Perioperative services overhaul proves effort is worth the time

Getting a zero deficiency rating on a recent Joint Commission survey and bringing sterile processing in house are 2 of many improvements made at MedStar Georgetown University Hospital over the past decade.

When Frances Baldwin, MBA, RN, assistant vice president of perioperative services, joined the hospital 11 years ago, Georgetown had recently become part of the MedStar Health System, and a redesign of perioperative services was desperately needed.

“There was no perioperative organizational structure in place. There was 1 perioperative director with limited resources and support staff. It was a difficult situation,” says Baldwin. “I saw that there needed to be an organizational structure within perioperative services—without that, it would be difficult to fully evaluate all of the operational, safety, performance, and financial issues and make the necessary improvements.”

MedStar Georgetown, a 609-

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Editorial

Among the many changes occurring in healthcare delivery, clinically integrated networks and care coordination to improve patient outcomes and satisfaction are increasingly important.

Although 30-day readmissions generally have declined in recent years, the Centers for Medicare & Medicaid Services has upped the ante by adding elective total hip arthroplasty, total knee arthroplasty, and acute exacerbation of chronic obstructive pulmonary disease to the list of conditions meriting a readmission penalty in fiscal year 2015.

Intensive case management, disease management, and coordination of home and outpatient care could lower the number of hospital admissions. However, less than one-third of hospitals recently surveyed by the American Hospital Association reported assigning nurse managers to high-risk patients, outpatient services, or other patient management programs.

“In this era of healthcare reform, sustaining financial and operational performance through traditional methods of increased volume and supply cost reduction are no longer adequate,” Barry Arbuckle, PhD, president and chief executive officer, MemorialCare Health System, said at the MedAssets Healthcare Executive Forum earlier this year in Scottsdale, Arizona. He emphasized the need for collaboration and integration across the care continuum.

Polling attendees at the forum identified the following trends:

- 89% expect their health systems to acquire and engage in non-hospital growth strategies over the next 2 years
- 43% think having a high-quality, clinically integrated organization is better for growth than a strong geographical footprint
- over the past 3 to 5 years, 59% of attendees said, physician groups have been the most important partner, and 48% believe this will be true in the next 5 years; but 34% said they believe insurance companies will emerge as the most important partner.

“Our industry is experiencing dynamic change, requiring providers to prepare for a new market where reimbursement is based on value vs volume,” said John Bardis, chairman, president and chief executive officer, MedAssets, a healthcare performance improvement company based in Alpharetta, Georgia.

“As the Affordable Care Act takes shape, providers need to transform their organizations into more cost-effective, clinically aligned, and efficient health systems.”

These concepts were addressed at the OR Business Management Conference in February (cover story). In the same vein, value-based care will be the theme of this year’s OR Manager Conference keynote address by Tim Porter-O’Grady, DM, EdD, ScD(h), APRN, FAAN, senior partner of the ante-O’Grady, DM, EdD, ScD(h), APRN, FAAN, senior partner of clinician alignment, and efficient health systems.”

We previously reported on facilities where OR leaders have incorporated care transition and post-discharge care into their workflows (see OR Manager, February 2014, p 1), and we’ll continue to follow developments as new models of care emerge.

References

http://ir.medassets.com/releasedetail.cfm?ReleaseID=824866

Tim Porter-O’Grady, DM, EdD, ScD(h), APRN, FAAN, will be the keynote speaker at this year’s OR Manager Conference, which takes place September 17-19 at the Long Beach Convention Center in Long Beach, California.

The conference features 4 tracks—ambulatory surgery centers, business management, a masters series, and new manager—designed to address the interests and educational needs of our diverse audience. Through the masters series, experienced OR leaders will receive 400-level strategic training to meet their revenue and efficiency goals, and a mentor program will help pave the way for new OR managers coming up in the ranks to replace the many who will soon retire.

Dr Porter-O’Grady, senior partner of an international healthcare consulting firm in Atlanta, is noted for his work on interdisciplinary shared governance models, clinical leadership, conflict, and health futures.

Having spoken at the very first OR Manager Conference years ago, he returns this year to help clarify the shift from volume-based to value-based healthcare and to explore how that shift will affect the roles and responsibilities of perioperative leaders.

“Value-based healthcare is based on the impact that makes a difference in the health of people rather than the amount of things we do to respond to their illnesses, conditions, or concerns,” Dr Porter-O’Grady told OR Manager.

To determine the value of your organization, he says, you must:
- Demonstrate that you have comparable or better service metrics than your competitors.
- Be able to define what quality is, what quality indicators are.

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Healthcare professionals can’t continue to provide services in the traditional way, he believes. Some organizations are beginning to look at how providers can be aligned around appropriate services, the continuum of care, and specific needs of populations, he explains. “We need to figure out how to address the 6% of the population that’s driving more than 50% of the costs of care.”

To do this, he says, organizations must look at how they provide service, how they organize that service, and how different professionals relate to one another so that services can be coordinated more effectively.

“Care coordination is the cornerstone of the future of healthcare delivery,” he says. For perioperative nurses, this will mean deepening relationships with other providers both before and after surgery. Engaging perioperative nurses earlier in the process will improve the surgical experience because patients’ clinical characteristics will be more clearly defined, and working with providers caring for the patient postoperatively will help achieve better outcomes.

The entire continuum of care, not just the surgical experience, will be evaluated. Gaps in care, whether related to information, service, or relationships, pose risks and raise costs. To close those gaps, perioperative leaders can play a pivotal role by promoting interdisciplinary collaboration and seamlessness on the continuum of care.

“It’s time to think about the fact that perioperative nurses may need to work more outside of the surgical suite than has been the case traditionally,” Dr Porter-O’Grady says. “We may need to have a surgical care-based management role played in order to address risks as a way of reducing the negative outcomes.”

Dr Porter-O’Grady is associate professor and leadership scholar at Arizona State University, College of Nursing and Health Innovation, where he co-led the implementation of the new Masters, PhD, and DNP tracks in health innovation. He is also clinical professor and leadership scholar at the Ohio State University College of Nursing and is a member of the Dean’s Advisory Board and an adjunct professor at Emory University, School of Nursing, Atlanta.

Among his many publications is the book Quantum Leadership, which has been newly revised. ✩

—Elizabeth Wood
Backed by more than 26 years of experience, the OR Manager Conference has been the #1 executive-level Conference to provide OR leaders a platform to receive the thought leadership and clinical education needed to be successful across 3 days of training.

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Starting from scratch
The assistant vice president for perioperative services was a new position, and thus Baldwin was able to start from scratch. She perceived several critical needs:

- Sterile processing was outsourced, and there were a lot of operational inefficiencies and clinical issues as well as staff and surgeon dissatisfaction.
- Perioperative services had about 65% agency staff, with no clear recruitment and retention plan to improve staffing.
- The main postanesthesia care unit (PACU) was slated for renovation, but much planning was needed to move the project forward.
- An organizational structure along with policies and procedures for perioperative services had to be created.
- A financial plan was needed to manage revenue and expenses, particularly labor and supplies.

“The whole hospital was in a turnaround mode, and it was a challenging time,” she says. Baldwin’s goals were to figure out the best way to organize the various departments, build relationships with physicians and associates, and get buy-in from top leadership.

“I spent the first couple of months in all of the areas assessing the major issues. I began to develop an organizational structure that would work well and a proposal to get the critical leadership positions approved. During the time it took to recruit for roles such as an OR director, a pre- and postoperative services director, and an SPD [sterile processing department] director, I had interim people in place,” she explains. “At the same time, the SPD project was going on. That included developing a business plan to purchase instrumentation, develop a staffing plan, gain approval for the positions, recruit, and hire.”

The PACU design was also underway, and this project needed further review to ensure sound financial management and participation from all the key stakeholders. “I had to do all of those things somewhat simultaneously,” Baldwin notes.

Establishing an SPD
“Outsourcing sterile processing functions can work, but it wasn’t effective for MedStar Georgetown at that time,” Baldwin says. Significant delays, inefficiencies, and other operational concerns occurred daily.

“We shared data showing number of trays processed and number of complaints from physicians, and we explained why a functioning SPD is essential to a smooth-running OR,” she says. Hospital leaders were persuaded; they bought 55,000 instruments and hired a director as well as 45 FTEs. Bringing the SPD in house allowed for much greater control of a high-risk operation. Results include immediate-use steam sterilization rates in the 1% or less range monthly.

Increasing understanding
When Baldwin joined the hospital, there was a lot of momentum to improve the perioperative departments. “In some respects, the budgeting process was more straightforward at that time,” she says. In addition, the chair of surgery was a very helpful partner.

But changes in leadership and reporting structures that came later brought new challenges as well as opportunities. “My reporting structure changed several times,” she says. “I had to build a relationship with a new person and determine the best way to work together toward a common goal of constant improvement.”

Baldwin has previously reported to the patient care services vice president, the chief nursing officer (CNO), and the vice president of surgical services. Currently she reports to the chief operating officer with a dotted line to the CNO.

Trying to increase the level of knowledge and understanding about safety issues, financial concerns, resource allocation, the SPD, and materials management at the senior executive level led to a redesign of the governance structure in the last year and a half. Baldwin’s efforts coincided with a period when the hospital president and other executives were seeking details about financial, materials, safety, and operational areas within perioperative services, so the timing was right for a change.

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Achieving success
“Success came through focusing on the basics. For example, there was no preoperative holding area near the main operating rooms, and that didn’t meet the accepted standards of care. Patients received preoperative care on a different level of the hospital and then were brought to the main OR. This approach was inefficient, required multiple stops for our patients, and created the potential for complex inpatients to receive less than smooth preoperative care,” she says.

