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Educational responses to declining student interest in internal medicine careers

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Medical student interest in internal medicine, particularly general internal medicine, is declining (Table 1). The percentage of US medical students matching to internal medicine residencies has declined from 30% in 1975 to 19% matching in categorical internal medicine in 2004.[1] Some of this decline can be attributed to the creation of the emergency medicine residency and combined primary care and preliminary internal medicine residencies—changes that effectively narrowed the scope of the internal medicine residency. However, it is also possible that current match figures overestimate student preferences for careers in internal medicine. The Association of American Medical College (AAMC) Graduation Questionnaire (GQ) data suggest that students commonly prefer specialties other than internal medicine, meaning that for some students, internal medicine may represent a less competitive "fall back" option as opposed to a true career choice.[2]

Despite declining student interest in internal medicine careers, AAMC GQ data for 1997-2003 paradoxically show that the internal medicine clerkship was the most highly rated among 7 core disciplines every year.[2] Quality of faculty and resident teaching, clarity of objectives, and sufficiency and timeliness of feedback ranked among the many identified internal medicine clerkship strengths. Clearly then, quality of clerkship experience is not the primary driver of career choice, and attempts to stimulate interest in internal medicine careers by developing the "right" kind of clerkship might overlook important external factors.[3]

Task force charge and methods

The Clerkship Directors in Internal Medicine (CDIM) Council charged the CDIM Task Force on the Clerkship and Internal Medicine as a Career Choice with advising the council and membership on:

- Factors currently influencing students' specialty choices.

Report of the Clerkship Directors in Internal Medicine Task Force on the Internal Medicine Clerkship and Internal Medicine as a Career Choice. Endorsed by the CDIM Council November, 2004

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Table 1 Categorical internal medicine versus primary care matches 2000-2004

	2000	2001	2002	2003	2004	04 vs 00	% Difference
Categorical internal medicine	2800	2798	2738	2590	2602	(198)	−7%
Primary care	281	234	204	192	188	(93)	−33%
Family practice	1817	1503	1399	1226	1185	(632)	−35%

- Students' perceptions of internal medicine as a career.
- Factors currently influencing the attractiveness of internal medicine as a career choice for students and practicing internists.
- Steps clerkship directors, medical school leaders, and national organizations might take to improve student opinions of internal medicine careers.

The CDIM Task Force on the Clerkship and Internal Medicine as a Career Choice members represented diverse internal medicine education constituencies, including clerkship directors, medical school deans, and the CDIM Vice President for Policy. A review of the career choice literature and national residency match and specialty choice datasets served as the foundation for task force work. The task force also considered responses to the 2004 annual CDIM Survey, which was sent to 114 institutional members (usually the clerkship director) and 164 individual members (site directors, directors of ambulatory blocks or introduction to clinical medicine courses, occasionally clerkship directors, or other educators). The overall response rate was 141/278 (51%), including 67/114 institutional and 74/164 individual member responses. Task force member expert opinions were synthesized and combined with survey, database, and literature review findings. This final report addresses factors external to and within the clerkship that influence career choice (Table 2) and presents recommendations for enhancing the attractiveness of internal medicine as a career choice.

Factors external to the clerkship that influence career choice

Many factors external to the internal medicine clerkship but inherent to internal medicine practice profoundly influence students' career decisions. Students carrying high debt or desiring high income may gravitate toward fields with higher income potential.[4,5] Primary care physicians earn significantly less than many other physicians, particularly physicians with procedure-based practices. Lifestyle plays an increasingly important role in career decision-making. There appears to be a fundamental and generational shift in medical students' priorities away from the primacy of the "professional calling" of medicine toward a work life that will facilitate greater balance between career, family, and nonprofessional pursuits.[6] The call responsibilities and time demands of primary care practice do not compare favorably to the shift work or regular hours other specialties enjoy.[7]

Not surprisingly, the high administrative burden and encroachment on personal and family time that characterize internal medicine practice correlate negatively with physician job satisfaction.[8] The proliferation of third party payers and resulting decrease in practice autonomy are associated with increased physician turnover in primary care practices.[9] Although part-time practice can offset some of the high administrative burden of internal medicine practice, contributing in part to the popularity of this path, reducing one's hours further reduces income.[10] One large survey found that general internists are less satisfied than internal medicine subspecialists with providing care to patients with complex medical and psychosocial problems, especially when office visits are time-pressured.[11] Nonetheless, students may not appreciate differences in the practice environment or satisfaction levels of generalist versus subspecialty internal medicine physicians, particularly if their role models in medical school are mostly general internists. Given these difficult realities, students may appropriately perceive that the suboptimal aspects of internal medicine practice, or at least general internal medicine practice, make it a poor career choice and, understandably, gravitate toward other specialties.

