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*Improving processes before moving to larger facility*

# ED Takes a Hard Look in the Mirror

*By Tyler Smith*

The blinking red "divert" icon is an all-too-common presence on hospital computer screens. It means University of Colorado Hospital has more patients than beds.

Being on divert means the house is full and must close its doors to all but the most critical emergency patients. Fortunately, relief does appear to be in sight. The new inpatient tower and vastly enlarged Emergency Department taking shape to the west will relegate that blinking icon to the dusty shelves of memory, right?

Not necessarily.

For Emergency Medicine Department chair Richard Zane, MD, and others, the icon symbolizes more than the frequent struggles of a hospital that needs more capacity. It's a reminder that taking full advantage of the added space next year requires the ED and the hospital as a whole to revamp its care delivery processes.

*Emergency Medicine chair Richard Zane, MD, is putting the hospital's ED processes under the microscope.*

Zane and a team of physician faculty and hospital staff have joined forces to do just that. They are in the midst of a large-scale process redesign improvement project that aims to redefine how the ED – and by extension other clinical areas – does its job. And it plans to have much of the work finished before the move to the new facility.

"We're reviewing our processes now to embrace and prepare for the future," Zane said.

**How we do business.** That means putting everything that happens in the ED under a microscope, said Derek Birznieks, director of process improvement at UCH.

> *"The structure of the project is to look at every process in the ED, from the front end through the care processes to the time the patient is admitted to the hospital, discharged home, or transferred to another facility," Birznieks said.*

The idea is also to bring together the clinicians and staff who deliver care with Birznieks and his team, whose expertise lies in figuring out how to complete tasks and processes of any kind as efficiently as possible. They apply so-called "lean" principles that emphasize finding opportunities to eliminate waste and duplication.

"We're not expected to be content experts," Birznieks said. "Our job is to facilitate the subject matter experts through the process of improvement. With the right people in the room, we can move mountains, but you need both. Teamwork is more powerful."

Through the summer, Birznieks' team mapped the ED's "as-is" processes, on paper and in screen shots of the Epic electronic medical record, so people could see all, not just pieces, of an ED visit.

"We wanted to show how a patient views an encounter," Birznieks said.

**Heads together.** With the big picture in front of them, multidisciplinary teams of clinicians and staff have formed work groups aimed at identifying "opportunities for optimizing care," said Jennifer Wiler, MD, MBA, an emergency medicine physician and vice chair for clinical quality, patient safety, and process improvement in the Emergency Medicine Department at the

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CU School of Medicine.

Next month, Wiler said, work groups will come together for "rapid improvement events," a series of disciplined brainstorms involving the work group members. They'll review the ED in its current state, she said, then go to work on practical ways to make it work better.

"The event brings together all stakeholders to figure out how to redesign care and to test and validate recommendations for change," Wiler explained.

Following the improvement event, the team plans to simulate new processes with tabletop exercises and perhaps in the ED itself in preparation for the move to the new facility next year, Birznieks said.

"Then we will fix and fill in gaps," he said.

**More space no solution.** The status quo isn't working for the ED or the hospital. The hospital's chronically strained capacity routinely forces the ED to board 20 and sometimes as many as 40 inpatients – some of whom wait many hours, if not days, for a bed upstairs. In addition, the number of hours the hospital spends on divert far exceeds its goal.

A much larger ED and additional inpatient beds in the new tower would help ease those problems, but Wiler and others argue that without fundamental changes in care delivery, today's problems will inevitably recur.

> *"We can build more space," Wiler said, "but if we don't change our processes, we'll have the same effect in the new ED that we have now."*

The changes under consideration involve a number of ideas, including immediately bedding some patients instead of handing them off for triage; developing "care pathways" to decrease variability of care for patients with certain conditions; creating a team-based approach to care to reduce or eliminate the number of patient handoffs; and installing a "clinical decision unit" for certain patients, with a goal of discharging 80 percent of them within 23 hours – thereby reducing the number of unnecessary hospital admissions.

In essence, Wiler said, the work is about figuring out how to prioritize clinical tasks and "the logistics of providing care."

**Lost in the '50s.** Zane, who has spent his career working on those kinds of questions in emergency care and disaster preparedness, believes the hospital's process improvement work is part of a transformation of EDs around the nation.


"The process of delivering emergency care today is built on a model developed in the 1950s and '60s," he said.

That approach, he explained, was built on "serial processing" of patients who move from one station to another – from check-in to triage to an exam room to some other destination. In an earlier era, he added, that destination was usually either home or a hospital bed. No longer.

"It's now common to come to the ED for complications of chronic disease or acute episodic care," Zane said. "The ED is asked to do lots of diagnoses, therapies, blood testing, imaging consultations and so on. The problems we face now are a function of our processes not changing for the kind of care we deliver."

Zane calls into question ED features as familiar as the waiting room and nurse triage. And he treads into potentially sensitive areas for physicians with his advocacy of care pathways.

"We should take a careful approach to decreasing the variability of care," he said, "and eliminate physician discretion when it doesn't add value."

In turn, he said, a key to the clinical decision units is for physicians to deliver care guided by protocols developed in collaboration with specialists and subspecialists. The decision units, which he believes will be ready when the new ED opens, could help to reduce significantly the amount of time patients with conditions like low-risk chest pain, asthma, heart failure and transient

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ischemic attacks spend at the hospital.

"We might discharge a patient who spends 24 to 48 hours at the hospital today in six to 18 hours," he said.

At bottom all decisions about the new ED revolve around the hospital's customers, Zane emphasized.

"Our approach must be patient-centered and data-driven," he said, "and quality and safety must be at the heart of all our decision making and processes."

For Birznieks, it's a big job that makes for heady times. "We're helping to reengineer emergency medicine," he said. "It's an exciting thing to be a part of."