Baldwin’s strategy was to overcommunicate—and even educate in some ways—keeping in mind that her audience didn’t necessarily understand the perioperative environment. As a result, they were able to create an OR holding department next to the main operating room.

Adding a PACU for procedural patients was another victory. Patients from interventional radiology or the cath lab, for example, were recovered in the main PACU. Baldwin built a case for getting additional PACU beds. Her data analysis showed a gap between the standard in terms of recovery spaces per procedural room vs the number of recovery spaces available in the hospital.

“We could still use additional beds, but adding the procedural phase I PACU helped significantly,” she notes. “We now provide consistent recovery care to patients having procedures from multiple departments within the hospital in one location. Our physicians, staff, and patients have responded enthusiastically.”

Prepping for JC surveys
Every 3 years the Joint Commission performs a full accreditation survey, arriving at a hospital unannounced. For a facility the size of MedStar Georgetown, which includes 23 ORs, 400 FTEs, and 10 departments within perioperative services, this is usually a 4-day survey.

A survey team including a physician surveyor, a nurse surveyor, an administrator, and a life safety surveyor will speak with many associates, trace patients and processes, review files, and fully evaluate the physical environment throughout the organization.

“In the perioperative environment we were fortunate to receive zero deficiencies on our last survey,” Baldwin says. The most recent survey was successful because her team revamped their tissue process, redesigned their specimen process and policies, redesigned the universal protocol and checklist with regard to surgical site verification, and rounded every day.

“We created our own survey checklists for rounding, and we partnered with our facilities management department to develop an organized approach to addressing facilities’ needs in the perioperative environment. The main OR dates back to the 1960s, so it is a daily effort to keep the physical plant in good repair,” she explains. “We created a Joint Commission ‘super user’ team of staff nurses and surgical technologists, and we provided extra education about Joint Commission standards, the National Patient Safety Goals, and our performance improvement initiatives [sidebar]. While our efforts resulted in a positive Joint Commission survey, the most important result is that our physical environment is better for our patients, our staff are more aware of important safety and operational considerations, and the quality of care we provide continues to improve.”

Fostering communication
In addition to daily huddles, perioperative services staff have a number of other meetings to share information.

“The OR Safety Committee worked to improve our process for following the universal protocol at MedStar Georgetown, which includes proper patient identification, site marking in the preoperative area, performing an anesthesia and surgical time-out in the OR, and using a surgical safety checklist to document the process,” she says. Their checklist is a paper 3-tiered checklist modeled on the World Health Organization’s checklist.

Anesthesia does a before-induction time-out, and the surgeon leads the surgical time-out and debriefing to discuss the postoperative plan of care.

Getting input from staff is important. “I’ve tried to think about how policy and process changes will impact the people doing the work and the patients we care for each day. We always put the patient first in these discussions. Whatever the change might be, the first question should be, ‘how will this affect our patients?’”

She adds that it’s important to listen to people’s ideas. “A lot of
times you’ll discover things needing improvement by listening to your team, to your surgeons, and to your patients. Once people understand that their ideas matter, it is much easier to increase engagement and create more innovative approaches to make care more seamless.”

Working with MedStar Health is very positive, Baldwin says; there’s significant focus on collaborating as a system to provide safe, coordinated care and a positive patient experience.

“We share information and ideas for improvement throughout the system, which gives us a great opportunity to improve processes rapidly. A perioperative director leadership group meets monthly to work through issues and develop solutions that help all the hospitals.”

Understanding the goals of the executive team and the CEO is critical to the success of a perioperative leader. “Building a positive working relationship at the executive level means that when resources are necessary to achieve
**Leadership**

**Elements to consider in preparing for a Joint Commission survey (Continued)**

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What two unique identifiers does your hospital use?
When do you use the patient identifiers?
What is meant by life safety?
What types of things might you report to security?
What department maintains lights, HVAC, water, and generators?
How do you identify patients at risk for, or who have an infection?
What do you do when a patient has an infection?
What are you doing to prevent the transmission of infection among patients?

What personal protective equipment is available to you?
What have you taught the patient’s visitors about decreasing the transmission of infection?
What disinfectants do you use?
What do you do to prevent the transmission of an airborne illness such as TB?
Do you perform any invasive or diagnostic procedures on this unit?
How is the time-out performed?
Do you do any waived testing here?
How long is the vial of test strips good for?
How long can the control solutions be used?

What is your role in assuring patient safety? (Pick several that apply to your area!)
How do you know that travelers/agency staff are competent to work here?
What is a sentinel event?
How do you report a patient safety issue?
How do you document critical values results?
Describe some actions you can take to increase patient satisfaction scores.
What would you do if your patient evidenced suicidal ideation?
How do you know if a physician is competent to do a procedure?

Source: MedStar Georgetown University Hospital

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Restructuring and revamping workflow help a small hospital make big strides

Working for a small facility after spending many years at a large one can present a host of leadership challenges, but meeting those challenges with process changes and improved efficiencies can be highly satisfying.

After serving more than 23 years at the Cedar Crest campus of Lehigh Valley Health Network in Allentown, Pennsylvania, Jodi Koch, BSN, RN, moved to Lehigh’s Muhlenberg campus in Bethlehem as director of perioperative services in December 2012. Muhlenberg has 8 ORs staffed by about 35 FTEs vs the 23 ORs at the Cedar Crest campus, where Koch most recently was director of perianesthesia services. “It was a huge culture change even though we’re in the same organization,” she says. “Our Cedar Crest campus is very large, and our Muhlenberg campus has the feel of a small community hospital.”

Challenges and changes
One of the first challenges she faced was the need to improve patient throughput and flow. That meant getting the staff to evolve from “the way things have always been done” to a more efficient system.

“Many years ago, the staging unit existed in a different part of the hospital. Patients had to leave the staging area to go to the holding room and then on to the OR. A new unit was built and located closer to the OR, but the patient flow hadn’t changed,” she explains. “Patients were still moving from staging to holding, then handed off and checked again and moved to the OR. This added an extra 45 minutes to patients’ preoperative workup times.”

Even so, it took some effort to persuade the team that a change had to be made. “I partnered with a Lean coach, and we went through a value stream map and looked at a future state process,” Koch says. Completing that exercise helped the team to understand what was happening, and frequent staff meetings put everyone on the same page.

“We needed to get the team involved in examining patient throughput, and in July we implemented a new handoff from the staging unit directly to the OR,” she says. Now, only patients who need a block or an epidural go to the holding area.

“We talked a lot about privacy and handoffs,” she says. There’s more privacy in the staging area, which has closed bays, than in the more open environment of the holding room. However, because families may be with patients right up until they go into the OR, it’s important to make sure the patient is comfortable with letting the family hear what OR staff are discussing, such as when they go over the checklist, she notes.

“We had multiple different parts of this action plan, which included education for the staging nurses and for the circulators in the OR because things are different in those 2 areas. It helped us go from the low 70s to the high 80s in first case on-time starts.”

A similar problem existed in the endoscopy suites, she adds. Patients were leaving the endoscopy suites and going to the main postanesthesia care unit (PACU) regardless of type of anesthesia received, level of consciousness, and so on. “We put clinical guidelines in place so that patients who were awake and alert could go directly back to the inpatient unit, bypassing the PACU, and be discharged.”

Restructuring and defining responsibility
Koch found quite a bit of overlap among managers’ responsibilities when she joined the Muhlenberg team. “Some of the frontline managers didn’t understand the structure; some managers were working on the same things as other managers, and some things were being done in silos,” she explains.

“After I restructured and implemented leadership rounds within my core management group, I learned that the manager who had been responsible for the preop and postop areas and had worked here for at least a decade had never seen the inside of the OR suites. I also learned that the manager for the OR had not known some of the flow and processes for the preop area. We started asking ‘who’s the owner of this?’”

Responsibility charting and co-partnering were effective strategies. “When we were working on the throughput change, the manager for the preop unit had to spearhead that, but I made sure an OR manager was co-partnered with her,” she notes. “We’re all part of the big continuum of care,

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Leadership

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and everything we do impacts each other.”

Incentives and improvements

One way to help staff adapt to change is to give them a “quick win,” Koch says. To improve first case on-time starts, for example, staff reviewed the way in which patients moved from the waiting room to the OR. They found that patients who needed epidurals or blocks weren’t moved along sooner than others, and failing to do that created delays all along the process. Making a schedule change that began with how patients were prioritized and moved from the waiting room was a relatively simple fix for a vexing problem.

Getting teams to talk to one another and work together, and involving them in decisions about how to prioritize changes that are needed helps to get their buy-in, Koch says.

She has learned not to assume that something she’s familiar with is familiar to her staff. She has also found it’s important to distinguish between the way things are done at Cedar Crest vs Muhlenberg. One facility’s approach may or may not be better, and in some cases, neither approach is the best way to get something done.

In addition to reducing OR managers by 50%, Koch has had some turnover from voluntary departures, including 3 staff who recently retired and 2 PACU nurses who subsequently moved to Cedar Crest.

With more young, novice nurses coming on board, Koch says that her team of tenured nurses must learn how to teach the new people and understand the generational differences. In addition, everyone must adapt to the move from 12-hour and 8-hour shifts to more 10-hour shifts.

The volume of vascular, spine, and urology cases is growing rapidly, and it’s anticipated that pediatrics will have to be integrated into the workflow for adult patients. Space constraints still hamper efficiency in OR case picking and storage, so improvements in those areas are needed.

