Ambulatory Education Redesign: Time to Get Inspired

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Several important themes have emerged in recent years regarding outpatient education of internal medicine residents. Training programs have historically been reluctant to reconsider the traditional inpatient-based model of residency education. Residency programs have also been criticized for an inadequate response to a rapidly changing ambulatory practice environment with increased time and financial pressures. Finally, career interests and aspirations of residents have not always been a primary factor in determining residency schedules or developing ambulatory training opportunities. The challenge of educating residents to practice in today's healthcare environment has led to calls for a major redesign of residency education—particularly in the outpatient setting.^{1–5}

In synergy with these efforts, new program requirements from the Accreditation Council for Graduate Medical Education (ACGME) demand flexibility and creativity from internal medicine training programs. Specifically, they mandate that programs “develop models and schedules that minimize conflicting inpatient and outpatient responsibilities,”⁶ to address the longstanding and stressful situation where residents must balance a continuity clinic session and an inpatient service at the same time. Three studies published in the *JGIM* medical education theme issue offer encouragement and direction for residency educators as they seek to improve the quality of ambulatory experiences for residents.

Chaudhry and colleagues' study, “Moving Forward in GME Reform: A 4+1 model of Resident Ambulatory Training,”⁷ describes a schedule of non-overlapping inpatient and outpatient rotations at the Hofstra North Shore-Long Island Jewish residency program. Beginning in 2010, second-year and third-year residents rotated for 4 weeks of inpatient medicine followed by 1 week of outpatient medicine. This structure allowed residents to fully concentrate on education and patient care within the inpatient or outpatient setting, without trying to do both. After a year in the new system, the authors found

that residents perceived improved learning opportunities, less fragmentation of care for patients, larger continuity clinic panel sizes, and enhanced satisfaction with ambulatory training. Importantly, these findings were consistent across various sites, including private practice offices, a hospital based clinic and a non-hospital based patient-centered medical home setting.

Wieland and colleagues describe the impact of another change in resident physician scheduling in their study of continuity clinic redesign at the Mayo Clinic.⁸ In this study, residents alternated between month-long blocks of ambulatory and inpatient rotations. Ambulatory rotations included twice weekly continuity clinics; no clinics were scheduled during inpatient rotations. A strength of this pre-post intervention study was that the authors evaluated patient as well as resident outcomes. They found that patients missed fewer appointments and that residents' panel sizes increased. Residents also attended more educational conferences and perceived improved safety and teamwork, although measures of continuity of care declined.

Finally, Peccoraro and colleagues surveyed residents at three urban residency programs to assess the relationship between resident satisfaction with continuity clinic and interest in general internal medicine (GIM) as a career.⁹ They found that residents were generally satisfied with their clinic experience, but were overall less likely to enter a career in GIM as a result of their continuity clinic. However, residents who were highly satisfied with the number of patients they cared for and the continuity of care they achieved were more likely to choose a career in GIM. Although causation cannot be inferred, the authors postulate that improving certain elements of the continuity clinic experience may influence residents to pursue careers in GIM.

Taken together, these papers provide a useful road map for internal medicine residency educators. The first two justification studies show that change to either a 4:1 or 50:50 inpatient-outpatient model is well received by residents and improves important educational outcomes. It is noteworthy that both studies demonstrated a perceived or measured increase in resident panel size in addition to improved resident satisfaction and enhanced education. However, it is unknown whether these improvements are entirely due to residents being less distracted and conflicted in their patient care obligations. Further study is needed to

more deeply understand the impact of pure inpatient/outpatient rotations on resident learning and patient care quality.

After reading these studies, it is reasonable to ask whether it is time to abandon the traditional weekly continuity clinic model in favor of a block model where residents alternate inpatient and outpatient experiences. The block clinic model was first described as part of the ACGME Educational Innovations Project at the University of Cincinnati less than 5 years ago.¹⁰ Thus, while evidence is building that this model places less stress on residents and enhances education, patient health outcomes remain largely unknown, and continuity of care decreased in one setting.⁸ Because enhancing ambulatory education is a high priority in graduate medical education,^{2,3} and in light of the results of these studies, it seems reasonable to continue to move forward with this transition. We encourage continued research to assess the impact on resident knowledge of ambulatory medicine, competency to care for patients in the outpatient setting, resident and preceptor well-being, and patient outcomes.

An additional reason for cautious optimism is the potential for new and improved continuity clinic experiences to affect the career choice of internal medicine residents. Currently the situation is dire, as most residents in categorical internal medicine and primary care tracks pursue subspecialty careers.¹¹ Choosing a career in GIM is clearly multifactorial, but earlier work shows that positive experiences in primary care rotations affects medical students' career choice. Specifically, students who reported favorable impressions of patients cared for by internists, the internal medicine practice environment, and internists' lifestyle were more likely to pursue a career in internal medicine.¹² Less is known about factors associated with internal medicine resident career choice, but the study by Peccoro moves the field forward by identifying certain factors within continuity clinic experiences that are associated with increased likelihood of pursuing a career in GIM. These factors (satisfaction with number of patients seen and continuity achieved) seem well suited to either of the innovative clinic models described above.

Medical educators may not be able to influence national issues contributing to career choice such as payment reform and management of medical student indebtedness. However, we can and should improve our residents' continuity clinic experience to improve patient care and education, and to encourage the best and brightest to pursue careers in

GIM. The papers that we highlight here provide specific guidance on how to begin to achieve this goal.

Conflicts of Interest: The authors declare that they do not have a conflict of interest.

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