HealthLeaders Virtual Roundtable
Healthcare System of the Future: Innovation

TRANSFORMING PATIENT CARE THROUGH INNOVATION

As a result of the COVID-19 pandemic, the healthcare innovation landscape has dramatically changed. The global crisis not only gave rise to telehealth, but it also unleashed a new era of innovation, accelerating a multitude of virtual and remote care initiatives, as well as technological solutions that are enabling new models of care. Against this backdrop, healthcare systems are reevaluating the path forward and focusing their resources to better meet the strategic objectives of their organizations.

In this roundtable panel, healthcare innovation leaders discuss the processes that have forever changed in their organizations and the ideas and solutions they are using to transform the way that patients experience healthcare.

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HIGHLIGHTS

HealthLeaders: *What significant innovations has your health system unleashed as a result of the pandemic?*

Dan Liljenquist: We launched a hospital-level of care at home model. We also launched a triage model where people who we ordinarily might have admitted to a hospital we sent home with remote patient-monitoring tools. We used our hospitalists via telemedicine to interact with them to make sure we were appropriately load balancing and that allowed us to keep space in our ICUs across the state, in collaboration with the other health systems here in Utah.

During the middle of the pandemic, we launched our digital front door, and the goal is to create an easy, intuitive way to navigate our health system. We have over 500,000 people who are now using that application—about 80,000 unique users a week—and that's the model we think we'll be able to use to start transforming the digital experience. And with that chassis, we're rethinking all of our care process models.

David Y. Ting, MD: During the height of the pandemic, when availability of personal protective equipment was a real concern, many of our hospital rounding teams discovered they could reduce the usage of PPE by sending only one team member with a mobile device into a patient's room, then having the rest of the team round remotely using Microsoft Teams® from the hallway, from remote offices, or even from home.

From a health equities perspective, we built a homegrown platform that used commercial tech in the background to stand up what we call Care Team Connect, which is a quick, secure video platform with the idea of allowing the patients to speak to their family members during rounds and bring in interpreter services. Mass General Brigham purchased thousands of tablets, and at our hospital, we placed a tablet in every room to allow virtual rounding and patient-family connection with Care Team Connect.

The ability to extend collaboration and doctor-patient-family communications outside the wall of the hospital leads me to wonder—now that we're used to the luxury of having emergency regulations that opened up lots of innovation fronts—whether we're going to retrench and return to an age where old rules of privacy and data use limit these kinds of new ideas. Don't get me wrong, the regulations around privacy, encryption, and security are we good things that we know we need to address, but now it creates these boundaries where abruptly the innovation goes back to the previous baseline slow crawl.

Rasu Shrestha, MD: We all saw a dramatic uptick in the demand and adoption of virtual care through the pandemic. There is a danger in viewing virtual care versus in-person care as a binary choice.

We led the charge with our nationally leading Atrium Health Hospital at Home program—with remote patient monitoring components. Our approach at Atrium Health is that virtual care needs to be embedded into the fabric of care transformation and that's what we're starting to do now on a number of fronts, methodologically across an end-to-end set of offerings in what we call our "Virtual Edge" platform. We're able to up the experience and meld together the virtual and in-person world.

Shea Long: I imagine many patients were thankful when you rolled out the hospital-at-home program during the pandemic. So many people feared for their health and weren't sure if they should go to the hospital or a clinic. The ability to stay at home and receive care was a game-changer and welcome relief for many people. I remember news reports about overflowing hospitals and clinicians at their wits' end. It was a highly stressful time for everyone involved in healthcare, from payers to providers to patients. For the underserved, the situation was much, much worse and in many ways possibly life-threatening. Many people were simply trying to keep their homes and jobs; few were thinking much about their health. Social determinants of health (SDoH) are a primary focus for many healthcare organizations, and the pandemic only exacerbated these challenges and brought them to the fore. Dr. Shrestha, did your organization see much in the way of patients needing better, more consistent access to nutritional services, care, and technology?

Shrestha: We did. There are gaps between the haves and the have-nots, and I do think that's emblematic of what's wrong in healthcare. And the pandemic, if anything, shone a light on those cracks and fault lines that exist in the way that we deliver care. So, the social determinants elements came to a light, whether it was initially those specific ZIP codes that just could not get COVID testing, or even access to ventilators. But we also used GIS solutions to find out what the data tells us. Then, we sent our mobile units directly to those areas, allowing us to balance out those ZIP codes between the haves and the have-nots.

