Factors Influencing Primary Care Residency Selection among Students at an Urban Private Medical School

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ABSTRACT

This study investigated factors influencing primary care–focused students' selection of a family medicine residency at a private urban medical school. Reasons for why or why not students chose family medicine as opposed to other primary care–focused residencies is discussed. A questionnaire was sent to all fourth-year students (N=157) selected for residency with a primary care focus (medicine and pediatrics (medicine/pediatrics), emergency medicine (EM), obstetrics/gynecology (OB/GYN), internal medicine, pediatrics, and family medicine) from 2006 to 2008. Sixty-three surveys were completed. Respondents reported the most influential factor in primary care selection was patient-care model, followed by patient population and mentor/role model. The factor reported as having the strongest positive and negative influence on residency choice was clerkship experience. Half of respondents (53%) reported being told or directly overhearing negative comments about their career interest in primary care frequently (5+ times) during clinical clerkships. The most frequently cited reasons for not pursuing family medicine as a residency choice were broad focus, lack of prestige, and stereotype of family medicine as a nonacademic field. The Department of Family Medicine is focusing on strategies to combat these perceptions and expose students to positive primary care experiences early in their medical education. Action must be taken to monitor and address family medicine's negative stereotype, as it has a clear presence in medical education and may have a negative influence on residency selection.

INTRODUCTION

The past decade has revealed an alarming trend away from primary care residency choice. While the declining United States graduate interest in primary care has affected all primary care specialties, family medicine has suffered the highest number and percentage decline (Senf et al., 2004). Starting in 1998 the number of first-year family medicine positions has decreased every year (Campos-Outcalt et al., 2007). From 2000 to 2005 there was a 35% decline in the number of US medical school graduates matched in a family medicine training program (Garibaldi et al., 2005). Recent studies have attempted to uncover factors that influence residency choice in order to understand this trend and propose a research agenda to ameliorate the situation.

Several factors have been found to be positively associated with the residency selection of family medicine in observational studies, including: older age, Hispanic ethnicity, rural background, lower income expectations, attending a public school, and participating in a special program aimed at producing family physicians (Campos-Outcalt and Senf, 1999). The Arizona study, sponsored by the American Academy of Family Physicians (AAFP) from 2001 to 2002, found three factors to be significantly associated with increased choice of family medicine: proportion of students entering rural practice, number of required rotations in family medicine and primary care, and students' perception of the clinical competence of family medicine faculty (Campos-Outcalt et al., 2004). These results confirm what many earlier studies found; schools that require clinical training in family medicine and offer more exposure to clinicians in the field produce larger numbers of family physicians (Senf et al., 1997; Kassebaum and Haynes, 1992). While this suggests that students' clinical experience and exposure to family medicine during medical education make them more likely to choose family medicine as a career specialty, other studies have shown that negative family medicine clinical experiences turn medical students off to the field as a residency choice (Brock et al., 2006). These negative influences come in many different forms. One important factor that negatively influences residency choice is "bashing" or bad-mouthing of specialties by faculty, residents, and other students (Hunt et al., 1996; Holmes et al., 2008). Students have reported that 84% of their changes in career choice were due to negative comments about their initial specialty choice (Katz et al., 1984). This has important implications for family medicine, which is one of the most highly bad-mouthed specialties (Campos-Outcalt et al., 2003). One study found that 87% of respondents reported encountering criticisms of family medicine during clinical clerkships (Kenny et al., 2003).

Clearly students' exposure to family medicine during their medical education plays a pivotal role in their residency choice, whether it is positive or negative. This exposure comes in many different forms, including: clinical exposure, faculty role models, physician interaction, research experience, and specialty bad-mouthing.

In the current study we surveyed Albert Einstein College of Medicine (Einstein) students who matched in primary care and primary care–focused specialties about their longitudinal medical education experiences and the factors that most influenced their decision whether or not to pursue a family medicine residency. The data we gathered will help the medical school identify seminal events that influence students' career decisions, with a specific focus on primary care practice specialties. Additionally, it will allow the Department of Family and Social Medicine to understand what factors draw students to and from the field and focus attention on positive influencers. We will articulate approaches taken to reverse the declining trend in selection of family medicine as a career choice based on the student decision-making data, with specific application to an urban private medical school.