Staffing will continue to be a challenge because of retirement or other reasons people may want to leave. But Koch feels that the restructuring that has been completed has eliminated redundancy, clarified role responsibility, and improved efficiency.

“Sometimes people mistakenly believe another manager needs to be hired when there’s a problem, but more isn’t always better,” she says.

Jodi Koch will be a presenter at the OR Manager Conference, September 17-19, in Long Beach, California. ✦

—Elizabeth Wood

Governance

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targets, credibility has already been established,” Baldwin explains.

Over time, she says, she has become more proactive in requesting resources and support. Her role evolved from sending suggestions for agenda items for the OR executive committee to creating the agenda for meetings with her hospital leaders. Recognizing that she used to feel somewhat intimidated when interacting with senior executives, she has learned to rely on her own expertise. “I tell myself to remember when I enter a potentially difficult executive-level discussion that in the perioperative environment I am the subject matter expert, and through sharing my knowledge I can help us achieve our goals organizationally and in perioperative services,” she says. “When I finally decided I have to be the one driving this, I found that it’s worked very well. It has been an effective way to govern in the perioperative environment.”

Another very effective strategy has been to present complex data clearly through concise PowerPoint presentations using bullet points. “Doing so has kept me focused and helped to frame the discussion and increase understanding,” she says. In addition, anticipating questions from the audience and including the answers as part of the presentation can help move the agenda forward.

Continuing to advance

In September 2013, Baldwin says, the hospital moved from PICIS to Cerner Surginet as its electronic health record system in the perioperative environment, and recently implemented PeopleSoft for materials and human resources management across the organization. “I want to see those systems become more fully functional,” Baldwin says.

Other goals are to expand space, further improve the patient’s experience, and continue to keep patient safety at the forefront of their endeavors. “Our perioperative governance structure continues to evolve through adding more surgeons from multiple specialties to our committee. This is helping to increase surgeon engagement and involvement in a variety of improvement initiatives,” Baldwin says.

Frances Baldwin will be a presenter at the OR Manager Conference, September 17-19, in Long Beach, California. ✦

—Elizabeth Wood
sented. And exhibitors featured a variety of data and supply chain management tools to help facilities streamline operations.

Several half-day workshops focused on performance measures, Lean methodology, sterile processing, supply chain management, and scheduling. Through interactive group exercises, attendees had a chance to learn from one another while applying some of the principles presented. One workshop, for example, taught participants how to achieve value-based purchasing objectives by identifying their goals, developing an implementation plan, anticipating limitations, and figuring out ways to work around the barriers.

**Envision the future**

As the keynote speaker on the opening day, Michael Hicks, MD, MS, MBA, SM, FACHE, shared his vision for the future of perioperative medicine. Dr. Hicks, CEO of EmCare Anesthesia Services in Dallas, drew on his experience as an anesthesiologist with managerial and clinical oversight for more than 100 EmCare-affiliated anesthesia practices nationwide.

He made 3 key points:
- **Patients buy surgical experiences, not what is done within an OR—ie, it’s important to consider the patients’ perspectives when they are undergoing surgery.**
- **Team-based care is the future; we need to quit worrying about who’s doing the work and focus more on the work that needs to be done.**
- **Accountability, ie, absolute, unwavering transparency without punishment for being transparent, is the key to the future.**

Dr. Hicks used a variety of anecdotes to illustrate how competition exists among surgical staff members, among facilities, and in terms of quality, service, and price. “We’re all competing for patients, and patients are scarce,” he said, “and they’re going to get scarcer because of the way they’re distributed through the system.”

He urged attendees to identify their strengths compared with those of their competitors. Key questions include:
- **What is the nature of the market for healthcare services, and does it respond like other markets?**
- **Who are your current and potential competitors? Do (can) they deliver better value?**
- **What and where is the return on investment in the service you provide? Have you considered perspectives other than your own?**
- **How will clinical and non-clinical service decisions be made and by whom?**
- **What is the nature and role of competition in healthcare? In surgical services? In anesthesiology? In private practice? In community hospitals?**
- **Can you measure and manage the quality and cost of the care and services you provide and the value delivered to those you serve?**
- **Who controls the data, knowledge, and wisdom that drive all of the above?**

“If you think the future of perioperative medicine is just what it’s been, I think you’re wrong,” he said. Healthcare professionals must get their arms around cost and quality, he stressed. And remember that providing healthcare is a team sport.

Applying the management theory of disruption to healthcare, he explained that, over time, performance evolves to the point where it actually exceeds what people are willing to pay for. “More and more people have more and more skills that are sufficient and at the right price to disrupt the conventional caregiver,” he said, noting that many surgical procedures no longer need to be performed in a hospital.

As an example of delivering a service of adequate quality for the right price, he noted that Walmart and Lowes struck deals with 6 healthcare centers to deliver all end pricing for cardiac and spine procedures, meaning that patients won’t pay any out-of-pocket costs, regardless of deductibles. Other expenses, such as travel to the facility and lodging, also will be paid.

It’s important to think about...
With decreasing Medicare reimbursements and increasing pressure to reduce costs, OR leaders everywhere are looking for creative solutions to balance their budgets. At Thomas Jefferson University Hospital (TJUH) in Philadelphia, standardizing surgical mesh looked like a way to save a bundle, and indeed a $1.5 million savings over a 3-year period was achieved. But as with any new initiative, an investment of time, resources, and collaboration was needed to make it happen.

Identifying the culprit
Monica Young, MBA, RN, DNP, CNOR, vice president, perioperative services, and Michael Profeta, BA, RN, nurse manager of the operating room at TJUH, determined that the OR was spending more money than necessary on surgical mesh. The hospital was using multiple vendors, and a lot of money was being spent on porcine or human tissue mesh even though surgeons weren’t using much of it. In addition, there was no evidence that 1 supplier’s mesh produced better outcomes than the other products.

The possibility of standardizing mesh had been a topic of discussion for years, but it didn’t become a focused project until the fall of 2012. “This was one product where we had multiple suppliers and variation on the shelf,” Young says. “It was a massive undertaking, and in the past we didn’t have the time or resources to devote to a project of this magnitude.”

But with ever greater budget pressures, the perioperative and supply chain leaders at TJUH decided they were ready to try. “We brainstormed for cost savings, and we brought mesh back up again and thought we would take it on,” she says.

Young and Profeta partnered with members of the hospital’s supply chain, Susan Miller, MN, RN, CMRP, director, value analysis, and Kelli McRory Thomas, senior contract manager. This newly formed mesh team dedicated up to 2 hours per week for more than 8 months to this new initiative.

Ultimately, the team was able to negotiate an agreement that would result in approximately $1.5 million of savings over the next 3 years. This led to reinforcement of a policy requiring all new OR supplies to be both cost-effective and evidence-based. But the change did not come easily, according to Young and Profeta. The initiative required the right analytics, accurate data, and staff who were committed to the cause.

Getting surgeon buy-in
Perioperative leaders agree that the time is right for hospitals to improve planning, purchasing, and monitoring of OR inventory and supplies. There are numerous approaches that can be taken, whether choosing gel foam without thrombin, reducing the number of high-end orthopedic implants purchased, or going after the “Holy Grail” of preference cards (sidebar, p 15).

However, no initiative will succeed without the support of the majority of surgeons who use those surgical supplies and instruments. Surgeons are more attuned to costs than they have been in the past 10 to 15 years, perioperative leaders say, but they still have the power to derail cost-saving initiatives. Accurate medical evidence and data are essential to convince them that changing to different instruments or materials will yield the same outcomes and still save significant amounts of money.

The Cleveland Clinic is 1 facility engaged in trimming OR supply costs. “Three years ago, we challenged ourselves to save $100 million by focusing on how and what we buy to stock the hospital with needed equipment and supplies,” says Chief Executive Officer Toby Cosgrove, a national healthcare expert. “The key was to meaningfully engage doctors.”

But even with Cosgrove’s leadership, “there definitely still is push back from surgeons,” says Jake Runion, BSN, RN, CNOR, assistant director of Cleveland Clinic’s main OR. “It’s no small task.”

It is indeed a difficult process, but it can lead to success, says Patricia A. Farrell, MSN/MBA, RN, NEA-BC, associate vice president of surgical and interventional services for Rush University Medical Center in Chicago. “There are a lot of competing points of view, and you are trying to meet everybody’s needs,” she says. “You don’t want to put physicians in a situation where they can’t do their best, but you’ve got to find a way to get costs under control.”

Surgeons respond well to hard data, not unsubstantiated infer-
Supply chain

Cleveland Clinic commits to winnowing preference cards

Perioperative leaders at the Cleveland Clinic are trying a bold experiment to pare down preference cards to the bare necessities. They want to save money by removing outdated surgeon preferences, obsolete supplies, and unnecessary items.

“We’re looking to standardize preference cards enterprise-wide. We’re exploring the possibility of reducing the amount of preference cards by making them more generic,” says Jake Runion, BSN, RN, CNOR, assistant director of the main OR at Cleveland Clinic.

The Cleveland Clinic has 78 ORs on the main campus and nearly 100 more ORs in hospitals across the region. Hundreds of procedures are performed each day.

Preference cards are maintained electronically but require manual upkeep. Each surgeon has a preference card for every procedure he or she does, and all preference cards must be updated throughout time, Runion says.

“We have 110,000 preference cards right now,” Runion says. “We are not keeping track of them due to lack of time and resources. Our thought behind this is that there is a lot of waste.”

