EXECUTIVE INSIGHTS

RESILIENCY + RECOVERY

C-SUITE PERSPECTIVES: BUILDING THE HEALTH ECOSYSTEM OF THE FUTURE

Using digital transformation to improve operations and care

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Using digital transformation to improve operations and care

Within the next five to 10 years, health care will be embedded in the digital consumer ecosystem. The pandemic accelerated the shift to digital transformation often with temporary solutions to meet new demands. Patients not only have changing needs, but increasingly expect frictionless digital consumerlike experiences in accessing health care. Hospitals also are dealing with the effects of staff burnout exacerbated by the pandemic, increased administrative loads, and high costs to engage contract clinical staff.

As the field moves from fee-for-service to value-based care, it is also navigating how to securely manage and meaningfully use large volumes of data and cloud-based applications and services. Technological advances in artificial intelligence, data analytics and cybersecurity are providing better digital tools for both providers and patients to reduce the cost of providing health care while improving the patient and provider experience.

This executive dialogue explores the big strategic bets health leaders are making to transform how they are using technology to address these shifts and where they are seeing their biggest roadblocks and wins.

Change the health care culture and mindset and employ technology and tools to listen, partner and make it easy to transform care delivery and coordination among multiple health care access points.

Reduce the technology debt. Simplify, modernize and innovate with common platforms and build off common platforms first — electronic health records, enterprise resource planning, customer relationship management, telehealth; limit specialized tools to application programming interface connections.

Invest in talent and leverage offshore capabilities to access specialized talent, and get 24/7 coverage and better agility — hire external talent from other industries, train internal talent and leaders to work differently.

Consumer first is digital first. Create that end-to-end experience by redesigning processes and experiences to match today's consumer needs and enable technology for self-help and self-control with an omnichannel approach.

Connect the digital impact to the operational impact to create a scalable end-to-end loop beyond the optimization of the workflow and extend an existing workflow. Create capacity by leveraging digital robotic process automation to alleviate the burden on caregivers and improve productivity.

Invest in cybersecurity, including 24/7 security monitoring and real-time incident responses, and move to the cloud and enable AI infrastructure to get the scale for future scenarios.

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MODERATOR *(Suzanna Hoppszallern, American Hospital Association):* **What are the strategic initiatives that your digital transformation journey supports and how is that changing your health care business model and your relationship with consumers?**

B.J. MOORE *(Providence):* I was at Microsoft for 27 years. I joined Providence three years ago, and I observed that we were 15 to 20 years behind as an industry. The last three years, I've been focused on simplifying, modernizing and then innovating in this environment. Because of our technical debt and how far behind we were, we really didn't have a platform to improve caregiver experience, simplify our consumer experience and innovate. Happy to say, we're almost complete with that modernization journey.

As of March, we have a single Epic instance. We modernized our network and cyber, we've standardized on Microsoft teams and Microsoft 365; and we've moved to the cloud with Azure. All our analytic data are now native in the cloud and we're about to go to Oracle Cloud. We're going to retire about 10 enterprise resource planning (ERP) and human resource systems. What I've been telling the board and executive management is that our modernization journey will be completed by December. Being modern gives us a platform to focus on the caregiver experience and productivity. We have retention issues, attraction issues and productivity issues with our caregivers. We don't have enough capacity to serve our community. By modernizing and standardizing our network, we can focus on optimizing both the caregiver and consumer experiences.

As a health system, we have 400 consumer websites. We still ask consumers to call one of 500 numbers to schedule an appointment. By massively simplifying our consumer engagement, moving to single sign-on, moving to app-based solutions where consumers can self-schedule, we can then shift our focus to acute care and future modalities. How do we expand telehealth beyond the pandemic? We were able to serve 30,000 COVID-19 patients from home. How do we extend that remote care model?

