SPECIAL
ARTICLES

Results of the 2015 National Resident Matching Program:®

Family Medicine—A Comparison With 1997 and 2009

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BACKGROUND AND OBJECTIVES: This article is a continuation in a series of national studies conducted by the American Academy of Family Physicians that reports the performance of family medicine and other primary care specialties in the National Residency Matching Program® (NRMP) Main Residency Match, hereafter called the Match. 2015 Match data were compared to 1997, the year of the highest number of family medicine positions offered and positions filled by US seniors in the Match and 2009, the year of the lowest number of family medicine positions offered and positions filled by US seniors in the Match. Despite a 31% growth in the number of US seniors matching into family medicine since 2009, that number remains 39% lower than the number of US seniors matching into family medicine in 1997 (1,422 versus 2,340). There were 442, or approximately 10%, fewer positions offered in all primary care specialties and 1,194 fewer US seniors matching into primary care in the 2015 Match than in the 1997 Match. Primary care specialties were defined by the authors to include family medicine categorical as well as combined programs (family medicine-psychiatry, family medicine-emergency medicine, family medicine-preventive medicine, and family medicine-internal medicine), medicine-pediatrics, medicine primary care, and pediatrics primary care as listed in the NRMP publications. Family medicine offered 80% of all primary care positions in the 2015 Match. Sixty-nine percent of all US seniors matching into primary care in 2015 matched into family medicine residency programs.

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This article is a continuation in a series of national studies conducted by the American Academy of Family Physicians that reports the performance of family medicine and other primary care specialties in the National Residency Matching Program® (NRMP) Main Residency Match, hereafter called the Match. The annual Match provides measures of the number of residency positions offered each year by specialty. The majority of medical residents enter the graduate medical education (GME) system via the Match. Therefore the number of positions filled in family medicine and other primary care specialties is a reflection of a future primary care physician workforce.

This Match analysis may be particularly useful as a barometer for advocates, policy makers, and other stakeholders who recognize the need for a robust primary care workforce.

Every person in the United States should understand the value of and have the opportunity to have a personal relationship with a trusted family physician or other primary care medical professional in the context of a medical home.[1] The goal of that relationship and care is to achieve the Triple Aim to create better health, better health care, and reducing per-capita costs of health care over time.[2] To achieve these aims it is critical to have an adequate supply, both in number and quality, of family physicians and other primary care specialists.

Methods

The authors used publically available online data from the NRMP to obtain information about match rates by primary care specialties from the 2015 Match, as well as data from previous matches for historical comparison. Primary care specialties were defined by the authors to include family medicine categorical as well as combined programs (family medicine-psychiatry, family medicine-emergency medicine, family medicine-preventive medicine, and family medicine-internal medicine), medicine-pediatrics, medicine

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primary care, and pediatrics primary care as listed in the NRMP publications. US seniors are defined by the NRMP as "A fourth-year medical student in a Liaison Committee on Medical Education (LCME)-accredited US school of medicine. A student with a graduation date after July 1 in the year before The Match is considered a US senior." The NRMP has six other categories of Match applicants: previous graduates of US MD-granting medical schools, students/graduates of Canadian medical schools, students/graduates of DO-granting medical schools, students/graduates of fifth-pathway programs, US citizen graduates of international medical schools, and non-US citizen graduates of international medical schools. Table 1 is derived from data reported in by the NRMP in 2015, 2009, and 1997. The years 1997 and 2009 were selected for comparison purposes because they represent the years with the highest number and lowest number, respectively, of family medicine positions and US seniors selecting family medicine. The AAFP conducts an annual online census of all residents in ACGME-accredited family medicine residency programs. Among the data collected is a list all first-year residents and their medical school, including the month and year of graduation. Residency programs that failed to respond to the initial survey were contacted by email or telephone to ensure a 100% response rate to the online survey. Figures 1 and 2 are derived from the annual census. The residency census was granted an exemption from the AAFP Institutional Review Board.

Results

Table 1 shows the number of positions offered and filled with US seniors in the Match for family medicine and the other primary care specialties and highlights the years 1997 and 2009–2015 to allow for comparisons of recent results to the historical peak (1997) and nadir (2009). There were 442 fewer, or approximately 10%, positions offered in all primary care specialties and 1,194 fewer US seniors matching into primary care in the 2015 Match than in the 1997 Match. Despite a 31% growth in the number of US seniors matching into family medicine since 2009, that number remains 39% lower than the number of US seniors matching into family medicine in 1997 (1,422 versus 2,340). There were fewer medicine-primary care, pediatrics-primary care, and medicine-pediatrics positions and US seniors matching into those positions in 2015 in comparison to 1997. Both medicine-primary care and medicine-pediatrics increased positions offered and positions matched with US seniors since 2009, while pediatrics-primary care positions and positions matched with US seniors has declined in that same time interval.

Family medicine offered 80% of all primary care positions in 2015. Sixty-nine percent of all US seniors matching into primary care in 2015 matched into family medicine residency programs.

