

## Declining Interest in Family Medicine: Perspectives of Department Heads and Faculty

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**Background and Objectives:** *In 2003, US seniors filled 42% of family practice residency positions, the lowest percentage in the specialty's recent history. We hypothesized that institutional support, contact with family medicine faculty, and faculty satisfaction would be positively related to choice of family practice and that faculty satisfaction would be negatively affected by increasing pressure for clinical productivity. **Methods:** We surveyed department heads and faculty at 24 US allopathic medical schools, selected by their rate of family medicine graduates from 1997 to 1999 and the size of the school. Twelve of these schools had an increase in rates of graduates selecting family practice, and 12 showed decreases. **Results:** Department heads and faculty from schools with an increase in student entry into family practice residencies were significantly more likely to report financial and philosophical support from their state legislature or medical school administration. Faculty ranked patient care as most valued at their institutions, followed by teaching, research, and service. A common theme emerging from both the faculty and department head surveys was an inverse relationship between research activity and graduates choosing family practice. **Conclusions:** This study demonstrates the importance of upper-level institutional support on family practice specialty choice. It also highlights a need for further examination of the specialty's relationship to research.*

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In the 2003 National Resident Matching Program, only 42% of family practice residency positions were filled by US medical school seniors.<sup>1</sup> This low number continues a downward trend in choice of family practice that has been apparent in every year since 1997. Although there has been a significant body of research on the influence of student characteristics and medical school curricula on specialty choice, less is known about how medical schools themselves help determine students' career path.

The role of medical schools with respect to career choice has been examined mostly from the perspective of total contact hours between students and family medicine faculty, the type of courses taught, and the presence or absence of a family medicine clerkship. There is little evidence that preclinical family medi-

cine teaching time influences career choice,<sup>2</sup> but family medicine teaching, particularly in a required family medicine clerkship, has been shown to be a significant predictor in several multivariate analyses of whether students select family practice as a career choice.<sup>3-6</sup> Limited data on faculty as role models suggests that exposure to "sufficient" role models increases the chance that a student will enter a particular specialty and suggests in general that negative role models have the greatest influence on students' choice of specialty.<sup>7-9</sup>

The study reported here investigated the role of characteristics of departments of family medicine and the family medicine faculty in specialty choice. In particular, the following hypotheses were tested: First, that institutional support for family medicine is positively related to the proportion of graduates selecting family practice; second, that increased positive contact with family medicine faculty is positively related to the proportion of graduates selecting family practice; third, that family medicine faculty satisfaction is negatively related to pressures for clinical productivity and positively related to teaching activity; and fourth, that

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family medicine faculty satisfaction is positively related to the proportion of graduates selecting family practice.

### Methods

The sample included 24 medical schools chosen based on their rate of family medicine graduates from 1997 to 1999, a time during which the national trend was decreasing selection of family practice. Twelve of these schools had experienced increasing rates of graduates selecting family practice, and 12 showed large decreases. Schools were selected by dividing all schools into three groups by class size: large schools (greater than 150), medium schools (between 100 and 150), and small schools (less than 100). In each of these categories, we identified four schools with the greatest percentage of increase in graduates choosing family practice and four schools with the greatest percentage of decrease. The total number of students responsible for the change in proportion entering family practice at each of these schools ranged from five, the smallest, to 30, the largest, with a mean of 12. Graduates from schools in the sample represented 18% of all medical graduates.

Department heads and faculty were surveyed using two different survey instruments. The department head survey included a number of questions used in a prior survey; the faculty survey was pretested on family medicine faculty at the University of Arizona.

### *Survey of Department Heads*

The department head surveys were mailed to 25 department heads (one school had two campuses). Those who did not respond initially were sent another survey, and those still not responding received a reminder phone call. The department head survey consisted of 34 questions dealing with measures of institutional support, curricula, and family medicine teaching time.

Examples of these questions include: "How much financial support for training family physicians is there from the state legislature, the board of directors, the dean, other department heads, faculty, and students?" and "How much general (philosophical) support for training family physicians is there from . . ." the same groups as listed above. A 7-point Likert scale was used for each of these groups, with 7 indicating "none" and a response of 1, "a great deal."

Department heads were also asked to respond in an open-ended fashion to a question concerning departmental changes in the period from 1995 to 1999 that may have produced a gain or loss in prestige in the eyes of medical students.

In addition, two variables were computed, including support from upper institutional levels and research orientations. Support from upper institutional levels was calculated as the sum of the scores on the questionnaire for (1) philosophical support from legislators and

deans and (2) financial support from legislators and deans. The total score could range from 2 to 14. Research orientation was calculated from respondents' rankings of the importance of research at their institution. Specifically, the survey asked respondents to rank research in relation to teaching, patient care, and service, on a 1 to 4 scale, with a score of 1 representing the highest level of importance. We assigned 1 point if the institutional value of research was scored 1 or 2 on the 4-point scale. Another point was assigned if the departmental strength in research was scored 1 or 2 on the 4-point scale, and a third point was assigned if the department head scored 1 or 2 on the 4-point scale that "many" faculty were doing federally funded research. This measure could thus range from zero to 3.

