

GE Healthcare Camden Group: Optimizing OR Capacity, Scheduling, and Governance

Expanding OR capacity by optimizing scheduling practices and governance at University of Texas Medical Branch

CHALLENGE:

With a schedule that was virtually 100% blocked, the surgical department at UTMB Health appeared to have no room for more surgeons and cases. Yet the OR suites were being utilized only two-thirds of the time.

SOLUTION

By redesigning the block schedule at John Sealy and implementing a block schedule at Victory Lakes Outpatient Center, the John Sealy OR freed up 45 hours a week. This translates to capacity for 620 additional surgical procedures annually – without extending hours or opening new rooms.

For more than a century, The University of Texas Medical Branch (UTMB Health) has served the Galveston community from a large campus anchored by the John Sealy hospital. More than 90 surgeons are on staff at the academic medical center, performing approximately 13,000 surgeries each year.

The surgical department was facing an operational challenge common to many hospitals: it was operating below capacity but had virtually no available room on the schedule to add more surgeons or elective cases. Since perioperative services are a central engine for revenue within the health system, it was critical that capacity and utilization be improved.

In addition to the clogged schedule, the OR had process efficiency issues. Case delays were affecting patient convenience and satisfaction, as well as the surgeons' ability to manage their clinical and teaching responsibilities. OR staff was being asked to work beyond their scheduled shifts on a consistent basis, leading to dissatisfaction.

All of these issues – from the blocked schedule to inefficient first-case starts -- had a cost impact. "The OR is a high cost resource for the health system," says David Marshall, RN., the hospital's chief nursing and patient care services officer. "It's important that we manage that resource well to make sure we aren't wasting money."

Furthermore, the John Sealy OR was slated to move into a newer facility in the near future. The UTMB team was concerned that if existing scheduling practices, operational patterns and governance were suboptimal yet transplanted unchanged into the new space, the opportunity for meaningful improvement could be lost. Even if the new space was based on best practice design strategies, it had the potential to provide even more challenges unless the current OR operations were dismantled, examined, and reassembled in a way that optimized the interactions of surgeons, staff, and patients.

UTMB Health enlisted the services of GE Healthcare Camden Group to help the perioperative department improve capacity utilization and process efficiency in order to increase procedural volume without opening additional rooms or extending hours.



USING DATA TO CHANGE MINDS

In examining the hospital's surgery schedule, the GE advisors found that it was 98.6% blocked, leaving only 10.5 hours/week open for additional cases. Time was being assigned on a service-level basis across 6 surgical departments, meaning that all surgeons within that specialty operated within one designated time block.

One downside of specialty-level blocking is that it can mask underutilization since there is no clear view into how the time slots are used. GE analysis of historical data revealed that while nearly all of the time on the schedule was reserved, only 65% of the capacity across the 16 OR suites was actually being used. In addition, over- and under-estimation of case duration was creating a high level of variability, straining OR operations.

This analytical data was shared with physicians and staff to make them aware of the problem. Surgeons were surveyed to understand their needs and constraints, and one-on-one meetings were held with each surgeon and his or her office staff to explain the findings.

The GE consultants recommended redesigning the block schedule so there were more surgeon level blocks. Specialty blocks were allocated only if a specialty had a particular patient type.

In addition, deep data analysis was conducted on case types to determine which cases could effectively be shifted to the Victory Lakes Outpatient Center – an outpatient specialty care and surgical center. This effort allowed GE to advise UTMB on which cases were the “right” ones to shift, since some cases coded as outpatient may not be appropriate for an outpatient setting due to a patient's underlying medical conditions. This freed up additional incremental case capacity for John Sealy.

“Having the problem quantified was key to gaining buy-in from the surgeons,” says Dr. Vicente A. Resto, Chairman of the Department of Otolaryngology. Dr. Resto also chairs the OR Governance Committee and was one of the four physician representatives on the project's executive steering committee. Surgeon-based block time and over allocation of time had been discussed in the past, he says, but using data to overcome resistance to change was the missing link. “We were able to show very overtly that many surgeons did not need as much time as they thought.”

Information from staff and physicians interviews as well as data on patient volume, procedure mix, procedure time, room turn, and staffing were fed into GE's proprietary simulation tool and thousands of different scheduling scenarios were generated. The executive steering committee shared the most promising options with surgeons to get their feedback before finalizing the new block schedule.

Under the new block schedule, 87% of the time was blocked for surgeons and approximately 6% was reserved for add-on cases. This left nearly 7% of the schedule – 45 hours a week – now available for additional elective cases. This meant that the hospital now had capacity for 620 additional surgical cases annually.

