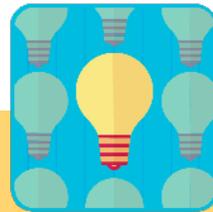


Scottsdale Institute 2017 Chief Information Officers Fall Summit



New World of Healthcare IT

October 19–20, 2017 | Chicago, IL



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Executive Summary

The Scottsdale Institute convened eight information-technology executives in Chicago for the 2017 SI CIO Fall Summit on Oct. 19-20, 2017. Leaders gathered to share strategies, concerns and insights as we move toward the “New World of Healthcare IT,” with specific focus on the exponential growth of digital healthcare, and its requirements for a new breed of CIO. Attendees represented large academic medical centers, multi-regional health systems, rural hospitals and clinics from across the nation.

CIO FALL SUMMIT PARTICIPANTS

- > **Kyle Johnson**, System VP and CIO, Eastern Maine Healthcare Systems
- > **Bryan Kissinger**, Vice President and CISO, Banner Health
- > **Mark Lantzy**, SVP and CIO, IU Health, and President, IU Health Plans
- > **Ken Lawonn**, SVP and CIO, Sharp HealthCare
- > **Jonathan Manis**, SVP and CIO, Sutter Health Information Services
- > **Heather Nelson**, Interim VP and CIO, University of Chicago Medical Center
- > **Randy Thompson, MD**, CMIO and Interim CIO, Billings Clinic
- > **Jim Veline**, SVP and CIO, Avera Health

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Format and Introductions

Participants were guided through a series of questions and topics, and were asked to weigh in on their views of the changing healthcare marketplace, including the integration of technology across the enterprise, measuring IT value, embedding transparency in governance, designing balance into these new IT models, and ultimately the impact on the CIO's role in response to these pressures from our digital transformation.

Innovation and the Evolving Role of the Healthcare CIO

As society increasingly embraces technology—from smartphones and “apps” to Fitbits to Instagram and Facebook—consumers are placing new demands on healthcare, setting new expectations for how health systems will need to interact with patients on a personal digital level.

This digital transformation of healthcare is placing new demands on hospitals as they attempt to keep pace with digital retail leaders such as Apple and Amazon. The standards set by such technology leaders, and how they interact with their customers are rapidly becoming the new norm for healthcare.

That pressure to innovate is now challenging our CEOs and CIOs, who are being tasked to lead this digital transformation of healthcare. How can we as IT leaders become such agents for change, what skills do we need to develop, and how should we evolve and redefine the role of the CIO in this new age of digital healthcare?

Recognizing and articulating these challenges, our group of CIOs explored the new role of the CIO in detail—crafting it as the central theme of the Summit.



CIOs as Transformation Leaders

One of the first discussion points: Should CIOs be expected to serve as the leaders of transformational change for their health systems? If so, to be successful, CIOs will need to work differently with the C-Suite, engaging them in different ways.

As Randy Thompson, CMIO and Interim CIO, Billings Clinic, stated, “We (as CIOs) need to prepare our organizations for the future—if we don't do it, no one else will.”

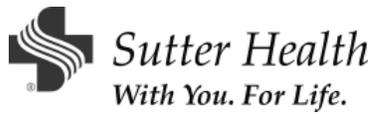
“Many organizations are struggling with the role of the CIO in the age of digital transformation,”



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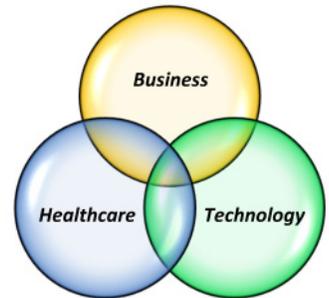
“Many organizations are struggling with the role of the CIO in the age of digital transformation.”

– **Jonathan Manis**, SVP and CIO, Sutter Health Information Services

said Jon Manis, SVP and CIO, Sutter Health Information Services, explaining, “CEOs are looking at the shift to digital consumerism and creating new roles like ‘Chief Transformation Officer’ and ‘Chief Digital Engagement Officer.’ What this really represents is an opportunity for CIOs to step forward and lead. To serve and satisfy tomorrow’s healthcare customers, CIOs must help re-imagine and reinvent the current care delivery models.”

Underscoring the pressure from retail markets felt by CEOs, Manis added, “Innovators are being recruited from other industries with retail engagement skills not commonly found in healthcare. We have a patient focus—they have a customer focus. This represents a critically important leadership opportunity for the CIO—the shift to digital consumer engagement is the pivot we need to make.”

