PERSPECTIVES

Clinicians, Educators, and Investigators in General Internal Medicine

Bridging the Gaps

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Financial and time pressures, disparate promotional pathways, geographic separation, and difficulty acknowledging personal fallibility can contribute to polarization of clinician-educators and investigators in general internal medicine (GIM). As a consequence, clinician-educators and investigators may fail to use their joint expertise, may encounter friction in their relationships, and may present a troubled image to trainees considering careers in GIM. We suggest specific strategies that clinician-educators, investigators, administrative leaders, and medical schools might use to foster collaboration.

KEY WORDS: collaboration; academic medical centers; medical faculty.

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General internal medicine (GIM) encompasses an increasingly diverse group of professionals, reflecting the great breadth of clinical, educational, and research activities of academic general internists. At a time of considerable stress within academic health centers, dealing equitably with the differing interests and expectations of doctors in academic medicine is difficult. As recent examples, how will GIM incorporate the burgeoning numbers of physicians focusing on hospital medicine?^{1,2} Or, as multidisciplinary “service lines” compete for resources with traditional academic divisions, where should generalists and specialists find their academic base?³

In this essay, we address the tensions between academic general internists who are primarily clinician-educators and those who focus primarily on research, using our large division of general medicine and primary care as an example. From a group of 4 full-time clinicians thirty years ago,⁴ the faculty of our division has grown to include 40 clinician-educators in primary care medicine, 5 in hospital medicine, 8 clinician-investigators, 4 non-physician investigators with doctoral degrees, 2 biostatisticians,

an ethicist, an attorney, a journalist, and a medical editor and educator, all with academic appointments. Demonstrating a phenomenon common to many growing divisions, as we have grown, professional collaboration between clinician-educators and investigators has decreased. Drawing on our experience, we outline strategies that may help foster and sustain the collegiality and collaboration that have traditionally drawn so many talented individuals to academic GIM.

POLARIZING FORCES

Many factors, in large part financial, contribute to the splintering of GIM.⁵ Growing penetration by managed care may hamper research.⁶ Indeed, academic physicians in competitive health care markets are more likely to report tension among faculty members, little contact with colleagues, and lack of knowledge about colleagues' research projects.⁷ Explicit measurement of revenue streams from clinical, educational, and research endeavors also tends to divide academic internists.⁸ Practice plan revenues in academic health centers now comprise over one third of revenues among U.S. medical schools, an impressive increase from 3% in 1960, and 16% in 1980.^{9,10} As clinical demands grow, time for other activities shrinks.¹¹

Perhaps paradoxically, the growing use of criteria for promotion that differ for investigators and clinician-educators may also divide physicians in GIM, although these criteria have helped diminish the “second class” status awarded clinician-educators in the past. Rewarded primarily for their research, investigators tend to share time primarily with other researchers, to the exclusion of educators. Likewise, guidelines for the promotion of clinician-educators, which may minimize or even abolish traditional expectations for professional publication,¹² make educators less likely to seek out researchers as collaborators. At Harvard Medical School, the academic base of our division, clinician-educators can now be promoted to Assistant Professor by “longer service” criteria, which state explicitly that no written scholarship is required.

In many medical centers, geography exacerbates the problem. In our division, most clinician-educators practice, teach, and maintain administrative offices within our ambulatory care center. Clinician-investigators practice in

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the same space, but their administrative and research offices are a full city block away. As we have grown larger, we have also grown apart from one another. "Collaborations are much easier between...people who talk to one another over lunch."¹³

Jealousy and a feeling of inequity may also hamper productive interchange. Investigators may resent financial incentives offered clinicians to enhance clinical productivity, while clinician-educators may resent the flexibility and lower clinical caseload of clinician-investigators.

Other, subtler forces divide academic internists. As surplus funds dwindle, particularly in high managed-care markets, clinician-educators hoping to conduct or collaborate in research projects face enormous hurdles in finding financial support. Few external funding opportunities exist to shelter time for work that falls naturally to clinician-educators, such as systematic reviews of important clinical topics.

Finally, acknowledging fallibility is particularly difficult for physicians.¹⁴ If investigators feel their knowledge of clinical medicine or educational tools is dated, they may be uncomfortable working with clinician-educators. Conversely, feeling ignorant about statistical or other methodological techniques needed for research may make clinicians hesitate to work collaboratively with investigators.