### *Survey of Family Medicine Faculty*

We initially identified family medicine faculty at the 24 medical schools by using the Association of American Medical Colleges (AAMC) database and cross-referencing names from this database list with a list of names provided by the department heads. If no list of faculty was provided by a department head, the AAMC list was used alone. All faculty were mailed a survey but were also given the option to respond via the Internet. Initial nonrespondents received second and third mailings.

The faculty survey was composed of 21 questions that included demographic information, distribution of their professional time, perception of support for family medicine, and satisfaction with their current position and profession.

### *Data Analysis*

Data from both surveys were analyzed using SPSS PC V.11.0.<sup>®</sup> Likert scale means were compared by ANOVA. Chi-square tests were performed on categorical data. Logistic regression analysis was conducted to determine what factors were associated with schools with an increase versus schools with a decrease in family medicine graduates. The department heads survey was underpowered due to a small sample size. We have chosen to report findings from this survey that were not significant at the  $P < .05$  level, if consistency of results existed between the two surveys.

### Results

#### *Survey of Department Heads*

Of 25 department heads, 24 returned a completed survey, yielding a response rate of 96%. To avoid potential bias in our data, we decided to omit the school with two campuses from our analysis. This left a total of 22 schools, 11 reporting an increase and 11 reporting a decrease in graduates entering the field of family practice.

**Preclinical and Clinical Teaching.** A majority of department heads (81.8%, n=18) reported that their faculty directed courses in the preclinical medical school curriculum, and all indicated that there was a third-year required experience in family medicine.

Neither preclinical course direction by faculty nor amount of preclinical teaching was significantly related to increase or decrease in family medicine graduates nor were any of the characteristics of third-year family medicine experience.

**Perceived Financial and Philosophical Support.** The mean response of schools with a decrease was less than schools with increase in each category. These differences, however, were not statistically significant.

The analysis using the constructed variable—support from upper institutional levels—yielded highly significant results, indicating a strong association between perceived support from the legislature/upper administration and increase in graduates choosing family practice. For financial support from these sources, the mean response at schools with an increase in students entering family practice was 6.9 versus 9.8 at schools with a decrease ( $P=.008$ ). For philosophical support, the means were 6.2 and 8.9 for increase and decrease schools, respectively ( $P=.028$ .)

**Other Faculty Activities and Department Characteristics.** No significant differences were found between schools with an increase or decrease and measures of the strength of the department in the college of medicine, including the presence of faculty on important college committees or presence of a family practice residency program. However, in response to open-ended questions, several chairs mentioned increases in faculty size, addition of new family practice centers, and increased third-year family medicine clerkship time as factors that may have increased the department's prestige in the eyes of students. Marketplace pressures were cited as negative factors.

Forty-five percent of the department heads indicated that research was most valued in their institution (compared to research, teaching, patient care, and service). Of these, only one department head indicated that research was the department's number one strength, and two thirds said it was a third or fourth (of four) strength. The department heads' perception of the strength of their department's patient care activities was positively related to having an increase in family medicine graduates ( $P=.04$ ). Perceived strength of the unit in patient care was negatively correlated with perceived strength of the unit in research ( $r=-.66$ ,  $P=.001$ ), and there was a weak positive relationship between research orientation and schools with a decrease in family medicine graduates (mean 1.1 versus .5 for schools with an increase,  $P=.14$ ).

### Survey of Family Medicine Faculty

A total of 438 faculty were on the original list. Eighteen were either no longer in a family medicine department or no longer working at the medical school indicated on the list. The total response rate was 75.5% (n=317).

**Demographics.** Table 1 shows the demographic information for the faculty surveyed.

**Faculty Time Distribution.** Table 2 compares overall faculty time distribution at schools with an increase in the number of family medicine graduates versus those schools with a decrease. Note that the nonphysician faculty members had a significantly different distribution of time than that shown on Table 2, with 31% spent in administration, 24% spent in patient care, 20% spent in research, 19% spent teaching/advising medical students, 10% teaching/advising residents, and 5% in other activities.

Time spent in research activities was lower, and time teaching/advising residents and administrative time were higher at schools with an increase in family medicine graduates. On multivariate analysis, only time teaching and advising residents were significantly associated with an increase in family medicine graduates ( $P<.001$ ). Changes in faculty time distribution over the past 5 years was not related to increases or decreases in the number of family medicine graduates.