When I joined three years ago, I found that we didn't have engineering talent. At one of the first meetings with my team, I asked how many engineers we had. The answer was 'none,' because they were system implementers. Even though we simplified our environment, our caregivers still must log into 20 to 25 systems. Engineering is a big muscle we're looking to build. Competing for talent here on the West Coast is challenging. We've built a Providence Global Center, our first international company in Hyderabad, India, and we've hired 650 engineers, cyber analysts and network analysts. We decided that if we were going to build that muscle, we needed to build it in a space where we could get access to better talent, where we could get 24/7 coverage and better agility. We're leveraging offshore capabilities. We need to modernize first, and then have a platform to evolve our business models.

RICK CORN *(Huntsville Hospital):* We're a small health system that's beginning our journey of standardizing our facilities on our Cerner electronic health record (EHR) to leverage common tools across our system hospitals. Likewise, we're standardizing our ERP on Lawson. Five of our facilities are on Lawson and we have three facilities left to move.

Telemedicine is an area in which we want to become more effective. Right now, we offer a variety of telemedicine point solutions on different platforms. We hope to standardize those in the future.

We're strong believers in the community hospital setting, keeping care local. One of our primary goals is to keep patients in their own community as opposed to transferring them to the tertiary referral center. We want to have tools in place that will allow specialists to do consults at those remote facilities. By having a common EHR and some common

telemedicine tools, physicians can more effectively document and place orders as a byproduct of that consult without having to work in other systems with which they're unfamiliar.

MOORE: It sounds as though you've had the same epiphany: If you only have the tools without the platform, you can't innovate or improve the caregiver-patient experience. You are on the standardization journey first, so you can do those other things.

MARK GELLER *(Montefiore Nyack Hospital):* We joined the Montefiore Health System in 2014. We are substantially along the way in implementing Epic across the health system to have ubiquity, portability, as well as ready and secure visualization of health records, protected health information and data across the enterprise. We are about to roll out ERP and vendor-neutral archive (VNA) PACS — the VNA PACS at the end of the year and ERP next year. Standardizing processes across the enterprise and ease of sharing and collating data across the system are transformative initiatives. We are also implementing other smaller initiatives to improve such things as patient experience, utilization of AI to improve diagnostic accuracy, and patient accessibility. The heavy major transformative lifts are around three initiatives: currently undergoing our Epic implementation, with VNA PACS next, followed by ERP next year.

STEPHANIE MCDONELL *(United Regional Health Care System):* We're a community hospital and still in the early stages of our transformation journey. We have Epic in place. We're going through a selection process and looking to roll out an ERP next year. Our demographic is older and we're trying to figure out how to get them engaged in some of our technological initiatives. Our virtual visit volume went down considerably after the pandemic subsided. Less than 4% of our total volumes are through virtual visits now. We're trying to bridge the gap with the older demographic to make sure that we provide the necessary tools while also continuing to look forward and enhance our digital presence.

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— Mark Geller —
Montefiore Nyack Hospital

ISRAEL ROCHA *(Cook County Health):* Our digital transformation journey has had the most impact in our outpatient mental health services by being able to reach out to patients on an ongoing basis and being able to work with mental health providers who are in different locations when there were provider shortages in some of the inpatient units. In mental health services, the conversion to telehealth has provided greater availability. We saw an uptake in telehealth visits during COVID-19 in our primary care and specialty care. It can help triage but it's not a replacement of a visit in the specialty space.

We are looking at how we can make telehealth visits more impactful, such as by having a nursing visit in advance of a telehealth visit so that the provider can review bloodwork when they discuss the symptoms and try to make a diagnosis. Telehealth was helpful as opposed to not having patient contact, or the patient not being able to come into the clinic. There were some challenges with patients who had literacy issues and being able to get the technology solution in place. Often, we had to convert to a phone vs. a virtual visit.

Some processes in our own operations had to change. Physicians had to get comfortable with a

new form of scheduling with reduced wait times for the patient. People aren't going to wait on the phone for two hours for the physician visit.

Our process is evolving, and we hope to get better. The continued availability is in the behavioral health space, especially for patients who do not have permanent residency. They're transient and it lets us create a connection and continue the process overall. For our specialty areas and primary care, we're looking at how we can use virtual visits in addition to in-person visits, not necessarily a full replacement.

