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*Healthcare*

April 2012

# Informatics

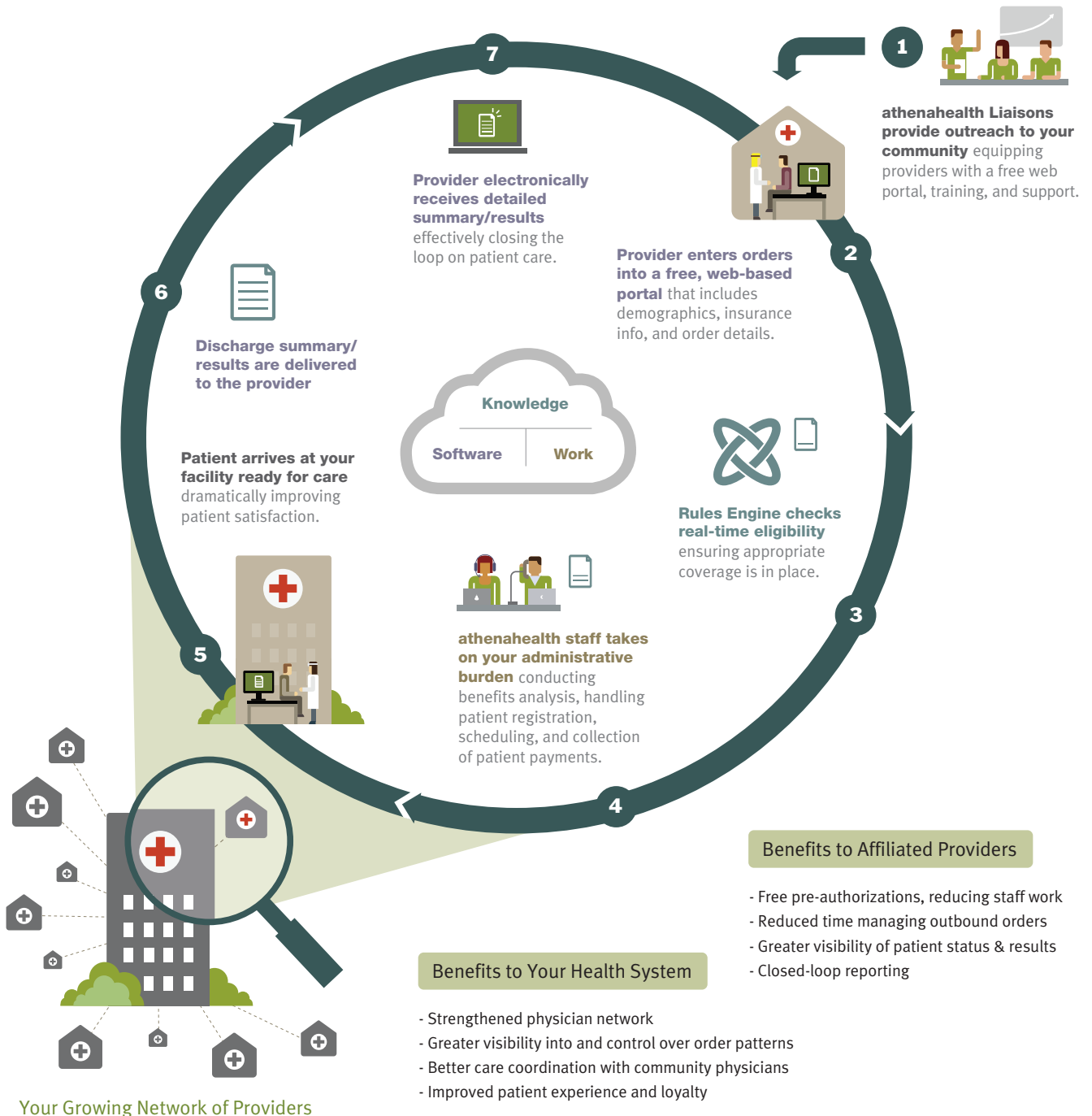
Volume 29, Number 4

*Healthcare IT Leadership, Vision & Strategy*

## Rise of the CMIO

**How Are CMIOs Mastering the  
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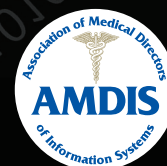
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**SUNDAY, MAY 6, 2012**

10:00 AM-3:00 PM	Golf Outing <b>Sponsored by AT&amp;T</b>
4:00 - 5:15 PM	<b>P01 - Opening Keynote Address:</b> David Muntz, Principal Deputy National Coordinator for Health IT in the HHS Office of the National Coordinator for Health IT <b>Presented by NexGen Healthcare</b>
5:30 - 7:00 PM	<b>Welcome Reception</b>

**MONDAY, MAY 7, 2012**

8:00 - 9:00 AM	<b>Breakfast Presented by: InterSystems</b>
9:15 - 10:30 AM	<b>E01 - Beyond the Data Warehouse: Strategizing the Use and Analysis of Clinical Data for Meaningful Use</b> <b>Moderator:</b> Mark Hagland, Editor-in-Chief, <i>Healthcare Informatics</i> <b>Panelists:</b> Bobbie Byrne, MD, Vice President & CIO, Edward Health Services Corporation George Reynolds, MD, MMM, VP, CMIO and CIO, Children's Hospital and Medical Center John R Schooler, FACHE, FCHIME, Vice President and CIO, Orlando Health Patricia Skarulis, Vice President, Information Systems and CIO, Memorial Sloan- Kettering Cancer Center
11:00 AM - 12:15 PM	<b>E02 - ACOs: Policy Strategic and IT Issues</b> <b>Moderator:</b> Mark Hagland, Editor-in-Chief, <i>Healthcare Informatics</i> <b>Panelists:</b> Sam Van Norman, Sam VanNorman, Director of Business Intelligence, Park Nicollet Health System Daniel Garrett, Leader, Health Information Technology Practice, PriceWaterhouseCoopers Jeffrey Rose, MD, Vice President of Clinical Excellence, Informatics Ascension Health Jeff Petry, Vice President Strategic Initiatives, Premier Health Alliance
12:30 - 1:45 PM	<b>Lunch Presented by VMware</b>
2:00 - 3:00 PM	<b>E03 - Leveraging CPOE Implementation to Reduce Medical Errors and Improve Patient Safety</b> Christopher Longhurst, MD, MS, Chief Medical Information Officer, Lucile Packard Children's Hospital at Stanford Lisa Grisim, R.N., M.S.N., Director of Operations, Department of Information Services
	<b>E04 - The Journey Towards Evidence-Based Physician Ordering</b> Jeffrey Rose, MD, Vice President of Clinical Excellence, Informatics Ascension Health
3:15 - 4:30 PM	<b>E05 - Optimizing Revenue Cycle Management: Inpatient Hospital and Medical Group Perspectives</b> <b>Moderator:</b> Charlene Marrietti, Executive Director of Editorial Initiatives, Vendome Group <b>Panelists:</b> Jose Rivera, CPME, Corporate Director, Physician and Professional Services, Orlando Health Thomas Yoesle, Chief Operating Officer, Patient Financial Services, Orlando Health Kimberly Hollingsworth, Partner, IMA Consulting
4:30 - 5:45 PM	<b>E06 - The Evolution of the CIO - CMIO Relationship and of the CMIO Role</b> <b>Moderator:</b> Mark Hagland, Editor-in-Chief, <i>Healthcare Informatics</i> <b>Panelists:</b> William Bria, MD, CMIO, Shriners Hospitals for Children; Chairman, AMDIS Bobbie Byrne, MD, Vice President and CIO, Edward Health Services Corporation Brian D. Patty, MD, VP and CMIO, HealthEast Care System Ferdinand Velasco, MD., Vice President/CMIO, Texas Health Resources Linda B. Hodges, Senior Vice President, Information Technology Practice Leader, Witt/Kieffer

**TUESDAY, MAY 8, 2012**

9:00 - 9:15 AM	<b>IT Innovation Advocate Awards</b>
9:30 - 10:45 AM	<b>E07 - Readmissions and the Medical Home: Re-Visioning Care Management</b> <b>Moderator:</b> Mark Hagland, Editor-in-Chief, <i>Healthcare Informatics</i> <b>Panelists:</b> James L. Holly, MD, CEO, Southeast Texas Medical Associates, LLP Tina Buop, Chief Information Officer, Muir Medical Group IPA, Inc. Ferdinand Velasco, MD, CMIO, Texas Health Resources
11:00 AM - 12:15 PM	<b>E08 - Health Information Exchange: Strategies and Sustainability</b> <b>Moderator:</b> Charlene Marrietti, Executive Director of Editorial Initiatives, Vendome Group <b>Panelists:</b> Russell Branzell, FACHE, FCHIME, FHIMSS, CHCIO, Vice President and CIO, Poudre Valley Health System Christopher M. Henkenius, President, Bass & Associates, Inc., Devore S. Culver, M.M. Executive Director and CEO, HealthInfoNet
12:30 - 1:45 PM	<b>P02 - Closing Keynote Address:</b> Drexel G. DeFord FCHIME, FHIMSS, FACHE, CHCIO, Board Chairperson, CHIME, Senior VP/CIO, Seattle Children's Hospital & Research Institute

# CMIO Leadership, Clinician Alerts, Recruiting

**T**he evolution of the CMIO role has been a fascinating one, marked by the gradual evolution of “lone-wolf” IT advocates to senior leaders in their organizations. In this month’s cover story on page 10, Editor-in-Chief Mark Hagland documents the transformation of the CMIO’s professional development.

On page 18, Assistant Editor Gabriel Perna takes a look at what healthcare IT leaders are doing to resolve clinical alert fatigue, one of the most persistent problems that threaten to undermine patient care quality.

Meanwhile, certain segments of the healthcare industry are facing looming shortages of trained professionals during the next decade. In the article on page 21, Associate Editor Jennifer Prestigiacomo examines how recruiters are using predictive analysis to match talent with the organization’s hiring needs.

Also in this issue, beginning on page 26, is Hagland’s exclusive interview with Jeffrey Rose, M.D., vice president, clinical excellence, Ascension Health—who will be a speaker at the *HCI* Summit next month—about the performance improvement and automation initiatives in his organization.

In another policy development, the final rule for the Centers for Medicare and Medicaid Shared Savings Program has been released. Prestigiacomo spoke with John Cuddeback, M.D., to see what is in store for the development of ACOs this year, and what care coordination tools will be necessary to lay the groundwork. The interview appears on page 36.

Lastly, how’s your work-life balance? Tim Tolan poses the question and provides valuable tips in his Career Paths column on page 48.

## MORE ONLINE

Don’t forget to visit [www.healthcare-informatics.com](http://www.healthcare-informatics.com) for the latest healthcare IT stories: a podcast with National eHealth Collaborative CEO Kate Berry about a recently released HIE roadmap; putting PHRs at the center of cancer care; medical device connectivity; and what Farzad Mostashari, M.D., national coordinator of health IT, thinks about healthcare quality improvements and cost reductions.

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# In a World of Single-Atom Computers, What's Astonishing Anymore?

**MEANWHILE, IN HEALTHCARE, CMIOs ARE TAKING ON INDUSTRY-TRANSFORMING ROLES**



Mark Hagland

A couple of months ago, I read an article that underscored for me the sense of astonishment many of us have very often these days with regard to the rapid advances taking place in technology and science.

Under the headline, "Physicists Create a Working Transistor from a Single Atom," John Markoff reported on Feb. 19 in *The New York Times* that "Australian and American physicists have built a working

transistor from a single phosphorus atom embedded in a silicon crystal." Markoff told *Times* readers that "The group of physicists, based at the University of New South Wales and Purdue University, said they had laid the groundwork for a futuristic quantum computer that might one day function in a nanoscale world and would be orders of magnitude smaller and quicker than today's silicon-based machines."

Markoff's article went on to note that, "In contrast to conventional computers that are based on transistors with distinct 'on' and 'off' or '1' and '0' states, quantum computers are built from devices called qubits that exploit the quirky properties of quantum mechanics. Unlike a transistor, a qubit can represent a multiplicity of values simultaneously. That might make it possible to factor large numbers more quickly than with conventional machines...Quantum computers might also make it possible to simulate molecular structures with great speed, an advance that holds promise for designing new drugs and other materials."

I suppose that, these days, with a new technological or scientific breakthrough being announced virtually every week, it would be easy to take a jaded view of announcements such as this one; but I for one choose not to. Indeed, contemplating this particular breakthrough was mindboggling for me. The fact that scientists can now manipulate single atoms in an effective way not only is astonishing, but, I feel, should seem astonishing, to all of us.

By the same token, we are now, in the healthcare information technology world, seeing tremendous advances being made every day in patient care organizations across the country, as informaticists, clinical informaticists, clinicians, and others come together to tackle patient safety, care quality, efficiency, cost-effectiveness, and other problems that only a few years ago seemed utterly intractable. And whether it's building evidence-based clinical decision support systems, creating patient-centered medical homes, or making progress on reducing avoidable readmissions, CMIOs—chief medical information or informatics officers, depending on individual organizations' styling—and other medical informaticists are helping to lead progress at patient care organizations nationwide.

This issue's cover story looks at some of the leaps that CMIOs are making in their development as organizational leaders; what's clear is that it's no longer enough to have one or two physicians in an organization who like to play with technology. Instead, CMIOs are being given more, and broader, responsibilities across a dizzying array of functional areas and processes. And that means that CEOs, CIOs, CMOs, other C-suite executives, and boards of directors, are having to invest more—both literally and figuratively—in their leadership-bound CMIOs.

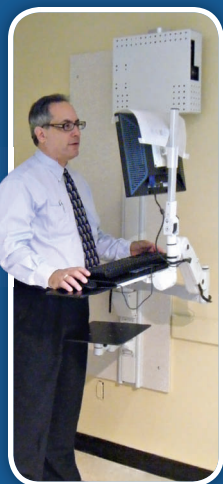
So as the purchasers, payers, policymakers, and consumers of healthcare look for our industry to make quantum leaps forward in quality and cost-effectiveness in the coming years, let's none of us take the contributions of CMIOs and their clinical informaticist colleagues for granted. Their work—like that of the scientists working on atomic computers—seems destined to help pave the way to the healthcare of the future.

