REVIEW

THE AMERICAN JOURNAL of MEDICINE®

Internal Medicine Residency Redesign: Proposal of the Internal Medicine Working Group

Ralph I. Horwitz, MD,[a] Jerome P. Kassirer, MD,[b] Eric S. Holmboe, MD,[c] Holly J. Humphrey, MD,[d] Abraham Verghese, MD,[e] Carol Croft, MD,[f] Minjung Kwok, MPH,[e] Joseph Loscalzo, MD[g]

[a]GlaxoSmithKline, King of Prussia, Pa; [b]Tufts University; [c]American Board of Internal Medicine, Philadelphia, Pa; [d]University of Chicago, Ill; [e]Stanford University, Palo Alto, Calif; [f]University of Texas Southwestern, Dallas; [g]Brigham and Women's Hospital, Boston, Mass.

ABSTRACT

Concerned with the quality of internal medicine training, many leaders in the field assembled to assess the state of the residency, evaluate the decline in interest in the specialty, and create a framework for invigorating the discipline. Although many external factors are responsible, we also found ourselves culpable: allowing senior role models to opt out of important training activities, ignoring a progressive atrophy of bedside skills, and focusing on lock-step curricula, lectures, and compiled diagnostic and therapeutic strategies. The group affirmed its commitment to a vision of internal medicine rooted in science and learned with mentors at the bedside. Key factors for new emphasis include patient-centered small group teaching, greater incorporation of clinical epidemiology and health services research, and better schedule control for trainees. Because previous proposals were weakened by lack of evidence, we propose to organize the Cooperative Educational Studies Group, a pool of training programs that will collect a common data set describing their programs, design interventions to be tested rigorously in multi-methodological approaches, and at the same time produce knowledge about high-quality practice.
 • *The American Journal of Medicine (2011) 124, 806-812*

KEYWORDS: Clinical examination; Internal medicine; Medical education

The pace of change in internal medicine resident education is accelerating. Many of the recent changes have been intended to mitigate features of the residency experience believed to be related to unacceptably high rates of medical errors and the associated need for quality improvement. Concerned that resident fatigue may be a greater risk to patient safety than frequent patient hand-offs, considerable attention has been directed to work hours and time spent in the hospital. Similarly, fueled by the belief that many medical errors could be prevented by better adoption of enhancements in the system of medical care, regulators have required a greater emphasis on systems-based care in the residency curriculum.

Unfortunately, the relentless process of reform and regulatory oversight in resident education has rarely been based on rigorous evidence that measures the impact of educational reform on objective measures of resident performance. Regrettably, internal medicine has not required similar standards of evidence to guide educational interventions that it preaches are required to adopt new diagnostic and therapeutic interventions. We believe that this inattention to rigorous evidence by which to guide the design of resident education has weakened internal medicine training, has given undue weight to opinions of authorities external to the practice of internal medicine, and has the potential to create an internal medicine workforce that is unprepared for the contemporary practice of medicine. We firmly believe that the field of internal medicine must adopt an attitude of continual improvement in training that can only be achieved with a renewed dedication to rigorous, evidence-based

Funding: Josiah Macy, Jr, Foundation; California HealthCare Foundation; and a gift from an anonymous fund of the San Antonio Area Foundation.

Conflict of Interest: Eric Holmboe is employed by the American Board of Internal Medicine. None of the other authors have any conflicts of interest associated with the work presented in this manuscript.

Authorship: All authors had access to the data and played a role in writing this manuscript.

Requests for reprints should be addressed to Ralph I. Horwitz, MD, GlaxoSmithKline, 709 Swedeland Road, King of Prussia, PA 19406.

E-mail address: ralph.i.horwitz@gsk.com

0002-9343/$ -see front matter
doi:10.1016/j.amjmed.2011.03.007

change. What is at stake is much too great to be subject to justification based on long-standing tradition or the assumption of face validity.

