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PATIENT SAFETY NETWORK

The Role of Graduate Medical Education (GME) in Improving Patient Safety

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Perspective

"Patient safety always has been, and remains our prime directive."

Tom Nasca, MD, CEO, Accreditation Council for Graduate Medical Education (1)

Over the last decade, the patient safety movement has dramatically increased public and professional awareness of the safety hazards of hospitalization.(2) Although public concerns about being cared for by "student doctors" may persist, evidence suggests that teaching hospitals have improved patient care outcomes.(3) Nonetheless, all hospitals have room to improve.

The 100,000 resident physicians in teaching hospitals care for approximately 17 million patients across the country.(4) The Graduate Medical Education (GME) community, led by the Accreditation Council for Graduate Medical Education (ACGME), has made great strides driving improvements in patient safety in US teaching hospitals. This has occurred through changes in resident requirements and policies, collaborations with other hospital and educational organizations, and calls for innovation.

Requirements and Policies

The Outcomes Project

The mainstay of resident education has been and continues to be "apprenticeship": learning while delivering care under the supervision of experienced faculty physicians. Through this experiential learning, combined with structured didactic learning (such as lectures, seminars, readings, etc.), resident physicians emerge from years of training ready to practice independently.

In 2002, ACGME launched the Outcomes Project (5), to increase the emphasis on assessment of each resident's competence and create discrete educational outcomes for accreditation. One of the first activities

of this project was to identify six general competencies necessary for all residents to achieve during training. They are:

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Professionalism
- Interpersonal and communication skills, and
- System-based practice.

Prior to this project, most resident teaching and assessment were focused on the first two competencies, patient care and medical knowledge. Although these remain important aspects of high-quality and safe care, these six competencies recognize the impact of communication (6,7), professionalism (8), the use of scientific evidence and improvements in patient care (9), and the need to be responsive to the system of health care.(10) Each of these new competencies relates directly to patient safety. The Outcomes Project has further resulted in the development of new, more comprehensive, assessment strategies and new processes for continuous improvement of training programs.

Duty Hour Restrictions

The long hours required to become an independent practicing physician have been a traditional foundation of medical training. The term "resident," in fact, hails from the time when physicians-in-training lived in hospitals providing 24-hour care, 7 days a week. Although this ever-present doctor conjures an image of single-minded commitment, it is balanced by the reality of the blurry-eyed, disheveled young trainee at the end of the long shift.

In response to a political and social environment demanding action (11), in 2003, the ACGME mandated a reduction of hours—the so-called 80-hour work week for all residency and fellowship training programs.(12) The primary goal was to reduce fatigue and improve the safety of care, while improving resident well-being and education.(13)

This mandate, arguably the most dramatic change in medical education in the last decade, has clearly improved resident satisfaction (14) and appears to have maintained educational outcomes.(15) Some evidence suggests improved patient care as well (16,17), though this is hotly debated.(18) Given the scope and impact of resident hours, in 2007, Congress and the Agency for Healthcare Research and Quality (AHRQ) directed the Institute of Medicine to examine whether residency training could be improved to further reduce sleep deprivation, performance degradation, and the risk of error.(19) The Committee on Optimizing Graduate Medical Trainee Hours and Work Schedules to Improve Patient Safety conducted exhaustive literature review and heard expert witness and layperson testimony before releasing its findings in December 2008. The report recommended reducing fatigue through limiting the length of extended shifts to less than 16 hours, enhancing supervision of trainees by supervisors through immediate access to those supervisors, and focusing on appropriate workload for trainees by diminishing noneducational work. They also recommended improvements to the culture of safety through error detection, reporting, and monitoring, enhanced learning in quality improvement, as well as clear and effective handoffs that include

education, overlap time to effectively transition care, and clear delineation of the physician in charge of care in training hospitals.(19)

In recognition that resident fatigue is driven by factors that go well beyond a simple tally of the number of hours worked (20), the ACGME cautiously embraced the spirit of the IOM report while asserting the need for thoughtfulness and flexibility regarding further limitations. The ACGME remains clearly concerned about the impact of some of the recommendations, particularly those calling for further reduction in duty hours, on the training of future physicians and the risks associated with discontinuity of care.(1) At the present time, the ACGME Resident Duty Hour Task Force continues to collect information from a variety of perspectives within and outside of the United States regarding the complexity of issues surrounding duty hours.

Discontinuity, arising from the increase in handoffs that comes with duty hour restrictions, has been one of the most striking unintended consequences of the ACGME mandate.(21) Training programs, most of which lacked a standardized way to manage this discontinuity in 2003 (22), are now leading the field in designing signout systems to safely manage this discontinuity.(21) This issue has been recognized as of paramount importance by the IOM report, the ACGME, and The Joint Commission. Having a standardized approach to handoff communication is now a required element for accreditation for all hospitals.(23)

Collaborations with Others

Just as the ACGME duty hours restrictions resulted in increased attention to signouts, which have informed broader initiatives that go well beyond training programs, other GME-led initiatives are also being spread to other constituencies and organizations. Medical schools have begun to directly assess all six competencies, rather than just knowledge and patient care. ACGME joined forces with the American Board of Medical Specialties (ABMS) (24) to codify competencies for all practicing physicians. New standards for Continuing Medical Education (CME) (25), the lifelong learning that practicing physicians need to stay up to date and maintain licensure, now also require that all learning be focused on improving physician competence and performance and patient outcomes. An effort to improve quality and safety at academic hospitals is being driven by the American Association of Medical Colleges (AAMC) in their Integrating Quality initiative, which brings together CME, GME, and academic hospital leadership to improve care and education.(26)

Innovation

The GME community has also created several other innovations to improve patient safety. The ACGME's Internal Medicine Educational Innovations Project (EIP) provides selected internal medicine programs with enhanced flexibility in their accreditation requirements, allowing them to innovate in the arenas of competency-based education with an emphasis on quality and safety. Participating EIP programs have developed methods to conduct individual practice assessment in ambulatory settings, deliver novel quality and safety curricula (including teamwork training), and engage residents in reviewing medical errors.(27) New connections between GME programs and their sponsoring institutions are emerging throughout the country. At our institution, UCSF, the Medical Center offers residents a financial incentive to achieve specific yearly patient safety and quality goals such as patient's perceived pain control, hand washing, patient satisfaction, and thoughtful lab utilization.(26) We engage Chief Residents in a monthly dialogue

with GME and Medical Center leadership regarding a variety of issues including safety concerns and solutions. Selected residents also led our institution's Joint Commission–required Failure Modes Effects Analysis, and residents and nurses have come together to create new ways to resolve conflicts and enhance collaboration in a resident-nurse council. Similar sorts of innovations are occurring in many other academic institutions nationally.

Residency training is an extraordinarily important area for patient safety. First of all, teaching hospitals are major providers of clinical care in the United States—patients need to be reassured that the safety of resident-delivered care will match or exceed that delivered in non-teaching settings. Second, residents are being trained to deliver a lifetime of clinical care and to lead complex health care systems. Training them in the relevant competencies will influence the safety of patient care for generations to come. Finally, training programs provide fertile soil for innovations, some of which can diffuse to other parts of the health care system. During the first decade of the patient safety movement, the changes promoted by ACGME and embraced by the entire GME community have helped us meet all three of these mandates, a record of accomplishment that will undoubtedly be built upon in the next several years.

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