Family physicians meet the medical needs of people in American society. 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 is a well-trained family physician available for everyone in America who wants and needs one. According to the recent Future of Family Medicine study, what family physicians are prepared to deliver is just what Americans want. 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.

Through its comprehensive Student Interest Initiative, the AAFP has developed and implemented numerous projects since 1988 to increase student awareness of and interest in family medicine. Student activity on campuses in family medicine interest groups and participation as student members of the AAFP continue each year. In 2004, student AAFP membership reached 19,100, nearly one third of all US medical students. The presence of departments of family medicine in all but 11 US medical schools, the establishment of required clinical clerkships in family medicine in more than 80% of medical schools, and increased opportunities for family medicine elective experiences have improved the environment of medical education.

Despite those efforts, from the results of the 2004 National Resident Matching Program (NRMP), how-

Results of the 2004 National Resident Matching Program: Family Medicine

Perry A. Pugno, MD, MPH, CPE; Deborah S. McPherson, MD; Gordon T. Schmittling, MS; Gerald T. Fetter, Jr; Norman B. Kahn, Jr, MD

The results of the 2004 National Resident Matching Program (NRMP) reflect a leveling in the recent trend of declining student interest in family medicine residency training in the United States. Compared with the 2003 Match, 34 more positions (36 fewer US seniors) were filled in family medicine residency programs through the NRMP in 2004, at the same time as 14 fewer (four fewer US seniors) in primary care internal medicine, 10 more in pediatrics-primary care (one more US senior), and 35 more (38 more US seniors) in internal medicine-pediatric programs. In comparison, one less position (one more US senior) was filled in anesthesiology and seven fewer (five more US seniors) in diagnostic radiology, two “marker” disciplines that have shown increases over the past several years. 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, continue to influence medical student career choices. A total of 165 more positions (12 more US seniors) were filled in categorical internal medicine while 164 more positions (15 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. With the needs of the nation, especially for rural and underserved populations, continuing to offer opportunities for family physicians, family medicine experienced a slight increase through the 2004 NRMP. The 2004 NRMP suggests that the trend away from family medicine and primary care careers may be leveling off.

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ever, it is clear that US student interest in primary care, particularly in family medicine, remains of concern. 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 medicine as a career choice.

**2004 NRMP Results:**

**Family Medicine**

Family medicine residency programs offered 2,884 first-year positions through the 2004 NRMP, a decrease of 56 from 2003. On Match Day 2004, 2,273 of these positions were filled through the Match, an increase of 34 from 2003 for a fill rate of 78.8%, compared with 76.2% in 2003, 79.0% in 2002, 76.3% in 2001, 81.2% in 2000, and 82.6% in 1999 (Figure 1). A total of 36 fewer US seniors matched into family medicine residencies in 2004 compared with 2003 (1,198 versus 1,234)5,6 (Figure 2).

Of those US seniors who successfully matched in 2004, 8.8% matched in family medicine, compared with 9.2% in 2003, 10.5% in 2002, 11.2% in 2001, 13.6% in 2000, and 14.8% in 1999. Of all participating US seniors in the 2004 NRMP, 8.2% matched in family medicine, compared with 8.6% in 2003, 9.9% in 2002, 10.5% in 2001, 12.8% in 2000, and 13.9% in 1999.5,6 In 2004, the Pacific region had the highest fill rate in family medicine (92.4%), while the West North Central region had the lowest fill rate in family medicine (67.5%)3 (Figure 3).
In addition to US MD graduates in 2004 who filled 52.7% of matched positions in family medicine, 1,075 other graduates matched in family medicine in 2004, compared with 1,005 in 2003, 944 in 2002, 847 in 2001, 770 in 2000, and 673 in 1999. These include 484 (432 in 2003) non-US citizens educated internationally (21.3%), 271 (232 in 2003) graduates of colleges of osteopathic medicine (11.9%), 257 (271 in 2003) US citizens educated internationally (11.3%), 55 (56 in 2003) physicians who graduated from US medical schools prior to 2003 (2.4%), eight (nine in 2003) “fifth pathway” students (0.4%), and six (five in 2003) Canadian medical school graduates (0.3%).

