

Short Report: Factors that Affect Specialty Choice and Career Plans of Wisconsin's Medical Students

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ABSTRACT

Objective: To identify factors that influence specialty choice among Wisconsin medical students and provide insight into approaches to encourage more students to pursue careers in primary care.

Methods: The importance of several factors in medical student career choice was surveyed using a Web survey convenience sample of all Wisconsin medical students. Students intending to pursue a career in primary care and in other specialties were compared.

Results: Respondents, regardless of specialty choice or gender, identified a similar group of factors as highly influential, and similar group of factors as non-influential in their decision-making. However, significantly more primary care students than other specialty students considered interest in underserved populations, relationships with patients, scope of practice, and role models important in their career choice. Significantly more primary care students than other specialty students responded that salary and competitiveness were "not at all" important. A greater number of other specialty students than primary care students stated that interest in scope of practice, role models, and training years were "not at all" important. Debt-related factors were reported as "not at all" important by nearly one-third of respondents.

Conclusions: Although primary care and other specialty students report making their career plans based on the impact of similar factors, significant differences between primary care and other specialty students were reported in key areas. These results validate many previously reported

factors, and indicate that salary and years of training may have been overemphasized in understanding student career choice. The results of this survey may be useful for Wisconsin medical schools in order to sustain, support, and foster student interest in primary care.

INTRODUCTION

Current trends, including potential expansions in health insurance coverage and the aging population, are fueling decades-long concerns about a physician shortage in the United States. A shortage of primary care physicians further limits access to care, a growing problem as some states expand insurance coverage.¹ In 2005, the Council on Graduate Medical Education anticipated a shortage of 85,000-96,000 physicians by 2020.² Others argue against a need to increase the overall physician supply, instead calling for proportionately more primary care physicians relative to other specialists and better geographic distribution of primary care physicians.³

The number of United States medical students applying to family medicine residencies decreased 42% from 1996 to 2002.⁴ University of Wisconsin School of Medicine and Public Health statistics show a 14% decline in graduates matching into family medicine, internal medicine, and pediatrics, and a 36% decline in family medicine alone between 2003 and 2008.⁵ While overall match rates in primary care for the Medical College of Wisconsin have remained steady, match rates into family medicine declined 49% between 2004 and 2008.⁶

Wisconsin's 2 medical schools, despite acknowledging these concerns and conducting programs to promote primary care choices, currently produce a workforce that does not meet Wisconsin's health care needs, and will be less able to do so under current trends.⁷

This survey measures factors that influence specialty choice among a convenience sample of Wisconsin medical students. Findings provide insights for approaches to encourage more students to pursue careers in primary care.

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METHODS

All Wisconsin medical students with active e-mail addresses—those attending the University of Wisconsin School of Medicine and Public Health or the Medical College of Wisconsin—were invited to participate in a survey by the Associate Deans of Student Affairs at each school and were sent 2 e-mail reminders. Students were able to access the survey via a secure Web link embedded in the e-mail text. Replies were anonymous. The survey, hosted by the University of Wisconsin Survey Center, was available from May 12 to June 2, 2008. The response rate was 21% (304/1480) (respondents completed at least 1 question). The University of Wisconsin School of Medicine and Public Health Institutional Review Board approved this survey.

Surveys queried students on their intent to pursue a career in a primary care specialty, factors influencing their career plans, interest in health care reform, and basic demographic information (gender and age). For the purposes of this project, primary care specialties include family medicine, general internal medicine, and general pediatrics. Respondents rated their opinions on factors affecting career choice using a 5-point Likert scale with options ranging from “not at all” to “extremely.” Each question also provided an opt-out answer of “don’t know.” Students rated factors that literature has previously identified as influential in specialty choice: interest in working with underserved populations or in underserved communities, relationship with patients, research opportunities, breadth or scope of practice, salary or pay scale, experiences with physician role models, competitiveness, feedback or attitudes of physician instructors, schedule or workload, prestige, location of available jobs, and years required for training.

