BENCHMARKS: Patient engagement. Effective engagement demands much more than just patient portals. True empowerment requires that many moving parts be made to work together. **PAGE 34**

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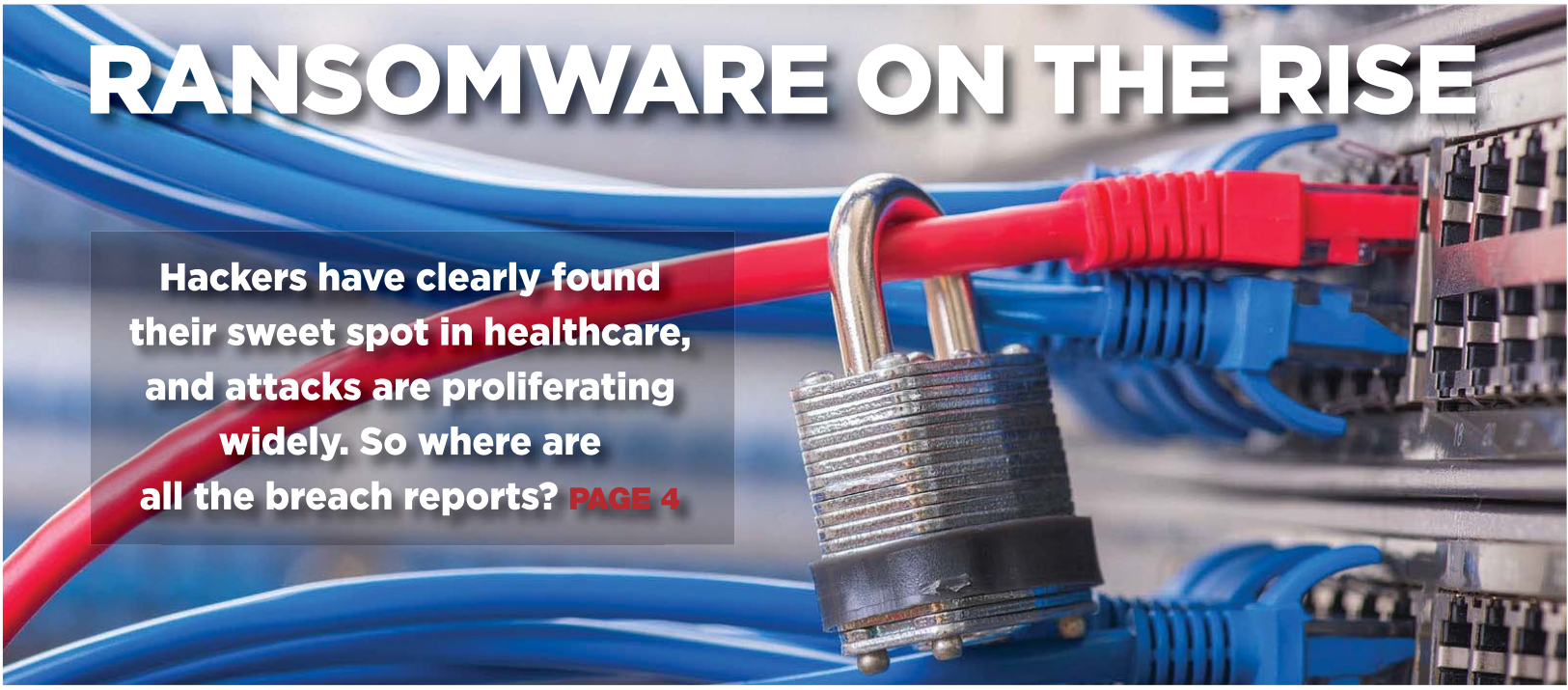

RANSOMWARE ON THE RISE

Hackers have clearly found their sweet spot in healthcare, and attacks are proliferating widely. So where are all the breach reports? **PAGE 4**

Net worth

'Data is the currency of the 21st Century,' says our contributor, offering some tips on making it pay for your healthcare organization.

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EHRs Evolving

Allscripts CEO Paul Black on interoperability, innovation and staying relevant in a maturing market.

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BLOG

6 tips for using huddle boards to go lean

CIO Sue Schade talks about an opportunity she had to advise an IT department on the team's overall lean initiative. While no two organizations have the same lean journey, there are common challenges.

bit.ly/lean-huddleboards

BLOG

Phoenix Children's CIO says big data tactics reduce medical errors

David Higginson explains how tapping into big data enabled it to reduce dosing mistakes among pediatric patients.

bit.ly/bigdata-tactics

SLIDESHOW

Survey results: A look ahead for healthcare IT in 2017

This year we're likely to see initiatives related to cybersecurity protection, work to better understand the untapped data collected by healthcare and the necessity to start making more strides in patient and population health iniatives.

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FEATURED EVENT

Join us for HIMSS Media's Pop Health Forum, kicking off in **Boston** on April 3.

CALENDAR OF EVENTS

MARCH

8-9: AHIP's National Health Policy Conference, **Washington, DC**

16-17: AMDA Annual Conference, 2017, **Phoenix**

26-29: HCCA's 21st Annual Compliance Institute, **National Harbor, MD**

27-30: AMIA's 2017 Joint Summits on Translational Science, **San Francisco**

APRIL

3-4: HIMSS Media Pop Health Forum, **Boston**

8-10: CHIME/AMDIS CMIO Boot Camp, **Chicago**

8-11: CHIME Healthcare CIO Boot Camp, **Chicago**

MAY

2-4: AMIA's iHealth 2017 Clinical Informatics Conference, **Philadelphia**

11-12: HIMSS Media Privacy & Security Forum, **San Francisco**

15-16: HIMSS Media Big Data & Analytics Forum, **San Francisco**

15-18: WEDI 2017, **Los Angeles**

22-24: 22-24: ACEHP Industry Summit, **Philadelphia**

VIDEO

Ransomware reality check

Four security experts discuss how recent cybercriminal activities shed light on the increasing need for better security because of the severity of attacks and the need to protect valuable patient data.

bit.ly/ransomware-check

WHAT'S INSIDE

Patient engagement

Patient engagement has more moving parts to it than many realize. While the healthcare industry, by-and-large, understands its importance, setting up a system that empowers patients and gives them more control of the care process has been, for the most part, elusive. Perhaps that's due to all of the components involved, from hospital workflow to relationships with post-acute providers that are still emerging to a complex customer dynamic that spreads across both provider and payer horizons. Keeping the patient engaged amid a chaotic scheduling, clinical and financial environment is indeed a challenge. But technology can help.

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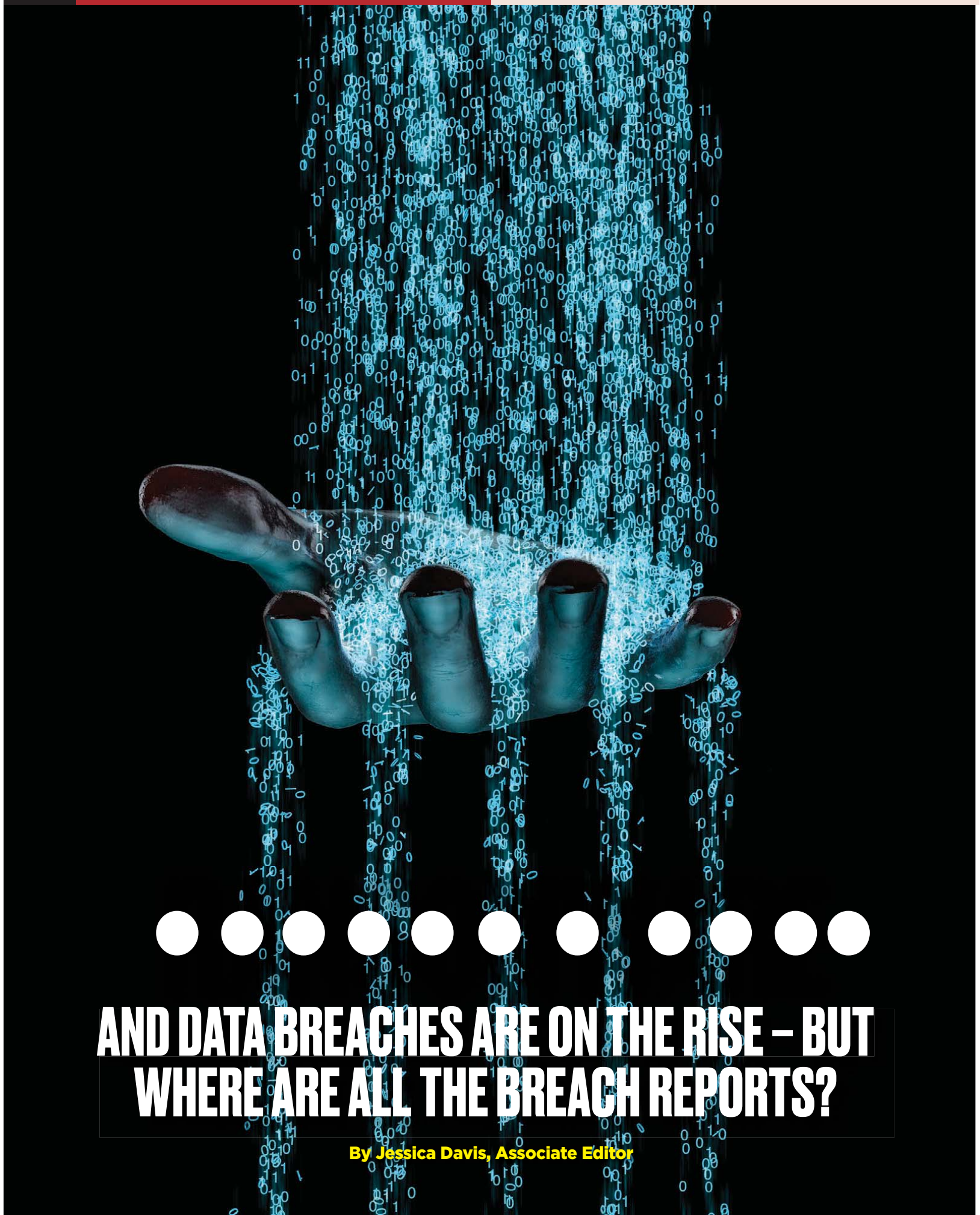

AND DATA BREACHES ARE ON THE RISE – BUT WHERE ARE ALL THE BREACH REPORTS?

By Jessica Davis, Associate Editor

PRESENCE HEALTH SET the bar high with its $475,000 settlement with the Department of Health and Human Services' Office of Civil Rights earlier this year. The settlement, announced January 9, 2017, is the first HIPAA monetary enforcement on a healthcare organization for untimely breach reporting, according to HHS.

The breach occurred on October 22, 2013, when paper operating room schedules – containing the protected health information of 836 individuals – went missing from a surgical facility at Joliet, Illinois-based Presence St. Joseph Medical Center.

Presence Health didn't report that fact to OCR until January 31, 2014, more than three months later. But OCR requires all organizations to report a breach within 60 days of the first person who discovers the breach.

Pam Hepp

It also mandates that HIPAA-covered entities notify affected individuals in written form. And, for breaches affecting 500 or more individuals, that organizations "provide notice to prominent media outlets" in state or jurisdiction where the breach occurred.

Given that Presence Health was only about 40 days late and had fewer 1,000 patients affected, it would seem OCR is making an example of it, as a way to demonstrate the necessity of timely reporting.

But clearly the agency sees any data compromise as important enough to report – even those that fall well short of the mega breaches (Anthem, Premera, Advocate et al.) that have made such big headlines these past few years.

BREACHES ON THE RISE

Hackers have clearly found their sweet spot in healthcare, with industry now plagued by with cyberattacks of a scope, severity and variety unimaginable even a few years ago. One of the most worrisome attack vectors, of course, is ransomware.

More than half of hospitals were hit with ransomware from April 2015 to April 2016, a Healthcare IT News and HIMSS Analytics Quick HIT Survey found - and a large portion of those might not even be aware.

Another 25 percent were either unsure or have no way of knowing whether ransomware attacks were perpetrated against them or not. Together, that translates to about 75 percent of responding healthcare entities potentially targeted by a ransomware attack.

As ransomware attacks have increased, one would expect OCR breach reporting to have increased more or less concurrently. But despite more than 4,000 ransomware attacks occurring each day, across all industries, according to the U.S. Justice Department, ransomware breach reporting remains low.

In fact, of the 31 breaches reported in just January 2017 alone, it took an average of 174 days from the time a breach occurred to when it was reported to HHS, according to Protenus' January Breach Barometer. In fact, 40 percent of the organizations breached in January took well-over the 60-day reporting requirement.

Only nine organizations reported malware or ransomware breaches to OCR in 2016.

Over 27 million healthcare records were stolen in 2016 across 450 reported data breaches. And 26.8 percent of these incidents were caused by ransomware, hacking or malware, according to the 2016 Potenus 2016 healthcare data report. Further, 2016 was the worst year for healthcare breaches since records first began to be kept. And more than one healthcare data breach was reported every day in 2016, on average.

"Because ransomware is so common, hospitals aren't reporting them all," said ICIT Senior Fellow James Scott. "And ransomware is just the start for more specific actors to send in another attack and start mapping the system."

While the breach at Presence Health didn't involve ransomware, HHS is clearly making a point about timely reporting, said Pam Hepp, shareholder, healthcare practice at Buchanan, Ingersoll & Rooney.

Ransomware is a major concern to organizations trying to determine the right way to report, said Hepp.

"There's truly been an influx of ransomware attacks in the healthcare space, we see it in the news and we've heard it from clients," she said. "Medical data is a financial boon on the black market. But that's not why it's happening: It's occurring because organizations rely upon their EHR and IT systems to be able to operate and function. With a ransomware attack, it can cause the organization to come to a screeching halt if they're not prepared.

"We've see a spike in the number of attacks, but we haven't seen an increase in reporting. It's interesting," she added. "I wouldn't be shocked that the number of ransomware attacks are underreported, or the analytics undertaken wasn't sufficient to demonstrate there wasn't a breach."

There are four major reasons hospitals don't report breaches, said ICIT's Scott. To start, there's a fear of the economic impact and liability resulting from having to admit an organization has put thousands or millions of unsuspecting patients at risk for a lifetime of being exploited by criminals.

Further, many employees, from executives to entry-level personnel don't want to admit to administration or to the IT team they fell for a social engineering scam. As a result, these employees don't report their mistake.

Another major issue is that an investigation can disrupt business operations. Not only that, but investigators "poke holes in examined networks and publicize the vulnerable network that, in all likelihood, is already pulsating with scores of adversaries, who have been exfiltrating data all along," Scott said.

"Negative publicity harms reputation and diminishes deniability, thereby making the victim organization more liable in future cyber-incidents," Scott explained. "Nowadays, if a health sector organization is only hit with ransomware, they can consider themselves lucky and perhaps those are the breaches that we hear about."

"The reality is often after a ransomware incident, executives find out that criminals have been exploiting their network for years and going public with the information would force their board, executives and staff to answer some serious questions that they are not willing or prepared to answer," he continued.

REPORTING DEADLINES

In recent months, there have been several breaches reported that showed clear issues with timeliness.

■ On February 7, it was reported that Singh and Arora Oncology Hematology, a cancer center in Flint, Michigan, waited seven months after an initial breach discovery in August 2016 to notify its 22,000 patients. While the provider did inform OCR of the breach within the 60-day timeframe, it failed to relay this information to patients and the media.

■ New York-based CoPilot Provider Support Services discovered a breach on Dec. 23, 2015, but failed to report it until more than a year later, on Jan. 20, 2017.

■ One initial breach, at the New Hampshire Department of Health and Human Services, occurred in October 2015. While a staff noticed a patient looking at unauthorized files and reported it to management, DHHS officials weren't notified until Nov. 4, 2016, after the data ended up on a social media site in Aug. 2016. OCR was notified on Dec. 30, 2016, more than a year after the patient accessed the files.

