What Influences Career Choices Among Graduates of a Primary Care Training Program?

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OBJECTIVE: To identify factors that influence primary care residents to become generalists or specialists.

DESIGN: Structured survey and interview.

SETTING: A large university-based, internal medicine residency program in primary care.

PARTICIPANTS: Of 92 residency graduates who completed training between 1979 and 1993, 88 (96%) participated.

MAIN RESULTS: Although 82% of the participating graduates reported themselves very committed to primary care at the beginning of residency, only 68% pursued generalist careers. Factors influencing career choice that were more important to generalists than specialists included breadth of knowledge used in primary care practice ($p = .04$), breadth of clinical problems in practice ($p = .001$), and opportunity for continuity of care ($p = .01$). Although salary was rated "not important," 50% of generalists and specialists advocated increased salaries for generalists as a way to increase interest in primary care. Other promoting factors included mentors, increased prestige for generalists, community-based training, lifestyle changes, and decreased paperwork. Seventy-three percent of participants felt it was easier to be a specialist than a generalist.

CONCLUSIONS: A substantial minority of primary care residents pursue specialty careers. To produce more generalists, graduates recommend addressing income inequities, providing generalist role models, increasing community-based teaching, and increasing prestige for generalists.

KEY WORDS: career choice; primary care; residents; generalists; role models.

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Despite recent interest in primary care, 43% of internal medicine residents enter subspecialty fellowships directly after residency and nearly 60% eventually specialize.¹ Proposed strategies to redirect medical education toward primary care include increasing ambulatory and community-based training, reducing subspecialty fellowship positions,² creating financial incentives, and changing medical school admissions criteria.^{3,4} Although these recommendations make intuitive sense, there are no data concerning the major factors influencing residency graduates to pursue generalist or specialist ca-

reers. The goal of this study was to identify the factors that motivate graduates of a large university-based, internal medicine training program in primary care to pursue generalist or subspecialty careers.

METHODS

The University of Washington Internal Medicine Primary Care Track began in 1977 in an effort to produce more generalist physicians. Of the 92 graduates of the Primary Care Track who completed residency training between 1979 and 1993 (the first 14 years of residents), 88 completed a structured, mailed survey and a semistructured telephone interview. Topics addressed in the survey and interview were developed from review of the literature.⁵⁻⁹ Qualitative data were obtained to support and enrich quantitative data. The primary care track differs from the traditional track in focus, content, and originally in on-call scheduling, but these differences decreased somewhat during the study period: primary care residents originally had more ambulatory clinic time but fewer on-call months, intensive care months, and subspecialty electives.

We defined specialists as those who had accepted or completed a specialty fellowship or another residency (i.e., dermatology) at the time of their survey and interview completion. Physicians with fellowship training in occupational medicine or geriatrics were considered specialists, while those who completed fellowships in general internal medicine, epidemiology, or public health were counted as generalists.

Nonparametric statistics were used for all analyses. Likert scale responses were on 5-point scales. The Mann-Whitney U test was used to test median scale response for generalists and specialists. The χ^2 test was used to assess differences in dichotomous responses. Statistical significance was set at $p < .05$.

Field notes were taken during all interviews. Fifty interviews (57%) were taped and transcribed. The remaining 38 interviews were not audiotaped because permission was denied ($n = 6$) or telephone equipment did not allow taping ($n = 32$). After initial review, a coding scheme was developed and all interview data were scored by one author (DED). Independent coding of 10 interviews by another author (WB) resulted in an initial concordance of 72% with 100% concordance after review of disagreements.

RESULTS

Survey Results

Of all study subjects, 68% remained generalists. Generalists and specialists did not differ by age, gender, working hours, patient load, or administrative hours.

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Growing up in a rural area (population $\leq 30,000$) was also not associated with career choice.

Forty percent of graduates are pursuing academic careers, 37% are in private practice, and 10% practice in HMOs. Figure 1 shows an increasing proportion of graduates pursuing generalist careers over time ($p < .04$). Generalists spend 80% of their time in primary care activities (vs 5% for specialists, $p < .001$), and 88% of generalist and 32% of specialist graduates consider themselves to be "primary care physicians" ($p < .0001$).