The care of patients with chronic disease, a hallmark of internal medicine practice, becomes less appealing to students throughout medical school.[12] The "hidden curriculum" imparted primarily from residents to students can further discourage interest in internal medicine if residents bemoan their workloads or doubt their specialty choice. Sleep deprivation—inherent to residency in some specialties including internal medicine—negatively impacts residents' personal lives and undoubtedly contributes to concerns about future career satisfaction,[13] a situation that will only improve if policies that limit duty hours are coordinated with efforts to reduce resident workloads. Students also observe the long training path, averaging 6 years after medical school for subspecialty board certification, that has prompted discussion of shorter, more efficient training paths to subspecialty internal medicine careers.[14,15] It is reasonable to assume that many students consider these factors when selecting a specialty.

Table 2 Major factors currently influencing medical students' decisions regarding internal medicine as a career choice

Positive aspects of internal medicine
"Detective" work in solving diagnostic mysteries.
Intellectually rigorous.
Opportunity to care for patients as part of a team
Teamwork with housestaff and attendings on inpatient wards.
Work with ancillary providers, consulting physicians.
Longitudinal patient care
Continuity of patient relationships.
Strong internal medicine foundation from medical school years 1 and 2
Foundation creates familiarity with the material and the department during third-year core clerkship.
Positive role models
Internists are often highly visible medical school teachers.
Negatives aspects of internal medicine
Vastness of the knowledge base
Perceived to be difficult or impossible to master, especially general internal medicine.
Lifestyle
Preference for specialties more likely to require 40-hour work week.
Heavy administrative demands.
Perception that the work hassle (hours, control of hours, paperwork) outweigh expected compensation.
Desire for a controllable lifestyle.
Desire to balance professional career with personal and family life.
Long training path to internal medicine subspecialty.
Income
Higher graduate debt promotes desire for higher income.
Desire for income that will support comfortable lifestyle.
Internists earn less than physicians in many other fields.
Prestige
Competition for resident positions is less in internal medicine than other specialties.
Top graduates may gravitate toward more competitive fields.
General internists are perceived as overworked, undervalued.
Negative role models
Perception that internal medicine faculty and residents seem overworked and frustrated.
Internists burdened with paperwork.
Internists, especially generalists, changing practices frequently.
Hidden curriculum imparted from unhappy residents to students.
Changing culture of the practice of medicine
Internal medicine as a field does not project a clear mission.
Economic pressures that promote short patient encounters discourage reflection and pathophysiologic discussion, 2 core values of internal medicine.

Curricular influences on specialty choice

Although many students enter medical school with strong interest in primary care and a patient-centered attitude, this orientation subsequently diminishes, particularly during the clerkships.[16,17] Two curricular experiences previously associated with primary care career choice are required family practice clerkships and longitudinal primary care experiences,[18,19] although it is unclear whether these interventions would make internal medicine (or even general internal medicine) a more attractive career choice today. Within the medicine clerkship, exposure to excellent role models, positive ambulatory experiences, and other structural changes may impact career choice. Excellent medical students were more likely to choose an internal medicine residency if they worked with highly rated internal medicine faculty or resident teachers during the clerkship.[20] Furthermore, exposure to a general internist attending has been associated with choosing an internal medicine residency.[21] Ambulatory general internal medicine experiences during the internal medicine clerkship can promote learning, but the impact on career choice is questionable.[22-24] Although 85% of US internal medicine clerkships offer ambulatory experiences,[25] fewer students now pursue general internal medicine careers, casting doubt as to the positive impact of these clerkship interventions on career choice in the current practice environment. Rather, the prevalence of chronically ill patients and the lack of successful models of team-based care in the ambulatory setting seem to dissuade students from embracing primary care.[3,26]

Another mechanism used to attract students to a field is to recruit them explicitly during or after the core rotation. Anecdotally, task force members have observed that recruitment is prevalent across specialties. However, recruitment may create discomfort for students, and the evaluative environment creates the per-

ception that there are correct and incorrect responses about career interests.[27] In the 2004 CDIM Survey, of 141 respondents, 122 answered the questions about recruitment. Educators reported divided opinions about their role in recruiting students to internal medicine careers. Thirty percent felt they should not recruit, 29% endorsed this role, and the remaining 28% reported a neutral opinion. Interestingly, many respondents believe departmental leaders expect clerkship directors to recruit, with 48% reporting that their chair believes that one of the core missions of a clerkship director is to recruit students to internal medicine careers and 44% reporting that their internal medicine residency program director shares this view.

