Designing for the Future: Quality and Safety Education at US Teaching Hospitals

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Teaching hospitals in the United States are under unprecedented pressure to demonstrate value.[1,2] Coupled with national policy trends and demand from consumers, there has been an increased focus on systems-based quality improvement and patient safety. Alongside this increased scrutiny, in 2012 the Accreditation Council for Graduate Medical Education (ACGME) outlined its new accreditation system, urging enhanced competence in systems-based practice for the next generation of physicians.[3] One component of the new system is the Clinical Learning Environment Review (CLER) program, which includes institutional site visits to assess resident participation in 6 focus areas: patient safety, quality improvement, care transitions, supervision, duty hours, and professionalism. Early findings from the first year[4] of the CLER site visits "indicate a generalized lack of resident engagement in a 'systems-based practice' of medicine in the clinical environments in which they learn and provide clinical care."[5]

During the development of the CLER program, the Institute for Healthcare Improvement, in collaboration with the ACGME, identified opportunities for improvement in quality and safety and systems-based education within graduate medical education (GME) programs using literature reviews, key informant interviews, reviews of GME curricula, and site visits. Based on that experience, we offer a perspective on current challenges and several principles to guide institutions toward achieving ACGME's evolving standards for systems-based practice.

Challenges

In agreement with the preliminary CLER results and a previous literature review,[6] we found that few institutions have developed system-wide education in quality and safety that is incorporated into daily practice. The vast majority of teaching hospitals, despite what they might gain from an "army" of resident quality improvers, have dedicated little support—infrastructure, data, or clinical leadership—to trainee-led improvement efforts.

Resident involvement in efforts to improve quality and safety is discontinuous, and is principally confined to elective blocks, ambulatory rotations, intermittent morbidity and mortality reports, and occasional committee participation. Such episodic interactions do not fulfill the goal of developing skills among residents that support continuous systems-based improvement. At best, exposing trainees to these disjointed activities allows them to build a certain level of consciousness about protecting patients from unintended harm; at worst, these methods may reinforce the notion that quality and safety efforts are a series of disconnected and unsupported activities.

In addition, the dearth of faculty at teaching hospitals with expertise in quality and safety may encourage another perception we observed among trainees: that systems-based practice skills are either unnecessary, unimportant ("soft"), or onerous to acquire. These assumptions appear to be reinforced by the uncertain path toward academic promotion and recognition through traditional channels, including publication in top-tier journals and research grant awards. Finally, on a broader level, we found that these challenges were not limited to faculty and residents within the GME structure: many teaching hospitals do not have leadership or cultures that prioritize quality, safety, and reliability.

Principles for Redesigning GME Programs

Given the scope of these challenges, a coordinated effort is needed to develop physicians who are proficient in systems-based practice. Here we present several principles for redesign.

First, trainees must be made aware of organizational priorities for quality, reliability, and safety and must be given the resources and metrics to improve system performance. This requires that leaders at teaching sites, in conjunction with GME leaders, identify these priorities, and then endeavor to make resources and support available to trainees and faculty as they work to improve patient outcomes and processes of care. Examples of such priorities include implementing relevant data and data systems, ensuring that support staff are skilled in improvement, making certain that internal ethics review boards are

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comfortable with the task of reviewing quality, and developing safety proposals. We found many successful examples of trainee-led improvement initiatives, including increasing routine adverse event reporting, improving pain management at the point of care, reducing unnecessary laboratory and radiology orders, and improving daily documentation and discharge summaries. Consistent with institutional priorities, these trainee-led projects received necessary investment and support with numerous positive implications for the organization.

Second, GME faculty must be reliable and competent in the essentials of continuous improvement methods and interprofessional teamwork. Achieving this aim will require both professional motivation and skill acquisition. To facilitate the former, faculty will benefit from academic systems that protect time for quality and safety work as well as have a promotion track designed to recognize such involvement. These are similar to the systems designed at the University of Toronto[7] and the University of California, San Francisco,[8] which set out advancement criteria based on scholarly contributions, recognition within the field, a portfolio of quality and safety projects, and educational efforts. It is likely that faculty will have to acquire these skills alongside trainees. We spoke with physicians at several institutions who described a period of 2 to 3 years where faculty and residents participated in seminars and classrooms as peers. We found that rapid, simultaneous progress on developing the capability of both faculty and residents can be achieved by offering tiered didactic courses and requiring basic competency among academic physicians at all levels.[9]

Third, integral involvement of residents in systems-based practice should be built into the existing GME structure. Many institutions now schedule standard conferences (eg, clinical rounds, morning reports, noon conferences, and morbidity and mortality conferences) to look at systems-based defects that led to near-misses or errors and use these as opportunities to change behaviors or improve key processes.[10,11] Other changes to existing structures include hiring a quality chief resident,[12] appointing trainees to permanent positions on the hospital's quality and safety committees, establishing resident-led patient safety consult services,[12] and even offering residents financial incentives to improve quality and gain experience in systems-based practice.[13] The most valuable clinical learning occurs with respect to specific, real-time patient needs. Concurrently, skilled faculty could demonstrate in real time how quality and safety systems thinking and improvement can be applied.

Incorporating these activities and principles does not require adding further time pressures to a supersaturated residency curriculum. Rather, each of these elements is intended to integrate a set of methods into daily practice so that they may be exercised implicitly—eventually, all interactions with patients and peers will reinforce the Institute of Medicine's concept of the "learning healthcare system."[14]

Residents play a crucial role in US teaching hospitals. Left unsupervised, unsupported, and without the tools for continuous quality improvement, trainees can create waste and inefficiency, negatively affect patient perceptions, make errors, increase risk, and erode value. Therefore, we believe that teaching hospitals would do well to actively seek opportunities to further mobilize trainees for patient benefit. Similarly, GME programs, faculty, and the trainees themselves would benefit from a more complete understanding of how their training institution selects and accomplishes quality and safety priorities, and how they might contribute to these efforts.

Therefore, we encourage teaching hospitals to take steps, large and small, to integrate quality and safety priorities into their GME programs. Doing so may improve care, reduce costs, and enhance the patient experience while developing the inaugural generation of quality leaders in systems-based practice.

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