To revamp its preference cards, Cleveland Clinic has gained the support of surgeon leadership, nursing directors, and supply chain management at the main medical center and at its satellite locations. A large task force made up of smaller groups will address different aspects involved in trimming the preference cards.

As a start, the task force met in early February to see how preference cards for laparoscopic cholecystectomy might be standardized. Laparoscopic cholecystectomies were selected because they are high volume—5,000 enterprise wide in 2013—and have minimal variability from surgeon to surgeon in terms of supplies and instruments used, Runion says. The group hopes to develop a vision of what is needed moving forward, which is likely to include compromise from nursing and support from surgeons. “We’re going to start there and see how it goes,” Runion says.

(Editor’s note: OR Manager recently presented a webinar, “Streamlining the Preference Card (PC) Library.” For more information, visit www.ormanager.com, click on webinars, and choose the category Personnel.)

Doing your homework

To gain the support of their surgeons, TJUH staff spent a month researching everything there was to know about mesh, Profeta says—the various types, clinical applications, and each mesh vendor’s product portfolio.

David E. Young, MD, medical director of presurgical testing at Advocate Lutheran General Hospital in Park Ridge, Illinois, recommends that perioperative leaders use a value analysis committee made up of materials management, service line leaders, and surgeon champions to sort out the true supply costs of an OR.

Even before you start gathering benchmark data, it’s important to understand what you are buying and what you are trying to compare to the benchmarks,” he says. Dr Young is also a managing partner with Surgical Directions, a perioperative and anesthesiology consulting company.

Early in the process of any OR supply cost containment initiative, perioperative leaders should decide how they will define success, Dr Young says. “If your costs are 30% above benchmark, what do you consider a success? Will you try to go all the way, or is 15% above benchmark satisfactory? There may be some surgeons who aren’t willing to change,” he says. “Do not set unrealistic goals because if you don’t meet those goals, the project may be considered a failure when it really isn’t.”

After gathering the necessary data, the mesh team at TJUH decided that the hospital could save money by reducing the number of mesh vendors from 8 to 3 or possibly even 2. They reviewed each surgeon’s usage of mesh and discovered that for total dollars spent on mesh, the least amount was spent on the majority of units purchased and the most was spent on the low usage mesh.

Before reducing its number of mesh vendors, the mesh team knew it needed to find a surgeon champion who believed that standardizing mesh could be accomplished without hurting patient care and who was willing to convince his or her peers. Often, the surgeon champion is the major user of the supply item the hospital is trying to reduce.

When administrators approach surgeons about changing supplies, surgeons can quickly shoot
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holes through the proposals, Young says. But when a peer approaches them, it has a different impact, especially when that peer has accurate data and can explain the clinical relevancy.

At the Cleveland Clinic, each service line manager has the support of either the chairman or another surgical champion to help move cost-saving efforts along, Runion says. By doing so, they have started to achieve small wins, such as convincing some surgeons to use gel foam without thrombin, which they say is just as effective as and less expensive than other types of gel foam, Runion says.

Demonstrating the evidence

These and larger cost savings are being realized through an ongoing cost visibility campaign, Runion says. Supply chain staff help clinical leaders to develop posters that identify high-volume products and the costs associated with them. The posters are then placed in ORs and high-traffic areas. “Many of our surgeons don’t know what supplies cost,” Runion says. The most recent posters focused on hemostatic products, detailing the costs of each product, such as the gel foam with thrombin.

When Profeta and the team approached a general surgeon to be their champion, they presented him with different options based on bids that vendors had submitted. Not all vendors had equivalent versions of existing mesh in the inventory, so some vendors were not considered. Three tiers of cost savings were presented. The one with the steepest reductions included the fewest vendors and converted the highest cost mesh to a different vendor.

TJUH worked with the Advisory Board Company, a global research, technology, and consulting firm in Washington, DC, to help gather and analyze data, such as a breakdown of how surgeons were using mesh. Information like this can also be found through group purchasing organizations such as Premier Inc, Dr Young says.

Overcoming resistance

Dr Young has found that such supply initiatives can quickly fall apart. “We’ve had surgeons say ‘I won’t be a part of this; I can only work with these materials, and I’ll take my cases and go elsewhere.’” OR leaders then need to sort out the profit margin per case, breaking down labor, material, and other associated costs. It may be necessary to explain to the surgeon that the hospital is losing money on his or her cases. “But you’ll need to have your information lined up with reliable data before you have these conversations,” he says.

However, most surgeons are competitive by nature. If a neurosurgeon whose craniotomies are costing $15,000 learns another neurosurgeon is achieving equivalent outcomes for $10,000, there will likely be a desire to find out why costs are higher, say experts.

Profeta’s advice for dealing with surgeons who are opposed to these initiatives is to objectively

Continued from page 15

Supply chain

Jefferson University offers strategies for gaining physicians' support

• Spend time up front researching, gathering, and analyzing data related to your initiative; it is time well spent.
• Ensure your data is evidence-based and accurate before approaching a possible surgeon champion—inaccuracies will quickly derail your initiative.
• Choose a surgeon champion who is 100% committed to the cause—he/she will be needed to get peers onboard.
• Be prepared for resistance from others—overcome opposition by leveraging support from physician leadership and departmental alliances.
• Make costs of supplies transparent, such as adding supply costs to preference cards.
• Educate surgeons about costs and reimbursement—some surgeons may not be aware that hospitals aren’t fully reimbursed for case expenses regardless of cost.
• Remain steadfast and focused on the goal.

Continued on page 18
listen to their points of view, then take that perspective back to the committee to see if it is valid or just a surgeon’s personal preference. “You are always going to have someone who doesn’t want to do it,” Profeta says. “Sometimes because of the opposition we felt like we were taking 1 step forward and 2 steps back.”

Don’t take objections personally, be persistent, and don’t give up, Profeta advises. He brought in representatives and scientists from the developers of the mesh products they had selected to explain the products to the surgeons and answer questions.

Dr Young advises paying as much attention to the initiative’s rollout as to gathering the data, evaluating costs, and selecting vendors. “It’s really important to plan for this day. Don’t let it just stumble forward to failure.”

Based on the success of the TJUH mesh project, Profeta and the mesh team plan to use the same process to standardize advanced energy devices and endo-mechanical staplers—other items with high costs, high usage, and multiple vendors.

Janet Boivin, BA, BSN, RN, is a healthcare writer in Cary, Illinois.

Reference


ORBM Conference

Continued from page 13

the value of perioperative services to the customer, Dr Hicks said. “What makes you competitive? What is it that makes your operating room the place where people want to go to get care?”

Engage the physician

In his closing keynote presentation, Girard F. Senn, MS, BSN, shared pearls for understanding physicians and enlisting their support in new initiatives. Senn, managing principal of Clinical Benchmarking, LLC, in Glen Ellyn, Illinois, has managed implant contracts for the past several years. Based on that experience as well as his stint as a former OR director, he brought relevant insights and experience to the conference.

Some of his suggestions for effective communication with physicians:

• “Choose wisely.” Illustrating this point with a bell curve, Senn characterized physicians as early innovators, opinion leaders, early majority, the laggards, and “Dr Grumpy.” Perioperative services directors should identify which physician is an opinion leader, he said, because that person will be helpful in persuading colleagues to support a change or new initiative.

• WIFM — Consider “what’s in it for me” from the physician’s perspective to be able to negotiate successfully.

• Make a compelling case for improvement backed up by data, and make sure it’s compelling to the physician. “Don’t take the CFO numbers to the surgeon,” he warned. “Do not take a contribution margin to a surgeon. Ever. You can’t explain it, CFOs can’t explain it, and surgeons don’t believe it.”

• Incentives. According to Senn, incentives for physicians are prioritized by income, hassle factor, and patient care.

• Optimize their involvement. Have a one-on-one conversation instead of asking physicians to attend a committee meeting. “That will be optimizing their time, not maximizing the amount of time they’re in a meeting,” he noted.

• Start small, i.e., make a change that can be achieved within 60 to 90 days, to get physician buy-in. That way, you can demonstrate a result and the physician will be more likely to want to help.

Next year

Comments from this year’s attendees included remarks such as “exceeded expectations with real and practical strategies and approaches” and “this conference revitalizes me and inspires me to improve.” Watch for information about the 2015 OR Business Management Conference, including a call for proposals, and don’t miss out on the opportunity to participate.

—Elizabeth Wood

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Firm policies and the right procedures tip the cost-benefit balance toward flip rooms

We spoke recently with surgery department leaders at an academic medical center in the Midwest. One of their biggest concerns was a challenge faced by many ORs today: “Flip rooms are just killing us.”

Most surgeons prefer the efficiency and revenue potential of a flip room schedule. But for hospitals, flip rooms are becoming increasingly expensive. Room flipping can create long gaps between cases when not effectively managed, driving down utilization and eroding profitability.

Yet OR directors and managers at some hospitals have achieved a balance between the costs and the potential benefits of a flip room system. In our experience, the key to managing flip rooms effectively is to establish clear standards for awarding them, strong processes for managing them, and a robust decision-making structure that minimizes flip room costs while maximizing potential gains.

A management challenge
The main drawback of room flipping is that it increases unproductive time. Utilization in a flip room can be 30% to 40% lower than a fully scheduled operating room under a single-room system. Considering that OR time costs between $20 and $65 per minute, low utilization makes room flipping a very expensive service. Flip rooms can also create problems for anesthesiologists, as low room utilization translates directly into low anesthesia productivity. In addition, providing flip rooms to some surgeons can create a “2-room” expectation among the rest of the surgical staff.

