ICU MANAGEMENT & PRACTICE

ICU Volume 8 - Issue 1 - Spring 2008 - Management

Creating a Collaborative Model to Improve Patient Flow

Author

Christy Dempsey *RN,BSN,MBA,CNOR*
Senior Vice-President,Clinical Operations
PatientFlow Technology USA
Former Vice-President of Surgical and Emergency Service
St John's Hospital,Missouri,USA
cdempsey@patientflowtech.com

With strategic focus on improving the quality and safety of patient care, it has become increasingly obvious to both physicians and hospital leadership that improving patient flow and communication between care providers is the foundation upon which better patient care is built.

Perioperative Services and the OR specifically, are a key focal point for improvement strategies. Costly technology and high utilisation of both human and supply/equipment resources, coupled with the significant volume of elective admissions to the hospital make this the primary area for improving patient flow. In addition, the downstream effect on the ICU and inpatient units leads to peaks and valleys in inpatient census with resulting deficiencies in nurse to patient ratios with patient quality and safety ramifications. It was with this realisation that St. John's Regional Health Center in Springfield, Missouri embarked upon on a significant and successful performance and quality improvement strategy. St. John's Regional Health Center is an 866 bed community hospital located in southwest Missouri in the US. 26 operating rooms in the main hospital and 8 ambulatory surgery rooms provide for the 31,000 cases annually. As an integrated delivery network, the physicians partner with the hospital in strategic initiatives. However, the dichotomy between physician and hospital needs are the same in an integrated model as in a private practice model and communication and collaboration are as or more important.

The driving force for the collaboration between physicians and hospital leaders is the Perioperative Services Guidance Team. This team consists of 7 surgeons, an anaesthesiologist, materials manager, and the nurse managers from each area of Perioperative Services – OR, PACU, AM Admissions/Preadmission Unit, Ambulatory Surgery. The group is co-chaired by the Department of Surgery Chair (a surgeon) and the Director of Perioperative Services (a nurse). This multidisciplinary team meets twice monthly and is responsible for reviewing all issues associated with the implementation and monitoring of all initiatives related to surgical services. Attendance is not required nor are the physicians paid to attend. However, virtually 100% attendance is enjoyed at every meeting, thanks to the collaboration and transparency as well as the ongoing progress made by this group. As a result, this committee has become very powerful within the organisation. This active physician and hospital collaboration is also seen in the shared governance of the intensive care units with the medical director and nursing directors responsible for the quality, safety, and care provided by the unit.

The physicians and hospital leadership review financial information, scheduling issues, physician conflict, capital and operating budget planning, and make decisions after review of all relevant information. The hospital senior leadership supports this group and enables the decision-making authority.

The primary methodology used for performance improvement is the Institute for Healthcare Improvement's small tests of change and rapid cycle improvement. Instead of collecting and analysing data for years before actually implementing any change, small sample sizes and rapid improvement strategies are evaluated on a dynamic basis. If the strategies are successful they are implemented on a wider scale. If they aren't successful, the strategy is "tweaked" and re-evaluated. This dynamic process assures active participation and the very real perception of progress. The group then becomes a team of passionate change agents who identify opportunities for improvement and obstacles to progress.

One of the first and most influential initiatives undertaken using this methodology began in October 2002. Dr. Eugene Litvak, a professor of operations management with Harvard and Boston Universities, presented data and theory to support separation of scheduled and unscheduled cases. By segregating cases into homogeneous populations, artificial variability is reduced and efficiency is improved. St. John's at that time was close to 100% blocked with elective surgical scheduling. There was little "open" time for scheduling and competition for any available OR time was prevalent daily. The block scheduling rules were consistently enforced and the block schedule was revised every four months based upon utilisation. Because the schedule was so heavily blocked, add-on cases were started after the blocks ended, usually around 5pm, resulting in add-ons being done late into the evening and at night. Patients were forced to wait for long periods, elective cases were frequently bumped for more urgent and emergent add-on cases, staff overtime was high, and the surgeons were unhappy. It was not infrequent to have patients in the ICU waiting for surgery to be able to move to the next level of care. However, because the elective surgery schedule had so many peaks and valleys, they were often bumped and their length of stay was extended. In addition, the peaks in the inpatient census required patients to board in the ICU when an inpatient bed on the nursing floor could not be found further extending lengths of stay and nursing frustration. As Dr. Litvak had stated, separating scheduled and unscheduled cases would allow more predictability for the scheduled cases and result in fewer bumping or delays providing more flexibility for the overall surgical schedule.

A group of trauma surgeons agreed to release their block for a 30-day trial period. During this trial, a room was set aside for add-on procedures. The definition of an add-on was critical to the success of this project. Four categories were assigned: emergent requiring the next available room, priority requiring a room within 2 hours, urgent requiring a room within 6 hours, and anything else that needed to be done within the next 24 hours. Surgeons were responsible for prioritisation of the cases based on the patient's clinical presentation. Any misprioritisation was addressed in the Perioperative Service Guidance Team meetings and penalties assessed by the Chair of the Department of Surgery. The trauma surgeons were assured that if the trial was unsuccessful, their block would be returned.

The add-on room was implemented in November 2002. No cases were allowed to be scheduled into this room until 6am the morning of surgery. At that time, the add-on cases were slotted into the room based upon the surgeon's priority. We did not want the room to be more than 60% utilised, so that the flexibility it provided was maintained. The results obtained exceeded our expectations and these results persist today. The volume of surgery during the "business" part of the day 7am-1:30pm grew by 5.1%. The need for operating rooms after 3pm decreased by 45%. The surgery department overtime has declined from almost 6% to 2.3% currently. The trauma surgeons who gave up their block realised a 4.5% increase in their revenue because they were better able to schedule predictably in their other block time. Patient, staff, and physician satisfaction improved. In addition, surgical volumes increased 33% over five years. These improvements have been sustained since the implementation of the add-on room and provided the track record of success necessary to continue patient flow improvements.

The success of the add-on room enhanced the trust and collaboration between the hospital and physicians thereby enabling more complex hospital wide improvements with even more substantial implications for increasing case volumes and revenues. Smoothing the flow of elective admissions through the OR in order to minimize peaks and valleys in inpatient census was the next step. St. John's smoothed the flow of elective admissions primarily by smoothing the hours allocated to each surgical specialty based upon utilisation. 59% more inpatient capacity was created without adding additional physical beds by working with the surgeons to smooth their elective admissions across the week.

Collaboration, communication, and real time data analysis are key to the success and sustainability of any process improvement. By creating a culture of trust and transparency the physicians and hospital were able to create a "win" for everyone involved.

Published on : Thu, 15 Aug 2013