Three pioneering projects have received 2018 UAB Health System Innovation Awards, which recognize programs, policies, ideas, processes, and actions that have produced a significant, measurable impact on how we provide care to our patients.

The competition is designed to encourage creative thinking, improve workflow, and disseminate best practices across UAB Health System entities and affiliates for widespread adoption.

To be eligible, each project must have been endorsed by leadership and implemented no more than two years prior to the May 2, 2016, application deadline. Submissions were evaluated for their positive effect on patient satisfaction, quality of care, financial savings, and innovativeness. Judges also considered impact (measurable outcomes), creativity (originality of idea), and potential for scalability across the system. The UAB Innovation Board used the Imaginatik idea management software to quantitatively evaluate each idea and provided its recommendations to the UAB Health System Executive Cabinet. Winners were formally recognized at the Health System Board meeting on August 18.

The three winning projects are described below:

**1st Place: Enhanced Recovery After Surgery (ERAS) in Colorectal Patients**

Prior to 2015, patients who underwent colorectal surgery at UAB Hospital had a median postoperative length of stay (LOS) of 6 days. There was little standardization of care, and the surgical experience varied widely from patient to patient.

Data also showed that outcomes were particularly worse for minority patients, with LOS significantly longer than 8 days. Colorectal patients experienced post-operative complication (POC) rates well over 30 percent and 30-day readmission rates of more than 15 percent. Given these observations, colorectal surgery seemed to offer a unique opportunity for quality improvement efforts.

The response was to develop an enhanced recovery after surgery (ERAS) pathway to improve the care of colorectal patients at UAB. ERAS includes multimodal, perioperative strategies designed to reduce the stress and organ dysfunction associated with surgery. These strategies aim to reduce LOS and potentially other quality measures, such as POCs and readmissions. Specific strategies include standardizing pre-op patient education, intraoperative fluid restriction, post-operative mobilization, and much more.

The effort was led by colorectal surgeon Daniel Chu, MD, and anesthesiologist Jeffrey Simmons, MD, in collaboration with the UAB Care team. Their objectives were to assemble a panel of champions from all aspects of the surgical care process, develop an ERAS pathway specific to UAB Medicine, implement ERAS for all patients undergoing colorectal surgery at UAB, and audit the efficacy of the ERAS pathway.

The team recruited additional champions, including Daran Brown, RN, S7W7 nursing supervisor; UAB Pain Service physicians Jason McKown, MD, and Roland Short, MD; and others from Anesthesiology, Surgery, Nursing, Pharmacy, and Health System Information Services (HSIS). The team developed a Plan-Do-Check-Act (PDXA) framework and an ERAS colorectal pathway that they first tested with a single surgeon, Dr. Chu.

"This small rollout enabled us to have good control over every aspect of care," Dr. Chu says. "We could encounter barriers and then troubleshoot quickly. We also gained preliminary data to support further expansion."

ERAS was then expanded to include two additional colorectal surgeons: Jamie Cannon, MD, and Melanie Morris, MD.

"The same PDXA cycle was repeated, and we ended with a final ERAS pathway, which was expanded to include our surgical oncologists," Dr. Chu says. "During this phase, the team also developed electronic methods to track ERAS patients and audit outcomes. With this data, we have presented at national meetings, obtained external funding for our work with ERAS, and currently are expanding ERAS to other service lines."

The results have been encouraging. The overall post-operative LOS for colorectal surgery patients was reduced to a median of 3 days, and importantly, previously observed disparities in LOS for minority patients were eliminated. "The success of ERAS in colorectal surgery was a result of identifying, positioning, and empowering the right people to make change," Dr. Simmons says. "This tremendous, collaborative effort ensured that ERAS would work at UAB, and it was accomplished in less than 8 months with measurable effects. Most importantly, our project has helped clear barriers toward implementation of other initiatives. Reductions
In LOS provide an immediate benefit for UAB and facilitate our ability to serve as the tertiary referral center for Alabama and surrounding states. While we are currently conducting analyses on cost, we anticipate that ERAS will also financially benefit UAB.*

The ERAS project is innovative in several ways.

"First, our project leveraged the infrastructure and processes of the UAB Care program to create truly multidisciplinary, team-based, and sustainable partnerships across UAB," Dr. Chu says. "This project enlisted champions from all walks of surgical care, not only surgeons and anesthesiologists but also nurses of all specialties, HSIS programers, residents, nutritionists, social workers, data analysts, UAB Care, etc. Many of these newly discovered relationships are now being utilized to develop other ERAS and cross-disciplinary projects such as readmission reduction programs. Second, this project was able to reduce disparities in LOS with ERAS. This finding is novel, as we show that minority patients benefit tremendously from ERAS. As a tertiary referral hospital serving a geographically wide, racially diverse population, reducing disparities is particularly relevant to our institution, and this work puts us at the forefront of recent NIH initiatives on targeting surgical disparities. Third, our project demonstrated that change is possible. Barriers to ERAS implementation are well-documented, but with a coordinated, sustained, and multiradged approach, an entire continuum of care can be optimized to achieve potentially even better outcomes."