Often CIOs serve in a unique position—able to bridge technology and business—with that business acumen seen as a differentiator. Randy Thompson relayed the Gartner description of the evolution of the role of the CIO from a technology leader with business savvy, to a business leader with technology savvy. Business strategy coupled with clinical strategy—both enabled by IT—is likely to become our new paradigm.



Indeed, changing the perception of the CIO within the organization may be a key component of success. Historically, CIOs have not always been viewed on par with others in the C-suite. This is changing, and will need to continue to evolve.

Jon Manis noted, “Most provider organizations do not yet see the CIO as innovative or transformative. Traditionally, CIOs have managed the application and infrastructure support functions. But there is no executive more qualified or better positioned to merge technology and business operations. For those CIOs who recognize it, this is an opportunity to step forward and lead their organizations.”

Ken Lawonn, SVP and CIO, Sharp HealthCare, asserted that as a first step we need to examine how we are perceived by our organizations—and then alter that perception if needed. “How are you seen by your organization?” he asked. “Are you helping to drive the organization? Are you driving digital transformation and retail? How do you leverage technology to help transform the business?”



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Jon Manis said, “If we were to create a new healthcare industry from a clean slate, it would look very different from what we have today. Like any successful retail effort, it would provide for immediate access, exceptional service, high-quality and low cost. It would be consumer-centric, digitally connected and completely mobile with an emphasis on self-service and remote monitoring. Our efforts would be focused on predicting and preventing disease, not just providing care and treatment in the event of disease. We would engage with consumers to provide value as defined by them, not by us. This is the transformation of healthcare everyone is talking about.”



Technology across the Enterprise

Healthcare is changing—and digital technology is its driver. And it’s not just the EMR—we are now in a “post-EMR” world. Healthcare is being bombarded by data from multiple sources—wearables, consumables, implantables—all are delivering data directly from our patients to our EMRs and to our physicians.

However, if we focus solely on data and EMRs we may be missing the real driver—consumer expectations. Amazon and Google and Apple have established standards by which other technology services (such as healthcare) will be judged. EMRs and portals and kiosks are now anachronisms—patients, and especially younger millennial patients, expect apps, delivered via their personal devices, to serve as their interface into their personal health records, distinct from a hospital-managed EHR. Indeed, China is developing just such a de-centralized, smartphone-based personal health record, and some attendees feel this may be a true disruptor and the EHR of the future.

And make no mistake—those retail giants also represent a direct competitive threat to healthcare. Amazon is recruiting from the healthcare industry and is rumored to be mulling a pharmaceutical-industry entry; Facebook is interviewing healthcare focus groups; Apple is likely to open its own medical clinics; and we’re already seeing CVS’ “MinuteClinics”—the

model is going to change in order to service Millennials in the manner they want, expect and demand. [At the time of this discussion, CVS made a bid to acquire Aetna]. “Millennials are now beginning to have interactions with the healthcare industry,” noted Jon Manis, “and they want something very different from what we traditionally offer. The new model must provide value how, when and where it is most convenient for them. High quality, exceptional service, and immediate access are absolutely required, but they will be insufficient to differentiate us from our competitors or provide any real competitive advantage. Going forward, these things will be assumed, and cost will be the new differentiator.”

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We need to better understand Millennials as customers, and how they interact with healthcare. “We’re all making assumptions about how we are engaging consumers,” said Randy Thompson.

“Millennials are not motivated to do something that may only impact them in 20 years—we haven’t processed that piece of it yet.”

What will be that model of the future? Sutter is trying to find out—they’ve created a workgroup focusing on the “Practice of the Future.” Their research shows a preference for self-care, including remote diagnostics, remote monitoring and telehealth, and these may be the cornerstones upon which a new model is based. Jon Manis cautioned, however, not to draw quick conclusions. “This is an emerging model still being developed. We need to reinvent what we do, and we are still required to be successful at the same time we are reinventing the care model. The important thing is to understand that this is how the individuals and communities we serve expect to access and receive health and wellness services. Given the competitive threat posed by all those disruptive innovators eager to enter our market, there can be no doubt that the existing care delivery models need to change.”

Some believed partnerships with technology and retail organizations may be a good avenue to explore. “Tech companies are coming to us to partner,” said Mark Lantzy, CIO, IU Health and President, IU Health Plans. “They have the ability to disrupt our business and it may be in our best interest to effectively partner on the right opportunities.”

