

**IN-DEPTH ANALYSIS****Introduction**

The American Academy of Family Physicians advocates for the advancement of primary care to deliver on the triple aim of better care, better health outcomes, and lower cost of health care in the U.S. Results of the annual National Resident Matching Program® (NRMP) Main Residency Match® (“NRMP Match”) are analyzed, along with other sources, to advise the academic community, legislators, regulatory bodies, and others on trends predicting the primary care workforce of the future.

While measures indicate that medical student interest in family medicine is on the rise, significant barriers in the educational and practice environments are stifling growth in family medicine specialty choice among U.S. medical graduates, as well as overall growth in family medicine residency training slots at the rate needed to adequately address the primary care physician shortage plaguing the U.S.

The information provided in the AAFP’s report “2015 Match Results for Family Medicine: In-Depth Analysis” is based largely on data from the NRMP Advance Data Tables: 2015 Main Residency Match, as well as other sources, and includes the number of applicants to graduate medical education programs for entry in the 2015-16 academic year, specialty choice, and trends in specialty selection. The information points to overall increases in production of family medicine physicians, reflecting more interest in family medicine careers by U.S. medical students. At the same time there is a growing primary care workforce need that’s greater than the current rate of increase in U.S. medical school production of family medicine residents or available family medicine residency positions.

**2015 NRMP Match Results****Family Medicine**

Family medicine residency programs offered 84 more positions in the 2015 NRMP Match (family medicine includes family medicine categorical, plus combined programs: emergency medicine-family medicine, family medicine-preventative medicine, medicine-family medicine, and psychiatry-family medicine) than in 2014 (3,216 vs. 3,132), and filled 60 more positions, for a total of 3,060 students matching to family medicine in the 2015 NRMP Match (vs. 3,000 in 2014). Of those, 1,422 are current seniors in Liaison Committee on Medical Education (LCME)-accredited U.S. schools of medicine (U.S. seniors), an increase of 339 since 2010 but only six over 2014 (1,416), as shown in *Figure 1*.

At this time, information is unavailable for the other six NRMP applicant categories: previous graduates of U.S. MD-granting medical schools, students/graduates of Canadian medical schools, DO-granting medical schools, fifth-pathway programs, U.S. citizen international medical schools, and non-U.S. citizens of international medical schools.

This continues a six-year trend of increases for family medicine in positions offered, filled, and filled with U.S. seniors in the NRMP Match. It also marks the highest number of positions filled in family medicine



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in more than 20 years, yet more than 900 fewer matches among U.S. seniors than the peak over the same time frame (2,340 U.S. seniors matched in 1997). In total, 8.4% of matched U.S. seniors in 2015 were in family medicine, a slight decrease from 2014 (8.6%). Total positions offered in all specialties in the NRMP Match were 26,678, and 16,399 were filled with U.S. seniors (*Figure 2*).

The overall fill rate for family medicine was 95.1%, similar to 2014 (95.8%). This reflects an overall decreasing gap between positions offered and positions filled in family medicine from a low over the past two decades of 76.2% in 2002 and the implementation of the NRMP Supplemental Offer and Acceptance Program™ (SOAP) that was implemented in 2012. The fill rate for U.S. seniors decreased drastically from 1996 (72.6%) to 2005 (40.7%), and has remained below 50% for the past decade (*Figure 3*).

Family medicine combined programs filled at 100%, a fairly consistent trend. Psychiatry-family medicine filled 10 positions, all with U.S. seniors; family medicine-preventative medicine filled five positions, all with U.S. seniors; emergency medicine-family medicine filled four positions, one with U.S. a senior; and medicine-family medicine filled two positions, one with a U.S. senior.

Family medicine categorical programs filled 3,039 positions out of 3,195 offered, 1,405 of those with U.S. seniors.

In total, family medicine positions made up 11.7% of the positions offered in the 2015 NRMP Match and 11.6% of the positions filled. Family medicine programs filled with U.S. seniors at a rate of 44.2%.

Family medicine's growth in total number of positions offered was second only to internal medicine-categorical, which offered 246 more positions this year (247 in 2014), over family medicine-categorical's 86 additional positions (70 in 2014).

### Other Primary Care Specialties

The most commonly cited definition of primary care comes from the Institute of Medicine and identifies primary care as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.”<sup>1</sup> Family medicine is the only physician specialty solely focused on providing primary medical care, which lends particular importance to the trends in family medicine workforce development, especially the recruitment rate for new family medicine residents as evidenced by the Match. However, family medicine is not the only physician specialty to deliver primary medical care, nor are physicians the only health care providers to deliver primary care.

To put this into context with the larger workforce supply and demand projections, see the section of this report titled “Primary Care Workforce Projections.”

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For the purposes of this analysis on physician recruitment through the NRMP Match, primary care is defined as family medicine categorical and combined programs, internal medicine-primary, internal medicine-preventative medicine, and pediatrics-primary.

Primary care positions made up 15% of the positions offered in the 2015 NRMP Match (4,018), 15% of the positions filled (3,859), and 12% of the positions filled with U.S. seniors (1,977). This reflects a 2.9% increase in the number of positions offered in primary care specialties over 2014, and almost no change in fill rates (*Figure 4*).

Of all the primary care specialties, family medicine saw the largest increase in positions offered and filled. Family medicine consistently offers and fills the majority, about four-fifths, of all primary care positions.

Medicine-primary (primary care internal medicine) filled six more positions than 2014 (339 vs. 333), with 206 positions filling with U.S. seniors out of 341 total positions offered.

Medicine-pediatrics (Med-peds) filled 17 more positions than the year prior at 379, filling 319 of those with U.S. seniors—an increase of 35 positions filled with U.S. seniors than in 2014, while only six more medicine-pediatrics positions were offered over the year prior (380 vs. 374). This, coupled with the fact that the specialty filled all but one position, reflects an uptick in both total and U.S. senior interest in med-peds year-over-year.

Pediatrics-primary (primary care pediatrics) filled one fewer position (74 vs. 75), with a decrease of U.S. seniors (26 vs. 34) and filling at 100% overall.

