



Automating Patient Handoff Reports Increases Efficiency

The Problem

Patient transfers can present a bottle neck to hospitals; and Ingalls Memorial Hospital had such a situation as it tried to admit patients from its emergency department. The problem, says Paul Zielske, RN, director of patient care services, is that some patients were waiting so long, they were leaving without being treated, resulting in a bad patient experience and lost revenue for the hospital. "We wanted to improve patient throughput and the emergency department is a big piece of the puzzle," says Zielske. The hospital also wanted to improve patient handoffs during shift changes and patient transfers between units.

The Solution

The hospital implemented the computer-based OptiVox handoff technology, allowing nurses to orally record a patient report that can be picked up by the receiving nurse in a timely manner on any unit phone. The voice prompts for the report use the IHI's Situation-Background-Assessment-Recommendation ([SBAR](#)) format to standardize each report, reducing variation. Part of a hospital-wide project to improve patient throughput, use of the OptiVox system began in July 2008 with 24 units. The hospital uses the system both for patient transfers and for shift changes. Now staff use OptiVox to assist with 3,600 handoffs a week on 30 units.

The Results

- Average length of stay in the ED has fallen from 322 minutes in the first quarter of 2008 to 233 minutes in the first quarter of 2010. During that same time period, the percentage of patients that left without being seen fell from 9.9 percent to 3.0 percent.

Ingalls Memorial Hospital

Harvey, IL

340 staffed beds

Ingalls Health System includes a network of outpatient centers that feature a diagnostic and treatment services and urgent aid centers for 24/7 access to minor emergency care.

STEEEP

Efficient - Staff effectively use their time during shift changes by receiving reports on only the patients they are caring for. The elimination of shift change meetings reduced noise and chaos on inpatient units. The system has reduced overtime by two FTEs each shift at the hospital.

Safe - The percentage of patients that left the ED without being treated dropped from 9.9 percent to 3.0 percent.

Timely - ED LOS fell more than 25 percent after the system was implemented.

PPE

**Manage Organizational
Variability** - Each report is

- ED volume increased by more than 1,000 patients, or 10 percent, comparing the last quarter of 2007 for with the last quarter of 2009. This was done without increasing the department's budget.
- Because it was able to treat more patients, the hospital's ED added \$2.4 million to net revenue comparing the fiscal year ending Sept. 30, 2009, to the year ending Sept. 30, 2008.

Background

To implement Optivox, Ingalls Memorial employed a Software As A Service model—providing secure Internet and phone access to remotely hosted software applications in an ongoing lease arrangement. This enabled Ingalls Memorial to adopt the technology without a large upfront investment of capital and technical resources, with installation and maintenance handled by the vendor. As a result, Ingalls was able to go live with the technology less than 30 days after leasing the system.

Within two days of training, Ingalls began to operate the system with 450 users. The training was easy for staff, says Zielske, because it uses phone prompts, asking for the patient name, medical record identification number, diagnosis and attending doctor before nurses give the reports. "The technology was simple and quick to learn," says Zielske, adding that unit phones have stickers listing the phone extensions to leave reports.

ED nurse Denisha Lang says the system has made a big difference to staff. Before the system was installed, she relied on calling and speaking to the nurse that her patients would be transferred to, or faxing the report to the floor to which the patient would be admitted. But busy inpatient nurses wouldn't always be available at the moment the ED staff called, and sometimes the faxes didn't arrive at the right destination. "It was frustrating for us," says Lang. "Now we don't have to keep calling or faxing. We can record the information and they can listen to when they have time and they can listen to it as many times as they need to."

Principles of Performance Excellence

Remove Waste

A huge selling point of the new system is that it has reduced waiting times, both for staff and patients. For handoffs that occurred during shift changes, Zielske explains that the medical and telemetry units had communal reports delivered at a meeting for the oncoming shift. "A nurse would only need to know about five or six patients, but he or she would have to listen to reports on all 30 patients. It created a lot of noise because it became a social

given in the same way, using the SBAR format and received by the nurse who needs to hear it, assuring accurate information transfer.

Remove Waste -

Admission LOS fell from 423 minutes the fourth quarter of 2007 to 318 the fourth quarter of 2009. In the same time period, average discharge time fell from 255 minutes to 187 minutes.

Team Members

Paul Zielske, RN

Director of Patient Care Services

Kathy Mikos, RN

Vice President of Patient care Services

Anthony Bucki, RN

Emergency Department Manager

Aseem Saklecha, MD

Medical Director, Emergency Department

event," he says. The meetings also affected the hospital financially, as outgoing staff worked overtime to stay after that meeting and respond to questions from incoming nurses.

Now incoming nurses arrive at the same time they did before—15 minutes before their shifts—but they are able to only listen to standardized reports on their patients, instead of the unit's entire census. This allows nurses time to ask questions and visit the bedside of the patients, all without causing overtime for the outgoing nurse. In fact, Zielske notes that in the first month the system was used, the hospital saw a decrease incremental overtime equal to two full-time employees each shift. That decrease, about \$9,600 each month, more than covers the OptiVox leasing costs.

This system also reduced waiting time in the ED for treatment, with drops in the admission LOS and discharge LOS. "You see a full ED waiting room and you think you need more beds, but you just need a more efficient system," says Zielske. "Everything is supposed to be in constant motion and that is what this system allows."

Perfecting the Patient Experience

This new system has helped patients, both in the ED and inpatient settings. By reducing the number of patients that left without being seen, the hospital has improved patient care, and headed off potential dangers from lack of treatment. And by shortening transfer time, patients reach the care they need more quickly. "I feel better because I know the patient is enroute to where he or she needs to go," says RN Lang. "In the ED, you can't control the patient volume or the types of injuries that walk in, but moving the patient to the right place quickly is something I can control and to me, that's better."

Patient satisfaction scores with ED service have vastly improved since the Optivox system was installed. Zielske notes that in the past those scores hovered in the 10th percentile when comparing Ingalls Memorial with other facilities nationwide. By September of 2009, those scores climbed to the 78th percentile. The ED has seen similar rises in scores for patients in their satisfaction with time until treatment.

In addition, patients who have needs during shift changes are visited by their incoming and outgoing nurse together. It's a chance for the patient to talk with his or her caregivers, and for the incoming nurse to visually check on the patient. "Those nurses can learn if the patient is in pain or his or her IV is about to run out," says Zielske. They see the patient's immediate needs, and they deliver better, more immediate care. This can also be a time when nurses use information in the patient report, such as a birthday or a listing of hobbies, to make a personal connection with the patient.

Continual Improvement

Ingalls Memorial staff began a new Optivox application in late 2009 to further improve its operation. The component allows online, real-time monitoring of the continuum of care. Now, nurse managers and charge nurses can view the status and completion of handoffs.

The system includes flags showing that a handoff report has been entered and listened to, and an alarm for unheard reports, prompting managers to contact floor nurses for further attention. "This is good quality control, because this gives you hard proof that the information is being delivered," says Zielske.

Ingalls is considering other uses for the system, such as relaying reports between hospitalists.

Today, Zielske says, Ingalls staff would never want to go back to the old way of enacting handoffs. "Our staff gets the information they need and our patient care is better."

For more information, contact the American Hospital Association Quality Center at **(877) 243-0027** or hpoe@aha.org

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