Mark Hagland  
Editor-in-Chief



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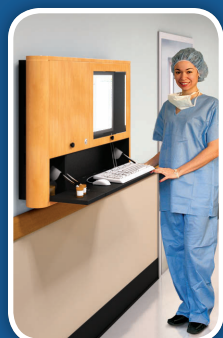
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# RAMPING UP TO LEADERSHIP

## CMI0s' Profile Keeps Growing

**CMIOs TAKE ON NEW RESPONSIBILITIES AS PATIENT CARE ORGANIZATIONS  
MOVE THROUGH THE QUALITY JOURNEY BY MARK HAGLAND**

**EXECUTIVE SUMMARY:**

*As physician informaticists rise into CMIO titles, the CMIO role itself is gradually being transformed, particularly in more advanced patient care organizations, from its early “tech-head doc” function to a management role focused on implementation, to increasingly, a transformational leadership role. CMIOs and industry experts agree that the skills needed to help lead change on a broad scale are pushing medical informaticists to new levels of professional development.*

The evolution of the CMIO role has been a fascinating one. CMIOs have emerged out of the ranks of physicians as “lone-wolf” information technology advocates; over time many have evolved into part-time implementation facilitators, full-time managers, and senior lieutenants over squadrons of clinician informaticists. Now, those in the most advanced patient care organizations nationwide have taken on the role of senior leaders helping to move their organizations forward on the quality journey.

It would be understandable if some CMIOs, variously known either as “chief medical information officers” or “chief medical informatics officers”—both formulations are common—didn’t have whiplash from all the rapid-fire changes and shifts in their working environment. Just 10 years ago, only a tiny minority of hospitals, medical groups, and health systems even had CMIOs—and those who were named CMIOs were most often only doing medical informatics part-time, while still pursuing patient care. What’s more, only the very largest organizations, mostly academic medical centers, had someone designated with the title.



Fast-forward to the present: at a time when the need for patient care organizations to meet the meaningful use requirements under the American Recovery and Reinvestment Act/Health Information Technology for Economic and Clinical Health (ARRA-HITECH) Act, plus the data reporting requirements for several mandatory and a few voluntary programs under the Affordable Care Act (ACA), is pushing hospitals, medical groups, and health systems into overdrive, CMIOs are being compelled forward into ever-higher levels of responsibility.

Indeed, it is hard to imagine organizations like the 11-hospital, 100-plus-clinic Allina Health in the Minneapolis-St. Paul metro area being able to push ahead with comprehensive quality improvement initiatives (see also “Ready To Catch the Next Wave? The New Accountability Agenda in Healthcare,” December 2011) without leaders like Michael Shrift, M.D., the organization’s CMIO and vice president for clinical knowledge management. Not only is Shrift heading up a team of 45 clinical informaticists; the work that he and his colleagues have plunged into in the last few years is complex, difficult work of reengineering core care delivery processes, using clinical IT to facilitate patient safety and care quality improvements. By definition, it quickly becomes very granular. Without a strong CMIO—and, nearly always now, a strong team of clinician (physician, nurse, pharmacist) informaticists—such change becomes impossible to achieve.

But is getting an MBA—something many CMIOs have done—enough? In fact, all those interviewed for this article agree, making the transition to a true leadership position requires multiple shifts and developmental processes. Says Shrift: “I know few CMIOs who haven’t had leadership coaches and mentors; and Gawande [Atul Gawande, M.D.] was just writing in *The New Yorker* about that.” In fact, he says, “For CMIOs, having formal leadership training is essential right now; things are just too complex, and

the changes are accelerating.”

### FROM LONE WOLF TO SYSTEM LEADER

One of the most important challenges, all those interviewed for this article agree, is for physician informaticists to make the shift from the culture nearly all of them were trained in, in medical school and beyond—one that trained physicians to be “lone wolves” ready to diagnose and treat individual patients using their judgment, skills, and experience—to working in team-based environments, particularly as they assume broader management and leadership roles. “It’s a great challenge for doctors to learn to think collaboratively for success in complex leadership environments; and some doctors can’t make that transition,” Shrift reflects. “For myself,” he adds, “when I looked in the mirror and was brutally honest, the real work was learning to stuff my ego, and to really feel and embrace humility; that I don’t have all the answers, and can’t do it all myself. That’s hard for everyone, but it’s a tricky journey for many primary care physicians, specialists, and proceduralists.”

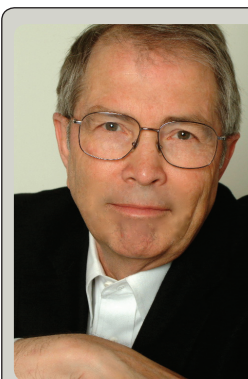
Yet though they remain quite a small group overall, “There are physicians now who have been in operational roles [as medical informaticists], who have been somewhat strategic, for the past five to eight years; and those physicians are getting ready to take that next step into the optimization and transformation roles,” says Arlene Anschel, an executive search



Michael Shrift, M.D.



Arlene Anschel



Tom Tinstman, M.D.

consultant at the Oak Brook, Ill.-based Witt Kieffer.

In fact, one of the people she cites as having made the transition to a true leadership role is Tom Tinstman, M.D., vice president for clinical informatics and transformation, at the 11-hospital, Austin, Texas-based Seton Healthcare Family. Tinstman, who notes that he has actually never held the title of CMIO, is helping to lead intensive work in IT-leveraged clinical transformation; and he says there are some absolutely critical success factors as physicians move from being practicing clinicians to providing quality leadership in medical informatics.

“You have to understand the broad area of change management, and you have to know how to do process redesign with or without technology,” Tinstman says firmly. “And you have to understand how clinical knowledge is applied at the point of care. And that’s where having been a clinician is of value.” At the same time, he adds, “You have to understand adult learning because people have to learn new skills. And you have to have a conceptual model for understanding behavior in

a service organization. If you’ve got those prerequisites, then you act as a facilitator for the organization, in how best to use the crowbar that is the EHR to create change. You don’t actually lead,” he adds.

And, Tinstman adds, the metaphor of the lone wolf, and the transformation of that orientation to a systems thinker and group leader, is a challenging one. “I’m a little bit crass about it,” he offers. “I say that clinical training actually trains you to be an opinion-based decision-maker

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who believes they're fact-based. And to be successful in informatics, you have to be a fact-based decision-maker, in a group of people who like to be opinion-based."

### A CONFLUENCE OF INFORMATICS AND QUALITY WORK

If there's anything that's clear right now, it is that CMIOs are being hired and deployed across very diverse settings, from standalone community hospitals to multispecialty medical groups to vast multi-hospital systems. All of those types of organizations are facing similar challenges coming out of federal mandates, whether related to healthcare reform or meaningful use, not to mention private health insurers' increasing requirements.

At Dean Health, an integrated system based on a network of more than 50 medical clinical locations in central Wisconsin, Charles DeShazer, M.D., holds the title of vice president, quality, medical informatics, and transformation. DeShazer, who like all the physicians interviewed for this article, spent years in medical practice before getting involved in medical informatics or quality work (DeShazer's specialty was internal medicine), joined the Madison-based Dean Health in August 2010. "Soon after I joined Dean" as CMIO, he explains, "the vice president of quality decided to go back into practice; I had worked for Kaiser, and I was the medical director for quality there,

ing the change," he says. What's more, because of the accelerating demand for professionals with medical, quality, and informatics credentials, he adds, "What I see now is that CMIOs are really beginning to take a seat at the business strategy table. And it's a good fit, because the tools to drive business value under this new model are based on data, information, and enabling technology."

As a result, DeShazer says, "I think that that's why it's a natural evolution, as we move into this new model," for the leadership profiles of CMIOs to broaden. Indeed, he notes, the shift "from a model based on volume of visits, to one based on enrollment," will naturally bring into the CMIO position and related positions, individuals who have the experience and perspective to be able to think in a data-driven way about care management, population health, and care quality improvement issues all at once.

Ferdinand Velasco, M.D., vice president and CMIO at the 14-hospital, Arlington, Texas-based Texas Health Resources (THR), would certainly agree.

optimization of the electronic health record," Velasco says. And, in that context, he asks, "How do they view the role—as a tactical one, or a strategic one, really helping to lead the medical staff in discussions on improving care?"

In short, he says, "The hard part is fully leveraging the transition, to make care better. And the challenge isn't so much whether a physician has the skill set to do that as CMIO; I think that will sort itself out." Instead, he emphasizes, "The biggest challenge isn't intrinsic to the physician; it's an organizational one. Do they recognize the CMIO as a medical leader? In organizations that are physician-led, it's not that hard; they inherently understand that. But some organizations don't have that much experience with physician leadership."

Of course, the on-the-ground reality is that hospitals, medical groups and integrated health systems are at wildly diverse points in their evolution along IT, quality improvement, and care management dimensions. So, naturally, "Everything is occurring asynchronously," notes Bill Bria, M.D., the vice president and CMIO at the Tampa, Fla.-based



Ferdinand Velasco, M.D.



Charles DeShazer, M.D.

**YOU HAVE TO UNDERSTAND THE BROAD AREA OF CHANGE MANAGEMENT, AND YOU HAVE TO KNOW HOW TO DO PROCESS REDESIGN WITH OR WITHOUT TECHNOLOGY, AND YOU HAVE TO UNDERSTAND HOW CLINICAL KNOWLEDGE IS APPLIED AT THE POINT OF CARE. —TOM TINSTMAN, M.D.**

and that fit what I wanted to do."

In fact, the confluence of medical informatics and quality improvement work embedded in some of these new positions that has been gaining steam in the past few years—fueled by healthcare reform and meaningful use—doesn't surprise DeShazer at all. "I think the movement towards value-based delivery systems is really push-

Velasco, who was THR's first CMIO when he joined the organization nine years ago, adds that an absolutely critical success factor for CMIOs will be how the most senior leaders of their organizations conceive of the CMIO role and support it. "As the health system moves forward from a focus on implementing to a focus on leveraging the tools, the biggest challenge is the

Shriners Hospitals for Children, and the co-founder and president of AMDIS (the Association of Medical Directors of Information Systems), the nation's main CMIO association. "There are organizations already at Level 7 [in the EMR development schematic created by the Chicago-based HIMSS Analytics], and are already well on their way to a routinized methodology to

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**Reference: 1.** Ford D, Luttrell N. Leadership in patient safety: IV pump auto-programming. Presented at Cerner Health Conference; October 2009.

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## The Inside-Outside and Reporting-Relationships Debates

Among the many issues facing healthcare leaders when it comes to CMIOs are two that remain ongoing sources of debate: how and where to hire CMIOs, and to whom they should report. When the first practicing physicians became part-time medical informaticists and then eventually CMIOs (whether full- or part-time), it almost always involved a completely internal process, which certainly made sense, given the situation in patient care organizations just starting down the road to fully leveraging clinician informaticists.

Now, though, things are starting to change, even as many patient care organizations continue to try to hire and promote from within. "We are seeing more external searches," reports Linda Hodges, IT practice leader at the Oak Brook, Ill.-based Witt Kieffer. "But often, those come about because of movement among insiders," she adds. Still, Hodges says, "It is becoming much more acceptable to bring in a CMIO with a track record externally; that's usually when we get called in."

Part of what's happening now, Hodges says, has to do with the sheer volume of medical informaticists being needed right away at organizations nationwide; healthcare leaders simply don't have years to carefully groom internal candidates and develop them before they assume full-time medical informatics leadership positions. In addition, she says, "We're seeing many vendors hiring multiple phy-

sicians at once," often intensifying the competition for strong candidates. "And we're also seeing organizations looking for CMIOs for their ambulatory space; that's a new trend, being driven a lot by meaningful use and the medical home, and so on." As a result, she says, the historical resistance to hiring externally is beginning to break down, simply because of supply-and-demand issues.

Then, once a CMIO is in place, to whom does he or she report? Vi Shaffer, research vice president at the Stamford, Conn.-based Gartner, has been tracking that question for a long time. "The interesting thing is, most CMIOs still practice medicine, and when they're practicing medicine, they're accountable to medical leadership, of course. But most CMIOs say the CIO is the person they most rely on to mentor them in a lot of the things they don't know, including the politics of the organization, budgeting and planning, how projects fit together, things they don't necessarily know."

So increasingly, Shaffer reports, CMIOs are asking for or being asked to accept dual-reporting relationships, with the CMO and CIO of their organization. In some cases, one of the lines will be "dotted" and one will be solid, but whatever the exact configuration, Shaffer sees some version of that balancing act being replicated nationwide, as CMIOs fulfill responsibilities that need the support of both senior medical management and senior IT management in their organizations going forward, for the foreseeable future.



Linda Hodges



Vi Shaffer

attacking their problems and issues," whereas other organizations are far behind that level, he notes.

And Bria, who was among the very first to recognize the broadening role that CMIOs would play in the health system nationwide, and who has been

a system, implementing a system, cajoling around the effective use of that system, and now, you've got a power tool. And what do you do? Just put in more technology? In fact, it's the responsibility of the physician in this position to demonstrate the true ben-

efits, and the answer is, you improve the practice of medicine."

In the end, say all those interviewed for this article, there is a distinct inevitability about the ongoing need for CMIOs to continue to grow professionally, given the rapidly accelerating demands on patient care organizations

for care quality improvement, data reporting, analytics, care and population health management, and overall accountability, coming out of health-care reform and meaningful use.

What have leading CMIOs learned so far on their individual journeys forward? Allina's Shrift says he's learned that in addition to "a strong clinical background, good training in the basic technologies, and business skills training, especially in

leadership and communication," excellent mentoring from others and strong peer relationships, not only within their organizations, "but also with other CMIOs," will be vital to professional success going forward. Can CMIOs hear the martial music being cued up in the background? ♦

**CMIOs ARE REALLY BEGINNING TO TAKE A SEAT AT THE BUSINESS STRATEGY TABLE. AND IT'S A GOOD FIT, BECAUSE THE TOOLS TO DRIVE BUSINESS VALUE UNDER THIS NEW MODEL ARE BASED ON DATA, INFORMATION, AND ENABLING TECHNOLOGY. —CHARLES DESHAZER, M.D.**

a mentor to many of his colleagues, believes that CMIOs and medical informaticists are indeed stepping up to the plate on a fundamental level. As he puts it, "What do you do next after you've implemented an EHR? You struggle to use the tool that you just put in. You transition from selecting

efits, and the answer is, you improve the practice of medicine."

In the end, say all those interviewed for this article, there is a distinct inevitability about the ongoing need for CMIOs to continue to grow professionally, given the rapidly accelerating demands on patient care organizations

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Third Place Winner, Blessing Hospital: Lea Ann Eickelschulte, with Mark Hagland

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# The Clinical Alerts that Cried Wolf

AS CLINICAL ALERTS POSE PHYSICIAN WORKFLOW PROBLEMS, HEALTHCARE IT LEADERS LOOK FOR ANSWERS **BY GABRIEL PERNA**

## EXECUTIVE SUMMARY:

*Across the U.S., as healthcare providers implement computerized physician order entry (CPOE) systems, they find themselves dealing with the growing issue of clinical alert fatigue. With patient care alerts proliferating within clinical decision support (CDS) systems, physicians have often come to ignore all alerts. Healthcare IT leaders are working to resolve this important issue to everyone's benefit, increasingly implementing systems that put out only effective alerts or apply asynchronous alerting strategies.*

**W**hat happens when something designed for patient safety ends up having the exact opposite effect? In what can best be described as a “boy who cried wolf”-type scenario, this is exactly what is happening in some healthcare communities with CPOE systems.