Data analysis was performed with SPSS statistical software version 16.0. The analysis focused on understanding the differences between students who report knowing or having chosen their planned specialty and those who do not yet know. Specialty choice (primary care versus other specialty) and the corresponding influencing factors were compared and analyzed by gender and age. Statistical significance of differences between groups was measured using chi-squared and Fisher’s exact tests with $P \leq .05$ considered significant.

RESULTS

Students who reported knowing what specialty they plan to pursue represented 61% ($n=184$) of all student respondents ($n=304$). Relatively more of these students were older respondents (74% of ≥ 26 year olds compared to 47% of < 26 year olds) with nearly identical rates of males and females. Students who plan to pursue a career

in a primary care specialty constituted 41% of all students who identified a specialty choice. Approximately two-thirds of respondents selecting primary care were female (66%).

Respondents identified similar factors as highly influential in their decision-making regardless of specialty choice or gender (Table 1). The 5 factors most frequently considered “extremely” or “quite” important did not differ among age groups (< 26 years old compared with > 26). Prestige is the only factor that was rated significantly different among different age groups; more younger students (21%) rated prestige as “extremely” or “quite” important than older students (6%, $P < .01$). Significantly more females than males rated interest in underserved ($P < .01$) and relationship with patients ($P < .05$) as “extremely” or “quite” important. A larger portion of male respondents rated salary ($P < .01$) and competitiveness ($P < .05$) as “extremely” or “quite” important.

Significantly more primary care students considered interest in underserved ($P < .01$), relationships with patients ($P < .01$), scope of practice ($P < .01$), and role models ($P < .05$) to be “extremely” or “quite” important in their career choice than other specialty students. Significantly more other specialty students than primary care students considered research ($P < .01$), salary ($P < .01$), and competitiveness ($P < .05$) “extremely” or “quite” important (Table 2). Upon limiting analysis to only “extremely” important responses, significant differences were also seen in the number of students who considered relationships with patients ($P < .01$), interest in underserved ($P < .01$), workload schedule ($P < .05$), and job location ($P < .05$) “extremely” important.

Upon controlling for gender, male and female respondents showed similar significance levels for each of the variables. However, primary care males reported significantly more influence of role models and significantly less influence of competitiveness than other specialty males ($P < .05$) whereas no such difference was observed between primary and other specialty females. Furthermore, primary care females reported significantly more influence of job location than other specialty females ($P < .05$) whereas no such difference was observed between primary and other specialty males. The influence of instructor attitudes did not differ significantly across any of the demographic categories.

Differences between primary care and other specialty student opinions were driven by the extremes (“extremely” or “not at all”) as well as the spectrum of student opinion for many factors. Primary care students were significantly more likely to consider interest in underserved “extremely” important than other specialty students, whereas other specialty students were signifi-

Table 1. The 5 Leading Factors Most Frequently Rated “Extremely” or “Quite” Important in Interest or Choice of Medical Specialty Among Students Who Report Knowing What Specialty They Plan to Pursue

Factors	Specialty		Gender	
	Primary Care Specialties	Other Specialties	Female	Male
Relationship with patients	1	2	1	2
Breadth or scope of practice	2	1	2	1
Experiences with physician role models	3	3	3	3
Feedback or attitudes of physician instructors	5	4	4	4
Interest in working with underserved populations or in underserved communities	4	—	5	—
Schedule or workload	—	5	—	5

Note: n=178 surveyed for specialty, n=184 surveyed for gender.

Table 2. Factors Rated “Extremely” or “Quite” Important in Interest or Choice of Medical Specialty Among Students Who Report Knowing What Specialty They Plan to Pursue: Comparing Students Pursuing Primary Care and Other Specialties

Factors	Primary Care	Other Specialties	Significance
Interest in working with underserved populations or in underserved communities	66%	28%	*
Relationship with patients	97%	61%	*
Research opportunities	6%	27%	+ a
Breadth or scope of practice	90%	71%	*
Salary or pay scale	4%	22%	+ a
Experiences with physician role models	74%	59%	**
Competitiveness	10%	23%	**
Feedback or attitudes of physician instructors	62%	50%	
Schedule or workload	37%	47%	
Prestige	7%	16%	
Location of available jobs	34%	28%	
Years required for training	19%	13%	

Note: n=178, with n=73 for primary care and n=105 for other specialties.