THE CONSEQUENCES

Why is this tendency toward polarization a problem? Clinician-educators have important insights into clinical issues and health care delivery that can spark new avenues for inquiry. Likewise, investigators may develop and document clinical findings and strategies that challenge the habits and beliefs of clinician-educators. For example, our division includes researchers expert in geriatrics, clinical ethics, obesity, and quality measurement and improvement.^{15–18} We need to share such expertise, but find it increasingly difficult to find the time, venue, and even openness to do so.

Friction develops further when administrative decisions affect investigators and educators unequally. For example, clinician-educators often seek vacation coverage for their relatively large practices from investigators with smaller clinical loads who may appear more flexible, while clinician-investigators prefer covering colleagues with smaller panel sizes similar to their own.

Such tensions may also affect how house officers view the breadth of opportunity within academic medicine. As promotional criteria force junior academic physicians quickly into educator or investigator pathways, medical residents considering a career in general medicine must define their career aspirations ever earlier. Residents deserve to see the full breadth of activities of academic internists, and as investigators become more isolated and drift from clinical and teaching arenas, they disappear as potential role models for house officers.

THE UNIQUE CHALLENGES OF HOSPITAL MEDICINE

Our division now includes a group of full-time internists practicing academic hospital medicine (hospitalists). Fully incorporating these physicians into GIM divisions, including collaboration with physicians who practice ambulatory medicine, presents unique difficulties and opportunities that challenge traditional GIM. For example, the intensive pace of hospital medicine may expose its practitioners to early burnout; a recent survey found that 38% of inpatient physicians were either burned out or at risk for burnout, despite practicing for a mean of just 3.6 years.¹⁹ In an effort to introduce variety into their role and minimize burnout, our division has set aside monthly blocks for these physicians to pursue educational or research interests. However, the periodic nature of their work limits the degree to which they can pursue longitudinal projects and emphasizes the importance of fostering collaboration between inpatient and ambulatory physicians to undertake such work. At the same time, such reliance on outpatient providers may situate physicians in hospital medicine in an ideal position to bridge gaps between traditional clinician-educators (whose clinical and teaching roles parallel those of hospitalists) and investigators (who can support the research activities of hospitalists).

STRATEGIES TOWARD COLLABORATION AND STRENGTH

Aiming for cost neutrality, we outline below several strategies that may maintain and foster cohesion within divisions of GIM (Table 1). We offer suggestions both to academic internists hoping to collaborate more effectively with their colleagues and to administrative leaders eager to foster collaboration in their departments and divisions. The list is meant to be provocative, not comprehensive, and we encourage others to share their ideas. As noted by Bolman and Deal, strategies for organizational change often include structural, relational, political, and symbolic dimensions²⁰; our suggestions encompass these dimensions to varying degrees, and this framework may spur others to identify additional suggestions.

STRATEGIES FOR ACADEMIC GENERAL INTERNISTS

Promote Each Other's Successes and Talents

Advertise, and widely. Let clinician-educators and investigators know the remarkable accomplishments of their colleagues. Publish internal newsletters about faculty activities and interests. Create promotional brochures that highlight the accomplishments of each faculty member. Circulate a biosketch of each new faculty member, stressing his or her interests and skills. Devote time in faculty meetings to discussion of clinical, educational, and research activities.

Table 1. Recommended Strategies for Encouraging Collaboration between Educators and Investigators in General Internal Medicine

For Academic Internists	For Administrative Leaders	For Medical Schools
Promote each other's successes and talents	Acknowledge the value of integrative projects	Ensure identical academic rank titles
Develop internal opportunities for peer education	Compensate equitably	Pair educators and investigators in the ambulatory clerkship
Establish designated liaisons within each group to facilitate interaction	Develop an appropriate financial incentive system	Use written scholarship as an incentive, not a requirement, for educators
Establish a mentorship program	Develop an inclusive governance structure	Redefine the trainee in academic general medicine
Encourage cross-fertilization	Recognize and reward leaders in collaboration	
Establish clinical peer review	Establish a 360° evaluation process	
Organize social activities	Hire supporting professional staff	
Protect short blocks of time with an internal title	Create centers of excellence	

Develop Internal Opportunities for Peer Education

Physicians may sometimes have greater teaching opportunities outside their own institution than inside it. Faculty with expertise on particular topics should teach their own colleagues. Prepare joint lectures, where clinician-educators discuss the management of clinical problems, and clinician-investigators discuss new research that bears on those problems. Individual divisions or departments can establish regular conferences, where all faculty present lectures in their area of interest. Disseminate the details of lectures given by division members in other settings, distributing lecture notes to those unable to attend.

