Do General Internal Medicine Fellows Find Jobs That Match Their Training?

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We surveyed employers of general internists at teaching hospitals to determine whether they prefer that new hires are graduates of general internal medicine (GIM) fellowships. We surveyed former GIM fellows who graduated between 1988 and 1994 to determine whether they found jobs with protected research time and whether the positions they found matched their expectations. Employers rated a GIM fellowship, among other criteria, as important for clinician-researchers, but not for clinician-educators. For graduates categorized as clinician-researchers (with more than 33% of their time protected for research), there was a good match between their actual time allocations for research and clinical work and what they recalled their expectations were when looking for a job. Clinician-educators had a marked discordance between actual time allocations for research and clinical work and their recollection of their expectations when looking for a job.

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Fellowship programs in general internal medicine (GIM) have the goal of producing graduates who will be competitive for teaching and research positions in teaching hospitals. However, we have observed that current and recent GIM fellows are finding few positions at teaching hospitals that have protected time for unfunded new faculty members to develop a research career. Moreover, as teaching hospitals expand the number of clinical general internists they employ, fellowship research preparation may be less valuable than advanced teaching and clinical skills, particularly for those fellows competing for clinician-educator positions.

Because of the changes that have occurred in the structure of academic health centers and the delivery and financing of health care, we hypothesized that a GIM fellowship might not be an important factor to those recruiting general internists in teaching hospitals. Other hypotheses were that most recent graduates of GIM fellowships have jobs with little protected research time and that their current positions have more clinical and less research

time than they expected to find after fellowship. To test these hypotheses, we surveyed senior faculty likely to be recruiting general internists and recent graduates of GIM fellowships.

METHODS

Employers' Survey

We mailed a 20-question survey in June 1995 to employers of general internists at teaching hospitals throughout the country, including chairs of departments of medicine, chiefs of medicine at hospitals affiliated with residency programs, and chiefs of GIM sections. Two subsequent mailings were made at 5-week intervals to the nonrespondents. To identify the employers, we used the directories of the Society of General Internal Medicine (SGIM), the Association of Program Directors in Internal Medicine, the Association of Professors of Medicine, and the American Medical Association (AMA) Directory of Graduate Medical Education (GME) Programs. We used the following definitions in our survey: *clinician-educators* are "general internists who spend a large amount of their time in direct patient care and teaching, with very little funded scholarly time;" *clinician-researchers* are "general internists who are expected to spend a substantial amount of their time conducting research, with some time in direct patient care and teaching; promotion is dependent on success in research activities." We asked questions about potential job descriptions for both clinician-educators and clinician-researchers and about preferred background of prospective employees.

Graduates' Survey

To identify the GIM fellowship graduates, we contacted all program directors listed in the four most recent SGIM directories of primary care fellowship programs and the 1995 Directory of Training Programs in Internal Medicine, compiled by the National Study of Internal Medicine Manpower and the Center for Health Administration Studies. Of the 89 programs we identified, 12 were no longer in existence. We sent letters to all program directors in January 1995 asking for the names, current addresses, and places of employment of all fellowship graduates from 1988 through 1994. We sent two subsequent letters by mail and two by facsimile, and made one telephone call to each nonrespondent. One program director would not identify his graduates. Overall, 59 (77%) of the 77 program directors responded, identifying 513 graduates.

We mailed a 24-question survey beginning June 1995 to the 513 graduates after it was pilot-tested with current

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and former fellowship graduates not eligible for the study. We asked graduates about percentage of time spent in research, outpatient care, teaching, inpatient care, and administration during their fellowships and in their current positions, and we asked what they had expected in their first job. When graduates failed to complete the first survey, we repeated the mailings twice at 5-week intervals.

Statistical Methods

Descriptive statistics, including standard deviations and means, were calculated using the SPSS statistical program (SPSS Inc., Chicago, Ill., 1995). Paired Student's *t* tests were used to compare responses of employers regarding preferred backgrounds of and time allocations in various activities by clinician-researchers versus clinician-educators and responses of graduates regarding how time is spent. Results are presented as means.