The average fill rate for all primary care specialties in 2015 is 96%, with 49.2% filled by U.S. seniors, virtually unchanged from 2014.

**Specialty Care (Secondary, Tertiary, and Quaternary Care)**

Internal medicine positions (including combined programs) offered in the 2015 Match increased by 284; however, all but six of the additional positions were in non-primary programs (9,492 vs. 9,208). Of all internal medicine and pediatrics positions, 12,103 positions were matched of 12,323 offered, 7,265 of those with U.S. seniors (59%). Adjusting for positions likely to lead to primary care delivery as defined above, non-primary care internal medicine and pediatrics positions make up the vast majority of positions offered (11,521 of 12,323 positions offered). Positions identified as primary care within internal medicine and pediatrics specialties matched at a higher rate with U.S. seniors at 69.2% (555 positions of 802 total matches) than those potentially leading to subspecialties (*Figure 5*).

Specialties that tend to be popular career choices for medical students are likely to be so because of a number of factors, including perceptions about lifestyle and a real income gap. One classification of



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such specialties is the label “E-ROAD” (emergency medicine, radiology, ophthalmology, anesthesiology, and dermatology), and those programs filled with a higher proportion of U.S. seniors than primary care programs (77% vs. 51%), reflecting that these specialties continue to be attractive to U.S. seniors.

The specialties (with at least 10 positions offered) that filled 90% or more of positions offered with U.S. seniors include plastic surgery, otolaryngology, pediatrics-psychiatry-child psychiatry, orthopedic surgery, radiation oncology, dermatology, and neurological surgery.

In terms of growth in positions offered, anesthesiology added more than all other specialties besides internal medicine-categorical and family medicine-categorical (see “Family Medicine”) with 45 additional positions (49 additional in 2014), followed by emergency medicine with 35 additional positions (43 in 2014). PGY-1 transitional year positions represent the only positions to be significantly reduced in the 2014 Match (842 offered in 2015, 868 in 2014, 937 in 2013). The reduction in transitional year positions is consistent with a recommendation of the Council on Graduate Medical Education (COGME) in its 21st report to eliminate transitional year positions and excess preliminary non-categorical positions over time.<sup>2</sup>

## **All Matching Services**

### **National Resident Matching Program in Context of Residency Recruitment**

The National Resident Matching Program® (NRMP®) Main Residency Match® marks the largest and most representative mechanism for medical student recruitment into specialized medical residencies in the U.S. In 2015, 27,293 positions were offered in the NRMP Match, of which 26,252 were filled, and 16,932 filled by students graduating from U.S. medical schools (U.S. seniors).

However, the NRMP Match is not the only mechanism through which a medical student or graduate is matched with their required graduate medical education, or residency, in a specialized field to lead to board certification in a (or multiple) medical specialty. As such, there are limitations to consideration of NRMP data in isolation as it relates to health care workforce projections.

The other prominent match processes for medical students or graduates to graduate medical education programs are the American Osteopathic Association (AOA) Intern/Resident Registration Program, which matched 1,997 graduating osteopathic medical students in February 2015, and the military match, which takes place in December of the year prior to the start of the graduate training programs. Although the military match does not publish its results, the AAFP obtained data from personal communication: 800 graduating medical students matched into U.S. Army, Navy, or Air Force graduate medical training. Those that matched into family medicine include:



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- Army: 48 slots filled
- Navy: 45 slots filled
- Air Force: 51 graduates matched into Air Force training programs; 21 were deferred into civilian training programs<sup>3</sup>

Both the AOA and the military matches include only U.S. medical graduates.

Data released by the NRMP and the AOA during the spring do not take into account matches made beyond the initial Match, such as the NRMP's Supplemental Offer and Acceptance Program, and therefore also do not capture graduates matched through these venues until reporting later in the year.

A limited number of residency training positions are filled outside of any matching service.

As such, analysis immediately following release of the NRMP Match results that takes into account these three sources provides a telling look at the current trends in medical training opportunities and preferences for medical school graduates, but does not provide a complete synopsis.

The American Academy of Family Physicians conducts an annual Residency Census in the late summer that captures all matriculation into family medicine residencies accredited by the Accreditation Council for Graduate Medical Education (ACGME). The AAFP's complete family medicine graduate medical education and match analysis are published in the fall of 2014 in the journal *Family Medicine*.

### Osteopathic Match

Family medicine saw a 6% increase in the number of osteopathic medical students matched in the AOA Intern/Resident Registration Program in 2015 (549 vs 519).<sup>4</sup> Family medicine matches made up 25.2% of all matches in the AOA Match, consistently higher than the proportion of family medicine matches through the NRMP. As the U.S. is the only country that trains osteopathic physicians, the AOA Match does not include international medical graduates.

The fill rate for family medicine remained lower than for the Main Residency Match at 60.3%. Family medicine residencies offered 911 positions in the AOA Match, 31 more than in 2014, and the remaining 362 unmatched positions were attempted to be filled through an informal supplemental matching process through the AOA or offered in the Main Residency Match through the NRMP.

The AOA defines primary care as all positions in family medicine, internal medicine, pediatrics, and OB/Gyn, and as such its reports for primary care are broader than the definition the AAFP subscribes to based on likelihood of physicians to practice primary care following residency. In the 2015 Match, the AOA reported 54% of its positions, or 1,171 placements, were in these four specialties.





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The largest movements year-over-year in the AOA Match were for internal medicine (497 positions matched, up 13% over 2014), general surgery (144 positions matched, up 12% over 2014), and emergency medicine (289 positions matched, up 8% over 2014).

The AOA Match's overall fill rate was 75%, with 2,179 students matching out of 2,907 total applicants.