To highlight and learn from the unique and complementary talents of our divisional faculty, we now set aside 1 hour weekly for a faculty conference that rotates among clinical skill sessions (led by clinician-educators), quality improvement seminars (led by educators and investigators experienced in this field), research presentations (given by clinician-investigators), and administrative meetings. This schedule explicitly encourages faculty members to share their expertise with others and offers a ready forum for collaboration.

To Facilitate Interaction, Establish Designated Liaisons within Each Group

Pair clinicians and investigators. Designate a researcher for a clinician-educator to go to with research questions, and vice versa. Then, when a researcher needs a clinical perspective for the introduction to a manuscript, or a clinician-educator wants to determine the feasibility of a study, the liaison can point to the specific faculty member best suited to collaborate. Explicitly designating liaisons may overcome a natural reticence to "bother" busy colleagues.

Establish a Mentorship Program

Mentorship is a crucial part of career development, but many junior faculty members do not have a current mentor.²¹ We encourage senior faculty members to serve as mentors for more junior colleagues. Such mentors can shepherd junior faculty through the promotion process and help them to identify opportunities for collaboration. Mentors also identify strengths and weaknesses in junior faculty curricula vitae and propose strategies to strengthen and diversify their scholarly work.

Encourage Cross-fertilization

Invite clinician-educators to research conferences, and clinician-investigators to teaching seminars. Much as varied faculty are assigned to teach on inpatient wards to ensure broad representation, assign investigators to clinical conferences, and educators to research meetings. Create internal peer review committees, where investigators and educators review each other's work prior to submission for publication. Authors and reviewers can learn from one another, gain perspective and experience in reviewing, and improve opportunities for collaboration.

Establish Clinical Peer Review

Regardless of time pressures, academic internists should undertake clinical peer review.²² This process should include clinician-educators, investigators, medical house officers, and other clinical staff. Physicians, regardless of standing, should review representative patient charts of their colleagues, offer advice on clinical care, and learn of variations in practice. In addition to fostering clinical interaction among all members of a division, this process may have valuable risk management implications.

Organize Social Activities

If collaborations are easier over lunch, dinner should facilitate them even more. Organize social functions, where individuals can interact informally. While raising morale and fostering a sense of identity, social activities also encourage colleagues with little regular contact to restore old relationships and build new ones.

Tithe Themselves

Given current financial constraints, unsupported protected time for clinician-educators appears an unaffordable luxury. Members of our division have occasionally taken 1- to 2-week "sabbaticals" devoted to scholarly pursuits, during which they cancel clinical and teaching responsibilities and make up missed sessions at other times. However, this approach is haphazard and strains an already busy schedule. Instead, consider an internal tax, in which each faculty member agrees to a small cut in salary in exchange for a short, uninterrupted yearly hiatus to pursue academic interests. Over time, this tax would become standard, as incoming faculty members assume starting salaries and job descriptions that include this protected period and prorated income. We recognize the financial implications of this proposal for individuals and push for moonlighting opportunities to reclaim lost salary. Nonetheless, if we are to remain academic internists—rather than physicians whose practice happens to reside at a teaching hospital—we must continue to press for an academic agenda that includes time to pursue innovations in practice management, teaching, and clinical care.

STRATEGIES FOR ADMINISTRATIVE LEADERS

Acknowledge the Value of Integrative Projects

Place funding for projects that involve "cross-pollination" high on the list of divisional priorities. Failure to set aside money for innovative internal ideas means that every other item in the budget is more important. Consider creative funding sources (unrestricted pharmaceutical grants, risk management organizations) to support such integrative projects as systematic reviews, courses and workshops for national meetings, or rigorous evaluations of divisional policies. Organize divisional retreats, where collaborative problem-solving can occur free of time pressure. Where teaching funds exist, devote a portion to foster scholarly writing by clinician-educators.

