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Nineteen No-No's

EXECUTIVE SUMMARY

If Scottsdale Institute has maintained a single focus in its dozen-plus years of existence, it's been to share lessons learned among member organizations in the quest for IT-enabled process improvement. These years have witnessed the greatest advances in the growth of healthcare IT in the industry's history with SI members and associates helping lead the way. Using that experience, this issue of Information Edge highlights the top 19 things we've learned NOT to do in implementing an electronic health record. (We tried for the top 10 but after talking with our experts there were just too many to shoehorn into that small a list.)

Emphasizing no-no's, so to speak, allows us a fresh, high-level look at best practices—or should we say worst?—in implementing clinical IT. Recent events, some discussed, afford us a particularly interesting vantage point. We heard a riveting talk at our Fall Conference at NewYork-Presbyterian in September, for example, from Richard Orr, MD, associate director of the Cardiac ICU at Children's Hospital in Pittsburgh and co-author of a recent article in Pediatrics that described how a CPOE implementation resulted in a higher mortality rate at the hospital. Orr described how a perfect storm of people, process and technical problems created a disastrous result.

In the audience were Michael Shabot, MD, medical director Enterprise Information Services, and director of Surgical Intensive Care at Cedars-Sinai Medical Center in Los Angeles, and Jerome A. Osheroff, MD, chief clinical informatics officer for Thomson Micromedex, coauthors of another Pediatrics article that outlined how many of the problems with the CPOE implementation could be avoided by more methodical planning and execution. We are fortunate to have been able to interview Orr and Shabot for this report as well as Pete Smith, VP at FCG, and Andrew Mellin, MD, a medical director at Allina Hospitals and Clinics in Minneapolis.

1 PLAN NARROWLY.

Any organization considering an EHR initiative should conduct comprehensive, holistic planning, says FCG's Smith. However, most organizations do just the opposite and are too narrow in their planning. "You have to really

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delve into the process on multiple levels, including total cost of ownership, risk and change management. Otherwise it's impossible to fully grasp the organizational implications of the implementation," he says. For example, when organizations install advanced clinical systems, the planning too often becomes focused around the system instead of the broader factors of process change, organizational impact and change management. And, while vendors provide hospitals and health systems with plans, those plans typically underestimate the work required in organizational change, ranging from governance structures to physical plant, access points and so on.

2 UNDER-RESOURCE THE EFFORT.

Healthcare organizations must commit full resources to the EHR effort, putting enough people, dollars and time into the initiative to ensure success. A corollary: Take on only the components that can be fully resourced. Scope and applications must be consistent with resources. Organizations that don't fully understand the resources commitment will fail. Again, vendors may tend to underplay the amount of resources required. Allina's Mellin says organizations make the mistake of setting too many priorities. "It's an enormous change. Those who haven't done this before don't realize the magnitude and how much this transforms your organizational culture and practices. You need to make a conscious effort to have people clear their plates and make this their only priority. You can't stick your head in the sand and make it happen." An EHR initiative must have very active leadership.

3 HIDE YOUR LIGHT UNDER A BUSHEL.

Under-communicating is a big no-no. You must maintain communication and visibility throughout the process. An EHR must be a highly visible change because it involves not just process change but cultural change. Don't hide your light under a bushel. "This isn't a skunkworks project" that should be kept secret, says Smith. Adds Mellin: "There are few if any projects that will have such an impact on the way you practice medicine. It's detrimental if you don't go out of your way to communicate, especially with medical staff. It has to be open and transparent. Be very clear about expectations, timelines, etc. And you need to communicate through every channel, every opportunity—electronically, mail, posters, meetings, leadership forums, informal conversations. There isn't a single perfect way."

4 IGNORE OTHERS' EXPERIENCE.

An EHR abhors a vacuum. One good way to fail is to not infuse best practices into an implementation. Successful organizations infuse best practices from third parties, vendors and other organizations, including peers who have implemented EHRs. When you're implementing an EHR in a hospital, look at the experience of other hospitals

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December 6
KLAS on Interoperability
- Kent Gale, president, KLAS, Orem, Utah

January 11
National Provider Identifier: IT Implications
- Tom Bixby, partner, Neal Gerber, Eisbenberg, LLP, Chicago

January 15
Forrester on RHIOs
- Eric Brown, Forrester Research, Cambridge, Mass.