“Progress is being made” said Bryan Kissinger, VP and CISO, Banner Health. “It’s encouraging to see how much healthcare is evolving. There’s a renewed interest and willingness to share information and ideas—learn from each other.”



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Measuring (and Demonstrating) IT Value: Return on Investment vs. Cost

As technology becomes integrated across the enterprise—and not just in the IT department—healthcare organizations recognize the need to rethink how they assess and measure value.

Historically, IT value was viewed as, “How can we best keep IT spending down?” Yet with the new digital paradigm, investment in technology seems to be correlated with an increase in overall organizational value. Indeed, we may be inverting the pyramid, where *increased* organizational IT spending becomes a new metric for value.

Mark Lantzy argued we need to help others in the C-Suite understand the value of IT: “The CFO has to be willing to look at this differently—increased spending by IT can be viewed as a good thing.” Kyle Johnson, System VP and CIO, Eastern Maine Healthcare Systems, concurred: “The CFO is really important—he or she needs to be an advocate for IT.”

Shifting organizational perspectives from a focus on spending to one on value will be one of the new challenges for the digital CIO.

“We need to rethink how a CIO brings value to the organization,” said Randy Thompson. “Value is no longer just infrastructure and operations—we need to marry IT and business to be successful.”

Mark Lantzy agreed. “IT used to be considered a cost center—but now it’s transitioning from a cost center to a business enabler. The CIO of the future will no longer be viewed as a cost center, but will be asked, ‘What can you do to help?’ and not simply, ‘How much can you cut?’”

A successful shift from cost to value requires organizations to agree on their definition and metrics for value, and then hold leaders accountable.

“Value management has to be on the agenda,” said Kyle Johnson. “That includes quarterly review of our investments and tracking of ROI. And if cost savings are included in operation budgets, then those business units have to be held accountable. We’re getting to this stage.”

Some foresee IT budgets being allocated to operating unit or functional department budgets—even infrastructure items such as storage—as a developing trend. “Operations must help make the case for the resources we manage for them,” said Jon Manis. “It is not an IT cost issue if more disk storage is needed for an increased volume of mammography images, for example. Operations needs to own the business case. They need to be accountable for determining how to pay for it. Technology can no longer be seen as supporting the business. Technology is part of the business. And the costs associated with technology must be seen as an operational cost of doing business.”

He added, “We need to have business and IT strategies aligned—there are no IT costs—they are simply business costs. Healthcare has lagged in this compared to other industries.”




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Technology Governance: an Organizational Responsibility

Accountability and governance are linked, and as we evolve to becoming digital healthcare organizations, with IT extending beyond the IT department, we have to ask whether we have the right governance models in place. Some even pondered whether traditional IT governance is still appropriate (or perhaps even needed at all), speculating that “shadow IT” might have a place in the digital corporation, as we embed technology in business units that are not necessarily governed within the walls of the IT.

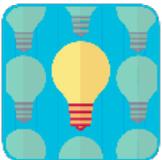
“How do we evolve our IT governance models?” asked Ken Lawonn. “We need it to be more organizationally focused, with IT as components to an overall governance strategy—it’s not just IT governance.”

Historically, we've utilized a self-governance model for IT, and have viewed prioritization of projects as the expected outcome of that governance. With the advent of the digital corporation, however, governance needs to evolve to be about enabling business and providing business value—examining both return-on-investment as well as cost as the true measures of success.

“Before we offer a solution, we need to ask, ‘What business case are you trying to solve?’” said Heather Nelson, Interim VP and CIO, University of Chicago Medical Center. For example, there are plenty of telemedicine vendors, and the organization is looking to IT to help choose. It's important to ask what this means to her organization's business—and defining the business needs—prior to engaging IT, she said. Mark Lantzy agreed: “Telemedicine is not a technical problem—the technical piece is solved. We need to figure how this integrates into the care model.” Kyle Johnson added, “I can deliver the technology, but who's going to work on workflows? Who are the business and clinical champions?”

“Governance can help drive this,” said Heather Nelson. “And our business partners need to do this. We need to make sure IT is not driving the conversation on ROI—it needs to be the CEO or the CFO—not the CIO. Our CFO is resetting these new expectations, and establishing new criteria for accountability.”

“We need to identify business relationship managers—allocated to each business unit, and give them a way to reach out to IT,” added Mark Lantzy. “We're not pulling hard enough—they've done the push, we deliver the technologies—but we're not figuring out together what we need to pull out to improve care, make it faster and improve outcomes.”



