TACKLING INTEROPERABILITY

Two industry groups address the problems of health care's complicated connectivity **by Emily Kubis**

One of the most frustrating things patients deal with when interacting with the health system is attempting to share medical information among new specialists or facilities. From filling out the same form multiple times to potentially life-threatening delays in treatment due to crossed wires on prescriptions or referrals, patients may not know interoperability by name. But they certainly know its impact.

A study conducted by medical research organization West Health Institute found that the American health system's lack of interoperability resulted in excess of $30 billion in costs, which includes the tab for mistakes and inefficiencies contributing to poor results for patients. With dollars and outcomes on the line — and in an era during which even secure financial data can be transmitted wirelessly — patients and many of the providers who care for them recognize that a serious change is needed.

While there are technical and regulatory challenges to sharing medical information among providers, experts say the issue is less about creating the necessary technology, but more about breaking down the business barriers to implementation and scale.

"The technology components are there, and I believe the industry has proven, while not at scale, there is sharing that is occurring," says Bob Robke, vice president of interoperability at tech giant Cerner Corp., which is on track to book more than $4 billion in annual revenues this year. "Most of our issues today are how we can scale that and make it an expectation of both providers and patients."

To scale interoperable technology, the industry has to unite the software vendors and the providers who buy their products. The two groups have traditionally had a transactional relationship, but are now faced with coordinating toward a common achievement.

Two industry groups have sprung out of this dynamic. On the vendor side, there is CommonWell Health Alliance, an interoperability network for information technology companies. The group was founded in 2013 by five big players in the IT world — Cerner, McKesson and Allscripts among them. By September of this year, the group had grown to 33 members, including locally based Medhost.

On the provider side, the Nashville-based Center for Medical Interoperability was launched in April of this year. With five local executives and seven national health care leaders, the group represents a big chunk of the provider industry's procurement power, which Center Executive Director Ed Cantwell calls "the most valuable asset" in the free market.

"We launched with the Nashville five — LifePoint, Community Health Systems, HCA, Ascension's Saint Thomas and Vanderbilt University Medical Center," Cantwell says. "What's unique about those five is that they're almost the surrogate for the entire nation. You have your prestigious academic, your rural hospitals and the national mega-presence of HCA. We don't have to invent new technology. It's more of developing the techno-economic model for these providers to say, 'I'm just not going to tolerate the current system.'"

While interoperable technology exists, the real need is in developing standards for vendors to build on and for which hospitals can be certified. Presently, interoperability standards are built around "Meaningful Use," the federal incentive program for providers to implement and use certified electronic health records.

But because Meaningful Use Medicare payments, for example, began in 2011 and end next year, certification has been oriented around existing standards. That's a low achievement bar, according to Bill Stead, VUMC's chief strategy officer and a biomedical informatics professor.

"Current standards do not require that the two parties or systems actually understand the information in a way that allows it to be used," Stead says. "It's a bit like requiring the Postal Service to use standard envelopes and standard addresses and standard paper, but when you open it, it's written in Chinese, and you need an interpreter. That's the current level of interoperability built into the current regulations."

The interoperability landscape includes all the technology involved in patient care, from medical devices to the electronic health records that hold a patient's charts and medical history. Presently, none of these elements communicate with each other, causing expensive complications and inefficiencies. The Center for Medical Interoperability's goal is to connect the nation's network of devices and software by building a "plug-and-play" system that collects data in a standard, non-proprietary way.

Developing interoperability standards will improve certification processes, care coordination and product development, Stead says, with engineers able to compete on a standardized, rather than vendor-specific, playing field.

"That would be the first big win for the development community," Stead says, "And also a big win for the government, because it makes interoperability certification scalable and doable."

The provider-oriented center is more focused on connecting and standardizing medical devices, while the vendor-based CommonWell has spent more time building out the shared infrastructure of interoperable health records.

