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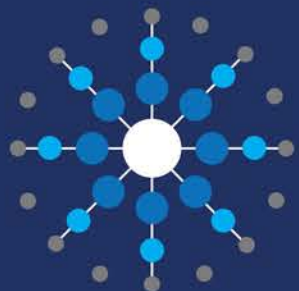
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Seema Verma

# CMS Administrator Seema Verma lays out plan for 'digital data revolution'

Health plans doing business in Medicare, Medicaid and ACA are being asked to share claims data, and all information should be transferable, Verma says. **By Susan Morse**

A year ago during HIMSS18 in Las Vegas, Centers for Medicare & Medicaid Services Administrator Seema Verma said she wanted to end the use of fax machines for healthcare transactions.

On Tuesday at HIMSS19, Verma gave more details on how CMS is moving providers, and also payers, to patient-centered initiatives thanks to a new mandate from the Office of the National Coordinator for Health Information Technology for consumers to have immediate, electronic access to their health records, including through their smartphones.

Verma also called upon insurers to share claims data.

CMS is proposing that all health plans doing business in Medicare and Medicaid and through the federal exchanges share health claims data and other information electronically with their patients.

The data should also be transferable, from doctor to doctor and plan to plan when a patient changes plans, Verma said.

For hospitals, as a condition of participation in Medicare, CMS is proposing that they must electronically notify providers in a patient's care team whenever a patient is admitted, discharged or transferred to another care setting.

CMS is putting out a call to action to have the entire HIPAA-designated record set made available electronically.

"Looking forward, we want to see a future where it's more than notification at discharge; instead, the entire record set will follow the patient," Verma said.

To encourage the industry to align in supporting the flow of data across the healthcare system, CMS is launching a project that uses the FHIR Bulk Spec to share Medicare claims data with accountable care organizations. This means that CMS is sharing claims data for ACO participants in a bulk format.

CMS is seeking comment.

"In particular, we want to know how we can put the weight of CMS behind patient identity and patient matching," Verma said. "This is a critical issue that has plagued data sharing efforts for years, and we need to find a solution."

In the digital data revolution imagined by CMS, health records are created at the time of

birth and accumulate information on every interaction, from tests to procedures to devices. The data could then be used by researchers, after a patient grants access, to prevent disease and develop personalized evidence-based treatments.

Medicare Advantage encounter data is available to researchers, and Medicaid data will be available later this year.

Standards-based APIs will connect data and incorporate it into a single record. There are now over 1,500 developers with a Blue Button app, Verma said.

Physicians and health systems will be able to use tools such as artificial intelligence and machine learning to help interpret the information. Tools that are used at the point of care will be user-friendly for clinicians, with no extra effort or millions of clicks, she said.

Verma did not elaborate on what it will take for hospitals and physicians to get to the digital data revolution, but half of a clinician's score in the new promoting interoperability program is now based solely on sharing data with patients, not on use of the EHR.

Verma said CMS wants to drive down cost. Actuaries predict that if nothing is done to better control healthcare costs, by 2026, one in every five dollars will be spent on healthcare. The underlying flaw in reimbursement models, despite value-based care efforts, is that providers are being paid for sickness, Verma said.

"When providers have responsibility for managing a budget and their reimbursement is tied to the results they produce, they will find innovative ways to keep people healthy and lower costs," she said.

Each party blames someone else for the lack of sharing data. Everyone is culpable, including the government, Verma said. There's also fear about sharing proprietary information.

Some hospitals even have to ask permission from EHR vendors to use their own data.

"Let me be clear," Verma said. "The idea that patient data belongs to providers or vendors is an epic misunderstanding. Patient data belongs to patients."

The rules announced on Monday build on the MyHealthEData work from last year. Information blocking and siloed data are no longer acceptable, even as the use of fax machines remains a reality.

"We can sequence the entire human genome," Verma said, "but we still can't get much more than a printout, fax or CD-ROM when we leave the doctor's office." ●

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# LOW LATENCY, HIGH SPEED, BIG FUTURE: HOW A 5G-ENABLED FUTURE WILL TRANSFORM HEALTHCARE DELIVERY

*Justin Blair, Executive Director of Business Products for Verizon Enterprise, provides an overview of the potential and promise of 5G-connected healthcare, and where 5G capabilities will be most transformative to care and collaboration.*

## There is a lot of buzz out there about 5G. What does that mean for healthcare as an industry?

The potential of fifth-generation mobile connectivity and wireless-access technology has been top of mind for some time now. Like a lot of other emerging and disruptive tech drivers, it's taken a while for activation to catch up with anticipation. While we're still a few years from a fully 5G world, 2018 marked an important turning point for the evolution of cellular connectivity. The anticipated impact of 5G, of course, lies in its promise of faster speeds and ultra low latency and the potential for pervasive connectivity and network agility that will enable enterprises to see their digital transformation goals fully realized – to connect people to people, people to information, and machines to machines in near real time.

When you consider the complex network of people and machines that support the ecosystem of healthcare delivery, it's easy to see why 5G will be a game-changer for this industry, both in fixed wireless access and mobility applications. On the backbone of high-bandwidth, ultra-low latency and high-density connections, we'll see new capabilities emerge that would be impossible on older networks. 5G will usher us into a future where the kind of rapid, real-time exchange of data needed for complex remote robotics, self-driving fleet vehicles and IoT-enabled automation can truly be achieved.

## Of the three you just mentioned, which will benefit the most from 5G capabilities?

Given the degree to which healthcare is adopting IoT capabilities – wearables, trackables and other sensor-driven medical devices – this is likely to be the space 5G will give the biggest initial boost to. We expect many of these devices will leverage 4G LTE, but 5G will bring new use-cases to leverage these IoT investments to their full potential. Consider the application of high-definition video and computer vision algorithms. In a 5G world, we can build a real-time visibility dashboard of a bustling hospital floor, and provide targeted, actionable information to doctors, nurses, and staff, as well as patients and visitors. This can be a game changer in patient care and experience. 5G isn't just about speed or getting data "there" more quickly. It has the potential to completely transform the experience on the other end of the connection. And it's going to open a capacity door, enabling a greater number of machines and devices to be connected to the vast "thing" space. When we talk about the future of IoT, we will see an even greater boom of mission-critical "things" that need to be connected to that space. Bandwidth management challenges and latency issues can't be part of that future.



*"Given the degree to which healthcare is adopting IoT capabilities – wearables, trackables and other sensor-driven medical devices – this is likely to be the space 5G will give the biggest initial boost to."*

JUSTIN BLAIR | Executive Director of Business Products | Verizon Security Services

A 5G-enabled "on demand" network will be even more critical as we see artificial intelligence and machine-learning capabilities driving an increasing number of IoT endpoint interactions. As network connectivity continues to improve, the next breakthrough may arrive not from the research lab, but from the frontlines of patient care: hospitals. Through wireless-enabled machine-learning, robots in hospitals can communicate and coordinate schedules with each other, allowing over-extended nursing staffs to focus on patient care.

## How can 5G further transform healthcare?

5G will be able to support a number of other capabilities that are critical to healthcare delivery, from enabling the fast exchange of large data and video files typical of diagnostic imaging studies, for example, to supporting remote patient monitoring and telemedicine. Any area of healthcare that is reliant on high-quality video and real-time decision-support tools will need the speed and reliability of a 5G mobile network as well as the emerging reality of haptic feedback and a truly tactile internet.

Consider the 68-year-old woman who in 2001 underwent gallbladder surgery at a hospital in Strasbourg, France. Her surgeons were located in New York City, remotely operating the three-armed robot in her French operating suite. Thanks to a transoceanic fiber-optic cable, the chief surgeon was able to watch his movements in real time on a video screen. In that kind of scenario, real-time speed and response aren't just important, they are critical. What we saw happen in an isolated instance in this case will become a widespread future reality for healthcare with 5G. It was enabled by the high-speed fiber-optic connection that existed between New York and Strasbourg. With all the fiber-optic network we've been laying in prep for 5G and the rearchitected infrastructure work being done to enable it, time- and delay-sensitive remote capabilities will become a part of the daily operation of healthcare.

That's the future of healthcare, and there is an increased focus on network technology, but increased attention will only put higher demand on network bandwidth. The truth is new breakthroughs in technologies like computer vision and volumetric video have limitless applications that are currently being restricted by the speeds and latency of existing networks. It's critical that all industries embrace this transformation, but for healthcare, future innovation will depend on it. Probably the greatest promise of 5G is how it will open the frontier for innovation. Things that, while dreamed about, just couldn't be done over a slower network will be brought to life in the 5G future.

## How far off is this reality? What are you doing with 5G right now?

Today, over a pre-commercial node at the Verizon 5G Lab, students and faculty from Columbia University's Computer Graphics and User Interfaces Laboratory are experimenting with remote physical therapy applications. The lab's work over 5G could prove a boon for patients and healthcare providers – especially in cases where distances make office visits prohibitive. 5G could impact where therapists can administer treatment and how patients can access rehabilitation resources. Remote physical therapy applications may just be the tip of the scalpel. Ultimately, the faster information can be transferred, the greater the opportunities to deliver breakthrough solutions and sensible treatment regimens for patients. Will it take a while for this kind of capability to make its way into rural America? Yes. But the pathway to that 5G-future is being measurably carved out now.



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# Innovation means creating for the right circumstances

Santosh Mohan of the HIMSS Innovation Committee and Intermountain's Todd Dunn discuss the importance of innovators and providers teaming up. **By Laura Lovett**

Progress in the healthcare industry often means a lot of back and forth between outside innovators and providers — and the two don't always see eye to eye. But both are essential for progress.

"Most of the startups are in a hurry and most of healthcare is not, so how do we navigate this?" Santosh Mohan of the HIMSS Innovation Committee said at the Innovation Symposium.

One of the keys to moving innovation forward is having a theory to unite the industry behind, Todd Dunn, director of innovation at Intermountain Healthcare Transformation Lab, said Monday. He suggested the healthcare innovation industry adopt Harvard Professor Clayton Christensen's the job that needs to be done theory, which stresses the "progress that someone is trying to make in a particular circumstance."

But both startups and the healthcare systems can benefit from working together. He said that when innovating, it is of paramount importance to spend time with the group you are innovating for and know the circumstances.

Too often innovators have the disease of the three C's — they spend too much time in conference rooms, on conference calls and in cubes, Dunn said. A way to remedy this is to add a fourth C: context. Developers also need to keep three aspects at the center of innovation — method, empathy and curiosity.

"The problem we have in innovation is we have this Tower of Babel business model," Dunn said. "Do you really understand

your consumer's jobs to be done?"

While the innovators have to hold up their end of really learning about the health system, providers also need a system that supports innovation.

Mohan said health systems often lack clarity on metrics, not sharing the operational realities with the innovator. And poor communication can lead to poor partnerships.

One hospital that is doing innovation right, according to Mohan, is Brigham and Women's Hospital with its iHub innovation center. One of the reasons it works is because it helps innovators and providers interact.

"It is supported by dedicated funding, and the staff acts as a bridge between different organizations, creating an infrastructure and a model," Mohan said.

While knowing the population you are innovating for is important, that doesn't mean a pilot is going to fix everything. Pilots often get overused, said Mohan. There can be a lack of clarity and direction in pilots. That's why it is important to have communication from the get-go. But there are other options other than just pilots to enable innovation.

Mohan also stressed the importance of having guidelines for innovation. In October, the American Medical Association, the largest physician organization in the country, released a playbook outlining best practices for innovations. Mohan said initiatives like this might be the keys to success in the future. ●

## ACCENTURE STUDY FINDS MILLENNIALS, GEN Z ARE LOOKING TO TECHNOLOGY, NONTRADITIONAL SETTINGS FOR HEALTHCARE

Younger generations are less likely to have a primary care doctor. However, on the whole, virtual care and walk-in clinics are on the rise. **By Laura Lovett**

When it comes healthcare, young adults expect more technology and nontraditional settings to be integrated into their care than previous generations, according to a new study released by Accenture at HIMSS19 on Tuesday.

The study found that Gen Zers and Millennials are much less likely to have a primary care doctor than older generations. In fact, only 67 percent of Millennials and 55 percent of Gen Zers reported having a primary care physician — compared to 84 percent of Baby Boomers and 76 percent of Gen Xers.

"The finding that was most intriguing and we wanted to bring forward to HIMSS was not only the general use of nontraditional care is increasingly significant, but also if you look underneath it, there is a significant age bias and it is heavily skewed younger," Kaveh Safavi, senior managing director for Accenture's global healthcare business, told MobiHealthNews. "But younger we are creeping up into the Gen Z, Millennial and even Gen Xers."

While fewer and fewer consumers are choosing to have a PCP, they are increasingly choosing nontraditional care. For example, 47 percent of respondents have used a walk-in or retail clinic, and nearly 30 percent said they have used some form of virtual care.

"The concept that people go to their doctor as their [starting] place of care is not an assumption we should make," Safavi said.

The survey also reported that more and more consumers are looking for providers with digital capabilities. Seventy percent of patients in this year's survey reported wanting to receive reminders via email or text about preventative or follow-up care — up from 57 percent in 2016.

One subject that all generations in the study agreed on is that when it comes to cost, transparency is key.

