

and revealed patterns of movement. For example, one medication room proved to be more popular than another, even if it was farther away for a given staffer, because the nearby nursing station was the social center of the unit and worth a few extra steps. That was a valuable piece of information for stocking medications, among other things.

“The biggest piece was not to use it in a punitive manner,” Simmons says. Instead, she used positive reinforcement, noticing when the map showed that a nurse hadn’t had a chance to get lunch, and urging her to take time to relax during the day. “She was completely shocked that I cared. Once they knew we were using the data to help them, they complied better with wearing the tags.”

Though Simmons kept an eye out for behavior changes caused specifically by wearing the tags, there were none. “Now they forget they have them on,” she says.

The results: Simmons has not implemented any changes yet as she strives to make sure the information is accurate. But she is better able to understand how much time nurses spend in patient rooms, making trips to the medication room, lounge, nutritional services area and other places. She’s looking for inefficient patterns that may benefit from a change in procedures, and can also tell whether staff are complying with hourly rounding requirements. Simmons says the chief nursing officer at corporate parent Florida Hospital in Orlando is eager to expand use of the tags to generate similar information for the other 21 campuses in the organization.

The advice: “Really focus on the people part. You can’t implement something this intrusive without understanding your people, and having them understand that it’s here to help and not harm.”

Inmed Group, Montgomery, Ala.:

Letting the users perfect the system

The technology: NextGen electronic health records.

The objective: Improve clinical care and financial performance.

The change: Inmed Group operates several small hospitals in Alabama and Georgia that until 2010 conducted their entire clinical lives on paper. Over the past two years, the switch to an EHR with computerized physician order entry has entailed a mind shift to real-time thinking, says chief operating officer Vickie Lawrenson, who used to be an executive at America Online and was frankly appalled at the lack of computerization when she moved to health care. Batch processing is incompatible with good care, she believes. “You have to enter everything as you’re doing the work,” she says.

Inmed’s small hospitals don’t have I.T. departments, so their EHR installations were do-it-yourself, with support from their vendor, NextGen. The first go-live, at 49-bed Crenshaw Community Hospital in Luverne, Ala., offered a chance to iron out the bugs: how to equip the carts that held the computers, where to put the label printers, whether to create the equivalent of a given paper form in the computerized workflow. The initial data entry required during the switchover offered a prime opportunity to help users see how the new information flow could help them, and much time was spent walking charts through the system. The second hospital to go live on the new system, 54-bed Bullock County Hospital in Union Springs, Ala., learned from Crenshaw’s experience and had a much quicker, smoother implementation, Lawrenson says.

Order sets were pre-defined by the medical staff before go-live, but as clinicians have become more familiar with them, they’re looping back to figure out how they can eliminate keystrokes and save time. They have had to unlearn certain paper habits, such as requesting multiple lab draws even when an order set was configured to request a series of lab draws at set intervals.

The result: Inmed qualified for meaningful use dollars at almost the earliest possible moment, Lawrenson says, and the hospitals are doing much better at monitoring their performance on core measures. She can also monitor staffing and see where extra nursing help is required.

The hospitals are looking at significant savings from being able to monitor supply use and manage inventory. She is able to consider cancelling standing orders and reducing for expensive items like compression socks, because she can now predict how many she’ll need. Charge capture has also improved significantly.

The advice: “Do a lot of role-playing and walk-throughs, so everyone understands how information flows through the system.”

Kishwaukee Community Hospital, DeKalb, Ill.: Transforming nurse call into “everybody call”

The technology: CommonPath centralized call system, Intego (recently acquired by Critical Alert Systems).

The objective: Revamp the nurse call function to summon the right caregiver to the right place at the right time.

The change: 94-bed Kishwaukee Community Hospital did away with nursing stations when it opened a new facility in 2007. They were replaced with documentation stations outside each room and small “huddle areas” in each unit for brief meetings. With that change came a need to rethink nurse call, says CIO Heath Bell. “We looked for a nurse call model that would allow centralized operators, with the goal of getting the right person to the patient’s bedside,” he says. “We couldn’t have a call go back to the nurse station, find the nurse, and then have the nurse find an aide to deliver ice chips.” The hospital ended up with a centralized nurse call system, where one operator, or at most two, fields all requests from patients. The system automatically provides the operator with the patient’s name, physician, caregiver, and other pertinent information, so the operator can give the patient a personalized response. Then the operator summons the appropriate caregiver. The system can notify through any device, like a pager or a cell phone. Families can use a special button to summon a rapid response team, and medical device alarms will also activate the call system. All the calls flow into a database to be incorporated into permanent

records as necessary.