When asked what enforcement fate these and other similarly tardy organizations faced, OCR Public Affair Specialist Lou Burton said that, as a matter of practice, "OCR does not discuss potential or pending cases." He added that, the specifics of each case "help shape what those required corrections are," and differ depending on the circumstances.

"The first HIPAA enforcement action for lack of timely breach notification was with Presence," said Burton. "To date, we're not aware that there is trend toward organizations not reporting breaches. OCR takes the responsibility of enforcement seriously and will continue to hold entities accountable for failing to report a breach in the proper timeframe."

OCR will be looking at breach reporting as part of Phase 2 of the audit program, Burton explained. A summary report of audit findings can be expected later this year.

And at the end of the stage two process, where the audited organizations will need to show breach reporting methods, Hepp said she believes OCR will find breaches that haven't been timely reported, or reported at all.

"It's a 60-day timeline, and that's a pretty brief timeframe to complete an analysis. That 60-day timeframe runs whether you've exhausted the analysis or not," Hepp said.

"There will be others fined or given corrective action plan," she continued. "There have to be situations where they haven't gone through the right processes. Just given the spike in those attacks, there must be underreporting."

Another issue, according to Scott, is the FBI didn't begin to encourage victims to report incidents until October 2016. Additionally, the healthcare industry bases much of the operations on HIPAA compliances. But HIPAA didn't address ransomware until 2016's third quarter.

"As with most regulation, adapting to breach compliance has taken time, and there are always non-compliant organizations who 'risk it until they get caught,' Scott said. "Prior to guidance released by HHS, if a healthcare organization determined that no ePHI or systems was compromised (i.e. there was an incident but not a breach) then no reporting or actions were needed.

"However, many healthcare organizations remain non-compliant out of calculated non-compliance (the fine is cheaper than the reporting costs and impact) or out of lack of resources (they cannot afford the technical controls, contractors and other needs to investigate incidents to HHS satisfaction)," he added. "Considering that some hospitals are seeing 20 or more ransomware attacks per day, hesitance to report out of fear or reputation loss or lack of resources, is not surprising."

SO WHEN TO REPORT?

The 60-day timer starts the moment a breach is discovered, which is the first day the covered entity knew about the breach. And it applies to all staff within the organization. For example, when someone at the help desk learns about a breach, the timer starts then – even if it takes a week for the incident to be reported to higher staff, according to Erin Whaley, a partner at Troutman Sanders in Richmond, Virginia.

"The Presence Health settlement is the first case where OCR levied a fine for failing to timely report," Whaley said. "OCR came down on them very hard for not notifying anyone. It looks like the organization had some other breaches and didn't notify. But this is our first signal that OCR is serious about timeframe."

With ransomware, breach reporting can become more complicated. Initially, before the major surge in ransomware, the burden of proof when determining whether a breach had occurred fell on OCR. But in August 2016, OCR released guidance stating that all ransomware should be considered a breach. Thus, the burden of proof shifted to the organization, according to Matt Fisher, associate attorney with Mirick O'Connell in Worcester, Massachusetts.

Matt Fisher

A HIPAA security risk assessment is required by OCR to remain compliant. It provides an overview on how organizations can assess potential risks and vulnerabilities of the way all ePHI is handled, stored, transmitted and maintained. It can also help to determine the type of data breached - and how much.

"The common theme for ransomware is that often the risk assessment reveals organizations can't determine how much data has been breached," said Fisher.

"It's not a loophole, but it's a built in carve-out that allows organizations to say no breach has occurred," Fisher explained. "The nuance that you need to worry about is that the OCR's position is that if there's a ransomware attack, then the system has been breached."

With that being said, Fisher couldn't say whether there are organizations aren't reporting because only the system was locked down or the risk assessment didn't reveal data wasn't breached.

Organizations must start with the presumption that ransomware is a breach – even though there may be facts that might contradict that assumption, said Whaley said.

That said, if an organization can demonstrate PHI wasn't compromised, it doesn't have to report it.

For example, if the data impacted by ransomware was encrypted properly and the organization doesn't have any

reason to believe the encryption was compromised, then the PHI is considered secured.

"But all of those are very fact-specific inquiries," Whaley explained. "Organizations have to look at exactly what happened. The presumption should be that the organization has been breached if ransomware has attacked a system, and the burden of proof is on the organization."

Another caveat to consider when it comes to reporting are business associates covered under HIPAA, as it comes with separate requirements. Traditionally, when business associate agreements are drawn, the organization will specify the amount of time it will give the vendor a business associate to report that a breach has occurred, Whaley explained.

The majority of organizations place the time for notification within a few days. Once the covered entity is notified, the 60-day timer begins. Whaley explained that for the purposes of a covered entity, it's when the organization should have known about the breach.


Erin Whaley

And it's the covered entity's responsibility to contact the impacted individuals, the media and OCR, if more than 500 patients were affected.

"The covered entity will file if the breach covers more than 500 patients," Whaley said. "They will file with OCR, then notify the media and patients. It's that notification that triggers an OCR investigation. OCR is investigating all incidents that affect more than 500 individuals."

"The scope will vary by how it long it takes them to get finish the investigation, which will vary by caseload," she added. "They're also looking at incidents with less than 500 patients, but are using different criteria."

THE TRUE COST OF UNTIMELY REPORTING

If Presence Health is any indication, fines for organizations with untimely breach reporting will be hefty.

Organizations that don't report the breach during the 60-day time period, each day over the limit constitutes a separate violation, said Fisher. OCR uses that as a baseline to determine what fine could be imposed, as it investigates whether the breach was knowingly and intentionally violated. He explained that a $500,000 is the cap for a fine within a year.

Organizations also need to keep in mind that when OCR is investigating these breaches, it may find more widespread noncompliance, he said.

Further, when it comes to breached financial records, such as credit cards of social security numbers, it may not fall under HIPAA. However, there also may be elements that contain PHI. A risk assessment will make that determination.

But even if there wasn't a HIPAA violation, organizations also need to consider state laws. Whaley said that some of these state laws may even be more onerous than HIPAA and may also have a shorter reporting timeline.

After a breach, organizations face a lack of trust from patients, reputational damage and mitigation costs, on top of the OCR fines, Whaley explained.

"The true costs of these incidents involving PHI is more than simple settlements: Those are just a portion of the cost to an organization," said Andrew Liuzzi, executive vice president of Crisis and Risk Management for Edelman, a public relations company.

Loss of reputation tops the list as the biggest risk from not only investors, but patients, as well, Liuzzi explained. And trying to downplay an incident can only increase the negative impact from regulators, investors and consumers.

Seventy-one percent of consumers would actually switch companies after the breach of a company they rarely use, and 50 percent of people said they'd likely change vendors after a data breach, a recent Edelman report found. Forty percent of consumers told a friend about the experience. Further, 30 percent of those affected by a breach would talk about the experience online.

"This reveals the viral nature of a breach," Liuzzi explained. "Of course it depends on the scale and target of the breach, but, outside of financial risk, it's about trust and brand reputation.

"There's a gap between consumer expectations and what the business is delivering in terms of response," he added.

Patient complaint is another issue, Hepp said. While patients can't sue an organization for direct breach of HIPAA, they can bring a case against an organization in common law court for failure to meet a patient's right to privacy.

Often, courts look to HIPAA for the standard of care and use that for finding out whether an organization has violated a patient's right to privacy. Hepp explained early cases of these claims were less likely to be successful, but there have collectively been more of these claims. Some patients in these cases bring up their fear of loss of privacy or fear of further retaliation, but these cases haven't been successful.

"There's an increasing sense that every organization is going to be attacked at some point. But you also can't take an overly long time to report it," Fisher said. "That's where people are getting upset and saying, 'why didn't you tell me about this?'"

"On the other end, if these organizations get in front of it, and let the patient know right away, they may be more likely to forgive," he added.

THE WAY FORWARD AFTER A BREACH

"No organizations are immune to a cyberattack – no matter how good their cybersecurity is," said Liuzzi. "And no amount of technology can account for human error with deception, when it comes to suspicious emails."

In other words: It's not "if" an organization will be breached, it's "when." The problem is that most organizations haven't embraced that mentality.

"Clearly there is a trend, not surprisingly, where many companies are devoting more money to security after an incident – which is natural," Liuzzi explained. "However, there's a natural benefit to having a plan in place before an incident occurs."

While the IT department usually drives security preparedness, Liuzzi said that bringing a communications team into the process as early as possible can help manage the scrutiny of the organization.

First, organizations must assemble the right team before an incident breaks out. He explained the right people need to be brought to the table: Legal counsel, forensic IT and communications are primary for the leadership team.

Second, after a breach, organizations need to determine fact patterns within an organization – obviously lead by IT and legal counsel. This step analyzes security requirements within an organization and the regulatory requirements.

Third, once the team and facts are gathered, an organization needs to develop a response team committed to handling the specific incident. This includes communication, media, forensics and the like, which is all guided by regulatory requirements.

"We've see a spike in the number of attacks, but we haven't seen an increase in reporting. It's interesting. I wouldn't be shocked that the number of ransomware attacks are underreported."

–Pam Hepp

However, it's imperative organizations don't rush the initial statement, as "facts are fluid" in these situations. Liuzzi explained it could compromise data and further damage the company's reputation, which is already fragile.

The response team should also be careful in communicating numbers, as the breach is more than that. He said what's important is being able to lay out the steps taken both internally and externally in response to the issue.

"Patients need to be the North Star," said Luizzi. "It's very simplistic, but we need to make sure we communicate to our key audience effectively and clearly. Not just with a press release, but looking at other avenues for communication. Medical data is a personal topic, and the message needs to match that.

"The key is to balance legal needs with consumer expectations," he added. "You need to have a respect for the voice of the organization, so that when the message is delivered it doesn't come off as legalese. You need an understanding of what your stakeholders expect."

Communication is crucial. And it's more than offering the typical credit monitoring services for a year, Whaley said. Especially with a large-scale breach, the hospital should have a dedicated line to handle calls from patients. And those who answer the phone need to be able to answer key questions in a way patients can understand.

Patients should be informed of the necessary steps to take to further protect themselves from theft. And the hospital's operators should be able to explain the methods the hospital has put into place to ensure it won't ever happen again. This should include the way processes and security have improved, the source of the breach and similar information.

"The cause of the incident will impact some of the messaging," Whaley said. ▪

Breaches vs. security incidents: a quick primer

Under the HIPAA Notification Rule, all HIPAA-covered entities and business associates are required to provide notification after a breach of unsecured protected health information. The Federal Trade Commission has similar breach provisions that apply to vendors of personal health records and third-party service providers. So what's the difference between a breach and a security incident?

OCR states a breach is "impermissible use or disclosure that compromises the security or privacy of protected health information." Providers must presume impermissible use or disclosure was a breach unless it can prove undeniably there's a low probability PHI was compromised. A risk assessment will make this determination through these factors:

- The nature and extent of involved PHI, such as identifiers and the likelihood the data can be used for re-identification;
- Who used the information or to whom the disclosure was made;
- Whether the PHI was acquired or viewed
- Whether the risk to PHI was mitigated

A security or privacy incident, according to the National Institute of Standards and Technology, is an "any observable occurrence in the system or network" that violates an organization's security or privacy policies when it comes to sensitive information like Social Security numbers or confidential medical information. Ransomware is where it becomes tricky to determine if the violation is a breach or incident, as many providers assume the hacker is just shutting down the system and not viewing the data. However, with new ransomware strains able to wipe clean an entire site, the presumption may be unfounded.

For example, Emory Brain Health Center was part of a misconfigured MongoDB Database hacked in January that wiped the data of more than 200,000 patients. These types of files are often used for medical fraud and forgery of medical bills. While there is still time for the provider to report the incident to its patients and OCR, Emory has yet to do so, at the time of publication.

Other Providers may also be viewing ransomware as security incidents instead, as organizations like Hollywood Presbyterian Medical Center, Kansas Heart Hospital and other major health systems were hit with ransomware attacks that shut down systems in 2016. However, these attacks weren't reported to OCR as a breach. **– JD**

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Connecting with patients: the value of patient experience programs

TA core tenet of value-based care is improving the patient experience. Nancy Ragont, CDW's senior manager, customer insights and leader of the company's healthcare marketing group, discusses the role of technology and best practices for creating a successful patient experience program.

How do you assess the role of technology in enhancing patient engagement/experiences?

Patient experience programs are bigger initiatives than most people think. They're more than just how do you greet patients. They're really about redefining the care life cycle. As such, technology is being used to create better communication from the point of initial contact to departure.

One tool that has the potential to greatly enhance the lives of patients is the patient portal. Some practices and health systems are using these, but not everyone is. To get the most out of this technology and really empower patients, it's important to realize that sometimes patients need to be shown how to use the patient portal. Not all patients engage with technology frequently, so it behooves healthcare providers to make sure their patients know how to use this tool to access their records, make appointments and communicate with their caregivers.

How do you determine the priorities for clinicians and patients when considering patient engagement initiatives?

From the clinician side these initiatives and their associated technologies have to put the patient at ease and have to be easy to use. The training, too, has to be simple. Any associated technologies need to be on all the time, be reliable and make clinicians more productive. Patients, too, want the overall experience and the technologies to be easy to use and reliable, but they also want to be able to be in control. To make their own care decisions and to be able to communicate with their caregivers on their own terms. One aspect of being able to be in control is the ability to access their healthcare and providers anywhere, anytime. The whole patient experience transformation is centered around personalizing the experience for patients. This is where technology like a patient portal works well. Ninety-five percent of patients responding to one of our patient experience surveys said that they experienced benefits by engaging through a patient portal.

How do you identify outcomes, best practices and lessons learned around patient experience initiatives?

There are so many best practices and lessons learned, but a couple stand out.

It sounds corny to say this but successful patient experience initiatives really do take a village. Organizations shouldn't just expect that hiring a chief experience officer is going to be enough to improve their patient experience. Buy-in from everyone in the organization is needed. And while technology is necessary to enhance the patient experience, it's important to recognize that a great patient experience is far more than technology. It's also about the staff and the facility – how the facility looks and how it and the staff make the patient feel when they're in the facility.

A key best practice is having an innovation training program. In such a program, people are taught what makes a good patient experience and how to identify the signs of a bad patient experience so they can jettison things that aren't working. One of our clients feels so strongly about providing a good patient experience that they train everyone about patient experience – why it's important and what it means to the organization and to patients.

Nancy Ragont
CDW

What are some of the challenges for improving patient engagement and patient experience?

Costs and buy-in are two of the biggest challenges. With the value-based care model putting patient experience front and center, everyone recognizes they must invest in patient experience programs, but it costs money to put technology and security in and it costs money to train people and to sustain and manage the program.

Without buy-in, especially from the C-suite, you won't be able to get the funding or other supports for patient experience initiatives.

What are some of the greatest motivators for improving patient engagement and patient experience?

One of the biggest motivators is the transition to value-based care models that put patient experience in the forefront. To get paid, to reduce costs, to avoid penalties from things like readmissions and to provide the highest quality of care, health organizations see the value of investing in patient experience programs. Successful patient engagement programs create better connections and partnerships between patients and their caregivers. Patients who are comfortable and satisfied with their care and their care experience will keep coming back and will trust their care to their caregivers. If they don't get good care or have a good care experience, they know – and their caregivers know – they can and will go somewhere else.

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Virginia Prescription Monitoring Program scores $3.1M grant

The donation from Purdue Pharma will help integrate PMP data into provider and pharmacist clinical workflo

JESSICA DAVIS, *Associate Editor*

THE PRESCRIPTION MONITORING PROGRAM of Virginia was awarded a $3.1 million grant from Purdue Pharma, a biopharmaceutical company.

The funding will help integrate PMP data into provider and pharmacist clinical workflow, using NarxCare technology developed by Kentucky-based Appriss, which will connect the state's PMP to provider and pharmacy EHRs, officials said. Appriss operates Virginia's PMP.