Systems are implemented with patient-safety alerts, a CDS tool that helps physicians recognize when a physician needs to be made aware of any of a variety of possible situations, such as when a patient shouldn't take a prescription order for reasons such as drug interaction, drug allergies or dose-range checking. However, the alerts can often become excessive to the point where physicians will simply override them as not to disrupt their workflow.

The phenomenon is called “alert fatigue,” and it's become a significant issue in hospitals that have implemented



CDS systems. Studies, like a 2009 report from the Boston-based Beth Israel Deaconess Medical Center (BIDMC) and the Dana-Farber Cancer Institute, document the seriousness and scope of the issue. The researchers looked at the safety alerts generated by 2,872 clinicians through 3.5 million electronic prescriptions over a nine-month period. Of the 233,537 alerts, 98 percent were drug-drug interaction issues, more than 90 percent of which were overridden. Clinicians overrode more than 77 percent of the allergy alerts as well.

“It would be easy to think that more alerts equals more safety, but alert fatigue—fatigue is probably too generous

of a word, I've seen wholesale ignoring in some cases—presents the doctor with trying to weed out the meaningful alerts from the meaningless ones, and I've seen articles quoting 98 percent alerts that weren't acted upon,” explains Mark Van Kooy, M.D., director of informatics, Aspen Advisors (Denver, Colo.). “That means if you have 100 alerts, you have to go through 98 until you find two that are justifiable. At some point, you just start missing alerts. That's a worst-case scenario, but it's real-world.”

Acting on two percent of alerts isn't doing anyone any favors, and analysts like Van Kooy say hospitals need to figure out a situation where the alerts that



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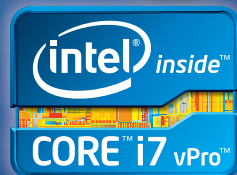
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are coming up, are acted on approximately four out of five times. In all likelihood, this strategy would mean cutting down on the number of alerts that come up in current CPOE systems.

### ADVENTIST'S STORY

Many hospitals have begun to work on this sort of thing already. One such institution is the Altamonte, Fla.-based Adventist Health System, a faith-based hospital system with 44 hospital campuses across 10 states. Adventist's vice president and CMIO, Phillip A. Smith, M.D., says the organization rolled out its CPOE across 26 states and saw issues with alert fatigue shortly thereafter. Despite a conscious effort to be "more effective" with its alerts, Adventist found out physicians were getting 80 alerts per 100 medications.

Smith said the organization immediately recognized this was far too many to avoid alert fatigue. "We knew what our target was, about 10 alerts for every 100 medications ordered," he says. "That's where doctors actually change their behavior." After getting it down to 34 alerts per 100 medications and then 22 alerts per 100 medications, where there was a 50-50 chance the doctor would ignore the alert, the group worked with its CPOE vendor Cerner (Kansas City, Mo.) to reach its target level.

With Cerner's help, Adventist implemented multi-functional tools called MCDF, which refines the alerts and allows the organization to go after and reduce "nuisance" alerts. Thanks to this tool, Adventist was able to get itself down to 14 alerts per every 100 medi-

cations, with an average of 10 ignored and four overridden. The tools, which



Phillip A. Smith, M.D.



Christopher Longhurst, M.D.



Natalie Pageler, M.D.

Smith says will be available shortly from Cerner for customers who upgrade their systems, were able to eliminate certain duplicates and other unnecessary alerts.

### ASYNCHRONOUS VS. SYNCHRONOUS

In California, leaders at the 311-bed Lucile Packard Children's Hospital (LPCH) in Palo Alto, Calif. have recognized the issue of alert fatigue, citing studies that appeared in the *Journal of American Medical Informatics Association*, which had physicians overriding numbers of allergy alerts occurring approximately 60-95 percent of the time. Natalie Pageler, M.D., medical director of clinical informatics at LPCH, and Christopher Longhurst, M.D., CMIO at LPCH, say clinical alerts can be divided into either synchronous or asynchronous decision support, the latter of which they say is a better solution for fixing alert fatigue.

"When we talk about alerts, most people are thinking of synchronous alerts, which happen when someone is actually placing an order. You place a medication order, get a pop-up that says the patient is allergic to this medication," Dr. Pageler says. "But the fact is, there's a lot of information you'd like to get to the provider that happens at times when they're not actually entering an order. Like for instance, you enter an order based on a particular level of renal function, and then the renal function changes three days later. How do you get that information to the provider, who isn't at

the computer making the order? There's lots of ways to do this type of asynchronous alert."

LPCH has tested asynchronous alerting through various methods including the development of a "highly elaborate tab," according to Pageler. The tab includes information on the patient's vitals, medications, care providers names, and other critical information. On the tab, Pageler says, are alerts, but they aren't interruptive. "So if the kidney function isn't normal, for instance, it will be highlighted in red on the tab," she says. "It's an alert, it's highlighted in red, but it doesn't interrupt their workflow."

In addition, LPCH has developed a patient care and quality dashboard, which has an enhanced healthcare related checklist included in the EMR. The non-interruptive checklist provides information on vital information, both general and specific to the patient. The dashboard, which was sponsored by Hewlett-Packard (Palo Alto, Calif.), is currently in pilot.

### COMPLEX SOLUTION

Even with their focus on asynchronous alerts, both Pageler and Longhurst say the focus on alerts comes down to improving clinical outcomes and not the process. Longhurst was quick to point out a study conducted by LPCH that found pop-up messages, which are synchronous, built into an EMR could prevent physicians from ordering unnecessary treatment, in this case blood transfusions. In the study, the pop-up alert saved LPCH from conducting 460 unnecessary red blood cell transfusions—\$165,000 in one year.

The moral of the story, as Aspen's Van Kooy says, is that there is no simple solution. "The solution requires thought, effort, analysis, and engaging all the stakeholders—pharmacy, nursing, physicians—as key success factors. There are systems that are doing this well and they (healthcare providers) should keep their eyes on the literature to keep informed, and they should look for continuing development of evidence based guidelines on how to approach this problem," he says. ♦

# Data-Driven Healthcare Recruiting

**A COMPETITIVE JOB MARKET FORCES ORGANIZATIONS TO ACT ON METRICS IN THE PROCESS OF HIRING THEIR STAFF**

**BY JENNIFER PRESTIGIACOMO**

## EXECUTIVE SUMMARY:

*Predictive analytics are driving many healthcare organizations' hiring decisions in today's competitive market. It's important for organizations to capture the right data to help optimize their recruitment strategies and eliminate the time and money holes spent on untargeted recruitment campaigns.*

In today's competitive hiring market, it's especially important for healthcare organizations to optimize their recruitment strategies to help attract quality healthcare professionals. For instance, the Health Resources and Services Administration projects that by 2020, there will be a shortage of more than 1 million nurses in the U.S., and with labor-intensive efforts like the ICD-10 transition and meaningful use, the industry is in the midst of a talent shortage crisis.

In order to streamline current processes, human resources departments are now implementing human capital management solutions to capture the data needed to fuel predictive analyses and continuous process improvement for recruitment. According to a recent KLAS (Orem, Utah) report, among human capital management solutions, talent acquisition systems are one of the most widely implemented modules, and healthcare organizations are clearly focusing on these modules to address their immediate hiring needs.



## PREDICTIVE ANALYTICS AND HIRING

Over the last five to 10 years, many healthcare organizations have often used backward-looking metrics to predict recruitment success and identify necessary improvements. “When you ask managers what’s important to them, four things always pop up—cost, quality, responsiveness, and efficiency,” says David Szary, founder of LEAN Human Capital, a Plymouth, Mich.-based healthcare recruiting consultancy. “Your recruiting solution has to be at a fair cost; you need to have quality candidates and quality service; you need it to be responsive to

[organizational] needs and [positions] to be filled quickly; and [it needs to] be an efficient process, so it’s easy to engage.”

In the process of hiring staff for her organization, Miranda Maynard, employment supervisor at EMH Regional Healthcare System, a three-hospital system based in Elyria, Ohio, uses many key metrics to analyze her organization’s recruitment efforts and continuous process improvement. These metrics include:

- Percent of current positions open more than 60 days;
- Percent of positions filled in less/more than 60 days;



- Time-to-fill for positions filled in less/more than 60 days;
- Vacancy rate for critical positions;
- Turnover rate; and
- Termination data (voluntary and involuntary) in less/more than 90 days.

Maynard uses predictive analytics for workforce planning activities like examining metrics to determine how many of a certain type of position was filled in the past, in order to predict what's going happen in the next 30-, 60- or 90-day recruitment cycle. These metrics also give a good picture of what types of vacancies, turnovers, and retirements are in store for the future, she adds.

Another predictive metric that Szary recommends that recruiters use to manage their requisition loads efficiently and

spiratory, radiology, and nursing. He also advises recruiters to partner with managers to view positions through a lens of patient safety to assess the cost to the organization if the positions remain vacant. For instance, he says organizations would probably weigh an IT manager's position, whose main purpose is to implement an information system for patient safety, higher and more important to fill, than say a food service position.

In 2008, EMH Regional Healthcare System implemented a talent tracking system from the Woburn, Mass.-based HealthcareSource to streamline the HR department's formerly disjointed processes, of which some were paper-based. Before implementation, Maynard's team had six different processes, including

media spending, says Szary. Many recruiters think more is better in terms of social media, when much of it is actually waste, he adds. To illustrate this, Szary mentions a client that was using all venues of advertising including banner ads, Facebook, and LinkedIn promotions to attract talent. "As a result they were getting on average 136 applications per position filled," he says. "The average in healthcare, [according to] our study, is 40 apps; so if you think of that, for each position they have to disposition 96 applications."

On closer inspection, Szary's firm found redundancy in the organization's outreach and analyzed trends for the actual sources of hire. He says that the client was able to save \$180,000 that year and brought their average applications per position to 55. Szary says that many organizations can focus their advertis-

**YOUR RECRUITING SOLUTION HAS TO BE AT A FAIR COST; YOU NEED TO HAVE QUALITY CANDIDATES AND QUALITY SERVICE; YOU NEED IT TO BE RESPONSIVE TO [ORGANIZATIONAL] NEEDS AND [POSITIONS] TO BE FILLED QUICKLY; AND [IT NEEDS TO] BE AN EFFICIENT PROCESS, SO IT'S EASY TO ENGAGE. —DAVID SZARY**

to effectively isolate bottlenecks is what he calls the "seven-day stuck metric." This metric highlights on a weekly basis all the requisitions that haven't changed status within the applicant tracking system (ATS). "If nothing has happened with that requisition within seven days, it's a predictive metric to say, 'wow, why hasn't anything changed?'" Szary says. "It might be because I sent five resumes and the manager hasn't responded back to me, and I want to know that before I get any further down the road."

### PRIORITIZING HIRING

Many in the industry are now linking recruitment to their organization's bottom line. One of Szary's key recommendations is to not treat each vacant position equally, and instead determine the position's cost of vacancy and prioritize which positions to fill first. Many elements define cost of vacancy like agency costs, recruiter time, and overtime costs. Szary recommends careful analysis of the costs associated with positions remaining vacant and filled by agency or overtime personnel, generally in allied health fields like pharmacy, physical therapy, re-

separate pathways for receipt of applications, employee transfer requests, and requisitions for position approvals. The HR department sought to reduce the amount of time it took to physically review applications and fix the broken processes of receiving employee transfer forms via e-mail and streamlining the requisitions for position approvals, which was a long and fragmented process that required staff to chase down paper to get multiple people's approval.

### ELIMINATING TIME, MONEY HOLES FOR RECRUITING

According to a recent KLAS report, half of surveyed provider executives reported achieving an ROI within a year of implementing their human capital management solutions. Since implementation, Maynard has been able to streamline her staff from three FTEs and a couple of part-time assistants to two FTEs. Her department now is able to track days-to-fill metrics more efficiently, and better able to lower those rates to thereby reduce vacancy costs.

Healthcare organizations tend to mispend most on advertising and social

media spending by simply posting job ads on their own website and for only a short amount of time to better streamline the amount of candidates screened.

### COMPETITIVE ADVANTAGES

Szary says that many forget that top talent is in demand now and good candidates have options, so organizations need to make their recruitment processes efficient and competitive. Maynard adds that the job market is much different than even five years ago, and today's candidates want easier avenues to submit their information, forcing organizations to use the right tools to create that hiring pipeline to better funnel quality candidates.

"Especially now with the changes in reimbursement and HCAPS [Hospital Consumer Assessment of Healthcare Providers and Systems] and all the other things that are put in front of healthcare organizations," says Maynard, "HR has to be proactive with how we're going to respond to these changes, and we have to be as efficient as we can be, and yet get the right people in the organization." ♦

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# Moving Technology into Your New Hospital: Top 10 Things to Know

ADVICE FOR MAINTAINING A SOUND STRATEGY DURING A COMPLEX EXPANSION **BY JAIME B. PARENT**



The Rush University Patient Tower was the result of seven years of planning. Photo: Rush University Medical Center

## EXECUTIVE SUMMARY:

*Rush University Medical Center started planning for its 14-story patient tower—the largest capital project in the organization's history—well in advance of the actual construction, to make sure technology implementation went as smoothly as possible.*

**I**t seems like everywhere you go, hospitals are building and/or expanding. Facilities continue to invest in technology to boost efficiency, eliminate duplication, and prevent errors, as well as to replace aging or obsolete infrastructure.

In January 2012, culminating more

than seven years of planning and three years of construction, Rush University Medical Center successfully moved approximately 200 patients into a 14-story state-of-the-art patient tower located in Chicago's West Side Illinois Medical District. "The Tower," as the new construction is known, is the crown-

ing achievement of a 10-year campus redevelopment project that combines new construction, renovations of select campus locations and investments in leading edge construction and technology. It is the largest capital project in Rush's 174-year history.

The new 830,000-square-foot hospital tower encompasses 304 private adult and critical care beds on the top five floors. Included is the Rob-

devices, and a wide spectrum of state of the art diagnostic and monitoring equipment. More than 22,000 network jacks and 1,200 wireless access points support all telephonic and system network activity. And it all has to work, on day one.

### THE CHECKLIST

So how does one stage and execute such a move? A sound strategy across

## A WELL-RUN QUALITY PLAN ALSO HELPS TO ALIGN DISPARATE WORK CENTERS AND BRIDGES THE COMMUNICATION GAP BETWEEN COMPLEX AND DIFFERENT IT AND CLINICAL NOMENCLATURE. —JAIME B. PARENT

ert R. McCormick Foundation Center for Advanced Emergency Response, which provides an advanced level of readiness for large-scale health emergencies from biological or chemically exposed patients—one of the first of its kind in the U.S. Three consecutive floors at the base of the hospital make up the Rush interventional platform, where diagnostic testing, surgical and interventional services, and recovery are located within a short distance of each other, enhancing collaboration between medical specialists and adding service convenience for staff and patient families. It has 42 procedure rooms and enlarged operating suites to accommodate new technology and the latest in diagnostics and imaging. Rush's new tower will be Chicago's first full-service, "green" hospital and is designed to conserve resources, reduce waste, and use sustainable building materials. Rush is seeking Leadership in Energy and Environmental Design (LEED) gold certification for the tower, demonstrating environmentally responsibility in building efficiency.

