TUESDAY FEB. 12, 2019

NUMBER OF PREVIOUS HIMSS CONFERENCES ATTENDED

PREVIOUS HIMSS GLOBAL CONFERENCE & EXHIBITIONS ATTENDED	COUNT	PERCENT
None	2,790	33.5%
1 to 2	2,251	27.0%
3 to 4	1,130	13.6%
5 or more	2,160	25.9%

AS OF 01/11/2019

Tell Us
Where it Hurts!

Are You Suffering From These Ailments?

EHR ACHES: Do inefficient workflows diminish your clinicians' productivity and make it difficult to find diagnostically-relevant details within a patient chart?

DISORGANIZED DATA: Do your physicians have difficulty accessing the right data at the right time for the right patient?

QUALITY QUANDARIES: Are gaps in care, documentation or coding costing you lost revenue and impacting patient outcomes?

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- Delivers reliable data at the point of care and to power clinical dashboards, analytics and AI

- Increases clinician productivity with streamlined workflows and access to precise clinical data

- Provides solutions that improve real-time quality compliance, maximize revenues and optimize quality of care and analytics

Medicomp Fixes EHRs
Where They Hurt.

MEDICOMP
SYSTEMS
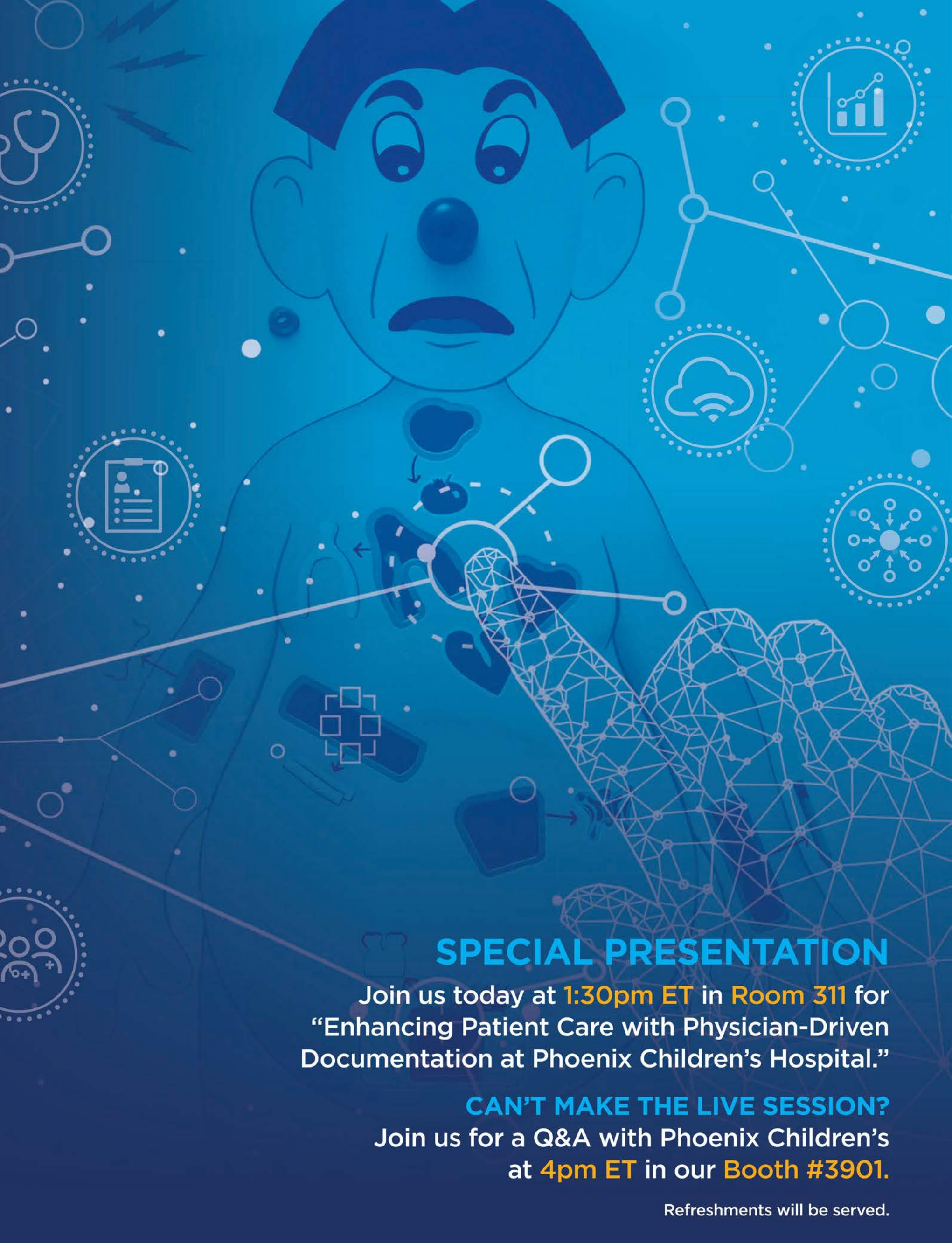
SPECIAL PRESENTATION

Join us today at 1:30pm ET in Room 311 for "Enhancing Patient Care with Physician-Driven Documentation at Phoenix Children's Hospital."

CAN'T MAKE THE LIVE SESSION?
Join us for a Q&A with Phoenix Children's at 4pm ET in our Booth #3901.

Refreshments will be served.

Health organizations around the world are in need of champions to solve our global challenges

The problems with the most transformative promise also carry significant risk to the future of high-quality care delivery — and that should bind us together on a global scale. By Hal Wolf, President and CEO, HIMSS

We are standing at a point in time where the world might feel a little disjointed – and finding common connections, even if they are born from significant challenges, becomes even more important than ever.

Healthcare has been in a transformative place for some time, but we now find ourselves at an interesting juncture, a tipping point if you will, and one that connects us in ways with immense possibility to accelerate change globally.

Visiting with healthcare leaders spanning multiple continents has been a humbling and inspiring experience, notably in the eye-opening power that came with finding that common problems connect us all, despite language barriers and political differences.

We may be divergent is several aspects, but health organizations around the world are aligned in their efforts to solve for problems that are more complex than ever before. The tipping point comes with the onset of new technological solutions that have the transformative power to truly change lives, making people healthier than ever before, when they are leveraged intelligently and systematically.

Aging populations with multimorbidity conditions, clinician shortages, financial burdens, growing consumerism, equal access to quality care ... the problems that may appear country-centric are, in fact, those things that most deeply bind us together.

In my meetings with senior healthcare government and provider leaders across the globe, as well as our HIMSS communities, market suppliers and innovators, I heard a resounding theme for the need to further define and think through the ways we use digital health to really transform health and healthcare as we know it.

The problems that hold the most transformative opportunity are also those that run the risk of hindering the future of the delivery of high-quality care.

Those of us who stand on the precipice of true healthcare innovation transformation must do more than wield the new bright shiny object. We must work together despite differences in geographies or economic disparities to find solutions to the health problems that plague us all.

Digital health tools will need to answer for the way information and technology will increase access and narrow gaps in care and coverage.

The promise of artificial intelligence serves as a good example of a shiny innovation that has garnered a lot of deserved attention in recent years. From competing visions of AI that can transform us into lands of nirvana to the power it has to disrupt our workforces and leave us with machines running the world, AI holds promise, potential and also a lot of trepidation. The innovations in artificial intelligence are growing rapidly and have the power to truly help solve for many of the global health problems that unite us if we can work together to dispel the suspicion and anxiety that come with harnessing new technology.
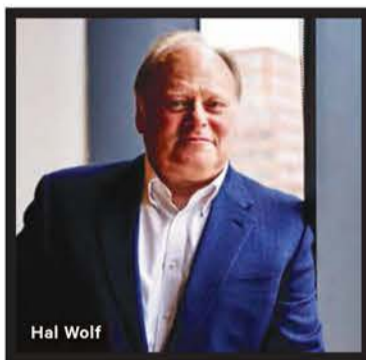
But let us also remember that technology is applied to cultural and operational settings in order to deliver change. Workforce and process redesign are equally significant focus points in the efforts to use new capabilities to solve our challenges even as clinical shortages nip at our heels.

Digital health solutions will be called upon to address the ways health and care can be administered outside, as well as inside, the traditional hospital setting, and the processes we develop must start with the whole person and be built from their perspective. Today's consumer has rapidly changing demands for new and innovation solutions, and with that comes an increased appetite and intelligence in understanding the advances in technology that have the power to transform.

It's imperative that we ensure solutions in artificial intelligence and other technological advances such as wearables, chatbots and robotic surgeons are introduced into the marketplace in a way that builds understanding and dispels aversion.

If problems bind us globally, then the solutions to those problems have the power to truly unite and ignite the power of global intelligence in solving the biggest healthcare problems that face us all.

We are standing on the edge of a world of opportunities to unite, transform, empower and truly change the health of people the world over. We may deem those things that currently run the risk of disrupting high quality healthcare as problems – but I choose to see only potential and opportunity to connect in ways we've only begun to discover. ●
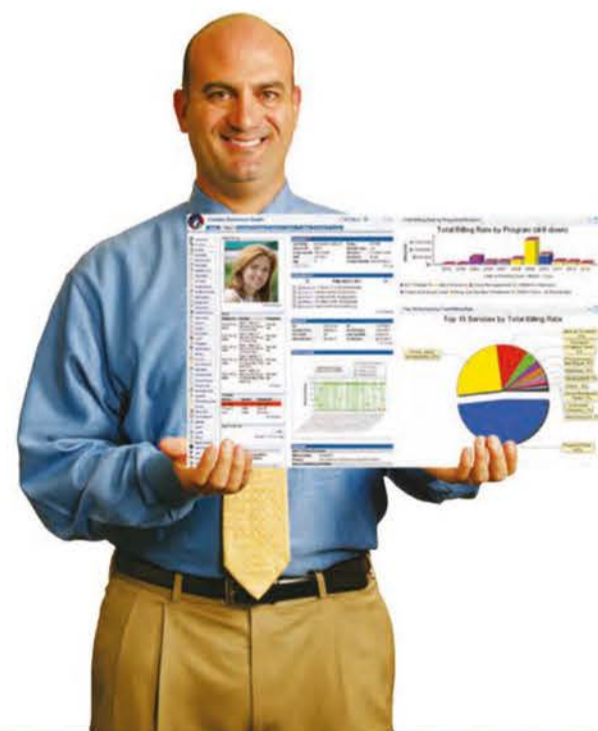
Hal Wolf

TRANSFORMING HEALTHCARE
THROUGH TECHNOLOGY

Jonathan Scholl currently serves as President of Health Group at Leidos and is responsible for leading 7,000 employees in the nations ninth largest Health IT and Services company. Leidos Health provides services and solutions in health information technology, population health risk management and case management, health analytics, life sciences and public health. Prior to joining Leidos in 2015, Scholl served as Chief Strategy Officer for Texas Health Resources (THR), one of the largest nonprofit healthcare delivery systems in the country where he led strategy, business development and strategic marketing, and oversaw operations for physician joint-ventures. Prior to that, Scholl spent nearly two decades with The Boston Consulting Group and was a Submarine Officer in the US Navy.

What does 'transformation' mean to you?

First, we're seeing a transformation from analog to digital; paper to digitized information. And while this has largely enabled the EMR space in the USA, we're not digitized everywhere such as in post-acute, home services, etc. We're also experiencing a transition in data management due to the high volumes of data collected from IoT devices and wearables. This is expanding our understanding of the patient, but it doesn't necessarily allow us to put the data to use through their care journey.

Most notably, we're seeing a transformation *of* our industry. At one time, healthcare was industrial-centric where the customer was either the employer, the health plan or the provider of services in a B2B market. Now, healthcare is also becoming a B2C market, where the patient also becomes a customer and we shift to a consumer-centric focus. Our payment system is radically changing from activity-driven reimbursements (fee-for-service) to payment for overall health (fee-for-value).

Where is transformation most needed right now? What technologies are needed to drive this innovation?

Too much time is being spent on "new" and not enough on execution. While I deeply appreciate and believe in the emergence of AI, Machine Learning, Big Data and so on, I believe we need to transform our core operations in healthcare in the next several years and use what we already know to effect change. For example, much is already known about treating chronic diseases, managing lifestyle, eliminating variation and redundancy, and more. What we lack is the follow-through; *doing* what we know we need to do for the patient. Writing an order set in an EMR is not enough – patient care extends from home to home and we don't know if activities are complete before patients arrive at an acute setting or in the post-acute and home space. This has been a pain point in our industry for decades now, but most organizations still don't have the technologies to fully enable a holistic map of the patient journey. It's why I came to Leidos.

> "We have to start with a fundamental question: 'What is the business purpose of an IT transformation?'"
>
> **JONATHAN SCHOLL** | President of Health Group | Leidos

We are a systems integrator enabling the transformation of operations in healthcare to ensure we do what we already know how to do. We offer technology and services that, as new learnings emerge, can "industrialize" and enable us to do what we intend to. Leidos' heritage is to provide massive scale command and control systems to the government, to fly air missions, to make sure the space station is re-supplied and to control airspace around the world. We also provide "mission-control" for the execution of our customer's health mission.

In our 'post-EMR' landscape, how should organizations optimize their new wealth of data to enhance care?

Put your data into action. If we consider that a doctor's day-to-day in a clinic involves 25-35 ten-minute appointments, offering them a patient database is nonsensical. They're already doing their charting two-plus hours after work – they don't have the time to go research disorganized masses of data. So, the data must be actionable and exist inside the clinical workflow. Organizations can optimize their data by thinking holistically: what does the entire episode of care need to look like to assure a value-based outcome?

I like to give the example of a patient approaching knee surgery. The procedure itself can be more cost- and care-efficient if we consider all the circumstances around the activity. If I am the provider, I need to know if my patient is on blood thinners so I can ensure they stop them X hours before surgery. I also need to make sure the patient has training for their post-opt healing so that I can discharge them appropriately (rather than taking additional time in the acute setting to train them, when this could have been done beforehand). I also need to make sure they ambulate within hours of the joint replacement and that the activities of daily living can be accomplished before I discharge them to prevent readmission. These concerns and needs are not an EMR issue but the realities of a post-EMR world. We need to put our data into practice.

How does Leidos work to unite the 'digital gap' between IT transformation (modernizing the infrastructure) and business optimization (making these processes efficient and digitized)?

We have to start with a fundamental question: "What is the business purpose of an IT transformation?" Sure, there are businesses that go about IT transformation because they are passionate and well respected for their projects. But in our work with customers, we start with the question: what is the business imperative that your organization faces in the market? We determine how our solutions tie into that mission and give the business a return on their IT investment. While the market needs will vary in different parts of the country and from one organization to the next, it's crucial to first identify the business goals that will drive IT transformation.

Digital health: What to expect in the immediate future

The most successful health systems of the future will be the ones pursuing digital transformation today. By Dr. Charles Alessi, Chief Clinical Officer, HIMSS

Dr. Charles Alessi

Steve Wretling

Digital transformation is accelerating. Health systems globally are under strain and in the midst of significant change being exhorted to deliver more positive outcomes for people for the resources expended. Wholesale digitization is now thus firmly on the radar of every health system globally.

Health professionals certainly would subscribe to the fact that this is a time of great change. They are being asked to "do more with fewer resources," and to work in an ever more complex environment of aging and multimorbid populations where optimal outcomes do not depend only on pure biomedical solutions. We also lack the manpower and the resources to go back to the old analog ways of working. The question is whether we have reached a point where digital ways of working are so ingrained that they are now mainstream.