Distribution of time was also related to length of time as an academic faculty member. Thus, as faculty become more senior, they tended to do less patient care and more administrative work and work with medical

Table 1

### Characteristics of Family Medicine Faculty Respondents

Average age	47 (range: 30 to 75 years)
Gender	35.0% female (n=111)
Ethnicity	83.2% Caucasian (n=263) 5.1% Asian/Pacific Islander (n=16) 4.7% African-American (n=15) .9% Hispanic (n=3) 3.5% Other (n=11)
Degree	85.4% MD (n=270) 12.7% PhD (n=40)
Average time in academic medicine	11.6 years (range: <1 to 35 years)
Average time in current department	9.3 years (range: <1 to 34 years)

Table 2

Average Time Distribution for Physician Faculty at Schools With an Increase Versus Decrease

Activity	% Time for Schools With an Increase	% Time for Schools With a Decrease	P Value
Patient care	39.0%	34.9%	.08
Research	9.1%	14.1%	.007
Teaching/advising medical students	13.6%	15.9%	.17
Teaching/advising residents	20.2%	13.1%	<.001*
Service/administration	18.2%	23.2%	.019

\* Significant on multi variate analysis ( $P<.001$ )

students. However, there was no relationship between time working in the department, time as an academic faculty member, nor age and an increase or decrease in student entry into family practice.

Another measure of contact with students was the number of students advised and frequency of contact with students in each year of medical school. This measure was significantly related to the percentage of time reported spent in teaching/advising medical students but was not related to an increase or decrease in the number of family practice graduates. Physician faculty who said they currently have medical student advisees reported spending an average of 18% of their time teaching or advising medical students, compared with 10% for faculty who did not currently have medical student advisees ( $P<.001$ ).

Faculty at all schools ranked patient care as the most valued activity, followed by teaching, research, and service (means=1.85, 2.36, 2.39, and 3.29, respectively). Faculty at schools with a decrease in students choosing family practice were significantly more likely to rank research as more valued by their college (mean=2.20 versus 2.52 for schools with an increase,  $P=.015$ ).

**Faculty Satisfaction.** Overall, the family medicine faculty surveyed were extremely satisfied with their work environment (Table 3). We did not find an association, however, between faculty satisfaction and schools with an

increase or decrease in family medicine graduates. Nonetheless, the physician faculty who had student advisees were consistently more positive about job satisfaction than those who did not. For example, faculty with advisees were more likely to report that they would want to become a faculty member again (mean=1.6 for those with advisees versus 1.9 for those without,  $P=.03$ ). Looking just at the physician faculty who did have student advisees, the faculty at schools with an increase in family medicine graduates were consistently more positive about job satisfaction than faculty at schools with a decrease; they were more likely to report that they would become a faculty member again (mean=1.5 for schools with an increase versus 1.8 for schools with a decrease,  $P=.05$ ).

**Perceived Philosophical Support.** Similar to the results of the department heads survey, in each category the perceived level of support was higher for schools with an increase in family medicine graduates (Figure 1). This relationship was significant for perceived support from state legislatures ( $P=.012$ ) and boards of directors ( $P=.041$ ). Perceived support from state legislatures remained significant after multivariate analysis ( $P=.02$ ).

Discussion

*Institutional Support: The Importance of "Support From Above"*

We hypothesized that institutional support in the form of philosophical/financial support would be positively associated with the percentage of graduates choosing family practice. The importance of this perception of support, particularly support above the level of the department head, was one of most consistent findings in the two surveys. The findings on the department heads survey were statistically significant despite the limitation of a small sample size. It is likely that this perception of support is related to another, as of yet unmeasured, variable of overall climate toward family practice. The positive climate suggested by this perception

Table 3

Comparison of Mean Responses on Indicators of Faculty Satisfaction for Schools With an Increase Versus Schools With a Decrease

Questions on Faculty Satisfaction	Increase	Decrease	P Value
1. I have control over my academic work.	2.28	2.23	.676
2. I am excited about what I do.	1.81	1.80	.878
3. I would become a faculty member again.	1.68	1.78	.351
4. I am comfortable with my workload.	2.72	2.72	.989
5. I can balance my personal/professional lives.	2.54	2.61	.629
6. I would become a physician again.	1.65	1.64	.976
7. I have control over my clinical work.	2.72	2.82	.515
8. I practice medicine as I would like to.	2.82	2.83	.905

of support may serve to attract, nurture, and maintain student interest in family medicine.

### Medical Student Contact

A surprising finding on the faculty survey was the relatively small percentage of time that physician faculty spent teaching and advising medical students. Faculty overall reported spending just 14% of their time teaching and advising medical students versus 39% of their time in patient care. It is possible that a blurring of the boundaries existed between what faculty interpreted as direct patient care time versus clinical precepting of medical students, but the strong correlation between number of advisees and reported teaching time would tend to contradict this possibility. The emphasis on clinical activity is consistent with a recent survey of departments of family medicine, in which 69% reported an increase in clinical activity related to the need to generate departmental income.<sup>10</sup> Nevertheless, there should be further inquiry into what specific activities faculty perceive as patient care.