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—Rasu Shrestha, MD, MBA, Executive Vice President, Chief Strategy and Transformation Officer, Atrium Health, Charlotte, North Carolina

Ting: There's a new divide in SDoH: I'm talking about the technical divide. We now have a society comprised of technology haves and have-nots. And it's not just about ethnicity, or financial status, or age. For instance, we used to assume there's an age divide where older patients would have a tougher time with patient

portals and with remote monitoring and wearables. It turns out no. Many seniors are completely facile with mobile and web technology, and it turns out, many younger folks are the ones who can't figure out how to leverage the patient portal!

It's an increasing challenge to juggle between supporting the technology haves and have-nots. For example, the use of telemedicine increased 8,000% at our organization. But we found that we would deploy telemedicine and schedule virtual visits and then our doctors would spend the first 75% of visits just trying to talk patients through how to get on Zoom® or Doximity®. So, a great many visits ended up converting to a phone call. And that impacts the quality of the care when there's a class of patients that you can only do the audio and you can't do the video.

Long: Value-based care programs have been talked about for quite some time. The concept has gained traction here and there, but there doesn't seem to be any across-the-board adoption. What's keeping that from happening?

Anil Singh, MD: No. 1 is the point about being paid a parity. In our organization, about 1% of the time in 2019, clinicians were using telehealth and that went up to 25%, 30%, and even higher. It was because insurance companies, CMS, everybody said, "We're going to pay a parity," and so what would have taken 10, maybe 15 years to accomplish, in a matter of four days provider systems across the country stood up, operationalized, and figured out how to do telemedicine for the care of their patients. I think that speaks volumes to how when you pay clinicians correctly, they'll follow that result.

"The thing that we at Intermountain Healthcare are concerned about most with the digitization and the freeing up of the data is that patients will end up becoming products. ... We want to improve patient experience, but we should never be in a situation where a patient, and the trusted clinical relationship, is adulterated because of direct-targeted marketing advertisement."

—Dan Liljenquist, JD, SVP and Chief Strategy Officer, Intermountain Healthcare, Salt Lake City

Long: Technology is often portrayed as a great equalizer. But it seems the pandemic has shown that assumption isn't true in many cases. What can we in the healthcare industry do to address this issue? How can we assist those who don't have access to the technology that supports a better care experience? How do we solve this problem?

Ting: Right now, it's embryonic. One of the ways is, because of the pandemic, we got grants and had resources to acquire hardware that we didn't have before. We bought Kindle Fire®, Android® tablets, and iPad®s and just gave them to the community.

That is such a temporary fix. It becomes a pricy proposition. We know this is the future and the right thing to do, but now you're talking about one implementation turning into four: Not only do you have to build the clinical app, but now you've got to have versions for multiple mobile operating systems, and the web, and options for both the tech-enabled and non-tech enabled.

Liljenquist: You've got to hope that more and more people have smartphones, that it becomes so much a part of people's lives, that it'll move that direction. But the one thing we're aware of is that 25% of the primary care doctors in the country are over the age of 65. Some of them are great to embrace new tools and some are not. We've got to be able to use technology to allow primary care doctors to extend their practice models, to have a larger panel. That's the only thing we can think of that you could do, so help people self-triage, self-diagnose, self-treat as best you can. Monitor them effectively, so that your doctors are spending the right time with the right patients downshifting everything else as much as you can to automation, to an application, or to an advanced practice clinician.

Long: COVID-19 opened the healthcare industry's eyes to the possibilities of telehealth and other technology-supported approaches to care. Patients embraced telehealth as a safe, convenient, and efficient way to interact with a healthcare provider, with many healthcare organizations using online video calls as a patient engagement tool. And many acute and chronic conditions can be treated and monitored through an online call. As we move forward, will telehealth remain an option for clinicians and patients?

Singh: No. 1, it depends on payer parity. What does CMS do? What do private insurance companies do? What's the reimbursement on telehealth and virtual capabilities? The second piece is probably more important: What will consumerism drive? I think that telehealth is here to stay, because patients still demand the virtual care. There still—even if the pandemic ended in December or tomorrow—will be a population of folks and cohorts of people that will still want this. The answer is probably somewhere in-between.

Shrestha: The genie is out of the bottle. For us as a health system, we're not going to go back to how things were pre-pandemic, even though pre-pandemic, we were leveraging virtual quite a bit, but the numbers have really risen and they're not going to go back to the pre-pandemic levels. But payment parity is really important as well.