Moving large volumes of patients is a daunting task...equally daunting is the task of ensuring that all technologies associated with direct and indirect patient care are installed, tested, and fully functional for the move. No fewer than 35 projects were chartered for the move, all designed to run on more than 4 million feet of cable, 5,000 end user

a variety of different levels in the operation is the most effective approach.

- Develop a solid relationship and collaboration approach.
- Use an information system quality management plan.
- Watch the delta between construction and infrastructure.
- Hire effective project managers.
- Manage scope creep.
- Test, test, test.
- Keep documentation current.
- Hit your milestones.
- Hold people accountable.
- Have an effective governance strategy.

*Develop a solid relationship and collaboration approach.* Optimal patient care is embedded in the establishment and maintenance of efficient clinical and administrative workflows. Any disruption of such workflows (downtime) can be disastrous for a patient care area. Nothing disrupts workflow more easily and in a more complicated matter than the introduction of new technology. Unless a collaborative relationship between the business owner and technology project manager is achieved, project implementation may be viewed as "an IT project." Minimized disruptions and ease of transition can be greatly facilitated by a well-informed and trained customer who has taken the necessary ownership and buy-in for the technology they will soon be using every day.

*Use an information system quality*

*management plan.* In addition to the significant project plans that need to be developed, a well-established quality plan is essential. An IT quality plan assists the project managers and line of business owners with the project execution and pulls them in sync with a common bond...quality. A well-run quality plan also helps to align disparate work centers and bridges the communication gap between complex and different IT and clinical nomenclature.

*Watch the delta between construction and infrastructure.* Technology is totally reliant upon the success of building construction. It is not uncommon for building contractors to build all IT closet infrastructure as well as install building components that support applications. In addition, the labeling of components is often done by non IT personnel who may be expert at following blueprints, but who might not know the complexity of network jack labeling and punch downs. A skilled project manager needs to align and communicate very closely with construction personnel to maximize the scope of understanding and ensure sufficient documentation. Proper labeling avoids significant rework.

*Hire effective project managers.* Project management is an art form, and nothing puts such form on display as a multifunctional project portfolio. It is sometimes possible to make a tech lead a project manager; it almost never works the other way around. Even so, your team will be overwhelmed with all of the life cycle aspects of project implementation. To ask them to act as project managers does them a great disservice as well as creates a hindrance to your customers. Having fully trained and certified project managers will help you meet your milestones and keep your projects on track.

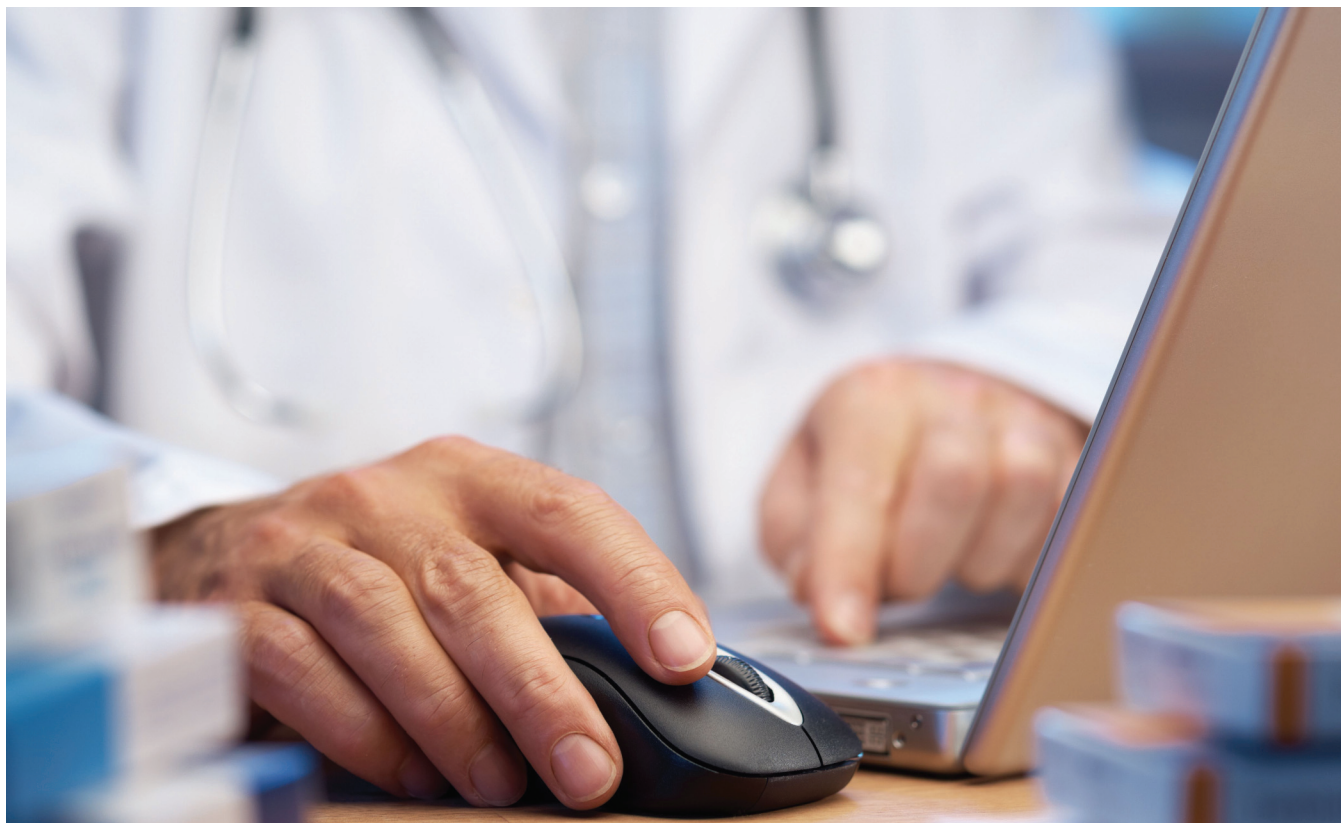
*Manage scope creep.* Shortly after project kick off, celebration gives way to scope creep. Oftentimes, the excitement of new technology and the lack of budget considerations and other hidden costs lead customers to believe that technology is easy to implement and simply can't possibly be that expensive.

(continued on p. 35)



# Evidence-Driven Quality Improvement, the Ascension Way

HOW ONE LARGE HOSPITAL SYSTEM SPREADS PERFORMANCE IMPROVEMENT THROUGHOUT ITS ENTERPRISE **BY MARK HAGLAND**



**S**t. Louis-based Ascension Health, one of the largest multi-hospital health systems in the U.S., has been a virtual beehive of process and performance improvement in recent years. Leaders of the 81-hospital system (with about 1,400 associated or affiliated care facilities) have been spreading performance improvement—both clinical and non-clinical—across all of its 30-plus regional organizations, known as Health Ministries,

all with the goal, in the words of health system leaders, to “transform healthcare by providing the highest-quality care to all, with special attention to those who are poor and vulnerable.” And a core component of their work has been leveraging information technology to facilitate every type of process improvement in its hospitals and clinics.

Among the numerous performance improvement initiatives moving forward within Ascension Health are the following:

- The ongoing rollout of core electronic health record (EHR) and computerized physician order entry (CPOE) systems across all of the health system's hospitals, on multiple platforms; about 40 percent of Ascension Health hospitals are live on CPOE at this time, (up from 17 percent last year) with the rest moving forward to implement within the next year or so.

- Access and use of a foundational set of evidence-based physician order sets (derived initially from a commercially developed set from the Los Angeles-based Zynx Health). The evidence-based order sets are adapted for optimized workflow on a facility- and Health Ministry-level after local clinician input is given. They contain key clinical process indicators that underscore quality and safety initiatives as "blue ribbon" type items whenever evidence is present to suggest an impact on improved quality or efficiency.

- "Project Symphony": a system-wide administrative data and process management and standardization project focused primarily on the domains of human resources, supply chain, and finance, but also including a focus on the unification of such enterprise resource planning data with aggregated clinical data from across the system known as the Ministry Intelligence Center.

- "Healing without Harm by 2014": a system-wide program to approach, monitor, record, and continuously improve patient safety and care reliability across all care environments.

Clinical informatics, data analytics, performance improvement leadership and large-scale change and educational efforts have been critical to all these advances. Jeffrey Rose, M.D., vice president-clinical excellence, informatics for Ascension Health, has been involved with the teams facilitating work for each of these initiatives. Dr. Rose, who will present related information system initiatives with attendees of the *Healthcare Informatics Executive Summit*, to be held May 6-8 in Orlando, Fla., spoke recently with Healthcare Informatics Editor-in-Chief Mark Hagland, regarding the performance improvement and automation initiatives taking place at Ascension Health, and the role of informatics. Below are excerpts from that interview.

## A COMPREHENSIVE EFFORT

*Healthcare Informatics:* Where are you in Ascension Health's journey toward performance improvement and automation right now?

*Jeffrey Rose, M.D.:* All of our acute-care facilities and ambulatory facilities are in various stages with implementation of point-of-care clinical information system infrastructure, in concert with parallel programs in quality, efficiency, and operational process areas. The informatics work has been focused on electronic health records, of course, but connected

at every opportunity to the other safety and quality efforts, with the underlying goal of acquiring and using clinical and business intelligence knowledge from these efforts to connect caregiver communities and their patients.

As the numerous electronic health record projects progress, they do so in concert with system-wide administrative data, process management and standardization in the form of "Project Symphony". Each of the Health Ministries is devoting great coordinated effort to the implementation of these business and clinical information systems. Such a massive transformative information-centered effort has different facilities in different stages of their plans with respect to the electronic health record projects, ranging from those who have fully attested for meaningful use to others that are almost ready to go. Some organizations are at advanced stages according to the HIMSS Analytics schematic on stage attainments, and

others are merely beginning their journey. We are comprised of an extremely diverse group of hospitals, using varied platforms for clinical information, but all aimed at the core goals of improving care quality and information flow across the communities they serve.

*HCI:* Tell us a bit more about your efforts around patient safety and care quality.

*Rose:* Ascension Health has an intensive program, "Healing without Harm by 2014," which is focused on inculcating principles of high reliability and reduction of all preventable harmful events in our complex care processes in which all the Health Ministries are involved. While such error measurement and reduction projects

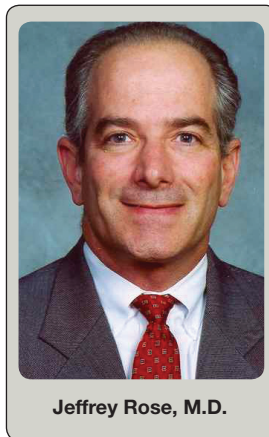
obviously involve informatics and clinical processes, they are heavily focused on operational and associate interactions in culturally safe environments to communicate technically and interpersonally in the interest of safest clinical practices.

*HCI:* What are some of the elements involved in the program?

*Rose:* Key to "Healing without Harm by 2014" is coordination of care efforts regardless of the domain or environment where care is delivered, and intensive education and training about the best ways for reliable communication in the interest of patient safety; the goal being to eliminate any kind of error, and potential for error, within the complex care delivery processes. All of our associates, from the frontline to the executive suite, and regardless of profession, are involved in an intensive program that teaches principles of high reliability, values, and standardizes error or potential error reporting, to evaluate events carefully and is aimed at creating a culture of safety.

## CLINICAL TOOLS ARE KEY

*HCI:* Has clinical IT been an important support and facilitator in that area?



Jeffrey Rose, M.D.



*Rose:* Clinical informatics tools and data are critical to most care processes and therefore can play a vital role in assuring safer practices and eliminating potential mistakes when well implemented. This has been repeatedly noted in literature detailing benefits of HIT. It is of supreme importance, recently emphasized in the IOM [Institute of Medicine] report on IT and patient safety, that informatics and EMR projects not be undertaken without careful consideration of the processes they impact, if improvements rather than degradation of maximally safe practices are to be achieved. We do not see informatics or electronic health records as soloists in the per-

**CLINICAL INFORMATICS TOOLS AND DATA ARE CRITICAL TO MOST CARE PROCESSES AND THEREFORE CAN PLAY A VITAL ROLE IN ASSURING SAFER PRACTICES AND ELIMINATING POTENTIAL MISTAKES WHEN WELL IMPLEMENTED. —JEFFREY ROSE, M.D.**

formance of highly reliable optimal quality care, but rather as fundamental instruments in a much larger orchestra of care delivery artists. Yes, it's an integral part. Informatics can bolster safety with regard to communication, legibility, clinical decision support, checklists, protocols, alerts and reminders, but only if it enables safe workflow and provides relevant information and process support to caregivers focused on high reliability service delivery.

*HCI:* Does your ongoing rollout of evidence-based order sets support the unified processes?

*Rose:* We believe so. Order sets are merely one kind of clinical decision support tool that must be developed or adopted in concert with EMR implementations and, in particular, CPOE. From a quality and safety perspective, such sets or protocols can, and have been, used in varying ways in our paper world. Now we have powerful new tools to allow clinicians to do their work more quickly and reliably, based on evidence-supported

chians are prepared to accept, and how incorporation of the order sets is to be embedded in the EMR platform. A Health Ministry may use a foundational set in toto, created, or they can modify or author material themselves (across a facility), making sure that regardless of the socialization techniques, they contain key clinical process elements. Each EMR clinical leadership team is choosing how they want to incorporate the order sets and the key process indicators. The project leaders collaborate and communicate in multiple levels of clinically driven governance from facility to system level that support our safety and quality efforts in concert with our clinical excellence, clinician integration, and other key system committees overseeing the progress.

*HCI:* When it comes down to it, you can't tell physicians what to do, but you can bring them together, correct?

*Rose:* Physicians are autonomous creatures and not particularly amenable to being told what to do, but my experience has been that when facts, logic, workflow, and high reliability principles are convincing, they are quite willing to collaborate and strive for excellence together. In addition to clinician team collaboration at facility and Health Ministry levels, we have seen shared vision and leadership drive remarkable cohesion in the interest of best care. We've also collaborated across healthcare systems with Catholic Healthcare West and Adventist (East) Health, to develop what we called Care Collaborative order sets. The Care Collaborative provides 1,200 condition-based, procedure-based, and convenience-based, order sets, derived from Zynx and used throughout the three systems.

