Results of the 2003 National Resident Matching Program: Family Practice

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The results of the 2003 National Resident Matching Program (NRMP) reflect a persistent decline of student interest in family practice residency training in the United States. Compared with the 2002 Match, 118 fewer positions (179 fewer US seniors) were filled in family practice residency programs through the NRMP in 2003, as well as 23 fewer (12 fewer US seniors) in primary care internal medicine, 20 fewer in pediatrics-primary care (11 fewer US seniors), and 23 fewer (34 fewer US seniors) in internal medicine-pediatric programs. In comparison, 40 more positions (14 more US seniors) were filled in anesthesiology and 8 more (8 more US seniors) in diagnostic radiology, two “marker” disciplines that have shown increases over the past 3 years. Sixty-seven more positions (but 148 fewer US seniors) were also filled in categorical internal medicine, while 107 more positions (33 more US seniors) were filled in categorical pediatrics programs, where trainees perceive options for either practicing as generalists or entering subspecialty fellowships, depending on the market. While the needs of the nation, especially rural and underserved populations, continue to offer opportunities for family physicians, family practice experienced continued decline though the 2003 NRMP. Many different forces, including student perspectives of the demands, rewards, and prestige of the specialty; the turbulence and uncertainty of the health care environment; liability protection issues; and the impact of faculty and resident role models, are impacting medical student career choices. The 2003 NRMP again confirms the trend away from family practice and primary care careers.

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Family physicians are the only medical specialists who distribute themselves throughout America’s communities in the same proportion as the population. The American Academy of Family Physicians (AAFP) is dedicated to assuring that there are well-trained family physicians for everyone in the United States who wants and needs one. In addition, the AAFP is dedicated to assuring high-quality, innovative education for residents and medical students that embodies the art, science, and socioeconomics of family medicine.1

As a reflection of these goals, the AAFP, through its comprehensive Student Interest Initiative, has developed and implemented numerous projects since 1988 to increase student awareness of and interest in family practice. Student activity on campuses in family medicine interest groups and participation as student members of the AAFP continues to grow each year. In 2003, student AAFP membership reached 20,100, nearly one third of all US medical students. The presence of departments of family medicine in all but 12 US medical schools, the establishment of required clinical clerkships in family medicine in 80% of medical schools, and increased opportunities for family medicine elective experiences have improved the environment of medical education.1,3

Despite those efforts, from the results of the 2003 National Resident Matching Program (NRMP), it is clear that student interest has continued to decline in primary care, particularly in family practice. Student
perceptions of the demands, rewards, and prestige of the specialty; market changes; lifestyle priorities; and the influence of faculty and resident role models appear to be drawing medical students away from family practice as a career choice.

2003 NRMP Results: Family Practice

Family practice residency programs offered 2,940 first-year positions through the 2003 NRMP, a decrease of 43 from 2002. On Match Day 2003, 2,239 of these positions were filled through the Match, a decrease of 18 from 2002 for a fill rate of 76.2%, compared with 79.0% in 2002, 76.3% in 2001, 81.2% in 2000, and 82.6% in 1999 (Figure 1). A total of 179 fewer US seniors matched into family practice residencies in 2003 compared with 2002 (1,234 versus 1,413)\(^4\) (Figure 2).

Of those US seniors who successfully matched in 2003, 9.2% matched in family practice, compared with 10.5% in 2002, 11.2% in 2001, 13.6% in 2000, 14.8% in 1999, and 16.0% in 1998. Of all participating US seniors in the 2003 NRMP, 8.6% matched in family practice, compared with 9.9% in 2002, 10.5% in 2001, 12.8% in 2000, and 13.9% in 1999.\(^4\) In 2003, the Pacific region had the highest fill rate in family practice (84.2%), while the East South Central region had the lowest fill rate in family practice (68.1%)\(^4\) (Figure 3).

In addition to US MD graduates in 2003 who filled 55.1% of matched positions in family practice, 1,005 other graduates matched in family practice in 2003, compared with 944 in 2002, 847 in 2001, 770 in 2000, 673 in 1999, and 635 in 1998. These include 432 (330
in 2002) non-US citizens educated internationally (19.3%), 232 (261 in 2002) graduates of colleges of osteopathic medicine (10.4%), 271 (267 in 2002) US citizens educated internationally (12.1%), 56 (59 in 2002) physicians who graduated from US medical schools prior to 2003 (2.5%), 2 (22 in 2002) “fifth pathway” students (.4%), and 5 Canadian medical school graduates (.2%). 5.6

Comparison With Other Generalist Disciplines

Fewer US seniors matched in categorical internal medicine residencies, decreasing by 148 from 2,738 in 2002 to 2,590 in 2003. However, 70 more US seniors chose preliminary internal medicine positions (students who choose to complete 1 year of internal medicine before continuing in another specialty): 1,468 in 2003, compared with 1,398 in 2002 and 1,271 in 2001. 4,5 (Figure 4).