"Transparency about cost is equally important to the satisfaction of younger and older consumers (65 percent believe it to be very important or critically important factor)," authors of the report wrote.

The report comprises answers from 7,993 consumers over the age of 18. Consumers from Australia, England, Finland, Norway, Singapore, Spain and the United States participated in the study. The research was conducted by Oxford Economics on behalf of Accenture.

Accenture annually releases the report at the HIMSS conference. In last year's report, the company said the use of telemedicine was on the rise, with a 25 percent adoption rate. That upward trend is continuing this year, moving up to 30 percent.

"There is plenty of evidence that people are thinking about their care options in a more complex way than simply, 'I go to [the] doctor,'" Safavi said. ●

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Kate Milliken is the host.



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# FINANCIAL WELLNESS: A STRATEGIC PRIORITY FOR CONSUMER-CENTRIC ORGANIZATIONS

As Senior Vice President, Strategy & Initiatives, Erin Gadhavi is responsible for defining, developing and executing CareCredit's strategic vision. She leads initiatives driving the growth and strategic direction of the CareCredit business platform and Network. Having spent most of her career in the financial services industry, Gadhavi joined CareCredit to help find innovative solutions to address financial issues that can affect people's quality of health and access to care. She weighs in on transitions in patient payment models.

## Why should health systems and providers prioritize implementing third-party payment options?

Rather than providing in-house financing themselves, health systems can add effective options that already exist by implementing third-party financing. It doesn't have to be complicated; working with a proven third-party partner that has a demonstrated track record can alleviate burden and risk. CareCredit and other third parties can also provide value-add services and support including staff training, patient materials and online tools to help make those vital patient conversations more comfortable and effective.

## Why are patient payment conversations such an important consideration?

We're seeing a rise in both healthcare demand and healthcare consumerism in today's landscape.<sup>1</sup> As the U.S. population ages at a rapid pace, patients are also becoming more interested in their health and wellness earlier in life.<sup>2</sup> With that, they can bring high expectations for a personalized, consumer-like experience in their healthcare. So, while overall demand for healthcare is rising,<sup>1</sup> expectations are also shifting. Patients are also seeing an increase in out-of-pocket costs,<sup>3</sup> so it can be helpful for both patients and providers to understand the financial side of care. It's natural that payment conversations may be happening more often and playing a more important role in healthcare.

## Why do providers sometimes struggle with payment conversations?

Today, patient care isn't just about clinical outcomes: patient care also includes helping patients plan and manage the financial side of healthcare. Given the stakes on all sides, it can be intimidating to approach conversations where so much hinges on the outcome. In many cases, providers may see themselves as delivering "bad news" about how much or how soon patients may need to pay. Some providers may be uncomfortable discussing costs as well, since this isn't traditionally a part of their



*"Today, patient care isn't just about clinical outcomes: patient care also includes helping patients plan and manage the financial side of healthcare."*

ERIN GADHAVI | SR. VICE PRESIDENT, STRATEGY & INITIATIVES | CARECREDIT

role. But even when there's "bad news" about a patient's financial obligations, it's better for patients to know this as soon as possible. No one wants to be surprised by a bill or regret a decision they made.

On a positive note, we've found that greater responsibility for care costs could potentially lead patients to be more actively involved in decisions about their care. As such, spending can be viewed as an investment in health and wellness and providers who help with that investment – by sharing information, offering solutions, and providing cost transparency— may stand out.

## What policies or processes should health systems implement to support payment conversations?

Specific policies will vary for every organization. A good place to start is to consider what's not working well in your practice today. Are patients not following through with the treatment plan? Are patients confused about what they owe and surprised by larger balances? Does your organization struggle to collect balances due? These answers can help an organization decide where new policies are needed. Whatever you decide to do, it is vital to document and communicate new policies clearly and consistently. Commit to supporting the transition by instituting new tools and training for staff and other stakeholders who are focused on helping

patients with financial conversations. Your staff may not be comfortable or confident with their new roles and tasks, so it's important to give them a chance to practice and build confidence in a safe way. For patients, it's helpful to use multiple channels (web, email, letter, materials in the office) to get the word out. Lastly, it's important to acknowledge that while change may not be easy, it is often necessary.

## Is there anything else providers should consider?

In any scenario, it's good to focus on providing options. Even if choices are not ideal, the power to choose can help patients feel more in control and shift the focus to solutions rather than problems. Staff members can prepare a few answers to tough questions or explore multiple ways to help. Organizations can also look at new solutions for payments such as paying over time, making online or mobile payments or financing through a third party. At CareCredit, we've helped patients and providers manage out-of-pocket payments for more than 30 years. We pride ourselves on offering patients a dedicated way to pay without compromising their treatment plan while guaranteeing providers payment for the care they provide.

<sup>1</sup> Centers for Medicare and Medicaid Services, "2017-2026 Projections of National Health Expenditures Data Released," February 2018

<sup>2</sup> CareCredit Generational Health Research Study, Q3 2018

<sup>3</sup> InstaMed, Trends in Healthcare Payments Eighth Annual Report: 2017, May 2018



### About CareCredit:

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# Meet the HIMSS Most Influential Women in Healthcare IT

This year's impressive group have each made major contributions to information and technology. **By Laura Lovett**

Leading up to HIMSS19, HIMSS unveiled the recipients of its 2019 Most Influential Women in Health IT Award, including a diverse list of industry players representing Silicon Valley tech giants, major hospitals, academia and the public sector.

This year's awards honor women for their accomplishments advancing and improving healthcare and technology, according to Stephanie Denvir, senior director of strategic relations at HIMSS.

"We're honored to work with such influential experts in the health information and technology space who set an example for all to follow in the industry – regardless of age, gender, nationality or area of expertise," Denvir said.

While women have made strides in the health IT field, even today healthcare leadership is still dominated by men – with women making up only 11 percent of hospital CEOs and 22 percent of executives at Fortune 500 healthcare companies, according to a 2017 report from digital health venture fund Rock Health.

Now in its third year, the awards annually honor women who have made waves across the industry and made major contributions to the field. In addition to their careers, many of this year's recipients have also participated on government advisory groups, volunteered or mentored younger women in the industry. This year's recipients are:



Christine Hudak

**Christine Hudak** is the health informatics program director and professor of Health Informatics at Kent State University School of Information in Kent, Ohio.

On the education front, she also contributes as an interdisciplinary faculty member in the digital science program at the university.

Hudak has more than 30 years experience in healthcare IT. A HIMSS Fellow since 2013, Hudak has mentored women in healthcare across disciplines. Hudak has also completed the CPHIMS certification.



Lygeia Ricciardi

**Lygeia Ricciardi** is the chief transformation officer at Carium, a software guide that supports consumers in their healthcare journeys. She has worked in both the public and private sector.

She also sits on the advisory board of Amida Technology Solutions, a software and digital strategy platform.

This is not her first award in the space. In 2013, she was named an Honorary Change Agent Award recipient by the Office of the National Coordinator for Health IT. This year also named her a HIMSS Champion of Health.

Outside of her day job she mentors women about starting their own business and advancing in the field. She said that she is motivated by empowering others and leveraging IT for healthcare. She was also named a HIMSS Champion of Health this year.



Aashima Gupta

**Aashima Gupta** is currently serving as the director of global healthcare solutions at Google Cloud. Before joining Google, she served as the vice president of digital transformation at Apigee and was the executive director for digital technology incubation and solutions at Kaiser Permanente.

Gupta has a history of teaming up with HIMSS. In addition to many speaking engagements, she has also led the charge on the creation of the Developer Innovation Lab with HIMSS Innovation fellows.

Gupta has also dedicated her time to educating the next generation of female technologists. She launched the GirlsIn-Tek initiative that helps young women who are interested in computer science find resources and support.



Kisha Hawthorne

**Kisha Hortman Hawthorne** is the chief information officer at the Children's Hospital of Philadelphia. There, she oversees a team of more than 550 employees in the information services department.

In addition to her role as CIO, she also serves as the executive sponsor of the Multicultural Professional Network, an employee resource group at CHOP that represents racial, cultural and ethnic groups with the aim of fostering a positive work environment. Her involvement at CHOP also expands to the Diversity Council.

Looking to the next generation, she spearheaded the hospital's information service internship program, which lets about 19 students work full time.



Heather Sulkers

**Heather Sulkers** is the senior director of the enterprise project management office at the Centre for Addiction and Mental Health in Toronto, Canada. She has led the organization through HIMSS EM-RAM Stage 7 certification.

Her work is focused on the use of health IT in the mental health and addiction communities, and her work on various boards reflects this.

Over the course of her career she has worked with big name companies including Deloitte Canada, Fujitsu and IBM. She has also worked with the Canadian government on implementing care coordination tools. ●

*These Women in Health IT were honored during the Awards Gala at HIMSS19 on Wednesday evening.*

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# ACHIEVING HEALTHCARE INTEGRATION

*Chris Day is President of careC2, a Leidos Health business and modern-day digital platform that enables organizations to use data from any source to create a real-time, holistic picture of their ecosystem of operations and patient health. Throughout his career, Day has pioneered strategic partnerships with 200-plus health systems and physician groups to design ACOs for commercial, Medicare and Medicaid populations. He discusses how integrating patient data from myriad sources can support patient outcomes.*

## Why is data access and integration a top priority for healthcare organizations today?

Caregivers, physicians and other individuals who have a responsibility for managing patients or their families need better information to inform their decisions about maintaining or improving health. Access to data alone is good but insufficient for supporting the type of decision making needed. Data integration starts to bring together disparate sources so that we have access to the information in one place. But it's delivery of insight derived from the data at the right time, to the right person, on the right patient/consumer, in an operational workflow that enables better decision making. At the end of the day, someone needs to be able to access the information, understand the multiple data points and make a decision. That's when you have the chance to improve patient outcomes, when the information is delivered in such a way that you can drive a timely impact.

## How does Leidos' careC2 platform resolve some of these challenges and enable better patient outcomes?

Our platform enables us to start with a focus on what problem we are solving and in that context, what information we need to deliver, to whom, when and how. And then, by scanning across an entire healthcare ecosystem – whether it's a home-based setting, a physician's practice or a hospital – we determine what information is now needed across those different points. This "system" view is important because we live in a world where healthcare organizations buy one-off products and spend millions more integrating them. This leads to a patchwork of best-of-breed solutions that have created a contrived patient/provider experience, high costs and improvements that don't move the needle system wide. careC2 enables organizations to bear and use all your products and services to drive improvement across the care continuum. The configurable business logic and data integration framework also creates an awareness of dynamic changes in each person's health journey as they happen, not days, weeks or even years after we've identified a gap in care or opportunity through a static dashboard.



***“careC2 enables organizations to bear and use all your products and services to drive improvement across the care continuum.”***

Chris Day | President | careC2

The first step is data integration. Based on an understanding of what healthcare journey we're trying to create across these multiple touchpoints of different businesses that may or may not relate – we aim pull the data together. We then configure this data to be delivered when and where it's needed through a configurable workflow builder. Finally, we build new or use our existing library of applications to combine the data, apply operational context via the workflow builder and drive operational, clinical and financial results. The combination of our platform, suite of applications and software development kit enable organizations to use this platform to grow, adapt and differentiate at the pace of your market and strategy, unconstrained by vendors with long product backlogs and competing priorities.

## How can technology advance patient engagement and cost improvement?

Technology allows us to be more efficient when we're clear on the results we're trying to achieve and on the clinical, financial and operational processes we're trying to improve. Consider the following example: we have more than 10,000 seniors moving into Medicare a day. At the same time, we have a significant national nursing shortage, a shortage of physical therapists, and a shortage of behavioral health specialists and other disciplines that are required to manage the growth in our aging population. In a world where we need to be able to manage a bigger part of the population with less human capital resources, care coordination requires the ability to understand what is or isn't happening in operations and deliver

information at the right time to support mission-critical activities. Data integration aligned with workflow tools across the ecosystem, not simply within the hospital EMR, allow us to see what is happening and what is off track. Just like trains running in the subway, if I can get a real-time understanding of what's happening and what's not, I can efficiently use my resources to respond when I can drive impact.

## What does Leidos hope to see in the future for collaborative partnerships between provider and vendor?

We hope to see organizations focus on ways to align and improve their operations across the continuum and ways to support consumers, families and patients access the right blend of support and services to maintain and improve health in their home/community. At some point, everyone becomes a patient and that's when having aligned operations (data, products/services, analytics) across these settings will be critical.

These partnerships will push us beyond looking at individual products and force us, working together, to think about the linkages between settings, the provider/patient experience we want to create and to move beyond the EMR as the focal point for activity in many health systems today.



### About Leidos:

Leidos is a Fortune 500® information technology, engineering, and science solutions and services leader working to solve the world's toughest challenges in the defense, intelligence, homeland security, civil, and health markets. The company's 32,000 employees support vital missions for government and commercial customers. Headquartered in Reston, Virginia, Leidos reported annual revenues of approximately \$10.17 billion for the fiscal year ended December 29, 2017. For more information, visit [www.Leidos.com](http://www.Leidos.com).