The integration is another step toward combating opioid addiction and overdose in the commonwealth.

Providers and pharmacists can use the Virginia PMP database to check a patient's history for certain prescriptions reported both in-state and out-of-state pharmacies, officials said.

The integration of PMP data with EHRs will make it easier to detect patients who shop for doctors to gain access to opioid prescriptions, officials said. And improve performance, access and usability of the PMP, which will contain the data of over 18,000 providers and 400 pharmacies in Virginia by the end of 2017.

"The epidemic of opioid addiction is a public health emergency in Virginia, and combating it is a top priority for my administration," said Democratic Virginia Governor Terry McAuliffe in a statement. "The Prescription Monitoring Program is a critical prevention tool that helps curb abuse of prescription medications, and I applaud this enhancement that makes the PMP easier and more likely for physicians to use."

"This upgrade of Virginia's prescription drug monitoring program will allow health providers and pharmacists to more effectively flag at-risk patients and curb prescription drug abuse as we fight against our commonwealth's opioid abuse epidemic," David Brown, Director of the Department of Health Professions, said in a statement. ▪

Trump: ACA replacement might not be ready until 2018

During an interview with Bill O'Reilly, Trump said his administration would at least have the 'rudiments' for a replacement by the end of the year or into 2018. But he gave no details about how it would be accomplished, or what it would look like

JESSICA DAVIS, *Associate Editor*

DESPITE PROMISING THE demise of the Affordable Care Act within the first 100 days of his administration, an ACA replacement may not be ready this year, President Trump said during a Fox News interview with Bill O'Reilly on Sunday.

The statement is contrary to multiple assurances made by Trump and Republican Party members that Congress will repeal and replace the law as soon as possible.

"Maybe it'll take some time into next year, but we're certainly going to be in the process; very complicated," Trump said. "You have to remember Obamacare doesn't work, so we are putting in a wonderful plan.

"It statutorily takes a lot to get; we're going to be putting it in fairly soon," he added. "I think that yes, I would like to say by the end of the year, at least the rudiments. But we should have something within the year and the following year."

The assertion included no details on how Trump intended to enact the replacement, but he said he was confident his administration could accomplish it.

This past month, Trump signed an executive order that gave the U.S. Department of Health and Human Services the power to ease regulatory requirements and ease "unwarranted economic and regulatory burdens" of the law – essentially jump starting the process of unraveling the ACA.

Additionally, he said he wanted to introduce the replacement after the Senate confirmed Rep. Tom Price, R-Georgia, as secretary of Health and Human Services. The vote is scheduled for this week.

But longtime repeal advocates have begun to speak out about the need for repair, rather than replace.

At a meeting of the Senate Committee on Health, Education, Labor and Pension, Sen. Lamar Alexander, R-Tennessee, used the metaphor of a collapsing bridge: "You send in a rescue team and you go to work to repair it so that nobody else is hurt by it and you start to build a new bridge, and only when that new bridge is complete ... do you close the old bridge," he said.

"No one is talking about repealing anything until there is a concrete practical alternative to offer Americans in its place," said Alexander.

Repealing the ACA without a replacement could leave more 30 million people uninsured by 2026, according to a Congressional Budget Office report released in January. ▪

Ready for MACRA? Not quite yet, survey shows

Health systems have yet to roll out comprehensive strategies to comply with the Medicare Access and CHIP Reauthorization Act, better known as MACRA, according to a study published by Health Catalyst and Peer60. Whereas most respondents expect to participate in MACRA, in fact, only 35 percent said they currently have a strategy for doing so. Even though 2017 has been designated as the first reporting yea , the survey found that some 40 percent of respondents said the biggest challenge is compiling the metrics necessary for regulatory reporting, and 18 percent ranked the second biggest challenge as coordinating care between doctors and patients. That said, despite the slow progress on MACRA, two-thirds of small and medium-sized hospitals that have a strategy in place expect to either receive a bonus or break even, while one respondent anticipated getting hit with a penalty and nice answered that they are unsure.

DoD quietly rolls out EHR pilot at Fairchild Air Force Base

The Department of Defense turned on its electronic health record pilot MHS Genesis at the Fairchild Air Force Base in Spokane, Washington, Defense Healthcare Management Systems announced in February. This is just the first phase of the DoD s massive EHR revamp, which has been in the works for the past four years. Cerner and Leidos won a $4.3 billion contract in July 2015 to help modernize and consolidate the military EHR. "This is an exciting milestone for our team. We worked hard to get to our first (initial oper ting capability) site, and I can report firs hand from the command center that everything is going as expected," DHMS Program Executive Officer Sta y Cummings (pictured), told FCW. "Providers at Fairchild are treating patients while the government and contractor team are quickly implementing fixes to issues as they ar identified " she added. Genesis was scheduled to launch in December at two facilities, but was bumped until February at only Fairchild.

Senate confirms Tom Price as HHS Secretary

TThe U.S. Senate confirmed Georgia Rep. Tom Price to serve as Secretary of the Department of Health and Human Services on Feb. 10. Price needed no Democratic nods in the 52-47 party-line vote as Republicans hold a 52-seat majority in the Senate. Democrats did protest Price's confirm tion during debate on the Senate floor due t the Georgia representative's stance against the Affordable Care Act and for supporting an overhaul of Medicare using a voucher program, according to The Hill. Price has come under fire fro Democrats for his stock deals. During his Senate Finance Committee confirm tion hearing, Democrats accused the former chairman of the Budget Committee of buying healthcare stocks while serving in Congress and then serving on committees that made decisions that helped boost the price of those stocks. Price said he was transparent in his investments, which were made through a broker.

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With all eyes on CX, what does it mean for healthcare?

Frank Ciccone, executive director, customer experience and collaboration practice, Verizon Enterprise Solutions, leads a global team of approximately 150 sales individuals tasked with delivering high-value solutions and specialized technical sales, for Verizon's collaboration and CX services.

Why is it important for healthcare organizations to expand their view of 'customer experience' beyond patient care?

Healthcare has historically viewed patients as "care receivers," but patients not only purchase and consume care and treatment services, they also engage with healthcare organizations across a multitude of touchpoints distinct from their care and treatment. They interact with your scheduling team, your insurance and billing department, your on-site pharmacy, your pastoral care teams, your patient advocacy representatives, your rehab center and your diagnostic services departments, just to name a few. They may call or use other channels to make appointments, find out test results and seek guidance and support for care decisions. If you're a payer, they're seeking information about claims, benefits and health resources. They go to your website for directions, hours of operation, contact information, legal forms and clinical information resources. And they increasingly want the ability to do that seamlessly from a mobile device and have that experience customized to them personally. Understanding that your patient is a person first, then a customer and then a care receiver can help you step back and broaden your view of how your patient customers are experiencing your organization across their spectrum of interaction.

What does channel consistency mean and why does it matter to the customer?

According to a recent study published by the Journal of Practice Management, patients cited poor customer service as their number one complaint when interacting with provider organizations, not care or quality of care. Should that surprise us? Poor communication, disorganized and dysfunctioning websites, broken links in emails and on web pages, getting the "run-around" with automated call routing – these are the things that frustrate all customers, but consider the heightened frustration and anxiety this causes for patients and caregivers when seamless support and ready resources are needed most.

Your patients and members are no different than any other customer. They want options. They want the convenience of using your website for information or viewing your resources from their mobile devices. They also want the peace of mind that comes from being able to pick up the phone and quickly (and painlessly) get to the right person or resource when their need is urgent. These channels shouldn't feel like distant relatives. Your patients need to feel they're getting the same high level of service regardless of which channel they're using.

So, how can healthcare organizations improve on their current strategy for addressing customer experience?

The ideal approach is an adaptive customer experience. Using analytics, such as artificial intelligence (AI) and contextual learning to spot common service patterns during customer interactions, can predict a next best action and shape options to meet their preferences. It helps them navigate the simplest route to their destination – whether that's scheduling an appointment, finding out the results of a diagnostic test, or seeking clinical counseling or treatment advice.

There aren't too many organizations that can tout a truly adaptive CX experience yet, but innovative businesses and practices are moving rapidly toward that goal. Shifting organizational culture and mindset about your patient as a valued customer must be the first step. If you want to differentiate yourself from other organizations (and healthcare delivery is an increasingly competitive consumer space), the technology is there to make it possible. Great CX depends on having great customer insight. To make adaptive CX a reality, you need to gather data from all your customer channels. Then you need to analyze it. And to achieve a truly adaptive CX, this all needs to happen in near-real time.

Frank Ciccone
Verizon Enterprise Solutions

That's no small feat. How are you going to collect that data? Where will it be stored? And do you have the skills to analyze the volume and variety of data we're talking about? For most organizations, this is going to mean working with partners that can help them set up an infrastructure to support the collection of data – and that can help them utilize artificial intelligence to gain meaningful insights. It's also going to mean breaking down internal silos. Every function within your organization has a role to play in delivering a better patient/customer experience.

What is Verizon doing to support healthcare organizations and businesses that want to take the leap into CX differentiation?

We can help you engineer success in every interaction to help you improve your patients' lives and digital experiences. Some of it is as simple as integrating the interactive tools your customers are familiar with and comfortable using. Mapping the journey to an optimized CX delivery will start with looking at your infrastructure – i.e., improving the agility of your network, upgrading your virtual communication tools, addressing bandwidth limitations with WAN solutions, etc. We can help you identify the limitations of a more robust website experience with our Web Acceleration and Content Delivery services – optimizing the way digital content and service offerings are delivered to your customers.

Verizon can provide secure omnichannel CX solutions in the cloud and on premises. If you have an existing CX solution, we can monitor that environment to help keep the platforms, tools and applications you have in place up and running efficiently so that your customers have a consistent experience. And with the proliferation of mobile voice traffic, we can provide solutions that turn mobile voice calls into multimedia interactions, which provide seamless transition between mobile and contact center channels, provide pre-authentication to speed up the interaction and enable agents to share visual content, which ultimately provides a more effective service and better experience.

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Trump's Supreme Court pick: 5 things to know about Neil Gorsuch's healthcare views

The U.S. Court of Appeals judge is hailed by conservatives as a supporter of originalism – but how does that translate into healthcare decisions?

JESSICA DAIS, *Associate Editor*

JUDGE NEIL GORSUCH, President Donald Trump's Supreme Court Justice nominee, is being hailed as the "most natural successor to Justice Antonin Scalia." Much like Scalia, he supports originalism that treats the U.S. Constitution as it was written, instead of a living document.

If confirmed, Gorsuch, at 49, will be the youngest Supreme Court Justice since Justice Clarence Thomas was confirmed to the Supreme Court in 1991.

Gorsuch was named to the U.S. Court of Appeals for the 10th Circuit by former President George W. Bush in May 2006, which holds territorial jurisdiction over areas in Utah, Colorado, Kansas, New Mexico, Oklahoma, Wyoming and the portions of Yellowstone National Park in Idaho and Montana.

In his 11 years on the 10th circuit, Gorsuch has stuck to conservative values and support of religious freedom. But he also has a history of pushing back on federal agencies and regulations – including the Centers for Medicare and Medicaid Services.

Here's where Gorsuch stands when it comes to healthcare:

1. He's against assisted suicide. In his book published in 2016, *The Future of Assisted Suicide and Euthanasia*, Gorsuch railed against assisted suicide, with the argument that all human life is fundamentally valuable and it's always wrong to intentionally kill.

2. He supported defunding Planned Parenthood in Utah. Gorsuch sided with Utah Governor Gary Herbert in the re-hearing of Planned Parenthood v. Gary Herbert in October 2016, after the court originally ordered the state to fund the organization.

3. He's against the ACA contraceptive mandate. In two widely-publicized cases in 2013, Hobby Lobby Stores v. Sebelius and Little Sisters of the Poor Home for the Aged v. Burwell, Gorsuch sided with the corporations' right to exemption of the Affordable Care Act's contraceptive mandate on religious grounds.

"The ACA's mandate requires them to violate their religious faith by forcing them to lend an impermissible degree of assistance to conduct their religion teaches to be gravely wrong," Gorsuch wrote.

4. He's tough on federal agencies and regulations. In May 2016, Gorsuch and the 10th U.S. Circuit Court of Appeals ruled against CMS when it applied the wrong law to Caring Hearts Personal Home Services, a home healthcare provider, The Kansas City Star reported. In doing so, CMS told Caring Hearts it owed the government $800,000 for services provided. But the law wasn't in place during the time CMS asked for the money back.

"One thing seems to us certain: An agency decision that loses track of its own controlling regulations and applies the wrong rules in order to penalize private citizens can never stand," the court said in its decision.

5. His abortion stance is unclear. While some say his past rulings and opinions suggest Gorsuch would be a pro-life Supreme Court Justice, he has never ruled directly on an abortion rights case. In his book, however, Gorsuch wrote that "no constitutional basis exists for preferring the mother's liberty interests over the child's life." ▪

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Making progress in the transition to value-based care

The transition from fee-for-service to value-based care is steadily advancing, but the industry is still in the early stages of making this significant move. Rohan Kulkarni, Conduent Healthcare's vice president of strategy and portfolio, discusses the industry's progress toward value-based care and how it can maximize the benefits of the model.

How far has the healthcare industry progressed in value-based care? How much farther do we have to go?

I think the needle has definitely moved in the last 12 to 24 months. Regulatory requirements have become more refined and more providers are focusing on the shift to value-based care. Results released in 2015 from the Medicare Shared Savings program indicate participants made progress in 2013 and 2014 on both quality and costs. While we are seeing more adoption of the model and steady performance advancements, I think it is hard to say how much progress is left to be made. I think it's fairly safe to say that we're still in the early days. Something we think will have an impact on accelerating the drive away from fee-for-service to value-based care is that more and more millennials are getting to an age where they're consuming more healthcare.

Everyone agrees that incentivizing value over volume makes sense – but in your opinion, what makes this transformation so important?

The move to value-based care is the overarching change and philosophy that all other improvements in the industry are built on. Not only are regulations and financial penalties making the shift to value-based care fairly inevitable, healthcare consumers are increasingly coming to expect that they will pay for actual outcomes and improved experience, not just for a service or procedure that may not actually make them healthier.

I also think there are other key drivers that are making the transformation a little more meaningful. One specific example is the increased proliferation of high-deductible plans. The nature of these plans is causing consumers to pay more attention to the costs and the results of the care they're paying for. From a consumer perspective, value-based care is how they're going to measure their health ROI. I think that perspective in the transformation is particularly important.

Is this a case where the old adage "easier said than done" rings true?

Oh, absolutely. It certainly isn't an easy transition to make. Many organizations still have a long way to go to realign around how they deliver value rather than volume.

Also, we often talk about providers and payers and other healthcare stakeholders that need to make the change, but I think it also requires more consumer participation – and that participation needs to be widespread. It can't just be certain demographics.

How is Conduent helping its clients transform and adjust to the new reality of value-based care?

I think much of the industry has not made all the necessary investments in infrastructure and processes. They continue to leverage their fee-for-service infrastructure and processes instead, and their businesses are still structured around fee-for-service. For these investments to be optimized – for investments in value-based care to be successful – effective action must be taken and it must be proactive, continuous action.

Conduent is helping our clients optimize their investments by helping them, for example, reduce their costs of care by offering them the effective, proactive patient management expertise of our clinicians and staff. In particular, Conduent Health Outcome Solutions, which is our population health management solution powered by our core services, is geared to help our clients in their transition away from fee-for-service to value-based care. Our more than 500 clinicians and staff are dedicated to understanding risk, reducing claims issues, facilitating bill payment, driving medication adherence and more. To demonstrate our dedication to our clients' goals of improving the health of their diverse patient populations and lowering costs of care, our fees are tied to the delivery of health outcomes instead of the traditional contractual, unit-based fee that we had previously been charging for our services.