## Medical Education Training Environment

### Medical School Growth

In 2006, the Association of American Medical Colleges recommended a 30% increase in U.S. medical school enrollment to address growing concerns of a physician shortage.<sup>5</sup> Expansion of both allopathic and osteopathic medical schools has accelerated over the last decade, resulting in more medical students in the U.S. than any time in history. Enrollment reports for the 2014-15 academic year for students entering in the fall of 2014 total 109,875 medical students training at 142 allopathic and 30 osteopathic medical schools. The Association of American Medical Colleges predicts a 45% increase in medical school enrollment compared to 2002 levels, with osteopathic schools accounting for 45% of that growth.<sup>6</sup>

The federal government has been funding graduate medical education (GME) since the creation of Medicare in 1965 at a level that has grown to nearly \$15 billion annually in public tax dollars (including both mandatory (Medicare and the federal Medicaid match) and discretionary appropriations (U.S. Department of Health and Human Services Health Resources Services Administration, U.S. Department of Veterans Affairs, and the U.S. Department of Defense). In order to curb spending, a cap was placed on the number of residency positions in 1997. Despite this cap, the number of residents in training increased from 2002 to 2012 by 17.5%<sup>7</sup> largely due to subspecialty growth. The number of available positions in the 2014 NRMP Match exceeded the number of U.S. applicants by more than 7,000.

Because of the timing of the Match, complete statistics on the 2015 graduating class is not yet available. More complete data is accounted for in the publication "[Entry of US Medical School Graduates Into Family Medicine Residencies](#)." Information reflecting medical school graduates into family medicine as of 2013 is reflected below.

Medical schools graduating a class in 2013 totaled 130. Seventy of those schools produced 80% of the students who entered family medicine residencies. The average percentage of graduates into family medicine residency positions from U.S. medical schools is 8.5%, with individual schools ranging from 0% to 24.6%, with only four of the 130 graduating more than 20% in family medicine. In contrast, 11 of the 29 DO-granting medical schools graduated more than 20% into family medicine.<sup>8</sup>

**IN-DEPTH ANALYSIS****Family Medicine Residencies**

To meet the projected demand, up to 1,700 additional residency slots in primary care specialties would be necessary by 2035 (see section titled “Primary Care Workforce Projections”).

The rate of growth for family medicine residencies since 2011 has been significantly higher than in years prior. Between 2008 and 2011, only nine new Accreditation Council for Graduate Medical Education (ACGME)-accredited family medicine residencies were approved.<sup>9</sup> During the 2014-15 academic year, 12 new family medicine residencies were accredited, with 14 new accredited the year prior. The total number of ACGME-accredited family medicine categorical (traditional) residencies that had the potential to offer positions in the NRMP Match for 2014 is 480 programs. The NRMP reports that 490 programs listed for family medicine, but some uncertainty exists about whether those all represent singular family medicine residency programs, or whether some singular programs, such as combined family medicine programs, were able to list positions under more than one category of family medicine, such as family medicine and family medicine-preventative medicine. This makes exact calculations impossible with published data, but leads the AAFP to conclude that the vast majority of family medicine positions offered by ACGME-accredited family medicine residencies are filled using the NRMP Match.

The American Osteopathic Association lists 250 residency programs in family medicine, 96 of which are accredited both through the AOA and through the ACGME.<sup>10</sup>

Approximately two-thirds of family physicians are trained in community-based residency programs—community hospitals (including intensive care, surgical care, and maternity care), community health centers (including federally qualified health centers [FQHCs] and FQHC “look-alikes”), and training programs supported by the Teaching Health Center Graduate Medical Education (THCGME) program. Much of the growth in family medicine residency programs in recent years has been due to the THCGME program, and the growth also reflects the value sponsoring institutions see in family medicine training and delivery.

**Single Accreditation System**

In March 2014, the AOA, American Association of Colleges of Osteopathic Medicine, and the ACGME announced a landmark creation of a memorandum of understanding to create a single GME accreditation system by 2020. The goal is to create a simplified system to eliminate duplication, reduce cost, and to ensure that the evaluation of and accountability for the competency of all resident physicians will be consistent across all programs.

The merger of two accreditation systems will be a complex and challenging task because it will involve changing long-standing cultures and require many logistical changes.



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Among all of the specialties, family medicine has the highest number of programs that are currently accredited by both the AOA and the ACGME (“dually accredited”). Starting in July 2015, osteopathic family medicine residency programs that been accredited by the AOA can apply for ACGME accreditation. In addition, all programs accredited by the ACGME will be able to apply for designation as osteopathic recognition if they substantially comply with a set of osteopathic principles and practice and deliver an osteopathic-focused curriculum and required experiences.

The current program requirements for family medicine are very similar in the ACGME and AOA accreditation systems. Therefore it is anticipated that many of the current AOA-only accredited programs will apply for ACGME accreditation over the next five years.

After July 1, 2020, AOA accreditation will cease to exist. Therefore, it can be assumed that there will likely be the need for only one matching process.

## Primary Care Workforce Projections

### The Situation

Health care systems based on primary care have better quality of care, better population health, greater equity, and lower cost. Among developed nations, the ratio of primary care physicians to subspecialists is one of the strongest predictors of health outcomes. At the time when the ratio of primary care physicians has significantly eroded, the U.S. has fallen to, or is near the bottom, for health indicators among the developed nations.<sup>11</sup> Therefore, the U.S. faces a critical shortage of primary care physicians along with all primary care providers, costs that are more than any other developed country and worse health outcomes including shorter lives and poorer health of its citizens.

High-functioning primary care teams and teamlet models involving physicians, physician assistants, nurse practitioners, medical assistants, social workers and health coaches have increasingly helped to address some of the well documented strain on the primary care workforce, though these models are tenuous because of uneven and fairly limited funding. Building and sustaining a high-functioning primary care infrastructure with a sufficient workforce of physicians and other health professional remains a major challenge. For the sake of analysis of family medicine and the National Resident Matching Program® (NRMP) Main Residency Match®, which are limited to physician production, this analysis will focus on the specific implications for primary care and family medicine physician workforce.

