Less than a year after adopting a “college structure” model akin to that of specialty teams, the UF & Shands Academic Health Center in Gainesville, Florida, is close to achieving a goal of 100% on-time starts.

“We track first-case start times, and a report goes out every morning, so we’ll see the reason a case was delayed. We’re at about 94% on-time case starts across the board, and our daily goal is 100%,” says Diane Skorupski, MS, RN, NE-BC, CNOR, associate vice president of perioperative services at UF & Shands. “We break down start time data by surgeon, by anesthesiologist, and by circulating nurse, so we can identify high performers and share successes. We circulate the graphs to all physicians and staff. We recently implemented a daily dashboard. College leaders enthusiastically review the daily report to track and trend successes.”

The new college structure launched at UF & Shands’ South Tower in July 2012 and rolled out to the North Tower in March of this year. Skorupski credits the college structure with creating a multidisciplinary team approach to decreasing turnover time and overtime while increasing on-time starts and charge capture.

College structure evolution
The term “college structure” was coined by James Terwilliger, MBA, former vice president of operations at UPMC Presbyterian Hospital in Pittsburgh, Pennsylvania. The concept evolved through efforts by Terwilliger and Steven J. Hughes, MD, to improve upon the specialty teams structure at their institution. UPMC has 42 ORs and 2 procedure rooms, separated by a bridge.

Dr Hughes, currently the Cracchiolo Family Professor and Chief, General Surgery at the University of Florida College of Medicine, was chair of the Surgical Services Oversight Committee at UPMC in 2007.

At that time, there was a high level of staff attrition and some dissatisfaction among staff. UPMC had some specialty teams (ie, cardiac and liver transplant), but most other specialties were staffed by generalists. Terwilliger and Dr Hughes realized that this strategy did not respect the intrinsic value of local knowledge and consistent teams. They thought that applying the team concept to other surgical specialties would improve things, and because UPMC is an academic environment, it seemed natural to use the term college structure, according to Dr Hughes.

“We wanted each college to have a sense of self-governance and autonomy, and each college has its own schedule,” explains Amy L. Bush, MBA, BSN, RN, CNOR. As executive director of Surgical Services at UPMC since 2010, Bush—with the support of her Vice President of Operations, Albert Wright, MHA, PharmD, FACHE—has been a key figure in implementing the college structure.

There are 9 colleges at UPMC; of those, 7 consist of more than one specialty:
1. Cardiac/vascular (including cardiac transplant)
2. Thoracic, general trauma, lung transplant
3. Neurological, ophthalmology
4. Orthopedic trauma
5. Weekends
6. ENT/endocrine, plastics/OMFS, urology
7. General, gastrointestinal, surgical oncology
8. Orthopedic

Each college has a surgeon partner, anesthesiologist, RN specialist, and surgical technologist (ST) specialist. This team is responsible for “quality of work life” aspects such as education, leadership development, a preceptor program, recruitment and retention, performance appraisals, schedule/payroll, and celebrations as well as operational functions such as rounds, huddles, and meetings, schedule coordination with the surgeons’ office team, first-case starts and room turnover time, preference cards/sterile processing, and vendor relations. Team members have assumed a leadership role with responsibility for mentoring and hiring staff.

*UF & Shands experience*

At UF & Shands, the college structure began with the South Tower. The 13 ORs were divided into 2 colleges, 1 for orthopedic surgery and the other for general/ transplant/urology and trauma, each led by a surgeon, anesthesiologist, RN, and ST.

“We matched the South Tower staffing pattern to the surgical volume. After analyzing utilization based on actual rooms running by time of day and day of week, we identified the need to change days and hours that some staff worked. We created more 10-hour shifts versus the 12-hour shifts we had previously,” Skorupski explains.

During implementation, staff members were invited to choose a college and their schedule. Although they were assigned on the basis of seniority, everyone was granted his or her first or second choice.

For the North Tower’s 23 ORs, the following colleges were established: neurosurgery and orthopedic spine; gynecology, urology, and pediatric urology; ENT, plastic, eyes, and oral; and cardiac and vascular surgery.

“Our goal was to keep colleges similar in size, and that came to about 3,000 surgical minutes in each college per month,” Skorupski says.

*Staffing implications*

When her tenure at UF & Shands began, Skorupski says, staffing patterns were aligned with the surgical block time schedule (8- to 10-hour blocks). There was a lot of overtime and a high vacancy rate in one tower. A “rooms running” report, which analyzed the number of OR rooms in use by time of day and day of week, showed that some rooms were running much longer than the blocks in some specialties, and some were running much shorter than the blocks in other specialties. Surgeons didn’t want new staff joining a case in progress, fearing that they might not be specialized enough to step in. Changing to a college structure allowed staff hours to be matched to the length of time rooms usually run by day of week.

An internal consulting service at UF & Shands created a decision support tool to compare the prior 3 months of rooms running data (showing actual usage in the OR) with the current staffing pattern (by college). Use of this tool made it possible to align the staffing pattern with the pattern of the OR’s actual usage.

Now there is less need for overtime, and surgeon satisfaction is higher because surgeons have the consistent team that they want, according to Skorupski.

“We staff 24/7, and we have call teams for some specific specialties (hearts, liver, eyes, vascular, etc). It hasn’t been necessary to make changes to the night staff or call teams yet,” she adds.
At UPMC, creating individual schedules for each college has enhanced autonomy and continuity. There are 8-, 10-, and 12-hour blocks to allow colleges to staff according to the needs of their particular service.