Twelve fewer US seniors chose careers in primary care internal medicine through the 2003 Match (192), compared with 2002 (204). Thirty-four fewer US seniors chose combined internal medicine-pediatric training in 2003 (258) compared with 2002 (292). 4,5 (Figure 5).

Eighty-nine more positions were filled in 2003 (2,207) in pediatrics (all types) compared with 2002 (2,118), and the number of US seniors increased by 22 from 1,641 in 2002 to 1,663 in 2003. Categorical pediatrics programs matched 1,596 US seniors in 2003, 34 more than the 1,562 matched in 2002 (Figure 4). In 2003, 86 positions were offered in pediatric-primary care programs, down from 110 in 2002, of which 47 were filled with US seniors, compared with 58 in 2002. 4,5

More international medical graduates (IMGs) continue to match in internal medicine (1,804 into categorical, preliminary, primary care, and internal medicine-pediatrics), compared with pediatrics (368) and family practice (703). Similarly, among the matched IMGs, the percentage of non-US citizens is higher in internal medicine (79.2%) compared with pediatrics (69.8%) and family practice (61.5%). 4

July Fill Rate

Since 1987, more positions have been offered in family practice residencies in July than are offered through the NRMP in March. This July increase was due to program expansion between 1990 and 1998 and to the net addition of newly accredited programs that became ready to accept first-year residents (Figure 6). Since 1998, this difference may be partially due to the number of positions filled outside of the NRMP process. The highest July fill rate (98.7%) was in 1984, after which July fill rates decreased to 88.3% in 1991. 5 The 2003 July fill rate in family practice residencies was 95.7% (3,329 of 3,480), a decrease of 43 positions offered and 31 positions filled compared with 2002, when the July fill rate was 95.4% (3,360 of 3,523). 6

On July 1, 2003, 9,995 residents were training in 474 programs, an average of 21.1 per program compared with 10,130 (21.7 per program) in 2002, 10,262 (21.9 per program) in 2001, 10,503 (22.3 per program) in 2000, 10,632 (22.4 per program) in 1999, and 10,687 (23.0 per program) in 1998, as compared to 8,513 (20.8) in 1994 and a nadir of 7,279 (19.1) in 1988. There are currently 3,329 first-year residents, an average of 7.0 per program compared with 3,360 (7.2 per program) in 2002, 3,399 (7.2 per program) in 2001, 3,475 (7.4 per program) in 2000, 3,538 (7.5 per program) in 1999, and 3,575 (7.7) in 1998. 5

NRMP—National Resident Matching Program
Graduates of colleges of osteopathic medicine filled 481 first-year positions (14.4%) in July 2003, compared with 452 (13.5%) in 2002, 461 (13.6%) in 2001, 378 (10.9%) in 2000, 355 (10.0%) in 1999, and 362 (10.1%) in 1998, as compared to 232 (7.6%) in 1994. In 1981, the DO fill rate was 2%.5

In July 2003, 1,241 (37.3%) of the 3,329 first-year family practice residents were IMGs, compared with 1,087 (32.4%) in 2002, 1,001 (29.4%) in 2001, 789 (22.7%) in 2000, 659 (18.6%) in 1999, and 523 (14.7%) in 1998, as compared to 593 (19.3%) in 1994. A total of 579 (17.4%) first-year residents were non-US citizen IMGs, compared with 466 (13.9%) in 2002, 430 (12.6%) in 2001, 351 (10.1%) in 2000, and 292 (8.3%) in 1999. A total of 662 (19.9%) were US citizen IMGs, compared with 621 (18.5%) in 2002, 571 (16.8%) in 2001, 438 (12.6%) in 2000, and 367 (10.4%) in 1999.5,6 Interestingly, of the 538 IMGs who entered PGY-1 positions in family practice residencies after the Match, 391 (72.7%) were US citizens.