MODERATOR: What are the three big strategic bets that your organization is making in your digital transformation journey? Where are you seeing the most progress and what do you think has contributed to that?

PRAT VEMANA *(Kaiser Permanente):* For us, consumer first is digital first. It's a board-level, CEO-sponsored initiative, directly taking a hard look at putting the consumer in the middle and how we would redesign our processes and experiences to match consumer needs today. It's a different migration from how I optimize a provider workflow to how I make it easier for the consumer. It's looking from the outside in.

Like B.J., I came from the retail experience of leading digital transformation. When I came to health care, there was no lack of ideas, but we have bigger stumbling blocks bringing consumer technologies to market. So we're applying the ingredients that we see in successful, digitally transformed organizations to health care.

We start with our culture and mindset and reset it toward digital first. Health care is a steering committee, a rich environment. Everybody wants to have a say. Collaboration is important, and we fully support that. But more importantly, we need to empower the right teams and let them do their jobs. If somebody is passionate about cancer care, let them do that. Put the oncologist alongside the engineers and the designers, and the magic happens.

Next, we look to technology and enablement. When it comes to consumer-facing experiences, health care has not been as successful as other industries that have undergone this big shift. Every action that is digital has a human being behind it. For example, if I send a reminder for an appointment, there's somebody who turned on a workflow behind the scenes. If I ask you to come in for a colonoscopy, there is somebody who turned on this initiative. Every digital interaction has a manual component. In looking at the growing needs of consumers, we can take advantage of technology for self-help and self-serve functions.

We also moved to the cloud. We have enabled a complete artificial intelligence (AI) infrastructure. We're also applying some advanced techniques for health care, that are common in other industries like A/B testing. We take a small percentage of members, test variations, see what works and fine-tune. We have a habit of declaring success or failure the minute you turn on, because that's what we are used to. When a drug is prescribed, you already know it's successful through an FDA process and you want that to work. Software does not work that way.

Finally, we look to developing our people, and this is the most important. We took a comprehensive approach for our talent infusion and improvement across the board. We brought in significant external talent. We also brought in teams to train more than 500 people in modern ways of working. It's important to invest in training leaders because it's our leaders who need to let go of decision rights to empower teams and move forward. The three ways to optimize workflow are culture and mindset, technology innovation and transformation, and investment in talent.

TRESSA SPRINGMANN *(LifeBridge Health):* One of our big bets is whether consumer choice is important. We're banking on an omnichannel approach (in person, virtual, telephonic). The assumption is that where clinically appropriate, that choice is going to be important as a differentiator. That's driving a lot of our digital investment beyond the traditional technology around EHR and ERP.

The second bet is that where we have been in the past won't get us where we need to be in the future. Many who've been in health care a long time know that it's a relationship business. When is that inflection point within a care process, or will it ever happen that the relationship is less important than convenience? We're making investments in differentiating ourselves, especially given some of the disruptive competitors in our traditional market.

Finally, the third bet is that we must create our own economic capacity for future IT investment — leveraging technology to return time, efficiency, etc. (e.g., robotic process automation, or using virtual tools to unburden our bedside caregivers). Layering expenses is an unsustainable approach for the continual improvement of health care information technology.

MICHAEL SLUBOWSKI *(Trinity Health):* Our big bets are in our strategic plan. We've created a new brand promise — 'We listen, we partner and we make it easy.' The first big bet is: Can we transform the culture and buttress it with resources like our information technology enablers to truly live out that brand promise? We've made a huge commitment to that. The second big bet is: You need to have common platforms and try to build off those common platforms. We're trying to optimize the use of what we have in our tools like Epic or in our ERP. Then, to the extent that we're going to purchase or use other IT tools, make sure that they can connect with APIs (application programming interfaces) and not create a bunch of new, tangled webs of connections.

The third bet is: We need to use these tools to transform care delivery, and address the labor shortage because there just aren't enough nurses. How do we supplement that with video and technology to monitor and support to the patient with less hands-on nursing in the inpatient setting? And how do we support people more in the home with the technologies we're putting in place?