RESULTS

Employers' Survey

We mailed 1,091 surveys; 475 (43%) were returned. Of the 418 internal medicine programs listed in the AMA directory of GME programs, we received responses from 279 (67%). We received surveys from more than one individual in 70% of GME programs: for example, the chair of the medical school department of medicine and the chief of medicine at an affiliated Department of Veterans Affairs (VA) hospital may have both completed the survey. Our results reflect all responses received. Of the respondents, 30% described themselves as department chairs, 30% as general medicine section heads, 12% as chiefs of VA medical services, 11% as chiefs of departments of medicine, and 5% as internal medicine residency program directors. The remaining 12% included directors, codirectors, assistant chiefs of divisions and clinics, and others.

The survey asked potential employers which factors would influence their choice of candidates; answer options were in the form of a Likert-type scale with three choices: "would not affect my decision to hire," "probably prefer a candidate with this experience," and "definitely prefer a candidate with this experience." Figure 1 represents employers who chose the latter option. A large percentage of employers definitely preferred candidates for clinician-researcher positions to have had a successful record of funding for research (82%), completion of the GIM fellowship (77%), and experience as a faculty member in an academic setting (60%); employers preferred these characteristics far more often for clinician-researchers than for clinician-educators ($p < .001$). Fewer than half of the employers definitely preferred clinician-educators to have any of the listed experiences of note. Although preference for primary care experience (41%) and chief residents (27%) were seen as more important for clinician-educators

than for clinician-researchers, only 32% definitely preferred clinician-educators to have had a GIM fellowship.

Employers estimated their expectations for the time allocations of clinician-educators and clinician-researchers they would be hiring. For clinician-researchers, employers estimated a mean ($\pm$ SD) time of 52% ($\pm$ 18%) for research and related activities, 19% ($\pm$ 12%) for outpatient care, 16% ($\pm$ 9%) for teaching, 9% ($\pm$ 6%) for inpatient care, and 3% ($\pm$ 4%) for administration. For clinician-educators, employers estimated 7% ($\pm$ 10%) time for research and related activities, 44% ($\pm$ 20%) for outpatient care, 28% ($\pm$ 14%) for teaching, 16% ($\pm$ 11%) for inpatient care, and 5% ($\pm$ 5%) for administration. The differences between employers' time expectations for clinician-researchers and for clinician-educators were significant ($p < .001$) for all categories except administration.

Graduates' Survey

We received responses from 301 (59%) of the 513 identified fellowship graduates. Of the fellowship graduates who returned the survey, 253 (84%) met the study criteria; all excluded surveys were from respondents who did not graduate during the years of 1988–1994.

According to the results of our surveys, we divided graduates into two groups by their current research time. In the employers' survey, the mean ($\pm$ SD) projected research time allocation for clinician-educators was 7% ($\pm$ 10%), and for clinician-researchers, 52% ($\pm$ 18%). In our analysis of the graduates' surveys, we found a bimodal distribution of the reported research time in current positions; there were 108 graduates with 0% to 10% research time and 84 graduates with 40% to 70% research time. We therefore defined graduates with less than 33% research time in their current position as clinician-educators and graduates with more than 33% as clinician-researchers. This division point was well removed from both modes, and was more than 2 SD above the mean amount of research time employers expected for clinician-educators. Of the 253 eligible respondents, we classified 152 (60%) as clinician-educators, and 101 (40%) as clinician-researchers.

Graduates estimated the amount of time they spent in research, teaching, outpatient and inpatient care, and administration in their fellowships and in their current jobs; they also estimated their recollections of what they expected their time distribution to be in their postfellowship positions (Table 1). There was a close match among the clinician-researchers' estimates of time allocations in their training, their expectations when looking for a job, and their current positions. Clinician-educators' estimates of time allocations in their fellowships did not match their expectations, especially for research and outpatient care. Similarly, their expectations did not match their current jobs. The differences between the expected and actual time distribution for clinician-educators were significant for every category except inpatient care.

