Improving Surgical Efficiency through Data and Committee Structure

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Introduction

An integrated community medical center that employed 76 primary care and specialty care physicians, 22 nurse practitioners/physician assistants, and approximately 960 allied health staff embarked on a journey to improve the efficiency of its surgical operations. The community medical center included an 85-bed hospital, a 22-bed Emergency Department/Urgent Care, a six-room surgical suite, and a primary care and multi-specialty outpatient clinic.

The organizational focus on improving efficiency and financial performance was generated from an annual review of patient complaints. During a medical center Community Board meeting, a review of patient service complaints noted that the outpatient surgical area had an increase in patient complaints surrounding excessive waiting. Two of the Community Board members commented that several individuals in the community had remarked to them that they were satisfied with the surgery they received, but that the entire experience seemed to run consistently behind scheduled times. This experience frustrated the patient and the family members supporting them during the day of surgery. This discussion led to a follow-up Board meeting confirming that the organization did have approximately a 20 percent increase in complaints in the surgical area, with many complaints surrounding excessive waiting. The investigation into surgical process also found that the surgical nursing department was daily utilizing overtime to staff the surgical area. These two symptoms lead the Board to decide that the organization needed a focused effort to determine what were the true problems with efficiency in the surgical area and what should be done to fix the identified issues. The medical center’s Vice President (VP) of Operations was assigned this objective. This
focused effort was complicated by the fact that the Surgical Services Line Director had been recently replace due to performance issues and the new leader had only been in that role for one month.

To start the process of determining next steps to improve surgical efficiency and financial performance, the VP of Operations engaged several key surgeons in discussions of the objective and to identify any additional issues. With some investigation and discussion, the VP of Operations discovered that the information system utilized in the surgical process had never been structured to allow access or the ability to analyze operational data easily. This created several issues when trying to assess a specific surgeon’s surgery schedules and when trying to identify inefficient processes. Also during the investigation, the new Surgical Service Line Director discovered that routine surgical meetings covered only peer review conversations. Although the agenda had other topics, such as operating room efficiency and surgical financials, the topics were rarely, if ever, discussed. These meetings also had very poor surgeon attendance, with only about 25 to 30% of surgeons routinely attending the meetings.

After the current state investigation was completed, the VP of Operations, along with the Surgical Service Line Director, met with the organization’s CEO to discuss the details and explain the problems facing the organization’s surgical operations. The CEO conveyed that this was a key goal for the organization and if resources were needed that the VP of Operations would need to bring forward different options to determine the best course of action. The VP of Operations and Surgical Service Line Director worked together to investigate different options and bring forward a plan that would meet the goal of improving surgical operations efficiency.
Alternate Decisions Considered

The VP of Operations and the Surgical Service Line Director met routinely over a two-week period to determine various options that could be utilized to improve the operating room efficiency. During their discussions and investigation of the various alternatives, they identified several advantages and disadvantages for each of the alternatives.

Option 1: Use the current site’s resources and leadership structure to lead and develop specific tactics to improve efficiency and financial performance in the surgical service line.

By utilizing the internal and known structure within the organization, it would allow the group to start working on the goal of improving surgical operation efficiency and financial performance immediately. This would allow the organization to benefit quickly, as long as this structure could identify the true issue and then develop good improvement ideas for implementation. The current leadership structure also understood the organization’s surgical operations well, and some of the leaders in the structure had well developed relationships with surgeons and staff in the surgical service line.

When defining this option, it was noted that although the leaders within the current structure had well-developed relationships, they did not have the experience, knowledge or expertise in guiding a surgical service line effectively in improving operational efficiency. This was amplified by the fact the Surgical Service Line director was very new in the role and the VP of Operations had no experience with surgical operations in past leadership roles. Another significant concern with this option was that the current site-based resources and leaders already had a significant workload and would struggle to dedicate time to lead this effort.
Option 2: Hire a consulting firm to assist with improving efficiency and financial performance in the surgical service line.