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Dr. Vincente A. Resto,
Chairman of the Department
of Otolaryngology

ON-TIME FIRST CASE STARTS AND IMPROVED TURNOVERS

While the new block schedule was being designed, GE and the executive steering committee were tackling process inefficiencies in the OR, specifically first case starts and room turnover time. "Since we were undertaking a significant culture change with the new scheduling model, we wanted to make sure our operation was as efficient and solid as possible going into it," says Marshall.

More than 300 physicians and staff were consulted to identify contributing factors and design and pilot solutions. Among the hundreds of process changes implemented: establishing expected arrival times for staff, surgeons, and anesthesiologists; standardizing patient flow; reducing the number of missing orders and consent forms; clarifying staff roles for room turnover; improving communications; and ensuring OR rooms were completely set up in the morning with correct case carts.

The results were significant. Within four months:

- On-time first case improved from 19% to 77%
- Room turn-around time fell from 35 minutes to 27 minutes

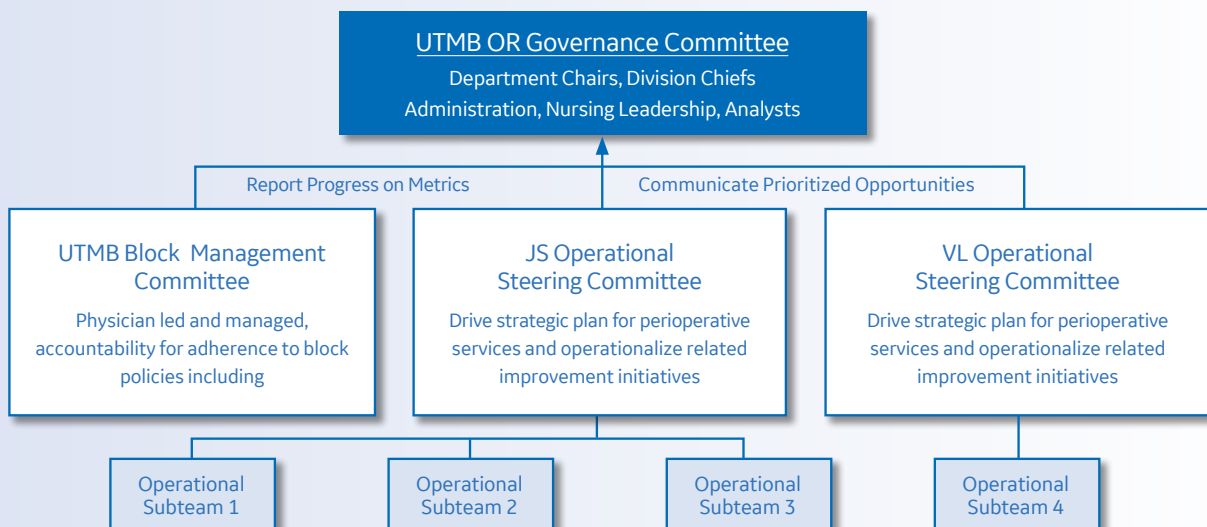
"GE brought in best-practice templates for governance that we could compare and contrast with our existing set of policies. Some things we kept the same while other policies were strengthened, such as the use of metrics to manage block."

Dr. Vincente A. Resto,
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SUSTAINING IMPROVEMENTS WITH STRONG GOVERNANCE

UTMB's current utilization of surgical block time is 75%; up six percentage points from a year earlier. On-time first case starts and room turnover times continue to improve. Both Marshall and Dr. Resto attribute the sustained progress to strengthening the OR governance structure.

Establish Organizational OR Goals & Drive Physician Accountability



Execute Strategy and Drive Cultural Change

- Top-down and bottom-up
- Immediate operational implementation
- Aggregate stakeholder representation
- Data understood by all

HIGHER EFFICIENCY. GREATER PATIENT SATISFACTION.

The transformation that UTMB Health achieved in its OR operations has led to capacity for more cases – without increasing rooms or staff – and cost savings through greater efficiency. The impact on patient, surgeon, and staff satisfaction has been just as significant, says Marshall.

“Because of inefficiency, cases would shift later and later in the day, which meant patients and their families had to wait. Now, elective cases are done within the scheduled block time, before 5 pm, which benefits patients and their families, as well as our staff and physicians,” says Marshall.

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David Marshall, RN., Chief Nursing and Patient Care Services Officer



imagination at work

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