The industry may soon see significant regulatory changes. How can Conduent help clients with any potential changes to the Affordable Care Act?

Conduent has a very long legacy. We have been in the healthcare business for well over 30 years. That shows we have been through all kinds of regulatory changes in the past, and we have what it takes to weather whatever comes in the future. While we, like our clients, can't predict the future, our decades of experience make us a reliable partner to our healthcare clients. We know how to handle changes and the uncertainties of potential changes, and we can help make those changes smoother for both our commercial and governmental clients.

Rohan Kulkarni
Conduent

"The move to value-based care is the overarching change and philosophy that all other improvements in the industry are built on."

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About Conduent

Conduent is the largest pure-play business process leader and a major player across all aspects of the healthcare industry, handling everything from claims processing to patient records and workflow. The company employs more than 500 healthcare clinicians, manages the top 20 U.S. managed healthcare plans and supports 9 of the top 10 pharma and life sciences companies.

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NIST weighs in on EHR copy-and-paste safety

In collaboration with ECRI, a new report outlines best practices, suggesting that copy-and-paste data should be easily identifiable, with its original source easy to discern

MIKE MILLARD, *Editor*

THE NATIONAL INSTITUTE of Standards and Technology's recent study, "Examining the Copy and Paste Function in the Use of Electronic Health Records" aims to shed light on the widely-used but controversial copy-and-paste functionality in EHRs, exploring how care providers use it and seeking ways to ensure it maintains patient safety.

Previously, ECRI's Partnership for Health IT Patient Safety has issued four recommendations for clinicians' use of copy-and-paste: Provide a mechanism to make copied/pasted data more easily identifiable; make sure the provenance of such data is readily available to anyone accessing the EHR; ensure staff are trained about the appropriate and safe use of copy-and-paste; and work to ensure those practices are regularly monitored and measured.

In this report, researched in partnership with ECRI and the U.S. Army Medical Research and Materiel Command's Telemedicine and Advanced Technology Research Center, NIST's human factors research uncovered some potentially problematic trends with regard to volume, attribution and veracity of clinical data when copy/paste is used.

By examining the AHLTA electronic health record platform used by TATRC, NIST found that an essentially unlimited ability to extract volumes of data with copy and paste can cause important pieces of patient data to be missed in overpopulated fields full of "convoluted and/or irrelevant information."

But clinicians need to know where that data came from: "who copied and pasted it, what was added to/edited in the information and the date and time the information was copied and pasted."

Given that EHR end-users sometimes forget or neglect to properly review and edit all the data they've copied and pasted, and that oftentimes they're not provided with system features that enable efficient editing, which can lead to issues with the material's accuracy and usability, according to NIST.

As such, the report offered several recommendations for safe use of copy-and-paste.

First, it bolstered ECRI's call to develop a way to make copied/pasted data more easily identifiable.

"EHR systems must be designed to enhance the visibility of the information being selected for copy and paste to prevent users from inadvertently copying only part of the information that was intended to be copied which could minimize the possibility of incomplete reuse of information that could lead to morbid/mortal errors," according to the report. "EHR systems should provide a concept for

reconciling that the copied information was read consciously and edited by the clinical provider which would promote the attribution of the source of the information."

Next, it also agreed with ECRI that the source of duplicate material should be made readily discernible.

"User interface must display the 'chain of custody' of the information associated with the use of copy and paste," said NIST researchers. "However, this information should not be displayed by default, and be shown only on user demand to avoid the possibility of overwhelming clinical users and contribute to errors of commission (taking an incorrect action)."

NIST also offered additional human factors recommendations for other key clinical areas such as vital signs, allergies, surgical notes, medication entry discharge summaries and more. They can be seen in the full report at NIST.gov. ▪

UC Berkeley lands $3.6 million from NIH for infectious disease surveillance

The research team will focus on the development of a method to optimize surveillance networks that detect infectious diseases

JESSICA DAVIS, *Associate Editor*

THE NATIONAL INSTITUTES of Health awarded a $3.6 million, five-year grant to a University of California, Berkeley School of Public Health research team, UC Berkeley announced Feb. 1. The funding will support the researcher team's project to develop a method for simulating and optimizing surveillance networks that detect infectious diseases, officials said. The team will partner with both the U.S. and Chinese Centers for Disease Control and Prevention.

Researchers will use big data to eliminate the issues of monitoring infectious diseases on a global level, such as tracking disease elimination campaigns, detecting co-infections and increasing rare disease detection in high-risk populations. The focus will be high-priority global infectious diseases, like tuberculosis and malaria.

"Targeted and efficient surveillance systems are critical to detecting outbreaks, tracking emerging infections and supporting infectious disease control efforts, particularly in low- and middle-income countries where estimating the distribution of disease is a major challenge."

– Justin Remais

Further, the research team will develop statistical techniques for integrating complex data from multiple surveillance systems, improve surveillance informatics and create algorithms able to predict the way these systems work under different configurations.

The National Institute of Allergy and Infectious Diseases will provide project funding, under NIH's Spatial Uncertainty funding opportunity. Beijing Institute for Microbiology and Epidemiology, Emory University and the University of Florida will collaborate on the project.

Justin Remais, associate professor of environmental health sciences at UC Berkeley School of Public Health, will lead the project.

"Targeted and efficient surveillance systems are critical to detecting outbreaks, tracking emerging infections and supporting infectious disease control efforts, particularly in low- and middle-income countries where estimating the distribution of disease is a major challenge," said Remais in a statement.

"We need to take advantage of new, vast health datasets to identify surveillance strategies that are effective under changing epidemiological and environmental conditions," he added. ▪

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Reordering the global healthcare landscape through digital transformation

All over the world, technology is bringing about new realizations and opportunities to healthcare organizations. Neil Jordan, Microsoft's general manager of worldwide health, discusses how the digital transformation is reordering the global healthcare landscape.

What does digital transformation mean to you?

Digital transformation is a term that everyone is using, but at Microsoft we're focused on pragmatic digital transformation – steps that can be taken at whatever stage in the digital journey a customer is at. To that end, we have pinpointed four areas of importance in the healthcare digital transformation.

We start by focusing on engaging patients. That could be as simple as providing a virtual health consult or, in terms of something more advanced, monitoring a patient remotely. It can even mean engaging with patients before they become patients by using public or population health to engage in education and prevention.

Then we look at empowering care teams and optimizing clinical and operational effectiveness. Care teams can be empowered by enabling them to offer great levels of care coordination through the use of technologies like CRM (customer relationship management). We optimize clinical and operational effectiveness by harnessing the power of data analytics to get ahead of possible operational and clinical issues.

Finally, we focus on transforming the care continuum – how to use technologies such as genomics and full cognitive predictive analytics to transform the health ecosystem, which is shifting away from treating sick people to prevention and management of long-term, chronic conditions.

What are the biggest trends in healthcare that you're seeing globally?

The first one is the move towards managing the effects of chronic disease, and that is seen through a shift away from payment for procedures to payment for value.

The second biggest trend is the realization that the electronic medical record is the foundation for the digital transformation journey. Countries that have done that big wave of electronic medical record deployment are now looking for that next stage of unlocking and delivering value. In other words, more value is created not through a system of records like the electronic medical record or personal health record, but through systems of insight and systems of engagement.

How do you see innovations like remote patient monitoring, virtual health and advanced analytics play into this?

They're the underlying technologies of healthcare's digital transformation journey. Just as one example, if you look at advanced analytics and genomics, there are some exciting things happening in that space. As much larger amounts of data become available and we're able to make more direct clinical connections, we'll unlock a whole new layer of personalized insights that will mean medicine is practiced not with just curing disease in mind, but preventing it.

Last year, you mentioned that the health industry needed to fully commit to the cloud. How has the health industry made progress since then?

Neil Jordan
Microsoft

In the U.S., the conversation has shifted from 'Can my data be private and secure enough in the cloud?' to 'Can all of my data be private and secure enough if I don't use the cloud?' What I mean by that is because of technologies like advanced threat protection and the management of multiple device types, healthcare organizations are realizing they need the cloud as a way of managing their identity, managing their security, managing their privacy in a very granular way.

Outside the U.S., the big shift I've seen is in countries where the laws were initially prohibitive about using cloud technology. Now we're seeing a lot of countries produce these cloud-first policies. Look at HSE Ireland (Ireland's health services provider) under Richard Corbridge. That country's health services provider has said we're going cloud first and if any healthcare organization isn't putting its data in the cloud, it will need to get an exception. We're seeing more countries move in that direction, even in countries like Germany where there are very strict, almost anti-cloud policies.

Overall, we're starting to see a softening, a better understanding, of what's available, and more customers are moving to the cloud. This brings high levels of commodity; it brings high levels of innovation – and a much faster pace of innovation – than we've typically seen.

As a company, we have made sure that we are taking a viewpoint around cloud that isn't a black-and-white one. We've been helping customers move to the cloud at the pace that makes sense for them. For example, one of our customers from Germany wanted to do some advanced analytics, but it wasn't possible for them to move all their data to the cloud. We were able to accommodate their situation because we have a hybrid environment. We could take their data stored at their premises, move it to the cloud for the advanced analytics, then shift all the data and the analysis back to their premises. That really allows us to work around the realities of the laws or even, misconceptions of the cloud.

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About Microsoft

Microsoft empowers health organizations to improve collaboration among caregivers and patients, speed access to actionable information, and gain insights to using technology that's as powerful as it is familiar.

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Innovations excite, but impediments persist

AS THOUSANDS of diverse stakeholders from the healthcare and health IT industries arrive back home from HIMSS17, ready to put new insights learned in Orlando to work at their own hospitals, medical practices and offices, a key paradox of this grand venture – digitization of the nationwide care delivery system – remains clear.


MIKE MILIARD, Editor

Simply put: Some parts of this evolution are happening faster than others.

Healthcare has come an almost unimaginable way over just the past decade: moving from crowded shelves of dog-eared paper files to millions upon millions of electronic health records – from the smallest critical access hospitals to the most well-endowed academic medical centers.

And other species of healthcare technology seems to get more advanced and wow-worthy every day. Indeed, in some areas we seem to be pushing the envelope of innovation in ways almost unthinkable even a few years ago: precision medicine, blockchain, artificial intelligence and machine learning. All offer tantalizing glimpses at the way healthcare could transcend its current state in the very near future, to offer heretofore unparalleled quality, coordination, convenience, cost-efficiency, ease of access and efficacy.

But at the same time, it's undeniable – and undeniably frustrating – that vast swathes of the healthcare ecosystem remain stuck. Unable to exchange data with the ease and speed they'd prefer, saddled with dozens or hundreds of government reporting requirements that often seem to be of dubious value, tethered to suboptimal EHRs whose interfaces are aggravating, and feel clunky and anachronistic compared to the sleek and intuitive design of the smartphones in their pockets.

And that's to say nothing of the nervous game of vigilant whack-a-mole that seems to be the current security climate in an industry beset on all sides by hackers and assorted other cybercrooks.

For all the excitement about cognitive computing and gene editing – almost all of it deserved – the reality for many providers of modest means is that they remained mired in a frustrating stasis. Basic data exchange remains problematic. A recent report from Black Book showed that 41 percent of hospital administrators are having challenges exchanging EHR information with outside providers. Worse, 25 percent say they can't access any data from external sources.

Meanwhile, 70 percent of hospitals said they weren't using patient information outside their EHR – that provider data is missing from their EHR systems' workflow – and 22 percent of medical record administrators said the external data that was available to them isn't presented in a useful format.

Things aren't much better for the physicians trying to make the most of the EHR investments: 82 percent of independent practices polled by Black Book said they weren't confident that their EHRs had the connectivity and analytics to manage the imperatives of value-based care.

Before HIMSS17, I spoke with Kathleen Sheehan, program director for meaningful use at UHS. She said lack of interoperability was hobbling the health system's ability to have a "complete digital record." For all the success of the MU program in spurring EHR uptake, data exchange was still lagging, she said.

"Our performance for exchange under meaningful use in 2016, our highest was 30 percent," said Sheehan. "Why? Because there's not enough community providers to send electronic mail to, because they don't have it."

Her suggestion was to look for a better way forward, one that enables providers to embrace more inclusive and less restrictive avenues of data exchange.

While the Office of the National Coordinator has its reasons for developing such voluminous and stringent requirements for certified EHR technology, for example, "we don't have to wait for everyone to adopt certified technology to get the benefits of interoperability," Sheehan argued. "Providers need to know the value proposition associated with exchange. They don't need to have a certified EHR. If we can just get exchange rolled out across the continuum, that's interoperability."

Stakeholders across healthcare need to come to a consensus on the "key components for meaningful exchange, and then let's start exchanging," she said.

Easier said than done, of course. But in an industry where dizzying advances in technology were on dazzling display in Orlando this past month, it's clear the aptitude and ability exist to solve big problems. There's no shortage of exciting progress being made across healthcare. But some of those skills should be brought to bear on some of the less sexy – but no less important – areas of user experience and data exchange. ▪

From information, to knowledge, to wisdom

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BRIAN AHIER, *Medicity*

I HAVE A CONFESSION to make: I am a data geek. I love the clear and precise nature of data. Data are foundational to everything. Properly organized data become the building blocks for information, which leads to knowledge and ultimately, wisdom. Medicine is a data rich science, with both structured and unstructured data of a variety of types. If you are a data geek like me then health care should be in your sweet spot.

However, gathering and aggregating these data, even as discrete elements, is of limited value if they can not be shared. Interoperability is required to really make use of these data and a business model that considers hoarding data to be some sort of advantage is doomed to fail. Data longs to be free.

TRUE INTEROPERABILITY

Interoperability between systems and platforms helps improve performance and helps ensure the right data, at the right time, is where and when it is needed to provide the best possible care. Nationwide interoperability is expected from the U.S. Congress, based on the MACRA Law as well as the 21st Century Cures Act.

The entire healthcare industry, including providers, payers, vendors, policymakers and patients, have come to understand the critical need for interoperability to succeed in a transformed health system that pays for value and outcomes rather than procedures or number of visits. A physician friend of mine puts it like this: "I want to get paid for what I do for my patients not what I do to them," she says. "But I can't manage what I can't measure, and gaps in data lead to gaps in care."

There are a number of initiatives and coalitions attempting to address this need; the Sequoia Project (with the eHealth Exchange and Carequality), the Commonwell Health Alliance and DirectTrust, just to name a few. These are all admirable and successful efforts (disclosure: I am on the Board of Directors for both DirectTrust and the Sequoia Project).

But once standards-based exchange is achieved, then it is the use of these data that becomes the key focus. Interoperability is the ability of computer systems or software to exchange and make use of information. Simply transferring bits and bytes around is not the end of the story, but only the beginning. Most exchange today centers around transactional data, but patients should be the focus, not transactions.

Of course peer-to-peer connectivity using industry standards does help systems to be interoperable, providing possibilities for improved care, and yet clinicians still have gaps in care as the data picture is often incomplete.

There is also the problem of electronic health record fatigue from having to click through too many screens, which can lead to burnout and further damage the care process. It takes a robust clinical data network to provide a full longitudinal care record, and a well-designed user interface to make workflow adjustments seamless. Extending network reach by getting the data clinicians need more quickly and efficiently will help to solve for some of these issues.

INTEROPERABILITY SEE PAGE 17

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Reimagining a future healthcare workforce in lockstep with emerging technologies

Thomas Jefferson University Hospital CEO Stephen Klasko is striking some surprising partnerships to advance a bold vision that disrupts both care delivery and the education of people who work in the industry — as well as those who will be critical a decade from now.

Stephen Klasko, MD

THOMAS JEFFERSON University Hospital now occupies America's first Federal Reserve building. Within that downtown-Philadelphia address is a massive vault that, rather than locking away money, is a makerspace open to entrepreneurs and innovators.

"Our students hang out in a 100-year old vault working on 3D printing and virtual reality," said CEO Stephen Klasko, MD.