Discussion

After 6 consecutive years of increases (1992–1997) and 4 consecutive years (1994–1997) of all-time records set in positions filled in family practice residency programs, 2003 represents the sixth consecutive year of fewer positions filled in family practice through the NRMP. Reviewing the Match performance of other specialties for the same time period suggests interesting trends. For example, anesthesiology decreased from 163 US seniors in 1994 down to 43 in 1996. That trend reversed by increasing from 118 in 1998 to 321 US seniors in 2003. Diagnostic radiology matched 243 seniors in
1996, dropped to 79 in 1997, then increased to 114 in 2000 and 124 in 2001, decreased to 108 in 2002, and increased to 116 in 2003.5

By contrast, family practice had increased steadily for 6 years from 1991 through 1997. Family practice gained 966 US seniors in the Match over that period. However, in the past 6 years, family practice has lost 1,106 US seniors in the Match or 47.3% of the record number of US seniors matching in 1997.4,5

Family practice's primary care colleagues experienced similar trends in the 2003 Match, with notable exceptions. Internal medicine-primary care offered 18 fewer positions this year and, for the sixth year in a row, has experienced a steady decline in positions filled (528 in 1998, 505 in 1999, 445 in 2000, 369 in 2001, 321 in 2002, and 298 in 2003) and in positions filled by US seniors (376 in 1998, 347 in 1999, 281 in 2000, 234 in 2001, 204 in 2002, and 192 in 2003). Combined internal medicine-pediatrics residencies filled 23 fewer positions (317 in 2003 versus 340 in 2002) and with 34 fewer US seniors (258 in 2003 versus 292 in 2002). In combined internal medicine-pediatrics, the fill rate was lower than in 2002 for total positions (82.3% versus 85.2%) and for positions filled with US seniors (67.0% versus 73.2%). In internal medicine categorical, more positions were offered in 2003 compared with 2002 (4,692 versus 4,662), with a higher fill rate than in 2002 for total positions (95.1% vs. 94.3%) but a lower rate for positions filled with US seniors (55.2% versus 58.7%).4,5

In the 2003 Match, pediatrics similarly had variable results in both positions filled and those filled with US seniors. Pediatrics-primary care reduced its positions filled from 104 in 2002 to 84 in 2003. Its overall fill percentage increased from 94.5% in 2002 to 97.7% in 2003 and with an increase in positions filled with US seniors from 52.7% in 2002 to 54.7% in 2003. Pediatrics-categorical increased both its overall positions filled in 2003 from the prior year (2,099 versus 1,992) and in those positions filled with US seniors (1,596 versus 1,562).4,5

Internal medicine-preliminary, for the sixth year in a row, increased its number of positions offered (1,839 versus 1,675) as well as the positions filled (1,663 versus 1,563) and those filled with US seniors (1,468 versus 1,398). Consequently, for internal medicine-preliminary, the overall fill percentage decreased in 2003 (90.4% versus 93.3%) as did the percentage filled with US seniors (79.8% versus 83.5%). It is noteworthy that for transitional residency programs, fewer positions were offered this year than last (1,033 versus 1,062) with fewer positions filled overall (970 versus 977) and fewer filled with US seniors (866 versus 891). The percentage of transitional year residencies filled with US seniors slightly decreased from 83.9% in 2002 to 83.8% in 2003.4,5

A movement of US seniors away from primary care continues, not only from family practice but also from internal medicine-primary care, internal medicine-pediatrics, and pediatrics-primary care. From categorical internal medicine, where students have the option of either a subspecialty or a primary care career, results are similar. Instead, students are choosing preliminary internal medicine and categorical pediatrics residencies, where they are more likely to be headed for subspecialty careers.

Controversy persists within the OB-GYN community between those who view the specialty as primary care and those who perceive a more surgical orientation. After 4 years of decreases from 1998 to 2001, and
a slight increase in 2002, OB–GYN residencies in 2003 experienced another decrease in positions filled with US seniors (786 in 2003 versus 848 in 2002) and a decrease in total positions filled (1,050 in 2003 versus 1,067 in 2002).6

Residencies identified as primary care, including internal medicine-primary care, internal medicine-pediatrics, pediatrics-primary, and family practice, experienced decreases in the last 5 years in total positions filled and in positions filled with US seniors.5

