TAKING A STRATEGIC APPROACH TO
Experience True Digital Transformation

Walk into some healthcare organizations and it might feel a bit like you took a step back in time. "Almost no other industry still relies on the fax machine. But at some healthcare clinics, if they didn't have a fax machine, operations would come to a screeching halt," said Donald J. Kosiak, Jr., MD, CMO at Leidos.

The fact is rudimentary technology is still commonly operating throughout healthcare, which points to the need for digital transformation. Of course, most healthcare organizations already have spent considerable money on electronic medical records. "But those investments have not done enough and are just one piece of an overall transformation that needs to take place," Kosiak said. "The healthcare industry is on a trajectory we can't sustain with the current way that organizations operate."

A report published in the *Journal of the American Medical Association*, in fact, showed that the United States spent nearly twice as much as 10 high-income countries on medical care and performed less well on many population health outcomes.[1]

The problem is that while healthcare organizations have tried to leverage modern technology, they have not looked at the transformation from a systems approach. "They just bought solutions and plugged them in," Kosiak said. "And, they said, 'We'll figure it out later.'"

A more strategic approach is clearly warranted. The hope is that healthcare organizations will now spend time designing what the organization of the future should look like and then wrap it with the technology that is needed. "With this approach, the technology would not bend the clinical workflow, the clinical workflow would bend the technology," Kosiak said.

According to Rod Piechowski, Vice President of Thought Advisory for HIMSS, organizational leaders need to stay away from investing in every solution billed as the latest and greatest simply because they have a fear of being left out. A mature organization knows when and why it needs to update its technology, he said. "It might be because there are new regulations coming that will dictate the need for certain functionality, or because your organizational mission is to drive toward specific outcomes. That layer of self-awareness about organizational needs is what should drive technology investments."

To move in this direction, leaders should envision a future state and then "define the process improvements or changes required before determining what technology is required to enable the change," according to Doug Barton, CTO of Leidos. "Leaders need to ensure that requirements precede design and implementation."

Whipping data into shape

Data management is one area where this strategic approach is clearly warranted. As the healthcare industry has moved toward electronic systems during the past decade, electronic data has proliferated — but organizations have struggled to tap into its potential.

"The challenge is that in today's age, the industry creates terabytes and terabytes of clinical data," Kosiak noted. "As a result, many organizations might have an overabundance of data, but they simply leave the clinicians on their own to sort through that data and try to figure out what's best for the patient."

Mimicking how other industries use data could help healthcare organizations make its data more valuable, he said. "In the airline industry, for instance, pilots don't get shown thousands of pieces of data elements at one time. Instead, they view a single pane of glass that says, 'Hey, you might need to do this now because it's important.'"

To leverage data in a similar manner, organizations need to, first and foremost, have a strong data management-governance process in place. "Being able to maintain the consistency and validity of data and to drive value out of that data is fundamental," Barton said. "From there, organizations can share the information in a meaningful way and use the data to do more advanced analytics."

Piechowski emphasized that advanced technologies such as artificial intelligence will require better and more standardized data that can be fed into artificial intelligence systems providing meaningful views of the future. Technologies that increase the liquidity of data, therefore, are apt to play a prominent role in data management efforts. For example, technologies that use Fast Healthcare Interoperability Resources (FHIR), an interoperability standard for electronic exchange of healthcare information, could help.

Even with stellar data, organizations will still need to proceed strategically with artificial intelligence and machine learning (AI/ML). "The last time I looked, there were thousands of algorithms publicly available," Barton said. "Before moving forward with AI/ML implementation, healthcare leaders should ask themselves

how the technology can add more value, improve outcomes, reduce costs, or increase efficiency. Without doing so, their organizations may wind up with a collection of interesting proofs of concept that are not meaningfully impacting their ability to efficiently provide quality outcomes."