About 60 percent of these sets are based on Zynx order content, with modifications from clinicians. Approximately 40 percent are convenience-based workflow enhancer based sets. The total library covers the major DRG conditions; many key acute care procedures, and those conditions most important to national quality initiatives (CAP, HF, MI, DVT, sepsis, surgical complications, etc.) The order sets cover 199 total conditions that reach

**THERE ARE A NUMBER OF AXES ALONG WHICH YOU CAN GET STANDARDIZATION TO OCCUR. THE MOST COMPELLING IN THE CLINICAL WORLD IS WHERE YOU CAN CREATE STANDARDIZATION AROUND QUALITY AND SAFETY. —JEFFREY ROSE, M.D.**

clinical content that can be evolved and tailored to incorporate and disseminate best practices, act as reminders and evidence informers, function as safety checklists, indicate costs, suggest appropriate practices, coordinate care, collect clinical information, speed and smooth workflow, and record regulatory information.

A foundation set of collaboratively developed order sets are being adopted in varying degrees, depending on what the Health Ministries—about 30—need, what their physi-

into many specialties and subspecialties. However, there is still much to be done to meet specific practitioner needs.

In addition to covering multiple DRGs in the acute-care environment, we're now moving into the ambulatory world as well. We work to ensure we include those elements of specific order sets that affect mortality, cost, length of stay, readmissions, and quality indicators for the Affordable Care Act, the Deficit Reduction Act, all the other things the Centers for Medicare and Medicaid Services (CMS) [is focused on];

elements that have been associated with reimbursement in the new, emerging world of healthcare reform.

Those particularly relevant items within the order set that have been shown by reviewed literature to affect mortality, cost, length of stay, and quality of care—are intentionally flagged for inclusion in order sets that may have been authored previously or independently by health ministries. Clinicians should be able to structure the order sets to meet their workflow and culture and they should contain the reportable key process indicators. It's like establishing blue-ribbon items in the order sets, regardless of what may make them attractive to the clinicians. This is how we relate the order sets to our other key safety initiatives.

It is important to note, achieving safe and reliable, high-quality care is not simply a matter of having order sets. It is a matter of having programs and education while encouraging mind-set changes in practitioners in a host of very substantive ways. That mindset should be reinforced with workflow compatible decision support tools for quality assurance wherever possible.

## STRIKING A BALANCE

*HCI:* Philosophically, where do you strike the balance between standardization and customization?

*Rose:* There are a number of axes along which you can get standardization to occur. The most compelling in the clinical world is where you can create standardization around quality and safety. Another axis is around creating improved efficiency and/or reimbursement in the context of value-based purchasing or accountable care organizations. This is an improvement in care transition and best practice that is becoming a focus of enhanced reimbursement, despite the fact it has long been the 'right thing to do.' Another axis is the IT axis. Standardizing infrastructure and system software brings economies of scale and interoperability along with outcome analytics and decision support feedback on health management at the point of care.

*HCI:* Do you think that that balance will be shaped fundamentally differently in different types of hospital organizations?

*Rose:* We face some unique challenges in our large and distributed leadership organization than more tightly integrated care model organizations (e.g. Kaiser, Geisinger, or IHC). Ascension Health can be considered a microcosm of healthcare providers across America because of our multiple systems and physician affiliation models. The drive toward standardization requires very different management skills and operating systems in this type of system. Responding to local market pressures, fulfillment of our mission to meet the needs of those who are poor and vulnerable while focusing on infrastructure development as we continue to grow is one reason we seek quality processes and information conver-

gence as unifying threads among multiple communities and styles of provider practice.

*HCI:* What have the biggest challenges been in this area for you?

*Rose:* I think the biggest challenge we have had to face, as have our colleagues in healthcare, is the balance between standardization and autonomy.

*HCI:* What have been the biggest advances and triumphs in your organization in this area?

*Rose:* Ascension Health has a terrific clinical information systems project management office that works in close conjunction with clinical excellence and oversees the progress of individual projects across the country; coordinating that is no small task. We work based on a clinical vision for HIT that is supported through integrated governance at multiple levels in our complex organization.

We are able to think and act in response to local cultures and pressures without losing sight of the need for independent standardization in many areas, one of which was the foundation set of clinical order-set content that Health Ministries can derive value as they develop their own clinical system work on their own timetable and according to their own culture. And our emphasis on unified approaches to measuring and tracking our many efforts is vital to quality and reliability management.

*HCI:* One built-in challenge is the diversity of your EHR vendor situation, correct?

*Rose:* That's correct; approximately half of our Health Ministries are on a Cerner platform and those implementations are not completely common. In addition, we have Allscripts, Meditech, McKesson, and several other EMR sites functioning.

*HCI:* What have the biggest lessons learned been so far? And what would your advice be for CIOs and CMIOs in all this?

*Rose:* Listen to your users and your clinical experts. Respect the workflow and culture. Advance relentlessly on convergent ideals of quality and safety. Leverage learning across your institutions. Prepare for continuous evolution of both systems. Be aware of, and mitigate, any risks of using those systems. Know that high reliability extends to systems as well as to caregivers and patients.

*HCI:* Have the physicians advanced in their acceptance of all of these things?

*Rose:* We have seen acceptance of team-based high reliability care delivery, common and widely shared clinical decision support tools and content, and acceptance of more single-system thinking. Meaningful use has driven intense work on necessary infrastructure issues. I think the desired by-product is that physicians are beginning to see the value of information systems, clinical decision support, and point-of-care quality enhancers, in ways that they never saw before. ♦



# Success in South Carolina

**LESSONS LEARNED BY A SUCCESSFUL PARTICIPANT IN THE PREMIER HEALTH ALLIANCE QUEST PROGRAM BY MARK HAGLAND**

**W**hen on Jan. 18 in Washington, D.C., executives and leaders of the Charlotte, N.C.-based Premier health alliance held a live telephonic press briefing to announce three years of results from the organization's ongoing QUEST High-Performing Hospitals Collaborative program, one of the member hospital executives participating was from the McLeod Regional Medical Center in Florence, S.C., the flagship of the 771-bed McLeod Health, whose five hospitals see patients from across a broad service center that encompasses parts of northeastern South Carolina and southeastern North Carolina.

Donna Isgett, R.N., M.S.N., senior vice president, corporate quality and safety, at McLeod Health, spoke of her health system's enthusiastic participation in the QUEST program, whose broad results had encompassed remarkable gains in patient safety and care quality, the use of evidence-based care protocols, and cost-effectiveness, over three years of performance improvement work. McLeod was one of 157 hospitals that had been charter participants in the QUEST program and that had been able to document strong results across the board.

Among the results documented at McLeod Regional Medical Center over the past three years have been the following:

- A 28-percent reduction in the hospital's mortality rate from a 2.37-percent rate to a 1.91-percent rate, with an estimated 276 lives saved over three years;

- A 22-percent reduction in per-case cost, from a baseline case mix-adjusted cost per discharge of \$6,925 to a cost per discharge of \$5,377 (with a \$1,546 relative reduction in cost) over three years; and

- A 7.1-percent increase in the use of evidence-based care



delivery over three years.

Recently, Isgett and Coy Irvin, M.D., chief medical officer and vice president medical affairs, at McLeod Health, spoke with *Healthcare Informatics* Editor-in-Chief Mark Hagland, regarding their organization's participation in the QUEST program, and what the lessons learned so far from that participation. Below are excerpts from that interview.

## THE PURSUIT OF QUALITY

*Healthcare Informatics:* With regard to the 28-percent reduction in expected mortality rate over three years, how does that translate into actual lives saved? What's more, you've also achieved very meaningful cost savings within the same time span.

*Donna Isgett, R.N., M.S.N.:* Our flagship hospital has a

census of 416 patients today [the day of this interview]. We probably have about 60-65 deaths a month here, and we're saving about 15 patient lives a month at this facility. Meanwhile, on the cost side, we were able to save about \$1,500 in cost per case over three years.

*HCI:* What made you decide to participate in QUEST?

*Isgett:* I was here at the time of the founding of the program; and in fact, I sat in on the design team for QUEST. As you know, Premier is a group of not-for-profit hospitals, and we're one of the owners. And they said, we have to get healthcare as close to perfect as it can be. They used an accelerated design process, and they flew me and others in from across the country in order to participate in the discussions, and it involved not just providers but also payers, as well as representatives of such groups as the National Quality Forum and the Leapfrog Group and agencies and organizations such as AHRQ [the federal Agency for Healthcare Research and Quality] and the Joint Commission.

And over a couple of days, we designed this idea of a totally transparent group, where we'd all share data, and where we'd reduce costs, reduce mortality, avoid harm, improve the use of evidence-based care, and improve the patient experience, in that context.

Now, we've always been a hospital very dedicated to quality. We had won the Quest for Quality from McKesson and the AHA in 2010, and we were one of seven organizations involved in the grant with the Robert Wood Johnson Foundation called Pursuing Perfection, which was managed by the Institute for Healthcare Improvement ran that grant for RWJF. So quality has always been top-of-mind for us, and so we naturally participated.

## BIGGEST CHALLENGES

*HCI:* What have been the biggest challenges in your participation over the past three years?

*Coy Irvin, M.D.:* The biggest challenge has been to try to use the infrastructures we had in place in order to get the doctors involved, so we could really get down to the correct way to do it, because there's so much variability in process; getting the docs involved in figuring that out for us was huge.

*Isgett:* And we had taken on mortality reduction within a diagnosis, but had never taken on global reduction of mortality as a whole. So, mortality reduction within AMI [acute myocardial infarction] or sepsis—taking that on and then broadening it out to a whole—we weren't sure how we would be able to connect mortality across diagnoses. But the physicians and nurses jumped in and participated.

*Irvin:* It was led by our cardiologists, and then the nurses and others in various areas, such as pharmacy, the emergency room and surgery, became involved; we had physicians, nurses, and pharmacists all involved, depending on the specialty.

*Isgett:* Just to take one example, we came up with 'rovers'—ICU nurses staffing the ICUs 24/7, who have been 'roving' and monitoring high-risk patients. That group of patients has included those on their own pain pumps, those who had recently been transferred out of the ICUs in the past 24 hours and into regular floor beds, patients who were in restraints for some reason, patients who had had a rapid-response call. Rovers would go and evaluate each patient determined to be at risk, and the rovers have also functioned as our rapid-response team. Using the team of rovers offers a perfect example of the kinds of mechanisms we've been employing in order to address mortality issues. We started with as-expected mortality, and developed solutions, such as the use of rovers; and once we'd achieved improvements, we ended up teaching classes for people from other organizations participating in the QUEST program. That shows you how the continuous improvement model works [in the QUEST program].

*Irvin:* And the nice thing about rovers is that the program acted proactively.

*HCI:* These types of solutions really are based on commonsense kinds of approaches, aren't they?

*Isgett:* Yes, but I'll be very frank: when I saw the outcomes with other hospitals getting significantly lower than expected mortality ratios, that was the first time it occurred to me that it could go to the next level [with regard to mortality reduction]. Because we were good, we were as expected. And that's where the beauty of data comes in. If one hospital in the program achieved lower-than-expected mortality, we would all flock to them to find out what had happened.



Donna Isgett, R.N.



Coy Irvin, M.D.

## PHYSICIAN BUY-IN

*HCI:* What about the issue of getting buy-in from physicians? Can you comment on the data that you've been sharing with the physicians in order to get their buy-in and participation?

*Irvin:* Consider the data that the payers have; they haven't always shared that data in the past. Now, we're collecting the data and sharing it with the doctors directly. And the only way to get them involved is to show them the data and



ask them to look at it and then let them decide where to go with it and what to fix. And sometimes, for example, you look at data across 10 surgeons doing appendectomies, and some may be high-cost and some low-cost, and they can sit down together and analyze things, and look at mortality and

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outcomes as well. And we can figure out what we can and should do differently, and is it order sets or protocols, or early intervention? The physicians really need to be involved every step of the way.

*HCI:* What were some of the key things the doctors did find that created change?

*Irvin:* One of the things learned relates conceptually to the use of checklists, something that Atul Gawande, M.D., has written and spoken about. For example, we found that when the doctors failed to make use of the stroke order set in their

**IN REFERENCE TO QUALITY, I THINK [CIOS AND CMIOs] NEED TO RECOGNIZE HOW IMPORTANT THEY ARE IN GETTING THE RIGHT DATA AND INFORMATION TO THE PHYSICIANS: IT HAS TO BE ACCURATE AND IT HAS TO BE UP-TO-DATE. —COY IRVIN, M.D.**

ordering process, they would almost always forget at least one thing. So getting them to see that standardization is not a bad thing, as you're handling fairly complicated patients, was one advance. In addition, such things as antibiotic management and tracking were important, because, say, we might find out three days into an antibiotic administration regimen that a patient needs a different antibiotic, or maybe the timing might need to change. Or in another area, questions might come up as to how to handle ICU patients—where is the best place to take them from the ICU? Even if your processes work well nine out of ten times, it's important to examine what's going on and to address the issues that emerge.

*HCI:* In other words, a lot of the success in the program seems to have come about through efforts to systematize and standardize care through the use of data analysis?

*Isgett:* Absolutely. We had used some data prior to QUEST, but we had looked at the data one disease at a time, but not across diseases. And at first, it almost seemed insurmountable that you would find the common denominators across

diseases. And actually, the physicians who had made up that mortality committee in our organization were past chairs of disease-specific quality improvement groups.

*Irvin:* One of the challenges is moving forward to look at populations. One of the things a doctor is trained to do is to look at the individual patient.

When I'm with Mrs. Smith, I'm worried about what's going on with her. When we're looking at this kind of data and doing analysis, we're looking at an entire population, and

that's not something that physicians are trained to do. So to get them to look at that population and take that information, and put that into use, and see it as part of a treatment plan, is where we as physicians really need to get to the next level.

*HCI:* You've explained to me that you're upgrading your electronic health record [EHR] right now, and that right now, your evidence-based order sets are still primarily paper-based, correct?

*Irvin:* Yes. And the beauty, once we transition to our new EHR, is that we'll be able to see how and when the doctors

have used the evidence-based order sets. And once everyone is on CPOE [computerized physician order entry], we'll find things we need to fix and fix fast, so we're building into the system mechanisms to help us figure out what's going on and how to fix it.

*Isgett:* Today, Dr. Irvin spoke with the doctors about the use of the

stroke order set; and today, all those charts are on paper, and you have to pull them manually. So going electronic will really move us so far forward in our growth on evidence-based care quality.

*HCI:* What would your advice be to the CIOs and CMIOs, with regard to how effectively leveraging IT can support initiatives such as QUEST?