“Primary care is first-contact, continuous, comprehensive, and coordinated care provided to populations undifferentiated by gender, disease, or organ system. The elements of first contact, continuity, comprehensiveness, and coordination are included in most definitions proposed by professional organizations, agencies, and commissions.”<sup>12</sup> By that definition, family medicine is the only medical





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specialty completely dedicated to primary care, and as such, the role of family physicians, along with general internists and general pediatricians and other critical members of the health care team, is crucial in delivering on the triple aim: improved patient care, improved quality, and lower costs.<sup>13</sup> Unfortunately, the percentage of physicians practicing primary care has declined dramatically since 1961, when half of U.S. physicians were generalists, primarily general practitioners.<sup>14</sup>

The current primary care physician shortage — driven by an increase in the number of people who have health insurance, aging, and growth of the U.S. population—is estimated to reach 33,000 primary care physicians by 2035, with an especially steep trajectory over the next 10 years. Based on projections of primary care workforce supply and demand, the necessary production of new family medicine residency graduates is estimated to be as much as a 30% increase over the current level or an additional 1,117 more family medicine residency graduates by 2035.<sup>15</sup>

Currently, there are 214 million office visits to family physicians each year in the U.S.—74 million more than the next largest medical specialty.<sup>16</sup> The distribution of family physicians across the U.S. mirrors the distribution of the U.S. population more closely than any other medical specialty, and as such, family physicians provide more care for America's underserved and rural populations than any other medical specialty. Care provided by family physicians, general internists, and general pediatricians specifically trained in the delivery of continuous and comprehensive primary care is unique to the delivery of primary care services that may be provided by non-primary care physicians, which may be limited in scope and frequency and fall short of the continuous and comprehensive threshold. Training in family medicine is specifically designed to achieve the expertise inherent in the principles of family medicine—care that is first contact, continuous over time, comprehensive in nature, and integrated with other parts of the health system.

Family medicine has been the highest recruited medical specialty for physician employment for eight consecutive years, with general internal medicine being the second-highest recruited medical specialty over the same time period, highlighting the continued nationwide demand for primary care physicians.<sup>17</sup>

### Where We're Going

Growth in the number of family medicine residency programs, family medicine residency training slots, and Match rates into family medicine by both U.S. medical graduates and overall is a positive sign, especially taking into account that these changes have taken place at a time when there is a cap for federal funding of residency positions and a lack of accountability for a medical education system that is largely funded through taxpayer dollars, yet is not tied to the actual health care needs of U.S. citizens. The 2010 upward curve in the production of family medicine matches from what was a downward trend that started in the late 1990s is a testament to increasing valuation of primary care in the U.S. health care system.



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However, these incremental changes are not adequate to addressing the crisis plaguing the U.S. health care system and its patients across the country, caused by decades of neglect, misalignment of priorities and resources in medical education, and the inherent financial interest and competition between parties in the health care industry. Addressing the crisis requires reform of the graduate medical education system such that additional training positions are created for primary care, as well as added social accountability for the undergraduate and graduate medical education training in the U.S., by providing incentives and requirements for those training programs to produce the physician supply needed to address the health care needs in the U.S.

Some programs are making progress toward this goal, including the Teaching Health Center Graduate Medical Education (THCGME) program, which currently trains more than 500 primary care physicians and dentists at 60 training sites in underserved communities in 24 states. The National Health Service Corps program from the U.S. Department of Health and Human Services has more than 9,200 clinicians providing care to approximately 9.7 million patients across the country, plus another 1,100 students, residents, and other providers in training.<sup>18</sup> This program is unique because federal funding flows directly to the health centers rather than to the hospital.

Though the scale of these programs is not at a level to eradicate the primary care shortage independently, the creation of such programs is a testament to the valuation of primary care training and an important step in the right direction.

[The Health is Primary: Family Medicine for America's Health](#) project chartered by eight family medicine organizations calls for a seven-pronged strategy to address the health needs of the U.S. and make the health care system sustainable, including actively engaging patients, policymakers, and payers to develop an understanding of the value of primary care.

- Broad access to sustained, primary care relationships
- Accountability for increasing primary care value in terms of cost and quality
- Commitment to helping reduce health care disparities
- Moving to comprehensive payment and away from fee-for-service
- Transformation of training
- Technology to support effective care
- Improving research underpinning primary care

### **Student Interest in Family Medicine**

U.S. medical student interest in family medicine is on the rise, evidenced by measures that reach across the nation. However, barriers to family medicine specialty choice, particularly due to factors at the federal and system level affecting the educational and practice environments, are preventing student interest from translating into student choice at the same rate.



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More — and a higher proportion of — U.S. medical students than ever before have made the choice to join the American Academy of Family Physicians. Approximately one-quarter of U.S. medical students (26,900) are members of the AAFP, a trend that is also on the rise.

Family medicine interest groups (FMIGs) are more prevalent and more active on U.S. medical school campuses. FMIGs are on more campuses than ever recorded (145) since the inception of the FMIG Network in 1995. An annual FMIG Activity Survey showed a 10% jump in 2014 in the number of medical schools that report increasing interest in family medicine (53%), and no medical schools reported a decreasing interest in family medicine.

More students are attending the AAFP's National Conference of Family Medicine Residents and Medical Students, indicative of interest and curiosity about family medicine. In 2014, more than 1,200 medical students attended the annual conference, up more than 400 from just four years prior. Informal surveys of family medicine faculty and administrators indicate that, though exact trends in student interest vary from institution to institution, on a whole more medical students are expressing interest in family medicine, many family medicine residency programs are recruiting larger and deeper applicant pools, and students are motivated positively toward family medicine by innovative new practice models, perception of higher valuation in the health care system of primary care, large signing bonuses and rising salaries for employed positions in family medicine, in addition to the enduring qualities and career opportunities of the specialty itself.

### **Barriers to Address**

Removing barriers to a primary care specialty choice is the only way to translate student interest to student choice at a level that will adequately address the primary care workforce need in the U.S. The family medicine community suggests that efforts to develop an appropriate primary care workforce include attention to each of the Four Pillars for Primary Care Physician Workforce Development:<sup>19</sup>

- Pipeline
- Process of medical education
- Practice transformation
- Payment reform

To address the pipeline, efforts need to be focused on identifying, recruiting, and retaining students and residents into primary care throughout the continuum of training. The AAFP's Student Interest Influencer Portfolio outlines primary, secondary, and environmental influences on student specialty choice in the following categories, which can inform strategy development for addressing student choice of primary care careers.