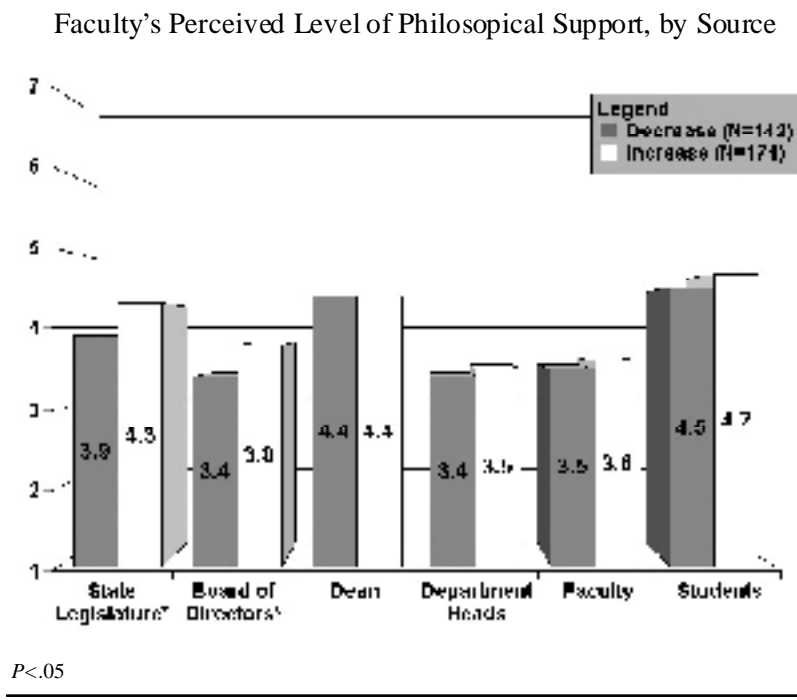
### Faculty Satisfaction

We were not able to find evidence to support our hypothesis that faculty dissatisfaction was in part responsible for the decline in interest in family practice. Faculty who do have student advisees were somewhat more positive at schools with an increase in family medicine graduates, but overall there were high levels of satisfaction among family medicine faculty. Faculty were satisfied despite the fact that only a small percentage of time was devoted to teaching. Teaching and advising medical students was positively associated with increased faculty satisfaction but not with an increase or decrease in family medicine graduates.

### The Role of Research

Perhaps the most unanticipated result of our study was the inverse relationship between time spent in research activities versus the number of graduates entering family practice. Physician faculty at schools with a decreased number of graduates choosing family practice were more likely than those at schools with an increase to be involved in research. We initially hypothesized that research time might be carved out of medical student teaching time, reducing the role modeling and contact time with students, but our study did not

Figure 1



indicate this. Rather, increased research time appears to come at the expense of resident teaching/advising time. This finding is especially disconcerting in light of the national effort to increase clinical researchers, particularly those in primary care and family medicine, because an unintended effect of increasing researchers might also be to reduce teaching efforts on behalf of family practice residents.

The reported value of research within the institution is also consistent with reported time distribution. Faculty who reported a greater value ascribed to research by their institution were more likely to be from schools with a decrease in graduates going into family practice, and this finding is consistent with the reports of department heads. An alternative explanation for this inverse relationship of research and choice of family practice is that family physicians are more likely to be doing research at institutions with a focus on research, but those institutions don't necessarily value the clinically oriented research conducted by family physicians. In fact, the department head data indicate that, even in institutions that conduct highly valued research, the department's strengths are apt to be in other areas. It is also possible that institutions with a focus on research do not value family medicine's expertise in patient care and patient relationships. Thus, the overall institutional culture may be influencing students away from primary care.

## Conclusions

Similar to the conclusion of Bland,<sup>11</sup> we suspect that increased emphasis on research is associated with negative attitudes toward family practice, and it is these negative attitudes that may in turn influence students. Osborn and O'Neil, using an anthropological approach, examined the characteristics of four medical schools that excelled in both research and in production of primary care graduates.<sup>12</sup> Similarities between the schools included a strong, well-supported department of family medicine, emphasis on service, and strong linkages to schools of public health. The authors conclude that this institutional environment attracts researchers in epidemiology, ethics, health policy, and economics, thus exposing medical students to role models who exemplify excellence in primary care research. Further studies on the influence of research on career choice should therefore strive to delineate the type and quality of research being done. This is an area that requires a significant amount of discussion and examination by family medicine educators, particularly as we seek to explore further the nature and conduct of research in our specialty.

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