Globally, health systems are in different places in their journeys toward digital transformation, depending on their unique characteristics and also on the metrics that drive them. However, there are some common attributes that the more successful systems in transformation are exhibiting. It is also likely that successful adoption of these attributes increases the speed of deployment and positive outcome whilst also decreasing the levels of burnout and pain for the workforce and patients. The attributes are:

1. Adoption of a digital-first policy. More successful systems are addressing digital transformation not by layering digital adoption on their existing services but by using the opportunities afforded by digital transformation to rethink their existing care pathways. Also, they are adopting a "digital-first" approach, whereby a digital interaction with a health and care system is the default first approach between a patient and the system in the majority of cases. By thus segmenting demand supplemented by also using new technologies from telemedicine to machine learning, they are making their workforce go further as well as work in a more focused environment at the upper end of their competency. Less successful organizations by "double running" analog, digital and technological solutions are putting their workforce under even more strain, and thus exhibiting more burnout and worse outcomes and are less likely to succeed and thrive.

2. Deployment of machine learning. This is starting to be adopted in core practice. Initially, there is a cluster of applications around mechanizing the interpretation of images. Machines can already be deployed in a laboratory to make a "first pass" at interpretation and prioritize specimens that look abnormal to get them to be seen by the human experts expeditiously.

3. Utilization of monitoring beyond wearables. More passive monitoring systems encompassing the internet of things are now being used to supplement and even replace dedicated wearable applications. For example, frail patients are able to live safely in their own homes by adopting strategies that monitor their utilization of environmental resources like electricity and water which enable the carers to assess dynamic use of kitchens and bathrooms. As long as deployment is accompanied by full and transparent consent, it is likely we will see an acceleration in activity here encouraged by the shift from hospital to home in our quest to do more with less.

4. Adoption of telemedicine. With the adoption of proper structured governance around its use, as well as a single-entry approach in terms of data, this digital method of interaction is now more prevalent. We are seeing examples of this in some Northern European countries. Adoption will also be accelerated by the fact that face-to-face contacts will inevitably come under more pressure because of complexity of care and treatments associated with our aging populations.

5. Patient-owned data and medical records. For successful implementation of value-based, personalized, population health, capitated systems, which is where health systems globally are coalescing, it is essential to fully engage and activate patients to take responsibility around their own health and wellbeing. To achieve this, patients need to have access to their own medical records. The most successful systems globally also are working toward transferring ownership of the records as a step toward more self-care.

6. Wholesale implementation of interoperability. With the adoption of open standards and real interoperability, there is more likelihood of physicians having real-time line of sight of a patient's care, which is essential if one aspires to deliver optimal care. The adoption of these standards will accelerate as adoption of capitated value-based systems increases globally.

The level and speed of adoption of these attributes will differentiate between the different health and care systems. The ones more likely to thrive will be the ones that adopt quicker and better. There is no single golden answer and route for all to follow, given the effect of the different geographies and demographics.

There is a single truth, however, which is that the most successful health systems of tomorrow will be the ones that have adopted and deployed digital transformation. ●

ARTIFICIAL INTELLIGENCE WILL RESTORE THE HUMAN ELEMENT TO MEDICINE

The next wave of innovation will empower people with information and technology that enhances how clinicians interact with patients, rather than getting in the way.
By Steve Wretling, Chief Technology and Innovation Officer, HIMSS

Have you ever had an "a-ha" moment in your career? A project that made you understand your own unique calling, or a defining moment that brought your personal mission statement to light? Mine happened early in my career while working on a telehealth platform for a mobile chronic care application.

What stayed on my mind consistently while developing this app was how to create an effective user experience. Though technology is often touted as the spearhead, it was a secondary element for me while working on this project. I was more focused on the big picture and understanding how the entire process would influence patients and providers while using it.

It's been five years since I created that telehealth app, and much has changed, but I still believe adamantly in the importance of innovation that provides an experience that keeps individuals at the center and brings patients and providers together. When we talk about artificial intelligence today, I look at it through the same lens as I did with that telehealth app: unless it creates a meaningful experience, it's neither innovative nor impactful.

The promise and potential of AI grow more each year, and healthcare stakeholders across the entire digital health ecosystem and beyond are catching up quickly. The European Union is prepared to invest $24 billion in AI projects by 2020. That's next year.

A recent study by Harvard Business Review showed 44 percent of respondents were using AI for security purposes, and 34 percent for automation or internal compliance. In healthcare specifically, we are hearing about it most in algorithmic solutions, as well as visual or language processing tools. Undoubtedly, healthcare systems of the future need to be context-aware. For the dynamic flow of data based on situational awareness, static workflows will require a major shift.

There's a mix of trepidation and excitement as we look ahead to the future of AI in healthcare. We are facing a new and impending challenge: revamping the human element in care delivery so we can let people be people, and create technology that works for them intuitively.

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FROM CUTTING-EDGE TO LEGACY DEVICES: MAINTAINING PRODUCT SECURITY IN THE HOSPITAL

David Scott is the Director of Technical Consulting at BD, where he specializes in product security, information security, security engineering, innovation, product development and research. Scott weighs in on key barriers, FDA guidelines and "unpatchable" medical devices.

What are some key barriers to medical device security that hospitals face today?

In today's environment, we constantly need to drive a balance between functionality and security, where we mitigate against threats while meeting the clinical demand to deliver a robust, interoperable and safe product for treating patients. Three barriers come to mind, and they all involve the critical relationship between an organization and their medical device manufacturers:

1. **Asset management is a major challenge today.** To secure devices effectively for clinical use, organizations need to understand what those devices are and how they are operationally integrated. It's critical to track your assets. Evolving remote support solutions, enhanced secure connectivity and increased vigilance in inventory management are all keys to improvement.

2. **Another top barrier is the speed at which the threat landscape changes for medical devices and a manufacturer's ability to anticipate and respond to these threats in real time.** Organizations should evaluate their vendor's responses to emerging threats, such as the timeliness of issuing software updates or applying patches to a device. Medical technology companies need to be agile with their development and release processes, which require time for validation and verification prior to providing an update.

3. **Too often, I see manufacturers compress contractual incident response and vulnerability timeline requirements.** We need to issue well-defined compensating controls and mitigations to reduce security risk. But it's reactive: we know that proactively improving security awareness and prioritizing security hygiene from an organization-wide perspective is important. Therefore, it's important to actively collaborate with customers to ensure they have the necessary information to best secure their products.

How have the FDA's guidelines changed BD's approach to releasing patches and upgrades?

FDA's pre- and post-market guidance and recommendations in the recently released Safety Action Plan are building blocks of our product

> "A good vulnerability disclosure program must be built on a foundation of transparency and collaboration."
>
> **DAVID SCOTT** | Director of Technical Consulting | BD

security framework, which integrates product security requirements across all stages of the development lifecycle. In addition to being part of good security hygiene, routine patching and updates are critical components of complying with mandatory Quality System Regulations (QSRs) for medical devices, which require that medical device manufacturers address all risks, including cybersecurity risk. The FDA has made updates to their market guidance to make it very clear: cybersecurity for medical devices, including security patching and sustainment, is not optional.

What comprises a strong vulnerability disclosure program?

A good vulnerability disclosure program must be built on a foundation of transparency and collaboration. That means there is transparency and collaboration among healthcare providers, partners, regulatory agencies, security researchers and patients. We cannot secure what we don't know, and no one in the medical device or healthcare ecosystems can effectively implement adequate security alone. We're all partners in security and, therefore, we need open and constant communication to maintain a healthy partnership.

As a company, we're committed to complete coordinated vulnerability disclosure, along with providing recommended mitigations or compensating controls after being notified of a potential vulnerability. In addition, we believe it's important to maintain strong partnerships with the FDA, Department of Homeland Security/ICS CERT and HHS, as well as international regulatory organizations, and to include relevant parties from those organizations in every disclosure we complete.

What advice would you give to an organization looking to secure legacy or 'unpatchable' medical devices?

As part of an effective plan for legacy devices, it is key to understand how many end-of-life devices customers have in their environment. It is also critical to ensure that antivirus/antimalware and other endpoint solutions are up to date and functioning properly. In some cases, isolating impacted devices through a network segmentation or virtual LAN configurations can be very effective. We've also found it helpful to integrate other existing intrusion detection, SIEM or SOC capabilities to maximize defenses our customers have in place. Finally, it's important to work closely with customers to create a timely, scalable technical upgrade plan that helps them manage those legacy devices out of their infrastructure.

Why BD?

BD's approach to product cybersecurity is straightforward: we strive to deliver solutions that are secure by design, secure in use and secure through partnership. We're continuously improving our sustainment infrastructure to provide enhanced visibility on compliance and device health to our service teams and customers so that we can better manage the security compliance of those devices.

HIMSS AND CHIME NAME ED KOPETSKY OF STANFORD CHILDREN'S CIO OF THE YEAR

CHIME CEO Russell Branzell said he is "one of the most courageous people I know," while HIMSS CEO Hal Wolf added that Kopetsky "epitomizes values and traits all in health strive to achieve." By Tom Sullivan

HIMSS and CHIME have named Ed Kopetsky the 2019 John E. Gall Jr. CIO of the Year.

The award is named for the person who pioneered the first fully integrated medical system in the world, at El Camino Hospital in California in the 1960s.

Kopetsky, chief information officer at Lucile Packard Children's Hospital Stanford and Stanford Children's Health, was chosen for significant leadership and commitment to the healthcare industry.

"Ed Kopetsky epitomizes the values and traits that all in health strive to achieve," said Hal Wolf, CEO of HIMSS, parent company of Healthcare IT News. "Mission driven, technically innovative and highly respected among his peers. A longtime HIMSS member and contributor, Ed has focused his personal passions into improving the lives of countless individuals. It is a privilege to honor Ed as our CIO of the Year."

CHIME CEO Russell Branzell added: "Ed is one of the most courageous people I know."

Kopetsky lost a son to an accidental overdose and responded by helping to build and ultimately co-chair the CHIME Opioid Task Force just months later.

"Ed has turned a personal tragedy into a mission for CHIME and our members that already is saving lives," Branzell said. "He has a vision of what can be achieved when healthcare IT leaders work together, and with his leadership we are making inroads against this devastating opioid epidemic."

Kopetsky has served as CIO of Stanford Children's since 2009. Prior to that he was CIO at Centura Health from 1996 to 2000 and CIO of Sharp HealthCare from 1986 to 1996. Between CIO posts, Kopetsky was a partner at Healthlink, a professional services firm IBM acquired in 2005.

And he has a long history with both HIMSS and CHIME. He first became active with HIMSS in 1987, went on to start the San Diego Chapter in 1998, which he chaired, and continued participating with the association on a path that led him to join the HIMSS Executive Institute.

Kopetsky was among the founding members of CHIME in 1992. Since then, he has been a board member, CHIME chair and a member of CHIME Foundation's board.

"I have had the great fortune to work with and learn from many healthcare executives and IT leaders, and to have talented teams working alongside me throughout my career," Kopetsky said. "I am honored to have been nominated, and to have CHIME and HIMSS select me for this award." ●

Ed Kopetsky

A new chapter for our social media ambassadors

Thanks in large part to our alumni, we are expanding the scope of the program in the spring of 2019. By Michael Gaspar

Chances are if you are reading this you have experienced the influence of the HIMSS Social Media Ambassadors in some fashion. You have likely seen their posts hover atop Twitter and LinkedIn. Maybe you have seen them speak at a healthcare conference. Possibly, you have been directly impacted by their work.

The HIMSS Social Media Ambassadors are a community of health innovators who embrace social media as a driver of change in the health IT industry. They work in exam rooms, courtrooms, boardrooms, studios and offices and have a wealth of experience as leaders across the healthcare ecosystem. As members of the HIMSS Social Media Ambassador program, they share this experience and expertise in carefully coordinated social media campaigns and thoughtful blog posts with a common, singular purpose – to inform and inspire change with great content and savvy social media.

In its six-year run, the HIMSS Social Media Ambassador program has 44 alumni whose hundreds of social media and content contributions have reached millions in service of the program's mission. In the process, a professional family and innovative support network has taken shape.

Evolution from Social Media Ambassador to Digital Influencer

It is due to the success of our alumni, the program and the deep connections among many of the Social Media Ambassadors that we have decided to expand the scope of the program in the spring of 2019. In many ways, the mission of the program will remain the same:

• Strengthen industry discourse through inclusion and diversity of perspectives

• Unearth and nurture emerging industry opportunities

• Elevate key existing and inspiring new industry priorities

• Highlight and celebrating leadership that supports this mission

The core difference in the program's evolution is to build this mission beyond the platform of social media alone. While social media will still be a pivotal channel for this incoming class of digital influencers, the program's future focus will be to:

• Spend time building more accessible and visible exchanges of ideas between influencers, the industry and HIMSS leadership

• Distribute this thought leadership to relevant audiences via all digital and face-to-face channels – not just via social media

• Build stronger information bridges between the industry and HIMSS to accelerate innovation and inform relevant thought leadership

• Develop content and engage audiences around all relevant industry milestones throughout the year – not just the HIMSS Global Conference & Exhibition

All additional changes will be in service of making the program more valuable to everyone involved – but most importantly to those that it serves: the health community.

Find Out More at HIMSS19

Given that applications for a HIMSS digital influencer program (yet to be named) will not open until the spring of 2019, the 2017-2018 class of HIMSS Social Media Ambassadors will continue to serve as your lens for the HIMSS19 Global Conference & Exhibition experience. A series of thought leadership content is already in the works from these ambassadors to help you make the most out of the HIMSS19 experience both in Orlando and via social media.

Follow HIMSS' social media channels and all of the ambassadors listed below to see the highlights now, during and after the show.

Meet the HIMSS Social Media Ambassadors at HIMSS19
When: Tuesday, Feb. 12 | 4:00 – 4:45 pm EST
Where: HIMSS Spot

No additional cost required. Come and get a pulse check on HIMSS19 and the new HIMSS digital influencer program from HIMSS staff and Ambassadors. Networking and photo opps to follow.

HIMSS Social Media Ambassador List
Follow. Engage. Connect.

• Andy De | @HITstrategy
• Brian Eastwood | @Brian_Eastwood
• Brian Mack | @BFMack
• Chuck Webster | @wareFLO
• Colin Hung | @Colin_Hung
• Danielle Siarri | @innonurse
• David Harlow | @healthblawg
• Evan Kirstel | @evankirstel
• Geeta Nayyar | @gnayyar
• Janae Sharp | @coherencemed
• Jane Sarasohn-Kahn | @healthythinker
• Linda Stotsky | @EMRAnswers
• Lygeia Ricciardi | @Lygeia
• Martin Jones | @Martinjonesaz
• Matt Fisher | @matt_r_fisher
• Max Stroud | @mmaxwellstroud
• Nick van Terheyden | @drnic1
• Rasu Shrestha | @RasuShrestha
• Sean Erreger | @StuckonSW
• Tamara StClaire | @drstclaire

What's new at HIMSS19

Champions, Circles and specialty exhibits highlighting health IT innovation are making their first appearance at this year's Global Conference. By Tom Sullivan

Among the new aspects to HIMSS19 that attendees should know about are the overarching theme Champions of Health Unite, Circles communities and specialty exhibits showcasing emerging technologies and offering a glimpse of the future.