# InterSystems exec on the distributed, data-intensive, rapidly changing world of healthcare IT

The health IT vendor is also concentrating on AI and FHIR heading into HIMSS19.  
By Bill Siwicki



There are three primary factors driving health IT today: It is distributed, it is information-intensive, and it is changing rapidly, said Kathleen Aller, director of market strategy for healthcare at InterSystems.

The vendor will be focusing on these and other health IT trends, including FHIR and AI, at HIMSS19.

“The distributed nature of it means that patients are seeking care from all points of the healthcare ecosystem, and the data from these points of care – social, outpatient, inpatient, specialty clinics, etc. – have to be aggregated into a unified patient record,” Aller explained.

## Beyond human understanding

Healthcare is more information-intensive than some other industries and growing more so – there already are far more data points available for care decisions than the human mind can process unaided, she said.

And rapid change has dominated the healthcare industry. The explosion of wearables and the Internet of Things, for example, means that the entire healthcare industry needs to innovate rapidly, she said.

“HIT developers need to espouse a more agile approach than the long production cycles to which they may be accustomed,” she contended.

On another front, the Fast Healthcare Interoperability Resources HL7 standard, also known as FHIR, and its contribution to unlocking the value of health information, is one example.

“We see FHIR as a very important driver of healthcare innovation in the foreseeable future,” Aller said.

## Is AI hyped?

Additionally, artificial intelligence and machine learning, especially for intelligent clinical workflows and extended decision support, remain very hyped, but there is truly some substance behind them, she added.

“Aggregating and normalizing the data behind machine learning models is one of the keys to realizing the full potential of these technologies,” she said.

The aforementioned drivers of health IT – distributed, information-intensive, changing rapidly – intersect with trends like FHIR and AI in multiple ways. For example, value-based care models are an example of the rapid business change in healthcare.

“They attempt to align incentives across that distributed ecosystem,” Aller explained. “But that requires the kinds of robust connectivity that FHIR is designed to enable. Similarly, juggling information from all those sources to coordinate and optimize care in a value-based world requires real-time analytics and intelligent workflows.”

Elsewhere, new information sources like genomics and telemetric devices create both opportunities and challenges.

## Smarter systems needed

“Ultimately, smarter IT systems are needed to help with this to provide the intelligence necessary to make effective use of all this new data,” she said. “Can technology free clinicians up from the keyboard and help them engage better with the patient? Can it drive patient engagement in their own health? Can it help administrators, payers and clinicians alike cut through the noise and make smarter decisions for the patient? These are questions we need to know the answers to right away.”

AI of these trends are outside pressures on health IT – but CIOs have more tools than ever before to help manage digital transformation and rise to the challenge.

“AI and machine learning have a lot of potential in solving some questions, but other technologies may be overlooked in this space race to develop revolutionary apps,” Aller said. “FHIR, natural language processing, smart alerts, patient engagement apps – these all are meaningful technologies that can be employed today to really transform how health systems perform and how patients receive care.”

InterSystems is in Hall A, Booth 1559.

## CAL EMSA'S PULSE TOOL IS HEARTBEAT OF FIELD OPERATIONS

The tool, Patient Unified Lookup System, enabled volunteers to access patient information and deliver quality care, especially crucial medications. By Beth Sanborn

When it comes to responding to disasters like the recent wildfires in California, caring for displaced patients is hard enough. And it gets worse unless you have access to their health information. The Patient Unified Lookup System, known as PULSE, was developed for just that purpose. It's a web application that connects existing health information exchange organizations and other data sources to be used explicitly during disaster scenarios.

Developed through funding and oversight from the Office of the National Coordinator for Health IT and the California Emergency Medical Services Authority (Cal EMSA), PULSE was originally deployed in July 2017 and has been activated twice for wildfires in California, including in Butte County, where the Paradise community was ravaged by the Camp Fire.

PULSE was the heartbeat of EMSA's operations on the ground, allowing volunteer providers to access patient information and get them the care they needed, especially medications, according to Leslie Witten-Rood, program manager for California EMS Authority and part of the team sent up to Butte to deploy PULSE.

The key thing for her, and a major takeaway as far as the pivotal role the tool can play, was helping to get prescriptions to people who had fled from their homes with only a little bit of medication or none at all. That was one of the impactful things in the shelters and a major way that PULSE helped boost the quality of care providers in the field delivered.

One patient whose information she looked up had two more days of his insulin left. She was able to work with doctors there by showing them his records so that they could get him a supply of his much-needed prescription.

“We are still providing that right now,” Witten-Rood said.

She added that many people suffered major smoke inhalation and will now need treatment for asthma.

“There are patients that never had asthma before who now have asthma who will need albuterol and will have medical needs they never had before,” she said. PULSE will have that information ready when those patients need medication. ●

Witten-Rood, along with Robert Cothren, executive director of the California Association of HIEs, will offer more insights at HIMSS19 in a session titled “Deploying a Disaster Response HIE Platform: PULSE California.” It's scheduled for Thursday, February 14, from 2:30-3:30 p.m. in room W314B.



Leslie Witten-Rood



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10:30 - 11:00 am	CDS Hooks: Integrating Decision Support at the Point of Care
11:10 - 12:10 pm	HL7 FHIR Implementers Panel: Patient Focused Solutions
12:20 - 12:50 pm	The Argonaut Project and HL7 FHIR
1:00 - 2:00 pm	HL7 FHIR Solutions Showcasing Real-World Implementations Panel 2 Discussion
2:10 - 2:40 pm	HL7 FHIR Project Update
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# DIVERSION IN U.S. HOSPITALS: A PHARMACIST PERSPECTIVE ON THE ISSUES AND CHALLENGES

*David Swenson, RPh, Vice President of Medical Affairs at BD, reflects on conversations with customers to provide some perspective on an underreported aspect of the opioid crisis – healthcare professional drug diversion – which is of growing importance to hospitals across the United States.*

**When hospital managers talk about drug diversion, how is it that you can hear such a wide-ranging spectrum of responses – ranging from ‘this is a serious problem’ to ‘we don’t see a lot of issues with diversion in our facility’?**

While the opioid crisis has grown to epidemic proportions across the country, with well over 100 deaths occurring daily, the related problem of theft of hospital narcotics for abuse by caregivers – commonly known as drug diversion – has received much less attention, even within healthcare. We find that many health facilities are aware of the diversion problem and are deploying resources toward detection and prevention, while others have yet to fully appreciate the drug diversion issue. In fact, we continue to hear a wide range of responses to diversion from our customers. At the recent International Health Facility Diversion Association (IHFDA) Meeting held this past September in Dallas, we saw an auditorium full of hospital leaders taking the diversion problem very seriously. They are investing significant resources in multidisciplinary teams and various diversion tools. On the other hand, as we are out talking to customers, we hear some customers say that they “don’t have a significant diversion problem.” In talking with both groups, we’ve seen a pattern emerge. *Those facilities that seriously look – and put effort into surveillance – find diversion issues.* Without an ongoing detection and surveillance program, what may very well be a significant diversion problem can evolve for years undetected. What tends to jar these facilities into reality is some type of major diversion incident. We see this happening more and more.

**So, what do BD’s internal experts and the experts at IHFDA suggest? Are detection systems enough?**

First, it’s important to understand the role that the health system Information Technology department plays in diversion detection. The controlled substances chain of custody generates data – starting with wholesaler ordering, through pharmacy storage and perpetual inventory management all the way to nurse access to the automated dispensing cabinet followed by administration. The analysis of this data, leveraging sophisticated analytics, forms the backbone of diversion detection. Machine learning algorithms and other sophisticated methods are now capable of providing key insights enabling compromised caregivers to be identified early and assist them in getting help.



**“If you are not seeing diversion in your facility, it’s likely because you are not looking.”**

DAVID SWENSON, RPh | VICE PRESIDENT OF MEDICAL AFFAIRS | BD

That said, while detection systems are a key component of an acute-care facility diversion program, they are not enough by themselves. From experience, we know that a successful diversion detection and prevention program takes a team approach. It’s critical that the team include representatives from key areas, from Nursing, Human Resources, Security, and Employee Assistance, and be sponsored by a key member of the hospital’s Senior Leadership. The team should define an operating structure, with guidelines and procedures that set up ongoing routines and processes. Once training on surveillance, observations and detection processes are complete, a structured method of assessing diversion-related information and events needs to be in place. Pharmacy, of course, should take a leadership position on the team, by appointing an experienced professional to serve as a key component of the interdisciplinary team. At the IHFDA meeting, we heard about a best practice for diversion teams called “huddles.” Huddle meetings use what’s called an SBAR approach: 1. Situation, 2. Background, 3. Assessment and 4. Recommendation. Huddle output can lead to a caregiver being assessed as fit to return to duty or referred for further assessment and investigation.

Additionally, what can be particularly helpful to the interdisciplinary team is the ability to leverage technology in their collaboration. For example, some of the more sophisticated analytics systems incorporate workflow systems. These systems keep the teams organized and aligned by allowing diversion detection information to be shared efficiently and confidentially among the appropriate team members.

**As you look out two to three years, what’s likely to change in how health facilities view drug diversion?**

There have been multiple high-profile actions by the FDA in recent years, the first big one –

Massachusetts General Hospital’s \$2.3M DEA fine in September of 2016 was a wake-up call. Many facilities saw what happened there, and many realized that the degree of diligence around controlled drug procedures and accounting was not what it should be. The pattern of DEA actions has accelerated since then. Effingham Health System in Georgia was fined \$4.1M this past May, and then most recently University Michigan with a \$4.3M fine. These actions are painting a clear picture that not only is the DEA serious about clamping down on hospital processes and procedures, but importantly, there’s now a growing awareness that diversion is a pervasive problem – no health facility is immune. Even today, we still do not have accurate statistics on the size of the diversion problem. One of the most important tasks for those of us in the medical device industry is to use whatever means we can to get some type of objective measure on the size of this problem. That remains a challenge.

**What is your advice for hospitals and health systems?**

If you are not seeing diversion in your facility, it’s likely because you are not looking. A variety of guidance and tools are available. BD, for example, has a diversion assessment tool available for all hospitals, which can be a good starting point. Find out where you are, and then use tools like the ASHP Controlled Substances Diversion prevention guidelines to set up the needed policies, procedures and multidisciplinary teams.

Lastly, there is a renaissance of sorts going on right now around diversion analytics tools. I’d suggest health systems take a close look at them, as the build the interdisciplinary teams and procedures.



#### About BD:

BD is a global medical technology company that is advancing the world of health by improving medical discovery, diagnostics and the delivery of care. BD leads in patient and healthcare worker safety and the technologies that enable medical research and clinical laboratories. The company provides innovative solutions that help advance medical research and genomics, enhance the diagnosis of infectious disease and cancer, improve medication management, promote infection prevention, equip surgical and interventional procedures and support the management of diabetes.

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# How Cisco thinks about improving the patient experience

An executive at the networking giant discusses how health tech needs to evolve to keep pace with changing consumer expectations. **By Bill Siwicki**



Today's patients expect healthcare experiences that rival the consumer arena's best-of-breed experiences, with systems that support technology like remote consultations, constant connectivity and location-aware mobile services.

As part of this, clinicians need the ability to deliver better care at the patient's bedside in a secure digital environment, with access to information from any location, at any time.

In 2019, more information will be shared through mobile devices than ever before. To survive in this fast-changing world, healthcare may need to evolve.

"This transformation means healthcare organizations will need to focus on more mobile and connected technologies across the continuum of care," said Barbara Casey, director of healthcare and life science at Cisco. "Mobile solutions are no longer just add-ons for convenience, but essential tools for improving the patient experience and streamlining the clinical experience."

Next-generation contact center and patient engagement tools can facilitate the right kind of environment that makes it easy for patients to schedule appointments, find their way within a hospital and stay connected with loved ones while receiving treatment, she said.

These capabilities are made possible through the deployment of a platform of architectures that enable new capabilities for healthcare providers such as remote monitoring solutions, patient tracking, clinical mobility, guest wireless and location-based services, she said. This connected environment creates a less stressful and more comfortable space for patients, she added.

"The other key aspect of the changing healthcare landscape is how clinicians are able to leverage data and technology," Casey stated. "Communication and workflow coordination among care teams can make a significant difference in the patients' quality of care and experience. By streamlining clinician processes through the use of collaboration and mobile technology, caregivers can be more effective and efficient – improving clinician productivity, patient care and the bottom line."

With clinical mobility and improved collaboration, clinicians will be able to streamline care management and care-team communication, expand telehealth services, and save time and money finding medical equipment, she added.

"This was just one reason why Cisco partnered with Apple," she explained. "Apple and Cisco have co-engineered solutions ensuring iOS devices perform better on a Cisco network. Additionally, iOS-based applications can be prioritized on the network ensuring iOS-based mobile clinical workflows from Cisco solution partners like Mobile Heartbeat and PatientSafe Solutions perform without network interruption or risk of disconnection from the network."

While digitization, the cloud and the Internet of Things bring many benefits to healthcare organizations and patients alike, they also bring challenges and disruption. This year, the exchange of data will be at an all-time high, fueling an influx of patient experience metrics, virtual care opportunities and a growth in artificial intelligence.