Comparison With Other Generalist Disciplines

More US seniors matched in categorical internal medicine residencies, increasing by 12 from 2,590 in 2003 to 2,602 in 2004. Also, three more US seniors chose preliminary internal medicine positions (students who choose to complete 1 year of internal medicine before continuing in another specialty): 1,471 in 2004, compared with 1,468 in 2003, 1,398 in 2002, and 1,271 in 2001. Four fewer US seniors chose careers in primary care internal medicine through the 2004 Match (188), compared with 2003 (192). Thirty-eight more US seniors chose combined internal medicine-pediatric training in 2004 (296) compared with 2003 (258). Seventy-seven more positions were filled in 2004 (2,284) in pediatrics (all types) compared with 2003 (2,207), and the number of US seniors increased by 21 from 1,663 in 2003 to 1,684 in 2004. Categorical pediatrics programs matched 1,611 US seniors in 2004, 15 more than the 1,596 matched in 2003 (Figure 4). In 2004, 95 positions were offered in pediatric-primary care programs, up from 86 in 2003, of which 48 were filled with US seniors, compared with 47 in 2003.

More international medical graduates (IMGs) continue to match in internal medicine (1,915 into categorical, preliminary, primary care, and internal medicine-pediatrics), compared with pediatrics (418) and family medicine (735). Similarly, among the matched IMGs, the percentage of non-US citizens is higher in internal medicine (79.4%) compared with pediatrics (68.4%) and family medicine (65.9%).

July Fill Rate

Since 1987, more positions have been offered in family medicine 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. The 2004 July fill rate in family medicine residencies was 93.5% (3,275 of 3,501), an increase of 21 positions filled compared with 2003, when the July fill rate was 95.7%.

On July 1, 2004, 9,825 residents were training in 464 programs, an average of 21.2 per program, compared with 9,995 (21.1 per program) in 2003, 10,130 (21.7 per program) in 2002, 10,262 (22.1 per program) in 2001, 10,503 (22.3 per program) in 2000, 10,632 (22.4 per program) in 1999, 10,687 (23.0 per program) in 1998, 8,513 (20.8) in 1994, and a nadir of 7,279 (19.1) in 1988. There are currently 3,275 first-year residents, an average of 7.1 per program, compared with 3,329 (7.0 per program) in 2003, 3,360 (7.2 per program) in 2002, 3,399 (7.2 per program) in 2001, 3,475 (7.4 per program) in 2000, and 3,538 (7.5 per program) in 1999.

Graduates of colleges of osteopathic medicine filled 498 first-year positions (15.2%) in July 2004, compared with 481 (14.4%) in 2003, 452 (13.5%) in 2002, 461...
(13.6%) in 2001, 378 (10.9%) in 2000, 355 (10.0%) in 1999, 362 (10.1%) in 1998, and 232 (7.6%) in 1994. In 1981 the DO fill rate was 2%.

This increase in osteopathic graduates selecting allopathic family medicine programs is likely to be due to regulatory changes in both the allopathic and osteopathic matching programs, which now effectively prohibit osteopathic graduates from participating in both, and the recent increase in dually accredited residency programs from 26 in 2003 to 40 in 2004.

In July 2004, 1,257 (38.4%) of the 3,275 first-year family medicine residents were IMGs, compared with 1,241 (37.3%) in 2003, 1,087 (32.4%) in 2002, 1,001 (29.4%) in 2001, 789 (22.7%) in 2000, 659 (18.6%) in 1999, 523 (14.7%) in 1998, and 593 (19.3%) in 1994. A total of 618 (18.9%) first-year residents were non-US citizen IMGs, compared with 579 (17.4%) in 2003, 466 (13.9%) in 2002, 430 (12.6%) in 2001, 351 (10.1%) in 2000, and 292 (8.3%) in 1999. A total of 639 (19.5%) were US citizen IMGs, compared with 662 (19.9%) in 2003, 621 (18.5%) in 2002, 571 (16.8%) in 2001, 438 (12.6%) in 2000, and 367 (10.4%) in 1999.

Interestingly, of the 516 IMGs (compared to 538 in 2003) who entered PGY-I positions in family medicine residencies after the 2004 Match, 74.0% (compared with 72.7% in 2003) were US citizens. Factors affect-
ing this year’s differences are likely to be the increased involvement of osteopathic medical graduates and the challenges associated with non-citizens obtaining visas to train in the United States. The net effect of these changes, however, is a decrease of 87 US allopathic graduates entering family medicine residencies in July 2004 compared with July 2003 (1,520 versus 1,607 residents).

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 medicine residency programs, then followed by 6 consecutive years of decline, 2004 represents the first increase in positions filled in family medicine through the NRMP since 1997. Reviewing the Match performance of other specialties for the same time period suggests varying 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 322 US seniors in 2004. 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 then again increased to 116 in 2003 and 121 in 2004.

By comparison, family medicine had increased steadily for 6 years from 1991 through 1997. Family medicine gained 966 US seniors in the Match over that period. However, although the overall Match numbers increased in 2004, over the past 7 years, family medicine has lost 1,142 US seniors in the Match or 48.8% of the record number of US seniors matching in 1997.