Champions of Health

"It is important that the Global Conference theme celebrates all in attendance – the everyday superheroes that are fighting the good health fight for individuals and populations worldwide – and do so with a perspective, spirit and energy that may not have been associated with HIMSS a year or two years ago," said Terri Sanders, vice president of marketing and communications at HIMSS.

HIMSS has found several individuals to be Champions of Health.

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FHIR • CDS HOOKS • CONNECTATHONS
C-CDA • CLINICAL GENOMICS • CIMI
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PRESENTATIONS – TUESDAY, FEBRUARY 12

10:15– 10:45 am	Industry on HL7 FHIR
11:00 – 12:00 pm	Argonaut Project Panel Update: Where Now?
12:10 – 12:50 pm	Getting the Most Out of Your Data Using HL7 Clinical Decision Support Standards
1:00 – 1:30 pm	Imaging for Cancer Care – A Joint HL7/IHE Gemini Project
1:45 – 2:05 pm	Lightning Session: HL7 FHIR: Delivering Real-World Value for Implementers (Hall D, Booth 7145)
2:20 – 2:50 pm	CDA® R2.1 & Consolidated Clinical Document Architecture Updates (C-CDA®)
3:00 – 3:30 pm	How FHIR is Transforming Healthcare
3:40 – 4:10 pm	HAPI FHIR and the Open Source FHIR Ecosystem
4:20 – 4:50 pm	CDS Hooks: Integrating Decision Support at the Point of Care
5:00 – 5:30 pm	HL7 FHIR Project Update

Please note: presentation schedule is subject to change.

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LEARN STRAIGHT FROM THE SOURCE | BOOTH #4849 | COMPLETE SCHEDULE AT HL7.org/HIMSS

If my phone went down, it would be pretty traumatic.

Marcus Grindstaff
Chief Operating Officer
Care Innovations

ready✓

verizon✓

FROM THE OUTSIDE IN
MAPPING PATIENT JOURNEYS, DESIGNING BETTER EXPERIENCES

Nancy Green, Global Practice Lead for Healthcare, Life Sciences & Insurance at Verizon Enterprise Solutions, discusses how leveraging voice-of-the-customer insights to design patient experiences can build life-long organizational loyalty.

Where do you see the challenges with CX in healthcare right now?

Every industry we're watching right now is trying to get its arms around customer experience in the digital age, but healthcare has some unique hurdles to overcome. The idea of patients as "customers" is a relatively new construct for healthcare, and the pendulum swing from patient engagement to patient experience is a slow one. On top of that, healthcare is sitting on a mountain of siloed patient-related data. Sifting through that data to specifically identify and analyze insights that are aimed at improving patient experience can be difficult. It's also not high on the priority list for an industry that's still trying to leverage its data for disease management, quality control and improved health outcomes. Whether or not a patient has provided feedback, directly or indirectly, on the usability of your website, the wait times in your clinic, or the ease of their registration or billing inquiry, has been a secondary focus.

But healthcare can't afford to assume these things aren't important to the patient. Patients are shopping around for their care and services, seeking lower costs and better options. Experience is important to them. They are concerned about quality of care, and getting their chief complaint addressed will always be priority number one. But if they can get quality healthcare in an environment where they also have a positive experience and good customer service, where care is not only high quality but also convenient, they'll choose the facility or provider who can give them both.

How can healthcare organizations improve their customer experience strategy?

Invest the time and resources into listening to your customers. Before you implement a single strategy for improving customer service or putting a Band-Aid on patient interactions, do your homework. The best customer experiences are designed. That means they are built from feedback, insight and data that is generated from your customers. What avenues have you given your patients or members to provide feedback on their experiences? Where are you giving them a voice of influence in the development of your CX strategies? Are you engaged in social listening to learn from what your patients/customers are saying about you online? You may have to start by establishing some of those feedback mechanisms, though some are likely baked into your current delivery model. Call center data, for example, can be

> "Knowing the things that matter most to a patient can shape the right roadmap for meeting those expectations."
>
> NANCY GREEN | Global Practice Lead for Healthcare, Life Sciences & Insurance | Verizon Enterprise Solutions

an avenue for capturing some of what you need to know about how your patients think and feel about you as a healthcare brand.

What does CX 'design' look like? How does that work?

When we work with enterprise organizations to design a better approach to customer experiences, we use multiple voice-of-the-customer listening posts to understand the "moments that matter" to their customers. We walk through their customer journey – identify every touchpoint and interaction scenario a patient might have within a healthcare organization, for example. Then we help them shape a roadmap that can close the gaps between their customer's expectations and the company's delivery. Beyond that, we help them set up customer listening, governance and measurement practices that can lay the foundation for a customer-centric culture.

Everything we do as part of the CX transformation discussion is based on Design Thinking – a process that encourages organizations to focus on the people they're creating for, which leads to human-centered outcomes. Fortunately, healthcare is already predisposed to thinking this way. Patient-centric decision-making is a core value. Expanding that orientation to include other "moments that matter," outside of the care and treatment encounter, can make a difference.

What questions should a healthcare organization be asking that they might not be asking now about patient experience?

Healthcare is asking a lot of great questions about patient engagement, but not nearly as many about patient experience, or if they are talking about

patient experience, it's frequently limited to the way a patient experiences the care process, not the care organization. We might not like to think of a hospital system as a "brand," but it is. And a patient's experience with that brand is important. Some questions that a hospital system should be thinking about might be:
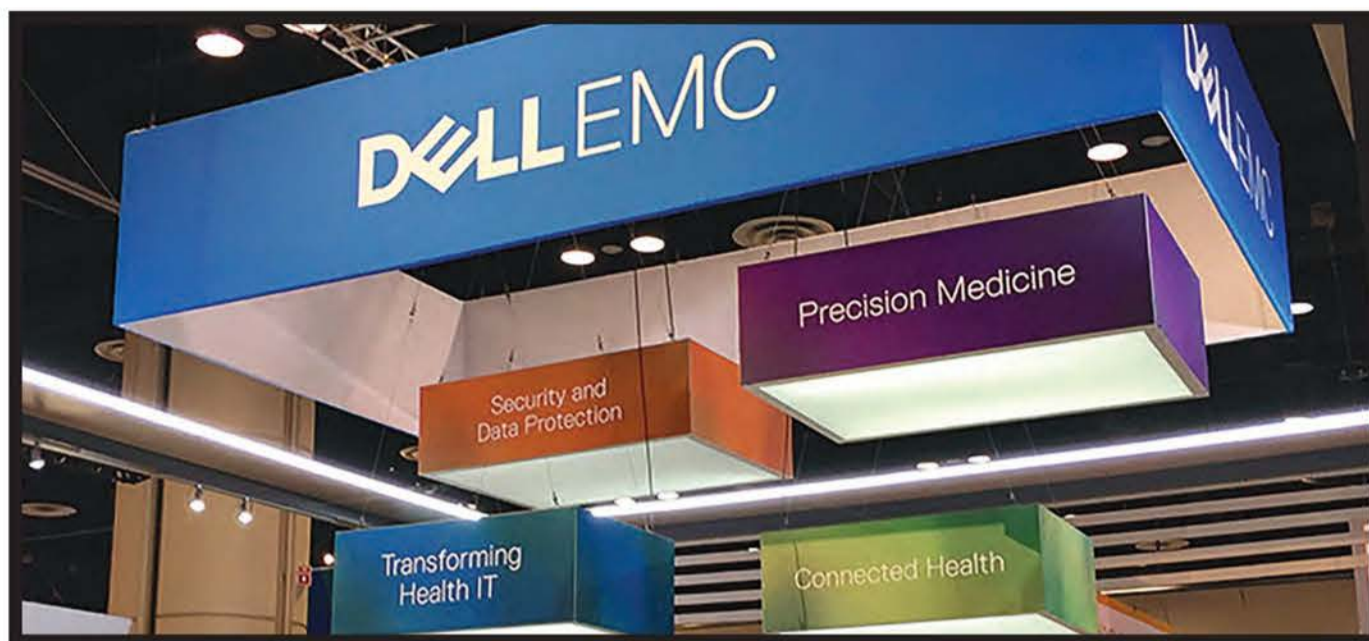
- Do we have a roadmap to create compelling and convenient digital experiences for our patients? Are we fostering patient satisfaction and organizational loyalty?
- What stages of the patient journey are the most memorable – either in a positive or negative way? How do we know for sure?
- How easy or difficult is it for our patients to continue the conversation when they move across channels within our organization? Do they have to start the conversation over?
- Have we considered how an integrated end-to-end digital customer experience can give us a competitive advantage?

If an organization is willing to explore these kinds questions with a desire to find the "moments that matter" to their patients, they might be surprised by what they find. Interactions of value can occur throughout the healthcare ecosystem, not just in a treatment room or surgical suite. Knowing the things that matter most to a patient can shape the right roadmap for meeting those expectations. CX design is more mature in other industries like retail, hospitality and travel, but when we apply the same rigorous approach to healthcare, the industry can catch up, and we'll see new models for patient experience emerge from the process.

Dell EMC exec on multi-cloud frameworks and IoT strategy

The company is showing an open scalable platform for managing devices, centralizing storage and providing on-demand analytics, among other capabilities. By Bill Siwicki

Dell EMC is here at HIMSS19 discussing, among other things, what the company identifies as the two most important health IT trends right now: the rise of multi-cloud frameworks and the need for an IoT strategy to support analytics at the edge.

The explosion of digital healthcare data from electronic health records, connected devices, high-performance computing for clinical genomics and pathology, the healthcare internet of things and precision medicine are forcing healthcare organizations to rethink their data strategies and next-generation infrastructure to future-proof their IT environments, said Dave DeAngelis, general manager of global alliances for healthcare at Dell EMC.

"To further optimize the use of data to collaborate in a digital care ecosystem, healthcare organizations must advance their adoption of multi-cloud operating models for standardizing and automating common provisioning, deployment, monitoring, data protection and security services," he said. "While healthcare organizations already are deploying private and public clouds as part of their digital transformation strategies, Dell EMC is demonstrating specific solutions aligned with our healthcare partner ecosystem to take IT to the next level as a broker of IT services."

A multi-cloud operating framework provides the blueprint with the appropriate architectural approach and governance/standards to bring together private, hybrid, public and specialty cloud services into a single comprehensive, multi-cloud operating approach, while reducing risk and complexity, he explained.

On another front, healthcare provider organizations also can reduce risk in their healthcare IoT strategy to speed up ROI – from patient to provider to cloud, DeAngelis stated.

"To take advantage of the IoT opportunity, organizations need to connect the physical world with the digital, starting with real-time monitoring for visibility, then adding analytics and eventually automation," he said. "Each step builds confidence in the next. The IoT continuum spans the edge, distributed core and cloud, with zones of intelligence that perform analytics while it matters, where it matters and how it matters – optimizing value for the health system."

In addition to specific use-cases for IoT for video monitoring and patient sitters, the vendor at HIMSS19 is highlighting an open, scalable platform that includes the ability to simplify data collection, manage devices on the network, centralize data storage, provide on-demand analytics and integrate networking, he said.

Wearable technology and virtual patient observations enabled by the IoT are allowing health systems to improve patient engagement before, during and after hospital visits – and transforming the patient experience, DeAngelis said.

"Reducing inpatient stays using in-home monitoring – for example, heart monitors, glucose monitors and spirometers – improves the patient experience and makes a direct impact on the bottom line by avoiding readmission penalties, notifying clinicians of abnormalities or the need for intervention," he explained. "Many healthcare organizations have started their IoT journey with one application driven by a single business case/need – but the true potential of IoT is the ability to connect systems, and provide even more valuable outcomes from the open, scalable 'system of systems' and the network effect."

When building the IoT architecture, Dell EMC suggests a strategy to create not just an innovation loop, but rather a virtuous cycle where an organization has data coming in from connected devices, going through the edge, core and cloud, and insights being discovered and pushed back out to the edge.

"In healthcare, this might mean collaborating to find new treatment protocols, or tracking drug effectiveness more quickly than possible in the past," DeAngelis said. "It might mean connecting disparate research efforts working on the same problem or finding new ways to more efficiently deliver hyper-specialized care."

Regardless of a healthcare organization's initial strategy, the investments in the underlying technology and infrastructure need to support the next generation of computational, storage and communication capabilities required to meet the growing demands of collecting, analyzing and securing healthcare IoT data, he added.

"Moving to a multi-cloud operational framework will be integral to digital health transformation," DeAngelis said. "Success starts not with just the technology, but with the health mission and cross-functional collaboration across a broad spectrum of stakeholders, including business, technical, operational and financial."

Healthcare organizations, he added, also will want to consider data flow from acquisition to action. Multi-cloud services can help IT organizations meet demands for easier access and more sophisticated uses of data while ensuring privacy and security, he contended.

"A multi-cloud operating framework also provides IT organizations with a MAT – modernize, automate, transform – structure for rationalizing and modernizing legacy and acquired applications," he explained. "The ability to provision cloud-native platform-as-a-service accelerates the development of new software that can be deployed in multiple types of clouds to simplify workload management and make digital transformation a reality." ●

Dell EMC is in Booth 39.

Ben Moscovitch

HERE'S WHAT APIs NEED TO WORK FOR HEALTHCARE

The private sector and government have accomplished a lot and the next phase is critical to the best use of APIs. By Tom Sullivan

Application programming interfaces are all the rage in healthcare and just about every other industry undergoing digital transformation. And with the release of Health Level 7's Fast Health Interoperability Resources 4 in January, the excitement around open APIs, FHIR and data interoperability just kicked into a higher gear.

"Increasing the use of APIs could represent a dramatic shift in how health data is accessed, extracted, and utilized to improve patient care. APIs can help get patients their data, support information exchange among healthcare facilities, and enable enhanced clinical decision support tool," said Ben Moscovitch, project director of health information technology at Pew Charitable Trusts.

Indeed, the 21st Century Cures Act gives the Office of the National Coordinator for Health IT the opportunity to advance standards around open API, FHIR included, and to encourage vocabularies and code sets for clinical concepts, Moscovitch added, while the private sector has been making strides of its own.

Consider the Argonaut Project, CommonWell Health Alliance and Carequality, which last year reached an interoperability milestone of sorts when the organizations made their connectivity live nationwide such that healthcare facilities that belong to either can now bilaterally exchange CCDs with any other participating member.

Yet, obstacles remain. The industry continues awaiting information blocking rules from ONC, for instance, and the agency is working on draft regulations outlining requirements for APIs that are expected to ease the exchange of health data.

"ONC should not miss this opportunity to advance the effective use of APIs, such as by ensuring that more data are exchanged, appropriate standards are used, and longitudinal data are made available, among many other steps," Moscovitch said.

Finalizing the rules is one thing, of course. Hospitals, health systems, payers and other entities still have to put them to use.

"For APIs to reach their full potential," Moscovitch said, "industry and government should ensure that APIs can access more patient information, and work to begin breaking down other barriers that hamper them being able to effectively share data." ●

Moscovitch, along with Jeffrey Smith, vice president of public policy at AMIA, will offer more insights during their session, "Unlocking EHRs: How APIs Usher in a New Data Change Era." It's scheduled for Wednesday, February 13, from 1-2 p.m. in room W303A.