Recommendations

To enhance the attractiveness of internal medicine as a career choice, the CDIM Task Force on the Clerkship and Internal Medicine as a Career Choice proposes the following recommendations (Table 3) addressed to:

Clerkship directors

The internal medicine clerkship should provide comprehensive exposure to inpatient, ambulatory, and subspecialty internal medicine. It is unclear whether greater exposure to internal medicine subspecialties will make internal medicine careers seem more manageable and easily mastered to students, but, at a minimum, it will allow students to consider the full breadth of internal medicine subspecialty options when making career decisions. Clerkship directors should track the impact of such changes in clerkship experiences through match data, student interviews, and focus groups. Clerkship directors should not serve as recruiters, but should develop mechanisms to welcome capable students to internal medicine via special curricular opportunities, interest groups, and interactions with chairs and master clinicians. Establishing fourth-year elective rotations with enrollment limited to students who excelled in the third year would recognize and potentially motivate competitive students to seek internal medicine careers.

More broadly, the purpose of the internal medicine clerkship should be reviewed. Currently, the internal medicine clerkship serves as a foundation for clinical skills training and professional development, regardless of eventual career choice. Whether or not a student has completed the internal medicine clerkship is one of the initial queries on many rotations and reflects the value of the knowledge and skills that are imparted on the traditional medicine clerkship. Because the emphasis on teaching foundational skills is greatest in the internal medicine clerkship, the opportunity to introduce students to the possibility of internal medicine as a specialty choice through more advanced or specialized clinical opportunities may be overshadowed. Schools should consider creating a foundational clerkship, distinct from the internal medicine clerkship, to teach basic clinical, communication, and data management skills. Different foundational clerkship models should

Table 3 Recommendations from the CDIM Task Force on the Clerkship and Internal Medicine as a Career Choice to enhance students' perceptions of internal medicine as a career choice

Clerkship directors
Internal Medicine clerkship should accurately represent the field.
Increase students' clinical opportunities in subspecialist settings.
Clerkship directors should not serve as recruiters to internal medicine.
Clerkship directors should acknowledge and reward excellent student performance in internal medicine.
Consider a foundational clerkship prior to the core clerkship year to elevate the role of the internal medicine clerkship beyond teaching fundamental clinical skills.
Residency program directors
Address hidden curriculum among residents that promotes negative role modeling for medical students.
Implement duty hours policies that sustain residents' time to teach.
Develop mechanisms to reward excellence in resident teaching.
Department chairs
Seek visibility with students through teaching sessions.
Support faculty teaching with funding and protected time.
Deans
Encourage equitable distribution of educational responsibilities and of funding to support teaching; modify expectations that departments of medicine assume a disproportionate share of responsibility for teaching.
Create a career advising structure that includes exposure to the range of internal medicine opportunities as part of the advising about all specialties.
ACP, ABIM, subspecialty societies
Streamline and shorten internal medicine training pathways to subspecialty careers.
Prioritize sessions at internal medicine annual meetings on student precepting and role modeling.
Advocate nationally for enhanced practice environments for internists by addressing administrative burdens and reimbursement.
Create strategies to enhance the prestige of internal medicine for students.
Researchers
Conduct studies using current data to explore factors influencing medical students' perceptions of internal medicine as a career choice.

be piloted, and the quality of educational experience, benefits for the internal medicine clerkship, and influence on student career choice should be studied.

Residency program directors

Program directors and clerkship directors should work together to understand each other's program goals and to align their trainees' activities to benefit teaching and learning. Because unhappy internal medicine residents strongly influence student satisfaction with clerkships and student perceptions of internal medicine as a career path, program directors should try to influence this hidden curriculum. Program directors should promote resident teaching by implementing duty hours policies that preserve residents' time to teach students and should recognize and reward excellent resident teachers.

