Embracing An Integrated OR

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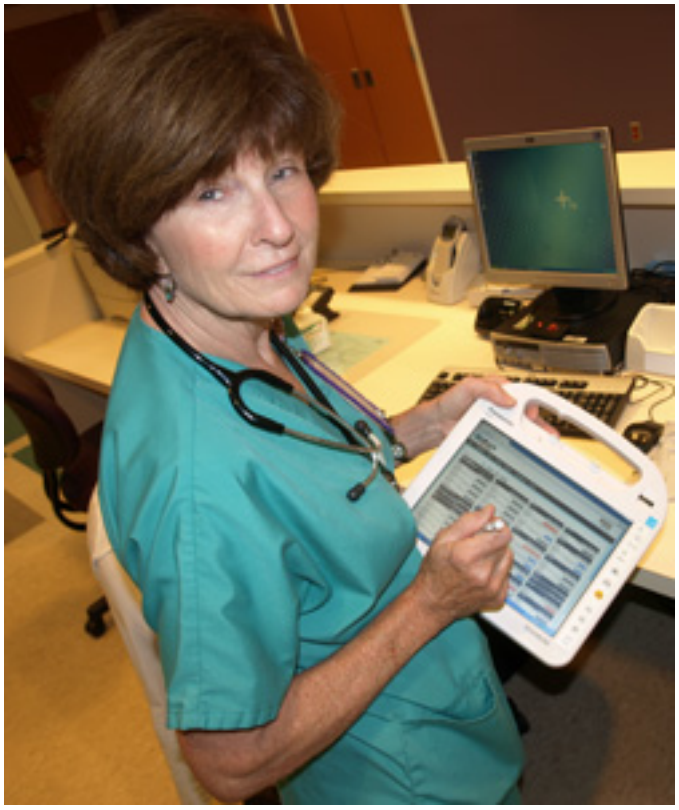
A strong desire to dramatically improve OR efficiency led one South Carolina hospital to purchase and implement a real-time process management solution.



Significant change can be a tall task, especially when it involves finding a more effective way to manage a surgery schedule at a hospital where 100 surgical procedures are conducted in as many as 30 operating rooms on any given day.

But something needed to be done at South Carolina-based Greenville Memorial Hospital. The methods by which staff members received updates regarding the status of patients and the seemingly endless alterations to an ever-changing surgery schedule were no longer deemed efficient by hospital officials.

Simply stated, their processes led to miscommunication and lost productivity. Hospital officials used a pair of 8-foot whiteboards equipped with magnetic card holders containing note cards with limited case information on them to inform staff of the day's surgery schedule. In addition, pre-op holding, the post-anesthesia unit, and even some nurses relied on a printout of the day's schedule containing relevant information from the day before.

It was less-than-optimal method of managing a surgery schedule, says Gilbert Ritchie, PhD, Director, Anesthesia and Perfusion Services, for Greenville Memorial Hospital.

“As cases were added to the schedule, cancelled, or moved from one OR to another – all on the day of surgery – those printouts became more and more inaccurate as the day progressed,” he says. “The start times printed on the cards on the whiteboards became less accurate as well. All changes had to be communicated to affected staff via phone.”

Targeting Inefficiency

Since all of the hospital’s cases require the coordination of staff, patients, and resources, issues related to surgical scheduling were significant and complicated.

“For example, before a patient can be transported from pre-op holding to the OR, there are a number of items that are required,” says Ritchie. “The patient’s history and physical must be updated, and the surgical site must be marked on the patient.”

The only way a Greenville Memorial nurse could find out if the next scheduled patient was ready to be sent to the OR was by contacting another nurse in pre-op holding, which kept both from undertaking other tasks. As a result, cases were continually delayed.

The Right Solution

Very much in need of a reliable solution to dramatically improve its OR efficiency, the hospital purchased and implemented the SynTrack OR-Max real-time process management solution from IBSS. Featuring RFID and automation technologies, OR-Max tracks patient movement and status, case milestones and checklists, staff workflows, as well as asset movement and status for Greenville Memorial. OR-Max uses this real-time information to prevent delays and warn personnel of impending problems. It updates surgery schedules in response to OR circumstances and manages resources to anticipate and avoid potentially costly problems and delays. Furthermore, it lays the groundwork for continuous process improvement and ensures the sustainability of process improvements once they are achieved.

“It eliminates the need for most phone calls and overhead pages, and it can automatically notify staff and physicians when key case milestones occur,” Ritchie says.

Evolving For The Better

While the OR-Max certainly helped to alleviate some of the hospital's problems related to scheduling, Greenville Memorial took its time with the implementation process. The solution was still in development when the hospital selected it, and the Greenville Memorial personnel were so used to the longtime system of using the whiteboard and print-outs that it took some time for them to adjust.

"Change is always challenging," says Ritchie. It's especially challenging when it involves implementing new technology in a work environment, prompting staff members to significantly alter how they conduct their day-to-day tasks. The hospital looked into a patient tracking system for perioperative services, but they determined the cost was too high. Already in the process of installing an asset management system with IBSS approximately two years ago, Greenville Memorial decided it wanted to work closely with the vendor to implement a solution that would meet both its patient tracking needs and help manage surgery schedules. The first version went live in the spring of 2011, and Greenville Memorial hasn't looked back.

"Once we demonstrated the stability of OR-Max and showed that it was a richer source of information, we removed the white boards," he continues. "Staff were nervous initially, but quickly learned to trust the information."

Another key to implementation was engaging front line staff from the OR, pre-op holding, and post-anesthesia care unit in the project management meetings. The staff played a significant role in configuring the system to best meet their needs, which in turn helped ease the implementation process. IBSS also worked closely with hospital personnel, was engaged in project management meetings, and worked to adapt the system based on staff input.

Reaping The Benefits

Meanwhile, OR-Max's effects on surgical scheduling and OR efficiency have been significant.

“Benefits at the organizational level have been a reduction in communication delays and a reduction in the time nursing staff spends on the phone getting status updates on patients,” says Erwin Stainback, senior administrator for perioperative and GI services. “There are also fewer overhead pages, resulting in a quieter environment.”

Greenville Memorial Hospital also was able to capture much more granular data from the OR, pre-op holding, and PACU. According to Stainback, this has led to better decision-making on the part of hospital staff and an ability to project and resolve capacity constraints.

Furthermore, Greenville Memorial Hospital’s PACU staff can now use the OR-Max system to project workload by hour and see surgery schedule changes. OR staff has access to the readiness status of the patient in pre-op holding, and anesthesiologists receive text messages both when patients enter the OR and when the surgical procedure is finished.

“Overall, staff is able to see more of the perioperative process end to end, rather than just how it affects their work unit, which leads to better staff engagement, teamwork, and ultimately, better decision making,” says Ritchie.

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