Contributors to Recent Trends

Multiple factors contribute to the current 6-year trend of decreased interest in family practice. Increasingly apparent is the perception by students that family practice lacks the prestige of other specialties within academic health centers.7 Disparaging remarks made to medical students about an interest in family practice by faculty and residents is a commonly cited experience.8,9 This is unfortunately aggravated by the experiences of some students who indicate that their third-year clerkships in family medicine lack some of the intellectual rigor and direct clinical experience of other core clerkships.2 This supports the misconception that being a family physician is “too easy” for the typically motivated medical student. Frequently, the additional set of knowledge, skills, and attitudes required to provide patient-oriented care is not captured and valued in a subspecialty-oriented medical curriculum.10

At the other end of the spectrum, some medical students report concerns associated with family practice because it is “too hard,” questioning physicians’ capacity to master the content needed to practice comprehensive, evidence-based medicine.7 This perspective is exacerbated by the challenges of primary care practice in an environment of increased penetration of over-managed care and burdensome regulatory oversight. Often, the inability to successfully translate the realities of a motivating and successful practice into medical students’ experiences results in student experiences with family physicians that make their practices appear unattractive to students.11-16 The extent to which physicians voice dissatisfaction can dissuade medical school graduates from choosing careers in primary care.27

As numbers of applicants to medical school plummet from a peak of 46,965 in 1996 to 33,501 in 2002, while medical school indebtedness continues to escalate to more than $100,000 at graduation, consideration must be given to the motivation of the applicant pool toward primary care careers.18 This may be especially true from the perspective of older nontraditional students or students from disadvantaged backgrounds, both of whom have been more likely to choose careers in family practice. As a result of seemingly insurmountable debt, these potential applicants may be unwilling to even consider a career in medicine. Except for a few model programs that preferentially select students likely to enter rural or medically underserved areas of practice, medical school admissions committees may therefore be less often prioritizing among applicants whose characteristics are associated with the selection of primary care careers, particularly family practice. The effect of this pipeline drain may minimize the apparent impact of educational debt on medical student specialty choice.19-24

The infrastructure of US medical education continues to play a powerful role in determining how many graduates enter family practice residencies. The presence of a well-funded department of family medicine and the number of faculty are correlated with the higher percentage of medical students entering family practice residencies.19,20,25,29 as well as internal medicine and pediatric residencies.25 One of the most important variables for predicting the proportion of students at a medical school who choose family practice is the proportion of faculty who are family physicians.29 In 2003, 12 US medical schools remain without a department of family medicine. Similarly, the presence in the curriculum and the duration of a required clinical clerkship in family medicine are correlated with more students choosing family practice residencies.19,20,25,30 Medical school characteristics such as family medicine clerkships, communications skills courses, and curricula in medical ethics, humanities, and social sciences in medicine play a central role in the development of physicians committed to the well-being of others.31 In February 1993, the Liaison Committee on Medical Education (LCME), which accredits US medical schools, created parity by recommending clinical curricula in family medicine along with the other five core disciplines (internal medicine, OB–GYN, pediatrics, psychiatry, and surgery).32 A decade later, 12 LCME-accredited US medical schools still do not have required clinical clerkships in family medicine.33

The year 2003 is now the fifth in a row in which fewer positions were offered in family practice through the Match than the year before (2,940 versus 2,983). This decrease in positions offered is the result of a complex interplay of transitional forces in the marketplace. One change, for example, is the Balanced Budget Act of 1997 with its caps on the number of federally funded residency positions and substantial reductions in federal support for GME through the Medicare program. With 353 fewer positions offered in family practice residencies during the 2003 Match compared with 1998, it is clear that the Balanced Budget Act of 1997 continues to take its toll.

Finally, the turbulence of the US health care environment4,9,31 and increasing student debt5 support the appearance of medical students selecting careers that provide them both economic and practice security. The
high Match percentages in diagnostic radiology, anesthesiology, and emergency medicine support trends toward physician practice with a high income coupled with predictable work hours and lifestyle. For many students, the level of compensation within a discipline may serve as a proxy for the prestige and market demand for that specialty. With the current reported income for family physicians at or near the bottom of the scale, it is not surprising that student interest would decline.

In 2003, 179 fewer US seniors chose family practice through the NRMP than the previous year, while 70 additional US seniors chose internal medicine-preliminary residencies. High Match rates in transitional residencies and preliminary internal medicine programs provide trainees with the opportunity to further observe the health care environment and to take advantage of the career path options those preliminary training programs provide. This trend also appears to be impacting other nations, with the British Medical Association and Canada predicting a shortage of general practice physicians in 2002 for many of the same reasons.