Family medicine’s primary care colleagues experienced varied trends in the 2004 Match as well. Internal medicine-primary care offered 26 fewer positions this year and, for the seventh 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, 298 in 2003, and 284 in 2004) and in positions filled with US seniors (376 in 1998, 347 in 1999, 281 in 2000, 234 in 2001, 204 in 2002, 192 in 2003, and 188 in 2004). Combined internal medicine-pediatric residencies filled 35 more positions (352 in 2004 versus 317 in 2003) and with 36 more US seniors (296 in 2004 versus 258 in 2003). In combined internal medicine-pediatrics, the fill rate was higher than in 2003 for both total positions (88.0% versus 82.3%) and for positions filled with US seniors (74.0% versus 67.0%). In internal medicine categorical, more positions were offered in 2004 compared with 2003 (4,751 versus 4,692), with a higher fill rate than in 2003 for total positions (97.4% versus 95.1%) but a lower rate for positions filled with US seniors (54.8% versus 55.2%).

In the 2004 Match, pediatrics similarly had variable results in both positions filled and those filled with US seniors. Pediatrics-primary care increased its positions filled from 84 in 2003 to 94 in 2004. Its overall fill percentage increased from 97.7% in 2003 to 98.9% in 2004 but with a decrease in positions filled with US seniors from 54.7% in 2003 to 50.5% in 2004. Pediatrics-categorical increased both its overall positions filled in 2004 from the prior year (2,163 versus 2,099) and in those positions filled with US seniors (1,611 versus 1,596).

Internal medicine-preliminary, for the seventh year in a row, increased its number of positions offered (1,887 versus 1,839) as well as the positions filled (1,685 versus 1,663) and those filled with US seniors (1,471 versus 1,468). Consequently, for internal medicine-preliminary, the overall fill percentage decreased
in 2004 (89.3% versus 90.4%) as did the percentage filled with US seniors (78.0% versus 79.8%). It is noteworthy that for transitional residency programs, more positions were offered this year than last (1,065 versus 1,033) with more positions filled overall (990 versus 970) and more filled with US seniors (882 versus 866). The percentage of transitional year residencies filled with US seniors slightly decreased from 83.8% in 2003 to 82.8% in 2004.

A movement of US seniors away from family medicine and internal medicine-primary care continues in 2004 but not from 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, the number of US seniors increased only slightly. 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 it as more surgical orientation. After 4 years of decreases from 1998 to 2001 and a slight increase in 2002, OB-GYN residencies in 2003 and 2004 continued to experience a decrease in positions filled with US seniors (743 in 2004 and 786 in 2003 versus 848 in 2002) but a slight increase in total positions filled (1,066 in 2004 versus 1,050 in 2003).

In the 2004 NRMP, all of the primary care programs except internal medicine-primary care experienced an increase in filled positions since 2003. All primary care programs experienced an increase in the rate of positions filled of those offered in 2004. The fill rate for family medicine increased 2.6%, internal medicine-primary care increased 3.5%, pediatrics-primary care increased 1.2%, and internal medicine-pediatrics increased 5.7%.

Contributors to Recent Trends

Multiple factors contribute to the current 7-year trend of decreased interest by US seniors in family medicine. Increasingly apparent is the perception by students that family medicine lacks the prestige of other specialties within academic health centers. Disparaging remarks made to medical students about an interest in family medicine by faculty and residents is a commonly cited experience. 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. 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 subspecialist-oriented medical curriculum.

At the other end of the spectrum, some medical students report concerns associated with family medicine because it is “too hard,” questioning physicians’ capacity to master the content needed to practice comprehensive, evidence-based medicine. In part, these concerns may explain the observation that students selecting internal medicine-pediatrics share many values with those selecting family medicine. This perspective has been exacerbated by the challenges of primary care practice in an environment of increased penetration of overmanaged 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. The extent to which physicians voice dissatisfaction can dissuade medical school graduates from choosing careers in primary care.

As numbers of applicants to medical school plummeted from a peak of 46,965 in 1996 to 33,625 in 2002, while medical school indebtedness continues to escalate to an average of more than $100,000 at graduation, consideration must be given to the motivation of the applicant pool toward primary care careers. 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 medicine. As a result of the perception of nearly 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 admission committees may therefore be less often prioritizing among applicants whose characteristics are associated with the selection of primary care careers, particularly family medicine. The effect of this pipeline drain may minimize the apparent impact of educational debt on medical student specialty choice.