But refusing to provide flip rooms can be risky for a hospital surgery department. Flip room schedules are standard in ambulatory surgery centers and specialty hospitals. To recruit and retain key surgeon specialists within this competitive environment, surgical services directors must offer flip rooms. Taking a hard line is “penny wise and pound foolish.” A hospital that loses just 1 orthopedic surgeon over the flip room issue can easily forfeit hundreds of high-revenue cases.

Room flipping does have an upside. Leading hospitals across the country have demonstrated that a well-constructed flip room plan can drive OR growth. We recently worked with a hospital that had a clear potential to increase orthopedic surgery volume by 15% to 20% by properly structuring its flip room system.

The key to success is careful management. Room flipping will never be as efficient as single-room scheduling. But with the proper policies and controls, OR leaders can limit the costs of a flip room system and use it to improve the overall profitability of the department (sidebar, p 20).

Basic criteria
The first step to creating a strong flip room system is to establish clear requirements and standards for obtaining and retaining a flip room. Effective systems have requirements in 5 areas:

• **Adequate volume.** The purpose of a flip room is to accommodate busy surgeons, so it is important to establish thresholds that define high volume. First, a surgeon should be awarded a flip room only if he or she is using OR time very efficiently. Current block time utilization should be a minimum of 75% to 80%. Second, the surgeon should be able to schedule at least 6 to 7 cases per 8-hour block. In addition, it can make sense to establish an annual volume threshold. Some hospitals provide flip room time only to surgeons who bring 250 or more cases to the OR per year.

• **Appropriate procedures.** Not all operations are suited to a flip room schedule. To maximize efficiency, restrict flipping to shorter cases with predictable case times. Operative times should average 1 hour maximum. In addition, focus on procedures for which a physician assistant (PA) or registered nurse first assistant (RNFA) can close, allowing the surgeon to leave 1 room early and begin in the next room promptly. There should always be a back-up surgeon immediately available to assist if needed in the room where the PA or RNFA is closing.

Many orthopedic procedures provide an excellent opportunity for room flipping. Some spine procedures and robotic cases also qualify. The ideal case is a short operation with

Success hinges on how decisions are made.
a complicated setup, such as a hip arthroplasty that requires extensive preparation but only regional anesthesia. These cases can be flipped very efficiently, as operative time and turnover time come close to matching.

- **Reasonable economics.** Flip rooms are expensive, so they are sustainable only for cases with a strong economic foundation. Some specialties and procedures are important to the healthcare mission of the hospital, but creating flip rooms for these cases can endanger that mission. Provide flip rooms for case volume that supports the economic viability of the OR.

- **Exemplary behavior.** Flip rooms should be seen as the culmination of a positive, mutually beneficial relationship between the hospital and a surgeon. Surgeons with a pattern of disruptive behavior should not be considered for flip room time. Once a surgeon receives a flip room, he or she should continue to demonstrate efficiency and conscientious use of resources (no leaving the OR during flip blocks).

- **Good citizenship.** Surgeons who receive a flip room should reciprocate by serving on hospital committees and task forces. Given the cost of flip room time, a hospital is within its rights to expect a reasonable quid pro quo.

**Timing**

In addition to establishing strong flip room rules, OR directors should create processes and management systems that maximize flip room efficiency and minimize problems.

For a flip room system to be successful, the second patient of the day must be brought to the OR before the first case is complete. But this makes it difficult for the surgeon to visit the second patient immediately prior to in-room time. The solution is to set an early surgeon arrival time, allowing the surgeon to complete H&P attestation and site marking for the first patient and the second patient before the start of the schedule. Following the first case, the surgeon should visit the third and the fourth patients for preop attestation and marking. This process is repeated as the schedule progresses.

Remember to weave family communication into the process. Coordinate with waiting area staff to make sure families are readily available to meet with the surgeon. Family meetings can often take place while the patient is being closed by an assistant.

Flip rooms create an even greater need for perioperative orchestration, so nursing specialty teams are critical. Specialty teams for orthopedics, neurosurgery, cardiovascular surgery, and other types of procedures help ensure surgeons can move from case to case smoothly and with minimal hiccups.

Consider allowing only same-side procedures within a flip room block on a given day. Not only does this decrease the chance of a

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**Single room vs flip rooms**

The scenarios below illustrate typical schedule flows for a single-room block versus a flip room system. (Orange indicates operative time, and grey denotes turnover time.) Single rooms increase utilization and decrease variable costs, but flip rooms produce higher net revenue and contribution margin.

**Single room schedule**

<table>
<thead>
<tr>
<th>Time</th>
<th>0800</th>
<th>0900</th>
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<th>1100</th>
<th>1200</th>
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<td>Room 1</td>
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</tr>
</tbody>
</table>

| Utilization | 78% |
| Net revenue  | $39,520 |
| Variable costs | $14,400 |
| Contribution margin | $25,120 |

**Flip room schedule**

<table>
<thead>
<tr>
<th>Time</th>
<th>0800</th>
<th>0900</th>
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<th>1100</th>
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<td>Room 1</td>
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<td>Room 2</td>
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</tbody>
</table>

| Utilization | 58% |
| Net revenue  | $59,280 |
| Variable costs | $28,800 |
| Contribution margin | $30,480 |
wrong-site surgery, it greatly reduces staff workload with regard to repositioning equipment (such as the C-arm) or the OR table.

**Communication and flexibility**

A strong daily huddle process is crucial to making a flip room system work. Daily huddles improve overall efficiency by ensuring patients are fully prepared for their procedures on the day of surgery (see p 24). A daily huddle can support flip room efficiency by identifying potential problems that can derail schedule flow. For example, huddle participants might identify patients with known anesthesia problems who are at risk of a longer operative time.

Huddle participants should also scrutinize the schedule for special equipment requirements that will be problematic within a flipping schedule. Vendor participation must be carefully coordinated to ensure proper timing and an adequate quantity of loaner trays. Manage supply needs carefully to prevent unnecessary slow-downs. In addition, work with central sterile processing to ensure quick turnaround on key instruments.

Consider requiring surgeons to facilitate an end-of-day team debriefing to review successes and problems during the preceding flip room block. This will help prevent recurrence of problems and facilitate standardization of best practices.

Ongoing attention is essential. Once a flip room schedule is done for the day, frontline leaders should look for opportunities to fill up remaining time with any elective or add-on cases. Whenever possible, flipping should be an option for eligible surgeons on the day of surgery. For example, Dr Smith may be scheduled for a long day in a single room. If another room becomes available in the afternoon, frontline managers should juggle the schedule to allow Dr Smith to flip remaining cases into the extra room. This is a great way to improve surgeon satisfaction, and it can help an OR control costs by keeping the schedule as vertical as possible.

Although anesthesia staff may not initially see the benefits of flipping cases, the overall concept does offer some important advantages. Flipping rooms when possible as the day is coming to an end will shorten anesthesia’s cumulative time in the OR, especially after hours. That gets them out of the OR sooner and can reduce overhead costs for the anesthesia department. Flip rooms also benefit on-call anesthesia providers by allowing them to finish elective cases earlier rather than extending these procedures into the urgent and emergent schedule.

**Full transparency**

Successful flip room management also requires attention to the political dimension of a flip room policy. Even with a clear set of rules, flip rooms create a potential for conflict between the hospital and surgeons and within the surgical staff.

Ultimately, success hinges upon how flip room decisions are made and who makes them. In some hospitals, the surgery department chair decides which physicians are awarded a flip room. But even when decisions are based on utilization and other objective factors, “one-man rule” can create misunderstanding and resistance.

The solution is to create a shared decision-making process that is completely transparent. The best way to do this is to place the flip room system in the hands of a physician-led Surgical Services Executive Committee (SSEC). In many cases, physician governance of the OR all but dispels surgical staff conflicts (see OR Manager, April 2013, p 21). Broad physician representation allows an SSEC to create flip room rules that are seen as balanced and fair by the medical staff. Just as important, members of the committee become strong advocates for the system among their surgeon colleagues.

SSECs should evaluate all flip room requests based on agreed-upon guidelines and relevant data. Key data points include the surgeon’s utilization rate and the cost per procedure and contribution margin of the proposed flip cases. The committee should also review outcomes data for the surgeon’s patient population. Regular monitoring of outcomes is important for ensuring that quality is not suffering at the hands of efficiency.

**A fair exchange**

Clear rules and effective controls help OR leaders achieve an acceptable trade-off between the costs and benefits of a flip room system. When flip rooms are managed properly, they will decrease utilization but increase revenue and contribution margin. That opens the opportunity for an OR to build revenue-generating case volume and realize greater overall profitability.

*This column is written by the perioperative services experts at Surgical Directions (www.surgicaldirections.com) to offer advice on how to grow revenue, control costs, and increase department profitability.*

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Learning from Leaning: Case cart readiness improves after barriers are removed

Bristol Hospital had a supply problem. Instruments were often missing from case carts, so nurses had to scramble to find the items on the morning of a scheduled procedure. Staff wondered whether the problem was caused by shortages, but a Lean process revealed an entirely different scenario and forged a pathway to improvement.

Getting started
The 93-year-old community hospital serves the town of Bristol, Connecticut. With 134 licensed beds, 8 operating rooms, an endoscopy suite, and an outpatient surgery room, the hospital has a volume of about 400 surgical cases each month.