- People

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- Programs
- Policy
- Payment
- Perception
- Personal Characteristics

Prominent, systematic barriers in the process of medical education are focused in two areas: graduate medical education funding and medical school accountability. A proposal and recommendations to reform graduate medical education are outlined in the report [Aligning resources, Increasing Accountability and Delivering a Primary Care Physician Workforce for America](#).

Medical students must also be exposed to practices that deliver on the concepts of the patient-centered medical home model of care during their educational careers. Emerging practice models and approaches that provide integrated, patient-centered care and that leverage the entire health care team demonstrate to medical students the great impact they can have as primary care practitioners and create excitement, rather than uncertainty, about the reform of the U.S. health care system.

Finally, the impact of financial factors on student choice needs to be addressed through physician payment reform and student debt relief.

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<sup>1</sup> Institute of Medicine Committee on the Future of Primary Care. 1996. Primary Care: America's Health in a New Era" Institute of Medicine January 1, 1996

<http://www.nap.edu/openbook.php?isbn=0309053994> Accessed March 20, 2015.

<sup>2</sup> Improving Value in Graduate Medical Education. Council on Graduate Medical Education Twenty-First Report. U.S. Department of Health and Human Services 2013

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/twentyfirstreport.pdf> Accessed March 20, 2015.

<sup>3</sup> J. Hodge, MD; K. Kelly, MD; T. Mott, MD; A. Seguil, MD, e-mail communication, March 2015.

<sup>4</sup> American Osteopathic Association Intern/Resident Registration Program Summary of Positions Offered and Filled by Program Type. <https://natmatch.com/aoairp/stats/2015prgstats.html> Accessed March 20, 2015.

<sup>5</sup> Medical School Expansion Plans: Results of the 2006 AAMC Survey <https://www.aamc.org/download/55444/data/2006medschoolexpansion.pdf> Accessed March 20, 2015.

<sup>6</sup> Association of American Medical Colleges 2013 Medical School Enrollment Survey <https://members.aamc.org/eweb/upload/13-239%20Enrollment%20Survey%20201310.pdf> Accessed March 20, 2015.

<sup>7</sup> Institute of Medicine. Graduate Medical Education That Meets the Nation's Health Care Needs. July 29, 2014 <http://www.iom.edu/Reports/2014/Graduate-Medical-Education-That-Meets-the-Nations-Health-Needs.aspx> Accessed March 20, 2015.

<sup>8</sup> Kozakowski SM, Crosley PW, Bentley A. Entry of US Medical School Graduates Into Family Medicine Residencies: 2013-2014. *Fam Med* 2014;46(9):696-700.

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<sup>9</sup> Accreditation Council for Graduate Medical Education (ACGME) newly accredited programs search engine. <http://www.acgme.org/ads/Public/Reports/Report/8> Accessed March 20, 2015.

<sup>10</sup> American Osteopathic Association Residency Database.

<http://opportunities.osteopathic.org/search/search.cfm>. Accessed March 20, 2015.

<sup>11</sup> Starfield B, Shi L, Grover A, Macinko J. The Effects Of Specialist Supply On Populations' Health: Assessing The Evidence. *Health Aff (Millwood)* 2005 Jan-Jun;Suppl Web Exclusives:W5-97-W5-107 <http://content.healthaffairs.org/content/early/2005/03/15/hlthaff.w5.97.citation> Accessed March 20, 2015.

<sup>12</sup> Starfield B. Is primary care essential? *Lancet*. 1994 Oct 22;344(8930):1129-33.

<sup>13</sup> Berwick DM, Nolan TW, Whittington J. The Triple Aim: Care, Health, And Cost. *Health Aff (Millwood)* 2008; 27(3):759-69.

<sup>13</sup> Family Physician Workforce Reform: Recommendations of the American Academy of Family Physicians <http://www.aafp.org/about/policies/all/workforce-reform.html> Accessed March 20, 2015.

<sup>15</sup> Petterson, S.; Liaw, W; Tran, C; Bazemore, A. Estimating the Residency Expansion Required to Avoid Projected Primary Care Physician Shortages by 2035. *Ann Fam Med*. 2015 Mar;13(2):107-14.

<sup>16</sup> AAFP Member Census and Practice Profile Survey, 2014. <http://www.aafp.org/about/the-aafp/family-medicine-facts.html> Accessed March 20, 2015.

<sup>17</sup> Merritt Hawkins 2014 Review of Physician and Advanced Practitioner Recruiting Incentives.

<http://www.merrithawkins.com/uploadedFiles/MerrittHawkings/Surveys/mha2014incensurvey.pdf> Accessed March 20, 2015.

<sup>18</sup> News Release: National Health Service Corps expands the primary care workforce in communities that need them most. October 9, 2014. <http://www.hhs.gov/news/press/2014pres/10/20141009b.html> Accessed March 20, 2015.

<sup>19</sup> The Four Pillars for Primary Care Physician Workforce Reform: A Blueprint for Future Activity. *Ann Fam Med*. 2014 Jan-Feb;12(1):83-7.

Visit [www.aafp.org](http://www.aafp.org) for more information.