And if Klasko fulfills one of his goals some of those students and others will have the opportunity to earn full professorship — not by winning NIH funding or conducting groundbreaking research on microbiology — rather via entrepreneurship and innovation.

INNOVATION PULSE


TOM SULLIVAN

UNDERCOVER CEO

With kids on the way home from Alaska, New York and Tampa, Klasko ended up in the hospital himself on the Friday before Father's Day.

The traveling kids, of course, had no idea their father was in an emergent situation but because Klasko has signed up for Thomas Jefferson's Virtual Rounds, which uses Bluejeans technology, to notify and speak with them from the hospital.

"The kids say I offered them each a new car because I was post-anesthesia," Klasko cracked.

Then he took a step back and realized the healthcare system at large could have been providing that service with FaceTime or Skype years ago – or even just the plain old telephone system two decades back.

"That was my undercover boss moment," Klasko said.

His takeaway? The current level of customer service, in which a family member has to call the patient, who is not always the most informed about what is happening, is not sustainable.

"The issue is how we use tech to enter the consumer age," Klasko said. "The first thing that has to change is to look at how innovation fundamentally disrupts what we do with patients because patient service, if it wasn't the fact that it's other peoples money, no one would tolerate it."

SURPRISING BEDFELLOWS

To improve the patient experience it provides, Thomas Jefferson struck an accord with what might ostensibly appear to be an unlikely partner: Philadelphia University.

"We are merging with one of the top 10 design universities in the country," Klasko explained. "The future is going to be all around design of the patient experience and that's what these guys do really, really well. We can bring those leaders around to redesign healthcare. We have as part of Thomas Jefferson a top design school, a top architecture school and a top healthcare school."

Klasko is already working on elements of design around food services, and determining whether Thomas Jefferson should partner with OpenTable or Grubhub and bring food in from outside, rather than trying to transform its own kitchens into a competitive culinary specialist.

NEXT-GEN JOB SKILLS

To support its grand vision of transforming healthcare education and, in turn, the workforce, Thomas Jefferson created the Institute for Emerging Health Professions to identify jobs that will be needed ten years from now.

Klasko and his team, for instance, worked with Epic CEO Judy Faulkner to query her employees about that topic and among the most interesting that came back: people with dual-degrees in genomics and computer science.

Klasko said Thomas Jefferson is working to establish the first masters program on Cannabis medical education and research because it's now legal in many states.

"But unless you are in Colorado or the Grateful Dead," Klasko said, "that is not happening anywhere."

The hospital is also working to establish the first certificate program at a national academic center for telehealth and is bringing people from TV and communications to create this program, ahead of its July start date.

PROFESSORS OF INNOVATION

Now, a word about those students in the vault working on cutting-edge technologies.

"We are going to create a way for those people to be professors of entrepreneurship and innovation," Klasko said.

The health system is also operating the PIER (Partners in Innovation, Education and Research) program that enables innovators to work through one channel to potentially introduce emerging technologies to eight hospitals in the Philadelphia areas.

While the city is growing as a health innovation hub and some affectionately refer to the hotspot of upstarts in the North 3rd Street area as N3rd (Nerd) Street, they are attracting people from all over the country.

Like many other hospitals running innovation labs or startup accelerators, Klasko said some of the technologies will become actual products and commercialized, though the overarching aim is to improve the patient experience for the 2 million lives Thomas Jefferson serves each year.

The central question, then, that Klasko strives toward answering:

"What are the disruptive things that happen in every other part of my life that don't happen in healthcare?" ▪

INTEROPERABILITY CONTINUED FROM PAGE 16

With a powerful network clinicians can focus on the latest, consolidated clinical data which are relevant to a specific encounter. By injecting concise clinical views into workflows more quickly, clinicians are able to spend more time caring and less time searching. Cain Brothers consider data in their Healthcare Success Hierarchy (see image above) and state, "The best way to think about data is to picture it as the middle layer in a three-part hierarchy that depicts the climb between care delivery and customer engagement."

Data storage today is almost boundless and very inexpensive. Hard drive capacity has increased 250,000 times over the past 60 years, while the cost per megabyte has dropped more than 99.99 percent. My smartphone has way more data storage capacity than my first computer did 30 years ago. With cheap, ubiquitous data we are aggregating massive data repositories, creating what many people call "big data."

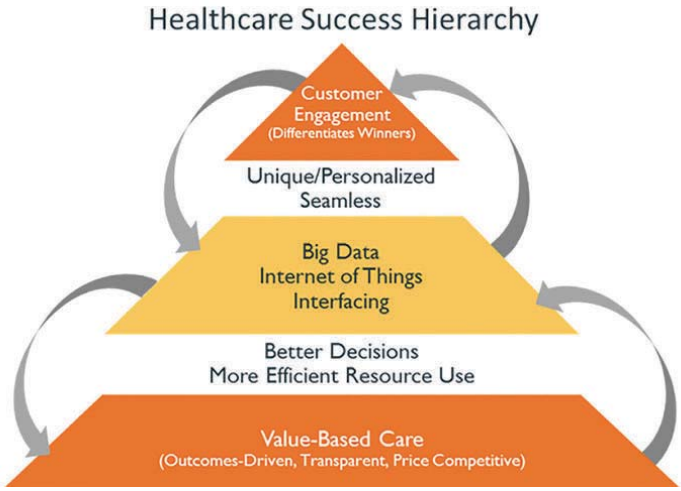
These data are valuable, but only if they can be combined and analyzed in ways that provide actionable insights. Today's search algorithms can find targeted data almost instantaneously, identifying patterns and building a foundation for analytics tools that collate, assess, interpret and visualize data and bring meaning to unstructured information. These tools, when used intelligently, foster informed decision-making.

TURN ON THE ELECTRICITY

As the movement towards value based care continues to accelerate, the value of your data asset increases. As I have said, data is the currency of the next century. Others have drawn an analogy to energy – calling data the electricity of our generation. Any way you look at it, data is right in the midst of health reform and innovation.

But in the real world, data is often dirty and messy: Using incorrect or overly complex terminology, values with incorrect units and no interpretation, or unstructured data which is difficult to parse. Therefore, data normalization is an important concept to keep in mind. Normalization occurs by organizing data such that we reduce data redundancy and improve data integrity. Clean "good" data obviously has greater value. We look at the value of a strategic data asset in three tiers:

- Data has value
- Organized data has increased value
- Organized and normalized data has exponential value



Scott Fowler, MD the CEO of Holston Medical Group, wrote recently that collaboration is the best way to speed problem-solving and work toward achieving the Triple Aim – and that open platforms are key to enabling that.

He is exactly right. The old way of thinking is not going to work in a transformed health system. This is important work, for the economic security of our country, but most importantly for the health and wellness of those we love. No one company or person can solve this alone. It is only by working together that we can fix our broken health care system. But together, we can do this. ▪

EHRs are everywhere: Now what?

Now that the bulk of the industry is essentially digitized, analytics are moving to the forefront of population risk-based and value-based care, according to Geneia CTO Fred Rahmanian

BILL WICKER, *Managing Editor*

SINCE MEANINGFUL USE incentivized what has become near-ubiquity of electronic health records, hospitals and providers are looking at what they can do on top of the digitized platform.

"The EHR market has commoditized now and the healthcare domain is coming into an era where most other domains, like the financial domain, have been for a long time – understanding risk, identifying and mitigating risk, and finding tools to do so," said Fred Rahmanian, chief technology officer at Geneia, a vendor of population health, remote patient monitoring and analytics systems. "One reason people will see a lot of activity here is because of the ability to ingest a lot of data and extract insights from that data. Healthcare analytics is front and center now."


Fred Rahmanian

Healthcare organizations must understand the massive troves of data they're sitting on to best function in the burgeoning value-based care market.

"In this political climate, value-based care and risk-sharing models are going to be front and center in the next few months; they are backed by both sides of the aisle," he said. "This includes emphasizing identifying and mitigating risk at a high level and, more important, reducing the reporting burden on healthcare organizations because as they move into risk-sharing models the reporting requirements become much more strenuous."

Rahmanian stressed that when it comes to healthcare organizations and value-based care, the early bird gets the worm.

"Know your risks and identify them as early as you can, because when you go into this value-based care and shared-risk environment, that is the most important thing you need to know about your patient population," he said. "The No. 1 rule of risk management is truly knowing your risk. Healthcare organizations need to understand their populations and have proper tools that allow them to stratify their populations the right way."

Rahmanian said there are some standard ways to do this, but that as the amount of data increases and the technology evolves, so, too, do the ways healthcare organizations can identify risk.

"As we get more and more data, we can look for new risks in ways that we could not before. Something that used to be fairly remote to us was identifying patients at risk for opioid dependency, but now with the amount of data we have, maybe a collection of medical and prescription claims can help us identify for this dependency; there are markers we can find in this historical data to help us identify new patients," Rahmanian said. "There are ways to identify new risks and that's where things become very interesting." ▪


Mary Leahy, MD

Philips, Bon Secours forge $180 million population health deal

The new initiative will focus on radiology, cardiology, neurology and pediatrics

BERNIE MONEGAIN, *Editor-at-Large*

VALHALLA, NEW YORK-based Bon Secours Charity Health System, part of the Westchester Medical Center Health Network, has forged a $180 million population health initiative with technology giant Philips to improve quality of patient care.

The agreement will make the tools available to BSCHS in support of its goal to transform the delivery of healthcare to residents of New York's Hudson Valley. The initiative includes population health programs aimed at improving care and helping build healthier communities.

Philips will provide BSCHS with advanced medical technologies such as imaging systems, patient monitoring, telehealth and clinical informatics solutions and a comprehensive range of clinical and business consulting services.

A focus of the initiative is on redefining how quality care is delivered in areas such as radiology, cardiology, neurology and pediatrics to reduce how much the hospital spends on technology and services while it increases productivity and performance to boost clinical quality.

"As part of a regional health system, we want to increase standardization, connectivity and optimization of our technology resources, while still having the flexibility to invest in the innovations we need to support healthier communities," said Mary Leahy, MD, CEO of Bon Secours Charity Health System, in a statement.

The initiative will focus on healthy living and prevention and building health in communities, Leahy added.

The partnership between Philips and BSCHS builds on the existing 15-year, $500 million relationship between Philips and WMCHealth, which started in 2015. Through the agreement, BSCHS will work with Philips to optimize standardization, workflow and medical technology deployment.

With early and ongoing access to the latest Philips innovations in healthcare technology and established best practices, BSCHS aims to further improve its operational effectiveness.

BSCHS consists of Good Samaritan Hospital in Suffern, New York; Bon Secours Community Hospital in Port Jervis, New York and St. Anthony Community Hospital in Warwick, New York, along with long-term care facilities and other services. ▪

IU puts $3.2 million NIH grant to work on mobile post-ICU

The Indiana University Center for Aging Research is using a $3.2 million grant from the National Institutes of Health's National Heart, Lung, and Blood Institute to advance the development and evaluation of a mobile Critical Care Recovery Program. The goal is to provide post-ICU patients the rehabilitation they need after being discharged from intensive care units. Two million of the five million Americans admitted to intensive care units annually have or develop acute respiratory failure, predisposing them to long-term cognitive, functional and psychological impairments collectively known as post-intensive care syndrome. "Although there are certainly some community resources and rehabilitation services available to ICU survivors, these are fragmented and difficult for the post ICU patient and family to access, typically making a meaningful recovery unattainable," said IU Center for Aging Research and Regenstrief Institute investigator Babar Khan, MD (pictured).

DirectTrust calls on EHR vendors to improve clinical messaging

DirectTrust is calling on EHR vendors whose products have Direct messaging capabilities to improve the usability of their software. Listing more than 50 suggestions, the new report (open for public comment until March 30) was created by a DirectTrust workgroup comprising physicians and nurses with experience using Direct to share patient data and coordinate care. Among them:: EHR software that can send Direct messages in real time, rather than in batch mode; the ability to attach multiple, common structured and unstructured file formats (PDFs, Word, CCDA files) to a message and the ability to automate patient matching of incoming messages for patients that already exist in the recipient EHR. "Direct interoperability has provided basic connectivity," said Holly Miller, MD (pictured), chief medical officer at MedAllies and co-chair of the workgroup. "Now the health IT community needs to enhance usability and address deficiencies and inconsistencies of messaging content and functionality."

McKesson launches new analytics-as-a-service offering

McKesson debuted cloud-based analytics-as-a-service offering at HIMSS17 in Orlando in February. Called HQX Analytics, the service fills a gap for healthcare organizations that are embarking down the path to value-based care and reimbursement. "The value-based market has reached its tipping point," said Mark McAdoo (pictured), vice president of McKesson Health Solutions. "The federal government and commercial programs have moved aggressively forward with these models." As such, McAdoo added that while the healthcare industry has been talking about value-based payments for some time, McKesson is now seeing a major market develop. McKesson's portfolio helps customers assess and understand current costs, leverage HCI3 episodes of care definitions analyze a provider's data and run benchmarks to assess performance – all to help them prepare for discussions with payers. "The secret sauce," McAdoo said, "is having access to the right data and claims information to support retrospective claims, episodes of care, cost and quality."

Patient Engagement

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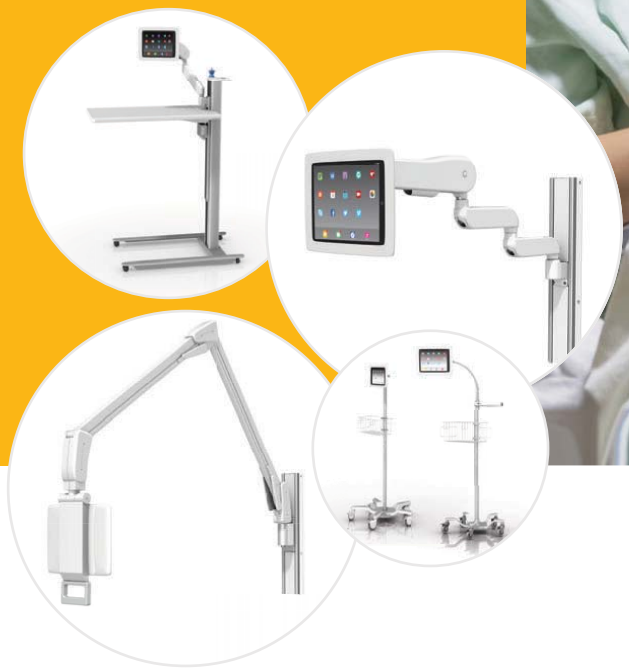

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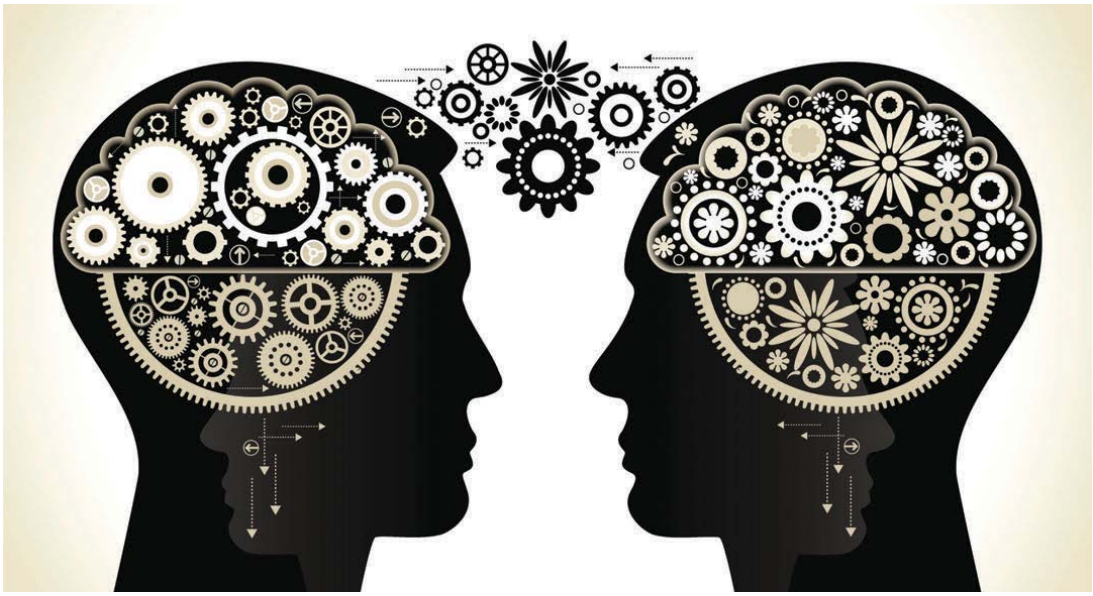
Lingering obstacles block the path to interoperability

A host of challenges – technological, financial, even cultural – are stymieing the goal so many stakeholders say they want



RAY P. LOSI, *Contributing Writer*

ACKNOWLEDGEMENT OF the value of interoperability – and the desire to implement it – are seemingly widespread in healthcare. So why is the industry still so short of achieving it? For many reasons – technology, financial or logistical obstacles, a lack of standardization, fear of new procedures or data gaps in EHR systems – the goal of being able to easily and securely exchange accurate patient data across healthcare providers remains elusive.