METHODS AND MATERIALS

Instrument – We developed the survey with both open- and closed-ended questions to understand the primary care career selection process of fourth-year students at an urban private medical school. The researcher who designed the survey is an educator and faculty member in the Department of Family and Social Medicine at Einstein. We validated it during a pilot study in 2006. Based on completion by medical students and no comments on the actual survey questions we used it as originally designed as a research tool in 2007 and 2008. In 2008, we added two more questions related to "bashing of specialty choice" based on questions used in Holmes' survey on "bashing" (Holmes et al., 2008). In 2007 and 2008 we administered the survey as a web-based anonymous survey using Survey Monkey. In 2006 it was also electronic, but as an email attachment, and therefore was not anonymous.

Sample – Fourth-year medical students at Einstein applying for residency programs in 2006, 2007, and 2008. The sample selection was all matched applicants in the following specialties: medicine/pediatrics, EM, OB/GYN, internal medicine, pediatrics, and family medicine. EM and OB/GYN are not traditionally considered primary care specialty areas of practice but prior informal conversations with students indicated a shift in their interest from a traditional primary care specialty to one of these practice disciplines, which they considered "overlapping" with primary care enough to meet their career expectations. The frequency of these reported shifts was the actual prompt to investigate student decision making of primary care specialty choice, with a focus on family medicine. Students perceive EM practice as having primary care characteristics: a patient panel receiving care in an ambulatory setting presenting with a large scope of chief complaints, which often includes integration of psychosocial determinants of health. Students perceive OB/GYN as having primary care characteristics as well: a patient panel focused on the health-care needs of women throughout the lifecycle, in an ambulatory setting. In addition, most insurance plans allow women to list their OB/GYN physician as a primary care provider, which supports this perception. Another determinant of sample selection and data collection was based on Einstein's reporting of match data. Students who specifically select primary care medicine residencies are reported separately from the categorical internal medicine match data; however, there is not a parallel process with pediatric match data. In the three years of this study, no data were reported indicating students matching outside of categorical pediatrics; therefore pediatrics matches were not subdivided between primary care and categorical for this study.

Methods – The research project was considered exempt by the Einstein Committee on Clinical Investigation. We distributed the postresidency match survey by email attachment in 2006 and by Survey Monkey in 2007 and 2008, after residency Match Day, to a cohort of Einstein students who were matched in a residency in medicine/pediatrics, EM, OB/GYN, internal medicine, pediatrics, or family medicine. We administered the survey with an introductory email and sent out weekly reminders for one month, a total of four contacts. After one month the survey was closed and we collected and analyzed the data.

Data Analysis – We aggregated the data for the three years (2006-2008) and reported the descriptive statistics for closed-ended quantitative questions. For the open-ended questions, we collated written responses to a particular question and analyzed for frequency and consistency among comments and reported this as qualitative themes for a particular question.

RESULTS

From March 2006 to March 2008, we sent out 157 surveys to all Einstein students who matched in a primary care or primary care–focused specialty; 63 (40%) surveys were completed and returned. Table 1 displays the distribution of residency choice of respondents compared with all Einstein students matched in a primary care or primary care–focused residency over three years.

Timing of Residency Decision – Almost half of respondents (49%) reported deciding on the primary care specialty they ultimately chose during their clinical clerkship. One third (33.3%) of respondents ranked family medicine as one of their top four residency preferences prior to beginning clinical clerkships, but only 16% of respondents matched in family medicine programs.

Factors Influencing Residency Choice – When students were asked to report the most influential factors in

Table 1: Distribution of Primary Care Specialty Choice of Respondents and All Einstein Students Matched in a Primary Care–Focused Residency Over 3 Years

Specialty	Respondents (N=63)		All Students Matched in Primary Care–Focused Residency (N=157)	
	Frequency	Percentage	Frequency	Percentage
Pediatrics	28	44%	71	45%
OB/GYN	8	13%	21	13%
Family Medicine	10	16%	15	10%
Emergency Medicine	15	24%	41	26%
Primary Care Medicine	2	3%	9	6%

their residency choice, they cited: patient-care model for selected specialty (44%), preference for a specific patient population (43%), and mentor/role model (35%) as the three most influential factors.

Positive Influences – Respondents reported clerkship experience and electives as the two factors having the strongest positive influence on residency choice, with scores of 3.8 and 3.4 respectively (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced). As one student commented, "In general, I had positive experiences in my clerkships that reinforced my decisions." Another factor commonly cited as positively influencing residency choice was mentor/role model. Respondents made such comments as, "Good mentors in Family Medicine," "Mentor exposure to a subspecialty that I really like," and "Great clerkship and wonderful mentoring opportunities" when asked what contributed to their specialty choice. Respondents reported the summer project between their first and second years as the factor having the weakest positive influence on residency choice, with a score of 1.3 (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced).