2nd Place: Medical West Freestanding Emergency Department

As the only hospital in a growing market, Medical West embraces its role as the "front door" to the health care services on the western side of the Birmingham metro area. Nearby residents, especially in Hoover, have been requesting additional medical services for many years, particularly hospital-quality emergency services.

An affiliate of UAB Health System, The Health Care Authority for Medical West responded by building a Freestanding Emergency Department (FED), a first for Alabama. The new FED features 15 exam rooms, a full-service laboratory, and diagnostic imaging services that include CT and ultrasound. The 24,342-square-foot facility on Highway 150 in Hoover operates 24/7 and offers the same services found in a hospital-based emergency department. It employs 60 staff members and shares board-certified emergency medicine physicians with Medical West's emergency department on a rotating schedule. A single director oversees both emergency departments.

Since the grand opening on May 5, 2015, the FED already has exceeded initial projections. Its daily patient average grew from 28 during opening month to 56 in April 2016, and more than 20,000 patients have utilized its services since its inception.

"We're in a fast-growing, highly residential area of Hoover, so we expect to continue seeing growth in patient volume," says Medical West CEO and President Keith Pennington. "That area has more current residential growth and more approved future growth than anywhere else in Hoover."

Of the patients who have utilized the FED, approximately 55% are new to the Medical West system. Thus far, more than 600 patients have been admitted to Medical West from the FED, which is double the volume projected.

"We have patients coming from areas that we didn’t expect because they’ve heard such good things about the facility, the staff, the care, and the quick turnaround time," Pennington says. "It has opened the door for people who didn’t know about Medical West and may need inpatient care."

Visitors appreciate the fast service offered at the FED. Patients experience a door-to-room time of 2 minutes and a door-to-physician time of 10 minutes.

"Our patient satisfaction scores are all above the 90th percentile or higher, with most of them in the 99th percentile, which is unheard of," Pennington says. "I'm constantly getting positive letters and seeing Facebook postings. It's been really nice to see."

3rd Place: Orthopaedic Clinic Registration Kiosks

The Division of Orthopaedic Surgery implemented registration kiosks at UAB Hospital-Highlands in April, achieving its goal of speeding up the check-in process, improving patient satisfaction, and increasing payments made at the time of service. The project has proven successful by all measures, so much so that the division earned a "Most Innovative" UAB Strive Award for second-quarter 2016 in addition to an Innovation Award.

The kiosks allow real-time verification of patient demographics and insurance information and interface with multiple billing and registration systems. A team effort involving Patient Access, orthopaedic administration, the University of Alabama Health Services Foundation (HSF), and Health System Information Services (HSIS) established six registration kiosks at the UAB Orthopaedics clinic. Four are freestanding, and two are table-mounted for patient convenience. The first day of operation saw more than 200 patients check in, reducing the registration time to fewer than three minutes each. Patients also commented positively on the reduction of paperwork.
The units allow patients to enter their driver’s license, insurance card, and credit/debit card for co-payments. The system alerts the front desk when a patient has arrived, and it securely stores patient information so that future check-ins may be handled via smartphone.

In addition to enabling shorter wait times and a much smoother check-in process, the kiosks reduce redundant paperwork and access real-time information concerning co-pays, deductibles, and other insurance data. Patients see accurate co-pay amounts at the time of check-in, so they can pay then (currently with credit or debit card only; cash isn’t accepted) instead of being delayed on their way out. Information is immediately and securely submitted to the patient’s insurance company, helping ensure that claims are processed correctly and reducing the need for calls from the clinic office to insurance companies.

Usage data after just a few months of operation are encouraging, says Rob Crabtree, administrative director of Orthopaedic Surgery.

“We were extremely pleased with the efficiency of this system right away,” Crabtree says. “New patient average check-in time was seven minutes before we installed the kiosks; it dropped to three in April. For return patients, the average check-in time dropped from just over four minutes to 2½ minutes.”

More recent data indicate that the average check-in time for returning patients is now less than one minute and 20 seconds. The system also has stepped up the collection of important patient demographic information, including the primary care physician contact, email addresses for sending patient portal invitations, and key telephone numbers to reach the patient in case of appointment changes.

The system is increasing cash flow, as well. For the previous six months, the daily average of point-of-service collections was just over $1,500. The April and May 2016 daily averages were almost $2,400 and $2,070, respectively, representing a better than 54 percent increase.

“The kiosks are still in their infancy, and we will continue to strive to make more operational improvements in the future as we seek to provide a quality patient experience,” Crabtree says.

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