In 2011 the hospital had launched a completely electronic medical records system that included inventory management. Around the same time, the executive leadership team identified Lean thinking and Lean processes as a strategic initiative. In 2013 they assembled 7 Lean teams, giving each a specific charge. All team members were expected to earn Lean Six Sigma Green Belts in the process.

The team tasked with addressing OR supply consisted of the OR director, the OR nurse manager, the central sterile supply (CSS) manager, a perioperative business manager, and others from outside the OR, including the information services manager, individuals from purchasing, and the chief financial officer.

“In perioperative services, we had a global charge to look at inventory management, including the dollar value of what’s on the shelf, how often it turns over in a year, and whether we had the right number of each item on our shelves,” says team leader Lynne Ramer, MSN, RN, CNOR, clinical operations director, perioperative services.

The team was under pressure because the hospital had just hired 2 new surgeons in September 2013. One was an orthopedic surgeon who could perform 6 to 8 procedures a day. The way Bristol’s supply cart system was working at the time, however, meant the staff couldn’t have handled the increase in productivity, says Diane Bouffard, MHA, BSN, RN, CPHQ, LSSBB, system director of quality improvement and holder of a Lean Six Sigma Black Belt certification.

“We knew we had to speed up processes for increased throughput,” she says. “If the supply wasn’t on the cart, we would have to delay a case while someone went to find, clean, and sterilize the equipment. So our challenge was, how do we make this more efficient so that every cart would be ready when the procedure was scheduled to start?”

Unlike larger hospitals, Bristol’s OR does not have a central core. Instrumentation and packs are kept in CSS, and soft supplies are stocked in multiple areas within the OR. As it turned out, that was a big part of the problem. But it wasn’t the only one.

Identifying the problems
After an extensive 2-week data collection and audit process, the team concluded that inventory wasn’t the issue. “We looked 360 degrees at our supplies, how they’re ordered, how they arrive, how they’re decremented and reordered, and how the patient is charged,” says Ramer, who has a Lean Six Sigma Green Belt.

They had on average an 84-day inventory supply on the shelf, with invoices paid every 90 days. “That meant we were using our inventory before we were paying for it. That’s a good thing. Our inventory was turning about 4 times a year. We were running a very tight ship,” Ramer says.

So why were 20 to 30 items missing from the carts each day? To find out, the team examined their process beginning with the booking of a surgical procedure and ending with the completion of the case cart.

For 2 weeks, they monitored every time a person touched a case cart and the number of minutes associated with each contact. They used several different Lean tools and techniques to map out what was happening, including process maps, Pareto charts, fishbone diagrams, and scatter diagrams.

“We had to do a lot of research to determine what part of our process was broken. We weren’t sure any of it was in the beginning,” Ramer says.

The discovery process took about 5 months and revealed several problem areas. Multiple people were picking instrumentation for the carts from both CSS and the OR, leading to errors. “We found that numerous people were involved, sometimes upwards of 5 to 7 people, and they weren’t always the same people,” Ramer notes.

Carts were being stocked from CSS 36 to 48 hours in advance of procedures, and instruments were often tied up on carts meant for the next day. Nurses would take instruments from those carts, so those items would be missing the next day, and the cycle would continue.
“People were stealing off each other’s carts,” Ramer says, adding that nurses were supposed to record these events but often didn’t. “Sometimes they got pulled away or their shift ended. The whole process was really flawed.”

According to Bouffard, “Historically, nursing staff members tend to be hoarders. As a nurse, you want to make sure you have all the supplies you need without having to chase after them.”

She points out that this type of problem is less likely to happen in a larger hospital where supplies are stored in the central core or in central sterile departments that are stocked with both soft and hard goods with centralized logging. In contrast, Bristol staff lacked control of the process.

The practice of stocking the case carts far in advance had originated to accommodate the schedule of a CSS employee who could only work from 3:00 am to 11:30 am. Because there wasn’t much else to do at that hour, she had been instructed to pick the instruments for the appropriate case carts 2 days in advance.

As so often happens, that practice became entrenched, as did the subsequent scrambling and stealing on the day of procedures. “People were stuck. You find that in every OR. They all have their quirks. We asked why in our drill down multiple times. Frequently, the answer was, ‘it’s because we’ve always done it that way,’” says Bouffard.

The Lean process also revealed that sterilization equipment did not meet the surgical case load demand, and certain surgeons wanted a wide variety of instruments kept handy even when they were unlikely to be used.

At baseline in September 2013, total case cart picking time ranged from 748 minutes to 1,573 minutes, with great variability from 1 day to the next.

Changing processes
Once the team identified the problems, they created a flow diagram or value stream map for how they wanted the cart preparation process to work, given that the physical supply room locations couldn’t be changed.

“Having a small central supply area on 1 floor and the soft goods area on another floor doesn’t make it easy to move back and forth. In ‘Leaning’ it, we tried to make it as easy for nursing staff as possible, so they were doing less running around,” Bouffard says.

The team altered the schedules and responsibilities of both CSS and perioperative services staff. They designated 1 staff member in CSS to pick the instrumentation for the carts and 1 person in the OR to pick the soft goods. They also changed the timing so that carts were prepared within 24 hours of the procedure.

Here’s how they mapped out the workflow:
• Noon: OR prints the doctor’s preference card and CSS prints the pick list from the preference card.
• 1:00 pm: OR picks the soft goods.
• 2:00 pm: OR sends the soft goods to CSS on the sterile elevator.
• 7:00 pm: CSS picks equipment and instrumentation, and marries the cart items together.
• 8:00 pm: CSS brings the first 2 complete carts upstairs. The cart for the next morning’s first case goes to the OR, and the second cart goes to a nearby room. The rest of the day’s carts stay in CSS until the signal from the OR that the prior cases have been completed.

The morning of the procedure, the nurse verifies the case cart’s accuracy. If anything is missing, she calls CSS to have the item brought to the OR. If not, she wheels the cart into the OR and the case is started. “It became like an assembly line,” Bouffard says.

Measuring success
The team pilot tested the plan for 2 weeks. By the end, case cart accuracy had improved 10-fold, with the missing list dropping from 20 to 30 items to 0 to 2. If those remaining 1 or 2 missing items showed up repeatedly, they were considered to be in short supply and more of those items were ordered so that they disappeared from the list. By November 2013, total case cart picking time had dropped to a range of 543.5 to 1,013.9 minutes, with far less variability.

“It was a pretty dramatic change in the process, but what was most interesting was that physicians generally didn’t notice any change in the process. They always felt that their expectations were being met or exceeded,” Bouffard says.

The team also discovered that new sterilizing equipment would be needed to handle the increased case load of the 2 new surgeons.

Continued on page 25
Multiple OR multidisciplinary team huddles promote ownership of process improvements

Huddles are hot. Experts cite them as effective patient safety tools, and many hospitals have implemented them on nursing units at the start of the shift. The perioperative services team at Vanderbilt University Medical Center in Nashville, Tennessee, broadened the huddle concept to include several disciplines and a structured format, yielding improvements in patient safety and operational performance.

“The huddles also promote patient, staff, and physician satisfaction,” says Cynthia Kildgore, MHA, BSN, RN, the OR director at Vanderbilt, which has 49 ORs where 130 to 140 cases are performed daily. Kildgore says the huddles started in 2008 and have evolved into 3 huddles during each day.

Managing throughput
The primary huddle, held at 9:30 am, includes Kildgore, the anesthesiologist and certified registered nurse anesthetist (CRNA) in charge for the day, the head CRNA, managers from the OR specialty areas and their charge nurses, the super charge nurse (who addresses 7-day release scheduling and emergency needs), the holding room charge nurse (Vanderbilt has 3 holding rooms), the postanesthesia care unit (PACU) charge nurse, the patient transport manager, the sterile processing manager, and the nurse “board runner,” who manages the schedule during the day. “We end up with about 20 people,” Kildgore says. “We try to have representatives from every piece of the flow process.”

The huddle team uses a form to provide a snapshot of throughput (sidebar, p 25). Reporting elements include first case on-time starts, number of surgical beds available, number of planned surgical discharges, emergency department capacity, number of “sleep overs” (the overflow of inpatients who have not been assigned a hospital bed), and any cancellations or equipment issues. “It gives us a picture of our day and how different areas will be affected,” Kildgore says. Staffing is also briefly discussed.

Huddle team members track data to identify recurring roadblocks that impede efficiency and can negatively affect patient safety. “We learned that not all of our clinic patients were going through preadmission, where they see anesthesia and a nurse practitioner,” Kildgore says. The procedure was changed so that all Vanderbilt clinics send their patients to the preadmission department.

Supporting huddles
The nights, evenings, and weekend director leads 2 smaller huddles at 8:30 am and 2:30 pm. Participants in the morning huddle include managers, charge nurses, and the board runner. They focus on staffing, such as who called in sick, which areas need more help, and lunch relief plans, so that adjustments can be made.

“We track this to help us learn how to flex up and down in staffing,” Kildgore says. The team also discusses the next day’s schedule. “We try to stay ahead of the curve.”

In the afternoon huddle, the managers, charge nurses, and super charge nurse for the holding room and PACU discuss the schedule for the remainder of the day and identify which cases will be later than expected so staffing needs can be met.

In addition to the 3 main huddles, each specialty area manager in the OR holds huddles with his or her staff at 6:55 am, fine-tuning staffing as needed.

“We are very flexible, and we can turn on a dime when we need to,” Kildgore says.