Negative Influences – Respondents reported clerkship experience as having the strongest negative influence on residency choice with a score of 2.2 (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced). They reported the summer project between their first and second years as the factor having the weakest negative influence on residency choice with a score of 0.7 (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced). Respondents rated negative influences as overall weaker than positive influences as factors in their decision to pursue a residency in primary care. The cumulative mean of the strength of all positive influences reported was 3.3 (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced). The cumulative mean of the strength of all negative influences reported was 2 (on a scale from 1 to 5, 1 being no influence and 5 being strongly influenced).

"Bashing" of Residency Choice – In March 2008, we added two more questions to the original residency choice survey. These questions related to "bashing" of primary care and were taken from Holmes' (Holmes et al., 2008) original survey on "bashing." Seventeen surveys were completed and returned with data on these two additional questions. Interestingly, while the questions related generally to "bashing" of primary care, most respondents recounted experiences more specific to family medicine. We can only assume that other primary care specialties did not receive as much bashing as family medicine, which is consistent with previous studies' findings.

Negative Comments – 52.9% of respondents reported being told or directly overhearing negative comments about their career interest in primary care frequently (5+ times) during clinical clerkships. As one student reported, "I was told on many occasions that family physicians are less capable doctors; that for any one problem the specialist should care for this patient." 47.1% of respondents reported being told or directly overhearing negative comments about their career interest in primary care occasionally (3-4 times) during clinical clerkships. Respondents commented that it was not only other students and residents who made negative comments but faculty members as well. For example one student wrote, "Sadly, certain faculty members have a negative take on Family Medicine…commenting

that Family Physicians are less than other doctors and get paid very little."

Discouragement – 47.1% of respondents reported being discouraged from pursuing a career in primary care occasionally (3-4 times) during clinical clerkships. As one student recalled, "I was told by a family medicine attending during a casual conversation in the clinic that I and future physicians should strongly consider moving to another country to practice medicine since it seems to be on the decline in this one." Respondents also cited feeling that the medical school administration and faculty view primary care in a negative light and discourage it, commenting, "I feel that Einstein administration looks down on family medicine and doesn't support it at all," and "I think it is perceived as less prestigious and less supported by the medical school."

Negative Treatment – 41.2% of respondents reported witnessing other students receive negative comments or treatment based on their career interest in primary care occasionally (3-4 times) during clinical clerkships.

Reason for Lack of Interest in Family Medicine – When we asked respondents why they think family medicine residency programs receive the fewest applicants among primary care specialties, they cited broad focus, lack of prestige, and stereotype as not "academic" as the primary reasons.

Broad Focus – Respondents expressed the view that family physicians cover too broad a medical spectrum and therefore are not "good" doctors, commenting: "I've heard many people say that family med docs are good at many things, but aren't great at anything," and "I don't think you can be really good at any of the above when you train for a short time in each." Multiple respondents also expressed a fear of becoming a so-called "jack-of-all-trades," referring to family physicians as "jacks-of-all-trades in multiple fields," "jacks of all trades master of none," and "knower of all, specialist of none." They also cited the growing trend toward specialization among medical students, stating: "The field is so broad; I think students would like a more focused field," and "I think medical students and physicians want to know a field more in depth than what they perceive family medicine physicians to know."

Lack of Prestige – Respondents expressed a concern about the "lack of prestige and respect" family physicians receive from the medical community. As one student wrote, "Family medicine residents did not receive a great deal of respect from pediatric or ob/gyn residents when they were rotating on the same floors. I did not want to work in an environment where I would be treated poorly."

Not "Academic" – Respondents expressed a concern that family medicine is less "academic" than other fields and does not offer as many research opportunities. They commented, "There is a general sense that family medicine is less academic than these other specialties," and "If family medicine was more respected as an academic field…there would likely be more applicants."

DISCUSSION

We surveyed students who matched in traditional primary care specialties, and those perceived as having a primary care focus, about their attitudes and experiences with respect to their career decision-making process. Specific attention was given to family medicine and why or why not students choose this specialty for residency. The goal of the research was to better understand student decision-making about primary care specialty choice and identify the influencing variables. This will allow family medicine faculty to focus their attention towards positive influencers.