As the specialty most identified with, and attracting the largest number of students interested in, primary care, it’s not surprising that family practice has experienced the largest share of the shift in interest among medical students. The magnitude of this shift represents the 1,106 fewer US seniors choosing family practice residencies in 2003 compared with 1997 or an average of 8.8 students per medical school. More students may actually be involved in this shift if a larger proportion of those choosing categorical internal medicine and pediatric residencies eventually choose careers in the subspecialties.

Conclusions

The AAFP continues to focus efforts on analyzing the current generation of premedical and medical students, reflecting their interests and addressing their concerns. The current number of family practice residencies has decreased to 453, with less than 3,400 residents in each of the 3 years of training. This is approximately 200–500 below the number of annual graduates needed to achieve the projected family physician workforce needed for the nation. Although it has been argued by other analyses that the current physician workforce may be capable of meeting the nation’s needs, the United States continues to cope with persistent pockets of underserved populations in rural areas, those populated by ethnic minority groups, and in areas of relatively low socioeconomic status. Generalists make up fewer than 40% of total physicians, while family physicians represent 40% of generalist physicians in the United States. However, family physicians are the most likely specialty to practice as generalists and to serve rural and underserved populations. If all family physicians were withdrawn, 58% of all US counties would become primary care health professions shortage areas (PCHPSAs). By contrast, if all general internists, pediatricians, and obstetricians-gynecologists combined were similarly withdrawn, fewer than 8% of counties would become PCHPSAs.

Subspecialists providing care to Medicare patients are less likely than generalists to provide comprehensive primary care services and focus on the management of a narrower range of diagnoses. In addition, patients value the role of primary care physicians in providing first contact and continuous management of their care in complex integrated delivery systems. The current imbalance of subspecialists versus generalists in the United States compromises the achievement of universal health care access for all and limits the nation’s capacity to meet the demands of today’s health care marketplace and also to meet the needs of the nation’s most vulnerable populations.

In 2001, the AAFP reached an all-time high in medical student membership at 22,200, dropping to 21,800 in 2002 and 20,100 in 2003. It is important to note that 10,199 US seniors over the past 6 years did match to family practice residencies in spite of the often-negative influences from within and outside of the medical education environment. Thus, the 1,234 US seniors who chose family practice in the 2003 Match appear to be resistant to conflicting environmental messages and clear in their commitment to serving the nation as family physicians, perhaps because of both personal characteristics and medical school features that support their choice.

An AAFP-supported study of the factors influencing medical students in their choice of family practice was commissioned by the AAFP and conducted in 2002 by faculty of the University of Arizona Department of Family and Community Medicine. The “Arizona Study” provided a new evidence-based foundation from which to plan responses to declining student interest. Armed with this information, the AAFP Commission on Resident and Student Issues (CRSI), in collaboration with the AAFP Commission on Education (COE), has begun the process of recommending initiatives and strategies to support and enhance student interest in family practice careers.

Many new initiatives are underway to affect the factors influencing specialty choice in this generation of medical students as they face escalating costs associated with medical education, a declining level of satisfaction among physicians with their career choices, and a turbulent health care marketplace. Efforts are in process to attract and retain those students who are both intellectually qualified and demonstrate the personal attributes essential to a career in family practice. Further recommendations include the identification and integration into medical school curricula of exceptional practices to strengthen the attitudes and behaviors that characterize medical professionalism.
The AAFP has also extended a challenge to the Academic Family Medicine Organizations (AAFP, Association of Departments of Family Medicine, Association of Family Practice Residency Directors, North American Primary Care Research Group, and Society of Teachers of Family Medicine) to identify strategic interventions that will support the interests of medical students seeking a career in family medicine. In response to that challenge, the “Working Party” (conceptualized in the late 1970s and made up of leaders of “the family” that meet twice yearly to discuss joint activities and issues of concern to the organizations) has undertaken the Future of Family Medicine (FFM) project, with task forces to identify the core attributes of family practice, to reform family practice to meet consumer expectations, to determine systems of care to be delivered by family practice, and to determine the training needed for family physicians to deliver core attributes and system services.

Final recommendations from the FFM project are anticipated for early 2004. Will the discipline of family medicine be able to sustain itself through this period of declining student interest? Will the initiatives prompted by evidence from the “Arizona Study” or guided by recommendations from the FFM project affect the current trends? As long as family physicians continue to provide compassionate, continuing, comprehensive, and quality care to their patients in the context of their families and communities, aspiring physicians who share those same patient-centered values will continue to choose careers in family practice.

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