*Irvin:* In reference to quality, I think they need to recognize how important they are in getting the right data and information to the physicians: it has to be accurate and it has to be up-to-date. It has to be not from six months ago, but from last week. The other thing is that when you do CPOE or computerized records, you're changing their workflow. So now you've slowed them down, you've interrupted their day, and they've got to relearn what they've been doing for 30 years, especially the older people. And a lot of times, the IT people will say, well, it works well, it works as designed. But we've spent a huge amount of time talking with the IT folks about how to make it work for the doctors and the other clinicians. ♦

# Forward Movement, with Balance

## FIRST IMPRESSIONS OF THE MEANINGFUL USE STAGE 2 PROPOSED RULE BY MARK HAGLAND

As healthcare IT leaders pore over the details in the Notice of Proposed Rulemaking (NPRM), more informally known as the proposed rule, for Stage 2 of meaningful use, under the American Recovery and Reinvestment Act/Health Information Technology for Economic and Clinical Health (ARRA-HITECH) Act, analysts are finding different elements in the proposed rule to be of particular interest.

Most industry experts analyzing the proposed rule, as well as many of the CIOs and other healthcare IT leaders looking at the rule, have expressed broadly positive comments about it, even as they have cautioned their colleagues about some of its challenges and complexities. One of those industry experts who has come away broadly positive after a detailed analysis of the rule is Mark Segal, Ph.D., vice president, government and industry affairs, for GE Healthcare IT. The Oak Park, Ill.-based Segal spoke recently with *HCI* Editor-in-Chief Mark Hagland regarding his analysis of the rule. Below are excerpts from that interview.

### POSITIVE FIRST IMPRESSIONS

*Healthcare Informatics:* What strikes you as most significant about the proposed rule?

*Mark Segal, Ph.D.:* At the highest level, there is a general level of continuity from the prior rule, and, in looking from Stage 1 to Stage 2, and from structured data through advanced care processes. Also, at the very highest level, there's a sense that both CMS and ONC [the federal Centers for Medicare and Medicaid Services, and the Office of the National Coordinator for Health IT, respectively] listened [to providers' concerns] and observed pretty carefully what's going on, about how Stage 1 is progressing, and what's needed. Drilling down one level, the fact that they formalized the additional year to Stage 1 was very significant. [Health and Human Services] Secretary [Kathleen] Sebelius had indicated that they might do this, late last year, and the policy committee had recommended it. But the fact of it just drives home that, given the complexity



involved, it would literally have been impossible to stick to the initial timetable.

In addition, there's an increased emphasis on interoperability and health information exchange [HIE]. For example, they eliminated the single test for HIE in favor of requiring actual exchange. I think CMS really nailed this, because people had been very unclear about what they had to test; and because there hadn't been any actual transport standards in Stage 1. So it had basically been about generating a CCD [continuity of care document] or CCR [continuity of care record], and then sending it; so it didn't test for very much. Now, they've really shifted to actually having to do an exchange for 10 percent of the times when you actually have a referral or transition



of care. And I think that that really is a very important move forward, because that really helps create the actual business case, not only for doing exchange, but for doing exchange in a way that integrates with your workflow.

There are things in here that really reinforce exchange: a move towards a single summary standard from the two that were in Stage 1. In Stage 1, they had the CCD or CCR; in Stage 2, you have something they're calling a Consolidated CDA (clinical document architecture); and a CCD is a version of a CDA. The EHR, when it receives a clinical summary from another provider, needs to basically integrate the data from that summary into the EHR and structured data, whereas in Stage 1, you only needed to display it. And also, there are actual transports standards as to how you move the information from point A to point B; and that had been a very noticeable gap in Stage 1. So all those things taken together really make the prospect for health exchange really bright.

There are a couple of other areas to point out as well. In Stage 2, there is now an increased focus on patient access to their data, including the ability to view the data and actually transmit it to somewhere else; as well as secure messaging between patients and their providers. Another step forward is the alignment of quality measures across different federal programs, so on the physician side, it's aligning the measures with the PQRS system [the federal Physician Quality Reporting System under Medicare]; and it's aligning the measures themselves, as well as aligning the reporting processes.

And finally, they've explicitly mentioned the role of access to images, both as images themselves, as well as imaging reports. Images and imaging reports are obviously a very important part of this. Stage 1 for the most part really didn't address



Mark Segal, Ph.D.

**IT'S IMPORTANT, PARTICULARLY FOR A CIO, TO LOOK AT THE ONC RULE, WHICH LOOKS AT STANDARDS AND CERTIFICATION, SO THAT THEY CAN ANTICIPATE THE KINDS OF TECHNOLOGY CHANGES AND UPGRADES THAT MAY BE COMING. —MARK SEGAL, PH.D.**

images or access to images. In Stage 2, they're proposing that there be access to images either as embedded in the EHR itself, or as will more likely be the case, through links to PACS [picture archiving and communications systems] and other systems. And they actually reference the DICOM standard when patients get access to their own information. That's really an important first step. They also asked for comment on creating an additional meaningful use item that would involve

the exchange of images among providers.

*HCI:* So they'll fashion that requirement based on comments on the proposed rule, and put it into the final rule, then?

*Segal:* That's right. And a few other things: there's more flexibility in the approach to certification. So in Stage 1—and this is something that sort of evolved through various FAQs—a provider has to 'possess certified technology' covering applicable areas; but in many cases, that meant you had to possess technology for items you were deferring. So ONC created a very nice framework and said, there's a base EHR, and everyone has to have that capability,

whether or not they've claimed exclusion for some of those items; but beyond that, you only have to have certification for items you have, and you only have to have those items if you are using those elements for meaningful use; so it provides an element of flexibility.

They also added more flexibility for specialists, in a few areas. So they continued with the general approach of having some menu items, which gives some flexibility relative to what your particular practice is. There's an exclusion for vital signs, where there are three elements of vital signs (height, weight, and blood pressure)—and for a physician to claim an exemption, you'd have to attest that none of those were relevant in your practice—but they've made each element separate. And this is looking ahead to what they're calling payment adjustments (penalties)—they've proposed several categories of exemptions, such as not having broadband, or being a new doctor, or if a tornado hits your town; but they've also asked for specialty-based exemptions. For example, the meaningful use framework really doesn't fit with how pathologists actually work. So it wouldn't make it easier to get the payments, but

it would prevent you from incurring the penalties.

*HCI:* Were you surprised at all, or was it essentially what you had expected?

*Segal:* In the main, it was what I had expected. I was

surprised that they had added imaging in Stage 2, not because it didn't make sense, but because the HIT Policy Committee had been having discussions more about including imaging in Stage 3. Other than that, nothing really surprised me; they proceeded in a fairly logical way.

## ADVICE FOR CIOs

*HCI:* Others have said they think the Stage 2 proposed rule is

reasonable, equitable, and fair. Would you agree?

*Segal:* Yes. Now, we have to look carefully; some of the thresholds may be too high as you look at new people coming in; but in the main, it was a positive reaction to the rule.

*HCI:* What would your advice to CIOs, CMIOs, and other IT and clinical informaticist leaders be at this point?

*Segal:* They should certainly be reviewing the rule carefully, and engaging as an active participant or listener in various discussions about the rule. Number one, because it's really important that the actual final rule reflect the experiences of those in the provider community. And second, they should really be assessing what will almost certainly survive, even if certain specifics change. So in addition to the CMS meaningful use rule, it's important, particularly for a CIO, to look at the ONC rule, which looks at standards and certification, so that they can anticipate the kinds of technology changes and upgrades that may be coming, as well as the implications of particularly vocabulary proposals, like the sole use of SNOMED

for problem lists.

And there are a couple of areas here around patient engagement: providers will be responsible for whether patients use the view-and-download capability; for whether patients actually use secure messaging. So, anticipating patient engagement and the specifics around it, will very much be a part of Stage 2. I think it would definitely make sense for hospitals, medical groups, and other providers, to take steps now in terms of patient engagement, with regard to patient portals and secure messaging, so that they're well-positioned to hit those 10-percent thresholds; and that's more of a business process/change management issue than it is a technology issue.

Overall, we are looking very carefully at both the CMS and ONC rules, to determine what comments to make, and to identify those steps that we need to be taking in the next few months, in advance of the final rule, to be well-prepared. ♦

(continued from p. 25)

Managing scope creep will help you deliver the project on time and on budget.

*Test, test, test.* Some things look great on paper or in the lab. Integrating them in a critical care work center can be a different story. Conduct extensive unit testing, regression testing, integrated testing and complete end-to-end testing, especially with third party vendors. Maintain good records and conduct multiple cycles. Documenting and fixing project defects will save time and effort at go-live.

**A WELL-ESTABLISHED AND THOUGHT-OUT STRATEGY FACILITATES EFFECTIVE COMMUNICATION AND CONFIGURATION MANAGEMENT, AND PROVIDES FOR A FORUM WHEN TOUGH DECISIONS NEED TO BE MADE. —JAIME B. PARENT**

*Keep documentation current.* Good documentation will help minimize errors and enable all project deliverables to be on time and on budget. Using version control with an integrated document management system contributes

to effective communication and better overall process management.

*Hit your milestones.* The easiest way for a project to get into trouble is to blow past milestones, considering them insignificant, or falling for an even more dangerous trap, "well get to them later." No, you won't, because other project milestones will be in the way. Keep the milestones and promises you set forth when you put your plans together. They were put there for a reason; hit your milestones when they are due.

*Hold people accountable.* The best

route to success is to have everyone involved with solid governance and clear lines of authority and responsibility. Make sure this a top to bottom team effort with effective communication and collaboration at all levels.

*Have an effective governance strategy.* An effective governance strategy will help to create a framework for the authority and accountability needed to keep projects moving and to make them successful—this is especially important in matrix environments. A well-established and thought-out strategy facilitates effective communication and configuration management, and provides for a forum when tough decisions need to be made.

These ten principles helped us keep the lines of communication and dialogue open and created the cohesiveness and teamwork essential for such a complex operation. Simply stated, the technology is important, but the management of workflow; end-to-end testing; governance and strategy; and communication and collaboration were the foundation for our synergistic project execution and success. ♦

Jaime B. Parent, FHIMSS, CPHIMS, PMP, is associate CIO and vice president, IT Operations at Rush University Medical Center.



# A Peek into the ACO Crystal Ball

**WHICH CARE COORDINATION TOOLS WILL BE INSTRUMENTAL TO LAY THE GROUNDWORK FOR ACOs? BY JENNIFER PRESTIGIACOMO**



Now that the final rule has been released for the Centers for Medicare & Medicaid (CMS) Shared Savings Program, what's in store for the industry? *HCI*

Associate Editor Jennifer Prestigiacomo spoke with American Medical Group Association's John Cuddeback, M.D., Ph.D., chief medical informatics officer of Ancuta, AMGA's collaborative data warehouse [AMGA is based in Alexandria, Va.], to see what is in store for development of accountable care organizations (ACOs) this year and what care coordination tools will be necessary to lay the groundwork.

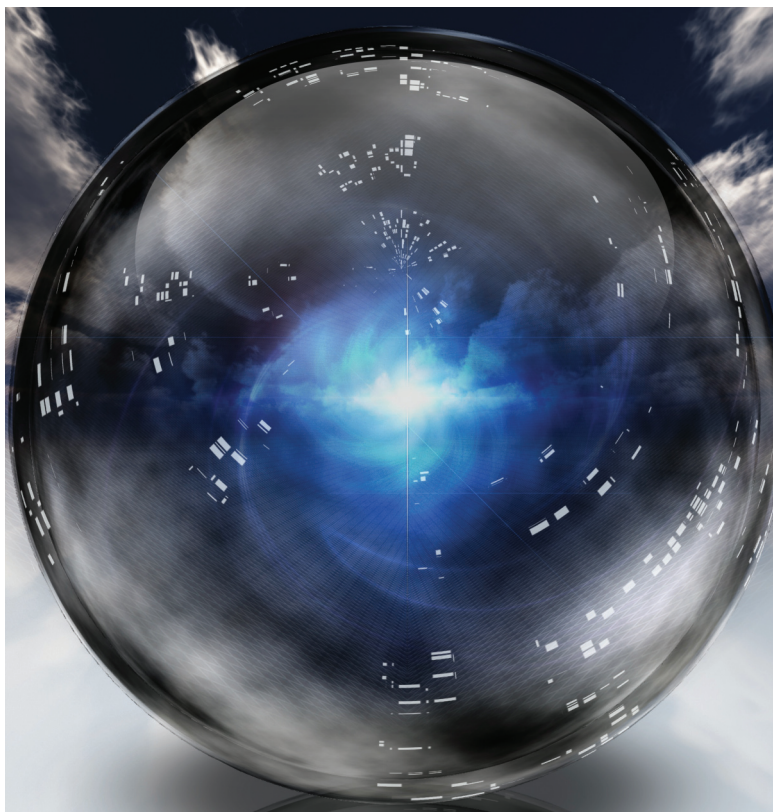
*Healthcare Informatics:* Do you think CMS is doing enough to encourage ACOs?

*John Cuddeback, M.D.:* This is a big battleship we're turning around here. If you look at what the U.S. spends on healthcare, it's the world's fifth largest economy. So, it doesn't change on a dime. I think if we look conceptually at where the direction of the market is going, the recognition that we need to focus on managing population health and paying for population health, as opposed to paying for individual services, is a very clear direction. I think most of our members are very comfortable with that, and that is precisely what AMGA has been advocating for almost a decade.

Much of the toolset available in the industry is focused around the care of an individual patient putting clinical decision support effectively into an EHR, which we've all found is a lot harder than it looks, because of the problem of alert fatigue and all of those subtle issues. More than 90 percent of our members are already using EHRs, and the majority of those are doing e-prescribing. I think a good model for an ACO was the Physician Group Practice Demo Program. It was a tremendous learning experience that CMS facilitated for the industry as a whole. Of their 10 participants, nine were medical groups,

and all were AMGA members.

AMGA members are not simply attacking this with just informatics, they're putting people in place whose job it is to coordinate care. It could be something as simple as planned visits, thinking through what's going to happen at this next visit for this patient. When we talk about design of a care system it is not only having the primary care and specialist physicians under the same roof, but being able to have those tools in place for people to use, and most importantly, having the people there. HIEs are a very valuable technology, but simply connecting EHRs—even if we solve the EHR adoption problem—is not going to automatically coordinate care.



## AN EVOLVING MODEL

*HCI:* How many organizations do you think are going to sign up for the Shared Savings Program in the next three years?

*Cuddeback:* I think to some extent it will depend on how the commercial market evolves. Some groups feel they can get their feet wet in population health management with maybe a little lower risk and less exposure if they approach it on a smaller scale with some of their commercial payers. The other thing that a lot of our groups are doing is working with employers in their regions. Those are people who tend to be interested in and be able to affect fairly broad interventions, including workplace health interventions and initiatives. I think that our groups are looking at all of those opportunities. There's no question of long-term direction.

The question is: what is the best opportunity that each group has in its local market to learn how to do this using comparative data and the shared learning we're providing? The model for how this team-based process works is still evolving. There are some very good best practices out there. For example, you can integrate with an employer and have a connection between the primary care that a population is receiving and a workplace health initiative. That's a great opportunity.