The splitting of that work was an unofficial, but natural, division of labor, according to Dr. Mike Schatzlein, center board member, and Ascension Health senior vice president. Many expect that as the health record industry continues to consolidate, it will be increasingly incentivized to solve its own interoperability challenges. Meanwhile, the much more fragmented medical device industry can be better impacted by the center and its provider expertise and awareness of connectivity needs in an acute-care setting.

But siloing software development is partially to blame for the nation's current lack of interoperability, and leaders on both sides of the coin say they are ready and willing to share data and information as the process unfolds.

"We connect over 1,000 medical devices," says John Gresham, vice president of Cerner's DeviceWorks division. "That's why the Center for Medical Interoperability and Cerner, that's such an important relationship. The work we've done with medical devices has been in the absence of any standards, and if new ones emerge out of the Medical Interoperability group, we'll look to adopt those standards as they occur."

Nevertheless, tension remains between vendors and providers. There is a suggestion among providers — both implicit and explicit — that vendors are, at worst, purposefully blocking interoperability efforts and, at best, not actively contributing to their success. It is not profitable, some say, for vendors to make their systems communicate with competitors. It makes better business sense for them to bind users to their own network of products. And even in this move toward improved standards, some providers worry that certification represents an additional profit opportunity for vendors.

"We just don't want the vendor community to think there is money to be made in selling standardization services," Schatzlein says. "We're standardizing to get the proprietary nature out of this information. If there's a profit-making proprietary approach, that's no different than the vendors making everything different on purpose."

Naturally, the vendor community largely rejects that characterization. Misaligned incentives likely did contribute to technology fragmentation, but that glosses over the millions of dollars spent by health systems over many years to internally optimize non-interoperable technology. Did government regulations keep hospitals from demanding interoperable technology until now? Did vendors conspire to tap the brakes on development? Were providers wary to share patient data and slow to invest in technology that could do so?

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Perhaps a better way to think about interoperability is as a co-morbid patient. There were many causes of the condition, and a coordinated response is the only cure.

"There are a lot of good organizations and good efforts in all aspects," Stead said. "We're doing pieces of what needs to be done, but we're not actually doing it in a coordinated fashion. The real secret is to take those steps together."

Developing CommonWell and the Center for Medical Interoperability pushes the vendor and provider industries toward breaking down their sector-specific competitive barriers to interoperability. Representatives from both groups note that a neutral, collaborative effort has been necessary to build a trust framework among sector peers. As that work evolves, the ultimate test will be whether the industry as a whole — health systems, vendors, individual physicians and others — can move forward in a coordinated fashion toward true interoperability.

"We have big things to solve around the patient, and the barriers keeping that from happening need to be addressed," Robke says. "I think when you look at it from the patient's eyes, things get really clear on what we need to do." NP

'PULLING THE DATA TOGETHER IN ONE PLACE ISN'T ENOUGH'

VUMC, LifePoint talk through the challenges of interoperability

The Center for Medical Interoperability features five big Nashville names: Vanderbilt University Medical Center's Jeff Balser and former Saint Thomas CEO and Ascension Health executive Michael Schatzlein as well as Bill Carpenter, Wayne Smith and Milton Johnson, the respective CEOs of LifePoint Health, Community Health Systems and HCA Holdings.

"We've got this window where the provider strength from Nashville, plus the national nature of board, can really do some historic things," says Ed Cantwell, executive director of the center, which was launched earlier this year.

Balser and Carpenter answered a few questions for the *Post* about their organizations' approaches to interoperability and their involvement in the Center for Medical Interoperability.

What are the biggest interoperability challenges for your specific organization?

BALSER: The challenges facing VUMC when it comes to large-scale data sharing outside our system aren't that different from those of other health systems. To help address issues of interoperability, we are making a substantial investment in new information technology that, when fully implemented, will enable providers, hospitals and health systems from across the Vanderbilt Health Affiliated Network to efficiently share data. This investment is a necessary step in the process to scale up and sustain our population health initiatives.