The infrastructure of US medical education continues to play a powerful role in determining how many graduates enter family medicine 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 medicine residencies as well as internal medicine and pediatric residencies. One of the most important variables for predicting the proportion of students at a medical school who choose family medicine is the proportion of faculty who are family physicians. In 2004, 11 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 medicine residencies. 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. 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). More than a decade later, 11 LCME-accredited US medical schools still do not have required clinical clerkships in family medicine.

The year 2004 is now the sixth in a row in which fewer positions were offered in family medicine through the Match than the year before (2,884 versus 2,940). Despite a small increase in the number of positions offered in July (3,501 in 2004 versus 3,480 in 2003), there was also another decrease in the number of functioning family medicine programs (464 in 2004 versus 474 in 2003). This decrease in programs is the result of a complex interplay of transitional forces in the marketplace. Among those changes are the continued reductions in federal support for GME through the Medicare program. Such financial pressures have been identified as pivotal in the closure of many family medicine residencies over the past 4 years.

Finally, the turbulence of the US health care environment and increasing student debt support the appearance of medical students selecting careers that provide them both economic and practice security. High Match percentages in diagnostic radiology, anesthesia, 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 2004, 36 fewer US seniors chose family medicine through the NRMP than the previous year, while more 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 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 medicine has experienced the largest share of the shift in interest among US medical students. The magnitude of this shift represents the 1,142 fewer US seniors choosing family medicine residencies in 2004 compared with 1997 or an average of 9.1 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 medicine residencies has decreased from 474 in 2003 to 464 in 2004, with less than 3,300 residents in each of the 3 years of training. This is approximately 300–600 below the number of annual graduates needed to achieve the projected family physician workforce needed for the nation. In a recent national study, 30% of medical school deans and 54% of medical societies agree there is a national shortage of family physicians and general internists.

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, as well as 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 not only the demands of today’s health care marketplace but 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, 20,100 in 2003, and 19,100 in 2004. It is important to note, however, that 11,397 US seniors over the past 7 years did match to family medicine residencies in spite of the often-negative influences from within
and outside of the medical education environment. Thus, the 1,198 US seniors who chose family medicine in the 2004 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.

A study of the factors influencing medical students in their choice of family medicine 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. Numerous studies continue to attempt to identify and understand drivers of student interest in family medicine. In May 2004, in conjunction with the organizations of family medicine and other stakeholders, a Student Interest Summit was conducted to develop strategies aimed at affecting the modifiable factors associated with student interest in family medicine as defined by this evidence and the findings of the Future of Family Medicine (FFM) project. The Summit has resulted in a series of both short- and long-term recommendations that will come under consideration by the leadership of the family medicine organizations over the coming months.

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 medicine. Further recommendations include the identification and integration into medical school curricula of exceptional practices to strengthen the attitudes and behaviors that characterize medical professionalism. Additionally, emphasis is being placed on recruiting, developing, and retaining competent, positive family physician role models to interact with medical students interested in family medicine.

The “family” of family medicine (AAFP, Association of Departments of Family Medicine, Association of Family Medicine Residency Directors, North American Primary Care Research Group, and Society of Teachers of Family Medicine) is challenged to identify strategic interventions that will support the interests of medical students seeking a career in family medicine. In response to that challenge, the Family Medicine Working Party undertook the FFM project, with task forces to identify the core attributes of family medicine, reform family medicine to meet consumer expectations, determine systems of care to be delivered by family medicine, and determine the training needed for family physicians to deliver core attributes and system services.

Notable among the findings of the national market research conducted in the FFM project are that people in America value what family physicians offer, namely a personal medical home wherein they experience a continuous relationship. Within that primary medical relationship, people want, expect, and value a set of services, including acute care, chronic care, disease prevention, care in the hospital setting, and primary mental health care. Family physicians are prepared to deliver what people want, expect, and value and are satisfied with their abilities to deliver it. The discipline faces a handful of now clearly identified challenges as it prepares for the next generation of care: clearly communicating the specialty of family medicine to the public, organizing individual practices into a recognized brand, challenging the disrespectful climate of academia, enhancing reimbursement, and communicating the attractiveness of a career in family medicine.

The final recommendations from the FFM project were first released in April 2004. Over the course of the next several months, the family medicine organizations will be crafting their strategic plans and tactics to carry out the recommendations and to renew the specialty. Will the discipline of family medicine be able to sustain itself through this period of low US medical student interest? Will the initiatives prompted by evidence from the Arizona Study, the Student Interest Summit, 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 medicine.

Corresponding Author: Address correspondence to Dr Pugno, American Academy of Family Physicians, 11400 Tomahawk Creek Parkway, Leawood, KS 66211. 913-906-6000. Fax: 913-906-6092. ppugno@aafp.org.

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