TECHNOLOGY ISN'T ENOUGH

Getting a handle on advancing interoperability requires that technical and business process/policy challenges are addressed together, instead of in isolation, so that there's an integration of technology and policy workflows and scaling. "Simply putting the technology in peoples' hands isn't enough," said Steven Posnack, director of the Office of Standards and Technology for the Office of the National Coordinator in the U.S. Department of Health and Human Services.

"There need to be business agreements in place and, in many cases, a business model around exchanging information that impacts the delivery of care," he added. Whatever the intention is – e.g., sending a patient for a referral, requesting information from a patient or sending an electronic prescription – the training and workflow implementation involved with interoperability technology must make it a more usable and seamless part of the health information technology and patient care delivery infrastructure.

"One of the problems with interoperability is that the CCDA is still interpretable in different ways. So not every electronic health record can understand every other electronic health record's CCDA."

— David Kibbe, MD

LAST-MILE PROBLEMS: THE FAILURE TO COMMUNICATE

There's also a gap – one of what David C. Kibbe, MD, president and CEO of DirectTrust, calls "last-mile problems" delaying full-scale interoperability adoption – between the fairly robust and reliable ability of networks to move health information data from point A to point B and the ability to use that data for clinical decision-making.

That's because not all of the endpoints – the sending or receiving EHRs – can readily send or receive the information. He likens it to making a phone call where the connection is strong but the cell phone you're calling "only receives messages in French. So if you send a message where you happen to be speaking in English or German or Spanish, that particular party at the end of that phone call won't understand it."

A corollary to that is the lack of uniform standardization for CCDAs, the formatted data messages for clinical summaries that can be generated and digested by electronic health records.

"One of the problems with interoperability is that the CCDA is still interpretable in different ways," said Kibbe. "So not every electronic health record can understand every other electronic health record's CCDA." The result can be the transmission of copious amounts of extraneous data content that the receiving provider doesn't need and can't use, instead of the core data requested for care coordination. However, efforts by ONC and private industry players are under way to obtain standardization for efficient and reliable content exchange.

GETTING CONNECTIVITY WITH EXISTING EMRS

There is an inherent challenge to interoperability presented by the simple fact that there are, perhaps, hundreds of competing electronic medical records proliferating whose construction is such that they don't match up with one another. "They don't have interchangeable parts," said Rich Parker, MD, chief medical officer for Arcadia Medical Solutions, a major aggregator of EMR data from disparate systems on behalf of health care provider organizations. "It would be like saying a Honda and a Ford have interchangeable parts."

Nevertheless, this challenge is being met in a couple of big ways – through federal rules promulgated in recent years that require EHRs to share some interoperability features in order to be certified; and by what companies like Arcadia do.

"Say you're a group of 1,000 doctors operating on eight different EHRs," Parker said.

"Instead of trying to figure out how to plug them into each other, which you really can't do, or spending millions of dollars to convert them all to one system, which usually is too expensive, you let a company like us come in and connect them." That, however, can take several months.

That dovetails with the suggestion from Erin Sparnon, engineering manager in the health devices group at the ECRI Institute: that "it would be more fruitful" if hospitals focus less on new technologies and more on getting support from their vendors to make their existing health information systems – into which they've sunk huge amounts of money – interoperable.

A KEY TO INNOVATION

According to Leigh Anderson, chief information officer at Premier, Inc., the core data providers need to integrate from multiple sources is financial, or claims information and – most importantly – clinical. "The reason clinical data is important is for population health management," he said. "You must understand the sickest people across the continuum so that you can effectively target your resources to make sure they stay well."

In Anderson's view, one way to use that data innovatively is through an HL7 standard that could deploy it for analytic visibility or workflow purposes and really make a difference. The hoped-for result is interoperability at a deeper level than a traditional HL7 solution.

"That's how I think you start to get innovation in healthcare, which is what I think the purpose of interoperability is, so that you're not just doing interoperability for it's own sake," Anderson said. "It's probably the most exciting thing to come along from an interoperability perspective in awhile."

THE FINANCIAL IMPETUS

Fee-for-service arrangements, in Kibbe's view, tend to be the fundamental impediment to interoperability adoption, because they don't incentivize care coordination or discourage duplication of services.

But with value- or risk-based, payments, it pays for providers to avoid such duplication "and to be more careful about surveying the information that comes in about the patient from somewhere else, particularly if it's recent," he said. Were the method-of-payment balance tipped more in favor of value-based arrangements in the U.S. and paired with quality and cost control incentives, "I think we would see these issues of interoperability disappear over a period of five to six years," Kibbe predicts.

Often, the biggest impetus towards interoperability is financial, where, in markets that are shifting from a fee-for-service to global payment platform, actors such as state Medicaid agencies or commercial plans are insisting on it. In Parker's view, organizations that "are feeling that financial threat will be more prone to move forward with interoperability because that's the only way they'll be able to get all of their patients in one system, to be able to do population health."

THE MISSING LINK

There's an elephant in the room here, too: Federal law prohibits the Department of Health and Human Services from setting a standard for a unique patient identifier. Beyond initiatives in which ONC, CHIME and HIMSS are involved – separately or in collaboration – to match patients with their correct data, industry organizations, including CHIME and the American Medical Association, see the adoption of such an identifier as critical to addressing many, if not most, of the problems associated with blocking interoperability.

"The prohibition on establishing a national patient identifier, as you might imagine, hasn't helped us meet the challenge of patient identification," said Sparnon. ▪

Healthcare is undergoing a massive transformation: Reimbursement is shrinking, providers are taking on more risk, and patients are more engaged than ever. The ability to use analytics to transform data into smarter business and clinical decisions will play a big role in who survives this transformation.

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Epic tops 2017 Best in KLAS awards, securing top spot for 7th straight year

Premier landed four Best in KLAS awards and won the Overall Best in KLAS for Healthcare Management, a new category

JESSICA DAILY, *Associate Editor*

EPIC LANDED THE top spot for Overall Software Suite in the 2017 Best in KLAS: Software and Services report, for the seventh consecutive year. The report draws from healthcare provider feedback.

Epic also earned the top Overall Physician Practice Vendor and Best in KLAS awards in eight segments.

Premier scored four Best in KLAS awards and won Overall Best in KLAS for Healthcare Management Consulting Firm, a new category. Optimum Healthcare IT was named top Overall IT Services Firm and earned one Best in KLAS award.

Cerner, Caretech Solutions, MedSys Group and IBM Watson subsidiary Merge each earned two Best in KLAS awards.

Verity Solutions' Verity 340B was the most improved software product with an increased score of 17 percent, while Peak Health Solutions' Peak Outsourced Coding was named the most improved service product with 21 added percentage points. The most improved physician practice product with an increase of 12 percent was NextGen Healthcare EPM.

For the first time, KLAS added Payer Solutions segments. Casenet TruCare was Best in KLAS for Case Management Solutions and Verscend Quality Reporting was Best in KLAS for Payer Quality Analytics and Reporting.

"The Best in KLAS report celebrates and recognizes vendors who have made significant strides to improve healthcare while addressing changes like payment reform and the shift to population health," said KLAS President Adam Gale in a statement. ▪


Zane Burke

Children's National Health System taps Cerner for revenue cycle management

The aim is to integrate Millennium RCM into its existing electronic health record system

BERNIE MONEGAIN, *Editor-at-Large*

CHILDREN'S NATIONAL Health System will roll out Millennium Revenue Cycle, a Cerner suite of RCM technology that will be integrated with the health system's existing Cerner EHR and scheduling platform.

Children's National includes a 313-bed hospital with more than 50 outpatient facilities.

"Incorporating financial data with our clinical systems, all on the same platform, makes sense and provides an integrated billing, analytics and decision support experience," said Brian Jacobs, MD, vice president, CMIO and CIO at Children's National, in a statement.

Children's National and Cerner began working together in 2005 with the implementation of the Cerner Millennium EHR. In September 2013, Children's National and Cerner partnered to establish The Bear Institute, the first pediatric health IT institute.

"Our innovative relationship with Children's National through The Bear Institute offers us a unique opportunity to work toward improved delivery of care for the industry," Cerner President Zane Burke, said in a statement.

Since its founding, The Bear Institute has resulted in health technology innovations such as the highly visible Quality Boards throughout the hospital that display near real-time quality and safety indicators based on patient information. ▪

3M expands partnership with life science compny Verily

3M Health Information Systems at HIMSS17 this past month offered more details about its partnership with Verily, a life sciences health data company – specifically the product calle Performance Matrix, which works to build a "a value-based platform to improve performance and manage all populations both on the provider and the payer sides," said Jason Burke (pictured), vice president of data informatics at 3M Health Information Systems. 3M also announced new products: Unstructured Data Mining, an analytics tool that can "extract more clinical knowledge from the medical records we have access to, to mine through records to glean more clinical information than people typically have access to," and launched 3M Health Information Systems, which is focused on provider-based coding. "It's about bringing that coding process and workfl w into the traditional HIM workfl w where a coder in HIM can code both facility and physician coding in a single pathway," Burke said.

Agfa builds out enterprise imaging with IBM Watson

Agfa Healthcare officials said th t it is working to build out its enterprise imaging platform and, in so doing, taking cues from smartphones and electronic health records systems. "Technology tends to consolidate," said Miriam Ladin, director of marketing at Agfa Healthcare. Just as EHRs have expanded to enable data sharing to a certain extent and smartphones now include many functions that once were sold separately — GPS, contact databases, email, music, games and flashlights just t name a few — the vendor is building out a platform that Lenny Reznik, vice president of marketing, described as purpose built. "We're trying to do the same thing in medical imaging that EMR companies did in the rest of the hospital," Reznik said. The company is building out its Agfa Enterprise Imaging Platform to serve all departments that touch imaging, Reznik added, which can be as many as 50 depending on the hospital.

Greenway Health unveils care coordination services

Greenway Health unveiled a new service centered on care coordination at HIMSS17. Greenway Care Coordination Services is "designed to help our customers participate in the Medicare chronic care management program by enabling the monthly 20-minutes of non-face-time that is required by that program," said Mark Janiszewski (pictured), executive vice president of product management at Greenway Health. "This will help providers take part in the program and offer to their patients a monthly service that helps ensure the patients are adhering to their chronic disease management care protocols." Janiszewski urged healthcare executives that have not already started planning for chronic care management and new payment models to do so sooner rather than later. "Ultimately, it's about better outcomes, lower costs and improved quality, so we need to keep our eyes on that outcome," he said.

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John Muir cuts $5 million from IT budget thanks to efficiencies from benchmarking

Chief Financial Officer hristian Pass said the company scrutinized tech spending to more effect vely manage EHR disaster recovery and underlying operating systems

HENRY POWÐ RLY, *Contributing Editor*

IT'S A STORY HEALTHCARE has heard before: Hospital installs expensive electronic health record system, must rein in spending to avoid hefty losses. For California's John Muir Health, that meant a comprehensive review of their information technology expenses that ended up saving them big on total IT costs.

"We made sure our IT spend wasn't completely out of line by looking at other facilities," said Christian Pass, chief financial officer at John Muir.

Pass enlisted consultancy The Chartis Group to help with that work.

"The consultant looked at our numbers, they looked at what some of the drivers to the expenses were and really helped us think through what was the best way to use our IT dollars," he said.

While scrutinizing IT spending, for instance, officials ended up confronting a question over how they would manage the disaster recovery system for their EHR.

"We were going to buy the system hardware and let someone else host it, but we discovered that it was less expensive and created a better service by going down an SaaS path," he said.

The process also led John Muir to change operating systems for its EHR after discovering that the IBM framework it was using was slightly more expensive than other options. The system instead switched to X86 machines, Pass said.

By working with the consultant to scrutinize its IT spend since 2015, John Muir cut $5 million in costs, an 8 percent reduction.

"The exercise was really geared toward finding efficiencies," he said. "Knowing that we had to run Epic, knowing that we had to have off-site recovery, we really set out to find the best way."

Pass, who plans to speak more about his system's experience during a panel discussion at the HIMSS17 conference in Orlando in February, said there a few essential controls needed to be able to effectively manage costs.

First is a strong governance culture, highlighted by a collaborative spirit among all C-suite titles at the operation. From his perspective, that means the CFO and the chief information officer need to work as one.

But the other control needed is a strong value in understanding the demand of systems, which means making sure you really grasp what's good enough and what their existing technology allows for before investing in new elements.

"By adding additional systems we create burden, friction and expense," Pass said. "So we are really trying first to look at what's available and how we leverage that versus going out and buying a shiny new toy." ▪


Christian Pass


Jonathan Bush

athenahealth launches health plan data exchange service

JESSICA DAVIS, *Associate Editor*

A NEW HEALTH plan data exchange service from athenahealth offers support its providers who exchange clinical data with payers for quality management, risk adjustment and performance management programs, the company announced Wednesday.

The new service creates a direct connection between participating health plans and technology partners, officials said. It connects to athenahealth's EHR, athenaClinicals, digitizing what was traditionally a manual process.

The goal is to reduce disruption to provider requests, manual chart audits by health plans and deliver clinical data to health plans in a standard format, officials said.

Jonathan Bush, athenahealth's CEO, said electronic data exchange for health plans will reduce "friction between health plans and providers in clinical data and quality reporting."

"After hearing from our providers how disruptive manual chart audits are to their practices, and how incomplete the data conveyed through this process could be, athenahealth was inspired to leverage the power of the network to help un-break the data exchange process between providers and health plans," said Bush in a statement.

The company has already connected with technology firm Inovalon as part of the health plan data exchange service, which automates transfers of structured and unstructured clinical data from athenaClinicals to Inovalon on behalf of athenahealth's clients.

The new service extends athenahealth's work with payers, which includes medical billing process automation and managing populations under complex payment models with athenahealth Population Health. ▪

Health Catalyst launches tools for care management, MACRA

MACRA & Measure Framework is integrated with the Health Catalyst Analytics Platform and Late-Binding data warehouse.

EPHRAIM SCHWARTZ, *Contributing Writer*

HEALTH CATALYST announced new software products for care management as well as MACRA and MIPS. The company said its new Care Management suite features both consumer facing and internal facing components.

One of the suite's components, Patient Stratification, uses the clinical, claims and socio-economic data in the Health Catalyst Data Operating System, the vendor's data warehouse, to identify patients where care coordination and care management services could improve their outcomes.

Two additional components, Care Coordination, designed for care team members and Care Companion, for patients and care givers, leverage the data warehouse to help the care team create and monitor shared care plans as well as interact directly with patients. This data is stored back in the data warehouse.

Care Team Insights is an analytic and reporting application that visualizes data in the warehouse to help Care Managers identify best practices and potential opportunities within the care program.