"Tech-savvy consumers, a proliferation of medical and consumer devices like wearables, an explosion of data and government regulations are rapidly transforming the world of medicine," Casey said. "As wearables and connected devices make their way into regular practice, doctors, nurses and other practitioners are turning increasingly to mobile devices and big data to improve patient care and boost efficiency."

As these mobile innovations move from the pilot phase to scale, healthcare organizations will need to keep in mind the challenge of data overload and meeting patient expectations, she added. For example, one Cisco customer manages 26-44 petabytes of data from EHRs alone; for another customer, the amount of data they manage grows by a rate of 50 terabytes every month, she said.

"Add to these challenges the critical need for security – physical and virtual – for facilities, people, devices and government regulatory requirements," she said. "The role of mobile technology is important for improving the patient and clinician experience, but how those mobile devices affect the management and security of data must be considered."

This means the role of the healthcare CIO will need to become even more strategic and take on more leadership within their organization, especially as data shifts to the cloud in the next few years, she said.

"The biggest advice we can provide to healthcare executives from both a business and technology perspective is to understand holistically what the foundational technologies are that need to be in place to implement the organization's strategic initiatives and respective business strategies," Casey advised.

Be realistic about one's current state of technology capability, she added. Using tools such as HIMSS Analytics' new Infrastructure Adoption Model helps with third-party validation, she said.

"Seek to understand the line of business perspective and initiatives," she said. "Only then can you prioritize the automation and scalability building blocks that create true clinical mobility for clinicians and omnichannel engagement with patients."

Also, no health system can absorb all at once the amount of organizational change that's needed to meet all the challenges that exist today, she concluded. "Create the roadmap and pick good partners for the journey," she said. "There will be bumps in the road and you want partners you can rely on." ●

*Cisco is in Hall A, Booth 848.*

## SAP TO SHOWCASE INTELLIGENT ENTERPRISE FOR HEALTHCARE

The vendor will also be making the case for putting ERP in the cloud. **By Bill Siwicki**

Many stakeholders in the healthcare industry say current healthcare models are not sustainable. They understand the impact digital transformation can have on creating more value in healthcare but perhaps are unsure how to make it happen.

There is a need in healthcare to use digital transformation and data-driven approaches by integrating health data across silos and creating 360-degree longitudinal patient views, said Werner Eberhardt, global head of healthcare at SAP. It's imperative to measure health outcomes and cost of care delivered for every patient, he said, and also to add intelligence to reduce inefficiencies like low-value manual tasks and multiple diagnostic tests.

SAP will be showcasing the technologies to enable what it calls the "intelligent enterprise for healthcare," said Eberhardt. He said the intelligent enterprise encompasses value-based care and operational efficiency, big data and advanced analytics to unlock the value of data.

The intelligent enterprise for healthcare model is a comprehensive approach to leveraging clinical, financial, demographic and genomic patient data, so providers can create a logical data warehouse, he said. There, daily performance analysis can be used to manage population health quality and access metrics, resource capacity and productivity, clinical practice variations, medication adherence, readmission risk, patient satisfaction, revenue cycle optimization and more. SAP is also highlighting the value of moving enterprise resource planning to the cloud – deriving value and insights from massive amounts of clinical and operational data in disparate systems.

"Today, fewer than half of all hospitals have implemented an ERP system to better manage their business processes," Eberhardt said. "From an operational standpoint, hospitals that delay this implementation are also delaying newfound efficiencies in financial operations, revenue cycle management and human resources management."

They also are missing out on an opportunity to use the data collected in these systems to make value-based purchasing decisions that would reduce costs and improve care, he said. Hosting ERP in the cloud will help healthcare organizations expedite the implementation cycle and consume technology and application innovations faster, he said.

"As the healthcare industry shifts to a new reimbursement model, healthcare organizations strive to gain clear visibility to financial, operational and clinical performance indicators across the entire enterprise," said Eberhardt. "The need of the hour is to drive for an integrated view of care and cost management across the healthcare enterprise, thereby obtaining maximum value from all the investment into provider's clinical, financial and operational systems."

*SAP is in Hall B, Booth 2332.*

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# Can EHRs' contributions to physician burnout be cured? Mixing up training can help

It's pivotal for organizations to institute an ongoing program that promotes a state of continuous improvement, keeping pace with new functionality, one HIMSS19 speaker says. **By Bill Siwicki**



Health systems invested in electronic health records to drive patient care improvements, increase efficiencies, reduce lengths of payment cycles, and allow for prospective and retrospective reporting without manual intervention.

Some, not all, of those anticipated benefits have been realized. In many cases, expected clinical efficiencies are not being experienced, and often satisfaction is deteriorating. Many providers are spending significant time

searching for clinical data, constructing orders with the necessary diagnostic evidence, documenting the patient story to inform the care team and responding to patient/colleague communications outside of clinic hours.

Many in healthcare blame electronic health records for contributing to the physician burnout epidemic.

"The promise and hype of EHRs, for many organizations, has failed to materialize," said Dr. Greta Branford, associate CMIO for ambulatory care and assistant professor of internal medicine/pediatrics at Michigan Medicine.

"Despite the sizable investment in implementing these EHRs, most organizations have allowed a reduction and/or overall embargo on the very resources that should be dedicated to working shoulder-to-shoulder with providers to enable continuous improvement, resolve issues, enhance skills and build tools to drive efficiencies," she said.

Many caregivers are experiencing a training desert after initial go-live and/or new hire onboarding, she added. For them, training is delivered in a self-service format, assuming caregivers have the time to read and apply well-intentioned e-mails, tip sheets and pre-recorded online learnings, she said.

"Instead, it's pivotal for organizations to institute an ongoing program that promotes a state of continuous improvement, keeping pace with new functionality so end-user needs can better support efficiency, optimized patient care, and provider and patient satisfaction," said Branford.

"The program should consist of multiple and diverse educational offerings delivered by dedicated trainers fluent in physician workflows who work in partnership with identified physician champions," she explained, offering some examples of what she sees as an effective training portfolio:

- **Physician onboarding:** Educate new physicians on EHR functionality, using workflow-based curriculum;
- **Three-month boost:** At the three-month mark for new physicians, refresh EHR functionality knowledge, personalize key workflows and correct misunderstandings/ineffective use;
- **E-learnings on new features:** Provide training on EHR system enhancements, which occur on a regular basis several months per year;
- **Home for dinner:** Customize the EHR tools to support improved clinical workflows; relearn some basics;
- **1:1 physician coaching:** Improve provider capability for targeted areas of improvement and establish lifelines between provider champions and faculty;

- **Training bursts:** Include as a regular agenda item on department meetings to highlight new tools and workflows;
- **Clinic sprints:** Deploy a "power team" of workflow and EHR experts to improve specific focus areas of operations.

EHRs in general are capable of much personalization, but they are so complex that caregivers have no idea what features exist; furthermore, they have no time or energy to learn or to do the personalization, Branford said.

"From my personal experience, with this comes a feeling of just clicking boxes and disconnection from the patient and loss of a sense of purpose," she explained. "On any given day, we physicians must click boxes to record history and then click a box stating we have reviewed it, order labs and studies and order referrals, and medications."

Physicians also need to track pain, depression and anxiety scores, how people learn best, how they want to be contacted, and whether the patient vapes or uses tobacco, alcohol or drugs. Physicians must inquire about food security, isolation, transportation and health knowledge, among other things.

"While all of these things are intended to provide risk stratification and a richer understanding of the patient, and ultimately better care, the patient is left wondering when we will ask them why they came in for the visit," she said. "The doctor is left wondering if this is why they went to medical school."

A comprehensive program can ensure personalization does occur as well as improvements in efficiency and satisfaction, addressing the aforementioned concerns, she added.

While everyone is enamored with the cutting-edge IT, AI and the shiny objects of tomorrow, focusing on realizing the true value of EHR investments is critical to advancing to the next generation care model, addressing growing financial pressures, and improving operational efficiency and effectiveness, Branford insisted.

"Using the system to a provider's best advantage is really what will make most of the difference on a broad scale," she said. "When we spend time to listen to the providers, their requests for system changes and the opportunities for improving workflows, it helps. They feel heard, and we can start tailoring training and personalization efforts to what they need and deliver it in the way in which they prefer to learn."

"Addressing the stressors of provider burnout is imperative for all health systems," Branford added. "There are several components contributing to overall burnout: technology, care models, leadership and engagement structures. Progress must be parallel-tracked across all these causal components."

The EHR is a contributor, and investigating how to improve usability with the EHR is an essential step, she said. Factor in the voice of the caregiver through surveys, interviews and focus groups to determine the primary drivers, she added. Then develop a roadmap and plan to address the top drivers, she said.

"Usability is likely to come to the top of the list," she said. "If so, build a program supported with the resources and programs that will meet provider needs, on their terms, to drive year-over-year continuous improvement."

By factoring in the voice of the provider, she explained, an organization is best equipped to connect physicians with resources and programs that meet their needs, on their terms, to drive year-over-year continuous improvement for this significant EHR investment. ●

*Branford will share more insights at HIMSS19 in a session titled "Burnout: How EHR Usability Improves Efficiency & Satisfaction." It's scheduled for Thursday, February 14, from 2:30-3:30 p.m. in room W304E.*



## STARTING DIGITAL TRANSFORMATION? FOCUS ON CULTURAL CHANGES

A chief health information officer offers perspective on how a data-driven culture can change a healthcare organization for the better.

**By Bill Siwicki**

With the implementation of electronic health records and other healthcare information systems, there has been explosive growth in the amount of data captured by provider organizations.

Just as these provider organizations must prudently manage their talent pools, financial resources and medical assets to fully extract value from data, they must manage data as a strategic asset, said Dr. Ferdinand Velasco, senior vice president and chief health information officer at Texas Health Resources.

"This involves implementing sound enterprise data management, advancing data analytics maturity and promoting a data-driven culture," said Velasco. "While much of the clinical informatics and business intelligence domains have focused on the technical aspects of data management and analytics, we feel that there hasn't been enough focus on the cultural changes associated with digital business transformation."

The importance of the cultural changes associated with digital business transformation has to do with two industry trends, according to Velasco: the emergence of big data in healthcare and the transformation of the healthcare delivery model.

"While both topics have received considerable coverage in the media, they're not usually discussed in tandem, as two trends that complement each other," he explained. "Consider what has been occurring in other industries such as retail, entertainment and transportation. In each of these, big data has been exploited by new entrants to disrupt the ecosystem and displace legacy firms that previously dominated the marketplace."

Companies such as Amazon and Uber are now formidable players. An advantage these "digital natives" have over established firms is that they're equipped, both technically and culturally, to effectively harness data in near real time, transforming it into actionable insights, and to make agile, data-driven decisions. In contrast, analog companies are characterized by decision making that tends to be laborious and informed by incomplete or old data, said Velasco.

"The same phenomenon is happening in healthcare," he said. "We are seeing new entrants as well as established healthcare organizations that are seeking to reinvent themselves into nimble, data-driven organizations." ●

Velasco's session, "Data As an Asset: A Pragmatic Framework for Health Analytics," is scheduled for Thursday, February 14, from 4-5 p.m. in room W308A.



# Meet the 2019 Most Influential Women in Health IT Recipients

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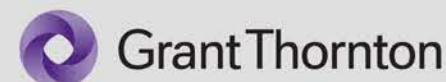
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We invite you to join us in honoring these recipients on Tuesday, February 12 at the Women in Health IT Networking Reception.

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## CYBERSECURITY COMMAND CENTER AT HIMSS19: WHAT TO SEE THERE

The specialty exhibit has 90 booths, two theaters, nearly 60 education sessions and eight challenge opportunities to test your infosec chops.

By Tom Sullivan

This year at the Cybersecurity Command Center, HIMSS19 attendees should expect to find, in a word: more.

“There’s more of everything,” said Lee Kim, director of privacy and security at HIMSS. “More challenges, more sessions and more companies under one umbrella.”

The Cybersecurity Command Center, in fact, features more than 90 booths this year, as well as two distinct theaters and eight challenges for testing your skills.

Specifically, amenable participants can test their malware-battling skills, their ability to secure data while earning patient trust, and how they would fare during an audit. Other challenges offer the opportunity to collect a diagnosis about whether your users have click fever, prove you are a cybersage, learn how to modernize cybersecurity operations, get an identity score for assessing compliance and security risk, and take part in a buzzworthy competition to test your infosec savviness.

The two theaters, A and B, feature educational sessions all day on Tuesday, Wednesday and Thursday. Here’s a taste of the evocative presentation titles:

- Cloud security for healthcare is preventative medicine
- HIPAA from employee awareness to fan engagement
- Duty of care in information security
- Utilizing deception technology to secure data
- Simple and inexpensive east-west network security
- Attacking the ramparts to offensively secure your organization
- What song does your security program sing?

And those are just a few opportunities to “learn about the latest and great in cybersecurity,” said Kim. ●

The Cybersecurity Command Center is in Hall A, Booth 400.

# Telehealth and the law: What hospital executives should know about kickback and false claims rules

The federal Anti-Kickback Statute and the Stark Law have some strict requirements for compliance, and providers would do well to take note. By Jeff Lagass



Want to connect with your physician but unable to drive? Feeling immobile or isolated in a remote rural location? The emergence of telehealth has given rise to the possibility of connecting with healthcare providers remotely, but there’s one snag for those who wish to offer it as a service: the law.