The consumers are demanding this, so I don't think the pendulum is going to swing back the other way too much.

Ting: I agree with you both. I'll go out on a limb and say 25%. I think we all saw 60% at the peak. It's swinging

back. I think we'll probably settle, in the ambulatory space, at maybe 25%–30%. On the inpatient space, the home hospital is going to need to be a bigger part of what we do.

I think the driver for consumers of why they're asking for telehealth is not because they're in love with telehealth. They're in love with the convenience. We all have seen the revolution in urgent care and the popup Walmart, CVS, urgent care centers, and how patients do go to those.

However, my theory is if we get ambulatory expansion and access right, the patients will prefer to come back and see a human being in person.

Singh: I think that's true, and especially for that first-time visit, right?

However, post-acute or pre-acute, pre-rehab, those things lend beautifully to virtual. Behavioral health lends beautifully to virtual. Wellness visits potentially could lend beautifully to virtual. But as that technology becomes crisper and evolves over time, I think you'll see people say, "I need to see the doctor for a wellness visit," and they're going to be at work on their lunch hour. That is a convenience that I think consumers want.

That's going to be a shift and hospitals are going to have to figure that out. One of the things that we talked about was hospital to home. It's a difficult thing, because you potentially can take care of some patients virtually that otherwise would have been admitted, but what does that do to the hospital system? Because they need heads in beds. They've got to survive.

So how do you balance that? What's the reimbursement structure? How do you make that system whole? Or do they just need to be right-sized? All of those are important questions as we evolve into the future of virtual.

Long: As a non-emergency medical transportation (NEMT) provider, we help members get to care at the right time and the right place. We use technology to make that happen. The technology ensures transportation providers are matched with those who need a ride to an appointment at a specific time. As demand for our services increases, we're exploring new ways—using technology—to connect with the members who use our services. We're part of the same movement we've all seen in the healthcare industry where technology is used to improve the member or patient experience. Whether you're an NEMT like ModivCare, a provider, or a payer, technology is critical to the organization's longevity and success. I'd love to find out how your organizations are incorporating technology into an industry known for one-to-one, person-to-person engagements.

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—Shea Long, Vice President, Product Development, ModivCare, Atlanta

Liljenquist: What we're trying to do is build a system where people can get the care when, where, and how they want it. Our hypothesis is that you've got to move away from an RVU-based model with your clinicians in their primary care setting.

We're moving many of our clinicians into a panel management model. We're not a closed-loop system, we take multi-payer risk, but what we're working toward with payers is to say, "Look, we want to take full clinical and financial accountability for people," and we'll work with any payer, but it's got to be along these lines. What we're doing then is we're creating team-based care models that are built around a panel and then trying to make it as easy as possible for people involved in their model to get same-day care with their care team.

But more importantly, we've launched a company called Castell, which is a population health services organization, and we're building what we call a care traffic control function that ingests the data from all the data systems, so we know when a panel member pings an emergency department or didn't pick up a medication. If you're being prepaid, every time you can keep people out of an emergency department or out of a hospital, it pays for itself. It feels like a totally different experience for the member. They have good access.

HealthLeaders: *What has been your experience in implementing and using CRM to manage triage of this?*

Shrestha: The concept of the CRM is one that we all are grappling with and we implemented a CRM solution here. But I think the question that we need to ask as healthcare leaders is, "To what end"?

Why is it that we're implementing this CRM? I love the "care traffic controller" concept; interacting with our patients, whether it's through a chat bot or through a voice call, we have all the context of that patient directly in front of us and we're able to speak to the specifics of what that patient's needs are or that consumer's journey.

Liljenquist: The ability to customize that experience is fundamental to what we're trying to do. Let people pick how they want to engage. We believe that, in the future, we've got to be less dependent on systems of record. What we're building is a next-generation platform to extrapolate data and then to write back in as a system of record, but the idea is that we're creating and working on consortium ideas to hopefully normalize and create a common data model lingua franca for healthcare. Our goal is to be absolutely EMR-agnostic.

Ting: Another thing that has changed during the pandemic that is fundamentally changing our landscape, which is that the 21st Century Cures Act and the USCDI, the data-sharing requirements that weren't driven solely by the pandemic, but in this setting, now the EHR vendors are being forced to open up their APIs and open up the data pipes. We can and should be taking advantage of that to create these adjunct systems.