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THE AGE OF HEALTHCARE CONSUMERISM: GENERATIONAL HEALTHCARE TRENDS

Tim Donovan has significant experience working in the consumer-centric payment world within major credit networks including CareCredit. He brings more than 20 years of experience in product management, brand strategy, advertising and direct marketing to his role as Senior Vice President and Chief Marketing Officer for CareCredit. He weighs in on CareCredit's recent Generational Health Research Study[1] and what it means for the age of healthcare consumerism. As a leader for CareCredit, Donovan is responsible for marketing strategy and innovation, as well as the key initiatives to drive business growth.

Do different generations approach their healthcare decisions differently?

Absolutely – Generations can differ in how they research and choose healthcare. Technology is a prime example: Results from our recent Generational Health Research Study suggest that millennials are more likely to go online for information using Google searches and sites like WebMD and Wikipedia at higher rates than older consumers. Furthermore, millennials are more likely to use online payment portals and are more open to telehealth services than other generation groups, such as Generation X or Baby boomers. Lastly, we've found that millennial patients will often ask family members or colleagues for input on healthcare and are much more likely to consult their friends. This research tells us that patient engagement and advocacy are changing and will look rapidly different in the next decade. Younger generations are approaching their healthcare as consumers who have a choice in their options. They are aiming to make the best decisions on quality and cost as they would with any of their retail choices.

How do generations vary when it comes to paying for healthcare?

We're seeing traditional payment methods like credit cards and checks diminish among younger generations. Not only do millennials say they are more likely to pay with a debit card or cash but they tend to have a separate spending or savings accounts for healthcare purchases, such as an HSA, FSA, HRA or HIA. We've also found that Generation Z, the youngest and one of the largest cohorts of consumers, are even less likely to rely on traditional payment methods like credit cards and checks.

In one of our studies, fewer than half of the Gen Z respondents had a credit card (43 percent), checking account (42 percent) or savings account (39 percent), but 61 percent reported using PayPal and 21 percent used peer-to-peer payment apps like Venmo and Cash App.

Healthcare is complicated – does comprehension vary across generations?

The top four sources of confusion are the same across all generations: coverage, insurance plan options, cost and billing. But we're found some variation among groups:

- While insurance coverage is most confusing for all, our Gen X survey participants (35 percent of the group) cited it as their biggest source of confusion or difficulty.
- More than a quarter of Baby boomers chose insurance plan options as the most confusing aspect of healthcare, but just 10 percent named cost as their top challenge (likely due to Medicare).
- For Millennials, cost is a bigger concern, likely due to significant out-of-pocket expenses, an earlier career phase and life events like marriage and children.

What can providers do to optimally serve all generations?

Regardless of generation, the key is earning trust through open communication. Patients want to be heard and understood, and they want to know you're able and willing to help them. I encourage payers and providers to offer a range of communication methods, such as text, email and online chat, in addition to the phone. Furthermore, the industry needs to embrace healthcare consumerism: patients today are paying a lot for healthcare, and they want more clarity and control related to that investment. And with greater out-of-pocket expenses, patients will expect transparent pricing, clear financial policies, on-demand access to account details, more information available via more channels and options for how and when to make payments.

> *"Regardless of generation, the key is earning trust through open communication."*
>
> **TIM DONOVAN** | SR. VICE PRESIDENT, CHIEF MARKETING OFFICER | CARECREDIT

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[1] CareCredit Generational Health Research Study, Q3 2018.
[2] Nielson Report (June 2017, Issue #112) - based on 2016 data

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HIMSS19 CHAMPION OF HEALTH: RASU SHRESTHA

Among his insights? It's finally telehealth's time to shine. "It's the overnight success story that was 30 years in the making." By Mike Miliard

Rasu Shrestha

As it works to foster ongoing global health improvement, HIMSS is marshalling the talents of its most important resource: its own members. To that end, select HIMSS19 Champions of Health – diverse leaders from all over the world who share a commitment to better health through information and technology – are a major presence at the show: powerful voices who spur discussion and action about winning strategies for data-driven healthcare.

One of those Champions of Health is Dr. Rasu Shrestha, who for the past 11 years has served as chief innovation officer at UPMC – and in the near future will be joining Atrium Health as its chief strategy officer. We asked Shrestha what he'll be keeping an eye on at the big show, what he thinks about buzz-heavy topics such as AI and blockchain and what under-heralded technologies he thinks might be poised for a breakthrough.

Q: What are you most looking forward to at HIMSS19?
A: HIMSS19 is really interesting. There's, I think, a culmination of a lot of the stuff we've been talking about for the past several years finally coming to bear fruit.

One example is telemedicine, or virtual health. There's a lot of buzz in the industry that, with more reimbursement now coming in, telehealth is finally going to really see the light of day. It's the overnight success story that was 30 years in the making.

I'm also really excited about substance around some of the buzzwords we're always hearing, like AI and machine learning. There's a lot of rhetoric around that, but what I'm hoping we'll see

is what it really means in terms of moving the needle for new care models or creating new opportunities for bringing other business models to bear in healthcare. What does it mean to address some of the physician burnout issues we've seen across the board?

I'm also excited about the work we're doing through the HIMSS Innovation Committee: pushing best practices – and even worst practices – forward, highlighting what not to do, not just what to do. And then also exploring new frameworks, where we're highlighting what are some of the models that make innovation sticky: How do we align this to the various strategies that health systems are putting together?

Q: You mentioned AI. What about another much-hyped technology, blockchain? Do you think it will continue to gain traction in 2019?
A: I think it's starting to generate more substance. There's obviously been a lot of buzz around blockchain. I think one phrase I heard recently was "machine intelligence-powered cloud-based blockchain network." (Laughs.)

But I do see a lot of promise for blockchain, distributed ledger, hyper-connected networks, to address some specific challenges we've had in healthcare around identity management, for example, or around what what we're starting to call smart contracts. Looking at distributed networks of consumers, as well as health systems, how do we make sure we're able to have these smart contracts come to be in place in an environment where interoperability is still a challenge? I see some promise there.

And another area where I see some promise is on the consum-

er front, where there's a movement for patients to take charge of their own data. So what does that mean, for consumers to be able to capitalize on these ledger-based blockchain capabilities that would allow them to not just have access to their data but to empower them with taking these data elements to make decisions across large geographical regions – whether it's for second opinions or to take part in research studies, etc.

There are specific use cases, and that's how I think about blockchain, focusing on those use cases and finding some health systems that are willing to put into some of these solutions around blockchain. We'll see where it goes.

Q: How about some lesser-hyped trends? Are there any dark horses or under-the-radar technologies you're hoping to learn more about in Orlando?
A: There's a broader movement around IoT – or IoMT, the internet of medical things. This could be a very interesting trend. It's not getting a lot of hype right now. But how do we deal with this plethora of connected devices? Not just consumer devices, but also devices that are generating a lot of clinical data – blood glucometers, Bluetooth-enabled scales – inside and outside the health system?

There are a lot of conversations that need to be had there around security and privacy, but also interoperability. For instance, is this going to be a rerun of the interoperability challenges we've had in the EHR world? And then what are the opportunities to foster the right business models for remote patient monitoring and harnessing the data that are coming through these IoMT type devices? ●

How providers in South Carolina and Texas are overcoming telehealth obstacles

The two main challenges are proving the value of telehealth and promoting practice change. By Susan Morse

The use of telehealth is growing as the Centers for Medicare and Medicaid Services continues to expand reimbursement for its use.

But there are still some under-recognized challenges to telehealth adoption, according to Dr. David McSwain, chief medical information officer of the Medical University of South Carolina.

McSwain and Dr. Julie Hall-Barrow, senior vice president of Network Development and Innovation at Children's Health in Dallas, Texas, both have extensive experience in the clinical, academic, administrative, financial, technical and payer settings.

Consumers are already onboard with the convenience of telehealth and many large healthcare systems and payers have invested millions in the space, McSwain said.

The greater challenges lie in getting buy-in from healthcare providers. Many remain skeptical of or even opposed to the growth of telehealth, and some large professional societies have publicly expressed concern over its widespread adoption due to the risk of fragmented care and a lack of adequate data demonstrating effectiveness, McSwain said. Many payers are restricting payment for services due to concerns of over-utilization without evidence of decreased costs.

The two main challenges to breaking down these barriers are in proving the value of telehealth and promoting practice change. Telehealth advocates often promote theoretical future benefits that have yet to be demonstrated through rigorous evaluation of processes and outcomes, McSwain said.

The benefits are held up by inefficient, ineffective, or inconsistent workflows, poorly implemented technology, disinterest-

ed providers, political or competitive factors and a lack of reliable outcomes data. Organizational inertia, opportunity costs, liability concerns and a general lack of reliable information on telehealth implementation can also get in the way, he said.

Hall-Barrow found that getting there requires much work and more than a little push. About five years ago, Children's Health wanted to look at telemedicine as a strategy to keep patients healthy, and for overall population health.

David McSwain

"If we can get kids diagnosed quicker, the long-term outcome has a much better chance," Hall-Barrow said.

In a school-based telemedicine program, the school nurse could deliver low acuity care through connection to a provider, but that primary care physician had to be the PCP of record for the patient.

Julie Hall-Barrow

"We worked hard with the government." she said, "Now, any provider can bill a school-based program and Medicare will pay for it."

Another hospital program connects a specialist to a provider. In pediatric emergency medicine, a telehealth ER program allows 60 percent of patients to get care from their local provider, reducing transportation costs and allowing more parents and children to stay together at home.

Hall-Barrow is still fighting to get the home deemed a billable site for Medicaid.

Telehealth is being used in the children's hospital for remote patient monitoring programs, such as digital sensors that measure medication compliance.

"We set the stage knowing it's covered," Hall-Barrow said. "I think anytime we reduce barriers for how to deliver care, it's a win for everybody. It offers the ability for us to provide high-quality care at any delivery point."

For older Americans, this past October, the Centers for Medicare and Medicaid Services came out with a new rule expanding the ways providers can use telehealth and get paid by Medicare Advantage plans.

Once the rule goes into effect in 2020, providers will be able to keep track of a patient's health through remote monitoring and consumers will be able to connect to their physicians through telehealth from their homes.

CMS is also being more flexible in reimbursing for traditional Medicare telehealth services, allowing for more codes for telehealth in the home, for a broader range of conditions. Previously, consumers had to be in a provider's office or another designated place, or live in a rural area, to use telehealth, at least from the standpoint of reimbursement.

All of these changes will cut down on the amount of visits by high utilizers of the ER and improve the management of patients' conditions, McSwain said.

McSwain, who chairs the American Academy of Pediatrics' Section on Telehealth Care, said CMS's new flexibilities "sent a serious wave of excitement around the country." ●

McSwain and Hall-Barrow will discuss this during a HIMSS19 session titled "The Real Challenges of Telehealth Adoption," scheduled for Tuesday, February 12, 10:30–11:30 a.m., in room W307A.

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Edward Klatt

CLINICIANS AND PATIENTS IN 'COGNITIVE OVERLOAD,' PROFESSOR SAYS

Edward Klatt, a pathology expert at Mercer University School of Medicine says system leaders must be all in on pinpointing and promoting better coping skills.

By Beth Sanborn

If you work in healthcare and have ever found yourself in sensory overload, you are not alone. Cognitive overload influences how you interact with your coworkers, the workplace culture you cultivate and the success of the care you deliver. When there is too much information and we don't know how to handle it, that leads to stress and ultimately career burnout, said Edward Klatt, a professor of pathology at Mercer University School of Medicine.

Klatt said that during a HIMSS19 session he will be looking at the science of how our brain works, how we interact with others and how information gets used. Then an interactive session will have people grouped together for a topic discussion followed by sharing.

He said in terms of society there is too much info, too many distractions and too much food, and all that plays out into a great deal of stress. His focus is to come up with ways of managing all that information or providing core knowledge that helps people move forward with a way of dealing with it.

"We don't have a limitless capacity to acquire and disseminate information, and that plays into issues in the workplace that play out in civility and people getting burned out," he said. "We see it in healthcare systems where there's just huge amounts of additional information or tasks and at some you sit down and say let's look at what is possible to do or what can we do to design systems that work."

Among Klatt's central messages is the reality that you cannot control everything. You can decide what to subject yourself to and what to avoid, of course, in terms of health and wellbeing, and you can develop a personal understanding of what works best for you as an individual.

What does that mean at the system level for top executives?

Klatt also said top down buy-in to promoting values and civility in the workplace is crucial. System leaders and business decision makers should look at ways they can make life better through workflows and better management of information so that people can handle life and care more effectively.

"You can work long hours, but there is working and then there's working smart. In other words, what is most effective," he said. ●

Klatt will offer more insights in his session, "The Human Side of Informatics: Promoting Wellness." It's scheduled for Tuesday, February 12, from 3-4 p.m. in room W303A.

Children's Mercy ramps up number of specialties via telehealth from 3 to 30

Telemedicine consults have grown 73 percent over the last five years at the Kansas City children's hospital. By Bill Siwicki
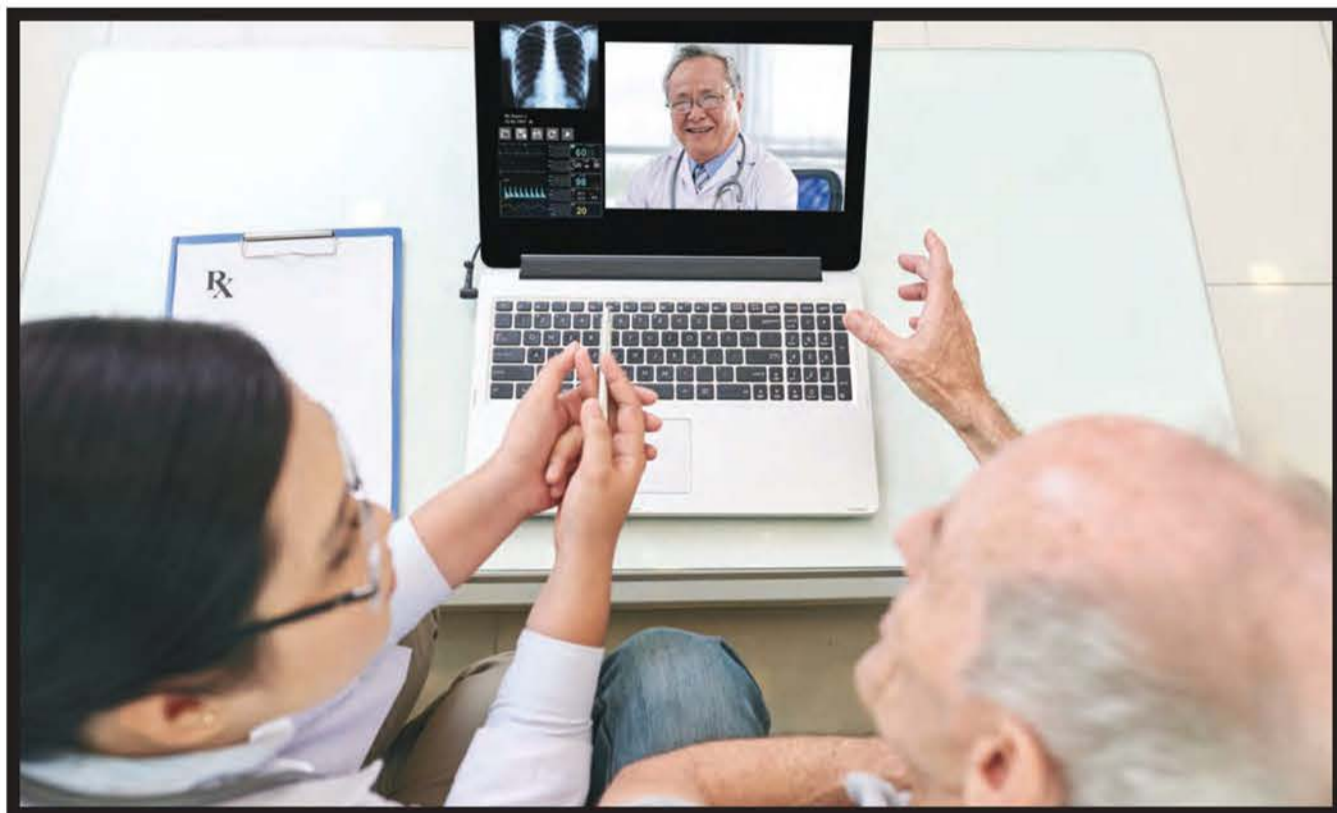
Not only is geography a health determinant, but the quality of and access to healthcare can be determined by ZIP code.