Investigating this option generated strong appeal, as it would provide an expert resource that could draw on past experience to help guide the organization through this process. Utilizing the expertise of an outside group could help the organization develop more effective solutions that would improve the medical center performance even better over time. A consulting firm would also have no bias surrounding issues related to organization culture and/or organization history. Even though internal resources would be used to implement and change current process, by utilizing an external resource to help design and develop the improvement plan, more focus would be given to developing critical improvement tactics with that added resource.

The largest concern with this option was that it required unplanned and unbudgeted dollars to implement. This issue was definitely a big concern, as the organization budget was always tight and adding any additional operation expense was highly scrutinized. A minor concern with this option was the time it would take to hire the consultant firm. The additional effort to hire the firm could possibly increase the timeline to implement improvements to the surgical service line.

Option 3: Do not allocate any time or resources to focus on the efficiency issue that was prioritized by the organization’s CEO and Board of Directors.

In determining the viability of this option, the Vice President of Operations and Surgical Service Line director reviewed the 20 percent increase (from 35 complaints in one year to 42 complaints in the following year) in patient complaints in detail and determined the complaints were not a significant increase. They also determined that more time may be needed to see whether the increase in complaints was a trend. The nursing overtime issue identified could be addressed through nursing leadership and a
better staffing model rather than creating a focused organizational effort. Also, this solution would be the easiest to implement at the current time as it required no organization effort or additional resources to the work on the problem.

After further discussion, the VP of Operations and Surgical Service Line Director noted this option would not solve any of the issues discovered in discussion with the surgeons and operating room staff. These included the information system’s inability to analyze operational data easily and the surgical meetings and structure lack of focus on solving global surgical service line issues. Also, the surgical service line would still be operating inefficiently, and this could affect the organization’s financial performance and could negatively affect the experience of surgical patients if not prioritized as an organizational improvement effort.

**Decision making process and final decision**

The VP of Operations and Surgical Service Line Director reviewed the three options in detail and decided to eliminate Option 3. Option 3 was felt not to be a viable option given the direction of the leadership and the issues identified when engaging the surgical staff and surgeons. The Surgical Service Line Director and VP of Operations researched consulting firms specializing in surgical service line improvement, and both utilized their professional organizations to research different methods of improving surgical service line operational efficiency.

The two leaders created a presentation explaining both options 1 and 2, which reviewed costs and the other resources needed for the two options. The presentation also described the various pros and cons of each option. Option 2 was narrowed down to two different consulting firms that could be engaged to assist the organization with its efforts.
Consulting firm A provided dedicated on-site support, had a great deal of surgical improvement expertise, and was slightly less expensive than consulting firm B. Consulting firm A did not provide a solution to the organization problem of obtaining useful data for continuous improvement, but would assist in finding a solution. Consulting firm B provided some on-site support, had extensive surgical improvement expertise, but was more expensive than consulting firm A. Consulting firm B did, however, have an electronic system that could be easily interfaced to almost any information system, which allowed for obtaining useful data for continuous improvement.

The presentation was first reviewed with surgeons and allied health staff in the surgical service line to get input and discuss the different options and details of the two consulting firms. The surgical service line personnel overwhelmingly picked Option 2 utilizing consulting firm B. The surgical staff and surgeon chose consulting firm B because of their expertise and their ability to provide an IT system to effectively measure surgical service efficiency. In the group discussion it was continually commented that the implementation of the information system would allow the organization to continuously improve their surgical operations even after the on-site consulting was completed.

The VP of Operations then discussed the different options and different consulting firms with the organization CEO, including the input provided by the surgeons and surgical service line allied health staff. The CEO required the VP of Operations to bring forward the request to the Board of Directors for final approval, as the option added additional expense not previously budgeted.
The VP of Operations then performed a formal presentation to the organization’s Board of Directors reviewing options 1 and 2 with details specific to the two consulting firms. In the presentation, the VP of Operations also included feedback provided by the surgeons and surgical allied health staff. In the presentation, the VP of Operation detailed that his preference was to utilize option 2 engaging consulting firm B. After careful consideration, option 2, using consulting firm B was approved, which was to hire a consulting firm to assist with improving efficiency and financial performance in the surgical service line. This option would meet the original intent of improving surgical service line efficiency, but also would give the organization the ability to develop and implement a needed IT system to help with continuous improvement of the surgical service line.

