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Fixing an alarming situation



Bombarding nurses with too many alarms can be akin to crying wolf. After a while, the alerts are ignored if too many of them do not actually represent an urgent situation.

To help address this significant problem, 465-bed Texas Children's Hospital is experimenting in one 36-bed unit with the use of middleware that helps make sure routine patient requests for assistance go to support staff, while the rare, more serious, alarms go to nurses. "We took the 'junk mail' out," says Susan Distefano, R.N., senior vice president and chief nursing officer, patient care services.

Texas Children's is using middleware called Enterprise Service Bus

from Emergin Inc., Boca Raton, Fla. The software streamlines the communication of data among eight technologies, including pagers, wireless telephones, a nurse call system, IV pumps and patient monitors, among others.

Before using the middleware, nurses were bothered by frequent alarms ranging from routine requests placed by patients using their nurse call buttons to urgent alerts from monitors. And nurse supervisors had no way of tracking whether a floor nurse had responded to an alarm.

The middleware "closed the loop," enabling supervisors to track whether floor nurses receive and respond to urgent messages, says Tonya Pagel, R.N., manager of patient care services. Routine alarms—such as automated alerts that a bedside monitor is unplugged—now go to support staff. "Nurses get only those messages that really need their attention" Pagel says.

The hospital took the extra step of creating its own database using Microsoft SQL Server software that captures all the various messages for analysis. Nurses and others analyze the data in the "black box" over time to identify problem areas, such as a specific phone that needs repair or an alarm "escalation path" that needs to be altered so the right person is notified, explains Melita Howell, senior project manager.

If problems occur during a patient's medical crisis, the data helps administrators analyze such factors as whether a nurse was inappropriately given responsibility for three patients at once who all required a high level of care, she adds.

The hospital hopes to roll out the middleware on all units by year's end. It also expects to expand alarm messages sent to nurses' wireless phones to include more details, Howell says.

rapidly," she notes. "The only way to prevent death is through very aggressive treatment in critical care."

Thomson Healthcare has 61 clients using the CareFocus module of its Clinical Xpert Navigator product, says Moyer, product manager. But Columbus Regional has taken "extraordinary" steps to use the software to change the clinical care process, he says. "They have re-defined rounding for non-physicians with this technology," he observes. "From the day of go-live, they invested the time they needed to really understand what they could fully get out of the system."

Teamwork important

The early detection project illustrates the value of nurses working side-by-side with I.T. staff to improve the quality of care, Dunscomb says. "Most of the time in hospitals, information serv-



Shannon Page, R.N., using a PDA

ices is almost disconnected from nurses or other clinicians," she says. "We worked together and were able to do something very powerful."

This teamwork led to "an advanced model for clinical nursing," says Moyer at Thomson Healthcare. "They focused their efforts on the very top clinical problems that are hurting or killing people. And they were determined to quantify the results."

One of the judges for the awards gave the nurses at Columbus Regional high marks for their leadership. "This was a nurse-led project with I.T. input and not the other way around," says Susan Newbold, R.N., PhD, associate professor, Vanderbilt University School of Nursing, Nashville, Tenn.

"What impressed me about Columbus Regional is that nurses used evidence-based practice coupled with technology to provide a tool to identify patients at high risk for deterioration. They took existing software and used it in a new way. Also they were able to clearly quantify their performance metrics." •