
INTRODUCTION
Navigating the *JGIM* Special Issue on Medical Education

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We are pleased to bring you the Journal of General Internal Medicine 2008 Education Issue. Over the past several months we have had the privilege of reviewing 133 submitted manuscripts in order to select these 41 for publication. This has challenged us to reflect on improving and standardizing our approach to education manuscripts. In this issue, Reed et al.¹ report on the methodological quality of the submitted manuscripts, and Cook et al.² provide much needed guidance for the future. We hope this special issue will engage the JGIM readership and members of the education community in discourse and in this way advance our collective notion of quality in medical education scholarship.

In this overview, we briefly summarize the themes explored in the 41 articles and 4 editorials that we, along with the many peer reviewers who participated, selected. Working on this issue has led us to ask many interesting questions about the state of medical education research and scholarship.

WHAT SHOULD HOSPITAL MEDICINE TRAINING LOOK LIKE?

The development of the hospitalist career track is a challenge for internal medicine training programs. Glasheen et al.³ outline a rationale for targeted training to prepare hospitalists for their careers, including roles in patient safety, quality, and efficiency. We ask, Are the new roles described unique to the hospital? Should training programs shift more curricular emphasis to the hospital? How would this shift impact the much fought for time to train general internists for ambulatory settings? We invited an editorial to elaborate on these challenges.⁴

HOW DO WE LINK EDUCATION TO QUALITY CARE?

Three studies in this issue investigated educational interventions to improve resident quality improvement skills. Two longitudinal curricula in quality improvement, one involving a radical redesign of residents' ambulatory clinic structure⁵ and the other organized within the existing training structure,⁶ demonstrated improvements in quality processes and quality measures. A third study⁷ demonstrated the success of a course on systems-based practice and practice-based learning and improvement designed for dissemination among multiple institutions.

Another study took a different approach, confirming a hypothesized relationship between physician-patient continuity and glycemic control.⁸ Although tentative, this well-designed, rigorous study suggests that curricular changes to enhance continuity could improve patient care.

Finally, one study⁹ examined the quality of preventive cardiology care at multiple residency practice sites, finding substantial heterogeneity among sites with patients receiving, on average, less than 60% of recommended care. Sites with electronic medical records out-performed other sites on some measures, suggesting opportunities to improve care through methods that do not rely solely on human factors (or are necessarily "responsive" to educational interventions). We invited an editorial to stimulate our thinking about the link between how (and what) we teach and the quality of care our trainees learn to provide.¹⁰

HOW DO WE PROMOTE STUDENT AND PHYSICIAN WELL-BEING?

Three studies in this issue address the well-being of students and physicians. One study¹¹ found that "imposterism" (believing oneself to be a fraud) is common among internal medicine residents, but failed to find a relationship between imposterism and burnout. Two studies advance our understanding of the unintended consequences of resident duty hour regulations. A survey of physicians at three hospitals¹² found large negative effects on the professional lives of faculty, and both this study and a national survey of faculty¹³ suggest that work hour regulations have impaired the learning environment. We

invited an editorial to expand upon these unintended consequences.¹⁴

HOW DO WE DEFINE AND PROMOTE PROFESSIONAL DEVELOPMENT?

Several studies in this issue explored professional development. Wear and Zarconi¹⁵ asked students where, how, and from whom they learned the virtues associated with good physicianhood. They found that students are influenced by their upbringing and prior life experiences, their medical school classroom experiences, and role modeling in their clinical training. Ginsburg et al.¹⁶ guided faculty informants through review of videotaped scenarios depicting students in professionally challenging situations, exploring faculty responses, and reasoning. Both of these studies show our continued reliance on the hidden curriculum to shape the professional development of our students.

Our students' influential prior life experiences are increasingly shaped by technology and new social norms. Thompson et al.¹⁷ found that medical students engage frequently in online social networking and that some accounts displayed subjectively inappropriate content. We ask, How can or should this be addressed in any formal professionalism curriculum?

Educators are utilizing a variety of self-reflection and feedback techniques to study, teach about, and assess professionalism. Fisher et al.¹⁸ analyzed reflective writings of medical students during their internal medicine clerkships. They propose that such writings may serve as a source of curricular feedback to the institution and suggest that more needs to be done in the areas of professionalism, quality, and safety. Hill-Sakurai et al.¹⁹ implemented a professional development course for 3rd-year students that involved critical incident reports, thematic panel discussions, and focused reflection in small groups. Stark et al.²⁰ used the results of a multi-source assessment tool to gather information about residents' professional behaviors to help faculty improve their abilities to give feedback. This strategy led to faculty self-reported improved skill and comfort in giving feedback, especially feedback about professionalism. We invited an editorial²¹ to further address the advances these studies represent.

WHERE ARE THE TRAINING GAPS?