Three characteristics of clinical practice were rated "very important" in career decision making: breadth of knowledge or skills required, breadth of clinical problems addressed in practice, and opportunity for continuity care. These characteristics were significantly more important to respondents who chose primary care careers than to those who became specialists (Table 1). Mentors were rated as more important in career choice decisions by specialists than generalists ($p = .04$). Salary was identified as "not important" for the majority of graduates. Although 51% of our graduates had participated in community or rural ambulatory experiences (see interview results below), participation was not associated with becoming a generalist.

We asked how committed subjects were to primary care when they began their residency; the median score on a 5-point Likert scale (1 = very much; 5 = not at all) was 1.0, with 82% reporting 1 or 2. There was no difference between generalists and specialists in their reported prior commitment to primary care.

Interview Results

Graduates were asked a series of open-ended questions about the reasons for their career choices, how to encourage future graduates to choose primary care, and how they viewed generalist and specialist careers. When asked what changes might encourage physicians to pur-

Graduate Career Choices

FIGURE 1. Graduate career choices.

sue primary care (Table 2), several graduates suggested better "publicity," saying "students haven't heard about primary care internal medicine." Practitioners overwhelmingly identified the "imbalance in prestige and financial rewards" as a major issue.

The need for better salaries for generalists was mentioned by 50% (57% of specialists vs 48% of generalists). One physician said, "People in primary care medicine are undercompensated. If compensation was readjusted, I think you'd find a lot fewer gastroenterologists and cardiologists." Participants also recommended "equitable pay" for working in underserved areas.

When asked about mentors or key experiences that influenced their career choices, 78% of our graduates identified a mentor and 33% identified an experience (i.e., training with a community physician). Twenty-four percent of our graduates mentioned experiences that steered them away from primary care (i.e., faculty biased against generalism) with no difference between generalists and

Table 1. Physician Ratings of the Importance of Practice Factors in the Decision to Practice Primary Care Medicine or Specialize on a 5-Point Likert Scale*

Factors	All Subjects Median† (n = 88)	Generalists Median† (n = 60)	Specialists Median† (n = 28)	Generalist vs Specialist p Value‡
Preferred location	3.0	3.0	3.0	.62
Salary	4.0	4.0	4.5	.26
Working hours	3.0	3.0	3.0	.35
Time for family	2.0	2.0	2.0	.75
Breadth of knowledge/skills required	2.0	2.0	2.5	.04
Breadth of clinical problems addressed in practice	2.0	1.5	2.0	.001
Mentors	3.0	3.0	2.0	.02
Opportunity for continuity of care	1.0	1.0	2.0	.01

*Survey question: What role did the following factors play in your decision about whether or not to practice primary care medicine? Answers: 1 = very important; 3 = somewhat important; 5 = not at all important.

†Range for all values = 1–5.

‡Mann-Whitney U test.

Table 2. Changes to Encourage Primary Care Careers, Identified by Primary Care Internal Medicine Graduates in Semistructured Interviews*

Change	All, % (n = 88)	Generalists, % (n = 60)	Specialists, % (n = 28)
Better salaries	50	48	57
Improve status/ opportunity	28	27	36
"Real world"/ community experience	26	25	29
Good role models	17	23	4
Lifestyle changes [†]	14	13	14
Decrease hassle	13	12	11
Change training [‡]	11	12	7
Major policy changes (government)	9	7	11
Other	8	8	7

*Interview question: What changes do you feel might encourage people to pursue primary care?

[†]Lifestyle changes mentioned included decreased working hours, more control over time and working hours, more part-time opportunities, and more control over on-call schedules and calls at home.