* $P \leq .01$

** $P \leq .05$

^a P calculated using Fisher’s exact test; all other P values were calculated using Chi-squared test.

cantly more likely to consider interest in underserved “not at all” important (Figure 1). Four out of 5 primary care students also reported relationships with patients as “extremely” important, whereas other specialty student opinion was more evenly distributed among the 5 response options (Figure 2).

Respondents identified similar non-influential factors in their decision-making regardless of specialty choice or gender (Table 3). Significantly more primary care students than other specialty students responded that salary (44% versus 21%, $P < .01$) and competitiveness (51% versus 35%, $P < .05$) were “not at all” important. However, a greater number of other specialty students than primary care students stated that interest in scope of practice (7% versus 0%, $P < .05$), role models (10% versus 0%, $P < .01$), and training years (39% versus 22%, $P < .01$) was “not at all” important.

DISCUSSION

Although primary care and other specialty students

report making their career plans based on the impact of similar factors (relationship with patients, breadth or scope of practice, experiences with physician role models, and feedback or attitudes of physician instructors), significant differences between primary care and other specialty students were reported in some key areas. Significantly more students who plan to pursue primary care careers than students who plan to pursue careers in other specialties reported an interest in working with underserved populations or in underserved communities. Examining results showed that the results of this survey were not greatly biased by gender.

Other studies have identified controllable lifestyle, breadth of knowledge, role models, desire to provide comprehensive care, patient contact, perceived levels of prestige and intellectual content, concerns about mastery of a broad content area, and interest in diverse patients as influential factors in students’ decisions to

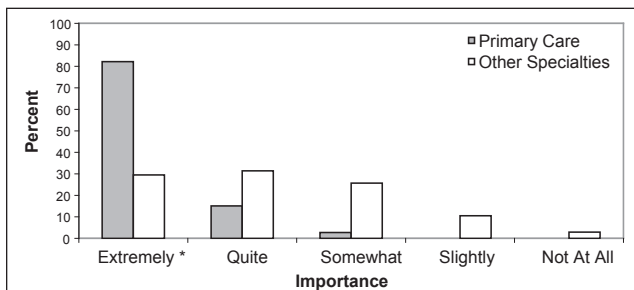


Figure 1. Interest in underserved rated by importance in choice of medical specialty among students who report knowing what specialty they plan to pursue, comparing students pursuing primary care and other specialties.

* $P < .01$

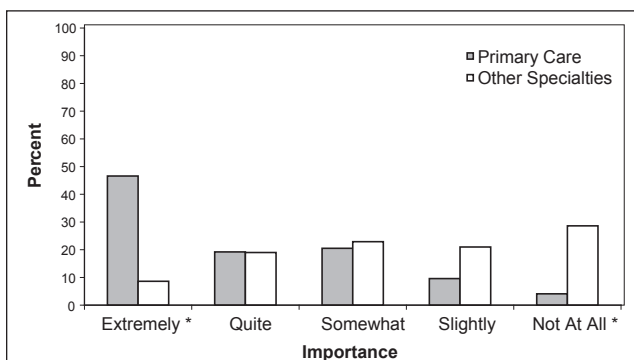


Figure 2. Relationship with patients rated by importance in choice of medical specialty among students who report knowing what specialty they plan to pursue, comparing students pursuing primary care and other specialties.