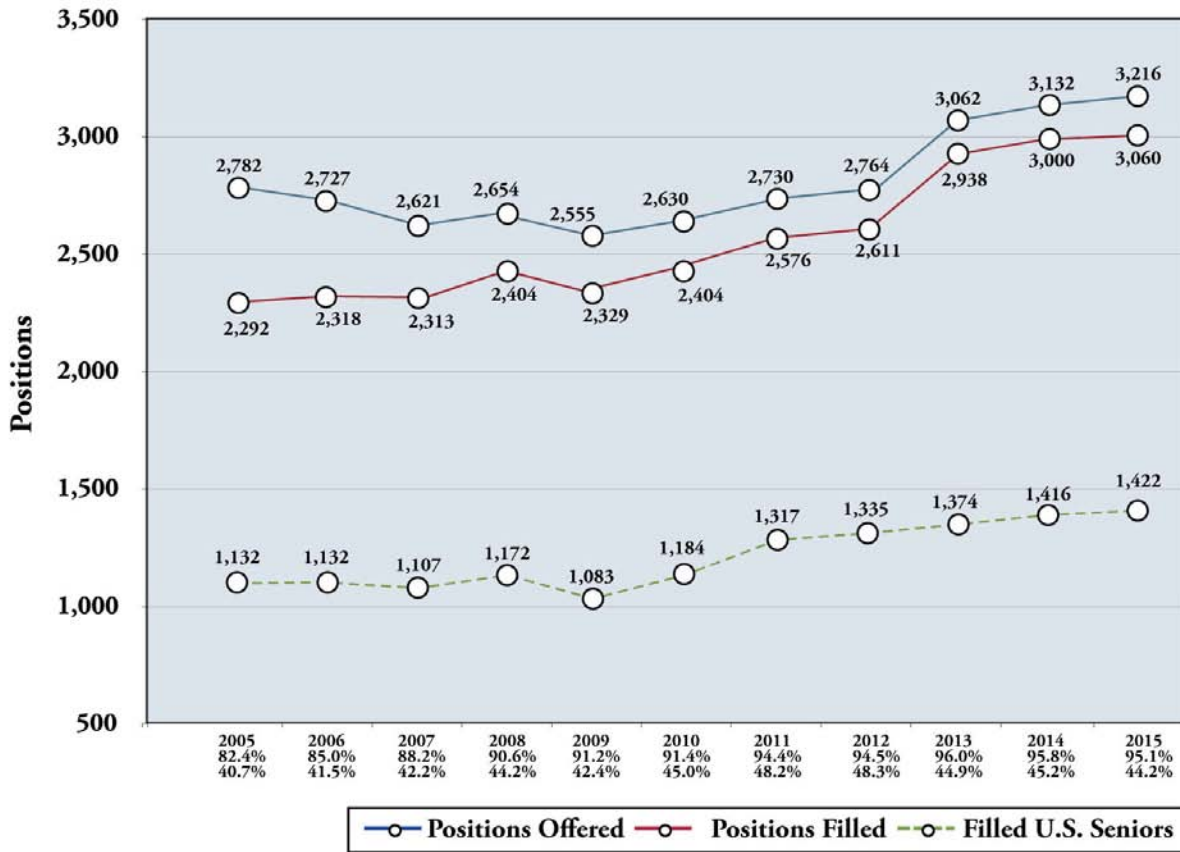




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Figure 1

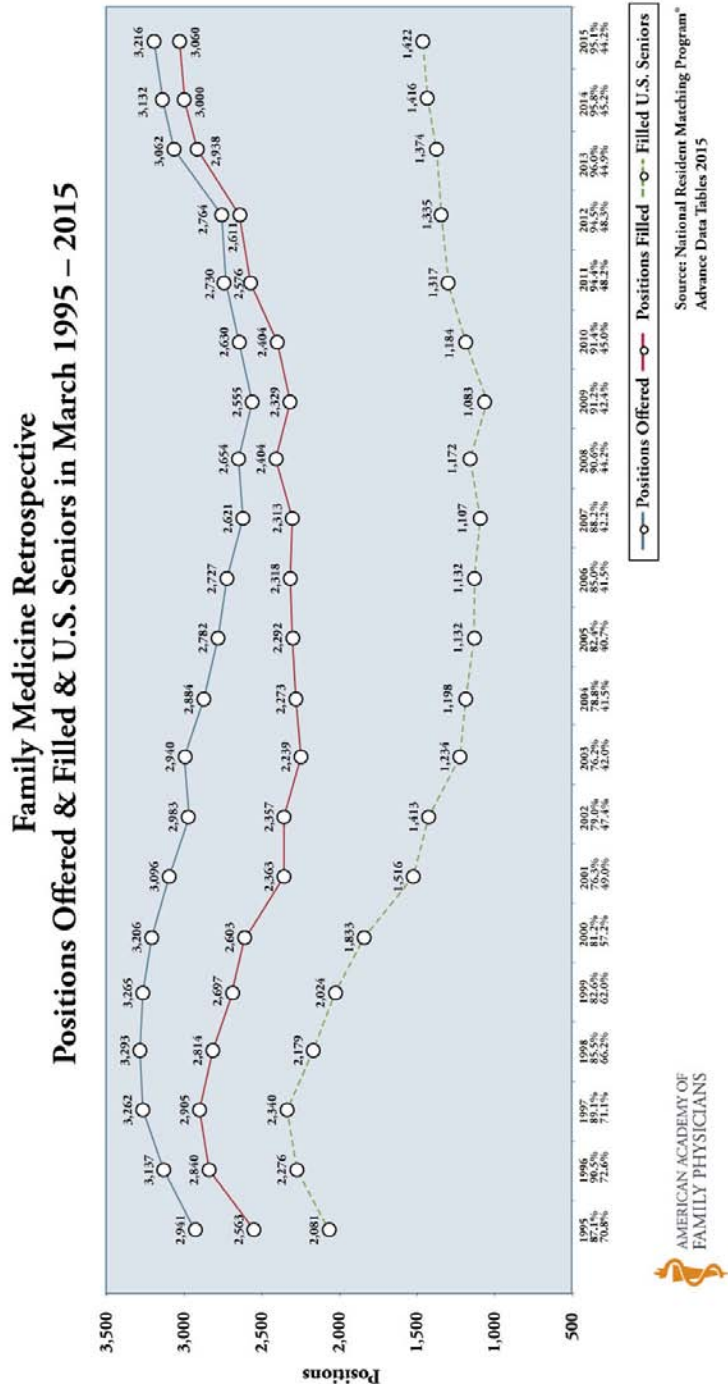
### Family Medicine Positions Offered and Filled in March 2005 – 2015





