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TRANSFORMING Care at the Bedside

High-Use Supplies at the Bedside

It saved steps and time, and—bonus!—reduced hospital-acquired infections.

This is the sixth in a series of articles from Massachusetts General Hospital in Boston describing one general medical unit's experiences with Transforming Care at the Bedside (TCAB). An initiative begun by the Robert Wood Johnson Foundation (RWJF) and the Institute for Healthcare Improvement, TCAB was developed as a way to improve care on medical–surgical units, patients' and family members' experience of care, and teamwork among care team members and to increase nurse satisfaction and retention. The TCAB philosophy engages all care leaders, but empowers bedside nurses to generate ideas and solutions for change. Mass General is one of 68 hospitals participating in a two-year TCAB initiative led by the American Organization of Nurse Executives and funded with a grant from the RWJF. For more information on TCAB, go to www.rwjf.org/pr/product.jsp?id=31512.

As we continued with our first two tests of change (see *Transforming Care at the Bedside*, November and December 2008 and January), by November 2007 we were ready to address where we kept our clinical supplies. The idea of relocating often-used supplies to patients' bedsides had come up months earlier, during our TCAB brainstorming retreat (see *Transforming Care at the Bedside*, October 2008), and we'd targeted it for implementation as a time- and labor-saving tool.

To understand why, it helps to know our floor plan. White 10, our 20-bed general medical unit at Massachusetts General Hospital, consists of one long hallway with four private and eight semiprivate rooms. The nurses' station, medication room, and supply room are at the center. Although this setup might appear convenient, our nurses and aides spent a lot of time hunting for and gathering supplies. As you walked the hallway, you'd often encounter a nurse who needed supplies, particularly if she or he was caring for a patient in isolation. Dressed in a bright yellow precaution gown, the nurse would hover in the patient's doorway, hoping to hail a passing coworker: "Can you hand me a flush?" "Can you please grab me a few four-by-fours?" If help was unavailable, the patient's care was interrupted while the nurse removed the gown, performed hand hygiene, walked to the supply room, and reversed the process before resuming care.

Since our retreat, the staff had been developing a blueprint for housing high-use supplies at the bedside to save everyone time. In our weekly TCAB meetings, we developed an aim statement and a plan, predicted the possible outcomes, and determined what measures we could use to chart our progress.

Following the Plan–Do–Study–Act format of the Institute for Healthcare Improvement's Model for Improvement, we first solidified our aim statement: we wanted to decrease the amount of time nurses spent looking for supplies and increase the amount of time spent in direct care activities. We predicted that the test of change would result in nurses spending less time looking for and gathering supplies and more time performing direct care, that staff satisfaction would increase, and that the unit's hospital-acquired infection rate would remain stable. Data from the unit's time-study personal digital assistants (PDAs), staff feedback, and data on the unit's nosocomial infection rates would be used to assess our success.

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AJN editor-in-chief Diana J. Mason and author Amanda L. Stefancyk talk about how the TCAB initiative has changed nursing practice on White 10.

As we planned how to move the high-use supplies into the patients' rooms, we considered several issues. First, we chose the bin. The four-member planning group for this test of change evaluated the bins available at a national office supply retailer's

After using waterless disinfectant, Courtney Sybertz, RN, accesses the in-room supply bin to retrieve a new oxygen sensor probe for her patient. Photo courtesy of Amanda L. Stefancyk.

Web site and unanimously agreed upon a six-drawer plastic supply bin measuring 26″ × 12″ × 14″ and costing $35. Then, we had to determine what items—and how many of each—the bins should hold. A small group of nurses took charge and, with input from their colleagues, developed an in-room supply inventory that included alcohol pads, flushes, telemetry leads, nonskid slippers, IV tubing, and nasal cannulas, among other items.

Finally, in close consultation with our infection control department, we addressed questions about how to manage the bins on a daily basis, such as whether the contents should be discarded after a patient's discharge and whether the bins should be used in isolation rooms. We also identified the unit housekeeper, Lucia Andrade, who would be responsible for stocking the bins every weekday.

Because our infection control department was concerned that using the bins would put patients at greater risk for hospital-acquired infections, we partnered with our infection control nurse, Maureen Franklin, RN, CIC, to devise a protocol for their use and to train the entire staff. Maureen, as well as our then–unit operations coordinator (a nonclinician who worked closely with the nursing director to manage the care environment), joined our planning meetings.

As a unit, our hand hygiene compliance scores were better than 90% before and after patient contact, but we needed to revise our practice to incorporate accessing the bins. Maureen and the planning group worked together to develop a strict hand hygiene protocol. A bin can only be touched after using our hospital's waterless disinfectant; any items removed from a bin cannot be returned, instead they are added to the patient's supply in the bedside table; and under no circumstances can a bin be touched with gloved hands. The housekeeping staff clean all the bins daily.

Feeling optimistic, we then proceeded to the *do* stage of the Model for Improvement. Keeping true to TCAB's emphasis on small tests of change—one nurse, one patient, one shift—we first introduced the bins in one private and one semiprivate room for three weeks. We placed them on a countertop, adjacent to the waterless disinfectant dispenser.

The *study* phase involved soliciting nurses' and aides' feedback on the contents of the bins and their overall satisfaction with them, as well as monitoring our infection rate. The comments we heard at our weekly TCAB meetings and in conversation were very positive and included recommendations for some minor modifications to the inventory list. Even more exciting, no new nosocomial infections occurred in either of the rooms during the test period.

With this success and a nod from infection control in hand, after making more small changes to the bins' contents, we moved on to the *act* phase. We gradually rolled out the remaining bins, and within four weeks we were using bins in every patient room, including isolation rooms.

To measure time and motion around the clock, nurses rotated carrying one of our two PDAs for one week per month. We had been collecting these same data for three months prior to introducing the bins for a time-use study. The PDA randomly prompted the nurse to answer three questions: previous location, current location, and activity. The data from the first full month after the change showed remark-

able differences. Whereas each nurse had previously spent as much as 17 minutes in each 12-hour shift gathering supplies, that number had dropped to 3 minutes—an 82% reduction! The results in the subsequent two months were similar, at 3.2 and 2.5 minutes. This meant that prior to introducing the bins, the unit nursing staff as a whole had spent 1,400 hours per year gathering supplies. We decreased that number to 238 hours per year.

Moving high-use supplies to the bedside also reduced the distance nurses walked. Rapid Modeling Corporation, the company that developed the time-study software and supports the PDAs for the TCAB initiative, calculated the step savings by superimposing our PDA data on a blueprint of the unit. Again, the results were remarkable. The staff's combined steps fell from 15,791 feet per hour to 14,908—a 5.6% improvement, and a savings of 4 miles per day or 1,460 miles per year. As impressive as these results were, however, we saw only small fluctuations in the time nurses reported engaging in direct care activities.

An unexpected but significant result of the test of change was the dramatic decrease in nosocomial infections on the unit. The rates decreased gradually over the first five months and then held at zero for three months. We attribute this important outcome to the increased use of the waterless disinfectant resulting from nurses and aides accessing the supply bin. With Medicare no longer paying for treating many hospital-acquired conditions, finding ways to reduce their incidence is vital.

This test of change went very smoothly and is very popular with the staff. The in-room bins improve patient care by decreasing nosocomial infections and interruptions in nursing care. In today's cost-conscious health care environment, every measure that increases efficiency, streamlines care, and frees nurses from performing tasks that have little value is important, especially in light of the growing shortage in and aging of the nursing workforce. ▼

Next month I'll cover leadership growth in the staff as a result of participating in the TCAB initiative.

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