



CASE STUDY:

Process Improvement Reduced Hospital's Bed Turnaround Time 75%

The Client

A multiple-Magnet, large metropolitan hospital.

The Challenge

The average bed turnaround time (the elapsed time between one patient being discharged from a room and another admitted to the same room) was more than six hours. Patients and families were inconvenienced by the delays.

Background

The 950-bed hospital admits approximately 200 patients each day who require medical, surgical, intensive care, maternal child health, pediatric or psychiatric beds. Because the hospital does not start each day with that number of available, clean and staffed hospital beds, it must rely on an intricate balance between several departments to discharge patients, clean rooms and assign rooms to new patients.

Like most hospitals, the client experienced long waits for available inpatient beds, especially in the late afternoon. Because forty percent of admissions were from the Emergency Department (ED), the client assigned the highest priority to reducing bed turnaround times for ED admissions.

The Solution

Using the Toyota Production Process Improvement Methodology, the client assembled a multidisciplinary project team to eliminate wasted time from the bed turnaround processes then in place. The team held a Rapid Improvement Event (RIE), which compressed months of process improvement meetings into four days.



The result of the RIE was a standard work agreement the client nicknamed “Toes Out-Toes In” – a documented process flow with timed work activities across multiple departments – that eliminated tremendous amounts of wasted time. Resulting waste elimination include:

- **Discharge Computer Entry.** Prior to “Toes Out-Toes In,” when a patient was discharged from an inpatient bed, an RN was responsible for entering information in the hospital computer system. With many other duties, RNs sometimes had to delay making the computer entry for several hours.

Resolution: Nurses’ aides, who transport patients out of the hospital, were taught to immediately enter the information into the computer system. The computer entry then sends an automated message to Housekeeping that the room/bed is vacant and ready to be cleaned. This one step eliminated, on average, one hour from bed turnaround times.

- **Staffing.** The working hours for most of the housekeeping staff did not match the peak workflow of patients discharged in the late afternoon. Consequently, the bulk of beds that needed to be cleaned occurred when the fewest housekeepers were on duty.

Resolution: Using best practices from the hotel industry, a Housekeeping Discharge Team was created with work hours from 10 am to 8 pm to closely match the discharge patient workload. Each discharge team member was assigned a geographical hospital zone to decrease travel time to the newly vacant room. The team’s sole function was to clean rooms of discharged patients. The average time to clean a room decreased from 75 to 45 minutes.

- **Bed Assignment.** ED patients were assigned to an inpatient bed when the room was empty but not yet cleaned. ED staff had no way of knowing when the room was clean and ready for the patient without making multiple phone calls to several departments.

Resolution: ED patients were only assigned clean and ready beds, which eliminated an extraordinary volume of phone calls between ED, Housekeeping, and Patient Placement (PP) staffs, and increased ED nurse satisfaction.



- **Bed Requests.** ED physicians often requested an inpatient bed before the patient was clinically ready to leave the ED. This resulted in empty beds assigned for hours with no patients in them, while other patients could have been admitted to that room.

Resolution: ED physicians are now more precise in their communications. They send a “cleared for admission” message to the PP department. Only then will the PP staff assign a clean and ready bed to that ED patient.

The client piloted “Toes Out-Toes In” on one 32-bed monitored nursing unit for several months to test the project’s assumptions. It monitored progress in meeting the outlined time targets daily, and made multiple revisions as a result.

To rollout the pilot to the hospital’s 19 other medical/surgical units, IRI Consultants managed the client’s communications training, data collection and interdisciplinary meetings. Throughout this process improvement project, the client consistently had the staff that actually performs the work engaged in development and assessment. Management took its lead from the employees, implemented their ideas for change, and dramatically improved the way work groups interact across Emergency Department, Housekeeping, Patient Placement and the Nursing Units. The project later was expanded to ICU, PACU, Labor & Delivery and Cath Labs. As part of the client’s continuous improvement process, IRI subsequently was asked to lead mini-RIEs to further refine the ED and ICU processes.

Project Results

Prior to “Toes Out-Toes In,” the average bed turnaround time for the client was more than six hours.

- Initially, the client reduced average bed turnaround time to 110 minutes.
- With refinements over several months, average turnaround time for all 20 medical/surgical units eventually was cut to 88 minutes; the goal is to reduce it to 55 minutes.
- Total waiting time in the client’s emergency department has been cut by 30 minutes.
- Patient satisfaction scores improved.
- Staffing and workload were brought into alignment.
- Employee job satisfaction scores rose.
- Productivity increased.