*HCI:* What do you predict that organizations are going to



John Cuddeback, M.D.

giving medical groups very detailed comparative data that they can explore for any subgroup of their patients on how they are doing relative to other AMGA members and finding where there are members doing a better job and taking the opportunity to learn from them.

We have a hypertension collaborative that was originally chartered for two years, and the groups didn't want to stop meeting. They felt they were getting a lot out of it, so that collaborative ended up running for four years. One of the things someone commented on was it's not so much that we learn exactly what the right model is from each other, is that we learn

what hasn't worked from other people and we can avoid a false start.

## A FOUNDATION FOR ACOS

*HCI:* What care coordination tools will be instrumental this year to lay the groundwork for ACOs?

*Cuddeback:* The major emphasis that I see and hear about when I talk to the folks in the medical groups is, as organizations are coming together with heterogeneous systems, it's figuring out how to get all of that together, whether it's an organizational-level HIE [health information exchange], or some way of doing data integration. It is clearly important, whether it needs to be at the transaction level as the HIEs would enable, or whether it can be at the data integration level, like several of the groups are working with Anceta. We're getting data from different parts of their organizations. We're actually bringing the integrated picture of their own

data, but also the comparative data.

Another is reaching out to patients, whether it's through smart pill bottles, or automated scales for renal impairment and congestive heart failure, or whether it's behavioral interventions, or a personal health record. The idea of taking advantage of a whole broad range of opportunities we have to interact with patients outside of a traditional visit or phone call is a second theme. A lot of our groups are talking explicitly about how they're designing some of their care process around encouraging patients and how they're using psychometric tools to measure patient engagement.

The third theme is population health analytics. So I think the ability to extend clinical decision support, whether it's through comparative effectiveness research or something a little less rigorous, but to understand what really works

**THIS IS A BIG BATTLESHIP WE'RE TURNING AROUND HERE. IF YOU LOOK AT WHAT THE U.S. SPENDS ON HEALTHCARE, IT'S THE WORLD'S FIFTH LARGEST ECONOMY. —JOHN CUDDEBACK, M.D.**

be focusing this year and next to create ACOs to coordinate care?

*Cuddeback:* One of the things that has been really valuable for AMGA is the opportunity to bring people together to learn from each other. We currently have a collaborative for managing patients with multiple chronic diseases—what are the tools you need to have in place to manage these complex patients? An interesting story came out of that first meeting when they were trying to develop the framework. At the end of the meeting, the participants observed that no [organization there] had all of the processes in place that they had collectively defined as being necessary to care for these complex patients.

Over the past few years we have made that more data-driven by developing a collaborative data warehouse [Anceta], which is focused on the problem of managing population health and



for patients to manage complex patients. It's much more holistic—what should we do for this patient, what engagement activities, what social support systems, understanding what the constraints are about this patient interacting with the health system. I think that is the value around the col-

**THE QUESTION IS: WHAT IS THE BEST OPPORTUNITY THAT EACH GROUP HAS IN ITS LOCAL MARKET TO LEARN HOW TO DO THIS USING COMPARATIVE DATA AND THE SHARED LEARNING THAT WE'RE PROVIDING.**  
—JOHN CUDDEBACK, M.D.

laboration around the comparative data, understanding what those opportunities are and be able to optimize those very expensive patients' care.

#### THE BIGGEST CHALLENGES

*HCI:* What do you think organizations will have the most challenge with?

*Cuddeback:* I think probably the biggest challenge is managing in a mixed reimbursement model. If we could switch overnight or if we could switch at a known date in the future and everyone could prepare for the date and if everyone was going to be in a pay-per-value mode, then

I think it would be clear what your roadmap was. There would be various pathways through that transition, but people would have a pretty clear roadmap. We lost a lot of steam with draft regs, and people were very excited about this transition in payment. Somehow providers need to get some exposure to the overall population cost of care.

You have to change the system so that the tools to achieve the efficiencies are in place at the front line where care is actually delivered and the decision-making is made at the front line. I think the biggest barrier is getting from here to there, and the fact that markets are going to evolve differently. We've got markets like the Pacific Northwest, whose markets are in a very different position than the same market in the D.C. region, and these were folks in the PGP Demo who were already up the curve and they're still struggling. And then there are other markets that are just continuing fee for service, and it's hard to get traction for anything else and people are even struggling to gain airtime to talk about anything other than fee for service. It's that heterogeneity of market that exists and the transitions that will occur individually, but I think the direction is clear. ♦

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**BLOGS**



**Stage 2 Meaningful Use Challenges**  
Advisory Board's Robin Raloff shares what the biggest MU stumbling blocks are.  
*By Jennifer Prestigiacomo*



**Todd Park: A Worthy CTO for the U.S.**  
The Obama administration made a good choice in Todd Park to replace Anesh Chopra as U.S. CTO.  
*By Gabriel Perna*



**Training Can Get You Started - But a Good Coach May Be Necessary to Finish and Win**  
A good coach can have an effect on your EMR to improve quality care and patient safety.  
*By Joe Barmel, M.D.*



**Reaching Across the Hospital-Physician Office Divide on IT**  
A new Deloitte white paper brings forward survey findings that confirm areas of mutually beneficial.

**NEW FROM HCI**

**Putting PHRs at the Center of Cancer Care**  
ONC funds Georgia project to include patients in HIE

**Enter the Next Phase of HIE**  
Commoditizing directed exchange to then innovate on top

**Forward Movement, with Balance**  
One industry expert looks at the Stage 2 proposed rule and sees a satisfactory combination of impetus and flexibility

**Quality Data Warehouses Mitigate Reporting Challenges**  
Beth Israel Deaconess, Adirondack PCMH Project utilize QDC for reporting needs

**PODCAST: Tackling Alert Fatigue**  
Mark Van Kooy, M.D., from Aspen Advisors discusses the issue of clinical alert fatigue and how it impacts physician workflow

# Tablets in Clinical Settings: Are They Up to the Job?

**COMPLIANCE AND DURABILITY CONCERNS MAY BE HOLDING CONSUMER-GRADE TABLET COMPUTERS BACK BY GABRIEL PERNA**

Despite all the surrounding hype, healthcare IT leaders are expressing sincere doubts about the effectiveness of consumer-grade tablet computers in the clinical setting. According to a recent study by the Rockville, Md.-based BizTechReports, an independent research and reporting agency, 66 percent of healthcare IT executives say consumer-based tablets create governance challenges for their organizations.

BizTechReports, which interviewed 100 executives and IT professionals in hospitals, cited security, durability, and EHR compliance as other reasons for the hesitation surrounding commercial tablets in healthcare. Sponsored by electronics manufacturer Panasonic, the research included a whitepaper, which outlined how a regulated industrial environment isn't exactly the most welcoming one for consumer-grade tablets.

Another recent physician-based study, from SpyGlass Consulting Group (Menlo Park, Calif.), also found reluctance in hospitals when it comes to the use of tablets. Both reports say at the heart of the issue is a struggle between the IT department and physicians.

Approximately 75 percent of the physician respondents in the SpyGlass study say hospital IT directors are reluctant to support mobile devices because of security and cost concerns.

Commenting on that finding, Lane Cooper, editorial director for BizTechReports, said: "The challenge that we outlined in the study, which the numbers revealed, was that



you have a lot of pressure from physicians, who are not only intelligent but powerful within a hospital setting, because they are getting a tremendous amount of benefit from leveraging the user-interface that these consumer tablets bring to the table. But what's difficult for them to adhere is the pushback from the IT side which has concerns about governance, risk, and security."



*Healthcare Informatics* Assistant Editor Gabriel Perna recently spoke with Cooper about the specifics of the study. Here are excerpts from that discussion.

## A DIFFICULT BALANCE

*Healthcare Informatics:* Explain exactly what are the governance challenges facing healthcare IT leaders when it comes to tablets.

*Lane Cooper:* Governance is about the rules of the road, the policies you put in place, so you can play the game. It sets boundaries of what you can and cannot do. And in the world of healthcare, some of the most important boundaries over the last decade have been driven by HIPAA [Health Insurance Portability and Accountability Act of 1996],

**GOVERNANCE RULES ARE MEANT TO LIMIT RISK. AND WHEN YOU INTRODUCE CONSUMER TECHNOLOGIES THAT ARE NOT DESIGNED TO SUPPORT THESE GOVERNANCE RULES, THEN YOU HAVE A PROBLEM. —LANE COOPER**

which is trying to accomplish two seemingly incompatible objectives: ensuring data that can be shared, but also to protect the data to make sure the privacy of the patients is secure. That is a high-wire act for someone trying to put together governance that complies with those rules.

In order to accomplish that, you need to put in automated procedures that give you a reasonable expectation that data is not leaking, that only the people who need to see can see it, and that it can move across enterprise boundaries. Those governance rules are meant to limit risk. And when you introduce consumer technologies that are not designed to support these governance rules, then you have a problem. And you have a market problem when the people responsible for your business [physicians] are not aligned with those governance rules.

I can imagine [physicians] can be frustrated by different governance rules, especially when working for multiple organizations, and they basically just want to do their jobs. And they've found the innovation that these consumer devices provide can give them a lot of flexibility on how they can access and share information with their patients. However, it brings them out of compliance with the governance rules set in place by specific organizations, which in turn brings the organization out of compliance with these major rules around privacy and security of data.

*HCI:* It almost sounds like HIPAA is kind of holding back tablets. Is that fair to suggest?

*Cooper:* It depends on what you choose to call the dog and what you chose to call the tail. Devices like the iPad are a tool, and HIPAA is a rule designed to protect patients and hospitals and provide guidance on how the patient data can move and still be protected. From my point of view, I

would look at it from the opposite perspective. I would say these consumer technologies... represent a threat to a core element in a healthcare organization's portfolio activities, which is not only to provide the best healthcare outcome at a low cost, but to protect the data and information flow. Should the burden lie with regulations to support a consumer tool or should the tools evolve to meet the requirements of these important legislative developments?

## WEB-ENABLED, OR NOT

*HCI:* Moving on from privacy, what are some of the operational challenges with the tablet and electronic medical records [EMRs]?

*Cooper:* A lot of these consumer technologies are designed to work in a web-enabled environment. The systems that hospitals have in place today, especially established organizations, have many generations of

legacy systems that were not designed with a web-interface in mind. They are just speaking a different language, so there's just an inter-generational challenge between getting access to the data.

*HCI:* The study and whitepaper mention the iPad a lot, why does it seem the iPad is singled out?

*Cooper:* It's synonymous; it's a function of their being first to market, and by a long-shot, being the primary platform in which the IT community is being exposed to the consumerization [sic] of IT. It's because they [Apple] were so good at what they did.

*HCI:* In what other ways are tablets not equipped yet for the medical environment?

*Cooper:* The whole issue revolves around the term, "consumerization." It's a consumer technology that's trying to be applied in not only an industrial environment, but one that is very regulated...and it goes beyond the security issues we've talked about. There are things like, can you wipe it clean? As you go from one patient room to another, can the physical structure of that device, which is not an industrial device, be wiped and kept clean so you're not passing along something bad. In a hospital environment, you're not working at a table top; you're in a very fluid environment, where a lot of the solid surfaces are on wheels. So it's easy for things to fall off and break. From an IT perspective, with these devices \$500 to 600 a piece, are they worth replacing five-to-six times because you've dropped it or damaged it?

No one [in the study] was saying that the iPad or any other mobile device is bad, the question is: Are they appropriate, and have they been designed to address the risks and environment in which they are being brought? ♦

# Building Trust

**A FOUNDATION OF TRUST AND SECURITY IS THE LINCHPIN OF HEALTH DATA EXCHANGE** **BY DAVID RATHS**



**T**he Direct Project has shown great promise in supporting basic data exchange to replace paper- and fax-based processes for referrals and care coordination. But to expand on the encouraging pilot projects, work needs to be done on establishing a trust and security framework. One grass roots nonprofit organization, DirectTrust.org ([www.direct-trust.wikispaces.com](http://www.direct-trust.wikispaces.com)), has formed to develop, promote, and perhaps help enforce the rules and best practices necessary to maintain trust within the Direct exchange community.

On Feb. 15, David Kibbe, M.D., MBA, senior advisor for the American Academy of Family Physicians (AAFP) and principal at The Kibbe Group LLC, Oriental, N.C., gave a presentation on the new group to the National eHealth Collaborative.

Kibbe said the group has grown to 80 members, representing health information service providers, health information exchanges, EHR vendors, certificate authorities, identity providers, state officials, patient advocacy organizations, providers, and consultants. Organizational committee members include AAFP, Arcadia Solutions, Cerner, DigiCert, Gorge Health Connect, Relay Health, Rhode Island Quality Institute, SAFE-BioPharma, and Surescripts.

Kibbe explained how the Direct Project facilitates the communication of many different kinds of content necessary to fulfill meaningful use requirements. Under the Direct model, a provider gets a Direct Address (like an e-mail address) and a security certificate. The providers send

*(continued on p. 43)*



# Leveraging the EMR for Clinical Science

**THE ELECTRONIC MEDICAL RECORD IS PROVING ITSELF TO BE A VALUABLE TOOL IN MEDICAL RESEARCH BY GABRIEL PERNA**

In the world of medical research, the emergence of the electronic medical record (EMR) in hospitals is a game-changer, giving researchers the opportunity to use large, previously unobtainable data sets for their studies. You don't have to tell that to Atul Butte, M.D., director of the Center for Pediatric Bioinformatics at Lucile Packard Children's Hospital (Palo Alto, Calif.) and associate professor at Stanford University School of Medicine.

As part of a Stanford research team, Butte and his colleagues mined a huge collection of data from EMRs to conclude that women report more pain than men. The Stanford research team used initial data from 72,000 patients that recorded 160,000 pain scores. It was eventually whittled down to 11,000 patients across 47 separate diagnostic categories that recorded 40 pain reports for each gender. Thanks to prodding from pain researchers, the EMR was able to record pain-scores along with other standard vital signs like blood-pressure and heart rate.

"We record those pain measures; it's not just acted on, it's recorded back into the EMR," Butte says. "We realized that this enabled us to do a study on pain measurement, on a scale that has never been done before. Before our study, pain measures have been limited, small data sets or studies."

Thanks to the Stanford Translational Research Integrated Database Environment (STRIDE), which hosts a clinical data warehouse for two hospitals, Lucile Packard and Stanford Hospital and Clinics, the data from the pain researchers was stored securely. STRIDE, which is a standards-based



informatics platform supporting clinical and translational research, is where the patient information was de-identified under protocols, says Butte.

The study came together, Butte says, because of a group of authors that have pain research and informatics backgrounds including Butte's student, Linda Liu; post-doctoral scholar David Ruau; Martin Angst, M.D., professor of anesthesia; and David Clark, M.D., professor of anesthesia. While the researchers confirmed data from previous studies, they did

make several breakthroughs in discovering unreported gender differences in pain measurement for various diseases.