Innovation: a New Paradigm

Digital transformation and digital innovation will be foundational in the new digital business model. And perhaps spending on technology may become a new metric for organizational value and success in our digital healthcare world. Yet one question remains: How can we fund this need for innovation, especially given that our reimbursement rates are under constant pressure as we shift from fee-for-service healthcare?

“It might be the right thing to do, but if you can't get paid for it...” lamented Kyle Johnson.

Balance will be critical—we will need to ensure that maintenance, optimization and innovation are all adequately funded. Yet where is that balance point, and how do we best allocate scarce resources? And what innovations are most appropriate for investment? How will we know?

Some in the group suggested we might even consider jettisoning some traditional IT services in favor of digital innovation. Kyle Johnson challenged the group with a question: “Should we be trying to get out of the infrastructure business—is this still our core business, with much of our infrastructure needs moving to the cloud?” Some participants even speculated the CTO role may disappear in the future.



"We need to look where innovation is occurring then apply that to our environments—or buy it. We don't need to create it."

– **Jim Veline**, SVP and CIO, Avera Health

Others felt we can learn from and leverage what has already proven successful in other industries, from digital leaders like Amazon, Target, Disney and Williams-Sonoma. "We need to look where innovation is occurring then apply that to our environments—or buy it. We don't need to create it," asserted Jim Veline, SVP and CIO, Avera Health.

While healthcare has achieved many remarkable clinical innovations such as implantables, digestibles, retinal film and the like, Jon Manis argued we are not inventing outside of our industry. "In most cases, we aren't truly innovating—we are adopting and leveraging tools, tactics and techniques from other industries—primarily the hospitality and retail sectors. What's innovative is their adoption and application within the healthcare industry," he said.

Innovation in healthcare might model itself after the latest retail innovations. We could partner with Uber and Lyft to pick up patients and employees to solve parking problems. Amazon's Alexa is working on answering questions about wait times and directions to the ED, or whether a patient has taken their meds. In the event of a medical emergency, Amazon's Echo can now give instructions for CPR. "We need to be open to new conversations—with Google, with Apple and others—we need to be proactively engaging with these kinds of progressive organizations. We should be partnering with them before they become our competitors," said Jon Manis.

Many groups have innovation projects already underway, including cognitive computing & machine learning (helping to focus on decision support), patient and family experience and virtual care. "We've had success with Natural Language Processing," related Randy Thompson. "We run textual documents through our engine, and have some pilot projects developing huge ROIs."

Finally, the thirst for innovation must be tempered. "We will always have a new tool or bolt-on," said Heather Nelson. "Sometimes we have to look at our current investments and ask, 'Are we sufficiently leveraging what we already have?'" Added Ken Lawonn: "We can find the technology, but we don't yet know how to transform the business with that technology."

Said Mark Lantzy: "Some (business owners) are trying to do something independent—we should applaud that innovation, yet only allow warranted variation. CIOs need to be uncompromising—we need to be sure on a system-wide basis that we are choosing standards and getting synergies of scale—it's important."



Indiana University Health

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Jon Manis echoed these sentiments: “The greatest innovation for healthcare would be to learn how to quickly adopt and spread the many innovations that already exist both inside and outside of our industry.”

Conclusion: How Should Healthcare Leadership Evolve?

As healthcare becomes more digital, our leaders are being challenged to change along with it. Yet, it’s not just the CIO—CEOs and COOs will also need to operate with a new and evolving digital focus. This digital transformation of healthcare will be a corporate responsibility.

Understanding the needs of the “digital patient of the future” will help drive that progression. “We need to change from the physician as customer to the patient as customer—that’s the shift that needs to happen,” said Jon Manis. In the digital world, speed, convenience and independence are valued most by Millennials. “High quality is expected and assumed. Low cost will be expected and assumed. Immediate service and immediate satisfaction—that’s what today’s customers want,” he said.

That means delivering care the way our patients desire, using the tools and methodologies patients are demanding, rather than “medicine as usual.” This involves a true digital transformation of healthcare—and by extension a transformation of the role of the CIO, who will now need to become an even more strategic leader of the enterprise.

Said Jon Manis: “Now is the time for CIOs to step forward. Now is the time for courageous leadership.”

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The **Scottsdale Institute (SI)** is a not-for-profit membership organization of prominent healthcare systems whose goal is to support our members as they move forward to achieve clinical integration and transformation through information technology.

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