FIGURE 1. Preferences of employers for past experiences among candidates for clinician-researcher (CR) and clinician-educator (CE) positions. *Indicates $p < .001$ between employers' preferences for the experience of clinician-researcher versus clinician-educator.

DISCUSSION

The employers' responses provide a working definition for the terms *clinician-educator* and *clinician-researcher*; they estimated that clinician-educators would

spend 7% of their time in research activities, 44% in outpatient practice, and 28% in teaching, while clinician-researchers would spend an average of 52% of their time in research activities, 19% in outpatient practice, and 16% in teaching. Fellowship graduates' self-reported job

Table 1. Average Time Distributions (% of Total Time) for Clinician-Researchers and Clinician-Educators During Their Fellowships and Current (Actual) Jobs, and the Time Distributions They Expected

Job Component	Clinician-Researchers			Clinician-Educators		
	Fellowship, %	Expected, %	Actual, %	Fellowship, %	Expected, %	Actual, %
Research*	68	59	57	44	25	9
Outpatient care*	13	16	17	21	32	42
Teaching†	10	15	12	18	22	18
Inpatient care	4	7	6	8	12	14
Administration†	1	2	7	2	5	14

* $p < .001$ for comparison between expected and actual time distributions for clinician-educators.

† $p < .001$ for comparison between expected and actual time distributions for both clinician-educators and clinician-researchers.

descriptions did correlate with those supplied by the employers for both clinician-educators and clinician-researchers. The job description for clinician-educators in our study does not differ much from that in a 1979 study by Friedman and colleagues, who found that faculty in GIM divisions spent on average 48% of their time in clinical practice, 31% in teaching, and 9% in research.¹

A series of articles published in the past 10 years stressed the importance of developing research careers for academic generalists²⁻⁵; however, potential employers in our study were clearly hiring most clinician-educators to treat patients and teach residents and were not expecting research productivity. A study by Beasley and colleagues emphasizes that for clinician-educators, there is minimal expectation for research productivity, but peer-reviewed publication is a basis for promotion.⁶ Our study would support the fact that clinician-educators must accomplish this with minimal protected time.

Graduates who are clinician-educators had expected to find jobs with more research time and less clinical time than their current positions; in contrast, the expectations of graduates who are clinician-researchers closely matched their actual positions. Because each group of graduates was actually doing what the employers estimated they would be doing, there are a number of questions one could ask to discover the reasons clinician-educators did not find the degree of protected time they expected, and the impact, if any, on job satisfaction.

Another focus of future research could be to ask if GIM fellowship programs meet the needs of most fellows. We have no evidence that fellows who become clinician-educators feel that their time in fellowships was wasted or that their curriculum should have had less emphasis on research. However, in a survey of 288 former and current GIM fellows, Orlander and Callahan found that, of nine high-priority curricular items, fellows reported inadequate emphasis on ambulatory medicine, teaching skills, medical consultation, and office procedures, and adequate emphasis on research methodology, biostatistics, epidemiology, and decision analysis.⁷

Our study has several limitations. Because accreditation for general medicine fellowships is not required, names and addresses of some GIM fellowship programs and former fellows were hard to find, and our list of programs and graduates was incomplete. Similarly, we may not have identified all of the chiefs of departments of medicine and divisions of general medicine who were likely to be

hiring general internists. Moreover, among both groups, response rates, although respectable, were less than 100%.

The results of our study suggest that general internists who are contemplating or beginning GIM fellowships should have their ultimate goals clearly in mind. Those planning to be clinician-educators should bear in mind that potential future employers judged graduation from a prestigious residency and primary care experience as more important than a GIM fellowship. This is vastly different from the findings of Friedman and Pozen's study in 1985, in which 91% of potential employees valued completion of a GIM fellowship.⁴ Those who want to pursue careers as clinician-educators and will complete fellowships may benefit from more preparation in teaching and ambulatory medicine. For those planning to be clinician-researchers, potential future employers strongly preferred fellowship training. As some fellowship programs have done, it may make sense to train fellows for clinician-educator careers in abbreviated fellowships and to train clinician-researchers in extended programs that will provide several years of protected time to increase the likelihood of both recruitment and future funding.

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