Shrestha: We need to bring the humanistic interaction elements back into how we provide care. Right now, we're the droids. We're the ones who are relegated to that billing and documentation system of record. EMRs have a critical role in the delivery of care, and through the embrace of true interoperability and APIs, we have an opportunity to elevate ourselves from these mainly transactional systems to the experiential systems that our patients and consumers really need.

What we're talking about here is there is an opportunity for us to create this data abstraction layer that sits on top of those silos of repositories, because the patient doesn't reside in any one repository. When you're trying to bring that patient's story to life, we need to have that abstraction layer that allows for us to be a lot more creative, not just in terms of the data that's captured today in those silos that we're trying to interoperate with each other, but claims-based data, social determinants data, and patient preferences.

This is oftentimes a bad word in healthcare, but "How do we monetize that data?" Whether it's specifically taking those data points and saying, "All right, how do we work with industry and pharma and push drug development and vaccine development forward in much faster paces?" Or maybe it's taking the insights that we generate from those data elements and monetizing those insights. I think that's important for us to contemplate as well.

Liljenquist: The thing that we at Intermountain Healthcare are concerned about most with the digitization and the freeing up of the data is that patients will end up becoming products. We want to improve clinical care. We want to improve patient experience, but we should never be in a situation where a patient, and the trusted clinical relationship, is adulterated because of direct-targeted marketing advertisement.

I absolutely agree that we should be looking for opportunities to develop new clinical insights and to monetize data in an appropriate way that advances patient care, but also to create a gating and policing function that preserves the clinical practice of medicine and the trusted relationship we have with our patients.

HealthLeaders: *What have you been doing at your organizations around AI, machine learning, and cloud-based technologies?*

Ting: So remote patient monitoring (RPM) devices, wearables, and apps are ways for patients to get their data into our systems, right? But there's a whole other slew of stops along the journey of data. For instance, we buy wearables for all our patients and then we don't take into account that doctors don't want to see that data, because we have no idea what it means when an Apple Watch® says you've got a-fib. What do I do with that? Ninety percent of the time it's a false alarm.

So there's the curation and storage of data that challenges us; if we can't harmonize the data then it's hard to take those data off of apps and put them in a repository where it's helpful to people.

Then there is the analysis. The AI, ML, playing with the data, but that's useless if you can't serve up the insights in a meaningful way. Then there is the display. How do you get data in front of our clinicians so that they can make their decisions?

The last stop in that journey of data has to be executing on it. So, if the AI has picked up a population of patients that need follow-up visits, the AI bot should then make those visits. It should go into the scheduler automatically. And nominal results should simply flow back into the EHR without bothering the clinicians. Save the clinicians' time and attention for those cases where the bot flags a change in a patient's condition that needs clinical intervention. That's a future I think clinicians and patients alike can all look forward to.

Long: We've touched on the different ways technology—ranging from telehealth to an Apple Watch—can create a better experience for patients. Many organizations want to move beyond these technologies to embrace artificial intelligence to support predictive outcomes and improved member and patient engagement. Even so, AI is just a piece of the healthcare puzzle, rather than a panacea in and of itself. AI, or any technology for that matter, is simply one way to drive toward a specific outcome. One that we all know seems simple on the surface but is often difficult to achieve—improved health outcomes. How are your organizations using different technologies to help you reach the goal of improved outcomes? And is it working?

Shrestha: We went live with point-of-care ultrasound devices and we had them deployed in our pop-up clinics, and also in our urgent cares, our EDs, and our ICUs, and we're using them to triage our COVID-19 or COVID-suspect patients.

We're also deploying them in our Atrium Health Hospital at Home program. Paramedics that were going to our patients' homes were using these AI-powered Butterfly devices. They're connected to the iPhone® and it is then connected to a probe, and there's AI at the back end that's helping with the specifics. For example, are there things that we need to do to escalate the patient, so that we can take them in for a CT scan or does the patient need to immediately be admitted to the ICU? So, AI was helping triage our patients, in the busyness of COVID-19.

That's the approach that we need to take, to make sure that we use AI where it does augment the care that we're providing, accelerate the pace of whether it's diagnostics or whether it's specifically looking at insights that could be generated out of data in ways that we could not prior to AI.

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—David Y. Ting, MD, Chief Medical Information Officer, Massachusetts General Physicians Organization, Co-Director, MGH Center for Innovation in Digital HealthCare, Assistant Professor, Harvard Medical School
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