Children's hospitals are collections of providers that have specialized in pediatric medicine and then specialized again in specific disorders of childhood and adolescence. These are rare, highly sought after, exceptional professionals that are only located in very large metropolitan areas.

When audio-visual, digital technology and networks reached a level of quality and affordability to allow for the delivery of specialty care over distance without sacrificing standard of care, Children's Mercy Kansas City in Missouri saw this as an opportunity to help level the field and overcome barriers to access and quality related to the rural ZIP codes of the Midwest.

After an exhaustive search and trials of many technology offerings, Children's Mercy Kansas City selected telemedicine technology from InTouch Health as the best fit for the level of complexity of its patients and the organization's quality of care. InTouch Health offered reliability in areas of Kansas and Missouri with questionable networks, said Morgan Waller, director of telemedicine business and operations at Children's Mercy Kansas City.

"Their mobile units with high-definition, pan-tilt cameras and support for digital exam devices worked with Internet speeds slightly better than dial-up but far from high-speed," she explained. "The technology coupled with highly trained RN tele-facilitators enabled our providers to administer Level 3 and 4 new patient exams while meeting or exceeding standards of care."

The hospital started delivering sub-specialty healthcare to children closer to their homes. Families that were forgoing referrals to Kansas City started to accept them when the barrier of travel was removed. Parents of children with chronic conditions started changing their follow-up appointments to the telemedicine option closer to home.

There are many vendors on the market today offering telemedicine technology, including American Well, Avizia, GlobalMed, MDLive, Novotalk, SnapMD, Teladoc, TeleHealth Services, Tellus and Tyto Care.

Distance isn't the only barrier to specialized medicine, but for Children's Mercy Kansas City's initial telemedicine program it was the biggest. The telemedicine technology connects the provider with the patient/family and RN tele-facilitator via a monitor with cameras and the ability to support digital exam devices from AMD, Horus and PCP-USB. The devices run on WiFi or wired connections, and their proprietary connectivity services maximize available bandwidth to ensure a high-quality experience for both patient/family and providers.

"The RN tele-facilitators receive training on the equipment and troubleshooting as well as each specialty they support," Waller said. "They are hired for and report to telemedicine. We have buy-in from the beginning. The partnership between the providers and the facilitators while using the telemedicine technology as the conduit is our secret."

The number of telemedicine consults has grown 73 percent over the last five years. In the same amount of time, Children's Mercy Kansas City has increased the number of specialties practicing with telemedicine from three to 30.

"Our patient/family experience surveys are between 98 percent and 100 percent positive, with comments like, 'It was just like having the provider in the room with us,'" Waller said. "We have 47 providers on average practicing with telemedicine each month, and it has been 56 days since our last provider issue. They can hear and see their patients every time." ●

Waller will share more insights in her session, "Telehealth 0: Beyond the Basics." It's scheduled for Tuesday, February 12 from 3 4 p.m. in room W0   .

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
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Honor industry leaders including the 2019 Women in Health IT Award Recipients

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Women in Interoperability
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Interoperability Showcase

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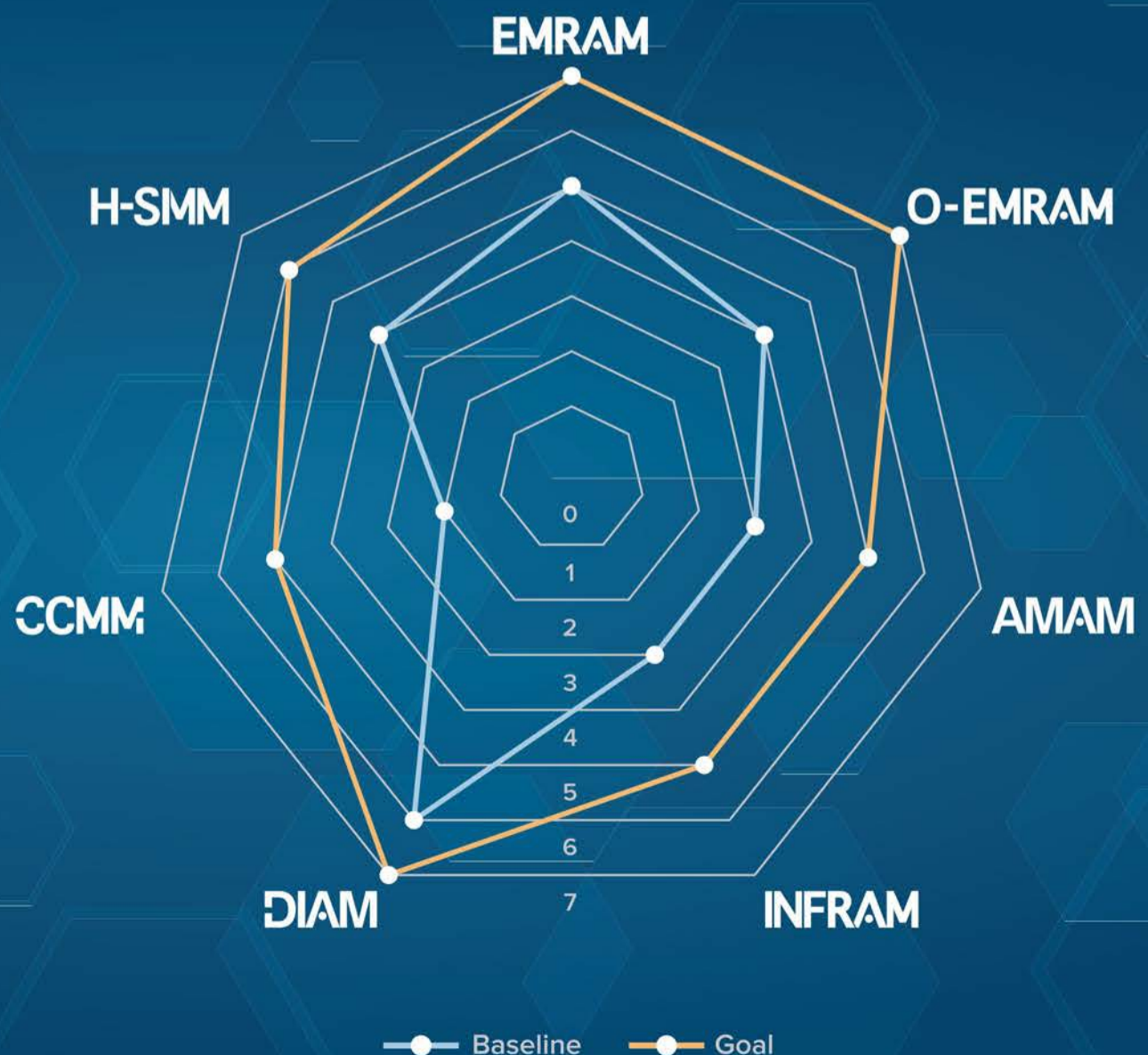
The bad news about AI for cybersecurity: Hackers are using the tech, too

Criminals can use artificial intelligence to engineer automated phishing attacks with more convincing content and higher accuracy. By Tom Sullivan

While security is among the use cases with big potential for artificial intelligence and machine learning, the underlying reality is that both hospitals and hackers have access to the same technologies.

"AI is a dual-use technology that can be deployed defensively or offensively," said Lee Kim, director of Privacy & Security at HIMSS. "There are malicious uses of AI."

Indeed, the report "The Malicious Use of Artificial Intelligence: Forecasting, Prevention and Mitigation," published by the Future of Humanity Institute and others, pointed out that some of the same "systems that examine software for vulnerabilities have both offensive and defensive applications," and likened the scenario to the way a drone for delivering medications need not differ greatly from a drone that drops explosives.

Lee Kim

"Malicious use of AI could threaten digital security (e.g. through criminals training machines to hack or socially engineer victims at human or superhuman levels of performance), physical security (e.g. non-state actors weaponizing consumer drones), and political security (e.g. through privacy-eliminating surveillance, profiling, and repression, or through automated and targeted disinformation campaigns)," the report said. "The ma-

licious use of AI will impact how we construct and manage our digital infrastructure as well as how we design and distribute AI systems, and will likely require policy and other institutional responses."

Among the ways hackers can harness AI are the common tactics of phishing, spear-phishing and whaling.

"Phishing and getting in through the human is a soft spot in organizations," Kim said. "Phishing is effective — we all know about it, but how good are we at detecting it and not falling victim? Not very, according to the results of our HIMSS Cybersecurity Survey."

Kim will present the results of the survey during a session at HIMSS19 on Tuesday.

The problem of phishing is well known at this point, of course, but the rise of artificial intelligence in the realm is perhaps less understood.

"AI-fueled techniques are lower cost, higher accuracy, with more convincing content, better targeting, customization and automated deployment of phishing emails," Kim added.

During the session, Kim will also discuss the psychology of phishing from the perspective of both attackers and victims, outline the anatomy of a phishing attack, share insights about how phishing has evolved with the use of AI, explain how to recognize advanced attacks and outline mitigation techniques.

What's more, hackers could ultimately use AI to launch attacks against individuals.

"We may feel the kinetic effects of phishing in the physical world soon," Kim said. "The nexus between cybersecurity and patient safety may become even more apparent." ●

Kim will share more insights at HIMSS19 in a session titled "Don't be Phooled!: What You Need to Know About Phishing." It's scheduled for Tuesday, February 12, from 1:30-2:30 p.m. in room W320.

CYBERSECURITY FOR BUSINESS DECISION MAKERS: ELEMENTS OF A SUCCESSFUL PLAN

For threats ranging from data leakage to ransomware to credential-stealing malware, healthcare executives must develop strategies for before, during and after attacks. By Bill Siwicki

A cybersecurity strategy is a must-have today for every hospital to protect patient information. But that doesn't mean developing one is easy, or that there is a recipe infosec and business leaders can follow. The NIST Cybersecurity Framework and the HITRUST CSF are good places to start. These frameworks can be used by hospitals to better understand the policies, technologies and people skills necessary to secure data, safeguard the availability of IT infrastructure and stay compliant with law.

"In order to protect patient health information, healthcare provider organizations are working hard on cybersecurity strategies that safeguard this critical information," said Susan Villaquiral, chief information security officer at Fundación Valle Del Lili in Cali, Colombia. "However, a focus only on prevention is not enough, and today's threats have shown us that."

Ransomware attacks such as WannaCry and NotPetya exposed the weaknesses and vulnerabilities that can come with an insider attack, she said, so all the efforts from executives should be focused on cyber-resilience that proves how fast a hospital can recover from a successful attack.

With a newly patient-centered care strategy – patient experience, patient engagement, patient journey – adopted by hospitals, and patient safety being the top concern, a cybersecurity incident that affects medical devices could put patient treatment at risk, as well as the reputation of a hospital.

"Just a few months ago in our hospital, we suffered a WannaCry infection that entered through a medical device, and even when the threat was contained, it affected us in many ways, including our Internet's reputation," Villaquiral said.

"We learned from that infection that it could be a lot worse and that medical devices become a vulnerability and an open door that cannot be removed from the equation, so solutions like isolation, visibility, inventory and contract requirements mitigated our risk," she added.

According to the 2018 HIMSS Cybersecurity Survey, the top three potential threats are breach/data leakage, ransomware and credential-stealing malware. That means that secu-

rity awareness for healthcare staff should be formalized and intensified, Villaquiral insisted.

"The ransomware and credential-stealing trends prove that a prevention strategy is not going to be enough – today's hackers, outsiders or insiders, search for login, and that means that once achieved, they can corrupt even your disaster recovery infrastructure, leaving you with nothing once the attack is perpetrated," she explained.

The National Cyber Strategy recently released by the federal government shows that the field of battle is much bigger than everyone thinks, and that this could drive to a fully compromised strategy, especially as healthcare provider organizations become a much clearer target for hackers, she said, adding that cybersecurity efforts must not lose strength over time.

"With the lack of appropriate cybersecurity staff and financial resources being the biggest barriers when a cybersecurity incident occurs, CIOs should justify a cybersecurity budget to the board members through patient safety," Villaquiral suggested.

"With more medical devices connected over time, patient safety concerns should not be separate from cybersecurity, because the availability and integrity of the patient's information are as important as the prevention of harm to the patient."

A risk assessment conducted inside the organization is a good way to show several cybersecurity risks related to clinical processes that a CIO could present not only to the board members but also as a requirement to the medical equipment vendors as a part of the acquisition process in order to be aligned with the hospital cybersecurity strategy, she added.

"The lack of specialized staff should be remediated through training; a CISO's team is not easy to find, but with the right amount of effort, you can create your own team that is not only going to be specialized but also aware of the responsibility that they have in their hands: our patients' safety," said Villaquiral. "Always include training as a main part of your IT budget." ●

Villaquiral will present at HIMSS19 in a session titled "Building a Cybersecurity Strategy in a Hospital," scheduled for Wednesday, February 13, from 1-2 p.m. in room W320.

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9th Annual Intelligent Health Pavilion to highlight HIMSS19

Five conferences within one pavilion, focusing on virtual reality, wearables, AI, voice and the internet of things – and how they can work together to improve care. By Bill Siwicki

HIMSS19 will feature the 9th Annual Intelligent Health Pavilion (Hall E, Booth 8559), hosted by the Intelligent Health Association. The pavilion focuses on connected technologies, vetted by a committee of experts, and how they can work together to bring about better healthcare.

"We take existing technology you can buy off the shelf today along with other software and apps and put them in the context of a hospital, so when a C-suite decision maker comes through the pavilion they can go into the operating room or one of the other rooms and can see an end solution," said Harry Pappas, founder and CEO of the Intelligent Health Association. "Everything talking to each other in a seamless fashion."

Conferences within a conference

There are five conferences on two stages throughout the week at the Intelligent Health Pavilion, featuring more than 100 speakers and sessions every 20 minutes, along with 60 exhibitors. The five conferences are:

Virtual Medicine: AR/VR, Mixed Reality Conference
When: Tuesday, February 12
Where: Innovation Theater

5th Annual Conference on Wearables and Sensors for Better Health and Wellness
When: Wednesday, February 13
Where: Leadership Theater

2nd Annual AI for Healthcare Professionals Conference
When: Wednesday, February 13
Where: Innovation Theater

Voice Technologies in Healthcare Workshop
When: Thursday, February 14
Where: Leadership Theater

Internet of Healthcare Things, RFID, RTLS, Sensors and Wireless Technologies
When: Thursday, February 14
Where: Innovation Theater

There will also be live podcasting of select workshops and speakers for healthcare professionals who cannot get to HIMSS19.