Networking for effect
Making changes in real time to improve throughput requires staff flexibility. Kildgore says staff involvement in processes has been essential to achieving that flexibility. “We have a good, solid, unit board,” she says. The unit board includes a leader and co-leader from each specialty area who are elected by the staff of that specialty and serve for 2 years. The board meets twice a week and works on projects such as revising the count process.

There is also an executive unit board, which consists of the leader and co-leader of each unit board and the holding room/PACU, 2 acting directors from surgery, 1 director from the holding room/PACU, and 1 administrative director for perioperative services. “You have an entire communication network,” says Kildgore.

Fitting the need
Kildgore credits huddles with helping her stay current on “what
**Huddle report**

This sample huddle report used at Vanderbilt University Medical Center’s 9:30 am huddle includes data from several sources and a report on any delays in each OR.

**Key:**
- CT1s: Clinical technician I
- EMA: Early morning admission
- FCOTS: First case on-time starts
- HGTV: Hepatobiliary, general surgery, trauma, and vascular
- MCE: Medical Center East
- OBS: Observation
- OOPS: Otolaryngology, oral, plastic surgery
- STU: Surgical transition unit
- VOR: Vanderbilt OR
- VUH HR/RR: Vanderbilt University Hospital Holding Room/Recovery Room

Source: Vanderbilt University Medical Center, Nashville, Tennessee. Used with permission.

is going on in every single area of the OR.” Her advice is to implement huddles and keep focused on processes, tracking progress, and discussing results. She also suggests OR managers tailor huddles to fit their individual needs and revise as needed. “It’s important to stay open to change,” she says.

Cynthia Kildgore will be a presenter at the OR Manager Conference, September 17-19, in Long Beach, California.

Cynthia Saver, MS, RN, is president of CLS Development, Inc, in Columbia, Maryland, which provides editorial services to healthcare publications.

**Case cart readiness**

Continued from page 23

With the new data, they were able to convince management to purchase the needed items.

Some of the nurses were initially hesitant about changing their usual way of doing things. “But they found out how much time they were wasting running around looking for instruments. It ended up ultimately being this incredible win-win situation,” Ramer notes.

A couple of the surgeons also needed some coaxing to accept the new instrumentation flow, but eventually they came around.

Key to success from an OR manager perspective, Ramer says, is the ability to “think outside the box, challenge the norm, and to have crucial conversations about important topics.”

And Bouffard advises: “Walk your environment, observe what’s going on, and look for the waste. Use your data to make decisions and drive change in your organization.”

Miriam E. Tucker is a medical journalist in Bethesda, Maryland.
"The matrix has boosted surgeon satisfaction."

Surgeon concerns about staff competency and high turnover of surgical technologists at Vail Valley Medical Center (VVMC), Vail, Colorado, prompted the development of a staffing skills competency matrix.

VVMC is a community hospital with 4 rooms in its main OR, 4 rooms in its adjoining surgery center, and 4 rooms in its surgery center in Edwards, Colorado, which is 12 miles from Vail. VVMC also includes the Steadman Clinic, a world-renowned orthopedic clinic, and the Steadman Philippon Research Institute, where 9 orthopedic fellows a year hone their surgical skills on cadaver knees, shoulders, and hips.

The matrix, which is divided into skills needed by RNs and surgical technologists, consists of different levels of expertise. Implementation of the matrix not only has helped OR leaders structure and train their staff more appropriately, it has also motivated staff to enhance their skills and has boosted surgeon satisfaction, according to Mary Jo Steiert, BSN, RN, CNOR, director of perioperative services at VVMC.

Patterned after the colors and symbols that designate the level of difficulty of the ski trails at Vail, the matrix gives OR team members a visual and up-to-date representation of RNs’ and surgical technologists’ skill sets in 4 levels for procedures. There are 2 staffing skills matrix boards—one for the scrub role and nurses who function in the scrub role and one for circulating nurses. The boards are 5 ft by 5 ft and include all 31 staff RNs and surgical technologists.

Before moving to expert
The OR clinical specialty coordinators decided on the ski slope symbols because they wanted the skills matrix to reflect Vail, says Steiert.

“We really wanted to trademark it to where we work,” she says. “A lot of people come from all over the world to have their surgery here because of our world-class surgeons, so we wanted to create a world-class model for our staff to match our surgeons.”

The 4 levels are orange, green, blue, and black (sidebar, p 27).

Orange. An orange triangle signifies orientation. This is a new staff member, a new graduate who participated in an AORN Periop 101 course, or someone who needs assistance with a particular specialty or procedure. “Though the orange triangle isn’t a ski slope symbol, orange is a warm color and represents patient safety, and that’s where we wanted everyone to start,” notes Steiert.

All new staff members at VVMC come in at the orange level. “They may have experience, but they have to learn our surgeons, the way we do things, and our positioning devices,” she says. “They have to prove themselves, show us what they know, and that they are able to apply their skills and knowledge learned at other facilities.”

Before moving to the green level, new staff must have their competence verified and signed off by a “blue” team member, and a “black” team member or designated mentor, the educator, and the charge nurse.

Criteria to move from orange to green include understanding the basic equipment setup for a case, understanding surgeon preferences and where to find them, demonstrating and verbalizing basic knowledge of a procedure, and displaying critical thinking for technical skills.

Green. A green circle, which indicates easier ski slopes, signifies limited assistance on the skills matrix. This is a staff member who may require limited back-up help. “This person may be able to do a case but needs help getting started and at the end,” says Steiert.

Before moving from green to blue, staff must have their competence verified and signed off by a specialty team leader, a scrub technologist or RN, and the charge nurse.

Criteria to move from green to blue include setting up a room/case independently, functioning independently during a case, and displaying critical thinking in analyzing and prioritizing tasks, equipment, etc.

Blue. A blue square, which specifies ski slopes for intermediate skiers, means staff members are world class, fully qualified, and can do cases safely and independently.

Before moving to the black level, staff must have their competence verified and signed off by
a specialty team leader, a surgeon, and the charge nurse.

Criteria to move from blue to black include anticipating and preparing for unexpected deviations from the norm, demonstrating the ability to teach, and taking the initiative to create in-services, mock simulations, and pamphlets for staff or patient education.

**Black.** A black diamond signifies an expert on the ski slopes and the matrix. This is a staff member who can stay 1 step ahead of the surgeon, can teach and troubleshoot, and whose expertise level is acknowledged by the surgeon. “Going from blue to black has to have confirmation from the surgeon on a particular procedure,” says Steiert. “I will ask him if he thinks a person should be considered expert on a certain procedure, such as multiligament knee repairs, and he can say ‘yes’ or ‘no, she needs a few more cases.’”

About 10% of the staff are experts, and Steiert believes there will never be more than 20%. “We really want the majority of our staff to be blue in the traditional bell curve, with 80% in the middle and 10% on either side. That is the ideal model we are looking for,” she says.

**RN scrub fellowship**

“When we first plotted out our skills matrix boards at the beginning of 2013, we found we had huge holes in our staff who could scrub,” says Steiert. “It was a real wake-up call for us because we discovered that what the surgeons were telling us was true.”

Steiert and the OR educator, Jan Stull, MS, RN, CNOR, met with staff and developed a scrub fellowship program for RNs. Four RNs have completed the first class, and 2 are at the expert level. The first class began in April.

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**Printed with permission, Vail Valley Medical Center, Vail, Colorado.**
Less than 2 years after the New England Baptist Outpatient Care Center was imagined, its doors opened in September 2013. The sparkling new ambulatory surgery center (ASC) in the Boston suburb of Dedham, Massachusetts, isn’t far from the country’s oldest timber-framed house, the Fairbanks House, built in 1637—long before building codes arrived.

The new facility, which occupies about half of a 66,000 sq ft building, illustrates the complexity, opportunity, and satisfaction associated with building a new ASC. It was developed from the ground up, with the location carefully selected for commuting ease; it is close to the Massachusetts Route 128 highway that surrounds the western side of Boston.

On the fast track
Specializing in sports medicine and orthopedic surgery, the Dedham center offers patients a single location for outpatient surgery, pain management, and rehabilitation services. It contains 8 ORs, each 515 sq ft. Adjoining space holds the Shields Health Care Group, a diagnostic imaging practice that operates in partnership with the ASC.

Officials at New England Baptist Hospital (NEBH) in Boston had rushed the development of the ASC to have a replacement ready before the lease on its other ASC expired. Not only did the fast-track project meet its deadlines, but business has been brisk enough to keep the original ASC, SurgiCare in Brookline, open as well.

“It happened so fast,” Val Giordano, RN, recalls. As associate vice president of support services at NEBH, Giordano managed the Dedham project after an executive planning committee signed off on the concept and major criteria for the ASC, including a suburban location.

“It was a chance to branch out of Boston, to open up new markets,” Giordano says. The hospital also hoped to attract its current outpatient population away from the Boston campus, to free up more inpatient space there.

A 22-member steering committee spent the summer of 2011 evaluating architects and contractors. They sought local professionals with experience in designing and building healthcare facilities. They selected Steffian and Bradley Architects and Suffolk Construction, who quickly got to work.

“Usually the design takes a year,” Giordano says. “We compressed it into about 12 weeks.”

Every opinion counts
The committee, which included physicians, nurses, and admin-
that staff can transfer back and forth comfortably. Volume has been steady since opening day, Giordano reports, and patients have been appreciative. “They comment, ‘this is such a beautiful place,’” she says.

