BRIEF REPORTS

Residency Application Statements Can Predict Postresidency Training

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We sought to evaluate whether residency application statements regarding expected career paths are accurate predictors of early postresidency career paths. We evaluated 162 residents who completed a categorical medicine residency at Georgetown University Hospital between 1990 and 1998 to determine if their stated career plans (generalist practice, subspecialization, or undecided) at application predicted activity immediately after residency. Of 130 residents with defined postresidency plans at application, most 78 (60%) followed those career paths after graduation; 18 (67%) of 27 pursued their initial interest in generalist practice, and 60 (58%) of 103 pursued their stated interest in subspecialty training. We also noted a movement of residents toward generalism (79 [49%] of 162), despite low initial interest (27 [17%] of 162).

KEY WORDS: internship and residency; internal medicine; generalists; specialism.

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The recent national debate concerning the health care workforce has focused, in part, on increasing the number of generalist physicians.¹ Reflected in this strategy is the belief that more generalist physicians are needed to meet the increasing primary care focus of medical practice and to improve access to health care.² Internal medicine is one of three specialties generally considered to emphasize primary care, and its leaders have increasingly emphasized the importance of primary care in internal medicine education and training. Despite this interest and repeated calls for more primary care physicians,^{3,4} internal medicine residency program graduates continue to pursue fellowship and subspecialty practice in large numbers.

Many interventions directed at the shortage of generalist physicians have addressed undergraduate medical education. Through increased primary care exposure, ambulatory medical blocks, and discussion of practice interests and perceptions, undergraduate interventions have increased interest in primary care residencies.⁵ Despite similar emphases on increasing ambulatory training and primary care in residency programs, many physicians completing their residency training still opt for further subspecialty training over careers in primary care.⁵ Prior research has found that personal characteristics,¹ educational experiences,⁶ demographic factors,⁷ and type of desired practice⁸ are predictors of subspecialization following residency training. Residency directors may be interested in the career interests of applicants for their programs, including their interest in a primary care career. However, it is unclear whether residency applicants' statements regarding expected careers are accurate predictors of postresidency training and early career paths. We report the findings of such an evaluation here.

METHODS

We evaluated residents who completed a categorical medicine residency at Georgetown University Hospital (GUH) between 1990 and 1998. Located in Washington, DC, GUH is a general care hospital with substantial tertiary care services that trains residents on site, at local hospitals, at the Washington Veterans Affairs Medical Center, in ambulatory settings, and in local health clinics. During the study period, residency class size averaged 25 residents, with 96% U.S. medical graduates (average of one foreign medical graduate per class). The average amount of time spent in ambulatory settings increased over the study period, from approximately 15% in 1990 to 40% in 1998. Throughout the study period, residents were actively involved with both generalist and subspecialist physicians for the duration of training.

Residents were evaluated for the statements in their residency applications regarding their plans for subspecialization or generalism and were surveyed regarding their actual placements after residency. We excluded residents transferring into or out of the program and preliminary year residents. Of the 198 residents who met initial study criteria, 18 were excluded owing to missing application data. Thus, 180 residents were eligible for evaluation.

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Residents' applications to GUH were evaluated for postresidency plans and coded as being interested in generalist practice, subspecialization, or undecided. Data were obtained from one item on the GUH application that asked applicants to specifically state postresidency plans regarding generalist practice, additional fellowship training, and likely field of fellowship training, if applicable, after residency. Data were abstracted by a study investigator (SSR) using a standardized abstraction protocol. Residents were coded as planning on generalist practice if they indicated an interest in general internal medicine or plans to practice primary care after residency. Residents reporting an interest in subspecialization, either in a specific field or in several fields, or an intent to subspecialize in an unspecified field, were coded as planning on subspecialization. Finally, residents who indicated they were undecided or who described competing interests in both generalist and subspecialty practice at time of application were coded as undecided.

We obtained postresidency career information through the program director at GUH (SRM) and by contacting residents. Data were derived from postresidency plans reported to the residency program office by residents during an informal exit interview at the completion of residency and were contained in the residents' files ($n = 119$ residents). Those residents for whom immediate postresidency information was not available ($n = 61$ residents) were mailed a 1-page questionnaire concerning their activity after residency. Items on the questionnaire included fellowship training since residency (yes/no item), date and field of fellowship training if applicable, and type of clinical practice since completion of residency. Surveys were mailed once to all residents without postresidency information and twice more to nonrespondents.

Former residents entering a subspecialty fellowship training program or having deferred entrance to fellowship training at time of follow-up were coded as having pursued subspecialty training. Former residents in general internal medicine practice, those practicing in a combined generalist and subspecialty practice without entering fellowship training, and former residents completing a general medicine fellowship were considered to have pursued a generalist career. All residents in the study cohort were engaged in clinical practice or pursued fellowship training immediately after residency.