One highlight of the pavilion will be demonstrations of how Amazon's Alexa can be used in healthcare, said Pappas.

"This is tied into our voice in healthcare conference, and we have demonstrations on the use of voice technologies in our iHOME, in the labor and delivery room, and other areas of our demonstration hospital," Pappas said. "How do I use Alexa in an OR setting, in a labor and delivery setting? It's Alexa, but it's really voice because we are vendor neutral. It's all about voice, Google or Cortana or any of the other voice technologies out there."

Virtual reality

Another highlight will be Virtual Medicine Hands-On Labs – demonstrations for healthcare professionals to try out virtual reality and augmented reality hardware to see how this technology, specifically Hololens and Google Glass, can be used in the operating room setting. They also can see how the technologies can be used in the home, for example, for pain management and chronic care.

Yet another feature at the pavilion will be the Da Vinci Surgical Robot in the pavilion's operating room: "This is the first time the robot will be at HIMSS, and we are working with the Nicholson Innovation Center in Orlando and others in the academic community," said Pappas. "How is the robot interacting with Hololens, how is it interacting with voice technology and other associated pieces of software and apps, so visitors can see how all of these technologies and software interact with one another to improve patient care and patient safety?"

On the sessions front, at the virtual medicine conference, a top cardiologist from the Mayo Clinic will be doing a live presentation onstage connecting one physician onstage with another physician in the OR suite at the Mayo Clinic, and they will demonstrate the use of tele-surgery and how they can use that to educate other surgeons. They will perform some live demonstrations of how augmented reality and Hololens can improve surgery.

Pavilion takeaways

Overall, HIMSS19 attendees will have a lot to take away from the Intelligent Health Pavilion, Pappas said, noting that he hopes visitors will both "learn and unlearn," given that software and apps – and the many ways they can be applied to healthcare – are "changing daily," he said. "We don't allow any of our sponsors to be in our pavilion unless they have been peer-reviewed," Pappas explained. "It's not just a matter of buying a space. Everyone has been peer-reviewed by the committee. So we are very careful that the technology we are showing has been vetted, that it is real and that it works."

Pavilion visitors get to see best-of-breed technologies that can be used in the hospital, long-term care facilities or the home, he added.

"This is why the pavilion has grown over the years, because decision makers come in knowing that we have curated the best of the best," said Pappas. "A month after the HIMSS show, we get emails and phone calls: 'We saw this company in your pavilion, we are about to call them in for an appointment, and what do you know about them?' The industry trusts us to give them vendor-neutral technology." ●

CAN TECHNOLOGY RESTORE HUMANITY TO HEALTHCARE?

With EHR frustrations at a boiling point and physician burnout at epidemic levels, it's time to rethink the way IT is designed, developed and deployed to better enable a human touch. By Mike Miliard

"At its core, technology would seem to be the antithesis of humanity," said Dr. Chris DeRienzo, chief quality officer at Asheville, North Carolina-based Mission Health System. "It doesn't feel, it doesn't think and it can't see the humanity of the person in front of it."

Ask physicians how they feel about electronic health records, or read Atul Gawande's recent New Yorker feature, "Why Doctors Hate Their Computers," and it's apparent that most healthcare professionals' relationship with technology is ambivalent at best.

"It's tempting to say there's no way we can build or leverage technology in order to restore some humanity to the practice of medicine," said DeRienzo. "But I think that's fundamentally a wrong assumption."

At HIMSS19 on Tuesday, in one of the new TED Talk-style SPARK Sessions, titled "Humanity and Technology in Medicine: Antithetic or Symbiotic?" DeRienzo will explain why.

The reason technology seems to pull us away from people, rather than bring us together, mostly boils down to "how we've designed it and what we've designed," DeRienzo said. But rethinking both of those, IT could be repositioned in a way where it enhances, rather than detracts, from the clinician and patient experience.

Chris DeRienzo

With funny personal anecdotes and real-life case studies, he'll show how technology, properly deployed, can restore joy to healthcare – helping burnt-out physicians better engage person to person, and enabling them to practice at the top of their license and use their skills to solve complex challenges

"If we focus on the right types of technology, and we build it right, then we can actually use it to empower people to do more of the things that only people can do in healthcare," said DeRienzo.

How technology is designed, and what it's used for, plays a big role in how well it is liked by its end users. Consider tech that's intentionally created to connect people, such as telemedicine. "We see much more positive reaction to it."

EHRs, on the other hand, were not designed with joy in mind. They were developed under certain conditions, with necessary check-the-box functionalities related to regulatory compliance and billing capture.

And they were "based on a world where we took what we did on paper then did the same thing on computers," said DeRienzo. "They effectively ignored a lot of the human factor elements for how to design a way to document and record care electronically."

But EHRs are only one challenge, he said. "Our monitors are another. How we use algorithms is another very important one."

DeRienzo predicts that "our electronic documentation will evolve drastically over the next few years as we move away from this built environment and toward a world where human factors matter a whole lot more."

In the meantime, he sees one technology doing a lot to return humanity to healthcare. One that may seem ironic, to say the least, given the trepidations many have about its potential to disrupt and displace: artificial intelligence.

"AI stands positioned to be one of the core technological advances that allows us to return humanity to healthcare," he said.

For example, he explained, "we've built a machine

Keith Bigelow

GE SHOWS AI APPS AND SMART DEVICES FOR PRECISION HEALTH

The company is highlighting its new Edison platform, AI algorithms built into medical devices as well as diagnostics and therapeutics for precision medicine. By Tom Sullivan

GE Healthcare is bringing technologies for precision health to the HIMSS19 show floor.

"The GE Healthcare vision for precision health features several components, including precision diagnostics, or how to make the right decision for the patient; precision therapeutics, or how to perform precise treatments; and precision monitoring, or how to help the patient stay well and determine what happens next," said Keith Bigelow, GE Healthcare's senior vice president of Analytics & AI. "The power of AI lies in its ability to support decision-making."

GE projects that the AI market particular to healthcare will exceed $6.5 billion by 2021, and that nearly 40 percent of healthcare decision makers are planning to invest in machine learning and predictive analytics for imaging and other clinical applications.

To that end, Bigelow said GE Healthcare is showing apps and smart devices built using its Edison intelligence platform, including AI algorithms embedded into medical devices for use cases clinical, financial and operational in nature.

"In our innovation area, we are highlighting critical care solutions in a hospital setting," Bigelow said.

GE introduced Edison this past November, and is showing the platform and related tools at its booth. When it launched, GE Healthcare described Edison as an AI platform designed to enable hospitals to reap more value from technology such as clinical apps on devices, in the cloud and on the edge by combining diverse data sets from various settings, such as healthcare networks and life sciences companies.

The company is also looking to establish an ecosystem of third-party developers building for its platform. Apps that have already been announced include: AIRx, an automated workflow tool for MRI brain scanning; Critical Care Suite to help identify pneumothorax at the point-of-care; CT Smart Subscription, which offers continuous access to the updates from CT software. AIRx and Critical Care Suite are awaiting FDA approval.

GE said that imaging generates some 90 percent of healthcare data but just 3 percent of that information gets analyzed and used by hospitals to improve operations or outcomes.

Changing that, and putting data to work, is a major step in the overarching industry movement toward precision health, otherwise known as precision medicine or even personalized health.

"Healthcare is on a journey to precision health – delivering the right outcome, for the right patient, at exactly the right point of care," Bigelow said. "To execute on that, our industry needs to focus on driving out cost, increasing access to care, increasing the quality of care, and improving the patient experience." ●

GE Healthcare is in Hall A, Booth 1240.

Amazon Web Services: AI, data analytics and cloud are converging to drive down costs and boost care quality

Health orgs are using AI to enhance decision making and drive greater value for patients and providers, AWS says. By Bill Siwicki

Healthcare companies are using artificial intelligence and machine learning, and then the cloud, to better ingest, manage and leverage a variety of data – whether it is structured data, unstructured data or streams – to break down silos and enable data liquidity in support of collaborative research and care coordination.

"The cloud enables healthcare providers to scale up during peak demand periods, like flu season, and scale back down again when demand has ebbed," said Shez Partovi, director of worldwide healthcare and life sciences, business and market development at Amazon Web Services. "They can then process the data, apply deep learning and visualize the data in order to make insightful decisions throughout a patient's care journey – or even throughout the research pipeline."

For instance, Orion Health hosts data for 50 million users on the AWS Cloud, enabling its customers to access patient information ranging from clinical information and genomics to claims and reimbursement data, Partovi added. In turn, providers can identify personalized treatment and prevention strategies and optimize clinical decision making.

"Additionally, AI and machine learning are providing the tools to process and analyze the increasing amount of data generated by doctors, hospitals, researchers and organizations, including structured data like EHR forms as well as unstructured data, such as emails, text documents and even voice notes," said Patrick Combes, technology leader, healthcare and life sciences, at AWS.

To that end, AWS recently announced Amazon Comprehend Medical, a machine learning service that can help process unstructured data such as medical notes, prescriptions, audio interview transcripts and radiology reports – as well as identify information such as patient diagnosis, treatments, dosages, systems and signs.

"Machine learning is being used in a variety of tasks

such as analyzing medical images to advancing precision medicine," Combes added. "Tools that leverage natural language processing, pattern recognition and risk identification also are fueling new models for predictive, preventive and population health with great potential to help providers identify gaps in care and help improve the health of individuals and communities."

One example is Philips' HealthSuite digital platform, a cloud-based trove with more than 21 petabytes of data from 390 million medical images, medical records and patient inputs – giving providers, clinicians, data scientists and software developers access to both quality data and AI tools to deliver a more personalized care experience, he explained.

Healthcare providers globally are facing increasing internal and external pressure to incorporate data into their decision making to help improve care quality, reduce costs and drive better patient experience and outcomes.

Additionally, there is a growing amount of unstructured data resulting from the shift from structured forms to text and voice notes – driving an opportunity for AI and machine learning.

"Processing this data creates a complex, expensive and timely coding process for medical billers and higher dissatisfaction from providers as they are forced to spend more time responding to inquiries to clarify and identify segments of their notes, and less time spent on patient care," Combes said.

Combes added that AWS is seeing significant interest in machine learning and AI across the healthcare industry to help mine both structured and unstructured data in clinical settings.

Fred Hutchinson Cancer Research Center in Seattle, for instance, is using Amazon Comprehend Medical to evaluate millions of clinical notes to extract and index medical conditions, medications and choice of cancer therapeutic options, reducing the time to process each document from hours to seconds, he explained.

"As healthcare companies from startups to established multinationals look to AI and machine learning, there are several essential ingredients that are key to success," Combes said. "Large quantities of carefully curated, high-quality data; optimized systems that comply with industry standards and regulations; machine learning services that eliminate the heavy lifting of building, training and deploying models; and the cloud."

While curating high-quality data can be especially challenging in the healthcare industry, which is plagued with highly complex and unstructured data, it is essential to operate AI- and machine learning-driven data sets, Partovi said.

"After successfully establishing the foundational elements," Partovi said, "healthcare organizations can unlock the power of AI and machine learning with the potential to enhance decision making, drive greater value for patients and providers, and reduce time to discovery and insight." ●

Amazon Web Services is in Hall C, Booth 6

What CIOs need during M&A: Change management skills

Health system M&A success may hinge on the work done by CIOs to create a single IT platform to support the newly created organization. By Bill Siwicki

Lawrence Dux

The healthcare industry is undergoing a significant transformation as larger hospitals acquire or merge with smaller hospitals and practices. The typical business goals of these mergers and acquisitions are to increase market share and create overall economic advantages, such as better contracts with managed care organizations, lower operating costs due to consolidation of back-office functions and enhanced information systems to improve population health management.

The chief information officers of these organizations play a critical role in achieving these goals by bringing together the respective information technologies and departments. While the CIOs may have the skills and knowledge to handle the technical aspects of these mergers and acquisitions, they may not always have the change management skills to address the people side of these transitions.

The success of an overall merger or acquisition may hinge on the work done by the CIOs and the information technology departments to accomplish the work of creating a "new" single information systems platform to support the needs of the newly created organization, said Lawrence E. Dux, director of patient care informatics and process improvement at Froedtert Health Community Memorial Hospital in Menomonee Falls, Wisconsin.

"If the change management aspects are not addressed from the very start, there could be delays, increased costs, turnover in critical personnel, and the overall merger or acquisition could be at risk," he explained.

Change management relates to how individuals respond to and adopt/adapt to new people and processes in their workplaces. There are various models and approaches followed by different organizations – such as Lewin, Kotter and ADKAR – but the common goal of each is to help the people overcome some of their fears and anxieties related to the "change initiative" that is being undertaken by the organization, Dux explained.

"The use of these change management models and the tools and techniques being used have been increasing across the healthcare industry because of the increase in the implementation and use of electronic health record systems, process changes related to making improvements in how care is being delivered, and new clinical treatment protocols being driven by evidence-based research," he said.

The changes related to healthcare mergers and acquisitions are complex because these situations require leaders to let go of the old practices and behaviors and create a new culture with new expectations, Dux said.

Change in the IT department "will often involve retiring legacy information systems and adopting new clinical/financial information systems," he said. "The people involved in these transitions will need to learn these new systems and follow practices that are much more structured.

"The effective use of change management approaches, strategies and tactics can support the successful consolidation/merger of hospital/healthcare information technology departments," Dux added. "The recommendation is to formally adopt change management approaches and to embed them into all merger and consolidation plans for information technology departments." ●

Dux will share more insights in his session, "Mergers and Acquisitions: CIO Change Management Strategies." It's scheduled for Tuesday, February 12, from 4:15–5:15 p.m. in room W303A.

learning model at Mission Health, and we've now gotten it fully up and running. Its purpose is to help risk-stratify patients who our case managers need to focus on. To serve them, not only by a ranked-ordered list but a concept as to why our model thinks they may be at a high risk of being readmitted."

That's a fairly basic AI application, "but its purpose is to pull out things that people don't have to be doing so now my care manager team can spend less time wondering who to focus on and more time actually focusing on people," said DeRienzo.

Ditto with radiology, he said: "I don't think that reading a thousand normal chest X-rays brings radiologists a ton of joy. But doing the really complex work – is it this, is it that? – is what they enjoy. How do we bring the expertise and brains of these terrific musculoskeletal and neuroradiologists to the things we actually need them to be doing? That is how something like AI can actually empower humans."

The practice of medicine is an ancient art, and one that's long depended on the power of human interaction, he explained.

"At one point that was all we had – other than leeches and bloodletting, all we had was the ability to interact with our patients one on one and be human with them," said DeRienzo.

"We've vastly improved our ability to care since then, but in some ways we've lost an appreciation for that aspect of a clinician-patient relationship," he explained. "My fervent hope is that once we get this right, we'll actually be returning, somewhat, to a place where it's that person-to-person relationship that's the most valuable part of our day." ●

Chris DeRienzo's SPARK session, "Humanity and Technology in Medicine: Antithetic or Symbiotic?" is scheduled for Tuesday, February 12, from 3-3:30 p.m., in room W300.

Teddy Shah

SANTA CLARA HEALTH SYSTEM AND OPTUM TACKLE THE MOST COMPLEX OF COMPLEX POPULATIONS

Santa Clara Medical Director Dr. Jeffey Arnold and Optum's Teddy Shah share a model that addresses a 90 percent Medicaid population.
By Susan Morse

Healthcare is asked to do a lot.