### LARGE-SCALE STUDY, LASTING IMPACT

The idea of taking data from an EMR for research purposes isn't completely novel, Butte concedes. For the most part it has been done on a smaller scale. He notes many providers are leveraging the EMR as a way to improve quality-of-care within their own institutions, which is research in its own right. However, looking at the EMR as a way to "answer the broader questions of science," is not something you see a lot of people doing, he says.

The results of the study naturally came with various limitations, specifically for pain measurement itself. "If we ask

Butte says, adding that variation could change the answer from the patient. There were other caveats such as a lack of information on whether or not the patient was treated previously or not.

Essentially, this is a huge difference between an EMR-based study and a paper-based research study. "We can't capture everything as we might be able to in a controlled setting," Butte says. "But the controlled setting would be a smaller study."

The lasting impact of EMR-related studies will be huge, Butte predicts. Over the next 10 years, as every hospital in the country adopts an EMR, he says studies on pain will be able to include data from one million patients or more, not just 11,000. He says that in the short term, this research will be able to improve quality of care for providers. Long

term, molecular biologists and other scientific researchers will have access to large scores of human data to study disease, rather than relying on animal test subjects.

"It's amazing to know what kind of scientific questions we are enabling as we move towards the deployment of EMRs," Butte says.

For the Stanford project, Butte says the researchers will continue their work and look into using the EMR to study other vital signs such as temperature, heart rate, and ethnicity. Eventually, he foresees taking specific diseases and studying them one by one. ♦

**IT'S AMAZING TO KNOW WHAT KIND OF SCIENTIFIC QUESTIONS WE ARE ENABLING AS WE MOVE TOWARDS THE DEPLOYMENT OF EMRs. —ATUL BUTTE, M.D.**

an adult to measure pain on a scale from 0 to 10, it might look like a perfect measurement in the electronic medical record system. But there are some obvious things it doesn't capture. For instance, when the nurse is asking about their pain, we can't tell if it was a male nurse or a female nurse,"

## SECURITY UPDATE

(continued from p. 41)

e-mail securely through a health information service provider (HISP), which performs authentication, encryption and trust verification on their behalf. In one Direct demonstration project, Fishkill, N.Y.-based MedAllies, a HISP, has

there without any hiccups," Kibbe said. "That ease of use relies upon the capabilities of HISPs." Those HISPs must arrange for identity verification and for digital certificate issuance and management, and they have to encrypt messages end to end.

**WITHOUT A HIGH LEVEL OF TRUST ACCOMPANIED BY REQUISITE LEVELS OF SECURITY AND PRIVACY PROTECTION, HEALTH DATA EXCHANGE WILL FAIL. —DAVID KIBBE, M.D.**

engaged clinicians throughout the Hudson Valley, including Albany Medical Center, and their disparate EHR vendor partners to create a Direct project that pushes clinical information across EHR systems to support care coordination and transitions of care. The project has focused on the common care transition episodes of patient discharge from the hospital back to their primary care physician; and a consultation request from a primary care provider (PCP) to a specialist, then the clinical consultation from the specialist back to the PCP.

"The provider wants to know the message is going to get

as certificate authorities?

- What levels of identity verification are required for groups, professionals and patients?

- What will be decided at a federal policy level and what at an industry level? (An advanced notice of proposed rule-making is expected soon regarding the Nationwide Health Information Network (NwHIN).)

"We will need to be able to trust HISPs with our health information," Kibbe said. "Without a high level of trust accompanied by requisite levels of security and privacy protection, health data exchange will fail." ♦

Kibbe said issues that DirectTrust.org will try to work through include:

- Who will be acceptable

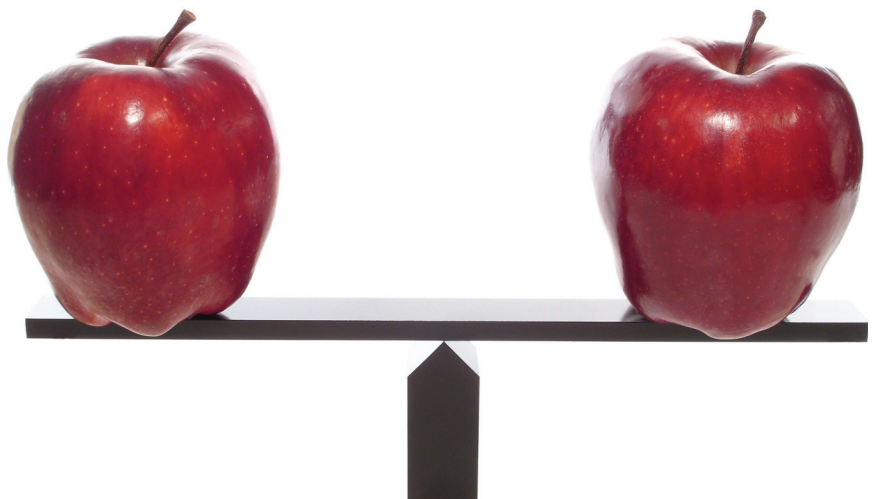


# Scottsdale Institute Creates an IT Benchmarking Program

**PROGRAM MAKES TRUE APPLES-TO-APPLES HIT INVESTMENT COMPARISONS POSSIBLE BY MARK HAGLAND**


How does one determine whether one's organization is spending "too much" or "too little" on clinical IT, when the meaningful use process under the American Recovery and Reinvestment Act/Health Information Technology for Economic and Clinical Health Act (HITECH Act) and the emergence of several federal health-care reform programs under the Accountable Care Act are compelling hospitals, medical groups, and health systems forward on the IT adoption journey?

That is precisely the question that the leaders at the Scottsdale, Ariz.-based Scottsdale Institute took on beginning in 2005, when they began to create the SI IT Benchmarking Program. Rather than extracting averages or conclusions from a database, the SIIT Benchmarking Program (which went fully live a couple of years ago, and currently encompasses data from approximately 45 hospital organizations nationwide, most of them large, multi-hospital systems) helps users create normalized data among peer organizations, giving them "apples to apples" spending comparisons. Among other capabilities, the program helps CIOs and other healthcare IT leaders take into account levels of telephony, health information management development, depreciation, biomedical engineering, and other aspects of spending and investment,



so that they can effectively compare what their organizations are spending with what other organizations of their size and type are spending. The program is offered free of charge, and non-member organizations are welcome to participate.

Gordon Roweder, who manages the program for the Scottsdale Institute, says, "The bottom line is that the CIO or other healthcare IT leader can pick a comparison group or cohort for any type of organization, and can include in his or her calculations such elements as their organization's operating expenses, IT operating expenses, number of staffed beds, number of outpatient locations, and so on." What's significant

A close-up portrait of a woman with short dark hair, wearing a white lab coat over a blue shirt. A stethoscope is draped around her neck. She is smiling slightly and looking directly at the camera. The background is blurred, showing what appears to be a medical setting.

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here, Roweder says, is that “We wanted to keep this simple, and gather data points and information that would be important to the users of the program. We don’t want to become HIMSS Analytics,” he adds, referring to the subsidiary of the Chicago-based Healthcare Information and Management Systems Society (HIMSS) that offers a very broad set of diverse services and capabilities.

Not only have Roweder and his colleagues tried to keep things simple, they’ve also worked to make things standard. “We’ve used very standard formulas” to support comparison work in the IT benchmarking program, he says. “We use HFMA’s basic formula for calculating adjusted patient days, for example, and that’s a very basic formula,” he says, referring to the Westchester, Ill.-based Healthcare Financial Management Association. “The bottom line,” he says, “is that you can look at a variety of different elements and adjust for those—for example, whether your hospital includes in its spending totals such elements as disaster recovery spending, spending on PACS [picture archiving and communications systems], and so on.”

### ONE HEALTH SYSTEM’S EXPERIENCE

CIOs and other healthcare leaders are reporting strong benefits from using the program. Among those is Brent Snyder,



Brent Snyder

**YOU CAN COMPARE AND SEE WHETHER YOUR COSTS ARE REASONABLY IN THE BALLPARK WITH THAT OF YOUR PEERS. THAT’S BEEN VERY HELPFUL AS I’VE SHARED IT WITHIN OUR COMPANY, BECAUSE IT’S SHOWN THAT YES, OUR COSTS HAVE BEEN INCREASING, BUT THAT OUR COST INCREASES HAVE BEEN RIGHT IN THE BALLPARK.**  
—BRENT SNYDER

CIO of the 43-hospital Adventist Health System, which is based in Orlando and serves patients in 10 states.

Snyder and his colleagues have been using the program since 2009. “In comparing costs with other entities, most of the databases that I’m familiar with don’t identify at a fairly high level what’s actually being supported out of a particular IT budget,” Snyder notes. As a result, he says, “The information tends to be either too vague or too familiar. And I don’t know who created the initial design parameters at Scottsdale, but what was designed seems to provide a nice middle ground. It segments the participant organizations into relevant groups, so you can see which organizations are at about the same

level of clinical IT development as yours, or who uses the same vendors.

As a result, he says, “You can compare and see whether your costs are reasonably in the ballpark with those of your peers. That’s been very helpful as I’ve shared it within our company, because it’s shown that yes, our costs have been increasing, but that our cost increases have been right in the ballpark. There

are hospitals with higher IT costs than ours,” he adds, “and there are some with lower costs.”

Currently at Adventist, Snyder says, “We’ve just finished deploying CPOE [computerized physician order entry] everywhere except in a few of our hospitals. And we are deploying closed-loop medication administration.” As a result, he notes, several Adventist hospitals have reached HIMSS Analytics Stage 6 development while many others are at Stage 5. He expects several Adventist hospitals to achieve Stage 7 certification sometime during 2012.

Of particular usefulness, Snyder notes, the SI IT Benchmarking Program has allowed him and his colleagues to benchmark their health system’s IT spending with that of other, similarly sized, health systems using the same core-clinical vendor (in their case, the Kansas City-based Cerner Corp.). In the end, he says, using the program “has allowed us to do an effective comparison on IT spending when we’ve presented to our system’s executive

committee on IT, to help them really understand how our operating costs fare, relatively speaking.” In an industry like healthcare, where it’s very difficult to quantify hard return on investment for IT spending, tools such as this one, Snyder says, offer particu-

lar value, adding that a recent upgrading of the program that allows organizations to report where they are on fulfilling the requirements of meaningful use has been especially helpful.

In the end, Snyder says, “A database is only as good as the breadth of its participants.” And the Scottsdale Institute folks, he says, “have enhanced that, and to the degree that there’s a broader participation of other health systems, it can only accrue to everybody’s best interest. So I applaud the Scottsdale Institute for doing this, and also for not making it overly complicated.” ♦

For more information, go to: [www.scottsdaleinstitute.org](http://www.scottsdaleinstitute.org).





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**Ed Simmons, CPC**

772-492-1844

[ed@belleoaks.com](mailto:ed@belleoaks.com)

**Peter Converse**

323-369-3447

[peter@belleoaks.com](mailto:peter@belleoaks.com)

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# How's Your Work-Life Balance?

## FOUR NON-NEGOTIABLE WAYS TO KEEP YOUR LIFE AND WORK IN BALANCE BY TIM TOLAN

**W**e've all heard the phrase "work-life balance" (WLB)—and while many of us truly get it, others are so busy trying to keep their heads above water that they never pause to figure out how to build a true work-life balance into their career track. I'm certainly no expert on WLB, but (as you

might suspect) I do have some firsthand experience with what it means and why it's necessary.

I think WLB has multiple data points that add to the overall quality of life. (Isn't that what it's supposed to be about, anyway?) Here are a few non-negotiables.

*Work for Someone You Enjoy Working For.* This is a no-brainer. The worst case scenario is spending one-third of your work week with someone you absolutely loathe. Maybe he or she never recognizes your work or

is just too busy to care. Maybe (and I've seen this one) your boss has awkward social skills and is just a terrible communicator which in turn makes him or her a lousy leader. I was in this situation a few years ago, working for a toxic leader who

cause she likes to guilt her team into reading and replying to her questions. The solution? Turn off your work-related devices at night/on weekends (if possible) and choose not to engage in other people's psychoses.

*Break up Your Midday Routine.* I do this religiously every week, and sometimes twice a week if schedules permit. I call my wife or a friend and plan lunch somewhere convenient for both of us, just to break up the craziness of my day by spending lunch with a person instead of at my desk. It's a great way to get away from everything for an hour or so and give yourself a treat. Breaking routines is a healthy way to enjoy life. When lunch doesn't work, stop by a local shopping center or district and walk around for awhile; or visit your local bookstore and lose yourself in reading something interesting (non-work-related). You'll feel refreshed and ready to take on your afternoon, instead of just going through the motions every day.

*Take Time Off.* If you earn time off, you should use it. Every paid-time-off day you have should be used that year, so forget about rollover days to build value in your PTO account. If you have flex time, take long weekends or half-day Fridays when possible. Leave your laptop and the list of unfinished to-dos—they'll be there when you return refreshed and ready to take on the world. That's not so hard, right?

Remember that as the leader of your organization your every move is being watched by those who look up to you. The speed of the leader (or in this case their habits) will be emulated by members of your team, so encourage your employees to take time off. Get everyone to submit

a list of vacation days in advance, and make sure you talk to those who choose to work instead. A happier employee is a more productive employee, and that's a good thing.

Find your WLB and you will change the way you feel about waking up and going to work every day. One more thing: once you master WLB, you may find that your job is much more fulfilling.

Give it a shot! ♦



Tim Tolan

**IF THERE'S AN EXPECTATION THAT YOU WILL BE AVAILABLE 24/7 TO ANSWER EMAILS, RESPOND TO TEXT MESSAGES OR TAKE WORK HOME ON A REGULAR BASIS, YOU SHOULD BE ASKING YOURSELF 'IS THIS AS GOOD AS IT GETS?'**

completely erased my working-for-jerks tolerance level. Life's tough enough without the added stress of an elevated heart rate every time you walk through your workplace door dreading yet another day in paradise.

*Enjoy Family Time After Work.* If there's an expectation that you will be available 24/7 to answer emails, respond to text messages, or take work home on a regular basis, you should be asking yourself, "is this as good as it gets?" I understand that every now and then urgent matters crop up during your downtime, but that should be the exception and never the rule. I know one C-suite executive who loves to share her passion for weekend work (i.e., sending weekend emails to her staff) be-

Tim Tolan is a senior partner at Sanford Rose Associates Healthcare IT Practice. He can be reached at [tjtolan@sanfordrose.com](mailto:tjtolan@sanfordrose.com) or at (843) 579-3077 ext. 301. His blog can be found at [www.healthcare-informatics.com/tim\\_tolan](http://www.healthcare-informatics.com/tim_tolan).

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