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Creating a Collaborative Model to Improve Patient Flow

Author:

Christy Dempsey, RN BSN MBA, CNOR,

Former Vice-President of Surgical and Emergency Services,

St John's Hospital, Missouri, USA,

Senior Vice-President of Clinical Operations for Patient

Flow Technology, USA

Email: 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. 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 a 866-bed, community hospital located in southwest Missouri in the US. Twenty-six operating rooms in the main hospital and 8 ambulatory surgery rooms provide for the 31,000 cases annually.

Perioperative Services Guidance Team

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 seven surgeons, an anesthesiologist, materials manager, and the nurse managers from each area of Perioperative Services: OR; PACU; AM Admissions/Pre-admission Unit; and Ambulatory Surgery. The group is co-chaired by a surgeon and a nurse. This multidisciplinary team meets bi-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 and not paid. However, virtually 100% attendance is enjoyed, 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. The physicians and hospital leadership in the group 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.

Separation of Scheduled and Unscheduled Cases

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 implementing any change, small sample sizes and rapid improvement strategies are evaluated on a dynamic basis. Successful strategies are implemented on a wider scale. An unsuccessful strategy is altered 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, in order to reduce artificial variability. 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 (defined as 'patient in' to 'patient out', plus associated turnover time). 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. 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.

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Add-on Room

The add-on room was implemented in November 2002. No cases were allowed to be scheduled into this room until 6am on 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 provides 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 up to 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 minimise 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 dataanalysis 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.

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