[‡]Increase clinic time, balanced exposure to primary care (i.e., not less competent or intelligent than specialists), increase number of primary care residency spots, increase length of primary care training to provide increased competencies.

specialists. One respondent said, "The physician-scientist model has done a lot of wonderful things for biomedical research, but as we've entered an age of hypertechnology, I think it's become disproportionately valued in medical school." Other comments regarding mentors and role models included: "People don't come in often and say 'I'm going to be a generalist,' it's a decision of exclusion . . . and there aren't enough role models who are proponents of generalism"; "We need strong role models with pride in what they do. Generalists are looked down upon and the question is always 'Can't you get a fellowship?'"

Mentors' attitudes regarding generalism and primary care may be more important than their specialty. A third of generalists cited specialist role models who encouraged them toward generalist careers. These specialist role models were physicians with part-time primary care practices who, by both example and attitude, were effective generalist mentors. Ironically, some specialists cited the ability of their specialist role models to "serve as primary doctors for their patients" as the reason they pursued that subspecialty.

Generalist and specialist graduates expressed concern that the "hassles of primary care" and lifestyle issues steer graduates away from generalism. For example: "I think you would just go nuts between paperwork and authorizations. If all my patients were [managed care], I think I would quit." As one physician who had practiced primary care but went on to specialty practice explained, "I liked getting to know my patients and I really miss that

end of things. [But] now I have better control over my life. I'm not as busy and hassled and harried . . ."

Consistent with results from the survey, graduates said that general medicine is a daunting prospect for trainees. One said, "I don't honestly think that after 3 years of residency anybody really feels prepared to be a general internist . . . I knew that I would get good at it, but . . . I'm afraid that we scare people out of it." Generalists felt that more residency training in primary care skills (orthopedics, gynecology, and outpatient procedures) would increase graduates' confidence in their preparation for primary care practice.

Seventy-three percent of graduates thought it would be easier to be a specialist than a generalist; only 3% felt it would be easier to be a generalist. In explanation, subjects cited the ability in specialty practice to have problems "well-framed," to "be the expert," and to gain mastery over a smaller core of knowledge, as well as the uncertainty inherent in general medicine. Many expressed variations of one physician's opinion that, "It's easier to be a specialist because there's a smaller area of expertise and one can happily and guiltlessly ignore all other problems." Ten percent of respondents said that "narrow" specialty practice might be "boring."

The difficulties of the managed care era were also at the forefront. One graduate said, "There has to be a change in the narrow view of productivity. It is impossible in 12 minutes, with a general medicine patient who has more than a single chronic illness, to diagnose and treat them, make sure their health maintenance is up to par, be supportive, warm, and cost-effective . . . and finish the paperwork." Another generalist who subsequently became a specialist noted, "Having worn both hats, being a generalist is an order of magnitude more difficult. In a subspecialty you [spend] far less time dealing with social and behavioral issues, which are very important and vastly more difficult. Also, as a generalist, you deal with nonspecific signs and symptoms."

DISCUSSION

Seventy-two percent of primary care residents from our program (68% of study participants) have become generalists. Numbers calculated at residency graduation overestimate the number of generalists because many graduates work in generalist positions before pursuing specialist careers.¹ If we count 11 (13%) of our graduates who became specialists after generalist practice as generalists, 82% of our residency graduates became generalists immediately after residency.

Factors that were most important to graduates' choice of a generalist career included continuity of care and the breadth of both knowledge and clinical experience. In contrast to studies on medical students,^{5,7,8,10-16} gender, rural origin, and having done a rural clerkship or rotation did not significantly affect our graduates' career choices, suggesting that these factors are less important once trainees

have entered a primary care residency. Our study also showed that some factors identified by medical students as decreasing interest in general internal medicine (income disparities, lifestyle issues, the "hassle factor," and the lack of prestige for general internists)^{3,17-20} remained important to primary care residency graduates. We also found that the paperwork and "hassles" specifically associated with managed care reduced the appeal of generalist careers. Medical students view internal medicine as "more stressful and demanding and as less satisfying and rewarding" than other fields.¹⁹ Our data suggest these observations apply even more so to generalist careers in internal medicine.