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— Israel Rocha —
Cook County Health

J. STEPHEN JONES *(Inova Health System):* We've made some big-dollar bets; for example, we went on Oracle Cloud a little more than a year ago. But our big strategic bets start first with culture and mindset. We do that with everything at Inova, but especially with digital transformation. We want the mindset that technology is to solve problems and create a seamless experience for both our patients and team members.

The second is on eliminating technology debt. For the first four years as CEO of Inova, I avoided talk about technology because we had so many technology gaps and point solutions that didn't solve a problem. I had to change the mindset that improving technologically means solving problems, not finding point solutions. Now we try to employ Epic or Oracle Cloud first, whenever possible, recognizing that it can't always be, but we try to do that as opposed to some point solution that won't work seamlessly with our technology stack. Only when they don't have the right technology do we go to an API-enabled solution.

Then, we are intentionally going in and trying to take out technology debt — the technology that actually gets in our way. We must do that before we can move forward in using technology to improve our work, instead of getting technology out of the way of doing our work. We all know that clinicians spend way too much time in the EHR. It's an almost-total waste. We also know that our patients spend too much time trying to access us. Our team members spend too much time struggling with unhelpful technology instead of focusing on their work and our patients. We're changing that, but it's a huge lift.

I've become something of a zealot. Every day I take notes on the technology things that I observe. The team hates it when I'm caring for patients in the clinic. I always come back with a bunch of suggestions as to why we do this or that in Epic? That's the work and the mindset required to move us beyond where we are now, and I want 20,000-plus team members and physicians to be part of that solution.

MOORE: I would add that the cloud is key to our set of strategic initiatives. All the tech partners and the innovations are happening in the cloud. As we choose solutions like Oracle Cloud to do innovation, it's big data; it's machine learning; it's artificial intelligence. The cloud is the only place we're going to get the scale we need for future scenarios. When I look at tech partners, they're not innovating on premise products anymore. If they are, then I avoid those vendors because they're not embracing the cloud.

MODERATOR: With all the cost pressures in health care, some of you have touched on having many existing investments upon which you want to build. How are you thinking about funding, the digital transformation in your organization and scaling initiatives? How are you budgeting and building for information security for the future?

BEN NEGLEY *(AtlantiCare Physician Group):* I oversee our digital transformation department in South Jersey. The strategy has been getting the organizational leaders and board to support our digital investments — the clinical importance, as well as the importance of our growth. Then, how do we grow and what is the most relevant digital investment to focus on?

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— Prat Vemana —
Kaiser Permanente

We've put together a digital transformation task force, which includes leaders from every department, IT and operations, finance and marketing, to determine what's the most important for our community. We know we can't be all things to all people, but we're coming up with a few tactics that will make the biggest impact. We're making a considerable investment in our virtual medicine program and the consumer relations-management programs to bring more patients into the system. On the clinical side, our goal is to close care gaps as a result of patients not coming into the hospital or the ambulatory setting during COVID-19. Technology is expensive and with the loss of revenue, it is a challenge to decide what are the most important initiatives that you can achieve oper-ationally in your community.

LISA ISHII *(Johns Hopkins Health System):* What we're hearing almost uniformly is that the technology solutions are a means to an end. We're not thinking of them as our strategic growth, but as necessary tools to get to where we ultimately need to go. We are less interested in engaging with multiple, different software providers.

We have Epic throughout all our entities and

would like to understand how much we can do. We work closely with Epic to the point about the technical debt. We have invested significantly in cybersecurity. We are also investing in transitioning to the cloud. These investments are the cost of doing business. We are not thinking of technology as a strategic investment to promote our growth for where we want to be 10 years from now. We're less excited about the digital technology in and of itself, and more focused on how it helps us get where we want to be within the bigger picture.

MODERATOR: We've heard a lot of talk about the technology debt. Murali, can you talk about the funding of digital transformation and scaling initiatives with respect to affordability?

MURALI KRISHNA *(Providence):* What really worked well for us with B.J. coming in, is to have a solid strategy for digital transformation. We broke it into three parts: simplify, modernize and innovate. That allowed us to leverage our presence in India to focus on areas that were important as we transformed, and technical debt was one of them. We looked at our legacy systems as part of modernization when we talked about moving our infrastructure to the cloud and making sure patients or consumers have easy access.