CARPENTER: Like any provider organization, our greatest challenge is ensuring that our clinicians have access to all the information they need when, where and how they need it. This includes data from disparate sources, including electronic health record systems and data generated from various medical devices and equipment. However, just pulling the data together in one place isn't enough. It has to be available and presented to clinicians in a way that makes sense and fits within their workflow as they care for patients.

How should patients think about interoperability?

BALSER: While the average citizen may not be familiar with the term our industry has adopted to characterize perhaps the most pervasive problem confronting health care delivery today, they're very familiar with the issues of interoperability from a consumer's perspective. Who hasn't experienced difficulties with the portability of their medical records? A task as simple as seeing a specialist for the first time or visiting an out-of-town emergency department can be frustrating or perhaps even dangerous if vital medical information can't be obtained.

A majority of the public wonders why physicians and hospitals can't communicate with each other more effectively when you can get a mortgage or do just about anything else online. However, I think the public should understand that regulations intended to ensure the privacy of their health information make the challenges we face even more difficult.

CARPENTER: For patients, interoperability is really about improving care. It is a vital part of expanding patient-centered care models. Most people see many health care providers working across many settings — annual appointments with a primary care doctor, consultations with a specialist or two, that unexpected visit to an ER. Interoperability ensures that each of these providers has the best, most up-to-date information on a patient and that that patient is receiving informed, optimal care.

Interoperability also can give patients and families ways to be more engaged in the care they receive through technologies like patient portals. If we share information with patients, we improve their ability to be an active member of their care team. This is an important step for empowering patient accountability and encouraging better health.

How are the physicians in your organization approaching this issue?

BALSER: Because we are a tertiary referral center, the physicians at VUMC are more frequently encountering issues related to access of patients' prior records. There is no lack of awareness among our providers about the difficulties surrounding the transmissibility of health information. Having long been the beneficiaries of IT tools that were created in-house which afford an array of options and conveniences in the clinical setting, our clinicians understand the institutional priority we place on having the best of these offerings. And many are actively engaged in making our capabilities more interoperable and available across the country and around the world.

CARPENTER: For providers, interoperability means a timely, comprehensive view of a patient's health

status. It can improve a clinician's ability to make the best possible clinical decisions and enhance their ability to engage patients in care. By breaking down barriers that exist, it also can enhance provider collaboration.

What is the impact of the Center for Medical Interoperability on the industry and Nashville?

BALSER: The center brings a national voice and focus to the problems we all need to work together to solve in order to move health care forward in a way that will fully deliver on the imperatives of improving service and controlling costs. I'm proud to have a role on the center board and believe that VUMC and the center can work together in many ways.

For example, we are working with the center on a project to upgrade our wireless network to medical-grade for all mobile devices. The center's presence here in Nashville is logical. In addition to a top academic health system, we have a host of other large, successful nonprofit and for-profit hospital systems based in our region. As a city, we are an incubator that represents all aspects of health care. The center will thrive in Nashville due to the many favorable conditions and diversity of perspectives that will contribute knowledge toward solving interoperability's challenges.

CARPENTER: The Center for Medical Interoperability really exists to improve the safety, quality and affordability of health care. This means that its work is important to the success of provider organizations as well as health IT and device innovators across the country. We are fortunate that many of these health care provider and technology organizations are based in Nashville. These organizations, including LifePoint Health, benefit significantly from being in close proximity to the center. It allows us to actively participate in the center's activities and influence their work and how it takes shape.

We all understand the great potential for technology to transform patient care and make our health care system more efficient and effective. But there are a lot of barriers to this potential being achieved right now. Health care is rife with records systems that can't share data and devices that can't communicate with one another. We have to fix this. To achieve its full potential, technology needs to be developed with the perspective of those who provide patient care. And it needs to be developed with some kind of industry standard in mind. The Center is making sure that this happens. NP