Meet your new safety and quality watchdog: the medical resident

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Reducing 30-day readmissions, identifying unsafe medication orders and cutting out superfluous blood draws for hospitalized adults to slash hundreds of thousands in spending are just a few of the big advances in patient safety and health care quality tallied at Penn Medicine in recent years.

It should come as little surprise that one of the most prestigious names in health care has notched such achievements. What’s notable is that the driving force behind this progress is a crew of medical residents whose energy has been harnessed to break down silos and protect patients from inadequate or wasteful care.

Medical residents are often equipped with enthusiasm to function as change agents in a clinical setting. The mechanisms for them to make a positive impact, however, are not always available.

Curricular innovations at University of Pennsylvania Perelman School of Medicine are changing that dynamic as it relates to quality improvement (QI) and patient safety.
Jennifer S. Myers, MD, a professor of clinical medicine at Penn, presented on the institution’s emphasis on resident-led quality improvement activities during the AMA Accelerating Change in Medical Education Student-Led Conference on Health Systems Science. The event was held at Penn State College of Medicine.

**Embedded with QI mission**

Dr. Myers began looking for a way to engage learners in QI work when she realized there was interest among residents, and the health system could benefit greatly by tapping into it.

“Every year, I would have one, two or maybe three residents email me, or come up to me after a conference and say, ‘Dr. Myers, I have this great idea. Here’s what needs to be fixed.’ They had so many great ideas, and maybe I could mentor one of them on an improvement project, but there was no way that I could mentor all of them,” said Dr. Myers, director of Penn’s Center for Healthcare Improvement and Patient Safety, and assistant program director of the internal medicine residency program.

“We also had the health system’s quality and safety leaders who were saying we need to make changes on the front lines to improve quality, and a lot of the processes involve residents,” she said. “These two silos just weren’t talking to each other. So we came up with a way to connect residents with interest in an area [of QI] to the institution.”

Penn launched a health care leadership in quality track in 2012. The program, led by Dr. Myers and Neha Patel, MD—an assistant professor of clinical medicine at Penn—is a two-year pathway available to any resident in any Penn residency program. It is structured and fully funded by the health system. Penn also incorporated quality improvement into their masters of health science policy research training program and has many fellows and junior faculty now engaged in similar health care transformation work.

As part of the track, residents go through a core curriculum that is spread over two years. During the first stage, trainees learn the basics in a variety of health systems science concepts from people who do the work, such as Penn’s chief medical officer or chief nursing officer. Students are then embedded in a clinical microsystem where they can identify a unit’s QI needs on the front line.

The program allows residents to interact with workers at every level of the health system.
“These residents get a lot of attention,” Dr. Myers said. “Let’s say you are a medicine resident interested in cardiology, you are going to be hobnobbing with the director of the CCU [coronary care unit], because he leads that microsystem. You are going to be working with him or her and helping them improve on the quality goals of the unit.”

Dozens of projects yield results

Residents complete a capstone improvement process over the course of two years. These projects typically cover a topic that is of interest to both the resident and the clinical microsystem in which they are embedded.

The 40-plus projects that have been completed by participants in Penn’s QI track have produced some systemwide changes. Among them:

- A patient safety project cut 30-day readmissions and catheter complications for patients discharged from the hospital on intravenous antibiotics.
- A value improvement project that caused a 10 percent drop in unnecessary daily labs, resulting in $310,000 reduction in charges to Medicare.
- A project that improved the frequency of accurate and timely healthcare provider handoffs between triage and the hospital setting for women in labor.

A less tangible benefit has been a rising interest in patient safety and quality throughout the health system.

“While we were creating a pipeline of physician leaders in health care QI delivery science, it’s important to emphasize that the spillover effects from these programs have been just as impactful,” Dr. Myers said. “We now have peer champions and leaders for improvement work in almost every specialty. Faculty now want to get involved too. It legitimizes the work.”