

How investments in positive ID pay out in patient safety

Anne Paxton

In honor of Patient Safety Week this year, St. Cloud (Minn.) Hospital, a member of the CentraCare Health System, zeroed in on classic strategies for promoting business innovations in patient safety. A safety committee asked hospital departments to submit entries to a competition for the process changes that most improved patient safety. Administration and nursing staff served as judges.

Among the winners selected from 36 entries was CentraCare's independent laboratory, CentraCare Laboratory Services. The laboratory received the competition's Grand Achievement award for its new positive patient identification system.

Perhaps the laboratory had a bit of an edge, however. Last November it implemented a handheld bar-code technology system that uniquely identifies patients for specimen collection. "That was considered a dramatic improvement in patient and specimen identification," says Jeremy Angell, the laboratory's support services coordinator. But many hospital laboratories, like St. Cloud's, are finding that for an information technology outlay of \$100,000 to \$150,000, they can slice, or maybe even eliminate, patient identification errors in specimen collection—and score other safety and productivity gains as well.

The laboratory at Mansfield Hospital, one of two hospitals in the Richland County, Ohio-based MedCentral Health System, isn't sure precisely how many patient identification errors occurred in the past. Before installing the Patient Identification Check (PIK)—former-

ly called BD.id—marketed by Siemens Medical, the laboratory had tracked errors manually, a less than foolproof system. "As at most places, I think the errors were usually discovered by people in our processing area or by the technologists doing delta checks," says Bobbie "Markley" Jenkins, director of laboratory services for MedCentral.



Jenkins

"On the floors and locations where we use PIK," Jenkins continues, "we have not had one misidentified patient or one incorrect draw."

Mansfield Hospital and its sister facility, Shelby Hospital, had implemented Siemens' Novius laboratory information system and pharmacy medication administration system, which included a patient armband bar-coding system, about five years ago. The patient ID system went live at Mansfield in March 2006.

MedCentral chose the PIK over another patient ID system not only because it was more compatible with the LIS but also for its level of automation, Jenkins says. "PIK has the capability to scan the specimen tube, while the other system required the phlebotomist to choose the tube, so there was more manual intervention."

MedCentral purchased from Siemens 10 personal digital assistants and small printers about four or five inches wide. "Some of the phlebotomists are wearing them on a halter," says Jenkins, "but a lot prefer to just carry them in their phlebotomy trays." The printer can be physically connected to the PDA or have a wireless Bluetooth connection with the PDA, which itself has a wireless connection with the LIS.

After scanning in their employee ID badges to start their shift, the phlebotomists pull up their orders on the PDA, then scan the patient armband, and scan the Vacutainer tube, which is also bar coded. "The PDA matches the test order with the correct specimen tube," Jenkins says. "Once that is done, it prints out the exact number of specimen labels required for that draw." If the system is down for upgrades or other reasons, "we can revert to printing labels off our LIS if we have to," she adds.

The PDA receives test orders via synchronization with the LIS—"and that can be every 15 minutes, or every so often the phlebotomists can manually hit the sync button and all the orders in the LIS download onto the PDA," Jenkins says. "They can pull them up based on the specific nursing unit they're assigned to."

Only the 25 phlebotomists at Mansfield Hospital use the PIK system, but Shelby Hospital, the system's critical access hospital, is slated to add PIK next year. "We are also looking at the feasibility of using this in an outreach or outpatient setting," Jenkins adds.

MedCentral initially was concerned about how its phlebotomists would accept the system. "It's a lot more stuff to carry," Jenkins says. "But I think that, No. 1, they were well trained before we implemented it; we made sure they were very comfortable with it. And second, we sold them on patient safety but also the idea that it is for their own protection. It gave them an added sense of security to know they're drawing the right patient and collecting the right specimen."

The award-winning CentraCare Laboratory Services began evaluating patient identification systems for general phlebotomy four years

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ago and now uses the Sunquest Collection Manager, says Yvonne Betts, laboratory business director. The laboratory turned to Sunquest because it was already using the vendor's LIS, and Collection Manager is an add-on module to the LIS.

"We had experience with bar-coding technology for identification in our point-of-care instrumentation," explains CentraCare's Angell. "For general phlebotomy, however, we would carry multiple patient labels or requisitions with us to compare to the demographic data on the patient wristband. At times, information was verbally conveyed from the phlebotomy dispatching area via phone or pager. As the result of the potential for error inherent in this system, we were seeing about a dozen errors or more per quarter."

Though the laboratory has not yet quite reached zero errors, Collection Manager itself has yet to make a mistake. "The errors that have occurred have been caused by the user—not the system," Angell says.

Laboratory Director Cindy Johnson says the system's speed is remarkable. "It generates faster turnaround time because it populates the orders coming from the hospital's order transmittal interface in real time," she explains.



Johnson

CentraCare's physicians have praised the system's speed, Johnson says, adding that this real-time environment is a big switch from the

dispatching, phone calls, and messages required previously.

The laboratory plans to extend the system to the local nursing homes it services, Angell says. "That's an area where we struggle with identifying patients. Their ability to communicate is one component, but any type of wristband identification is essentially nonexistent."



Angell

The all-wireless system has worked so well that it has drawn interest from many other parts of the health system, including the critical care and emergency departments. "In our emergency trauma center, we train the staff who perform phlebotomy," explains Angell. "But they don't currently use this type of technology there, and we still see a certain level of patient and sample identification errors on that unit as a result."

Medical Center adopted a patient identification system in 1999, says Nancy Luttrell, clinical nurse specialist and director of nursing informatics for the 750-bed community hospital in Baton Rouge, La.

"We were an early adopter," she says. "We partnered with Cerner in 1999 because we shared their vision of an integrated medical record."

Now the hospital relies on a Cerner suite of products, including the patient identification system for medication administration and specimen collection.

"What we've seen is an increase in the reporting of near misses with medication administration because of

the patient identification," says Luttrell. "So it has prevented errors. That means the nurse caught the mistake before it got to the patient, and we're thrilled to be able to provide that level of safety."

Another upgrade will be online soon. "It's an additional medication safety project using the Hospira smart-pump," says Luttrell. "We'll be able to scan the patient, scan the medication, and scan the pump, and then the pump will auto-program the appropriate rate based on the order. It has a drug library, so if that order has a rate of 125 cc's per hour and our limit is 100 cc's per hour, the nurse will get a warning."

The hospital is "very close" to where it wants to be with its integrated system, says Luttrell, but there are a few other bar-coding components she'd like. "We'd love to be able to scan blood products the way you do medications, so we would have that added safety."



Luttrell

Nonetheless, says Luttrell, "it's been fascinating to watch people's attitudes change. If there's an unexpected downtime because of equipment or connectivity problems, which is very rare, they can't believe it. They almost don't know what to do because they're so dependent on it." They do know what to do, she clarifies. "But it just shows their sense of security with the positive patient ID system is very strong." □

Anne Paxton is a writer in Seattle.