## IN-DEPTH ANALYSIS

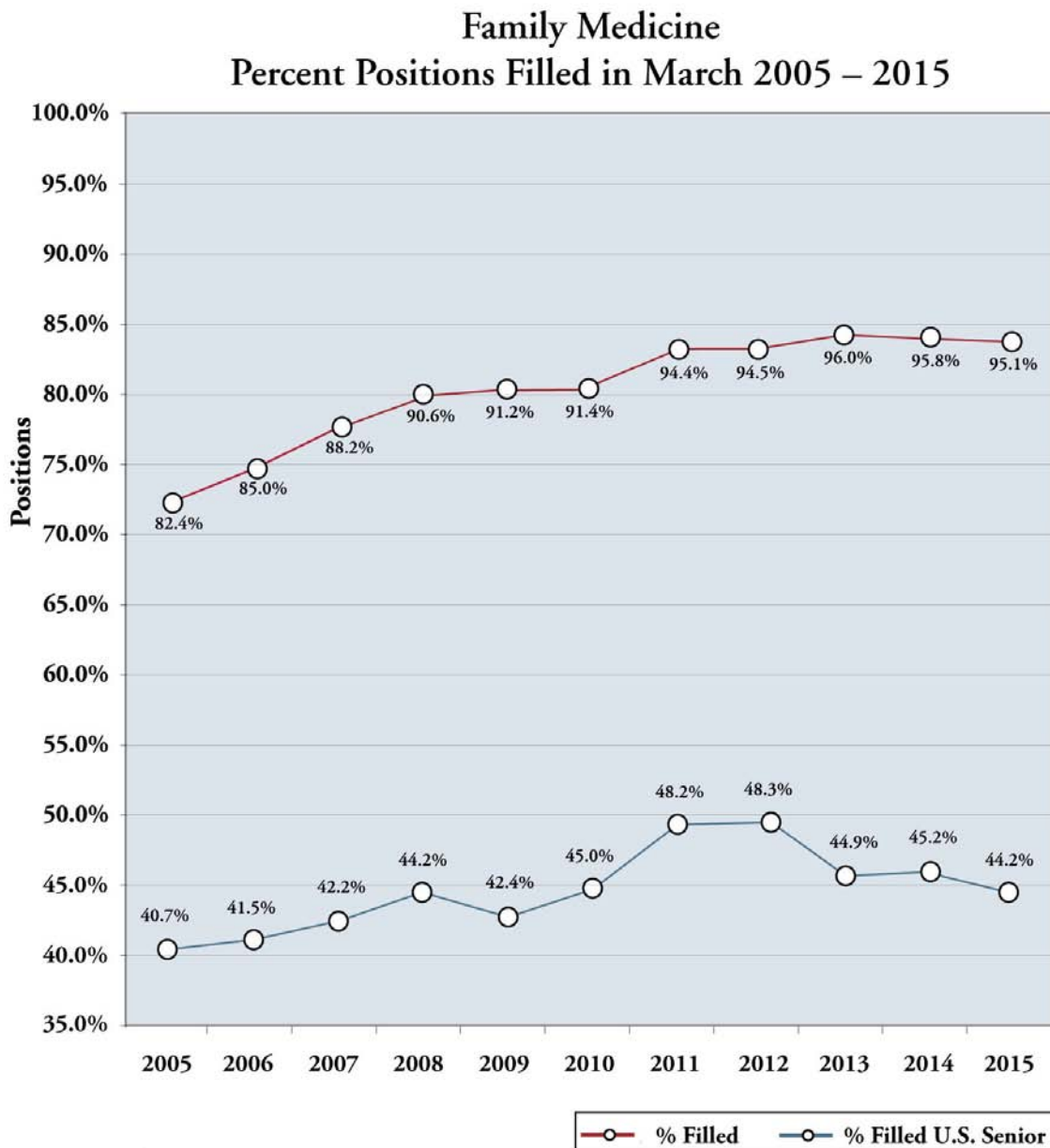
Figure 2





## IN-DEPTH ANALYSIS

Figure 3

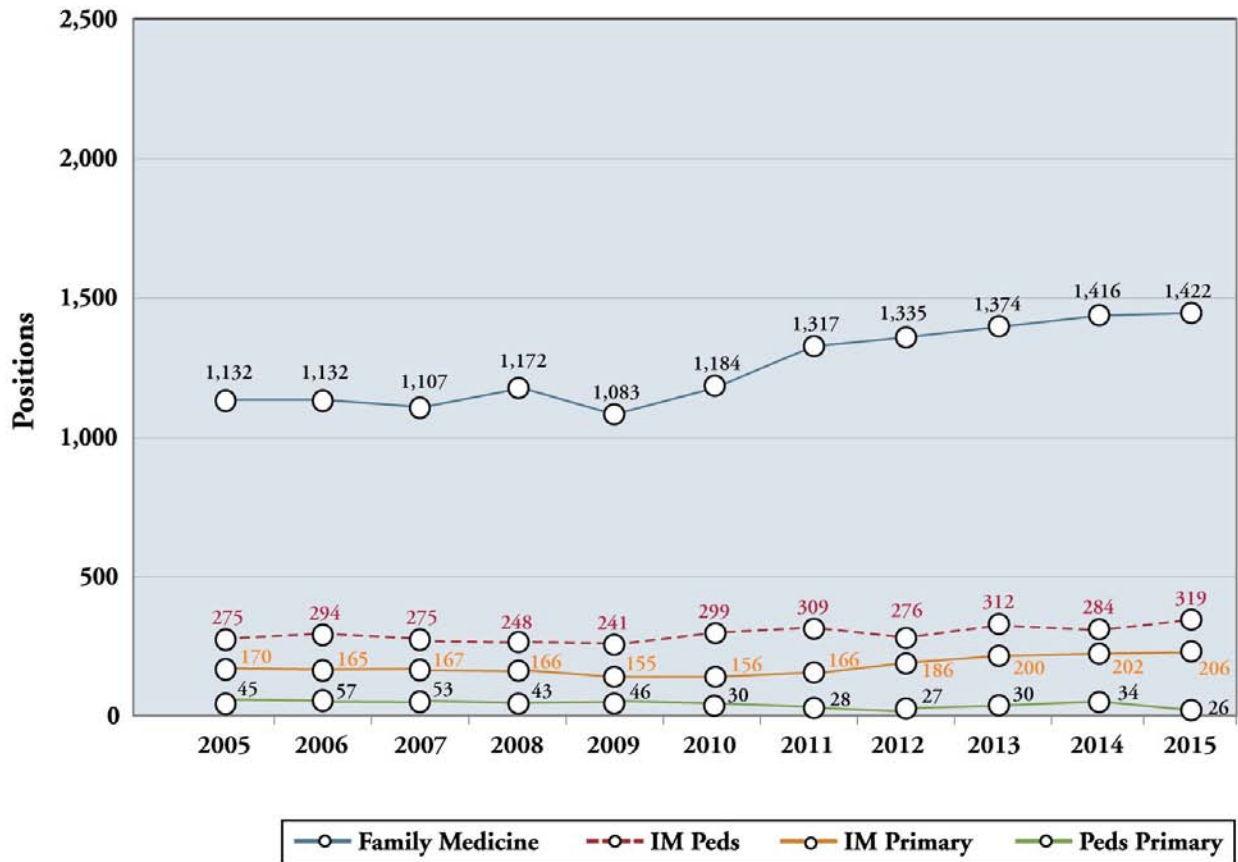




## IN-DEPTH ANALYSIS

Figure 4

### Comparison of Primary Care Positions Filled with U.S. Seniors in March 2005 – 2015

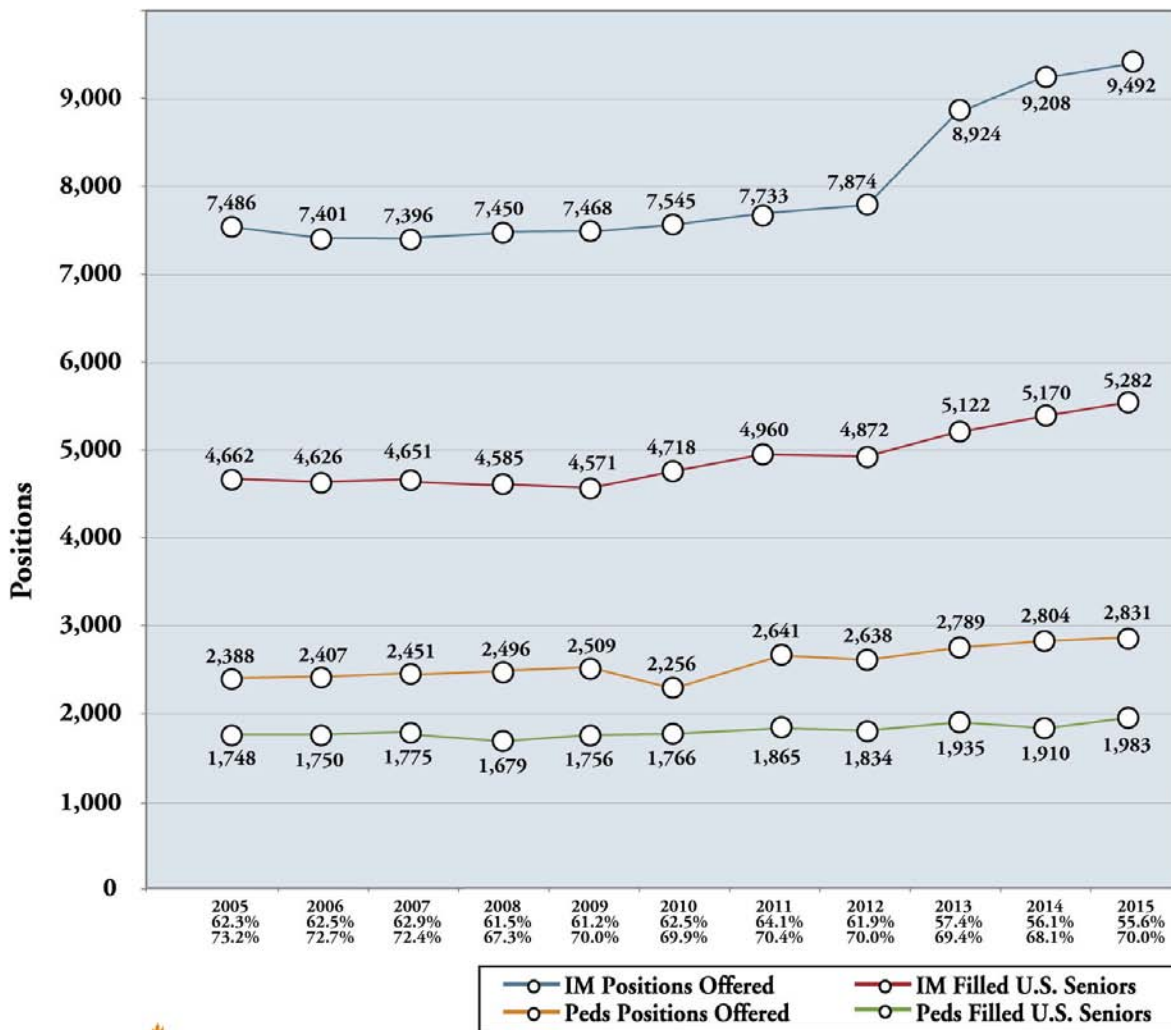




IN-DEPTH ANALYSIS

Figure 5

Comparison of Internal Medicine (All Types) and Pediatrics (All Types) Positions Offered and Filled with U.S. Seniors in March 2005 – 2015



NOTE: Positions in Internal Medicine/Pediatrics combined programs are included in "IM Positions Offered" and "IM Filled U.S. Seniors."