Compensate Equitably

Decisions affecting individual levels of compensation may have the most widespread consequences of all. We propose that all members of GIM divisions be compensated according to explicit, transparent criteria known to each member of the division. Differences among those in different academic tracks should be minimized or, ideally, abolished. Initial base salary should reflect years from

training. Increases in base salary should reflect academic and clinical productivity. Academic productivity should use academic rank as the principal proxy. In our division, promotion carries an immediate 10% to 15% increase in base pay at each step.

The guiding principle is that clinician-educators and investigators receive equal salaries for equal seniority, clinical, teaching and research productivity, and administrative responsibilities. To accomplish this, the division chief attempts to view revenues as fungible, to the degree regulatory and granting agencies permit. Thus, the researcher whose grant is not renewed does not earn less, and the individual who brings in a large new grant is not paid more. The sense of equity that results is reassuring, breeds confidence and mutual trust, and, we would argue, is invaluable for collaboration.

Develop an Appropriate Financial Incentive System

In addition to base compensation, academic medicine has the opportunity to reward desirable activities financially. If chosen wisely, these incentives may foster collaboration (and limit jealousy) by providing similar incentives for teachers, clinicians, and investigators. Clinical goals include panel size, quality of care, and productivity, adjusted for severity.^{23,24} In our division, we reward clinical productivity with a complex metric reflecting panel size, new and repeat visit volume, and admissions and inpatient consultations, which serve as a proxy for the severity of illness of a patient panel. Our incentive system also includes incentives for the panel size and volume of visits of house staff whose patients are "co-managed" by individual faculty members. Additionally, teaching activities to be rewarded include inpatient and outpatient attending, continuing medical educational lectures, and royalties for appropriate patient education or textbook projects.

Research incentives can include base salary increases tied to academic promotion, royalties for new technology, and bonuses for research presentations or papers. Such incentives also encourage clinician-educators to seek research projects, even if little protected time is available. This process should include reasonable goals based on the investigator's stage of career development. For junior investigators, research incentives may include submission (rather than acceptance) of appropriate research grants, abstracts presented at national meetings, and the number of first-author papers. Conversely, senior investigators could be rewarded for their number of trainees, or the number and citation impact of papers generated by their work.

Develop an Inclusive Governance Structure

As leaders of academic medicine, division heads should model the ideal of collaboration and participatory management.²⁵ Create governing committees comprised of clinician-educators and investigators. Ensuring that the composition of leadership is diverse and representative

reassures individual physicians that their concerns and aspirations will be heeded. Consider adding junior faculty to the principal leadership committee. Distribute minutes from committee meetings to all faculty members.

Recognize and Reward Leaders in Collaboration

Designate specific titles and financial rewards for individuals who bridge gaps among faculty members. Faculty with significant leadership and administrative responsibilities, whether clinical, educational, or investigative, should be compensated accordingly. For example, when the director of our fellowship program proved to be an outstanding collaborator with junior faculty and clinician-educators, he was appointed Director of Research for the division and given an increase in base pay. Such recognition has important symbolic implications, even if no salary increase accompanies it.

Establish a 360° Evaluation Process

Performance evaluations are frequently inconsistent and haphazard in academic medicine. To correct this, solicit feedback on every faculty member from individuals linked to him or her in every direction (i.e., in all 360°)—supervisors, colleagues, and students.²⁶ Such feedback is likely to be more useful and accurate than traditional evaluations from senior leadership. Moreover, one can explicitly promote collaboration by expanding the circle of an individual's peers to include both clinician-educators and investigators.

Hire Supporting Professional Staff

When resources permit, divisions of GIM should hire staff with expertise in nonclinical aspects of medicine to promote professional development and integrative projects. For example, a devoted research coordinator can improve academic productivity.²⁷ Our division is now large enough to support 2 dedicated biostatisticians and a medical editor who collaborate with clinician-educators and investigators on research²⁸ and educational projects.²⁹

Using dedicated professionals to cultivate academic skills need not rest at the divisional level. At our institution, the hospital system and medical school have collaboratively formed an on-site educational institute.³⁰ Open to investigators and educators alike, this institute provides ongoing faculty development classes in teaching, public speaking, grant preparation, and statistical methods. Where divisional resources may be limited, we encourage administrative leaders to seek wider institutional backing for such a model, because it benefits academic faculty from every department.