What are the emerging challenges in medical education? Needs assessments in this issue include clinical topics of obesity²² and tobacco dependence,²³ and curriculum design issues such as ward attending rounds,²⁴ quality of care in ambulatory clinics,^{8,9} student career choice,^{25,26} resident well-being,¹¹ and residency training organization.^{12,13,27}

HOW DO WE IMPROVE INSTRUCTIONAL METHODS?

Several authors provide new ideas and insights. Web-based learning modules that adapted to residents' prior knowledge decreased the time on task without a decrement in knowledge test scores.²⁸ Use of interactive spaced education to teach the physical examination significantly enhanced learning outcomes.²⁹ Visual literacy training with art improved physical

observation skills.³⁰ An electronic portfolio improved the quantity of faculty feedback on students' patient write-ups.³¹ Also, assigning medical students to serve as community educators had incremental benefits compared to a didactic-only course.³²

HOW CAN WE TEACH SPECIFIC CONTENT AREAS?

Several authors evaluated creative instructional strategies for teaching. Lindquist et al.³³ used simulation technology to teach 2nd year medical students medication reconciliation in preparation for 3rd year clerkships. Students rated improvements in their knowledge and comfort. Brownfield et al.³⁴ developed a 3rd-year medical student clerkship course emphasizing integration of basic science and clinical medicine and report improved performance on standardized licensing examinations. Lee et al.³⁵ developed interactive Web-based video cases designed to improve student competence in assisting patients with alcohol problems. Intervention students had better standardized patient performances than controls. West et al.³⁶ evaluated a longitudinal course in evidence-based medicine (EBM) demonstrating improved and sustained EBM knowledge scores over 2 years. Two interventions sought to improve faculty skills in teaching geriatric medicine. Christmas et al.³⁷ implemented a 3-day intensive workshop followed by a year of distance mentoring. Faculty self-rated knowledge and self-efficacy to teach improved significantly. Eckstrom et al.³⁸ used a combination of didactics and small-group role-plays with simulated teaching encounters to demonstrate significant improvement in geriatric knowledge and self-perceived competence to teach geriatrics.

A number of reports evaluated interventions to improve trainee's abilities to help patients with unique needs, including a week-long course on health disparities for incoming medical students,³⁹ a 4-year medical Spanish program for students,⁴⁰ a course for residents on working with torture survivors,⁴¹ and a program to train students in helping adolescents at risk for intimate partner violence.³²

These courses employed instructional designs and methods known to enhance durable learning. All demonstrated significant improvements in knowledge, skills, or commitment to change. However, these outcomes frequently relied on learner self-reported behaviors and, with notable exceptions, used instruments developed for the purpose of the study. These studies also provide indirect evidence supporting the efficacy of the instructional methods employed. Additional studies directly comparing one instructional method against another while minimizing other changes that confound interpretation will more directly contribute to our knowledge about "what works" in medical education.

HOW CAN WE IMPROVE ASSESSMENT?

Several authors contribute to our understanding of assessment. A national survey of internal medicine residency program directors⁴² found that programs are making a successful transition to competency-based assessment, although direct observation and practice-based tools are still used infrequently. Two studies explored relationships between scores from different instruments or rating rubrics. One found associa-

tions between standardized licensing examination results and internal medicine in-training examination scores,⁴³ while the other demonstrated associations between residents' ratings of students using the RIME framework and students' knowledge and skills on objective tests.⁴⁴ Studies also used existing assessment instruments in new ways, such as assessment of resident-patient continuity,⁸ assessment of professionalism,²⁰ and evaluation of an evidence-based medicine course.³⁶ Finally, a study examining the learning objectives residents set for themselves⁴⁵ suggests there is room for improvement in helping residents with reflective practice.

WHAT INFLUENCES DECISIONS ABOUT TRAINING AND CAREER?

Three studies advance our understanding of trainee career decision-making. A study of Japanese residents²⁷ found preference for non-university teaching hospitals based on their dissatisfaction with daily chores, low salary, and poor clinical opportunities at university hospitals. A longitudinal survey of students at 15 medical schools²⁵ found that most students changed their minds about their future career over the course of medical school, with only 30% initially interested in primary care remaining interested in their senior year. Prestige was an important factor for non-primary-care-bound students. Prestige was also a factor identified as influencing students to choose internal medicine in a national survey of internal medicine clerkship directors,²⁶ along with practice environment, debt, and work hours. Perhaps a better understanding of "prestige" is needed to address the looming primary care shortage in the United States.

We hope you find the contributions to the 2008 Education Issue engaging and provocative. We appreciate the opportunity to review the submissions to JGIM and encourage our contributors and readers to continue to advance the field of medical education through contributions in educational research and scholarship, and participation through discourse in the medical education community at large.

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