“Some services, like neuro and orthopedic trauma, run throughout the night, so we had to create College 5,” Bush notes. College 5 staff work the second shift, night shift, and weekends. UPMC’s cardiac team is on call 7 pm to 7 am weekdays and 24 hours on the weekend, and the eye team is on call 3 pm to 7 am weekdays and 24 hours on the weekend. College 5 serves as backup if the trauma team is already in use on the weekend, she says.

At both UF & Shands and UPMC, RN leaders of colleges are salaried, must have bachelor’s degrees, and are responsible for interviewing, performance appraisals, schedules, and daily huddles for their colleges. They also serve as point persons...
for the surgeons’ office teams, and they tend to lead new product trials and bring forth ideas for the capital budget. UF & Shands also requires CNOR certification.

**Measuring success**

UF & Shands holds formal team meetings once a month, and minutes are taken. Each college has a scorecard (dashboard) to monitor practice (start time, turnover time, scheduled to actual scheduled time, OR time intervals). Those scorecards are presented to the Perioperative Governance Committee monthly, Skorupski explains. She tries to focus on actual vs scheduled case time to demonstrate to surgeons the impact of their schedule demands vs the amount of time actually needed for each case.

“Staff evaluations are completed by the college leaders. Each college also has specific objectives, such as back-to-basics education, monitoring infection rates, and OR etiquette,” she says. “We are also adding quality metrics, such as the surgical count practice and the surgical safety initiative. Quality audits will be conducted live—not by auditing a completed form but by providing an opportunity for immediate coaching and teaching.”

Daily meetings are held to go over the surgical schedule, add-on cases, assignments, equipment conflicts, and learning opportunities, as well as to allow college leaders to plan small tests of change.

At UPMC, college-specific dashboards—as opposed to a universal dashboard—allow all the specialists within each college to see their own data and that of other colleges. This system creates a “healthy competition” because staff can size themselves up against colleagues in other colleges, Bush notes.

Prior to the college structure, Bush says, specialists on one side of the bridge didn’t know those on the other side. Now, during a combined monthly meeting that includes a leadership topic, operational and quality updates, and a presentation on best practice, staff can practice public speaking and share their achievements.

**Lessons learned**

The take-home message from UF & Shands is to “start small, communicate often, and involve physicians as much as possible,” says Skorupski. “The more you get physicians involved, the more success colleges will have in making changes.”

Nursing staff and physicians were educated about the college concept months before the South Tower rollout. However, the physicians were not as involved in the details about staff schedule changes. As a result, surgeons believed they wouldn’t have the same team every day—a misperception that had to be corrected. For the North Tower rollout, Skorupski made sure everyone was informed of schedule changes and emphasized efforts to match the staff to the surgeon.

UPMC’s Bush says, “It takes much more time than realized to get each college up and running on its own, but when you get teams that know what they’re doing, you can really make improvements. We’ve gone from 20% on-time starts [in 2010] to almost 75%, our turnover time has gone from 51 minutes to 29 minutes, and we’re performing more surgery in less after-hours time—so we’re becoming more efficient during prime-time [7 am to 3 pm] utilization of the blocks.”

When her tenure there began, Bush says, the staff were dissatisfied because they didn’t go home when they were scheduled to, they lacked the tools and equipment needed for their jobs, and they didn’t feel appreciated. Since then, there has been a $43 million construction renovation in the OR and $5.5 million invested in sterile processing. “We’ve looked at more efficient ways of doing things, and now we’re saving money.”
In another nod to efficiency, she shifted supply chain responsibility from the nursing staff—who tended to order an excess of supplies—to the supply chain staff. Daily stocking of 24-hour room carts and anesthesia carts is now the same for every room. Nursing staff function as leaders and focus on patient safety initiatives such as the Surgical Care Improvement Project.

“Those who are interested can take leadership courses,” she adds. “We’re trying to grow our next directors and assistant director—succession planning that didn’t exist before.”

When 10 additional FTE positions were approved, the positions were all allocated to College 5, sending a strong message that work-life balance was being supported. And improvements in first-time starts and on-time starts are recognized and celebrated.

Looking ahead

“As colleges mature—because it does take time for them to grow and welcome the whole esprit de corps of what they’re capable of doing—we may see them move to the point where they take their own call,” Skorupski says. “We’re not at that point yet, but the way this is being embraced, it may not take long.”

A college-specific survey is planned to help monitor the progress of the college structure at UF & Shands.

UPMC hopes to add a certified registered nurse anesthetist leader, a sterile processing technician, and an anesthesia technician in each college, Bush says. Meanwhile, a thoracic surgeon at UPMC has noted the need for service-specific competencies and wants to help develop the tools for achievement. “We will then work to expand these tools across the service lines,” Bush says.

Reflecting on the UPMC experience, Dr Hughes says, “We went from a very high attrition rate and daily complaints about surgeon behavior to no complaints—everyone in the OR was happier—and it didn’t cost any more money. The colleges address things like intraoperative downtime and unused consumables—things that don’t show up on leaders’ dashboards. It solved a huge number of issues we don’t usually measure.”

But time and patience are part of the package. “Implementation must be done in a thoughtful way over a number of months, and you won’t realize how it changes the culture until at least a year or 2 later,” says Dr Hughes.

Skorupski echoes that observation: “People trying to implement this have to be patient. They’re not going to have all of the answers right out of the gate. You have to trust. But it does all come together. And the bottom line is that it improves patient safety and quality of care.”

—Elizabeth Wood