
- **Build vs. buy:** How much does your strategy depend on you to build your own unique cloud applications versus purchasing third-party services? These decisions create different demand for your cloud usage.

Future state

Your organization and health care data can derive countless benefits from a secure, health care safe cloud architecture, including:

- Scalable data storage and computer processing allows providers to effortlessly match network requirements to service demands.
- Rapid prototyping, building, testing and deployment lets you quickly develop patient engagement and other digital solutions.
- Widespread use of cloud-based patient care documentation makes it easier for health care professionals to share information, see the results of interactions between other physicians and provide care that wholly connects what the patient has experienced.
- As wearable devices, mobile health applications and integrated electronic health records/electronic medical records (EHRs/EMRs) become more common, you need a cloud computing solution that supports better patient care outcomes via rapid data transfer and analysis.

> A hybrid IT services deployment, with both on-premises and public cloud computing, is most common among providers.
>
> — Optum survey of IT and business leaders

2. Combat security threats

Challenge

The health care industry is a tempting target for cybercriminals. Its web-based solutions, complex environments, large volumes of data and shortage of specialized security staff create the perfect storm for cybersecurity challenges. In addition, not only does health care generate and store some of the most valuable data in the world, but expanding interoperability requirements and rapid digitization further increase its susceptibility. Also, the adoption of EHRs/EMRs and the growing number of networked medical devices, patient portals, APIs and applications create a more extensive attack pool than exists in most other industries.

Whether it's ransomware, data breaches, insider threats or compromises to protected health information (PHI), cyberattacks have severe financial, privacy, business process, and even patient-safety ramifications for hospitals and health care systems nationwide.

Addressing the challenge

In order to protect valuable assets, today's health care organizations must develop and execute a comprehensive information security management strategy that aligns business and IT objectives, while effectively managing risk and complying with regulatory requirements. As part of your strategy, you need to formally document the policy, reporting and security controls that support your overall cyber risk management program.

Your cybersecurity program should include:

- **Cybersecurity assessment:** This assessment helps keep your cybersecurity standards up to date. Assessments can include vulnerability, security, penetration testing and HIPAA compliance.
- **Threat awareness:** A key step to improving cybersecurity is having an awareness of the current threat landscape. As part of this ongoing exercise, data from previous cyberattacks is gathered, analyzed and utilized to gain knowledge on prevention and mitigation tactics.
- **Solutions suite:** A robust cybersecurity program requires a full suite of services that can be centrally managed through a security operations center. This should include proactive identity management, data monitoring, endpoint protection, threat management, perimeter security, operational technology security, cloud security, applications security and black hat/white hat exercises.

By the numbers

- There have been 172 ransomware attacks on health care organizations from 2017 through 2019.[2]
- Ransomware attacks affected 1,446 facilities and at least 6,649,713 patients.[2]
- Data breaches cost health care organizations nearly $6.5 million on average — the highest of any industry.[3]

Future state

Creating a culture of cybersecurity within your organization is crucial to overcoming threats. It starts with an ongoing practice of analyzing, monitoring, detecting and securing vulnerabilities. Your future state is a combination of the right tools, security services, and vigilant staff properly trained in awareness and action. As a result, your organization can operate under persistent threats and sophisticated attacks, while bolstering patient trust and preventing business process disruption.

This end-to-end security operations management approach will enable you to stand up a cyber defense strategy, ensure compliance throughout the organization, maintain consistent and performance-driven standards, and effectively remediate damage in the event of an attack.

3. Leverage application opportunities

Challenge

The dizzying pace of change has accelerated the need to develop, implement and manage new health care applications. As a result, IT leaders need to support a more dynamic and responsive application environment.

Digital technologies such as cloud, mobile and cognitive computing create new application opportunities to deliver care, save costs, create efficiencies, drive consumption and enhance quality. Among the challenges facing IT professionals seeking to optimize health care application opportunities are outdated legacy systems, limited capital and resource capacity, and the lack of a strategic IT roadmap.

> Application leaders and partners need to speak the language of business, communicating how new applications can achieve sought-after business outcomes.

Addressing the challenge

IT organizations are now working with a hybrid portfolio of cloud-based and on-premises applications and capabilities. This flexible infrastructure combined with emerging frameworks, methods, tools and technologies can increase speed to market, simplify application integration, and reduce the time and effort required to integrate applications.

In addition, there are hard-earned lessons learned from the COVID-19 pandemic. Health care organizations and IT management now realize that to better prepare for future disruptions or sudden changes, they need greater organizational agility. This can include:

- Making the workforce more digitally dexterous
- Better supporting a work-from-home/anywhere world
- Changing the tools that employees use every day for working together, analyzing data and consuming information

Future state

Your organization will be able to prioritize and embed new technologies into workflows and operations at a much faster pace. The result: improved patient experience, better outcomes and reduced costs.

Next, technologies such as artificial intelligence, Internet-of-Things (IoT) solutions, digital commerce, and data and customer analytics will not only improve care delivery but also connect the hospital to a wider health care delivery ecosystem.

Finally, your operating model will align talent closely with business value streams and design processes, creating the speed and flexibility to meet digital demand. This means you will be able to scale quickly to manage structural growth, minimize variability and address changing business priorities.

4. Optimize core systems

Challenge

EHR/EMR optimization is essential to delivering cohesive health care and a seamless patient experience. Unfortunately, because hospitals often lack sufficient information and a clear view of clinical and administrative data across siloed systems, they cannot unlock the full potential of analytics and other capabilities that drive value.

The need for significant care transformation is driving EHR/EMR consolidation, integration and optimization. Still, most providers don't have the bandwidth to manage this while trying to prioritize projects such as digital health initiatives.