At the federal level, the Anti-Kickback Statute poses a substantial risk to parties entering into telehealth arrangements, due to its wide reach, as well as its tie to the federal False Claims Act. The statute prohibits the offering, paying, soliciting or receiving of anything of value for referrals of business pertaining to healthcare.

A violation of the Anti-Kickback Statute, or AKS, can result in significant civil penalties. That can include \$11,000 to \$22,000 in per claim penalties, not to mention triple damages and potential exclusion from participation in federal healthcare programs.

The AKS is a criminal statute and, as such, convicted violators face potential jail time.

“At the federal level, providers that enter into arrangements with physicians also should be aware of the Stark Law, which prohibits physicians from referring certain services to an entity with which they have a compensation arrangement or ownership interest, unless an exception is met,” said Douglas Grimm, a health law partner at Arent Fox. “While the Stark Law is a civil statute, so violators will not go to jail, they can nevertheless face significant financial penalties, including in certain instances False Claims Act penalties.”

The AKS can come into play in any arrangement in which something of value – remuneration – is provided by one party to a telehealth arrangement where there might be referrals of federal healthcare program patients between the parties.

When the arrangement involves a financial relationship between a physician and certain entities billing Medicare and Medicaid, the Stark Law may also be implicated.

“An example of a telehealth arrangement that could implicate both laws would be an arrangement where a hospital engages a physician to provide on-call telestroke services where the hospital provides the equipment to the physician and pays the physician an hourly rate for his or her services,” said Grimm.

“In this instance,” he continued, “we would closely examine the terms of the arrangement, including the terms related to the provision of the equipment, to determine whether either law was potentially violated and, if so, how the parties could structure their arrangement to fit within the requirements of each law. We also would determine whether any similar state law was implicated and, if so, whether there were any requirements in addition to the federal requirements that we would need to consider when structuring a compliant arrangement.”

Both the AKS and the Stark Law have what are referred to, respectively, as “safe harbors” and “exceptions.” These protect certain arrangements that might otherwise violate these laws. Because of the nature of the Stark Law in particular, all of an exception’s requirements must be met, or else the law has been violated.

An example: An entity can enter into a bona fide employment arrangement with a physician in which the entity pays compensation to the physician if the amount of the compensation is consistent with fair market value – not determined in a way that takes into account the volume or value of any referrals by the physician to said entity.

If the compensation isn’t at fair market value, the Stark Law is violated, regardless of the reason for exceeding the fair market value compensation level.

The AKS is a little more forgiving, said Grimm. The AKS has safe harbors that protect arrangements in which all of the safe harbor’s requirements have been met, but unlike the Stark Law, failing to meet all those requirements doesn’t necessarily mean the law has been violated.

“In cases where an arrangement does not squarely fit into a particular safe harbor, we as healthcare attorneys must assess whether there is any nexus between the remuneration and referrals to determine the level of risk presented by the arrangement,” said Grimm. “To help navigate both the federal and state laws, we recommend that parties interested in entering into telehealth arrangements engage experienced healthcare counsel to help them structure their arrangement in a compliant manner.”

Healthcare is a highly regulated industry on both a state and federal level. And for those who may be new to the industry, the limitations of the laws in question can be surprising, since they limit interactions that are common in other industries.

It’s important for anyone contemplating a telehealth arrangement to understand the laws governing the healthcare industry so they can ensure their compliance.

“Engaging experienced counsel at the start of the process can help ensure the parties are meeting their business objectives, but doing so in a compliant manner that can help mitigate risk of future regulatory actions based on a failure to comply with the law,” said Grimm. ●

*Grimm will share these thoughts and much more in a session titled “Telemedicine Fraud and Abuse Under the Microscope,” scheduled for Thursday, February 14, from 11:30 a.m. to 12:30 p.m. in room W304E.*


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# Why data analytics is a core competency for pop health success in a risk-based world

Anna Loengard, Tim Putnam to share insights on harnessing data and analytics for population health success in transition from volume to value and taking on risk. **By Beth Sanborn**



Tim Putnam

analytics is one of them.

Just how to effectively harness data and analytics, especially where population health is concerned, is a central topic that Tim Putnam, chief executive officer of Margaret Mary Health, and Dr. Anna Loengard, chief medical officer of Caravan Health, will explore at their HIMSS19 session “Data Analytics as a Population Health Compass.”

Putnam said that from his perspective as early adopters of population health in the transition from volume to value, they have seen a lot of benefit from it. However, though CMS is pushing toward risk from a reimbursement standpoint, the real-life for a lot of community hospitals in taking that on is more than just a potential monetary penalty. By extension it’s actually a threat to their very existence.

“We are putting our lives on the line and our communities on the line by doing this,” he said.

As an early adopter, they had to have small practices and hospitals work together and form networks. Although small to begin with, when you look at the data and how many lives it takes to become one of these organizations that have definable outcomes, they need to become much larger organizations.

Loengard pointed to a couple things that might make

the adoption of population health less risky and ultimately more beneficial. First, she said optimize the revenue that can be generated in population health initiatives.

A second area where gains can be made and strategies born is in claims data. When people get claims data, it’s often the first time they have ever had “visualization” into where their patients are getting all of their care and, according to Loengard’s experience, it is always eye-opening. It offers visibility into utilization patterns – i.e., the fact that most patients are not getting joint replacement surgery with your system and therefore you’re losing out on revenue to competing hospitals. You might take that data, explore why patients aren’t using your facilities for such procedures and make the needed changes to boost patient and procedure volume.

“Utilization and post acute, end-of-life that we see pretty consistently that people learn from and are then able to take action around where the greatest opportunities are to improve care in ways that are beneficial to the community and to the hospital,” she said. ●

*Loengard and Putnam will offer more insights at HIMSS19 in a session titled “Data Analytics as a Population Health Compass.” It’s scheduled for Thursday, February 14, from 1-2 p.m. in room W207C.*

Medicare is clearly driving value-based payments and MSSP programs in a direction such that providers will have to take on risk. With that in mind, there are core capabilities providers will need to be successful, and

## ADVOCATE AURORA HEALTH USES PREDICTIVE ANALYTICS TO OVERHAUL CARE MANAGEMENT PROGRAM

The health system’s predictive modeling platform uses 30 to 40 sources of claims data married to EHR data to reduce hospitalizations, ER visits and length of stay. **By Susan Morse**



Tina Esposito

Advocate Aurora Health is using predictive analytics to target outpatients who have a heightened risk of unnecessary hospitalization.

Using claims data alone doesn’t work because of the lag time, said Tina Esposito, system vice president and chief health information officer.

“By the time we’ve identified patients as high risk, the event has happened,” she said.

Instead, Advocate Aurora Health’s predictive modeling platform uses 30 to 40 sources of claims data that is integrated with EHR data.

“In some respects, this is a beautiful marriage between data and business,” Esposito said. “We’ve partnered very heavily with the outpatient care managers.”

The system’s outpatient care management program offers a paradigm shift in traditional care management, according to Senior Clinical Process Designer Fran Wilk.

“This is an assertive format,” Wilk said. “We use specific tools. A lot has to do with support and care management.”

The model identifies patients at a heightened risk

for an acute encounter. Care managers are then paired with patients to teach them health maintenance, to become engaged and to self-manage their conditions.

“We’re engaging patients to change behaviors, such as weighing themselves daily,” Wilk said.

With over a million attributed lives in an accountable care organization, Advocate Aurora Health has a stake in ensuring the right care is targeted to the right patients. The ACO is not at full risk.

The model has yielded a significant reduction in readmissions and improved the health of a population, according to Wilk and Esposito.

“Early indications are a pretty significant reduction in spend,” Wilk said.

Out of an estimated 350 patients, about half have reached the maximum benefit.

The health system has tested a pilot program with heart failure patients who are at high risk for unnecessary utilization. The result has been a 23 percent reduction in hospitalization, ER use and observational stays for heart patients.

The large integrated health system of 27 hospitals was created in 2018 by the merger of Advocate Health Care and Aurora Health Care. ●

*Esposito and Wilk will share more insights at HIMSS19 in a session titled “Utilizing predictive analytics to increase the value of care.” It’s scheduled for 11:30 a.m. to 12:30 p.m. Thursday, February 14, in room W314B.*



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## NEW MEXICO CUTS READMISSIONS, IMPROVES ED CARE WITH MIDDLEWARE THAT ENABLES INFORMATION SHARING

The software has made a big impact on ED workflow and care quality, since doctors can now have more informed conversations with patients. **By Beth Sanborn**



Beth Landon

New Mexico is a state rich in history and natural resources. It also has one of the highest proportions of Medicaid beneficiaries, currently 42 percent of the population. Many of these patients live below the poverty line, struggle to receive adequate primary-care services and are high utilizers of emergency departments that

in the past did not have all the information they could have on their patients, especially from episodes of care at other facilities.

It was this perfect storm that led the state's healthcare leaders to actively pursue positive change. Beth Landon, policy director for the New Mexico Hospital Association, said New Mexico's story is a success story, albeit a con-

stantly evolving one, about how to change care delivery in the ED for the better.

"That doesn't mean it's poor quality today. It means that the information that is pushed to clinicians into their workflow improves the care they are able to provide and the handoff they are able to provide," she said.

Benjamin Zaniello, MD, chief medical officer for Collective Medical Technologies, added that the "most complex patients, the safety net population and uninsured and Medicaid are really bearing the brunt of this fragmentation."

The success story includes collaboration and cooperation, with stakeholders including health plan leaders regularly "gathering around the table." It also includes a piece of middleware technology that dramatically improved the accessibility of crucial patient information for ED physicians.

The evolution of their success is something Landon and Zaniello will share at an upcoming education session at HIMSS19 on Thursday.

Everyone who uses this tool actually gets value from it, Zaniello said, and that is key to its willing adoption and ultimate success. Health plans are getting insight into

patient activity for their membership. ED docs get vital information at the point of care that shifts their practice from medical uncertainty to medical necessity.

The technology is not a healthcare information exchange by definition. It pulls the ADTCs from all participating hospitals in the state and then sorts the data that is most relevant for an ED clinician. Each hospital can modify what information it receives and then the data is pushed to the hospital either via a preprogrammed fax machine or it is integrated into the hospital's EMR.

"In emergency department care, ready access and workflow integration are everything. ED docs don't want to have to spelunk in their own EMR for additional information, and they can't given their workload," Zaniello said. "They want it right there in front of them, and that's how we provide it."

It's made a big impact on ED workflow and the quality of care, since doctors can now have more informed conversations with their patients and deliver more effective care. It's one technology that has been readily embraced, Landon said.

"There has been zero pushback from our health systems about sharing data with their neighbors down the street on this topic," Landon said. "It is a win for everyone, and the ED physicians love it." ●

*Landon and Zaniello will offer more insights at HIMSS19 in a session titled "New Mexico Reduces Avoidable ED Visits with Technology." It's scheduled for Thursday, February 14, from 4:00-5:00 p.m. in room W206A.*

# HPE executive says digital transformation takes IT and clinical teams working together

Health systems must manage technical resources at the speed of healthcare, not the speed of technology, to pave the way to strategic digital health. **By Bill Siwicki**



Rich Bird

In today's world, almost everything computes thanks to constant connectivity, exponential increases in data, easy access to massive computational power and the growth of human-machine interaction. Technologies in these areas are accelerating the pace of innovation and creating new

possibilities for a digital world while changing every industry, including healthcare, in significant ways.

In healthcare, digital transformation is not only reducing cost but is also creating new, richer experiences for patients and clinicians, and, importantly, improving health outcomes, said Rich Bird, worldwide industry marketing manager for healthcare and life sciences at Hewlett Packard Enterprise, which is discussing this and other health IT trends here at HIMSS19.

Technology alone, however, is not the complete answer to the issues facing healthcare CIOs today – it's a very important part of the answer, but if healthcare is going to digitize successfully, programs should be delivered together with clinical teams, Bird said.

### The clinical management team

New technology deployments need to be agreed to by the clinical management team from the start, and delivered to ensure that all stakeholders, clinical staff, administrators and, ultimately, patients are protected and their experiences are made better, Bird said.

"To improve the patient experience requires health system agility," he added. "It is just as important to healthcare as the ability to quickly develop and implement critical adaptations to patient care workflows."

Health systems must be able to add, change and remove infrastructure resonances at the speed of healthcare, not the speed of technology, he stated. This type of agility positions a health system to position its applications cost effectively to maximize their value, paving the way to strategic digital transformation.

### Beyond traditional clinical settings

As that digital transformation happens, what will healthcare look like in the near future?

"Mobility and hybrid cloud computing are increasing accessibility for patients and doctors alike," Bird said. "From remote monitoring to specialized apps, technology is taking medicine beyond traditional clinical settings and creating a new continuum of care."

Wearables, the Internet of Things and smart workspaces

are improving how medical staff deliver care, allowing doctors to spend more time interacting with patients, Bird stated.

"By using wireless infrastructure and tag devices like wristbands and ID badges, care centers can track bottlenecks and service slowdowns to improve performance," he explained. "Hospitals also are using wireless technologies to track and manage medical assets, like diagnostic machines, to inform medical personnel of an item's current location so they can be fully prepared when an individual arrives."