**Implementation Steps**

The VP of Operations worked with the selected consulting firm and signed a two-year engagement contract for their services. The VP of Operation and Surgical Service Line director then worked with the consulting firm to review different consulting firm personnel to identify the lead person that would be working directly with the organization.

The consulting firm broke up the initial implementation efforts into two different categories. Category one was implementing the provided electronic information system to start getting surgical operations data and then to validate the data. Category two was to ensure the organization established and created a surgical leadership structure to effectively analyze, review, and implement changes in the surgical service line. The two different categories of work were implemented simultaneously.
Category one work was lead by the surgical service line director along with the organization information technology resources and the consulting firm. These efforts where estimated to take four months to implement with an additional one to two months to allow for the system’s data to be validated for accuracy. The category one work focused on the coordination of the consultant IT system’s integration with the organization’s surgical operational systems, financial data system, human resource system, and surgical supply system. This step also required that a few of the organizations allied health staff be trained on the new information system to become experts at generating reports and validating the data from the system.

The category two efforts were led by the VP of Operations while mentoring the Surgical Service Line Director. These efforts involved engaging surgeons and key allied health staff to create a surgical leadership committee structure that would analyze, review, and implement new changes to improve surgical service line efficiency measures. The consulting firm recommended that the organization create two new committees and modify the responsibility of the existing surgical committee. The consultants worked with leadership through the process of creating the committee structure and initially met with the new committees to mentor the committee leadership.

The two new committees created were a Surgical Leadership Committee and a Surgical Operations Committee. The organization’s existing committee was redefined into a Surgical Practice and Quality Committee. A surgeon was chosen through an interview process for the committee chair of the Surgical Leadership and Surgical Practice and Quality Committees. The interview process involved the organization’s Medical Director, the VP of Operations, the Surgical Service Line Director and the
representative from the consulting firm. The Surgical Service Line Director led the Surgical Operations Committee. Membership on this new committee included key allied health personnel, a surgeon, an anesthesiologist, and ad-hoc members as necessary. All three committees were created or redefined and implemented in three months. This timeframe allowed for one or two meetings prior to the finalized implementation of the new information system. The first meetings of the committees were designed to review membership and discuss the committee’s responsibilities.

Working with the consulting group to obtain national benchmarks on key surgical measurement, the Surgical Operations Committee reviewed key data provided from the new surgical information system. Some of the key measures that were reviewed and benchmarked nationally through the consulting group were the following:

- First Case On-time Starts (FCOTS)
- Surgical Room Turnaround Time
- Surgeon Block Utilization
- Cost per Surgical Case

The Surgical Operations committee recommended, on the advice of the consulting group, to focus on First Case On-Time starts. Nationally the organization’s performance on this measure was in the bottom 25 percent when compared to organizations with similar surgical case volume. This measure was recommended by the consulting group due to the poor performance and also to allow the organization to focus on one measure that would lead to improving overall performance.

The Surgical Operations committee created a recommendation of the different tactics and process steps needed to improve FCOTS. This recommendation included
using a status board with key overall data in the surgical space, creating surgeon-specific scorecards, reviewing the current process of preparing patients for surgery, and setting time expectations for each individual involved in the process related to the surgical start time. This recommendation was taken to the Surgical Leadership Committee for discussion and approval. The Surgical Leadership Committee approved all the recommendations, created a communication plan, and scheduled feedback sessions that included meeting with all surgeons to review the details of the action plans. The surgeon meetings allowed for a focused conversation and the solicitation of input from the surgeon on use of the surgeon-specific scorecard. Although there was some hesitancy around the use of the scorecards, roughly 90% of the surgeons felt the scorecards were a good idea.