Create Centers of Excellence

Although a great allure of GIM is its inclusive nature, fragmentation by parallel job descriptions could paradoxically be improved by specialization. Borrowing from similar

issues facing cardiology,³ we imagine that administrative leaders could develop centers of excellence within the division—"service lines" staffed by educators and investigators devoted to specific clinical and/or research issues. For example, our division has rich clinical experience in managing patients infected with HIV,³¹ which in turn has helped our clinician-investigators to identify potential ways to improve the care of these patients,^{32,33} creating a powerful academic synergy. In the extreme, division chiefs could choose faculty candidates specifically on the basis of their ability to link with others to bolster existing areas of concentration or create new ones, although such selection could limit the diversity of the division. These endeavors could also build bridges to other specialties; for example, we now have seamless integration of primary care clinicians and infectious disease specialists in our practice devoted to the care of patients infected with HIV.

HARNESSING THE MEDICAL SCHOOL AS A COLLABORATIVE BRIDGE

Although we believe individual internists and administrative leaders can effectively bridge gaps among academic internists with disparate interests and skills, we see the medical school as a powerful tool for fostering further collaboration.

Ensure Identical Academic Rank Titles for Educators and Investigators

Although academic promotion of clinician-educators has improved in recent years, some medical schools have retained subtle differences in title to distinguish between educators and investigators. For example, Harvard Medical School only recently abolished professorial titles that differed for faculty promoted by clinician-scholar criteria and clinician-investigator criteria. Such insidious nomenclature implies a caste system entirely incompatible with the goal of collaboration and should be eliminated.

Revise the Ambulatory Clerkship Model

In our institution, third-year medical students on their ambulatory clerkship see outpatients during a series of clinical sessions with a single practicing faculty member responsible for their evaluation, with supplementary conferences and lectures. This model exists in similar format at many medical schools. Akin to our suggestion that educators and investigators prepare joint lectures on the clinical and research aspects of particular health problems, we propose a revised model for the ambulatory clerkship. Pair clinician-educators responsible for the evaluation of students' clinical skills with researchers who oversee an overlapping curriculum on research approaches and opportunities in GIM. In this way, students gain familiarity with both the educational and investigational opportunities in GIM, experience that

could attract even more students to the field. At the same time, dual responsibility for evaluation requires educators and investigators to work together in pairs to create individualized curricula and appraise students meaningfully. Where divisions of GIM do not have similar numbers of educators and investigators for pairing, this model provides an ideal opportunity for collaboration outside of divisional boundaries.

Create Explicit Promotional Incentives for Educators to Write

Although recognition for fine clinical practice and education as valuable academic endeavors in and of themselves is important, written scholarship remains a valuable bridge among academic internists. We encourage medical schools to create promotional criteria for clinician-educators that may not universally require written scholarship, but that do contain explicit incentives to foster such work. For example, the 10-year period required for promotion by the longer-service criteria of Harvard Medical School might be shortened to 6 years by a defined number of first-authored reviews or co-authored original papers. Despite understandable reluctance to reward authorship in simple quantitative terms, incentives with ambiguous requirements are less likely to change behavior. Treatment of written scholarship as an incentive, rather than a requirement, may best fulfill the needs of educators and their divisions.

Redefine the Trainee in Academic General Medicine

For promotion to full (and in some cases associate) professor, investigators typically must demonstrate successful training of junior researchers, including their advancement to research independence. In GIM, residents and general medicine fellows commonly and appropriately serve as the recipients of this training, but this definition too narrowly limits the scope of training and collaboration that investigators in GIM should pursue. If investigators convince clinician-educators who otherwise would not undertake written scholarship to join them in academic projects, medical schools should acknowledge such collaboration as a form of training and reward investigators accordingly. Under this scenario, investigators will be strongly motivated to seek out collaborators among their colleagues with similar interests, benefiting researcher and educator alike.

CONCLUSIONS

Despite multiplying constraints, divisions of GIM continue to grow. Their sheer size hinders faculty members from developing close relationships with one another. Separate job descriptions and promotional tracks for educators and investigators can polarize academic internists even further. Drawing on our experience, we propose

specific means for educators, investigators, and administrative leaders in GIM to improve collaboration and minimize polarization. We encourage division members to recognize that remaining closely involved with one another can be difficult and to search actively for strategies to do so. We have a lot to lose if we grow apart.

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