Similarly, wayfinding technology can provide patients arrival time instructions and turn-by-turn directions to get them to their appointments to more quickly meet with medical staff.

And on the back end, mass data collection from all of these devices combined with patient data from around the world can help medical research organizations and pharmaceutical companies improve clinical efficiencies and accelerate the development of new drugs and treatments, Bird said.

Hewlett Packard Enterprise at HIMSS19 will be discussing blended and cloud computing infrastructure for enabling solutions that empower patients, enhance clinical collaboration and accelerate the use of genomics – as well as running electronic health records, patient portals and administrative processes, Bird said. ●

*Hewlett Packard Enterprise is in Booth 3321 at HIMSS19.*

# Women in Health IT Events at HIMSS19

## Tuesday February 12

### Networking Reception

6:30-8 PM EST  
Hyatt Regency- P  
Registration Fee: \$50\*

\*Registration Required

### #WomeninHIT Meetup

Changing the Scales to #BalanceforBetter  
3:00 pm – 3:45 pm  
HIMSS Spot

## Wednesday February 13

### Women in Health IT Mentor Meet-up

10-11 AM EST  
Orange County Convention Center  
Room 209 B

Complimentary Registration to HIMSS19 attendees that are a part of the Women in Health IT Roundtable

## Thursday February 14

### Awards Gala

Hyatt- Regency P\*  
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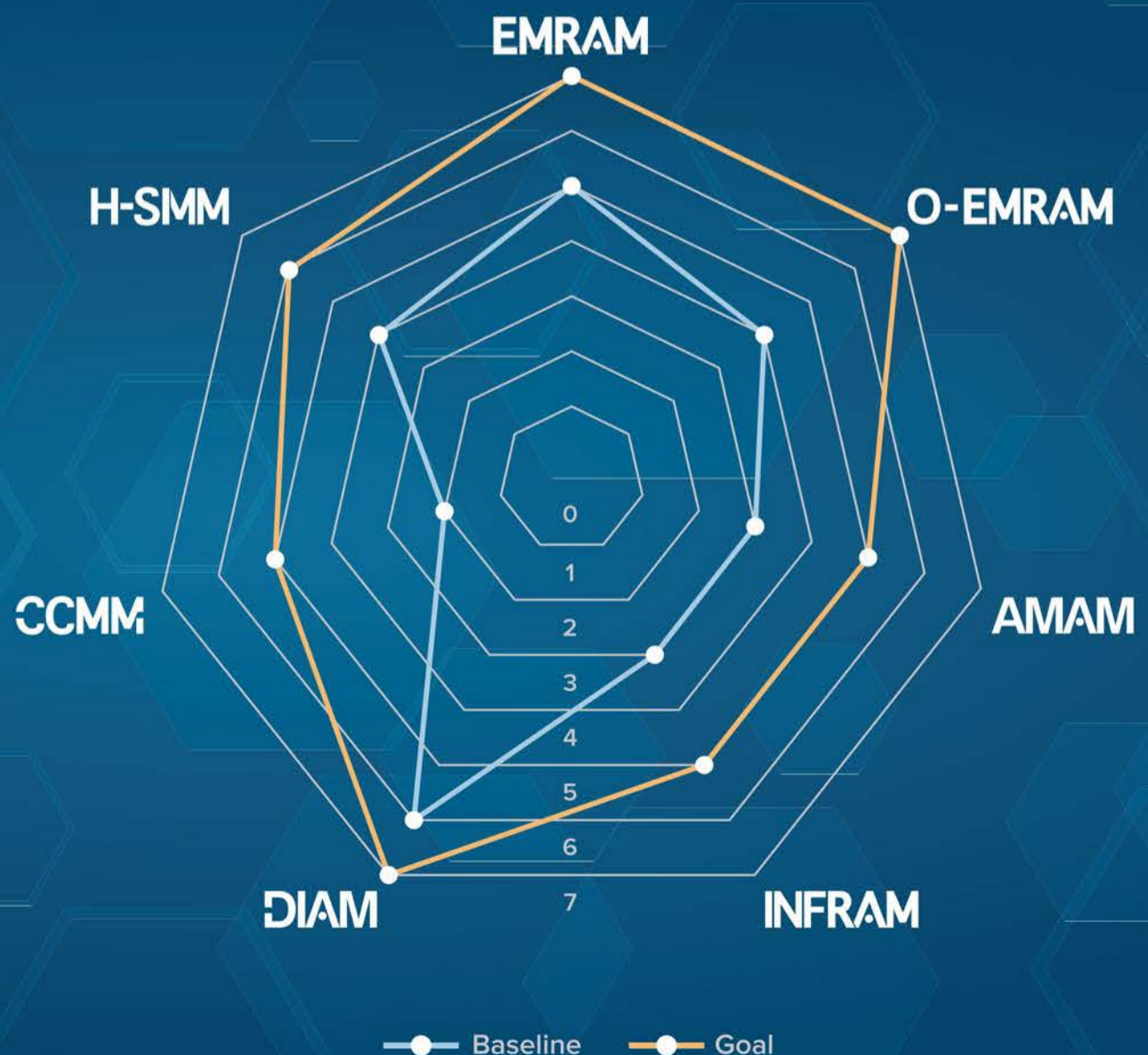
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# Steward Health Care automated referral system yields 161% increase, better visibility for care coordination

The problem was the web of multiple EMRs that complicated the process and created dramatic variances in the way referrals were processed in the PCP and specialist office. **By Beth Sanborn**



Heather Trafton

Steward Health Care's primary care providers generate hundreds of thousands of specialist referrals annually. They are the largest private, for-profit healthcare system in the United States, with 4,800 providers, 38 hospital campuses and 25 affiliated urgent care provider locations. Steward is community-based and physician-led with 40,000+ employees in 10 states caring for 2+ million patients.

The problem was the web of multiple

EMRs that complicated the process and created dramatic variances in the way referrals were processed in the primary care and specialist offices.

"They could bypass the system completely, they could work directly with the payer, some come through the process so there's multiple systems, processes, technologies. Just very disparate," said Heather Trafton, Steward's senior vice president of national MSO operations.

Since referrals are an important part of care coordination and key to improving patient care, Steward needed to find a better way. Working with Arcadia Health Solutions, the two were able to develop a patient-centered tool and automated referral workflow capable of matching patients and providers according to location, subspecialty or patient need.

They already have the tool operational in Massachusetts and are in the process of rolling it out nationally. Specifically, it is currently being implemented in Florida, Ohio and Pennsylvania, and will be added in the system's western locations over next couple months. With the new process, users can go onto a URL site or put an order in their EMR system for a referral. Trafton said they have seen a 161 percent increase in referrals going through this streamlined process as opposed to the fragmented processes of the past.

"From a system perspective it is very important because before we did not have visibility into where patients were being referred and why they were being referred. Now we're able to see and track care coordination better from a systematic perspective," Trafton said.

The tool has only been implemented for 6 months but already Trafton said access and matching have been better. With the tool, you are able to put in a ZIP code and a couple other specs and it will return a search for you based on your entry. She added that the initiative has also streamlined processes and enhanced provider and practice engagement.

"This has been very well-received and the engagement of providers has been very positive in walking through how the practices have adopted it," Trafton said. "We have robust data that we are able to monitor, track and report out on referrals to specialists, and that is something that all organizations want to be able to see." ●

*Trafton, along with her Steward colleague, Kristin Ottariano, will offer more insights at HIMSS19 in a session titled "Patient-Centered Referral Workflow Automation." It's scheduled for Thursday, February 14, from 2:30-3:30 p.m. in room W206A.*



Anthony Begando

## PROCREDEX USING BLOCK-CHAIN TO SPEED CREDENTIALING

The right combination of technology can reduce a 4 to 6 month process to 18 to 21 days, CEO Anthony Begando says. **By Jonah Comstock**

Credentialing is a complex problem: When a doctor wants to start a new job or enter a new payer's network, their prospective hirer needs to gather a wide variety of certificates and credentials – which can take months or more. Those delays translate to lost revenues for hospitals.

"If you've got 10 neurologists in a teaching hospital to deliver a telestroke program to 100 or so critical access facilities within about a two-mile radius of your organization, it can take years to get those 10 neurologists credentialed in each one of these hospitals where this frankly critical service needs to be delivered," said Anthony Begando, CEO of the Professional Credentials Exchange (ProCredEx), which is looking to solve that challenge through a network approach that leverages blockchain to verify the credentials.

"On average, as a point of reference, from the time an organization says, 'We'd like to work with Dr. Smith, let's sign a contract with him and start a credentialing process' to the point where that person is fully onboarded and enrolled with the payer contracts that organization has and is delivering care can be easily four to six months, if not longer," Begando said. "We were able to shrink that credentialing lifecycle to 18 to 21 days."

The idea is to create a network and an infrastructure that allow organizations to safely and securely transfer credentialing documents between each other, with the practitioner in question controlling and approving that data sharing, usually via a mobile app or tablet. That network uses distributed ledger technology to track and verify the credentials, built into a network architecture that facilitates trading of credentials.

To make the network work, ProCredEx will need to get a lot of payers and health systems on board. That's what they've been working on since they launched at HIMSS18 this past year.

"Scale is success for us," Begando said. "You can't build a market, like a supermarket, and open it with great fanfare, and have folks walk in and see a bag of coffee and an old sandwich. People are not going to want to buy things from your market. We've announced six members we've got another 20 or so in the pipeline, and we are likely to come to market with 12 to 15 organizations that bring that initial supply to the market that we need." ●

*Begando's presentation, "Leveraging Blockchain to Transform Clinical Credentialing," is scheduled for Thursday, February 14, from 4-5 p.m. in room W230A.*



# Significant cybersecurity incidents are a 'near universal experience' in U.S. healthcare, HIMSS Cybersecurity Survey find

Threats permeating the healthcare landscape are often initiated by bad actors, with email being the most common vulnerability, but cybersecurity pros are feeling more empowered to effect change. **By Beth Sanborn**

Significant cybersecurity incidents are a near universal experience in U.S. healthcare, and major gaps exist in the healthcare space, including a lack of phishing tests and legacy systems, but positive progress shines through as well. Those are key findings of the 2019 HIMSS Cybersecurity Survey just published at HIMSS19.

The universal threats permeating the healthcare landscape are often initiated by bad actors, with email being the most common point of entry. Only 22 percent of respondents said they had not experienced a significant security incident over the past year, and the survey found that hospitals still face frequent threats.

Bad actors initiated many of the incidents, with online scams responsible for 28 percent of incidents and negligent insiders being the culprits in 20 percent. Overall, the majority of threat actors (58 percent) were cybercriminals and others with "malicious intent."

Their most common pathway in? Email, according to 59 percent of respondents. Conversely, the most valuable assets in discovering security incidents seem to be internal. When asked who or what helped uncover an incident, 46 percent of respondents said it was their internal security team and another 37 percent cited internal personnel, making clear the value of staff training and stocking your own security force, however small it might be.

"It is incumbent on healthcare leaders to ensure internal personnel have the training and resources needed to ensure robust internal information security practices are in fact practiced," the report said.

The pervasive vulnerability of healthcare can be attributed to key gaps in practices and policies, opening organizations to threats. For example, despite phishing being a popular form of attack, researchers found a stunning lack of phishing tests, with 18

percent of respondents saying they don't do them and 36 percent of non-acute care organizations saying the same.

Also, 69 percent of respondents said they have some sort of legacy system in place at their healthcare organization. "Running a legacy operating system is an ill-advised practice. Operating systems that have been unsupported for five, ten, or more years (decades in some cases) greatly increases a healthcare organization's risk of being compromised. This is particularly significant in light of recent international cyberattacks such as WannaCry and NotPetya," the report said.

The report does point to important progress being made in healthcare cybersecurity practices that, if built upon, could better secure the healthcare space. First, results show that the majority of cybersecurity professionals are feeling at least somewhat more empowered to drive change in the industry.

Another important development is the growing validation of cybersecurity as a system-wide priority, and so there has been an increase in the allocation of funds in IT budgets for cybersecurity efforts, with 55 percent of respondents saying some portion of their IT budget is going to cybersecurity. The amounts allocated are growing too, as 72 percent said their cybersecurity budgets had grown by at least 5 percent.

Security risk assessments are growing in utilization, with only 4 percent of respondents saying their organizations don't conduct them and 70 percent of respondents saying they were covering at least eight of the 13 common components of risk assessments in their effort.