Addressing the challenge

To increase interoperability, unlock interaction data, and modernize the consumer and staff experience, health care organizations must decide what systems to pursue, repurpose or divest, and where to invest. To do so, your organization must weigh the current state of your core systems, including deployments and contractional obligations. In addition, you must also understand the lifecycle stage of legacy systems and the regulatory and reporting environment.

Your strategy decisions will hinge on where and when to:

- Optimize existing assets by modification, configuration or extension
- Create new connections and new pieces of technology within systems
- Introduce new modular resources that complement the existing core

More than 50% of EHR systems either fail or fail to be properly utilized, resulting in frustrated providers, missed opportunities to engage patients, and a material impact to financial performance.[4]

Future state

Your organization will be more digitally connected to other health care stakeholder systems, such as government platforms, health agencies, payers and other providers. Creating connected systems that share data, often in real time, will drive more efficient operations.

Widespread connectivity across the clinical and administrative ecosystem will make it easier to track the care patients receive across settings. Among the benefits are:

- Platforms that support traditional compliance and reporting requirements but also use data and technologies to reduce care costs and streamline processes
- Business intelligence insights derived through advanced analysis of administrative, clinical and financial information
- Care delivery that aligns health plans with care delivery teams, including local and virtual options
- Care delivery that incorporates consumer-oriented, virtual health technologies and cloud-based mobile clinical tools

5. Move toward digital transformation

Challenge

Digital transformation is at the top of every industry's to-do list. Health care is no different. The difficulty is that while every health care organization believes in the power of digital transformation, these agendas — while often met with initial enthusiasm — often fall short because they are unfocused, underfunded and understaffed.

Digital transformation efforts face many internal and external obstacles and challenges, including:

- Change resistance, conflicting incentives and risk avoidance increase the challenge of integrating emerging digital tools
- Lack of a formal roadmap that is structured, disciplined and incorporates the proven approaches needed for strategic success
- Departmental silos that make it extremely difficult to be cohesive in focusing on the whole patient, as each department has its own budget and priorities
- Generally underfunded training and staff coaching, which are essential to implementing digital transformation in a health care organization

> A digital strategy is a business strategy supported by a technology strategy, not the other way around.

Addressing the challenge

Providers need to consider a three-phased approach when taking on digital transformation.

1. **IT rationalization:** Streamlining existing technologies, applications and processes, with the explicit goal of improving efficiency will reduce complexity and lower the total cost of ownership. This sets the basis for other cost-saving endeavors, including software license optimization, application retirement and project rationalization.
2. **IT automation:** By transferring tasks to machine processing, staff can focus on more critical business tasks. Applying automation to targeted infrastructure, platform and security services frees up human capital for digital transformation.
3. **Cloud enablement:** Safe, secure cloud adoption can help with real-time data processing, health information exchange, data storage and backup, and business continuity. It can also deliver profound improvements in diagnosis and treatment by leveraging cloud-enabled data and analytics.

Future state

The health care industry is one of the most labor-dependent domains. A digital transformation strategy that supports health care professionals with intelligent technology will yield the best results.

You can count on digital transformation to lift the weight of processes, update decades-old legacy systems, break down information silos and deliver greater convenience to patients. The result: Your organization can work at a new level of efficiency while ensuring better care delivery.

Unlocking your digital health care future

Moving forward on the five initiatives outlined above will not be easy. Many provider organizations are working with a disconnected IT roadmap, resulting in inconsistent and incongruent business and clinical outcomes. Additionally, health care IT organizations are so busy contending with day-to-day operational challenges, security concerns and ever-changing health care requirements, that long-term strategic programs often take a back seat. This is compounded by difficulty attracting, retaining and paying for top IT talent and finding the capital and resource capacity required to flex to new technologies and support strategic business initiatives.

Given these challenges, how do you move forward and align IT strategies, plans and infrastructures to meet your mission and business goals? One attractive option that health care organizations, both large and small, are turning to is strategic IT partnerships.

> Innovative digital solutions offer a high-tech, lower-cost model for modernizing systems and improving care.

Choose the right strategic partner

Selecting the right strategic IT partner

The right strategic IT partner can manage your day-to-day challenges while helping you develop and execute an approach that successfully integrates your enterprise and optimizes business value. Here are six questions to vet prospective IT partners:

1. **Do you offer a flexible engagement model?** One size does not fit all. Look for a partner that can provide precisely what you need, whether it's managing your complete IT and business operations, or specific IT services that address pain points such as cloud, security or application services.
2. **Do you offer a meaningful health care IT experience?** A general IT services company won't cut it. Success requires a partner that combines world-class IT experience with deep health care subject matter expertise.
3. **Do you have a deep roster of technologies and services to address my IT operational and transformative challenges?** Look for a partner with a deep catalog of health care-proven IT technologies and services that span from core system optimization and applications management and development to security and infrastructure strategies.
4. **Can you leverage unique intellectual property technology?** In addition to applying best-in-class third-party solutions, your prospective partner should also have its own unique, value-added technology to help you meet your critical priorities.
5. **Do you continually invest in innovation?** Look for a partner that regularly invests in advanced technology and innovative services that can accelerate health care IT modernization while saving you money.
6. **Can you immediately deploy IT staff when and where they're needed?** To rapidly meet your changing IT and business needs, your health system partner needs a flexible and scalable workforce of top talent standing ready to meet your needs.

Success requires a partner that combines world-class IT experience with deep health care subject matter expertise.

Your health system partner needs a flexible and scalable workforce of top talent standing ready to meet your needs.

Contact us today to learn how optum can help accelerate your digital transformation.

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