January 18
KLAS on Professionals Services: Clinical, ERP and Outsourcing
- Mike Smith, KLAS, Orem, Utah

January 23
Cincinnati Children's Case Study in Medication Management
- Joe Luria, MD, patient safety officer, Cincinnati Children's Hospital Medical Center

January 30
Secure Messaging and EHR Integration
- David W. Bauer, residency program director, Memorial Hermann Healthcare System, Houston

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across the country. Don't recreate the wheel.

5 MAKE IT GLUM.

This may seem like a subtle distinction and is as cultural as any factor, but you have to incorporate fun and humor into the process. For example, when organizations launch visibility programs for an EHR implementation, it's a good idea to give the initiative a fun name—holding contests to choose that name is also good—provide light-hearted updates to staff and generally hold cultural motivational activities associated with the project. It helps create visibility and drive. One major healthcare organization involved in an ambitious IT project used the phrase "When pigs can fly," as a tongue-in-cheek reference to the obstacles they were up against. Upon achieving their goal, the group had a party with helium-filled balloons of pigs with wings. "Don't ever lose sight of the fun," says Smith.

6 DON'T MENTION BENEFITS.

You need to estimate and articulate the expected benefits of an EHR. It's important to be clear and consistent but not necessarily formal. And they can be quick—you don't have to go through six months after Go Live to realize benefits—and self-fulfilling, as long as they're positive. Articulating expected benefits not only answers the question as to why people have to change, but also instills accountability. "This is much more important than picking the right technology or vendor," says Smith, adding, "There's a direct link between expected benefits and accountability."

7 OVER-PROMISE BENEFITS.

When implementing systems, it's easy to think of all the problems you're going to solve because we view technology as a way to fix things. Technology can enable change but is not sufficient in and of itself to correct problems. "Just because you can turn on alerts does not mean errors will disappear. As leaders we shouldn't say that it solves all errors. That's just not going to happen," says Mellin. Don't expect the system to solve all the problems. "It's very easy when you have a tool like this to target all the problems that would have been nice to fix in the past. You can make things worse with the tool if you try to solve every problem. You end up with an unusable system that doesn't facilitate but impedes patient care."

8 BE EXCLUSIVE.

An EHR effort must be inclusive and have full representation from clinicians, including physicians, nurses and allied health professionals—not only implementers. Stakeholders need to understand the content and develop consensus to get people on board. Above all, says Mellin, do not ignore "the quiet 80 per cent," because the quietest people in the organization may be the ones who best grasp its pulse and provide the most useful feedback and guidance. Make a conscious effort to reach out and listen to them. "It's amazing," says Orr, "what a difference it

Upcoming Events continued

February 6
National Provider Identifier: Current and Future State
- Michael Apfel, chief privacy officer, Truman Medical Centers, Kansas City, Mo.

February 14
Banner Health Care Transformation: Measured Benefits
- Judy Van Norman, system director, Care Transformation, Banner, Phoenix
- Ben Wilson, Intel Corporation, Santa Clara, Calif.
- Kevin Ford, Cerner Corporation, Kansas City, Mo.

February 20
KLAS on Cardiovascular Reporting
- Jeremy Bikman, KLAS, Orem, Utah

February 28
United Health Care on Personal Health Records
- Archelle Georgiou, MD, United Health Care, Minneapolis

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makes when the leaders of an implementation utilize and listen to people in the trenches." That's especially true with vendor systems that default, for example, to their own medication schedules even after a doctor has specified something else. Too often clinicians in the trenches are given the impression they're having input and yet their needs are mistranslated and those clinicians are characterized as simply resisting change. "Don't get the administrative nurses; get nurses who have been working on the ICU floor for two years" to gather clinician input, says Orr.

9 DO IT WITHOUT TOP MANAGEMENT.

An EHR implementation must be a top-down, executive-sponsored initiative with heavy clinical representation. That means having the right sponsorship and governance. "If you're going to be out there talking, have people with credibility do it. Have the right people lead the charge. It can't be the techno-geek or the first person to raise his or her hand or the doctor who has the time to do it. You have to find the right leaders, the ones who have peer relationships and who understand politics, change management and the technology," says Mellin.