**Don’t neglect details**

Despite the deadline pressure, the Dedham project managers demonstrated many of the best practices for building a new ASC. They chose professionals with healthcare experience to design and construct the building. They sought input from all types of employees. Not every new ASC development runs so smoothly, according to Denver architect John Marasco, whose firm, Marasco & Associates, has designed some 350 ASCs across the US and abroad. One critical mistake ASC developers can make is to start before consulting state regulators.

“Although it is inconceivable to me,” Marasco says, “we’ve actually encountered several facilities that have neglected to consult their state departments of health until after completing construction.”

It is the state, not federal, government that signs off on an ASC’s Medicare certification and issues a billing number, along with any state license that may be required. That is because the Centers for Medicare & Medicaid (CMS) designates states to interpret and administer federal codes. At the local level, city or town building departments must approve construction and issue building and occupancy permits.

Another potential error might be thinking too narrowly. Before lifting the first shovel for a new ASC, Marasco recommends that owners consider its expansion and resale potential. He finds that single-specialty ASCs could improve future profits by making early, low-cost modifications to accommodate other specialties or unexpected volume increases.

Planners should consider upgrading heating, ventilation, and air conditioning (HVAC) systems beyond code requirements, Marasco adds. “Temperature and humidity control in the operating room is another top complaint we hear about,” he says. Surgeons often prefer ORs to be cooler than the 68-degree CMS requirement, yet they also want to maintain required humidity levels, a combination that demands a more advanced HVAC system.

**To buy or to build?**

Where to construct a new ASC depends on many factors, but essential considerations are availability and cost. Marasco notes that it may be cheaper to build a new ASC than to try to bring an existing building up to code. However, ASCs can spring up in unexpected locations. He has built ASCs in former grocery stores, gas stations, car dealerships, strip malls, and a century-old sorority house. Other sites include a Philadelphia Navy Yard warehouse and a downtown Chicago skyscraper. The most typical conversions, however, are in medical office buildings.

“ASCs are located where the patients are and where the physicians are,” he says.

*Continued on page 30*
He offers the following estimate of comparative costs to prepare a new site and build, or to demolish the interior and remodel an existing structure of 15,000 sq ft.

- Site work: $5-$9 per square foot ($6 average)
- New ASC: $238-$390 per square foot ($297 average)
- Demolition: $7-$11 per square foot ($9 average)
- Remodel: $160-$262 per square foot ($199 average)

Building costs vary widely by region. “It costs a lot more to build in Manhattan, New York, than in Manhattan, Kansas,” Marasco notes. To be specific, he estimates the cost per square foot for the same new ASC to be $256 to $298 in Kansas and $399 to $478 in New York. In general, costs are lowest in central Southern states and highest in the Northeastern and West Coast states.

In addition to regional variations, construction costs in urban areas are usually higher than elsewhere, partly because of higher wages. A shortage of building materials can raise prices as well. Even the weather makes a difference: “Hurricanes in the Gulf Coast region not only affected gas prices for us all, but due to the same disruption of petroleum manufacturing, also affected the costs of asphalt roofing, PVC piping, and insulation—not to mention the availability of big ticket items like transformers and generators,” Marasco recalls.

The size of the facility affects the cost in 2 ways: A larger building will cost more overall to build, but the cost per square foot will be less than for a smaller building. For one thing, Marasco notes, the cost of materials decreases with higher volume. He adds that architects and contractors should also charge lower unit rates for larger projects. “It’s simply less expensive, on a square-foot basis, to produce a large facility than a smaller one,” he says.

**Recruit the talent**

After the owners and executives have set overall criteria, a steer-

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**ASCs part of the new face of healthcare**

With fewer new ambulatory surgery centers (ASCs) forming each year and more merging back into hospitals, it has become popular to describe the industry as “mature.”

It’s not yet time for an obituary, however. Improved technology, bolstered by healthcare reform, is driving a transition to outpatient treatment, and, when it comes to surgery, ASCs have been the trailblazers.

A panel of Colorado hospital executives met in February to discuss the trend during a meeting of Colorado Healthcare Strategy & Management. Their conclusion: Although there always will be a need for acute care, the standalone inpatient hospital may be the real dinosaur.

**New models everywhere**

Patients now have an increasingly long menu of treatment choices, including telemedicine and more robust support for home care. Children’s Hospital Colorado, for example, in 2013 reported a total of 17,261 inpatient admissions and 613,401 outpatient visits. Reflecting the trend, the hospital has opened additional outpatient clinics in the 3 states it serves, and it is expanding its telemedicine network, through which specialists can view radiology images and test results remotely and report their findings to wherever patients are located.

HCA has 15 ASCs in the Denver area and also uses telemedicine to serve patients in more remote locations. According to Sylvia Young, FACHE, president and CEO of HCA Continental Division and HCA HealthONE, “It’s never been a better time to be a patient.”

As options for treatment delivery multiply, so do the challenges for healthcare professionals, the panelists agreed.

“Everybody’s job is changing,” noted Patrick Green, FACHE, chief operating officer at St. Anthony Hospital in Lakewood, Colorado. So is their work environment, he added. “Building now means not just adding beds, but redesigning medical campuses to reflect the way care is delivered.”

Young said her experience at HCA shows the healthcare job market of the future will feature more mid-level providers, such as nurse practitioners. Administrative staff will expand because of changes in reimbursement structures and more complex coding and billing systems. These experts will play a critical role, she said, “to make sure we get paid for the work that we do.”

—Paula DeJohn
Ambulatory Surgery Centers

2013 when the ski slopes closed and ended December 1 when the slopes reopened. This was the off season when the OR schedule was slower.

“Two experienced surgical techs took the 4 RNs under their wings and wrote the program,” says Steiert. It was based on a scrub fellowship program developed at Scottsdale Healthcare, Scottsdale, Arizona (Ritchie, 2009). “They did a marvelous job tweaking this program to make it work for Vail,” she says.

“The 2 techs came to us with the resources they wanted to order for the RNs,” says Stull, “and they created pictures and videos to share with staff or found videos of our surgeons demonstrating procedures on YouTube.”

They also made arrangements for the RNs to go to the Steadman Philippon Research Institute Surgical Skills Laboratory, which has 10 workstations. The RNs worked with the fellows on different procedures. “The techs really had this very well thought out,” notes Stull.

The surgical technologists also associated a point system with the scrubbing skills, which the RNs have to earn in order to progress through sports medicine, spine, total joints, and trauma.

“It is criteria-based and non-judgmental,” says Stull. “The RN has to earn the points to be checked off for each specialty area.”

Going forward

In January 2014, Stull began meeting with staff every other month to work with them on 2 or 3 skills they want to develop this year. “For example,” says Stull, “an RN may come to me who is a blue on ORIF [open reduction internal fixation] of the distal radius and say she wants to be a black. I will work with her to move her to the next level.”

The skills matrix is a great model that shows scrubbing and circulating in the OR is a lifelong journey, says Steiert. “It shows me where I am and where I can go if I want to work for it.”

Steiert adds that “the model also shows the surgeons that we are not talking the talk, we are walking the walk’ to get our staff at an independent, competent, and confident level.”

Surgeon satisfaction has increased, she says. Instead of complaining about staff competency, they are saying, “good work, good work.”

The matrix is also breeding competition among staff members. Some of the long-time staff are seeing new graduates moving up the skills matrix, and surgeons are asking for them by name. “This motivates someone who has been there for 20 years to think, ‘I should step up my game a notch because he isn’t asking for me anymore,’” says Steiert.

In addition, some of the experts are asking for a double black diamond designation, which also signifies very difficult ski slopes, for a staff person who is an expert and also certified. “We will be adding this level,” she says.

—Judith M. Mathias, MA, RN

Reference

Nurse staffing, education tied to postop mortality
Better nurse staffing and a higher proportion of nurses with bachelor’s degrees were associated with significantly fewer deaths after common surgical procedures in a study. Data on 423,000 patients in 300 European hospitals were included in the study. Each additional patient assigned to a nurse’s workload was associated with a 7% increase in the odds of a patient dying within 30 days of surgery. A 10% increase in the proportion of nurses with a bachelor’s degree was linked to a 7% decrease in mortality.

Cutting nurse staffing to save money might adversely affect patient outcomes, and more emphasis on bachelor’s education for nurses could reduce preventable hospital deaths, the authors conclude.


Risk of SSIs low after ambulatory surgery
Though the risk of surgical site infections after ambulatory surgery is low, the number of patients with SSIs is substantial because of the large number of outpatient procedures performed annually, a study finds.

In an analysis of 285,000 ambulatory surgical patients, postoperative visits for SSIs were present for 3.09 per 1,000 at 14 days and 4.84 per 1,000 at 30 days. More than 93% of visits occurring within 14 days of the procedure involved treatment as an inpatient.

Earlier access to a clinician (eg, telephone follow-up before 2 weeks) may help identify these infections early and reduce overall morbidity, the authors say.


Regional anesthesia not linked to falls after total knee
Spinal or epidural anesthesia and peripheral nerve blocks do not make patients more prone to falls after knee replacement, a study finds.

Of patients who had general anesthesia, 1.62% fell, compared to 1.3% of those who had spinal or epidural anesthesia, and 1.58% of those who had peripheral nerve blocks.


Calculator predicts postop discharge
A simple calculator derived and validated by researchers at the Mayo Clinic, Rochester, Minnesota, and Brigham and Women’s Hospital, Boston, was found to reliably predict discharge to home after surgery.

The calculator uses 4 variables: age, American Society of Anesthesiologists’ performance status, elective surgery, and preadmission residence.

Tools such as this may allow physicians to better prepare patients and families for surgery and the recovery process, the authors say.