After the Surgical Leadership Committee communicated the new efforts and solicited surgeon feedback, the Surgical Operations Committee was tasked with implementing the changes. This included creating the surgeon specific scorecard, defining the process on how it would be communicated, and creating the timeline expectations for FCOTS for nursing, surgeons, and anesthesia based on the scheduled surgery start times.

During the implementation of the improvement tactics, the Surgical Operations committee was asked to review performance regularly and make recommendations to the Surgical Leadership committee as needed. The Surgical Leadership Committee’s focus was to ensure effective communication, manage the change, and work through personnel issues that arose due to the changes being implemented. The entire implementation phase
took about eight months followed by an improvement phase that took approximately six months.

**Results and Lessons Learned**

The tactics that were implemented were very successful. The new Committee structure was very helpful with change management and created a structure that allowed for continuous improvement in the surgical process. This structure allowed for very effective surgeon engagement, which helped to ensure the improvement efforts were supported and sustained.

The tactics implemented significantly improved the organization FCOTS. FCOTS improved by 130% (See Appendix A). By focusing on FCOTS, other efficiency measures were improved throughout the surgical process as well (See Appendix B). Although patient complaints were initially one of the symptoms that lead to the organizational on improving surgical efficiency, a significant decrease in overall complaints was not seen. The following year after the efficiency improvements were implemented, the organization’s surgical service line had a total of 37 complaints. Of these complaints only a few were focused on waiting.

The surgeon-specific scorecards that were created and implemented allowed for significant engagement by all surgeons. The surgeon-specific scorecards generated detailed conversations with surgeons to assist with individual improvement (See Appendix C). The surgeon specific scorecards also created self-awareness and self-improvement when individuals understood their specific performance compared to the overall surgical operations performance.
The partnership created with the consulting firm was invaluable and essential to ensure the healthcare organization moved forward in an effective manner. The expertise and IT system integration that was implemented was a key success factor in improving the overall efficiency of the surgical service line. The consulting firm helped to create an environment that allowed the healthcare organization to continue its improvement efforts once the on-site consulting was completed.

**Recommendations**

Administrators and managers should always feel comfortable seeking outside assistance when facing a challenging organizational problem. Seeking wisdom and guidance from others who have already been down a similar path can be extremely rewarding and allow for a more effective improvement of efforts. When seeking outside support that requires additional organization expense, the costs of gaining the wisdom and expertise from others can significantly help with organizational culture, and many times the improvements implemented can offset the additional expense of the consulted service.

Administrators and managers should ensure they have the correct personnel structure and effective data measures when trying to improve practice performance. An effective personnel structure and data measures are key attributes in developing employee engagement around improvements.
Appendix A – Organization’s FCOTS over time

First Case On-time Starts

First Case On-Time Starts-All Procedures

FCOS = new process average is 69.5% or 130% improvement
### Other Measures effected

#### Subsequent Case On-time

- 07/08 data = 22% on-time
- 07/08 avg. delay = 27 minutes
- 2009 data = 35% on-time
- 2009 avg. delay = 14.8 minutes

59% improvement in SCO %
45% improvement in SCO delay

#### OR Staff Direct Labor Costs

$218 – 168 = $50 savings per case

$50 x 5000 case = $250,000/year

These saving are seen in overtime reduction and better Block utilization
Appendix C – Example of Surgeon-specific Dashboard

**FCOT**
- First Case On-time Start and is defined as first case in the room starting between 6:45 and 8:45. Measure is generated by patient in room time. GOAL for FCOT is 69% (no grace period)

**Block Utilization**
- Measure of the usage efficiency of block time. GOAL for Block Utilization is between 60% to 80%

**Case TOT**
- Measures the average Patient In to Patient Out time and close to cut time. GOAL for TOT is specialty specific and based on top 10% comparison