To assess the status of internal medicine and to propose new solutions, we assembled 30 internal medicine leaders, including chairs of medicine, program directors, and officers of the American Board of Internal Medicine. We summarize many of their concerns in this review. The group averred that the richness and intellectual challenges of internal medicine have never been greater; yet, interest in the internal medicine residency has progressively declined. In part, this outcome is a consequence of inflexible regulations, but, in part, it also can be attributed to our failure to preserve those elements that create excitement and to incorporate new features that contribute to the allure of our discipline. Dissatisfaction with internal medicine as a career has grown, driven in part by opportunities in other specialties, increasing emphasis on "lifestyle" issues, and reimbursement systems that create income inequities among physician groups, favoring procedure-oriented specialties. Although students are largely satisfied with their internal medicine clerkships, only 2% plan a career in primary care internal medicine and only 20% claim their core clerkship favorably influenced them toward a career in internal medicine. Factors that dissuade them include the hectic pace of training, excessive paperwork and charting, debt levels, the differential reimbursement of generalists and specialists, lifestyle issues, and the overall attractiveness of other specialties.[1]

CLINICAL SIGNIFICANCE

- The internal medicine residency has become insufficient to accommodate the public's expectations, which include service as healers, morality and integrity, transparency, accountability, and guaranteed competence.
- Internal medicine residency should be redesigned to emphasize bedside learning, effectiveness and efficiency in medical care, and issues of fatigue during training.
- To foster these goals, we propose developing a Cooperative Study Group among training programs.

The experienced leaders in our symposium voiced many concerns that we summarize in this review. Participants agreed that many of the attributes of internal medicine that formerly drew students into the discipline are now in decline. Diagnostics has been largely expunged from residents' learning purview as patients often arrive on the hospital wards from the emergency department with diagnoses in hand. In the clinics, many patients have already been thoroughly evaluated before residents see them, and clinic assignments often compete with ward responsibilities. Individual clinical judgment has been devalued. Expediency has trumped clinical reasoning in diagnostic testing and treatment decisions, as armies of specialists are called in to facilitate patient throughput. As single issues dominate a clinical encounter, a holistic assessment of patients that includes their social and emotional well-being often goes lacking. Although all these issues are germane to many other disciplines, they are particularly relevant to internal medicine where cognitive aspects of diagnosis and management dominate. The information gained by the history and the physical examination also has gradually become viewed as being of little value when compared with the insights offered by these imaging and other studies. The decreased emphasis on the skilled history and physical examination that embody the values of the craft of internal medicine and the loss of these skills mean that an essential bond between physician and patient fails to form because a ritual of great import has been shortchanged.

Participants believed that the change in the duration and quality of physician time at the bedside has not been lost on the patient. Patients have often commented on how care seems fractured, replete with hand-offs, with little clarity as to who is in charge. The brevity and lack of skill that characterize the physical examination contribute to the patients' sense that they are of less consequence than the diagnostic images that exist of them.

Many of these changes are the unintended consequences of policies that were enacted to improve the care of patients and the efficiency of our hospitals and clinics. The growing emphasis on practice guidelines and the demands for shorter lengths of hospital stay led to 2 contradictory impulses: greater focus on standardization of medical care and, at the same time, greater tolerance for overuse and misuse of medical tests and procedures. Concurrently, new requirements for quality improvement, curriculum reporting, data entry, work on "team leadership," discharge planning meetings, work hours reporting, and other paperwork detract from the direct encounter with patients; the short lengths of stay reduce the opportunity for residents to follow patients as their clinical course changes.

EXTERNAL FORCES

Graduate medical education is experiencing unprecedented attention and pressure for reform from policy makers in Washington, DC. Heightened attention from several key public constituencies, specifically the Medicare Payment Advisory Commission (MedPAC), the Institute of Medicine, and the Congress, signals the urgent need for internal medicine to accelerate efforts at educational reform. The 2008 Institute of Medicine report was critical of efforts to enforce duty hours regulations and of the quality and level of supervision provided to trainees.[2] This past year, MedPAC also weighed in, raising concern that Graduate Medical Education training programs are not adequately preparing future physicians to care for an aging population, and