Cybersecurity was another area of investment that we made. By building the cyber defense in India, we had the flexibility to be able to act faster should there be issues across our hospitals and health systems. This included 24/7 security monitoring and real-time incident responses. When the U.S sleeps, India is addressing the issues or creating new experiences at an amazing pace and making the right handoffs, which we call the 'follow the sun' model. We worked actively to bring more to our digital transformation efforts — cybersecurity, cloud and data, especially analytics.

MOORE: Adding to that, when people think of India, they immediately think of cost savings or outsourcing. That hasn't been our approach. The India group is really an extended team. It's where we build new muscle. It means lower costs as well as access to talent that we don't have in the U.S. I can't stress the agility enough. We now get two days of work done in a day. When we were a U.S only-based workforce, we got productivity from 8 to 6. People would go home. If we encounter problems, we hand them off to the India team to solve while we sleep. That can be anything from a legal issue to a cyber issue, so it helps with work-life balance. I don't think we stress enough the value of agility in getting an additional day of productivity in a single 24-hour period. We've reaped benefits from that.

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— B.J. Moore — Providence

MODERATOR: Some roadblocks that have been mentioned are culture and mindset, and making sure we are optimizing what we already have. Are there other roadblocks that you've experienced?

TIMOTHY PEHRSON *(Integris Health):* We tried to develop digital front-door capabilities by working with a vendor to build our own version of that and spent nearly a year being frustrated with the output. Now, we've pivoted to an Epic-first mentality on the digital front door. When thinking about digital health, we have tried to break the concept into component parts. For example, for hospital at home we've partnered with Medically Home to help us with that capability. We plan to do more of this partnering with proven digital players to accelerate our speed to market.

VEMANA: Questions we often ask ourselves are how do we get it done, and how do we translate from idea to execution? Technology can be an impediment. If you have an idea, if your subsystems are not giving you the data that you need, that's an impediment. We need to take a step back and ask how we can help the patients who are sick, then how do we extend that to preventive health and keep people healthier and extend their healthier years? Health systems put few tools and efforts toward how to create that end-to-end experience.

If you think about incentives to take care of consumers when they're well and prevent chronic disease from worsening, those ideas go way beyond the optimization of the workflow and extend an existing workflow. Thinking about the end-to-end experience allows us to build experiences that are much better than where we are today. That requires fresh thinking.

Connecting the digital impact to the operational impact to create a scalable end-to-end loop is critical. For example, you turn on the ability to email a doctor and it's going well. But the volume of emails it generates raises the question: Is that a required email or a necessary email? Are there other ways you could have handled the same interaction? How could you reduce the burden on physicians, as you turn things on?

Regarding value-based delivery, digital doesn't have to mean a negative internal rate of return. You can prove the value of how you can deliver, but it takes some thinking as to what metrics we can measure that can provide immediate recognition of change and what takes a long-term measurement. For example, if I want to shift my call center volume to online, that's measurable directly — going from 4 million appointments booked online to 11 million appointments booked online in a matter of 24 months.

How do you create metrics that allow you to measure value as you build new digital capabilities? That's 'earn as you go.' It's important to have that for digital investments because there has to be an internal rate of return.

In retail, we talk about inputs and outputs. What are the input metrics and what are the output metrics in health care? Output metrics are easier to understand — a reduction in readmissions. But what are the input metrics that allowed you to get there? What was the engagement that cost that outcome? If we can map that out, it allows you to change the inputs. If we measure the outcome over time, we can show that our input trajectory is changing.

MOORE: Hearing all the commonality of issues is validating the things we are working on. We're all overwhelmed with technical debt, as we all have too many things on our plate and, unfortunately, many health systems are experiencing a financial crisis. Budgets always have been tough and they are about to get tougher. Finding ways to get greater productivity out of your IT teams is key. We feel that what we've done with Murali's team in India is really differentiating that 24/7 coverage and the agility that we gained.

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