Even many codes are called through the system. Getting caregivers to trust it for that purpose and let go of overhead paging was one of the biggest psychological changes required, Bell says.

The result: Kishwaukee is a quieter hospital, as overhead paging has largely been eliminated. The hospital is now working on integrating the system with clinical alerts from its EHR. For example, if a core measure specifies that a patient should get an antibiotic at a certain time, an alert will go out to the call system if the antibiotic is late being administered. "Clinician response is much quicker, and it takes away the need for them to stand in front of a computer," Bell says.

The advice: "When we select a vendor, we tell them we're going to push the limits of their technology and we want to see everything they have so that we know we're leveraging it to its full potential."

Main Line Health, Bryn Mawr, Pa.:

Using clinical decision support to push quality metrics

The technology: Soarian EHR from Siemens.

The objective: Build best practices into clinical workflows via the EHR's decision support function.

The change: While clinical decision support systems can always be used to change a clinician's decisions one at a time, four-hospital Main Line Health decided to incorporate quality checklists and the best current evidence into its electronic health record system in a way that makes them second nature to its clinicians. "Our quality was already quite high, but this technique is more about hardwiring best practices," says Karen Thomas, chief information officer.

For example, to reduce central line infections, an interdisciplinary quality team studied the literature as well as worklists devised by Peter Pronovost, the Centers for Disease Control, and other quality improvement experts.

Each element of the list was embedded into the clinical workflow for central line

insertion, so that clinicians would have a reminder of each step, and would document that it had been done. The checklists are quite detailed, including sections on whether a central line is appropriate, site selection for the line, hand washing, caps and gowns and skin prep procedures. Once the line is inserted, reminders are automatically generated for appropriate monitoring and follow-up care.

An organizational focus on quality improvement had already conditioned the staff to expect checklists and evidence-based practices. Having them incorporated into the EHR in such a detailed way ultimately made it easier to adhere to them.

The bigger challenge was getting busy physicians to set aside time for training. Each individual initiative has taken almost a year from concept to full implementation. In addition to central line placement, Main Line Health has applied the same process to practice guidelines for congestive heart failure and for fall prevention.

The result: The organization's quality in the target areas was high to begin with, but Thomas says that building the checklists and evidence into the EHR has helped keep them at the front of clinicians' minds, and has also generated information that will be helpful in uncovering any persistent problems. "We didn't have a lot of room to drive rates down, but we want to be able to sustain that good performance," she says.

The advice: "Building the tools is the easiest part of the process. The heavy lifting is in changing workflows, agreeing on standards, doing training, and reviewing the results."

Orlando (Fla.) Health: Putting images in the cloud

The technology: Accelerad SeeMyRadiology cloud-based medical image sharing.

The objective: Speed decision-making in emergency transfer center.

The change: As a regional referral center for hospitals up to 150 miles away, Orlando Health has to deal with a large volume of images connected with emergency trans-

fers. Many incoming patients can't receive meaningful treatment until Orlando Health receives their images from the referring facility. Carlos Carrasco, corporate director of business development and innovation, has tried more than his share of strategies to make that transfer happen smoothly, and has learned the hard way that workflow can't be changed successfully unless it's being simplified.

He tried putting dedicated computers in the referring facilities, with a virtual private network to send the images to Orlando Health, but they were inconvenient to use. He tried having the referring facilities burn CDs with the images and send them along with the patients, but then had to deal with a profusion of formats and incompatible image-reading software.

By the time he tried out a cloud-based system that allowed Web access to images, he thought he had solved the problem. He set up a gateway at each referring site to take DICOM images and upload them to the vendor's cloud to be accessed by Orlando Health clinicians. They were reminded to do so when filling out the transfer paperwork. The images could be accessed at any computer by Orlando Health's ED staff with a few key strokes. The only catch? Computer access alone was too constricting. Users wanted to access the images on their tablets and smartphones, which the vendor, Accelerad, solved by creating mobile apps to access the system.

The result: "It's very hard to objectively measure being easier to work with, but we're capacity constrained, and the question is whether we're better able to take care of patients that truly need our interventions," Carrasco says. Not only does image access improve care once the patient arrives at Orlando Health, it can also keep the patient from being transferred to begin with, if specialists conclude that adequate care can be given at the home facility.

The advice: "Make sure all parties understand how the system will benefit them, and understand how the technology fits in with the workflow at each site." ■