Both the quantitative and qualitative data support that students' clerkship experiences and faculty met during these experiences are strong positive and negative influences on whether to pursue family medicine or a different primary care specialty. Surprisingly, the student summer project between the first year (MS1) and second year (MS2) of medical school was rated as having the weakest positive and negative influence. Students cited patient-care model for selected specialty, preference for a specific patient population, and mentor/role model as the most influential factors in their residency decision. All of the students reported experiencing "bashing" of primary care during their clinical clerkships. This is quite alarming considering "bashing" has been shown to have great influence on career decision (Katz et al., 1984).

In Holmes' article (Holmes et al., 2008) on medical specialty "bashing," the authors conclude that medical students perceive bashing, with the largest percentage occurring about family medicine, and identify it as unprofessional behavior. This type of negative behavior is an appropriate criterion for assessing professionalism, a competency that receives concrete attention in medical student education. This should be a clear component of the professionalism curriculum at Einstein. Bashing, even though addressed only in the 2008 survey, is a reality for the students and comes from diverse levels of authority such as peers, faculty, and the medical school administration. It is something all medical educators would like to pretend does not happen, as it is unprofessional, but the qualitative data reported by Einstein students provide specific concrete examples supporting its existence and influence. These data must be used to monitor and address unprofessional behaviors. Future surveys should continue to include the "bashing" questions.

In addition to bashing, respondents cited broad medical

spectrum, lack of prestige, and a nonacademic focus as the main reasons for the decline in medical students' interest in pursuing a family medicine residency. The family medicine department will utilize this information to try to reverse these stereotypes among Einstein students. The department leadership is currently focusing on three strategies to increase student interest in pursuing a family medicine career choice.

The first strategy is a two-week post-MS1 summer preceptorship in family medicine. Currently during the post-MS1 year summer, students are exposed to medical school faculty during self-selected summer projects. Traditionally, faculty actively seek out these opportunities to meet students in a more intimate setting and mentor them as they are developing their career interests. Unexpectedly, students reported that the post-MS1 summer project had the weakest positive and negative influence on their career choice. In contrast, students did suggest increased mentoring opportunities by family physicians earlier in their medical education as an important influence. In response, the Department of Family and Social Medicine developed a two-week summer preceptorship as an alternative to the traditional summer research project. Through a competitive application process students select to spend two weeks shadowing family physicians in diverse roles, both ambulatory and in-patient. This allows students to directly experience family medicine as a discipline, participate in diverse opportunities to meet family medicine physicians, and identify family medicine role models early in their medical education. In addition, students are able to observe family physicians in varying specialties related to primary care: hospitalist, geriatrics, sports medicine, palliative care, and women's health. This type of mentored experience aligns with the data reported in this study by Einstein students that clinical experiences, mentors, and faculty role models were positive influences on their career decision.

A second strategy to increase student interest in family medicine residency programs is a primary care longitudinal mentoring program, funded by Health Resources and Service Administration Title VII funds. Early in their first year, students with an interest in primary care are linked with primary care mentors, many of whom are family practitioners. The goal is for the mentors to be a resource for the students as they develop their career interests over four years of medical school.

The third strategy the department is currently supporting is the placement of a young faculty member in a leadership position of the Family and Social Medicine Interest Group. This leadership ensures that interested students interact regularly with young faculty who are passionate about their careers and are natural role models for students.

The importance of exposing students to family medicine clinical practice early, as documented by Senf (et al. 2004), is confirmed by the data reported in this study. An opportunity for students to be exposed to clinical role models, early and often, is an ongoing priority of the Einstein Department of Family and Social Medicine education leadership. The crucial counterpart is to decrease student exposure to negative faculty role models, which is a documented powerful negative influence on career choice. Further investigation is necessary to evaluate the outcomes of the department's initiatives and whether they contribute to an increased number of Einstein students selecting family medicine as a primary care career choice.

The data collected provide a clear insight into the thought process behind Einstein students applying in primary care and why they did or did not choose family medicine. It would seem reasonable to extend the sample to other local medical schools and enlist their participation to increase the sample size and be able to tease out other variables. Data could be collated and subdivided into private versus publicly funded schools, as well as those with required primary care versus elective primary care experiences.

To conclude, as we designed this study prior to the 2007 Campos-Outcalt and Senf article on family medicine specialty selection, it would be important for future surveys to consider the research questions posed by the authors regarding specialty choice. In addition, because of the low response rate, the possibility of biases associated with the differences in students who did and did not participate is a very real concern. The stated research recommendations should be reinforced with follow-up research protocols to ensure that the methodology designed is high quality.

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