These two new products fit into the vendor's overarching strategy, according to Dan Soule, vice president of product management at Health Catalyst.

"Health Catalyst is focused on improving outcomes in all settings of care. With the transition to value-based contracting, health care providers are looking to fill the gaps in care between the acute, ambulatory, skilled nursing and home care settings," Soule said. "The current set of tools available to health providers focused on these gaps in care settings were limited at best, and generally were based on adapting traditional EMR systems to try and fit this new non-setting of care."

To that end, the company also announced MACRA & Measure Insights to help alleviate some of the pain associated with these new regulations.

The MACRA & Measure Insights Framework will allow an organization to pinpoint the measures they are doing well on and track those they are working on to improve for any payer for which they are at currently at risk.

MACRA & Measure Framework is integrated with the Health Catalyst Analytics Platform and Late-Binding data warehouse. This allows the product to integrate disparate sources, claims from CMS and/or other payers, EMR, ambulatory and other sources, to inform healthcare providers concerning their at-risk patient populations.

Organizations will be able to purchase this as a standalone product using their claims data repository and Excel as a visualization.

"While we believe that many of the MACRA and third party health plans are focused on process measures and not true outcomes, a tool like MACRA & Measures can reduce the burden associated with collecting the data and monitoring these measures, as well as helping to create a focus on true outcomes at the point of care." ▪


Ann Meehan

AHIMA: information governance should span IT, patient care, finance to be successful

As more and more hospitals implement IG initiatives, the biggest upside is proving to be the money they save, according to AHIMA director of information governance Ann Meehan

SUSAN MORSE, *Contributing Editor*

INFORMATION GOVERNANCE IS what hospitals, and in fact all organizations, need to not only tie together data from diverse departments but to trust that the information is clean, up-to-date, and privacy protected.

"It really is a concept that applies to any industry, a concept of an overarching program in a collaborative way that provides management across all information," said Ann Meehan, director of Information Governance for the American Health Information Management Association. "More and more hospitals are adopting this model."

Meehan and AHIMA work with hospitals to implement governance strategies. IG can be viewed as the technology guru, cutting across information in various departments, from patient care to financial to human resources and even contracts.

"People are doing things here and there, not necessarily across the organization," Meehan said. "There can be two different reports from two different departments, on the same thing. Collaboration gets tripped up. Some people think it's another level of bureaucracy. My point is: how many times do we have to pull a team together to fix something retrospectively?"

Perhaps its biggest selling point is that information governance saves money.

"If we're wasting time on the back end trying to figure out what went wrong with the front end, we will ultimately reduce costs because of (IG)," she said.

Standardized data helps with payment reform, bringing together the different alphabet soup of terms.

Three areas payment reform should address are improving the patient experience, population health and cost, Meehan said.

A new administration doesn't change that.

"No matter what President Trump does, it's going to address those three things," she said. "At the end of the day, we need trustworthy information. MIPS, APMs, no matter what payment model is imposed upon us." ▪

Cybercriminals deploy malware for half of successful cyberattacks, IBM study finds

Breaches rose in number last year and continued causing operational, financial and reputational damage

BILL SIWICKI, *Managing Editor*

FORTY EIGHT PERCENT of successful healthcare cyberattacks result from a criminal gaining access to a system or data by injecting malicious content. Such attacks include injecting unexpected items into a system database or through the host operating system running a website that then tells the system how to act, a new report from IBM Managed Security Services found.

What's more, 19 percent of successful healthcare cyber-attackers gain unauthorized access through the manipulation of system data structures, according to the new report entitled "Security Trends in the Healthcare Industry." Here, a hacker leverages vulnerabilities in data processing to alter the execution path of a process and then takes over.

The report also found that 9 percent of healthcare cyber-attackers attempt to manipulate or corrupt the availability or aspect of a resource's state (i.e. files, applications, libraries, infrastructure, etc.). Successful attacks here enable an attacker to cause a denial of service, as well as execute arbitrary code on a target machine.

To better understand the healthcare security challenge, IBM Managed Security Services, which processes 1 trillion security events every month for more than 4,500 clients across 133 countries, analyzed the aggregate healthcare data accumulated in 2016, the vendor explained.

In 2016, the volume of compromised records was not as great as in 2015, but breaches continued to cause operational, financial and reputational damage to healthcare organizations and, in fact, the number of breaches rose, IBM. A total of 320 breaches involving unsecured protected health information were posted by the U.S. Department of Health and Human Services Office for Civil Rights Breach Portal, an increase of 18.5 percent over 2015.

Attackers are continuing to sharpen their focus on healthcare because the exploitable information in an electronic health record brings a high price on the black market.

Ransomware is flourishing in healthcare as well. Security incidents involving this malware are expected to continue rising in 2017, and it was one of the top security threats in 2016, the IBM report found. For example, the criminals responsible for distributing the now infamous Locky ransomware focused on the healthcare industry early in the year. Numerous reports of incidents involving the malware surfaced globally in February 2016, the targets including a New Zealand health board and several hospitals in Germany.

In some cases security prevailed. But perhaps healthcare organizations are targeted more often than others in this widespread malware epidemic because attackers are experiencing relative success against them; in other words, hospitals and clinics may be more willing than others to pay for the decryption of their critical and sensitive information, especially when such attacks paralyze their operations and affect both patients and staff, the report said.

One area healthcare organizations should keep sharp tabs on is vendors, the report contended. A security posture is only as strong as its weakest link, and the weakest link may be the third-party vendor with which a healthcare organization does business, the report said. The practice of outsourcing the management of EHRs is growing and any of the scores of vendors in this space could serve as an attacker's point of entry in a healthcare data breach, IBM said. One of the largest healthcare breaches of the last five years was the compromise of a provider of software services to the healthcare industry that exposed data on almost four million individuals, the report said. ▪

Study: Insiders responsible for 6 in 10 breached patient records

Nearly 60 percent of breached patient records in January 2017 were the result of insiders, according to the Protenus Breach Barometer, a monthly snapshot of reported or disclosed breaches impacting the healthcare industry, with data compiled and provided by DataBreaches.net. January's health data breaches reinforce the importance of health data security as the need to protect patient data from insiders continues to loom large, healthcare cybersecurity company Protenus said. 2016 averaged one health data breach per day, and 2017 is off to a similar start with 31 health data breaches, the barometer found. There were fewer incidents disclosed in January than December, when there were 36, and far fewer affected patient records, 1,431,449 in December versus 388,307 in January. These numbers are based on incidents either reported to HHS or disclosed in media or other sources during December 2016 and January 2017.

Kansas HIE gives patients one-stop shop for health data

The Kansas Health Information Network in Topeka knows that patient empowerment is key to improving population health — and it knows that patients need help to be a part of the process. That's why KHIN has found a way to enable patients to receive all of their health information in one location, rather than through the more traditional electronic health record-tethered patient portal, which forces patients to use a portal for each provider. Instead, KHIN connected the HIE to a statewide patient portal in January 2015 and is now able to send patients their care summaries from hospitals and clinics across the state as well as sending discreet HL7 data. "We automatically forward to a patient's EHR, via the portal, anything that we get, including notes and reports," said Laura McCrary, KHIN's executive director. "We didn't think it was a big deal but, apparently, this isn't done much across the nation."

Hospitals having a hard time connecting with physician EHRs

A recent report from Black Book Market Research shows 41 percent of hospital administrators are still finding challenges exchanging electronic health record information with other providers. A disheartening 25 percent say they can't access any patient data from external sources. Among the other data points: 70 percent of hospitals aren't using patient information outside their EHR, saying that provider data is missing their EHR systems' workflow; 22 percent of medical record administrators said what transferred information was available wasn't presented in a useful format; 82 percent of independent physician practices said they weren't confident that their EHRs had the connectivity and analytics capability to manage the risk requirements of accountable care.

Cloud computing key to precision medicine but security concerns persist

Informaticist Nephi Walton says that the cloud can be used to aggregate and harmonize data and argues that in certain ways it is more secure than what hospitals can handle on their own

BILL SIWICKI, *Managing Editor*

PRECISION MEDICINE PROMISES to change the healthcare paradigm and create a powerful new model of care designed specifically for each individual, offering a much greater likelihood of effectiveness. But to realize much of this vision requires eliminating data silos and aggregating information from all sources – Internet of Things, patient surveys, genomic data, EHRs and more – into a central repository that gives clinicians worldwide access to this data.

Many believe the cloud will become the primary platform for data aggregation and harmonization. And that's the direction Nephi Walton, MD, informaticist and clinical geneticist at Washington University School of Medicine, is heading.

"People are misled a bit by the benefits of cloud computing in this domain," Walton said. "A lot of people are touting the advantage of data anywhere, which indeed is an advantage of cloud computing. But that is not the major role that the cloud will play in precision medicine. It's more related to the size of the data and the ability to analyze and access data quickly. And the ability to plug into cloud services of different types. There are certain things that lend themselves to cloud computing more than others, and in precision medicine it is more the large data sets involved."

A caregiver may have huge data sets, entire genomes, gigabytes on an individual. Historically, healthcare has placed all this data on huge servers; but when one has this large a data set on each patient, one really needs to use distributed computing, Walton explained.

"When you think about who is doing it and allowing huge sets of analysis, you think of someone like Google; it is using database cloud computing technology," he explained. "The advantage is setting up all of these large data sets in something similar to Google Big Table – a database structure different from standard relational databases as it allows one to use a distributed model that enables rapid access to large amounts of data. Here you can quickly access lots of information and process it quickly."

That is where the power will be in terms of cloud computing and precision medicine, he added: "You will have someone's genomic data in an accessible database where you can access all the people with certain conditions to do real-time analysis and apply new knowledge to large data sets quickly," he said.

One of the big challenges with cloud computing and precision medicine is people's fear of data security, Walton said.

"The thing people do not realize is that the cloud is probably in some ways more secure than what a lot of people are doing now," he said. "I know of some organizations that are fearful of the security of putting the data out there in the cloud but that actually have serious gaping security holes that expose them to far more risk than would happen with cloud computing. Anytime you allow remote access to data your weakest link in security is your employees' passwords. If you have any reasonable security, the weakest spot will be at the employee level."

Nephi Walton, MD

Walton said most companies that provide cloud computing services have excellent reliability and security and can provide these things on a scale that would be difficult for smaller organizations and even challenging for larger organizations.

"The issue is it is not cheap," he added. "But when you look at all the people you employ for security and backup and maintenance and so forth, for smaller organizations it makes sense to turn to the cloud; for larger organizations, it depends."

In the end, healthcare organizations must understand why they wish to get into cloud computing before they actually do so, Walton advised.

"Understand if you are doing it for the right reasons, that you have done a good analysis of not just the real obvious things and are not just jumping into the ring without fully understanding why," he said. "If you do it from the perspective of you do not want to be the person who manages servers and worry about backups and data security, essentially what you are doing is putting off a lot of your IT expenses to someone else. You can build a cloud in-house. The question is can you do it more efficiently than someone who's job and mission it is to do that. You have to make sure you know why you are doing it and the benefits you will get from it." ▪

Patient engagement: more moving parts than many realize

IT vendors are helping providers make inroads toward better engagement by targeting their tools toward specific episodes and encounters across the care continuum

HEALTHCARE NEWS, 6 *ributing Edi to*

WHILE THE healthcare industry, by-and-large, understands the importance of patient engagement in the service equation, setting up a system that empowers patients and gives them more control of the care process has been, for the most part, elusive.

Perhaps that's due to all of the moving parts in hospital workflow, relationships with post-acute providers that are still emerging and a complex customer dynamic that spreads across both provider and payer horizons.

Keeping the patient engaged amid a chaotic scheduling, clinical and financial environment is indeed a challenge. But technology companies are making inroads toward better engagement by targeting specific episodes and encounters in the vast healthcare continuum, and it appears to be leading to an improving climate of patient satisfaction and rapport with providers.

Through a commitment to developing mobile device apps that tap into the machinations of healthcare provider organizations, companies like Panama City, Florida-based Jellyfish Health are giving patients new tools for managing their episodes of care and any chronic conditions they may have.

Carmen Peralta

"We focus on the patient experience from the outpatient side – ambulatory surgery centers, physician clinics, labs and other post-acute sites," said Jellyfish CEO Dave Dyell. "It starts with patient scheduling all the way through until check out. While clinician interaction is a major part of the experience, it is the non-clinical touch points that harm the experience.

"Most patients are happy with the care they receive, but they won't come back if they waited too long to check in or spent too much time in the waiting room. Our app ensures they have the opportunity for a positive encounter," he added.

Founded two years ago in the population health space, Jellyfish sharpened its focus on individuals managing their own health – a concept with promise if they could more easily navigate the labyrinth of obstacles in making appointments, cutting through insurance coverage snafus and optimizing their time spent at healthcare facilities, Dyell said.

The cloud-based Jellyfish app organizes navigation of the provider landscape, anticipates workflow bottlenecks and keeps users up to date on their appointment status.

"It provides transparency in the healthcare experience," Dyell said.

PEDIATRIC ENGAGEMENT

As if adult patient engagement wasn't tricky enough, pediatric engagement adds another layer of complexity with the family support network. Bethesda, Md.-based GetWellNetwork aims to include everyone involved in the pediatric patient's circle of care, said Shannon O'Neill, vice president of pediatrics.

Shannon O'Neill

"When you think of how healthcare is delivered, the focus is on clinical workflows and pathways," she said. "Our software is a way to engage families in the process. It's a cross-continuum platform that includes the patient and family-facing piece to the care puzzle."

It is the family dynamic that makes pediatric care special, O'Neill says. The blended families of today often consist of more than two parents located in different places, but who are actively involved in a child's care.

The key to effective pediatric engagement, O'Neill says, is empathy with patients and their families.

"Providers have historically had good data, but they haven't had the patient voice," she said. "Understanding the true voice of the patient is where you can affect the engagement process. Getting their perspective is an important piece of the puzzle."

ALLEVIATING 'SHOCK'

Chronic kidney disease is a serious disorder that is not well known within the usual spectrum of disease state management, at least when compared to the more common conditions of diabetes, hypertension, congestive heart failure, chronic obstructive pulmonary disease and asthma. Therefore, a diagnosis often catches patients by surprise and can come as a shock to the system, acknowledges nephrologist Carmen Peralta, MD, chair of San Francisco-based Cricket Health's Medical Advisory Board.

"What commonly happens is a patient gets sent to me because the primary care physician is concerned about abnormal kidney function, and even though they show no overt symptoms, they are seriously ill," Peralta said. "If they have advanced kidney disease, this is the first they've heard about it and it is very hard news to take. The worst part is when I go into their electronic health record and see that kidney function has been in decline for a decade and nothing was done about it."

If a patient reaches end-stage renal disease, there is no time for effective engagement, she said. Therefore, she advocates public awareness campaigns to educate society about the seriousness and commonality of chronic kidney disease.

Patients with less advanced stages of the disease do have an opportunity for engagement and preventive measures, such as low sodium diets and regular monitoring of creatinine levels.

Peralta concedes she had never worked with a technology company on developing an app before, and the challenge was determining what to do once chronic kidney disease is detected.

"Their life is turned upside down – they need to learn," she said.

Cricket developed content in multiple forms – videos, online content for reading and user chat with patients who live with kidney disease.

"The people behind this technology are determined to help these patients know they are not alone," Peralta said. "It provides invaluable support about living with the disease."

"Providers have historically had good data, but they haven't had the patient voice. Understanding the true voice of the patient is where you can affect the engagement process. Getting their perspective is an important piece of the puzzle."

– Shannon O'Neil

THE PAYER PIECE

Patient engagement also has another component in the form of handling payment arrangements with the insurance companies. It is the wheelhouse of Centerville, Ohio-based PayorLogic.

At the back end of the patient engagement process, reconciling co-payments and deductibles for services can be a multifaceted source of confusion, especially for emergency room visits and inpatient stays, contends Tyler Williams, president of PayorLogic.