In its quest toward value-based care, it must look at the whole person. It's no longer about treating systems. Providers must treat social and behavioral needs, housing, transportation, energy assistance, food insecurity and nutritional support.

In many cases, funding for these social determinants of health is resulting in a return on investment, both financially and in better outcomes for patients.

As the number of patients with comorbid conditions increases, so does the complexity of targeting the individuals in greatest need.

Santa Clara Valley Health and Hospital System, a large safety net organization in California, sees numerous patients in need of whole person care, as 90 percent of its population is served under Medicaid.

Medicaid beneficiaries are high utilizers of the health system. Many have comorbid conditions. They're less visible, have poor medication adherence and in some cases, are homeless, said Teddy Shah, vice president of Optum Advisory Services.

Santa Clara recently implemented specific strategies to address the social, clinical and behavioral needs of their high-risk Medi-Cal beneficiaries through a program sponsored by the state of California.

The health system got a $1.5 billion federal grant over five years to target the complex needs of its Medicaid population.

Optum is building the technical structure and has created a framework conceptual model that has the patient at its center.

"It's new as a concept being put together holistically," Shah said. "It's really changing the direction of cost of care. It's the most complex of the complex patient population."

First, inpatient and outpatient organizations, which are not always under the same executive leadership, need to talk to each other to identify the patients most in need of attention, Shah said.

There's also various care manager programs, behavioral health and other services that need to be coordinated for a managed care plan.

Optum created an integrated care center.

What's been developed can also eventually be applied to less complex populations, such as in the commercial market, Shah said. ●

Shah, along with Santa Clara's medical director Dr. Jeffrey Arnold, will present findings during the session, "Bending the Cost Curve with Whole-Person Care," scheduled for Tuesday, February 12, from 4:15-5:15 p.m. in room W300.

Developer Innovation Lab offers hands-on lessons at HIMSS19

A Cloud Healthcare Datathon, a FHIR session, one-on-one time on APIs and deep learning highlight the specialty pavilion this year. **By Bill Siwicki**

Christel Anderson

One of the highlights here at HIMSS19 is the Developer Innovation Lab, a specialty pavilion designed to help spur innovation in the field of health IT.

"Today, health innovators can create health applications for patients, caregivers, clinicians and practitioners that will operate seamlessly and securely across multiple healthcare platforms and systems," said Christel Anderson, senior director, interoperability initiatives, at HIMSS. "Hands-on, immersive, collaborative, organic – that's the Developer Lab. The lab is hosted within Innovation Live on the show floor and is a structured experience where you can engage one-on-one with industry leaders, innovators and data scientists who are changing healthcare."

Anderson pointed to four highlights of the Developer Innovation Lab: the Datathon, 1:1 Lab Time APIs, FHIR and 1:1 Deep Learning.

The Cloud Healthcare Datathon Launcher will offer an opportunity for attendees to engage the healthcare and life sciences community. They can learn how to take advantage of curated healthcare datathons tooling – a self-service model comprising process, scripts and templates that supports datathons on permanently hosted datasets, such as MIMIC/eICU/Medicare, or other private datasets.

The 1:1 Lab Time APIs Meet will allow attendees to meet with technical industry leaders for hands-on learning on AI, neural networks, APIs, app builds, the cloud, FHIR, data sets, machine learning and more, with the goal of letting attendees embrace their inner entrepreneur to dive into the startup realm, Anderson said.

For the FHIR event, attendees can learn how SMART on FHIR's open-source, standards-based technology platform enables innovators to create apps that run seamlessly and securely across the healthcare ecosystem. This session will describe how FHIR, OAuth and OpenID Connect allow healthcare providers and patients to plug apps into popular EHRs, patient portals and clinical data warehouses.

And in the 1:1 Deep Learning section of the lab, discussion will be focused on how predictive modeling with EHR data is anticipated to drive personalized medicine and improve healthcare quality. Attendees can learn about how recent developments in deep learning and artificial neural networks may allow healthcare to address many of today's challenges.

This year the lab will have more viewing space, more seating and more 1:1 technical content than HIMSS18 and will be providing each attendee with "Top 3 Takeaways" to use at home.

And those Top 3 Takeaways are: Embrace new open data sources, tooling, data sets and tech stacks that are available; learn about programs that are rapidly changing healthcare such as IHE, FHIR, artificial intelligence, machine learning and deep learning; and immerse yourself in the next generation of digital apps, sandboxes, data science, developer tools, algorithms and code that is building a new health ecosystem. ●

How to make bundled payments work? Start by engaging patients

Froedtert Health saved $1.5 million in CMS' joint replacement model by involving patients in bite-sized activities on a daily basis. By Susan Morse

Mike Anderes

Over the past two years of the mandatory comprehensive care for joint replacement payment model, Froedtert Health saved $1.5 million on the 615 patients who had the surgery, according to Mike Anderes, chief innovation and digital health officer for Froedtert and president of its affiliated Inception Health.

Froedtert, which is associated with the Medical College of Wisconsin, was among the hospitals chosen by CMS to participate, and was ready when it was notified, even though the model asks providers to take on risk for a 90-day period, Anderes said.

"We'd been working on reducing total cost and improving outcomes for years," he said. "We were excited to participate."

The 90 days began just after the procedure, when a patient is sent home, or in some cases, to a skilled nursing facility.

The new model meant trying to avoid the skilled nursing facility, being readmitted or going to the emergency room.

Previously, patients went home with little support, Anderes said. It used to be after a total knee replacement that patients were given a three-ring binder of information and a number to call.

"We needed a more daily protocol for the whole 90 days," Anderes said. "We went through a process to find bite-sized engagement with patients on a daily basis."

Froedtert worked with GetWellNetwork on its patient engagement platform, designed by a physician. Patients self-report data on their condition and, from that information, an early warning system can notify providers when a person needs attention — before they seek care in the ER.

Patients are asked to look at their incision and report whether it is draining or red. If the answer is concerning, a nurse reaches out.

Before surgery, patients were told what to expect. That they should be able to bend their knee to a certain point, for instance, that they should stop taking aspirin five days before surgery and to stock the fridge. An assessment for home health was done.

The CMS mandatory piece is now over and the system is continuing with about 15 voluntary bundles, but not for joint replacement with Medicare, according to Anderes.

This is because CMS caps what a system can earn and sets a new performance price based on past results. It would be hard for Froedtert to achieve greater results when it had already reached a level of high performance.

But what was put in place in the support of patients after surgery remains. The system showed that the value-based goal of reducing post-acute care and readmissions is achievable. ●

Anderes will offer more insights in his session, "Patient Engagement as a Key to Bundled Payment Model Success," scheduled for Wednesday, February 13, from 1–2 p.m in room W315A.

With one eye on the screen and the other on the patient, caregivers feel divided in their work to treat the whole person in front of them. With the advent of AI, "robots" can take over more of the mundane, machine-like tasks that are necessary but can hinder the overall care experience when unbalanced.

In short, AI will reinvent provider workflows, change how we educate the next generation of caregivers and get us to a next stage in healthcare that puts individuals at the center.

Additionally, tools can cover the processing, the recollection of previous information, and the pattern recognition that can at times detract from patient experience – especially in the area of diagnostics (whether that be related to diagnostics in people or technology). This creates opportunities for less human error through bias, which should not be the ultimate predictor in the kind of care you receive.

Why? Because one patient's story is not everyone else's story.

With language and visual processing capabilities driven by AI technologies, doctors will be able to interact more with a patient in their exam room without technology getting in the way. Though data scientists will be more important than ever, they won't completely replace the caregiver role. Instead, caregivers will use innovative technologies in complement to their work, applying unique human insights to the patterns identified: compassion, empathy, intuition from experience – all the things that set humans apart from machines.

With this in mind, I look forward to the next wave of innovation in health, as we focus on the human side of medicine – empowered by people, information and technology working together in synergy. ●

HHS UNWRAPS NEW INFORMATION BLOCKING RULE

Healthcare providers and plans need to implement open data sharing technologies to support transitions of care as patients move between plan types. By Susan Morse

A new rule issued Monday by the Office of the National Coordinator for Health Information Technology involves the patient, not as a person being "acted upon," said Elise Sweeney Anthony, director of Office of Policy for the ONC, but as someone in control of their electronic health records. The new rule will take effect in 2020.

If a patient requests their record, and it's not given to them electronically and for free, that's information blocking, Sweeney said during HIMSS19.

The Centers for Medicare and Medicaid Services (CMS) would also require that healthcare providers and plans implement open data sharing technologies to support transitions of care as patients move between these plan types.

For instance, the records must be able to be transferred between providers when a patient requests that service when changing physicians.

Health information exchanges and health information networks are subject to penalties of up to $1 million for lack of interoperability. There's no longer an excuse to distrust data sharing.

"If everyone is working from same agreement, those concerns evaporate. "That is breaking down the silos," Sweeney said.

Providers are not subject to fines, but CMS could impose "appropriate disincentives," ONC said.

The ONC has included in the conditions of certification that healthcare IT developers need to publish application programming interfaces (APIs) without special effort.

The ONC's proposed rule calls on the healthcare industry to adopt standardized APIs, which will help individuals securely and easily access structured and unstructured EHI formats using smartphones and other mobile devices.

It also implements the information blocking provisions of the 21st Century Cures Act, including identifying reasonable and necessary activities that do not constitute information blocking.

"Having just read over the rule and looked at the summary sheets, what you see is it's a very thoughtful set of expectations," said Dr. John Halamka, CIO of Beth Israel Deaconess Medical Center. "We know that information blocking is often a misalignment of incentives, so it actually does allow us to consider things like cost and difficulty and burden. In effect, what it does is remove arbitrary blocking and gives us a guideline (to move forward). And that's really a great approach."

The proposed rule also asks for comments on pricing information that could be included as part of their EHI and would help the public see the prices they are paying for their healthcare.

Policies in the proposed CMS and ONC rules align to advance interoperability in several important ways. CMS proposes that entities must conform to the same advanced API standards as those proposed for certified health IT in the ONC proposed rule, as well as including an aligned set of content and vocabulary standards for clinical data classes through the United States Core Data for Interoperability standard.

The ONC is working closely with the CMS on the interoperability rule.

"It's not just about quality payment programs, it's not just about MACRA," Anthony said. "It allows us to think about the care continuum."

The rule for 2020 applies to Medicaid, the Children's Health Insurance Program, Medicare Advantage plans and health plans in the Affordable Care Act federal exchanges.

So far, the money for IT implementation has gone to the top spenders such as hospitals and ambulatory care, according to Dr. Terrence

O'Malley of the Partners Healthcare System. The less expensive care settings, such as home health, have gotten virtually nothing.

"All of the health IT resources are on top," he said.

THE TREND

CMS' proposed changes to the healthcare delivery system support the MyHealthEData initiative and follow regulations released by CMS in 2018 finalizing regulations that use potential payment reductions for hospitals and clinicians to encourage providers to improve patient access to their electronic health information.

ON THE RECORD

"[Monday's] announcement builds on CMS' efforts to create a more interoperable healthcare system, which improves patient access, seamless data exchange and enhanced care coordination," said CMS Administrator Seema Verma. "By requiring health insurers to share their information in an accessible format by 2020, 125 million patients will have access to their health claims information electronically."

"By supporting secure access of electronic health information and strongly discouraging information blocking, the proposed rule supports the bipartisan 21st Century Cures Act. The rule would support patients accessing and sharing their electronic health information, while giving them the tools to shop for and coordinate their own health care," said Dr. Donald Rucker, National Coordinator for Health IT. "We encourage everyone – patients, patient advocates, healthcare providers, health IT developers, health information networks, application innovators and anyone else interested in the interoperability and transparency of health information – to share their comments on the proposed rule we posted." ●

Here's the lineup:

- **The Transformer:** Aashima Gupta, global head of healthcare solutions
- **The Visualizer:** Janne Pitkanen, human-centered design specialist
- **The Innovator:** Rasu Shrestha, MD, innovation strategist
- **The Researcher:** Black Marggraff, CEO
- **The Explorer:** Javier De Oca, entrepreneur
- **The Communicator:** Lygeia Ricciardi, consumer engagement expert
- **The Disruptor:** Saffron Wanger, chief information and innovation officer
- **The Game-Changer:** Yolande Greene, senior project manger for population health
- **The Strategizer:** Kevin Carey, executive director
- **The Influencer:** Herman Monserrate, senior business architect
- **The Trailblazer:** Mohammad Agha, assistant professor of clinical PM&R and orthopedic surgery

Sanders said the Champions of Health are representative of the broader evolution happening in healthcare.

"Champions of Health is a reflection of what HIMSS stands for, what those who engage and lean on our organization stand for," said Sanders.

Circles

HIMSS is debuting a new set of communities during and after the HIMSS19 Global Conference. Called HIMSS Circles, they're an opportunity for like-minded people to convene at the conference, get to know each other and learn together what will be of most interest, according to HIMSS Vice President Karen Malone.

Attendees can opt-in via their online registration account to join a Circle.

For its first year, the HIMSS Circles program includes nine distinct communities: IT executives, non-IT executives, clinical executives, security executives, investors, entrepreneurs, physicians, informaticist nurses, and pharma and biomedicine professionals.

"The experience we're creating for these groups will help them navigate the conference and identify what's important," Malone said. "We're taking the initiative and saying, 'You might want to participate in this session with other nurses,' for example."

When it comes to professional development, for instance, HIMSS Investor Circle participants have access to Venture Connect pitch competitions, Reverse Pitch Competitions and Market Debut sessions.

Debut Square

If the aforementioned phrase Market Debut sessions is not familiar, that's because HIMSS19 will be the first time Debut Square is featured.

"Market Debuts will take place within Debut Square," said Elli Riley, senior director of exhibits and meeting services at HIMSS. "This area will be filled with new product and service launches all day Tuesday and Wednesday morning."

The square will feature Market Debut sessions, the NursePitch competition and HIMSS Winner Circle, all focusing on emerging tech, start-ups and innovation throughout the week, including sessions, pitch competitions, hands-on demonstrations, product launches and presentations by innovators and startups.

Market Debuts, for its part, runs all day Tuesday and Wednesday morning, while NursePitch is slated for Tuesday afternoon and HIMSS Winner Circle is on Thursday morning.

Debut Square is located in Lobby E.

Personalized Health Experience

Another of the inaugural highlights of HIMSS19 is the Personalized Health Experience Pavilion, a collection of more than 60 exhibitors and a dozen education sessions.

The pavilion will enable conference attendees to explore the next big challenge in healthcare: how to integrate health technologies into personal care delivery, wellness and daily living – and attendees can discover companies exhibiting products on genomics, chronic disease management, population health and more.

"The point of the pavilion is the focus on the individual, the consumer and how they can benefit from health technology," said John Sharp, senior manager of the Personal Connected Health Alliance at the HIMSS Innovation and Conference Center.

"The message is that health information technology is not just for providers or payers but now directly impacts the individual patient/consumer. Personalization of technology is key to successfully promoting wellness wand self-care in chronic conditions."

Personalized Health Experience is located in Hall A, Booth 888.

Healthcare of the Future

Personalized health. Circles. Emerging technologies. Champions of Health. Where are all these new initiatives taking our industry?

Find out at the Healthcare of the Future exhibit, where just about everything from artificial intelligence to voice technologies and wearables will be available for hands-on interactions and live demonstrations.