Forty-three (70%) of 61 residents responded to mailed surveys. Thus, follow-up data were obtained for 162 (90%) of the eligible residents. This group comprises the study cohort.

RESULTS

Of 130 residents with defined postresidency career plans at the time of application, 78 (60%) followed those career paths after graduation. Eighteen (67%) of 27 residents initially interested in general internal medicine entered generalist practice after residency. Similarly, of 103

residents initially interested in subspecialization, 60 (58%) pursued subspecialty training after residency. In addition, 20 (51%) of 39 residents stating an interest in a particular field or fields of subspecialization who pursued subspecialty training did so in the field or fields they stated on their application.

Those residents who were initially undecided were slightly more likely to become generalists. After residency, 18 (56%) of 32 residents undecided at time of application entered generalist practice. Furthermore, we noted an overall movement of residents toward generalist practice after residency (79 [49%] of 162), despite low initial interest (27 [17%] of 162). Residency career paths at the time of application and those pursued after residency are reported in Table 1.

DISCUSSION

Residency application statements are predictive of future generalist or subspecialty career paths. Residency applicants who clearly indicate a choice between general medical practice and subspecialty training or practice will most likely pursue those paths. In addition, residents who are undecided or who change career paths more often pursue generalist practice than subspecialize.

Possible reasons for these findings are numerous, and include intrinsic factors related directly to the residency program and extrinsic factors such as outside or prior influences. Our study evaluated residency applicants between 1990 and 1998, a time when great efforts were made to train more generalists nationwide. This trend was no different at GUH; numerous efforts to increase interest in general internal medicine began and were nurtured. This may account for the noteworthy finding that nearly 50% of residents entered generalist practice after residency, a near threefold increase from those interested in generalism at the time of application (17%). Also, the trend toward generalism that we found may partially be the result of the inherent nature of residency training and the nationwide influence of managed care on the workforce, resulting in a demand for primary care physicians. Alternatively, residents may have had unrealistic expectations of postresidency practice at the time of their applications, and thus not fully considered generalist practice.

Table 1. Postresidency Career Plans at Time of Application and Career Paths After Residency

Plans on Application		Postresidency Career Path		
Field	<i>n</i>	Field	<i>n</i>	%
Generalist practice	27	Generalist practice	18	67
		Subspecialty training	9	33
Subspecialty training	103	Generalist practice	43	42
		Subspecialty training	60	58
Undecided	32	Generalist practice	18	56
		Subspecialty training	14	44

External factors may also affect residents' career plans. Previous studies have suggested that some students are steadfastly generalist-oriented and not influenced by residency experiences.⁹ Similar attitudes would be expected for students who indicate a preference for subspecialty training. Demographic factors, undergraduate medical experiences, and perceptions of primary care and subspecialization have been found to influence career paths following residency.^{1,6-8} Although our sample is too small to adjust for these factors, the retention of a majority of students in both subspecialization and generalist practice suggests that many medical students have formulated clear postresidency career plans prior to application.

Students who are undecided at the time of application tend to enter general medicine. These students may not have had a strong subspecialty experience in medical school or may enjoy more than one aspect of internal medicine, making them more likely to enter generalist practice. In addition, these medical students may have been aware of the changing marketplace in U.S. medicine, notably the reduction in subspecialty fellowship and practice opportunities, and postponed committing to either career path until further along in their training.

Our research has some limitations. First, our evaluation was limited to residents participating in GUH's categorical medicine residency program, and thus may not be generalizable to other institutions. In addition, findings may be compromised by misleading application statements. Although residency applicants are encouraged to report postresidency career plans honestly when applying, there is a possibility that some statements may be modified to appear "desirable." Evaluations of residents' career paths relying on any self-reported measure are susceptible to the same limitation. Moreover, evaluation of residents immediately after completion of residency may not allow sufficient time for follow-up of residents who pursue fellowship training a few years after completing residency. Omission of these residents might decrease the number of residents determined to have chosen generalist practice, but these numbers have

traditionally been small. Furthermore, it is probable that some residents will later leave subspecialty practice or practice in a combined subspecialty and generalist setting, blunting the effect of residents lost to subspecialty practice. Pursuit of a generalist career or subspecialty training immediately does not preclude future training or practice in the other area. In fact, physicians are likely to modify their practice over the span of their careers, thereby making the predictive evaluation of residency application statements more a function of follow-up time than final practice choice. Although we cannot be certain of the longitudinal strength of our findings, we can report with confidence residents' immediate posttraining plans.

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