10 MANAGE BY FIRES AND NOT BY PLAN.

Organizations must manage using "a combination of crisp execution and project discipline," says Smith. That implies project management, scope management and risk management. Understandably, doctors get distracted by what is in front of them at the moment and it can be difficult at times to maintain overall project momentum. Mellin says an organization will fail "if you let all these fires overwhelm you, if you don't have an overriding plan. You can't just wing your way through this."

11 ASSUME THE NETWORK WILL WORK.

You must have the appropriate infrastructure—a robust network with adequate end-user access—for an EHR to succeed. Today it's got to be ubiquitous and that means incorporating PCs, wireless, web-based, speech recognition and handheld devices. "You have to provide multiple points of access, you have to support mobility, it's an important part of today's business culture," says Smith. Orr recalls how going live with a new clinical system at another Pennsylvania hospital "completely froze up the system. It went down 14 hours on a Saturday because the system couldn't handle it." He says beware the vendor that comes to a 225-bed hospital and tests their product on only four or five computers.

12 FALL INTO THE TRAP OF "ONLY WHEN" OR "ONLY IF."

You must balance the real needs of users against a tendency of some to stall, declaring they can proceed only when X, Y or Z is better. "The majority of these stands," says Mellin, "are just

WELCOME NEW MEMBER

The Scottsdale Institute is proud to welcome new member Rush University Medical Center, based in Chicago.

Rush University Medical Center is an academic medical center that encompasses a 613-bed hospital serving adults and children, the 61-bed Johnston R. Bowman Health Center and Rush University. Rush University is home to one of the first medical colleges in the Midwest and one of the nation's top-ranked nursing colleges, as well as graduate programs in allied health, health systems management and biomedical research. The Medical Center also offers more than 70 highly selective residency and fellowship programs in medical and surgical specialties and subspecialties.

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excuses to resist change. As a leader it's important to push ahead and as you do so these issues become less important. As a leader you need to be able to separate the issues—the ones that are true show stoppers and need to be addressed as opposed to the ones that really aren't problems." Don't let the perfect get in the way of the good. A corollary to this is not to back down from dissenters, who are present in every implementation. "You need to plan in advance by creating bylaws or processes to deal with changes. If you are going to make the change, make it whole-heartedly in a proactive way. Have a well-defined plan that says you're either with us or you're not. For example, people who don't comply with a training plan may have to go through an escalating path that ultimately leads to suspension of privileges," says Mellin.

13 CONFUSE THE SYSTEM WITH THE PRACTICE OF MEDICINE.

As a result of implementing CPOE, clinical content and processes are often changed and it's important to separate the system as a tool from the actual practice of medicine. In the case of medication reconciliation, for example, it's not the system that required new processes but instead it was new JCAHO regulatory requirements. Don't make the system the whipping boy. Clinicians often blame the process changes on the technology when it's not the technology's fault. Cedars' Shabot notes this was one of the factors he has observed. A pharmacy centralization concurrent with CPOE implementation at Orr's Children's Hospital of Pittsburgh led to removal of critical medications from the ICU. "You couldn't blame that on the computer system," he says.

14 EXPECT 100% VOLUNTARY COMPLIANCE.

Organizations should go into an EHR implementation with the expectation that many physicians are not excited about it. "It's easy for an insider to generalize feelings to the rest of the medical staff," says Mellin. "You need leaders and strong peer pressure. Many times just having one-on-one conversations helps. People just don't run like lemmings to sign up for CPOE. It changes their lives."

15 OVERREACT QUICKLY AT GO LIVE.

At Go Live there will be many suggestions, ideas and feedback on how to improve, change and generally do things better. It's important to separate the real issues from the peripheral ones. Most of them just disappear afterward.