"In this booth you will see emerging technologies around wearables, voice activation, bio digital, diabetic wearables, data collection and analytics and much more," said Riley. "There will be more than 15 sessions from emerging technology and start-up companies in this area. This is a can't-miss exhibit to see what disruptive technologies are hitting the health industry."

Healthcare of the Future is located in Hall C, Booth 5359.

Bill Siwicki contributed to this report.

HIMSS19: Your guide to the Global Conference

Wherever you're from or whatever your specific areas of interest might be, there's plenty to see, hear, learn and experience. By Mike Miliard

The operative word at HIMSS19 this year is "global." The conference will play host to tens of thousands of healthcare and technology professionals from the world over. It might be a CIO from San Antonio, a nurse informaticist from Nottingham NHS or a data scientist from Abu Dhabi. They're all flocking to Orlando in search of insights and best practices to take back home as they help their own organizations chart paths toward better health through information and technology.

They could be interested in clinician engagement or consumerism, public policy or process improvement (or all of the above). They may be vizualizers or communicators or game-changers or trailblazers – a few of the "everyday superheroes" represented by HIMSS19's inaugural Champions of Health program.

There's something here for all of them, whether it's the keynote presentations from leaders such as Premier CEO Susan DeVore or Not Impossible Labs founder Mick Ebeling, the hundreds of education sessions all week on every topic imaginable or the more than 1,300 vendors showcasing their wares on the exhibit floor. HIMSS19 doesn't just have a global attendee list – it offers a sweeping global picture of the many facets of data-driven healthcare.

To help you navigate some of these offerings and make the most of your time at the conference, we've put together this overview, organized according to topic, of just some of what's on the menu in Orlando.

AI and Machine Learning

With artificial intelligence now a fact of life across all facets of healthcare, there's so much to learn as it evolves and matures in the ways it's implemented and integrated in technologies serving providers, payers, researchers, consumers and more. Education sessions all week long will explore, among many, many other topics: how to separate the hope from hype for machine learning (Tuesday at 4:45 p.m. in the Lightning Sessions Theater - Hall D, Booth 7145); the ethical and legal considerations of AI in healthcare (Wednesday at 3:45 p.m. in Cybersecurity Theater A - Hall A, Booth 400); and how skilled applications of AI "make 'messy' data beautiful" (Wednesday at 2:45 p.m. in the Innovation Live Pavilion - Hall F).

Big Data and Analytics

AI and machine learning are worthless without high-quality data, of course, and HIMSS19 will offer an array of presentations focused on optimal management and use of healthcare's greatest asset. In fact, there's a session based around just that idea. In "Data As an Asset: A Pragmatic Framework for Health Analytics" (Thursday at 4 p.m. in W308A), Dr. Ferdinand Velasco, CHIO of Texas Health Resources, will offer tips for clinical informaticists and data scientists aiming to make better use of troves of ever-growing clinical and financial information. Other similar sessions will include "Leveraging Data Analytics to Complement Value-Based Approach," presented by Mercy ACO Director of Analytics Nate Riggle (Wednesday at 8:30 a.m. in W308A), and "Overcoming Challenges in Creating Self-Service Analytics," co-presented by Chris Hutchins, associate VP of healthcare analytics at Northwell Health, and Jim Kouba, director at Perficient (Wednesday at 10 a.m. in W308A).

Blockchain

The half-day Blockchain Forum on Wednesday (8:30 a.m.-12:30 p.m. in W230A) aims to get past the ballooning hype around distributed ledger technology and answer a simple question: "What is real in blockchain?" Its sessions will explore how DLT jibes with interoperability standards, how it can improve the accuracy and availability of data exchange methods and what it means for patient privacy and cybersecurity. Throughout the week, there's also an array of other specific deep-dives on offer, investigating blockchain's potential impact on opioid misuse (Wednesday at 4:45 p.m. in the Innovation Live Pavilion), clinical trials (Tuesday at 4:45 p.m. in the Innovation Live Pavilion), wearable devices (Wednesday at 3:30 p.m. in the Microsoft Leadership Theater - Hall E, booth 8559), digital therapeutics (Thursday at 2:15 p.m. in the Innovation Live Pavilion) and much more.

Cloud

According to HIMSS Analytics, nearly two in three health systems are leveraging cloud technology in one form or another. As providers get more comfortable with the security implications of remote hosting – and are sold on the agility and efficiency it can bring to their care processes – more and more are hungry for insights, tips and best practices for deployment. There's no shortage of those at HIMSS19, with vendors large and small showcasing their innovations on the exhibit floor and education sessions ranging from how the cloud is helping one IPA manage 600-plus EHRs in New York City (Tuesday at 3 p.m. in W314B) to how AI is transforming the cloud's already formidable capabilities (Wednesday at 3:15 p.m. in the Lightning Sessions Theater).

Cybersecurity

The HIMSS19 Cybersecurity Command Center (Hall A, Booth 400) will be one focal point of security topics in Orlando – a showcase for leading-edge technologies and engaging, interactive activ-

eClinicalWorks looking to ease physician burnout with trio of tools

The cloud-based EHR vendor is showing its information search engine, virtual scribe and voice assistant. CEO Girish Navani says they're built to help providers save time at the point of care. By Tom Sullivan

eClinicalWorks this year is concentrating its efforts, and cloud-based services, on reducing the burden EHRs put on clinicians.

"The epidemic of physician burnout continues to threaten the quality of healthcare," Girish Navani, CEO of eClinicalWorks, said.

To that end, the EHR maker is demonstrating tools, Navani said, "that will help providers save time by eliminating clicks and increase efficiency and accuracy at the point of care."

Specifically, those are Prizma, a health information search engine eCW unveiled at its user group in late 2018; the eClinicalWorks virtual scribe; and Eva, an embedded virtual assistant it demonstrated an initial version of last year at HIMSS18 in Las Vegas.

In the year since, eCW has continued winning new customers amid allegations of holding clients' data hostage and not complying with the Corporate Integrity Agreement provision in its $155 million May 2017 False Claims Settlement with the United States Department of Justice, and being hit with a comparatively minor fine from the Office of Inspector General regarding patient safety risk.

Navani also gave a taste of what the vendor has in store post-HIMSS19.

"The eClinicalWorks cloud-centric EHR already includes an Electronic Medical Record, Electronic Dental Record and behavioral health services record," Navani said. "In 2019, our Acute Care platform will be a primary focus; creating a unified platform across all care settings."

Branching into acute care settings also means the company is working to advance interoperability efforts. Navani pointed to collaborations with Carequality Interoperability Framework, the CommonWell Health Alliance and the Centers for Medicare and Medicaid Services' Blue Button 2.0 API as ways it is enhancing access to health data for physicians and, in turn, patients.

Navani said eCW will also be focusing its attention on making healthcare more accessible and improving user experience by enhancing patient engagement integration directly through its EHR via healow TeleVisits, and by tapping into FHIR cloud services to enable third-party developers to build patient- and provider-centric apps.

"Today's complex healthcare systems are increasingly focused on interoperability and integration, promoting more effective transmission and integration of patient data," Navani said. "We will remain focused on developing integrations and tools for better quality healthcare among systems to help providers streamline patient data and improve health outcomes." ●

eClinicalWorks is in Booth 149.

ities – but hardly the only one. All week long, as malware continues to evolve in the wild and new zero-day threats make themselves known, CISOs, CIOs, IT directors and other infosec professionals can learn from their peers about everything from "The Phishing Incident Response Playbook" (Tuesday at 10:15 a.m. in Cybersecurity Theater B) to "Building a Complete Cyber Risk Management Program" (Wednesday at 10:15 a.m. in Cybersecurity Theater A) to "Secure Medical Device Procurement" (Thursday at 10 a.m. in W320). All told, there are more than 185 cybersecurity-related sessions at the Global Conference, so there's plenty of valuable knowledge to help health systems shore up defenses.

EHRs

With electronic health records now commonplace if not ubiquitous – something that could not be said as recently as just a few years ago – the focus has now turned to EHR optimization. These systems are a fact-of-life, so it's key that they're deployed effectively and can be used by clinicians in a way that doesn't contribute to their overburdened schedule (if not burnout). Allscripts, athenahealth, Cerner, Epic, eClinicalWorks, Meditech and the other market-leading vendors will all have their usual big booths to showcase their innovations. But there's also plenty to learn in the education sessions about UX/UI and usability – many with tips and tricks that hospitals can do for themselves to improve their clinical IT. To choose just one: "If You Build It, Build It Well: User-Centered Design and Agile Development Provides User-Delight" (Wednesday at 4 p.m. in W307 A), in which two physician leaders from Penn Medicine will explain in-house technology they've helped develop to ensure the EHR, "built to satisfy the hospital system ROI instead of enhancing the clinician workflow," can still enable joy in medicine.

Innovation

There are several hotspots at HIMSS19 to get a glimpse at the latest in leading-edge innovations for information and technology. At Innovation Live (Hall F, Booth 9000), curious attendees can see these disruptive technologies in action – AI, biotech, blockchain, wearables, remote-patient-monitoring, emerging SaaS applications and more. There, the Developer Innovation Lab will offer the chance to see hands-on demos and networking with tech envelope-pushers and entrepreneurs. It's also worth a visit, of course, to another old favorite, the Intelligent Health Pavilion (Hall E, Booth 8559), with its guided tours showcasing the latest advances in RFID and RTLS, BLE, NFC, Wi-Fi, wayfinding and more.

International

It's not called the HIMSS Global Conference and Exhibition for nothing. Healthcare, information and technology professionals from nearly 100 countries arrive in Orlando to learn and share new insights about the ways health and wellness advances can be achieved with help from innovations of all kinds. Stop by the International Pavilions – featuring countries from Asia Pacific, Europe, Latin America, Middle East, UK and beyond – for varying insights from different cultures, tackling very different tactical imperatives, perhaps, but the same overarching goal: a better health experience at lower cost for more patients.

Interoperability

The perennial favorite Interoperability Showcase (Hall F, Booth 9100) returns once again this year, with a satellite location in Hall A, Booth 888. Year after year, the showcase is the most-visited space in the entire show floor – testament to the fact that, for all the progress that's been made in enabling seamless data exchange among disparate technologies, we're still not quite there yet. That said, the specific real-world use cases demonstrated in the Interoperability Showcase, as always, offer a tantalizing glimpse of how close open APIs and standards such as FHIR, OAuth and other emerging specs are getting us where we need to be. Stop by for a tour.

Patient Engagement and Experience

The era of smartphones, connected devices and medical apps has encouraged many patients to expect more from interactions with health systems. More and more vendors and providers – especially as some of the biggest consumer tech developers start to encroach on their turf – are upping their own games as a result. Consider stopping into education sessions such as "Creating a Digital Patient Experience Strategy from Scratch" (Wednesday at 10 a.m. in W303A), co-presented by NYU Langone Health CIO Nader Mher-

abi, or "Elevating the Patient's Digital Experience" (Tuesday at noon in W311A), where Aditya Bhasin, VP of software design and development at Stanford Health Care, will show how providers can "vastly improve their digital game to deliver frictionless, fully integrated experiences."

Pharma

Perhaps more than ever, the contours of 21st Century healthcare will be shaped by innovations in the relationships between pharmaceutical companies, providers, payers and technology vendors. Pharma's key place at the table is a big emerging theme at HIMSS19, exemplified in part by the half-day Life Sciences Forum (Wednesday, 1 p.m. to 5 p.m. in W314B), where these intersections will be examined in sessions exploring real-time EHR tools for monitoring patient safety during clinical trials, technology to spot counterfeits in the pharmacy supply chain and more.

Population Health

The art and science of managing data to help keeping patient populations healthy will get a lot of attention at HIMSS19. Attendees can check out sessions such as "Population Health as Ecosystem Engineering" (Tuesday at 10:30 a.m. in W204A) or "Managing Population Health: A Supply and Demand Challenge" (Wednesday at 8:30 a.m. in W315B). The session "Leveraging Network-Wide Opportunities to Manage Population," meanwhile (Thursday at 4 p.m. in W311A), will show how one health system has managed data from 36 different EHR systems spread across hundreds of ambulatory practices.

Precision Medicine

There are many education sessions at HIMSS19 related to the data and IT imperatives of precision medicine and genomics. To name just two, there's "Technology to Enable the Clinical Genomics Revolution" and "Implementing Genomics in EHRs: Present and Future" (both on Wednesday in W314B, at 8:30 a.m. and 11:30 a.m., respectively). But genomics, of course, is far from the only ingredient when it comes to effective precision medicine. Environment, income, access to nutrition and many other social determinants also play into it. At the brand-new Personalized Health Experience (Hall A, Booth 888), attendees can see new technologies tailored for daily wellness. With more than 60 exhibitors, the focus will be on tools and strategies for self-management of chronic conditions and the personalized angle to population health.

Revenue Cycle

Toward the aim of a healthy bottom line, many programs at HIMSS19 will focus on technology and strategy innovations for revenue cycle management. The education session "Integrating Financial Data for a Better Consumer Experience" (Thursday at 2:30 p.m. in W315B) will "review the processes, systems and integration points that allow providers to give accurate benefit information, self-pay estimates and payment options at the front end of the revenue cycle," for example. And there's a session with the intriguing title, "How Web Bots Freed $2 Million from a Billing Bottleneck" (Tuesday at 4:15 in W308A), which will show how Avera Health made a simple change that has led to a big ROI.

Telehealth

HIMSS19 Champion of Health Dr. Rasu Shrestha sees big things for telemedicine and virtual health at the conference. "There's a lot of buzz in the industry that, with more reimbursement now coming in, telehealth is finally going to really see the light of day," he said. "It's the overnight success story that was 30 years in the making." Indeed, there will be a big focus on the new era of telehealth in Orlando. Just look at the title of the session, "Telehealth Reimbursement: The Times They Are a Changin'!" (Wednesday at 4 p.m. in W303A), which will show how new legislation across the United States is enabling easier reimbursement for virtual care and how health systems large and small are adjusting their priorities accordingly.

Women in Health IT

At the HIMSS19 Women in Health IT Networking Reception (Tuesday at 6:30 p.m. in the Hyatt Regency Ballroom; cost: $50) attendees can meet and network with women from across the healthcare and technology industries, making valuable personal and professional connections with some of the most successful leaders and entrepreneurs. Later in the week, there will also be an hour-long Women in Health IT Mentor Meetup (Thursday at 10 a.m. in W209B). Also be sure to check out the interactive session "Changing the Scales to #BalanceforBetter" (Tuesday at 3 p.m. at HIMSS Spot), where leading Women in Health IT will discuss the "status of gender balance around the world and what can be done to support gender equality." ●

Meet the **2019 Most Influential Women** in Health IT **Recipients**

Celebrating Accomplishments. Advocating Change.

Aashima Gupta
Global Head - Healthcare Solutions Google Cloud Platform, Google

Kisha Hortman Hawthorne, PhD, MHA, MBA, BS
Senior Vice President and Chief Information Officer, Children's Hospital of Philadelphia

Christine A. Hudak, Ph.D, RN-BC, CPHIMS, FHIMSS
Professor & Director, Health Informatics Program, Kent State University

Lygeia Ricciardi, EdM
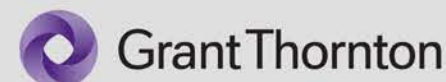President, Clear Voice Consulting, LLC

Heather Sulkers, CAPM
Director, Clinical Informatics, Centre for Addiction and Mental Health

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

Registration Required

#WomeninHIT

HIMSS Most Influential **WOMEN** in **HEALTH IT AWARDS**

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