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CHIME President and CEO Russell Branzell moderated the roundtable. Contributing to the discussion were AT&T representatives Clint Cetti (Global Director of Strategy and Innovation), Joe Drygas (Vice President of Government, Education, and Healthcare), and Clara Hustad (Assistant Vice President of Marketing – Healthcare).

Participating CHIME members:

Rhonda Bartlett
VP of Digital Services
NewYork-Presbyterian

Saad Chaudhry
Chief Digital and Information Officer
Luminis Health

Stephen Eckert
CTO
Cook Children's Health Care System

Jonathan L. Manis
Sr VP and CIO
Christus Health

Lisa Stump
Sr VP and Chief Information Officer
Yale New Haven Health and Yale School of Medicine

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SUMMARY

By many accounts, the United States is a connected nation. According to the Pew Research Center, 77% of Americans have broadband internet at home, and 85% of Americans own a smartphone (Only 3% of Americans don't have a cell phone of any kind.) Meanwhile, PwC estimates that 80% of Americans have 5G coverage at home or at work. Though digital divides certainly exist — between rural and urban areas, between older and younger generations, and among different levels of education and income — most Americans have connectivity in their pockets.

With this degree of connectivity, consumers are increasingly untethered. Gone are the days when connectivity meant plugging a desktop or laptop computer into a landline internet connection. As 5G networks continue to expand, and as consumers reach the upgrade cycles on their wireless plans and opt for 5G-enabled devices, consumers aren't far off from constant connectivity that seamlessly transitions from Wi-Fi networks to 5G networks as they go about their day.

This roundtable discussed what a world of constant connectivity could look like for healthcare. Participants focused on how connectivity impacts clinical and operational strategy, how it increases access to care, and how its transformative potential must be balanced with its impact on traditional healthcare business models.

CONNECTIVITY'S ROLE IN HEALTHCARE STRATEGY

The most obvious impact of connectivity is its ability to provide care beyond the four walls of the hospital. Demographics are an important reason for this shift, according to Saad Chaudhry, Chief Digital and Information Officer at Luminis Health. According to the U.S. Census Bureau, Americans over 65 currently represent 17% of the population, but that figure will exceed 21% by 2030.

"The health system isn't going to be able to handle that need for geriatric care along with everything else that happens on a day-to-day basis," he predicted. "We're going to need some level of dispersed care, whether you call it health at home or mobile health."

Fortunately, said Rhonda Bartlett, Vice President of Digital Services, NewYork-Presbyterian, advances in remote patient monitoring (RPM) technology "allow us to do things we couldn't do before." Clinical staff, for example, can now receive alerts that a certain patient needs their attention. "They're not just sitting and looking at electronic health record (EHR) data."

Beyond the sick care model, RPM represents a different paradigm in outreach, said Lisa Stump, Senior Vice President and CIO, Yale New Haven Health and Yale School of Medicine.

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"It's reaching people with information and education in a way that starts to build their trust long before they need healthcare services," she explained. "It's another layer of helping people stay healthy, ideally, and manage their health in a very different way. It's helping people understand what services are available to them and making it very easy and for them to connect to it when they need to."

These types of connections are critical for building customer loyalty, according to Russell Branzell, discussion moderator and CHIME CEO and President. "It's a game changer if it's really there and it really works. It keeps people coming in the door, and not just the digital front door."

For this to succeed, of course, devices need dependable connectivity, especially if they're tracking vital signs or watching to see if someone has fallen. Broadband Internet and Wi-Fi are helpful, but organizations shouldn't expect all patients to have reliable connectivity.

This is where 5G can play an important role, noted Stephen Eckert, CTO at Cook Children's Health Care System. "If we can send them home with devices that are 5G enabled, and we can help them work with their service provider, that's how we'll succeed in moving things forward."

THE IMPORTANCE OF FIRSTNET

Within and around the hospital, organizations have another valuable connectivity tool in their arsenal: FirstNet. In response to Sept. 11, 2001, when saturated communications networks made it impossible for first responders to communicate, a federal agency — the First Responder Network Authority — was established in 2012 to create a separate broadband network dedicated to 9-1-1, police, fire, EMS, and emergency management. In 2017, the federal government selected AT&T to bring the network (now known as FirstNet) to life through a unique 25-year public-private partnership.

Use cases have opened up over the last three years as the FirstNet Authority has recognized the growing value of supporting healthcare at home, said Joe Drygas, Vice President of Government, Education and Healthcare for AT&T. "We see it as a huge ability to change the way you all provide care, because connectivity has become more important than ever," he said.

FirstNet has been useful in both rural and urban settings. In rural areas, FirstNet may be used to help doctors and paramedics provide care at home to patients who can't easily travel to facilities, as well as at clinics. In cities, FirstNet and the early benefits of 5G enable mobile stroke units to transmit large packets of data directly to clinical EHR systems from the ambulance, giving ER physicians information they need to treat patients quickly when they arrive.

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Chaudhry said FirstNet has proven to be so valuable that Luminis Health selected only devices that are FirstNet-enabled as part of its recent unified communications upgrade. "Every time a signal drops, the devices just switch over to FirstNet, and it should be seamless," he said.

THE BUSINESS REALITY OF HEALTHCARE

Participants agreed that the combination of increased access, connectivity, and engagement offer the opportunity to support a care model focused on prevention. Patients and physicians alike have more digital tools at their disposal to monitor their conditions and address issues such as rising blood pressure or blood glucose level before they progress to the point of an emergency department visit.

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> NewYork-Presbyterian

Such a care model, though, is largely contrary to how the industry makes money. "Your entire business model for at least a century, and probably much longer than that, has been about the concept of magnetism. You want to get people into your doors," Branzell said. "If your strategy is to make someone's life 50% healthier and for them to use your services 80% less, your board will look at you like you're crazy."