Department chairs

Department chairs should seek visibility with students to communicate that student education is valued in the department and to expose students to leaders in the field. Through the residency match process, chairs can support students and provide invaluable career advice. Furthermore, chairs are uniquely positioned to create faculty job descriptions that incorporate time for teaching as well as incentive programs that reward teaching excellence. Chairs' efforts to support faculty teaching time can help counteract the clinical and financial disincentives that all too often make clinical teaching a thankless task. Just as clinical productivity is routinely measured (with relative value units, number of encounters, etc), teaching effort can also be measured, and these measurements can be used to construct job descriptions that reflect the effort and monetary value of educational pursuits.[28] More fully compensating educators for their time and effort would heighten the fiscal pressures felt by many departments, meaning chairs would need to collaborate with medical schools, granting agencies, and foundations to secure increased funding for educational efforts. Given the evidence that excellent internist teachers and role models promote internal medicine career choice, faculty development programs to promote teaching skill and reward structures that recognize excellent teachers should be critical departmental goals.

Deans

Medical school deans should support equitable distribution of teaching responsibilities across departments. Departments of internal medicine traditionally have strong educational reputations and shoulder the largest teaching burden, both preclinically and in the core clerkships. However, relegating to the internal medicine clerkship "orphan" topics such as ethics, domestic violence, or end-of-life care, all topics that constitute core educational material, limits the clerkships' ability to showcase internal medicine as a career option. Responsibility for teaching non-discipline-specific core material should be shared by several clerkships, with funding distributed according to the volume of work undertaken. Additionally, deans should address students' career advising needs and help facilitate exposure to the range of internal medicine career opportunities as part of a larger advising program for all specialties.

The American College of Physicians (ACP), the American Board of Internal Medicine (ABIM), and subspecialty societies

National societies can play a vital role in supporting the development of more efficient and goal-directed residency and fellowship training programs. These pathways could consist of residency match positions that allow medical school graduates to match directly into subspecialty internal residencies[14] or residency tracks that place less emphasis on general skills and instead promote earlier, more intensive focus on the area of intended practice.[15] At the fellowship level, procedural training could be made optional, allowing, for example, the future non-invasive cardiologist to shorten the fellowship duration. These streamlined pathways would earn trainees either full subspecialty status or certificates of added qualification.

Additionally, national societies can address students' need for positive internal medicine role models, particularly internal medicine clinicians practicing outside the academic setting. ACP and internal medicine subspecialty societies should prioritize sessions on precepting and role modeling at annual meetings. However, because dissatisfied internists cannot be expected to provide positive role modeling, it is vital that practicing internists mobilize their political will to advocate for an enhanced practice environment with fewer administrative hassles and improved reimbursement. Collaborative advocacy for revitalizing internal medicine by organizations representing both undergraduate and graduate medical education is likely to enhance the success of such efforts.[29,30]

Advocacy aimed at improving the quality of life for internal medicine residents should also be undertaken. Hospitals should not rely on residents to meet their patient care demands, and the new duty hours restrictions should help limit this practice, assuming that duty hours restrictions successfully reduce workload and hours while preserving educational time. Changes in resident availability and by extension the cost of care may lead some non-university based hospitals to dimin-

ish their residency program size, resulting in increased competition for residency positions. It is likely students interested in internal medicine and seeking to match in a prestigious, competitive field would view such a shift positively.

Researchers

A national study of medical students at the end of their core clerkships to clarify factors influencing career decisions and perceptions of internal medicine careers would address important questions for clerkships, medicine departments, medical schools, and internal medicine organizations. Much of the career choice literature dates from the late 1980s and 1990s, when several initiatives designed to promote primary care were implemented and the economic environment for medicine differed from today.[31] Most of the studies assessed the outcome of "number of students choosing a generalist specialty," either exclusively family medicine or the composite outcome of family medicine, general pediatrics, and general internal medicine. These factors limit the applicability of much of the literature to the present dilemma for internal medicine.

Conclusion

To enhance the attractiveness of internal medicine careers, clerkship directors can enhance the diversity of clinical experiences for students in the internal medicine rotation, develop special curricular opportunities, support interest groups, and facilitate interactions with chairs and master clinicians. However, many of the factors most salient to the career choice process are beyond the scope and control of the clerkship. More focused and efficient training paths to subspecialty internal medicine careers may attract students who are discouraged by the extended duration of residency and fellowship training. Practicing clinicians and their national organizations must address flaws in the current practice environment that create unmanageable administrative burdens, comparatively low compensation, and time demands that preclude balancing professional obligations with a satisfying personal life. Furthermore, limitations of the career choice literature call for exploration of students' decision-making through rigorously designed multi-center studies.

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