16 SLOW BUT SURE IS GOOD.

"Speed is everything," declares Shabot. It doesn't matter how good a system is—the most fabulous decision support, the best CPOE—if the system is not really fast. "If you don't deal with the speed issue, physicians will not wait. They don't have time to wait. What sounds like good response time to engineers—one or two seconds—is not

Welcome New Member continued

For 169 years, Rush has been leading the way in developing innovative and often life-saving treatments. The combination of research and patient care has earned Rush national rankings in ten specialty areas in the 2006 *U.S. News & World Report's* 2005 "America's Best Hospitals" issue.

Welcome Larry J. Goodman, MD, president and CEO, Lac Tran, senior VP, Information Services, Angela R. Tiberio, MD, chief medical information officer and the entire Rush University Medical Center team.

"It's not about how elegant the system is, but simply can it get me the information right now. Some of the most popular EMRs are not the ones with the most features. They're the ones that are simply fast and efficient."

adequate. It needs to be sub-second," says Shabot. He recalls a meeting of clinical user institutions in which engineers proposed workstation response times, first of five seconds, then three and finally one. The user group rejected all the options as too slow and gave the engineers a challenge they eventually met: "blink speed". That is, the screens had to flip in an eye-blink. "Clinicians need a system that runs as fast as they can think. This is a very big challenge to developers. The traditional means of assembling screens from databases doesn't work with clinicians. You have to preassemble them in fast memory." Orr asserts that systems should be implemented to take care of the sickest patients. "I'm biased because I take care of those patients, but CPOE is typically set up for the law of averages, probably only three times a day does it expect you take care of a crisis. How's this thing going to work in a worst-case scenario? I don't think these systems are well-tested that way. Hospitals are going more and more toward acute, critical care. Systems need to be tested for 10 critically-ill patients who are all undergoing active resuscitation simultaneously to see if they can handle them. This scenario is not unusual in a busy ICU such as ours."

17 ELEGANT FEATURES OUTWEIGH EFFICIENCY.

Doctors won't wait for a computer's pearls of advice, says Shabot. They have to work at blink speed. Physicians don't have any extra time. "All my time is taken seeing patients, filling out forms and going to meetings. It's not about how elegant the system is, but simply can it get me the information right now. Some of the most popular EMRs are not the ones with the most features. They're the ones that are simply fast and efficient," he says. Having a system perform at blink speed at a demo is not enough. It must be able to do that in a 1,000-bed hospital with hundreds if not thousands of workstations accessing it. Orr says a key to efficiency is to standardize order sets throughout the enterprise. "We just implemented a new patient-weight system, which has caused the nurse to have to input weight three different times at three different places." You also can't have one part of the system insisting on kilograms and another milligrams. "If it takes 59 clicks for one medication and there are 25 to 30 orders per patient, my day gets quite long."

18 IGNORE CLINICIAN WORKFLOW.

The system must blend into physician workflow, fitting into the natural tasks of care and documentation. "If it's an unnatural act it makes medical care difficult," says Shabot, such as the case in which workstations were physically separated from patients so physicians and nurses had to leave the bedside in the ICU. "Don't assume every doctor or every work area has the same workflow," he says. Orr asserts it's imperative to "set up a system that will work with what you have, a system that

doesn't change the communication/interaction where it matters most: at the bedside. Just make sure the system is designed for the fewest number of people to work. The system needs to be convenient for healthcare workers. It needs to blend seamlessly into the workflow."

19 DO EVERYTHING AT ONCE.

There is value in staggering change. Making organizational changes in workflow such as centralizing drug distribution at the same time instituting computer-based changes resulted in removing local drug inventory that could have caused higher mortality because patients experiencing sudden arrhythmias or shock have only moments to be treated. While centralizing drug distribution was an issue separate but related to EHR implementation, had the hospital centralized drugs a month earlier they would have discovered and corrected the problem almost immediately. The message, says Shabot: "Change workflows in advance of the computers."

Conclusion

On one level, healthcare IT is like a big decision tree that keeps sprouting branches of increasingly validated knowledge called best practices. The weak branches, the ones we dub the no-no's, are the ones experience tells us won't hold the weight of the enterprise and must be pruned for the tree to fulfill its majesty.

It's imperative to "set up a system that will work with what you have, a system that doesn't change the communication/ interaction where it matters most: at the bedside."

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