GE Healthcare

Improving perioperative operational performance at John C. Lincoln Health Network

How two hospitals and two surgery centers improved capacity utilization and efficiency, increased surgical volumes and enhanced physician satisfaction

John C. Lincoln Health Network (JCL) has been providing comprehensive healthcare and community services in Phoenix, AZ, for more than 80 years. The system operates two not-for-profit hospitals, each with an ambulatory surgery center. In total, the health network averages 21,000 surgeries annually.

In 2010, JCL engaged the GE Healthcare Performance Solutions team to evaluate the organization’s perioperative services. Surgeons and anesthesiologists were expressing concerns about efficiency issues, including inconsistent first-case starts, slow room turnover, and process delays. In addition, surgeons trying to get on the schedule at one of the hospitals had been waiting for access to block time for more than a year. These complaints were all the more concerning as JCL had strategic growth initiatives for its surgical service lines and wanted to maximize its value to physicians.

“We needed to improve efficiency and we wanted to optimize our existing surgical capacity so that we could handle more growth at reduced cost levels,” says Bruce Pearson, executive vice president and hospitals’ CEO.

OPTIMIZING THE BLOCK SCHEDULE

The GE team reviewed 12 months of surgical performance data and conducted stakeholder interviews and on-site observations. A key finding was that the ORs at all four sites were significantly underutilized. Despite the feeling of congestion in the schedule, utilization of the OR was less than 50% during the prime hours of 7 a.m. to 3 p.m., even dipping to 25% at one surgery center. The main cause was excessive variability in scheduled cases. Lack of structure in elective case scheduling made it difficult to distribute demand and manage capacity proactively.
The team used GE’s Block Optimizer* modeling software, in conjunction with historical data and physician preferences, to develop alternative scheduling scenarios to unlock this latent capacity. Critical elements included increasing “same surgeon to follow” scheduling and standardizing surgeon time and space assignments as much as possible to enable greater staffing consistency.

Through scheduling optimization, JCL was able to create room for more cases each week with the potential for revenue growth at all four sites. One of the scheduling scenarios developed for North Mountain Hospital, for example, enabled 57 hours of additional capacity per week with a potential financial impact of $3.9 million to $7.8 million in annual incremental margin.1

GOVERNANCE TO DRIVE ACCOUNTABILITY

In addition to optimizing the schedule, the GE team helped JCL create a governance structure—the OR Management Committee (ORMC)—to ensure clear lines of accountability. This committee, which includes representatives from surgery, anesthesiology and management, is responsible to help sustain the changes, developing and monitoring policies for block qualification, case definition, and capacity utilization. It also has responsibility for granting or reducing block time.

“The ORMC gives us a structured way of reviewing the process,” says Kim Hunsinger, director of continuous improvement for the health network. “Without it, performance issues would slip through the cracks.”

The ORMC’s efforts are aided by a dashboard developed by the Performance Solutions team to provide weekly and monthly information on block utilization, first-case starts and room turnover performance. This enables the committee to continuously monitor OR operational performance, spot variations, and make data-driven decisions that drive continuous improvement.

“The dashboard makes it easy for us to focus on key high-level targets, identify whether we are meeting our goals, and sustain our improvements,” Hunsinger says.

“We wanted to optimize our existing surgical capacity so that we could handle more growth at reduced cost levels. Having the right balance of ‘push’ and collaboration enabled us to achieve the needed results in a short time period.”

Bruce Pearson
Executive Vice President and Hospitals’ CEO
John C. Lincoln Health Network

“The performance improvement process that GE brought to us was organized in a way that fit well with our culture and organization.”

Kim Hunsinger
Director of Continuous Improvement
John C. Lincoln Health Network
ACCELERATING DAY-TO-DAY PERFORMANCE

To address the problems around first-case starts and room turnover, the GE team utilized process improvement techniques.

**First-case starts:** Less than half of the 7:30 a.m. cases at North Mountain started on time. One factor was the high variability among surgeons, anesthesiologists, and OR staff as to what constituted an “on-time” start. This was resolved by standardizing the definition across disciplines to 7:30 a.m. as wheels-in time. Other recommendations were to adjust patient arrival times to meet on-time case start goals, and track performance in all areas, from registration to the OR, to identify additional root causes of delays. Within four weeks of piloting the changes, on-time first-case starts at Deer Valley Surgery Center had improved from 43% to 77%.

“It was critical to engage the surgeons and anesthesiologists in the process,” Pearson says. “The GE team’s collaborative approach was successful in drawing out the physicians’ perspectives and gaining their trust.”

**Room turnover:** Room turnover was slowed by a number of factors, including the lack of a structured OR schedule and poorly defined responsibilities for physicians and staff. As a result, 66% of room turnovers at North Mountain and 35% at Deer Valley took longer than 25 minutes. By establishing a structured schedule with more “same surgeon to follow” instances, delineating roles for all staff members, and developing a communication method to signal room turnover, JCL was able to improve turnover time significantly.

The collaborative nature of the effort was key to JCL’s success. “The performance improvement process that GE brought to us was organized in a way that fit well with our culture and organization,” Hunsinger says. “The physicians and staff appreciated having their viewpoints listened to and their ideas put into action.”

“Having the right balance of ‘push’ and collaboration enabled us to achieve the needed results in a short time period,” Pearson says. Applying performance improvement methodologies to redesign processes, sophisticated simulation modeling to optimize surgical scheduling, and industry best practices for effective governance structures, the GE consultants helped JCL achieve significant improvement in first-case starts and room utilization.

For more information email gehealthcaresolutions@ge.com or visit gehealthcare.com/solutions.

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**Process Improvement Results**

<table>
<thead>
<tr>
<th></th>
<th>First-case Starts</th>
<th>Room Utilization (7:30 a.m. to 3 p.m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Valley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery Center</td>
<td>43%</td>
<td>88%</td>
</tr>
<tr>
<td>Hospital</td>
<td>43%</td>
<td>73%</td>
</tr>
<tr>
<td>North Mountain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery Center</td>
<td>19%</td>
<td>62%</td>
</tr>
<tr>
<td>Hospital</td>
<td>23%</td>
<td>55%</td>
</tr>
</tbody>
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About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services helps our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

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