A steadfast focus on getting people through the door is also increasingly contrary to what patients want, said Jonathan L. Manis, Senior Vice President and CIO, Christus Health. "As an industry, our operating and clinical model is built around the convenience of the provider of services, not the consumer of services. That must change. Instead of trying to drive volumes to our existing facilities, we must retool in order to deliver services when, where and how it is most convenient for those we exist to serve."

To change effectively, Manis said organizations need to envision the customer experience they want to provide and then work backwards from there. "We can never transform by staying the same. To transform an organization, you must know two things: How your organization delivers services today, and how you expect your organization to deliver services tomorrow. Then you must let go of what you are doing today and go 'all in' to realize that transformational vision." Otherwise, you're transforming for the sake of transforming.

No hospital will shift to offering only digitally enabled preventive care, Stump said; after all, surgery isn't happening in the home any time soon. When it comes to these service offerings, organizations need to look at the value proposition from two perspectives: Whether the reimbursement is there and whether the organization is liable if, say, a monitoring device sends the clinical team data showing an elevated heart rate, but no action is taken. Either factor could be enough to shut a project down, she said.

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That points to a second cultural obstacle to putting connectivity to use for preventive care: The power of the word "no." Eckert recalled a conversation with his organization's head of digital practice about some initiatives that were underway, from building a digital front door to sending pediatric patients home with wearable devices.

"The chief information security officer expressed significant concern toward every one of his initiatives," he said. "We try to make so many things available, but we also have significant security and patient privacy challenges to navigate."

Even when an organization is all-in on expanding digital access, progress can be slow. Bartlett described the progress of NewYork-Presbyterian's strategic plan to expand digital access to care as "baby steps," in large part because of the number of stakeholders who need to be involved.

"It has involved coming together in ways we never thought that we would have to do," she said. "We need to integrate so many systems behind the scenes, and the problem is part of it sits in marketing, part of it sits in digital, and part of it sits in IT. But all of that has to come together."

TECHNICAL HURDLES TO UNTETHERED CONNECTIVITY

There are also several technical hurdles to taking advantage of untethered connectivity. Some present themselves in the hospital setting, and others impact patients at home, but all stand in the way of wider adoption.

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> **Stephen Eckert**
> Chief Technology Officer
> Cook Children's Health Care System

- **Not everyone has access.** The catchment area for Cook Children's Health Care System extends west from Fort Worth into New Mexico — a vast area where connectivity drops easily. "We have to figure out where we don't have access and people don't have the ability to use telehealth," Eckert said.
- **One-off projects persist.** "Even though HL7 is an established standard, and even though modern APIs are here, every time you get a new vendor, it's almost like we're doing a pilot or something brand-spanking new that's never been done before," Chaudhry said.
- **Hospitals can't have dead spots.** A hospital the size of NewYork-Presbyterian could have 14,000 nurses, 9,000 physicians, and over 35,000 smartphones on its network, Bartlett said. "They're all given full connectivity. They need to be on all the time."
- **New tech doesn't work on an old foundation.** Too many healthcare organizations put digital services or innovation in siloed offices instead of looking at the big picture, Manis said. "Rather than truly transform, our industry keeps trying to attach advanced technologies and new services to an outdated delivery chassis. Like installing air conditioning or cruise control on an old Model T — it's very expensive to maintain, fraught with compatibility issues, and fails to meet expectations. What we need is a modern, consumer-centric, and location-agnostic care delivery model to properly leverage modern and emerging technologies."

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CONNECTIVITY'S TRANSFORMATIVE POTENTIAL

Even with the technical and cultural challenges that exist, the transformative potential of widely available connectivity cannot be ignored. Multiple participants referred to the importance of providing connectivity to rural, underserved, and marginalized communities. "Connectivity is absolutely critical to the services we provide," Manis said. "Reliable connectivity provides access to services, helps reduce the cost of care, and provides access to information that can both help promote health and prevent the need to higher acuity services."

Three important mantras can help organizations make this type of progress.

- Look at the quick wins. Thinking in terms of "baby steps" isn't necessarily a bad thing, Eckert said, noting that popular brands such as Delta Airlines with successful consumer apps didn't build them overnight. "It was an iterative process over time to get people away from calling a travel agent to going, to going their website, to ultimately using their app," he said.
- Buy tech that's ready to go. Today's organizations aren't interested in running more wires through ceilings or erecting new wings of buildings just so they can achieve connectivity. "I want all-encompassing, SIM-enabled devices that I can plug in wherever," Chaudhry said. "I want my vendor partners to say, '"Here it is. It's already turned on. Go ahead and use it.'"
- Celebrate all progress. When healthcare organizations are hard on themselves for their slow pace of technology adoption, it downplays the progress that's been made and stands as a barrier to doing more, said Clara Hustad, Assistant Vice President of Marketing in Healthcare for AT&T. "It inhibits transformation because you're still thinking about the old way rather than the new things you could be doing."

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CONCLUSION

Connectivity has long been a barrier in enabling healthcare organizations to increase access to care, both in the communities they serve and in their own facilities. Increased availability of 5G and FirstNet presents an important opportunity to address this issue, as reliable and seamless connectivity supports better care in the hospital while establishing frequent connections to patients recovering at home.

Given this potential, connectivity is well-positioned to help healthcare in its push for preventive, value-based care. However, organizations should prepare for a gradual pace of change. This will best accommodate the enterprise-wide collaborative effort necessary to drive the transition away from existing (and longstanding) business models and steer it toward the implementation of the technology that supports new models of care delivery. Getting everyone in the organization on board will pose a challenge, but the long-term benefits of connectivity will ultimately prove their worth to care teams and patients alike.

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