Misunderstandings about how much is owed "makes everyone look bad and makes the patient angry," he said.

Blame can be cast around to all parties, though Williams says patients need to be better versed at the information they need to give and providers must commit to a system that ascertains the correct profiles at intake, where 40 percent of errors are made.

"We used to work the back end to clean up messes – we would scrub to verify the patient demographic and ensure that all information was correct," he said. "But six months down the line it may not be right and suddenly the patient is getting bills from everywhere. So we built some real-time solutions for pre-registration at emergency or non-emergency and use third-party credit data to confirm. Any discrepancies are found, corrected and patient satisfaction goes up exponentially."

GETTING UP TO SPEED

While technology is facilitating the growth of patient engagement, the healthcare industry still has a long way to go in empowering patients to take control of their health, chronicle their experience and synchronize with providers and payers, said Jean Drouin, MD, CEO and co-founder of San Francisco-based Clarify Health.

"Healthcare workflows remain broken and there is no such thing as a 21st century service experience," he said.

As he's "very much an optimist and pragmatic idealist," Drouin is promoting UPS and FedEx tracking systems for real-time patient engagement practices.

"What we see is a couple fundamental trends that may finally lead providers to make the same sorts of investments that Amazon, UPS and Fedex make today in analytics and workflow optimization platforms," Drouin said. "We strongly believe that with advent of new risk-based payment models, the providers are assuming risk, leading to a greater desire among the forward thinkers to invest in the kind of systems to be competitive." ▪

ON THE MOVE


Matt Klein

Sutter Health appointed **Rishi Sikka, MD**, as president of System Enterprises, a newly created role at the health system. National Quality Forum named **Shantanu Agrawal, MD**, as president and CEO. Agrawal is the former deputy administrator and director for the Centers for Medicare and Medicaid Services' Center for Program Integrity. Allscripts added two executives: **Lisa Khorey** to the new role of chief client delivery officer and **Allen Fowles** as president of Allscripts International. The American Telemedicine Association hired Sabrina Smith as chief operating officer. **Richard Walker** joined Accumen as a senior healthcare consultant. UC Davis Health tapped **William Showalter** as chief information officer. **Matt Klein** joined the Medical University of South Carolina as chief information security officer. Northwell Health named **Ram Raju, MD**, as senior vice president and community health investment officer. Raju most recently served as CEO of NYC Health + Hospitals in New York City, the largest public health system in the U.S. California-based Dignity Health's Mercy Medical Center Redding appointed **Todd Smith** as president. **Daniel Snyder** joined Shreveport, Louisiana-based University Health as CEO. Camden Coalition of Healthcare Providers' founder, **Jeff Brenner, MD**, headed to UnitedHealthcare as senior vice president of integrated health and human services. UnitedHealthcare and Camden Coalition recently partnered to test the nonprofit's innovative care models on a national level. **MyLynn Tufte** was tapped as North Dakota's state health officer. HealthcareSource, a provider of talent management tools for healthcare, named **Bob Zurek** as senior vice president and chief technology officer. Canary Health, a digital health self-management program provider, added two executives: **Laurel Fuqua** as senior vice president of clinical operations and **Gustavo Sandrigo**, vice president of engineering. **William Plourde** joined LiveData as vice president of engineering. PatientPoint, a provider of patient and physician engagement tools, appointed **Mike Collette** as CEO. **Gregory E. Deavens** was named the chief financial officer of Independence Health Group. St. Louis-based SSM Health tapped **Kerry Swanson** to serve as president of Southern Illinois region's hospital operations. She'll start the position on April 3.


MyLynn Tufte


Kerry Swanson

Cardiologist David J. Roberts named president of North Shore Medical Center


David J. Roberts, MD

David J. Roberts, MD, who serves as chair of medicine and chief of cardiology at North Shore Medical Center, part of Partners HealthCare, will take the post of president at the regional hospital. Roberts also maintains an active practice in interventional cardiology. Roberts succeeds Robert G. Norton, who retired in December 2016. Gregg S. Meyer, MD, has been serving as interim president since Norton's departure and will continue in that role until Roberts is able to transition his other roles, which is expected to be this spring. Roberts has served as chief of cardiology since 1991 and chair of medicine since 2011. He has been instrumental in building a comprehensive cardiology program at NSMC.

Patricia Maryland to step into CEO post at Ascension


Patricia Maryland

Ascension Healthcare announced that COO **Patricia Maryland** will take the helm when current CEO Robert Henkel resigns. Maryland will assume responsibility for Ascension's healthcare division, encompassing more than 141 hospitals and 2,500 sites of care, and spanning 24 states as well as Washington D.C. Maryland received a bachelor's degree in applied mathematics from Alabama State University, Montgomery, and a master's degree in biostatistics from the University of California, Berkeley. She holds a doctorate in public health from the University of Pittsburgh, concentrating in health services administration and planning.

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Tips for managing legacy employees during big EHR implementations

Houston Methodist replaced best-of-breed clinical applications with an integrated EHR. The successful transition involved managing not just technology but, equally as important, employees across multiple teams. Here's a look at lessons learned

MIK MIIA RD, *ti to*

WHEN A hospital implements a new electronic health record system, there's no shortage of challenges to grapple with as the years wear on and the costs pile up.

Chief among them is the fact that, as the new system is being rolled out piece by piece, existing applications still have to keep in working order to maintain operational support and care delivery. That juggling act demands smart staffing strategies – not just for the IT teams getting the new infrastructure up and running, but for those professionals dedicated to supporting and maintaining the older core systems.

Houston Methodist took several years to replace its best-of-breed clinical applications with an integrated EHR. Leaders from the health system learned some lessons about the staffing pitfalls for a project of such size and scope, and have some tips on maintaining employee satisfaction, leadership strategies and balancing the needs of employees and contractors alike.

As an academic medical center with seven hospitals, a large physician practice, a research institute and a comprehensive residency program, Houston Methodist has a "fairly large" IT staff of 540 employees, said Penny Black, director, EHR & perioperative at Houston Methodist Hospital.

All those employees had to be considered when, three years ago, the system decided to replace most of its best-of-breed apps with an integrated clinical system.

"We had independent periop, anesthesia, pharmacy, EHR radiology – many of them have been consolidated by the integrated model," said Black. "Cardiology also, to some extent. One application we did not integrate would be the lab, but that pretty much covers the clinical systems."

Right away, it was apparent that openness from leadership would be a lodestar for the duration of the multiyear project, she said: "Communication, transparency, managing employee resources and our consulting colleagues is really important, no matter what the project."

Alan Perkins, associate principal with the Chartis Group, brought his expertise in organizational change management and process design to bear on the initiative, and now also serves as associate VP for clinical informatics at Houston Methodist.

"There are really three key risks that this organization – or any organization that's undertaking a large-scale, enterprise IT-enabled project – needs to take into account," said Perkins.

"The first is that if the majority of the existing IT resources are going to be dedicated to the new initiative, as they often are, the risk is that the quality of the legacy operating environment – and we're calling that core clinical – could decline," he said. "That could negatively affect adherence to regulatory requirements and key operational performance initiatives. That's one risk we sought to mitigate here."

The second risk, said Perkins, is that if staffers assigned to the new implementation retain their operational responsibilities but then are also periodically pulled in to address operational issues, progress on the rollout could be adversely affected.

"The third risk is to the IT leadership team," said Perkins. "If they're being asked to do both, that could significantly increase their workload. Trying to attend to both a large-scale implementation and existing operational responsibility could cause issues."

Black said a key part of the rollout planning was recruiting the tech professionals who would serve on the implementation team: "That was a combination of folks both from IT and from operations," she said, and once the team was put together, its members were single-minded in their new task, working apart from their "old operations, jobs, positions and colleagues."

"At one time we had more than 60 team members on the EHR team, and then one day, just five days after an upgrade, it shrunk down to 28 members," said Black. "We supplemented the existing legacy teams with consultant colleagues to help keep things running smoothly."

Perkins recommends that hospitals make use of two dedicated but symbiotic deployment support teams: "One team that's primarily or exclusively focused on the new initiative, another that's primarily or exclusively focused on existing operational support," he said. "These teams (should) operate in a manner that is both independent and interdependent."

ADDING NEW LEADERSHIP, CONTRACT WORKERS TO THE MIX

"Another example of what was unique about our project is that we not only supplemented our analyst level resources, we supplemented leadership," said Black. "One of the risks of trying to manage a large-scale implementation and manage existing applications would be over-stretching those resources. So we brought in consulting managers, directors and even up to the vice president level to supplement our legacy team."

Hospitals should look at these supplemental leaders not merely caretakers, but as people actively entrusted with advancing the strategic goals of the organization, said Perkins. "They may be in their roles for a year, maybe two years, even three years. And so it's important that they be able to hit the ground running – that they be experienced leaders, that they have a proven track record of success. And when you're bringing them in, you're bringing them in specifically to carry forward the strategic goals of the organization, not just keep the lights on."

That can be easier said than done, of course: "When you bring in interim leadership, as in this case, there are several key decisions that need to be made," said Perkins. "One is you have to define how HR related responsibilities are going to be divided between your permanent staff and your interim leadership, you have to clearly define who retains financial authority – how are you going to handle things such as approval of invoices or budgeting.

"And then you need to talk about how your interim leaders are going to function really seamlessly as part of the team," he added. "Because again, if you're bringing them in not merely as caretakers but as key leaders in the organization for a period of years, you need to make sure they are able to function effectively in their roles."

Given that projects such as these demand the use of both employees and contractors, Black also has some simple advice for building them into a cohesive unit: "Include them."

For the 18 months or so of the implementation, "our consultants were on-site," she explained. "We included them in our operations meetings, in our team events, in our dinners and outings. We treated them like they were part of the team. And in fact many of them – this started in 2014 – are still with us today."

An overarching principle, of course, must be sound change management principle, said Black: "People adapt differently to change. Some of the folks who went over to the implementation team suddenly had new offices, new applications, new managers, new colleagues. Everything changed for them.

"Not everyone handles change equally," she added. "We worked to be transparent and provide good communication for the legacy team. In fact, we stayed away from words like 'legacy.' We called the home team the core" clinical team, and actually engaged them and made sure they understood there would be a place for them."

Perkins echoed the sentiment that communication is key.

"It enhances transparency and trust. So it's important to develop a communication plan, cross-team communication mechanisms – employee meetings, newsletters, special events – and that these communication venues emphasize the inclusiveness of the entire IT team," Perkins said. "And especially the significance of the support team's role in the organization. When that's done well and consistently, that communication will help to build trust and reduce any anxiety that might be felt by the team."

Perkins added that Houston Methodist had an entire team dedicated to change management, another focused on program management, a third dedicated to communication, and a specialty testing team.

"Part of that was being very transparent, specifically with regard to the staffing roadmap," said Perkins. "We're explicit from the very beginning about where we're going with staffing, we're communicating the process and the end state, so people have a very clear goal and a very clear view of where they are now, where they're going to be at the end, and what the process is going to be to get from here to there." ▪

CEO spotlight: Allscripts' Paul Black on staying relevant in the maturing EHR market

The electronic health record developer has built out its suite to enable integration with third-party apps and competing EHR systems, its chief executive said

TOM SULLIVAN, *Editor-In-Chief*

Many tech titans and upstarts are trying to solve the existing health data interoperability problem and to make data secure, transportable and actionable. Allscripts is among those.

Healthcare IT News asked Allscripts CEO Paul Black about maintaining relevancy in a maturing EHR market, how the company is working to make its architecture a platform for third-party innovation and about what Black described as "a brilliant solution for interoperability."

Q. A lot is happening in the EHR market, and some analysts would say it's starting to look like a three-way race between Cerner, Epic and Meditech. So what is Allscripts doing to stay relevant in the maturing EHR fray?

A. We're in a much better position than we were five years ago, because of the investments we made organically to build out our product suite Sunrise. I feel good about what we've done to fill in some of the capabilities that in the past were not there but are today. When people get a refresh on Allscripts of what we had in 2012 versus what we have today, that draws a lot of, "Wow, I didn't you know had this," or "I didn't know you had that."

Q. Can you give some specific examples?

A. Our approach to open is a lot different than other approaches to open. We publish APIs. A lot of companies will do CCDAs but we open our system up at the API level and that's a big deal. You have to be certified to do that. We have also created an innovation platform and we encourage people to develop tools that are consumer-based or financially-based that allow apps to sit on top of our platform and innovate on top of it. We now have 5,000 people certified to develop on top of an Allscripts platform. Since 2013 we've had 2 billion API data exchanges. So when you ask, "Is it working?" or, "Is it interesting?" when people talk about open our definition has to do with being vendor agnostic and we allow a very deep level of integration. I want people creating an ecosystem that I'm the center of, of course, from which I encourage people to pull information out so they can take better care of their patients. There's a group of people inside our company whose sole job is to help startups. It's a sizable piece of our organization and we have a chief innovation officer. Now with everything being digital the frustration that will continue in the marketplace is not being able to have pure liquidification of data across all electronic medical records — there will be a market need for that interoperability, which we think we have an extraordinarily brilliant answer for.

Q. Alright, I'll bite: You said you have a brilliant solution for interoperability. What might that be?

A. We have a solution in place within our CareInMotion suite called dbMotion. It is an EMR-agnostic approach to pulling data out of multiple electronic medical records – meaning athenahealth, Cerner, Epic, Meditech, eClinicalWorks, NextGen – and putting that data into a single community record. We then can pull in information from insurance companies or a health exchange and the third thing I can pull in is genomic information. So our dbMotion platform is an approach to give a single view of the patient that has multiple different records subsystems. That data then can be analyzed to identify populations that look like me, people who have the same three conditions I have, how they respond to treatment and, more importantly, it sends that information back into the other medical records so the clinicians, primary care and specialists, all have a protocol they can follow when I show up.

For the workflow component, the way we do it is different. A lot of people have interoperability platforms to pull the data up into an HIE. That's good, but once the data are there you want to make it actionable and the 'ah-ha' moment is when you can then send it back down into the original sending electronic medical record, and you have to do that workflow in a way that is non-invasive. So the clinician looking at the record only gets the new information about me and no, "Click on this HIE and get everything about Paul Black since the day I was born." Practicing busy clinicians want to know if there is anything else in the community that they don't already know, like a prescription, allergy or med I've been given. That workflow is the clever piece of what we do that is different than anything else I've seen.

Q. Some people would apply the buzzword "post-EHR" era to that scenario you just described ...

A. I would say that buzzword is the reality of living in a digital platform. The U.S. broadly — whether its 92, 94 or 98 percent, whatever the numbers ONC publishes — every doctor and hospital has an electronic medical record. The platform is digitized and this is a fascinating time to be alive because it's the first time in the history of this country that all these data are now digital, available, and the people who make the most use of that and turn it into something actionable clinically, financially and from a research standpoint, are going to win. It's going to be extremely important for us to, instead of saying, "That was great we're done," and sitting back in a rocking chair, now it's, "Holy moly, we have all of this data what are we going to do with it? And how do we use all this data to drive more efficient, effective care that produces better outcomes for people who have serious issues?"

Q. What's next for Allscripts? And the healthcare industry at large?

A. I think we'll see continued adoption of some the things we're doing in the States in other countries. Other countries have been waiting but there is going to be an effect of mass digitization. We'll see other nations undertaking large IT projects at scale; there will be a global focus on this, either organization by organization or ministry of health by ministry of health. Secondly, I think all the data that is a byproduct of the mass digitization will be a boon for analytics, will be a boon for having a much better feel for the ins and outs of the operational side of healthcare as well as the clinical side. And I believe there will be price-performance that leads to mass adoption of genomic testing. And then having diagnostics, based on data, come out of an EMR to clinicians so they can order the test, get the results back in the EMR and know how to personalize care regimens. If I look out 10 years, we'll be surprised and shocked at how quickly these things become commonplace. ▪

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