Considering the cloud

Cloud technologies also hold significant potential for organizations seeking to experience digital transformation. Leaders, however, need to be clear on why and for what purpose their organization would contemplate moving to the cloud, said Barton. Then, they can put the appropriate measurements in place to ensure that they are achieving the objectives.

When examining the cloud's potential, leaders are apt to discover that they could benefit from the following:

> **Cost savings:** There can certainly be cost savings, but that is not guaranteed. "You have to do the math and make sure that moving to the cloud is, in fact, more cost effective if cost efficiency is your objective," Barton said. "But there are many other benefits of cloud adoption."

> **Flexibility and scalability:** The cloud can accommodate flexibility in processing demand, he said. "Organizations don't have to procure and install equipment if they need to scale up, and they don't have unused equipment sitting idle if they need to scale down."

> **Staffing advantages:** "The cloud can be an advantage if an organization is in an area where hiring IT resources to manage infrastructure is challenging," Barton said. "So, these organizations no longer have to worry about recruiting local IT talent to manage infrastructure because that's a service offered by the cloud provider."

When taking a more detailed, strategic look at the cloud's potential, though, leaders might also discover that they can leverage the technology to accelerate innovation. "If you look at the service catalog the major cloud providers have, and the number of new services they add on a monthly basis, it's astonishing," Barton said. "If your organization is looking to innovate, you can do that much more rapidly because you could just bring up a service and try it out in a nonproduction environment."

Zeroing in on security

Using advanced technologies such as AI/ML or cloud in the name of digital transformation could quickly backfire if organizations do not successfully address security issues. "We had 'meaningful use' as a government initiative," Barton said. "Now, it looks like we need to have a 'meaningfully secure' initiative as well. Data security is something that needs more federal attention and funding to help hospitals get on a more secure foundation."

Certainly, with digitization, healthcare organizations have become vulnerable. According to the *2019 HIMSS Cybersecurity Survey*, 74% of organizations experienced a significant security incident in the past 12 months.[2] Ransomware is especially fraught with danger. "The possibility exists that a hacker could injure

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Donald J. Kosiak, Jr., MD | CMO | Leidos

or kill somebody by turning off a digitally connected infusion pump, or other medical device," Barton said. "So, if healthcare organizations are going to put medical devices on their networks, they simply have to be secured. Otherwise, we've put patients at risk, and we've put hospital operations and the financial and reputational status of hospital systems at risk."

The challenge is to strike a balance between security and usability. "Sometimes, initiatives lean a little too much to the security side," Kosiak said. "While it's easy to see why, the impact on the end user sometimes gets lost."

To move forward, senior executives must start with a clear policy, a governance process, and an end-state objective of balancing risk, cost, and, to some extent, usability, he said. With such a plan in place, they will know where they are trying to get to and then can establish a measurement plan calibrated to the cyber posture the organization has elected to achieve and sustain. A good security plan will address processes, tools, and objectives, as well as education and change management.

While leaders need to take responsibility for security with in-house technologies, they also must realize that security is a shared responsibility with cloud vendors, Kosiak said. "As a result, leaders need to be crystal clear on what their part of that responsibility is and what the cloud provider's responsibility is. Healthcare organizations can't just assume that the cloud provider will do everything."

In the final analysis, to experience the digital transformation that will truly prompt needed industry change, healthcare organizations must stretch far beyond simply plugging in new technologies. Instead, they should take a strategic approach to technology implementation, enabling a digital transformation that allows patients to feel as if they are stepping into the future and being treated with advanced methods that enhance care and result in improved clinical and financial outcomes.

REFERENCES:

[1] Papanicolas I, Woskie L, and Ashish K. "*Health Care Spending in the United States and Other High-Income Countries*." JAMA. https://jamanetwork.com/journals/jama/article-abstract/2674671?redirect=true.

[2] *2019 HIMSS Cybersecurity Survey*. HIMSS. https://www.himss.org/sites/himssorg/files/u132196/2019_HIMSS_Cybersecurity_Survey_Final_Report.pdf.