* $P < .01$

pursue primary care.⁸⁻¹⁴ The literature, however, shows mixed results on the degree to which debt influences student career choice.¹⁵⁻¹⁸ Although this survey did not inquire directly about debt concerns, a large number of respondents report that debt-related factors are “not at all” important (30% said salary and pay scale “not at all” important; 32% said years required for training “not at all” important). From this, it appears that salary and years of training may be overemphasized in importance in student career choice. In contrast, experiences with role models were identified as “extremely” or “quite” important for students across the board, regardless of age, gender, or career choice in this survey, emphasizing the importance of the roles of physician mentors and instructors in influencing student career plans.

This Web survey has important limitations. The response rate of this convenience sample was 21% (304/1480) and may be due to the timing of the survey, which was open during final examinations, graduation, and for 2 weeks after finals. Survey respondents disproportionately represented the University of Wisconsin (UW), which may have been due to the survey being

sent by students at UW and therefore more knowledge of the survey on the campus. The low response rate (~10%) at the Medical College of Wisconsin (MCW) did not yield enough data from MCW students to make strong statistical comparisons between the 2 schools. In addition, the year of the student’s education was not obtained, making it unclear whether the results were weighted toward a certain stage of academic or professional development. The views of non-responders therefore may not be similar to respondents or generalizable to all United States medical students. Definitions of terms found in the survey were not provided and may have been subject to varying interpretation among respondents. Previously published literature on factors that affect medical student career choice has identified “controllable lifestyle” as a major factor influencing students’ plans, but this was not a construct directly probed in this survey.

Previous studies have shown that medical students often have an initial interest in primary care and working with the underserved, but these interests decline during their medical education.¹⁹⁻²⁰ Some medical schools promote international health electives and longitudinal, intensive experiences with underserved communities as effective strategies for maintaining and cultivating student interest in primary care and underserved populations.²⁰⁻²³ The current survey’s results support this notion, with 47% of students planning a career in primary care identifying working with the underserved as “extremely” important in their career choice.

A lot has been written about the need to reallocate Medicare’s graduate medical education support toward primary care residencies. Beyond this, the Institute of Medicine’s 1996 warning appears to hold true: “unless medical students and residents encounter enthusiastic role models, mentors, and teaching methods that support prerequisite skills ... market driven changes are likely to be short-lived and may eventually give rise to dissatisfied and demoralized physicians who resent not being able to practice medicine as they choose or were trained.”²⁴ Indeed, 10 years later, survey results showed that primary care residents had significantly lower levels of satisfaction with career choice, lower feelings of competence and excitement, and higher levels of inferiority and fatigue compared to other specialty residents.²⁵

Wisconsin’s medical schools need to nurture interest in primary care disciplines among medical students to meet the expanding needs among Wisconsin’s residents and its health care system. The results of this survey indicate working with the underserved, relationships with patients, mentoring, and the scope of practice may

Table 3. The 5 Leading Factors Most Frequently Rated “Not At All” Important in Interest or Choice of Medical Specialty Among Students Who Report Knowing What Specialty They Plan to Pursue

Factors	Primary Care Specialties	Other Specialties	Female	Male
Research opportunities	1	1	1	1
Competitiveness	2	4	4	2
Salary or pay scale	3	—	—	4
Prestige	3	3	3	3
Location of available jobs	5	5	5	—
Years required for training	—	2	2	5

Note: n=178 surveyed for specialty, n=184 surveyed for gender.

be important to students planning careers in primary care, while research, competitiveness, pay, prestige, and location of jobs may be less influential for these students. These data may be useful for Wisconsin medical schools in order to sustain, support, and foster student interest in primary care.

Acknowledgments/Funding/Support: The authors acknowledge Ceri Jenkins, Chad Kniss and Lindsay Griffin for their help with this survey, the Medical College of Wisconsin Office of Student Affairs for provision of data, and the University of Wisconsin School of Medicine and Public Health, Wisconsin Medical Society, and Wisconsin Chapter of American College of Physicians for financial support.

Financial Disclosures: Shapiro Grant.

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Wisconsin Medical Journal

The mission of the *Wisconsin Medical Journal* is to provide a vehicle for professional communication and continuing education of Wisconsin physicians.

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