The survey reflects feedback from 166 U.S.-based health information security professionals. ●

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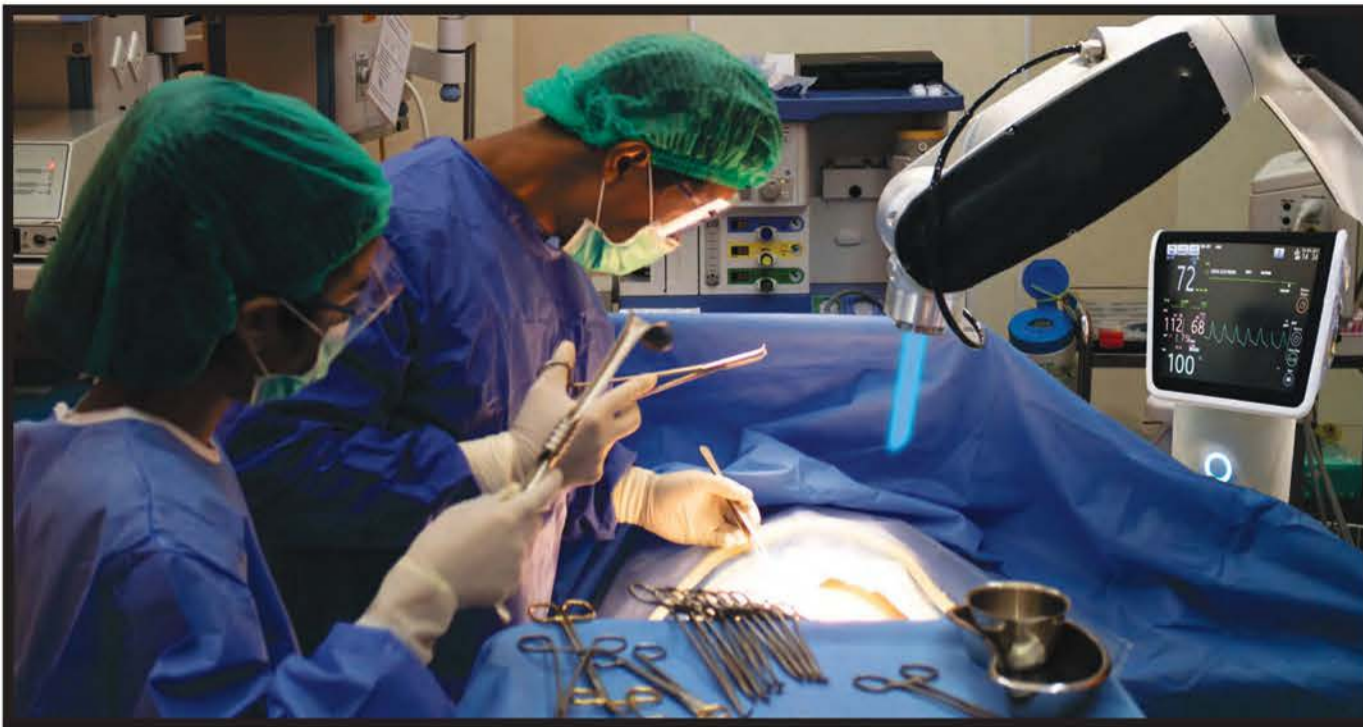
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# AI in healthcare: Big ethical questions still need answers

Experts from Microsoft, AMA and Cleveland Clinic weigh the serious considerations that must be addressed as AI and machine learning increasingly embed themselves in clinical and consumer applications. **By Mike Miliard**

Seemingly overnight, artificial intelligence has found its way into every corner of healthcare, from patient-facing chatbots to imaging interpretation to advanced analytics applications.

With that sea change comes a host of ethical questions about how, where and to what extent AI and machine learning apps should be deployed. Most of them are still unanswered.

At HIMSS19 on Tuesday, a panel of healthcare and technology experts assessed this new landscape, taking stock of the big opportunities that AI can enable – while also exploring some of the “bright lines that we don’t want to cross,” as Microsoft Associate General Counsel Hemant Pathak put it.

AI has already done wonders for healthcare. “Even if we never move beyond the current state of the art, we have a decade of application and value to extract” from existing AI-derived datasets, said Microsoft Corporate Vice President Peter Lee.

Still, it’s remarkable how fast that state of the art has matured – and continues to – establishing itself as the new normal in healthcare and beyond, he said.

“We are really still evolving very quickly in terms of core technology,” said Lee.

For example, just a decade ago, Lee was working as a researcher and computer scientist at DARPA, and in 2009, there was Department of Defense policy against investing in facial recognition technology, he said. The DoD was wary about misuses and intended consequences.

Now, millions of consumers are completely comfortable using their iPhone X with those same capabilities, or uploading their own faces to Google’s Arts & Culture app.

“The evolution of thinking from that point to now – the technology is just assumed,” said Lee.

Still, he said, it’s time for a “more nuanced and thoughtful conversation” about AI technologies such as those.

At Microsoft, for instance, Pathak said there’s an in-company institutional review board that weighs its approach to development of facial recognition technology. And this past December, Microsoft shared a long blog post where it said it was “time for action” on that particular strain of AI, and called for “governments in 2019 to start

adopting laws to regulate this technology.”

In healthcare, there are myriad other AI applications, and for all their huge potential, they still need to be closely monitored, said Susannah Rose, associate chief experience officer at Cleveland Clinic.

“It’s not just how AI is diffused in the [healthcare] system; it’s the structure of how we’ll be testing it,” she said. With machine learning applications, it’s critical that “we not abandon the notions of rigorous testing that we have in healthcare today,” she added. “I don’t think AI can be any exception to that sort of rigorous involvement.”

As the technology continues to evolve almost daily, there are already immense benefits to the consumer (“chatbots are becoming more socially aware,” Lee pointed out) and to providers and patients in care settings.

And there’s a real opportunity for AI to continue to improve the healthcare experience, said Rose, to “keep what needs to be human, human – and then come back in and automate those things that don’t need the human touch.”

Still, there are perils. “Even small defects in the training samples can cause unpredictable failures,” said Lee. “Understanding blind spots and bias in the models” is a must-have for safe integration of AI into clinical workflows.

Big picture, there are lots of big questions still to be ironed out as AI works itself into every aspect of our lives, said Sylvia Trujillo, senior Washington counsel at the American Medical Association. These include questions of security and privacy, of course, or the potential between patient rights versus public health when dealing with certain datasets.

AMA, for example, has already established a set of “fundamental principles” about its position on AI in healthcare, she pointed out – adding that there will be further policies coming in June.

“We have to have a discussion,” said Trujillo, “around making the data available and setting parameters around consent.”

As more and more people willingly submit their own genetic and genomic information to direct-to-consumer companies, after all, few might be aware of the potential for discrimination – whether for long-term care or life insurance – on the basis of that data, she said.

But it’s also true that, “given the future trends in healthcare and demographics, we cannot advance healthcare without AI innovation,” Trujillo added. “So this is a conversation we need to have.”

## SPOK EXPANDS COMMUNICATIONS PLATFORM WITH MULTIDEVICE WORKFLOW SUPPORT

Spok Go and Spok Conduct are available now, with Spok Navigate coming in the future.

By Dave Muoio

Medical communications company Spok announced a new suite of tools for its Spok Care Connect platform here at HIMSS19.

Among these are Spok Go, a multi-device app for care team messaging; Spok Conduct, a cloud-based workflow engine with clinical alerting and alarm management support; and Spok Navigate, a tool for operators that helps guide patients and their caregivers through their encounters with a health system.

Spok Go and Spok Conduct are now available to customers, while Spok Navigate is coming soon.

“Our experience supporting more than 1,900 hospitals across the US has helped us create a solution that positions healthcare providers for success today and supports them with faster, smarter clinical communications for the next decade,” Hemant Goel, president of Spok, said in a statement. “This latest evolution of our communication technology will allow our customers to leverage integrations to their existing Spok suite of solutions, while keeping security in the forefront.”

Spok’s system specifically ensures secure messaging within the hospital system. It allows providers to send secure text messages, set preferences and encrypt paging. It can also assist in physician and nurse scheduling and set clinical alerts and notifications, according to the company’s webpage.

With the new features, Spok’s platform will now allow clinicians to access the messaging system from either their Windows and Mac desktops, or by using an Apple or Android device. Users will also be able to route or escalate any alert messages to the best person.

“Spok Care is a powerful system of action with deep EHR interoperability,” Vincent Kelly, president and CEO of Spok, said in a statement. “It includes a robust workflow engine that will enable hospitals and health systems to consolidate their clinical workflows into a single system.”

Spok is demonstrating its new tools on the HIMSS19 show floor at Booth 3371.

# How telemedicine can be improved to better capitalize on efficiencies

While the technology is maturing, there are still quality gaps that can be achieved by tweaking the process, improving the experience for patients and providers. **By Jeff Lagasse**



It's commonly accepted by now that telemedicine holds the potential to improve both access for patients and efficiency for providers. But as with any emergent technology, it isn't perfect.

Occasionally, patients receive care that isn't quite on par with what they would get face-to-face in terms of quality and consistency. Speaking at HIMSS19 on Tuesday, Dr.

Soheil Saadat expressed a desire to change all that.

Saadat is the founder and CEO of GenieMD, which seeks to use technology to standardize telemedicine encounters and make it easier for both patients and providers to tap into its potential.

"For physicians, you are looking at increased efficiency, more patients and of course increased income," said Saadat, "and this is all with the hopes of decreasing costs. But this has to happen in the context of people having the same level of care as in a face-to-face visit."

In his way of thinking, one of the best ways for telemedicine to be effective is to prompt clinicians to ask the right questions of the patient. Doctors, said Saadat, are humans like the rest of us and make mistakes. Computers don't.

So using evidence-based guidelines, technology leaders can design protocols in such a way as to ask the right questions consistently, such as whether a woman is pregnant or breastfeeding, or what a child's weight is in order to prescribe the right antibiotics.

"As far as the clinician is concerned, we want to make them efficient," said Saadat. "When prescribing medication, for example, they should know what the interaction is with other medications. We can also reduce documentation time by putting unstructured data into the EHR."

One of the ways efficiency can be achieved through telemedicine is to alert a handful of doctors, Uber-style, that a patient is seeking a consult. The first available doctor can take the call. More mundane conditions can also be referred to nurse practitioners.

Follow-up is another area in which efficiencies can be achieved, and through the GenieMD platform, physicians can do an on-demand follow-up call with patients.

"It's not an episodic encounter where you never see the patient again," said Saadat. ●

## POLICY, DEVICE COMPATIBILITY EFFORTS WILL INVIGORATE HEALTHY AGING TECHNOLOGIES

Analysts argue that without major initiatives focused on adoption and platform creation, senior care technologies will remain low-impact point solutions. **By Dave Muoio**

The aging population's caregiving needs are growing as quickly as the demographic, and a slew of new tech-based products for seniors, their families and providers are cropping up each day in response. But despite the potential voice-first interfaces and inconspicuous sensor-equipped wearables, analysts discussing the senior care technology market at HIMSS19 noted that long-term adoption is inconsistent at best, and nearly nonexistent among the country's oldest residents.

"Once you start looking at the adoption numbers, they really trail off at ages when people could most benefit from using the technology," Laurie Orlov, principal analyst at Aging In Place Technology Watch, said during a HIMSS19 panel. "We know many older adults, especially when you get past the age of 75, are still carrying around feature phones, clamshell phones, no data whatsoever. Even the pictures that their kids want to send them are not accessible through those kinds of devices."

The roadblocks to senior tech adoption are many, but there are a couple of key focus areas that could yield substantial benefits when it comes to keeping devices in seniors' hands or on their wrists. Chief among these for Orlov is support from lawmakers or other government forces.

"I'm waiting for a policy intervention that boosts the adoption," Orlov said. "I don't know if you're familiar with the Older Americans Act, but [it's] what created senior centers and meals on wheels in the United States, and it added technology components. [This kind of approach] could be the way we boost the adoption of technologies in older adults."

David Lindeman, director of health at UC Berkeley's Center for Information Technology Research in the Interest of Society (CITRIS) as well as director of the Center for Technology and Aging, echoed Orlov's point by highlighting the impact CMS' telehealth rule changes, the FDA's market guidance and other upcoming policy decisions can have on the market.

"Policies can hinder or rapidly advance this space," he said. "But one of the biggest issues will be how are policies set up around issues such as 5G. ... The way policies are set, the way we can see open source and access 5G, how companies will use this and how it will be used for the public good will be critical."

So far, many innovators and entrepreneurs are building their new devices without considering wider integrations, Orlov said. As a result, many of the wearables and voice technologies that could be assisting the elderly are destined to remain low-impact point solutions that, ultimately, won't stick with their users.

To stem this trend, Lindeman reiterated the call for industry-wide technology standardization or, at least within the aging tech sector, a common platform able to connect complementary products.

"We have yet to create standards to allow major players, let alone these new companies, to come along and play off of that. I do think the ultimate solution is ... ubiquitous, or just existing, interfaces. If we don't have these large systems, we're going to have a great deal of difficulty for people to take advantage of this. We're still going to be seeing barriers of low adoption over time." ●

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# How to break down silos in your revenue cycle

Leah Dixon from CHRISTUS Trinity Mother Frances told her HIMSS19 audience technology, physician champions and a meaningful dashboard are all part of the equation. **By Beth Sanborn**

For Leah Dixon, administrative director of patient access services for CHRISTUS Trinity Mother Frances Health System, breaking down their siloed revenue cycle operations and truly improving their patient financial experience started with technology as a catalyst. They had been operating under two revenue cycles: one for hospitals and one for their clinics. That meant two of everything: two statements, two customer service units.

Beyond the glaring need for efficiency and streamlining, the siloed existence had a hugely negative impact on communication. Physicians would order what they wanted to order in terms of services. If there was a denial, there was no conversation and the hospital simply ate the costs. This practice put the patient in the middle between the hospital and the physician.