Career choice is an ongoing process, and residency offers an important window of opportunity for influencing physicians' career decisions. One survey found that 70% of residency graduates made changes in their career plans regarding general versus subspecialty practice after medical school and 41% made final decisions during residency.⁶ Although career choices among students assessed during medical school do not appear to be predictable or stable,⁸ our data are consistent with studies showing that primary care versus non-primary-care choices are stable 70% to 80% of the time.^{11,12}

Many respondents, particularly those who specialized, reported negative experiences with role models that led them to specialty careers. Because generalists tend to underestimate (and thus fail to encourage) students' interest in primary care,²¹ our observations speak to the importance of credible, positive generalist role models (either capable, satisfied generalists or specialists who value primary care) and to the powerful effect of negative experiences.

The proportion of graduates remaining in primary care increased over time in our program. This trend has continued: since completion of the study, 23 (85%) of 27 graduates have chosen generalist careers. We believe this trend is primarily associated with the increase, over the past decade, in the number of generalist faculty and opportunities for community and rural training present in our institution, as in many others, and more recently, with current market forces.²² These changes have been gradual, and we can only speculate that they are related. Over the 14 years of graduates included in our sample, the primary care and traditional tracks converged somewhat, with an increasing emphasis on clinic rotations and less on-call duty for traditional residents. We predict these changes should decrease selection of the primary care track by those interested only in less on-call duty, and thus would perhaps contribute to an increasing number of residents selecting generalist careers.

Generalist graduates expressed preferences for breadth of knowledge and experience but also expressed the idea that generalist practice was more difficult than specialty practice, because of a less-defined knowledge base and more uncertainty. Our graduates wanted increased training in outpatient skills and procedures. An increased sense of competence and perceived ability to manage the breadth of generalist practice may encourage generalist career choices.

The major limitation of this study is that it represents subjects from a single, university-based internal medicine residency. These results may not be generalizable, especially to community-based programs. The number of generalists and specialists noted at graduation from residency may be skewed toward more generalists because some residents practice as generalists for a few years before beginning specialty fellowships. Three generalist graduates specialized after participation in this study (Table 3). This would slightly decrease our final percentage of physicians who remain generalists from 68% to 65%. Studies on career choice that use graduation questionnaires have sampled subjects from a 1-year cohort. Because our sample included 10 years of graduates, we were able to identify those who originally were interested in, or perhaps at least undecided about, primary care careers but changed to specialty careers. This change represents an important problem in the effort to encourage physicians to remain generalists. The resultant bias would decrease the chance of finding characteristics that would make residents more likely to become generalists. This, combined with our conservative definition of generalism (Table 3) and the lack of a control group from our traditional track residency, means that some factors we studied might contribute significantly to career choice, but that we failed to identify them because of our conservative approach. Approximately 75% of our traditional graduates over the same time frame have specialized, but we did not study career choices in these individuals. The majority of these residents became specialists. As traditional track residents were more inclined to choose specialty careers, it would be interesting to ask those who chose generalist careers what motivated them to do so. Graduates' self-reported reasons for their generalist or specialist choices formed the basis for our findings; we cannot examine reasons other than those recognized and reported.

Understanding the factors that encourage physicians to choose generalist careers can help us improve the generalist-specialist ratio in the United States. Further research should follow long-term career pathways and examine specialists who practice "primary care." How to

Table 3. Specialties Chosen by Graduates Who Specialized* (n = 28)

Specialty	n
Medicine subspecialties [†]	18
Occupational medicine	4
Geriatrics	2
Other residencies [‡]	4

*Three graduates specialized after participating in the study; one did a pulmonary fellowship, one entered a dermatology residency, and one entered an emergency medicine residency.

[†]Includes infectious diseases, cardiology, nephrology, endocrinology, rheumatology, oncology, gastroenterology, and pulmonary medicine.

[‡]Includes orthopedics/sports medicine, dermatology, and anesthesiology.

select those with an aptitude and interest in generalism, train them appropriately, and reward the enormous task of primary care physicians appropriately must remain the focus of research and debate.

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