"We didn't want that. We wanted the patient out of the middle. Let's have a convo and then decide the best solution to the patient," Dixon said.

First, they changed their EHR and moved to Epic after years on being on two different EHRs. That was a major catalyst for change. But Dixon said they also looked at other organizations to see what they were doing, and they also talked to patients and did patient forums to understand what they wanted to see happen.

Their vice president of revenue cycle led the charge, but they also had a physician champion. That was crucial.

"To get physicians on board, you need another physician to lead the charge. We had a physician champion helping us as well," she said.

To ensure a nonclinical person wasn't making care suggestions, they also had a nurse lead the financial counseling teams so they could speak the clinical language and communicate with the physician.

"Putting a clinical person in that space helped bridge those conversations with physicians," Dixon said.

They also decided to move as much of the financial conversation as early in the revenue cycle as possible, instead of waiting until the back end to have the conversation about payments and payoffs. The goal was to have those conversations at the time of service or prior to services. They even recorded face-to-face conversations for staff training purposes.

The silos came down. Now, Dixon said, on any given month they have between 40 to 50 percent of all patient money coming in prior to or at the time of service.

"We do a good job of getting that money. The other 50 percent is what we have to work on, on the back end. We have a goal in our office to get to where if we have to send a statement, it's a failure -- that for any scheduled service we should be getting that money up front," she said.

They also have a revenue cycle patient experience dashboard with 35 to 40 metrics that provides a glimpse into what the patient's financial experience was through the revenue cycle, from pre-registration, time of service, financial counseling and through the back end.

They measure ratio of statements to visits and have seen statements declining because they are collecting more at the time of service. They track statements to customer service phone calls, understanding that if patients trust the statements and if they are accurate and easy to read, they aren't going to call their centralized call center. The same is true for online payments. If the patients are paying online, then they understand the statement. That metric has grown from about 8 percent of total patient collections for a given month to 25 percent of patient collections.

"To be successful, you have to have clinician buy-in and a physician champion. You have to speak their language. You also have to find ways to measure patient financial experience. Find some KPIs and build a dashboard that would give you insight into that," Dixon said. ●

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# Five lessons from Cleveland Clinic Chief Experience Office Dr. Adrienne Boissy

Don't mix up patient portals with engagement. By Jonah Comstock



At Monday's Patient Engagement and Experience Summit at HIMSS19, Cleveland Clinic Chief Experience Officer Dr. Adrienne Boissy took the stage to answer some attendee questions about the state of patient engagement. While the discussion was wide-ranging, an overall theme shined through: the importance of empathy. Read on for some patient engagement lessons.

## 1. ENGAGEMENT ISN'T ALWAYS A POSITIVE EXPERIENCE, SO LISTEN TO PATIENTS

Boissy says it can be a mistake to assume patients want to be engaged, or to assume they want to be engaged in a certain way. For instance, for patients with deteriorating conditions like multiple sclerosis or Alzheimer's, tracking can have a powerful negative effect.

"I was on a walk in the park and a patient came p to me and started yelling at me, one of my patients. ... And what she ended p saying was, 'I don't like coming to you office anymore because you ask me all the validated sn vey questions about MS, and then every time I see I'm getting worse. I'm not coming anymore,'" Boissy said. "I almost fell over, because why didn't we think about that?"

Cleveland Clinic has learned from that experience and has added some new qu stions to the standard assessment.

"We shold have done better," Boissy said. "And now what we do is when patients come in, we ask them if they want to do those qu stions, and on the qu stionnaire we added,

'What's most important to you?' That doesn't seem like a big thing, but that doesn't exist on validated sn vey's."

## 2. DON'T CONFUSE DOWNLOADS WITH ENGAGEMENT

Too many people in healthcare still think "patient portals" when they hear "patient engagement." Boissy believes this conversation is pretty far afield of what's important.

"I don't understand this dialogue that a portal is engagement!" Boissy said. "And in fact when we did our engagement pilots some time ago, all I saw was 'number of times downloaded, number of times patient logged in.' If patient engagement is behaviors that a patient demonstrates to take maximal advantage of tools available to them to manage their health, then downloads and logins are useless pieces of information."

## 3. FOCUS PATIENT ENGAGEMENT ON AN N OF 1

Popl ation health and data analytics are powerfl tools. But, jst like EHR data, they aren't a sb stttie for engagement. And whenever a patient feels like he or she is being engaged as a member of a popl ation, rather than as an individual, it won't be a positive experience.

"I'm not a popl ation. I don't like to be thought of like that," Boissy said. "Engage me and then you'll get somewhere. So I'd like to avoid those labels. Let's not have a platform that we're going to use for Jewish people and a platform that we're going to use for old people and a platform that we're going to

use for digital natives. Let's have a platform for human beings that is sensitive to the needs of each one, that is my dream."

## 4. KEEP YOUR EYES ON THE PRIZE — THE PATIENT-PROVIDER RELATIONSHIP

"If we have a bunch of highly engaged patients and a bunch of walking dead clinicians, that is not the vision," Boissy said.

So engagement needs to be conceived of from the start as a two-way street. But furthermore, as hospitals choose tools and platforms for engagement, that relationship needs to be the cornerstone.

"Over and over and over again, the drivers of exceptional experiences are the moments with the doctors and the nurses. There's still something sacred about that moment," Boissy said. "So how we're training, how we're teeing up, how we're using technology to extend and support that relationship is how we should be placing our bets."

## 5. EMPATHY IS MORE THAN JUST LISTENING AND RESPECT

Boissy ended her panel with a reminder that empathy is not a buzzword and not just a way of describing what a hospital is already doing.

"In the HCAHPS survey, they ask about 'How often did we listen to you, how often did we explain things to you, and how often did we respect you?'" Boissy said. "Did anybody hear empathy in there? Well guess what? In the patient's eyes, the most important thing is, 'Did you care about me as a human being?' When that gets on all the surveys we'll be in business." ●

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# Epic CEO Judy Faulkner on Apple, docs who actually like their EHRs and Warren Buffett

The EHR vendor's founder also discusses the state of interoperability, cloud computing and today's sticking points in health IT. **By Mike Miliard**



Judy Faulkner

Epic CEO Judy Faulkner has been to many, many HIMSS conferences. So many, she says, that she's lost track. As the company she founded in 1979 turns 40 this year, Faulkner sat down with *Healthcare IT News* at HIMSS19 for a conversation about interoperability, usability, patient engagement, her own plans for the future and much more.

**Q. So, a certain cable TV financial guru [CNBC's Jim Cramer] suggested recently that Apple should buy your company — which he just seemed to think was a no-brainer. What did you think of that?**

**A.** (Laughs.) Well, first of all I had no idea who he is. I've never watched that show. But secondly it was like, "This is really weird!" Thirdly, it was just a shrug: "We're not going to do that." And it was just very gratifying that not a single health system contacted us about it and said they were worried. They all said they laughed. ... I think the thing that amazed me most about it is not that he said it. But that the message is so clear around the whole industry that we wouldn't do that. And nobody questioned it. That was a real achievement, I think.

**Q. As you know there was a big rule [the HHS' new information blocking rule] that came down Monday that's been talked about for a long time, and I think it couldn't have been too much of a surprise. Or maybe there were some surprises, from your point of view? What do you expect?**

**A.** I don't know. I haven't read the fact sheet. ... On the one hand, there's suddenly a lot of value in it. On the other hand, there's things that have to be figured out. Like timing. What if you're supposed to send your data to a third party; how do you ascertain that they're good player or not? Or do you not? I don't know. So those are things where we have to be learning what the government wants. And if in fact they're not a good player, are we supposed to be responsible for figuring that out? Let me put that differently: If we're supposed to send the data to anyone, but then they're not a good player, are we responsible for that even if we can't check them out? So we need to figure out, what are the rules? I've only heard about it at a very high level. The next level down, this is really the important level. The devil's in the details.

**Q. One of the points CMS Administrator Seema Verma made Tuesday during the keynote discussion was that this**

**rule is largely focused on the payers. Do you think that's a good approach, to kind of help open up that ecosystem?**

**A.** I haven't seen the payers be unwilling. The payers, in our experience, have been very willing to share.

**Q. What about the notion of consumer-mediated exchange — which was another major theme in Tuesday's keynote: putting the consumer at the center and making them kind of a vector for interoperability?**

**A.** Well we already do that. Do you know Share Everywhere? Do you have MyChart? It's a little thing that says "share my record." We already have the patient control where their record goes. So I'm all for it. I want to give responsibility and information to those patients who want it.

**Q. It's been a bit more than a year since Epic launched its One Virtual System Worldwide initiative. What have been some milestones and what are you looking to help build with that?**

**A.** We've already gotten out some of the features, like images. You can share across systems now and you can click on an image and it will bring over a big version of that image and you can see it and you don't have to take the same image. We now have messaging back and forth between systems, so if I'm a doctor and you're a doctor, I can message to your in-basket with secure messaging and we can talk about the patient that I just referred to you.

**Q. Not too many years ago, many in healthcare were deeply skeptical of the cloud. But now there seems to be an acceptance and comfort level. How do you see the future there?**

**A.** If you consider cloud the same as remote hosting, we're finding many of the health systems want someone else doing remote hosting. It could be for space. It could be for experience, the employees who run it. It could be because they don't feel that they're proficient in it. ... Could be because they feel it could be less expensive if someone else does it. So they might go to a third-party vendor who's done hosting for years. They might come to us. Right now, they're not going to the major cloud vendors such as Google, Amazon and Microsoft.

**Q. We're hearing an awful lot these days about physician burnout and about frustration. It's no secret that many doctors just don't like their EHRs. What are you doing to help ameliorate some of that?**

**A.** The latest studies I've seen are showing that there's not a high correlation between happiness with the EHR [and] happiness with their job and the problem of burnout. I think it would really help if the media understands that, and helps everyone else know it. KLAS did a study I thought was a very interesting. There's been like five papers in the past year that said it's not really the electronic health record. KLAS asked people two questions, among others. One was, how much do you like your job? One was, how much do you like the electronic health record? And what they found was that there are a lot of people who were satisfied with their job and who liked the electronic health record. And a lot of people who were satisfied their job but didn't like the EHR. A lot of people who weren't satisfied with their job but did like [the EHR]. And by far the smallest number was those who didn't like both. And from that, they concluded that there isn't a whole lot of correlation. There's a little bit, but not a whole lot.

**Q. How do you see interoperability continuing to evolve on a larger scale? There's Care Everywhere, there's CommonWell and Carequality and the HIEs that still exist. Do you think it's all eventually going to cohere into something whole, and be the ecosystem that people want and expect?**

**A.** Well, we are creating an ecosystem. And as we go out to customers who are beyond the normal walls of the clinic and hospital, such as dentists. Such as life insurance companies. Post-acute care and many other areas — although post-acute care feels a little more normal. Life insurance doesn't. Payers don't. But we're going out to them as well. We're going out to specialty labs and specialty pharmacies, and things like that. That creates that ecosystem of people involved with health, not just healthcare. And then as we move to working together above that, that helps tie them all in. So I do see that it becomes not just your system, but — at least for our customers — it's going to be the ecosystem of everyone together. ... If your question is really, "At the end of it, will we be able to take a thousand points of light and put them together and everything will work well?" I think we're going to go back to the beginning of healthcare, people will try it, and it won't work well together is my belief. Because you put in all these systems, and this group uses yellow to mean one thing and this one uses yellow to mean another, and this uses squares at the bottom and this uses triangles at the top. Are they all going to sit together and say, "We're going to have one user interface so that nobody gets mixed up when they go from one to another," and then it makes a bad decision for the patient because they got mixed up? Or they're going to use same terminology? What's going to happen? APIs to share data is only one level. So I think they're going to get into best-of-breed again. Now, that isn't everywhere. I still think that there's going to be lots of places where those systems are going to be incorporated into the basic system and going to do a lot of valuable stuff. It could be education stuff. You've got a patient with a certain problem and here's some really good education things. It could be a calculation that's going to figure out precisely where the cancer is and what to do with it. I think those things would be very valuable. But if they're trying to do what has been done before with best-of-breed, that type of use won't be there.

**Q. This is Epic's 40th anniversary. How does it feel for you to kind of be that elder statesman in health IT? You've seen a lot of change in this industry — especially in the past decade.**

**A.** We've been very busy. But the industry is changing right now. Neal [Patterson] is gone from Cerner. Jonathan [Bush] is gone from athena. The same folks aren't at Allscripts. It's changed. Harvey Wilson, he was with Eclipsys — that used to be one of the biggies. So, yeah, it's changing. Meditech is still there. Neil Pappalardo, I think is retired, but their CIO has been around for a long time, so that's consistency there.

**Q. How do you see your future? Are you just going to doing this until you get tired or ...**

**A.** Yep. I'll do it for as long as I can contribute to it. And if I can't, then you gotta get me out of there. (Laughs.) But assuming that I can, I'll stay around. Warren Buffett, how old is he now? I think he's 88. And he's a good one to keep watching, because he just keeps chugging along. He just seems like an elder statesman in his industry. And his partner, Charlie [Munger] must be 93 (ed note: he is 95), and he says at his organization you retire at the age of 103. ●



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