In contrast to primary care specialties during the time period from 1997 to 2015, medicine categorical positions increased from 4,595 to 6,770 (47%), pediatrics-categorical increased from 2,019 to 2,668 (32%), and emergency medicine positions increased from 903 to 1,821 (102%). Obstetrics-gynecology positions decreased from 1,255 to 1,157 during that interval (8%).

Figure 1 shows the percentages of US MD and DO students and international medical graduates (IMGs) who are US citizens and non-citizens who entered ACGME-accredited family medicine residency programs in 2015. The proportion of US MD graduates has been relatively flat for the last 5 years while the proportion of IMG non-citizens has decreased. Figure 2 shows the rapid growth in the total number of residents in all years of family medicine residency training in the early 1990s and the sinusoidal pattern since 1997. The number of ACGME-accredited family medicine residency programs has followed a similar sinusoidal pattern during the same time interval.

Discussion

The benefits of primary care are well established in the literature.[3] The United States needs the benefits of primary care to improve health outcomes, reduce health disparities, and control costs; however, there has been a notable decline in medical students choosing primary care that hinders the realization of the full promise of primary care.[4] The Match represents a snapshot that is likely to foreshadow the supply of the future primary care workforce.

The authors chose to compare the data from the 2015 Match to data from 1997 and the years including and since 2009 to the present to provide historical context.[5-7] 1997 represented the high water mark with the largest number of family medicine positions offered and the highest number of US seniors matching into family medicine. In contrast, the nadir in both family medicine positions offered as well as US seniors matching into the discipline occurred in 2009.

Since 1997, the number of family medicine programs has followed a sinusoidal pattern. Despite the steady annual increase in the number of family medicine positions offered (26%) and filled (31%) in the Match since 2009, those measures were still lower in 2015 than the peak in 1997. The number of positions offered has nearly returned to the 1997 levels, yet the number of US seniors selecting family medicine is strikingly fewer in 2015 than in 1997, with 918 fewer positions filled with US seniors (39%). Both medicine-primary care and pediatrics-primary care have experienced declines in the absolute numbers of positions offered in the Match and the absolute numbers and percentages of US seniors matching into those specialties from 1997 to 2015. In total, primary care specialties had 10% fewer positions offered in the 2015 Match

Table 1: Total Positions Offered in Primary Care Specialties and Filled With US Medical School Seniors in the 1997, 2009–2015 NRMP Match®

Year	FM Total	US Seniors	IM-PC Total	US Seniors	PEDS Total	US Seniors	IM-PEDs Total	US Seniors	Total	US Seniors
1997	3,262	2,340	608	386	119	54	464	387	4,453	3,167
2009	2,555	1,083	247	155	79	46	354	241	3,235	1,525
2010	2,630	1,184	259	156	65	30	359	299	3,313	1,669
2011	2,730	1,317	286	166	66	28	365	309	3,447	1,820
2012	2,764	1,334	311	186	67	27	362	276	3,504	1,823
2013	3,062	1,374	335	200	83	30	366	312	3,846	1,916
2014	3,132	1,416	335	202	75	34	374	284	3,916	1,936
2015	3,216	1,422	341	206	74	26	380	319	4,011	1,973
Change 14–15	84	6	6	4	(1)	(8)	6	35	95	37
% Change 14–15	2.7%	0.4%	1.8%	2.0%	-1.3%	-23.5%	1.6%	12.3%	2.4%	1.9%
Change 09–15	661	339	94	51	(5)	(20)	26	78	776	448
% Change 09–15	25.9%	31.3%	38.1%	32.9%	-6.3%	-43.5%	7.3%	32.4%	24.0%	29.4%
Change 97–15	(46)	(918)	(267)	(180)	(45)	(28)	(84)	(68)	(442)	(1,194)
% Change 97–15	-1.4%	-39.2%	-43.9%	-46.6%	-37.8%	-51.9%	-18.1%	-17.6%	-9.9%	-37.7%

FM—family medicine, IM-PC—internal medicine primary care, PEDS—pediatrics, IM-PEDS—internal medicine pediatrics

and 38% fewer US seniors matching into a primary care specialty than in 1997.

Changes in the number of primary care positions and choice of primary care careers by US seniors over the last 2 decades have occurred at a time of major growth in the number of medical students graduating from medical schools accredited by the LCME and the American Osteopathic Association (AOA). The Association of American Medical Colleges Center for Workforce Studies projects that a 29% increase in the number of graduates of US LCME and 162% increase in AOA-accredited medical schools will occur between 2002 and 2019 for an aggregate increase of 49%.[8] At the same time, population growth, an aging population, and the increasing number of insured US citizens because of the Patient Protection and Affordable Care Act of 2010 (PPACA) necessitate an expanded primary care workforce and an increase in the number of primary care residents beyond the current levels.[9] The Council on Graduate Medical Education 20th Report, "Advancing Primary Care," recommended that policies should be implemented that raise the percentage of primary care physicians in the physician workforce to a minimum of 40%.[10] In 2008, primary care physicians represented 35% of the US physician workforce in direct patient care.[4] Only 15% of PGY-1 positions offered in the 2015 Match were for primary care physicians. Alternative pathways to the primary care residency programs through the osteopathic and military matches contribute to the workforce but do not come close to making up the difference, with 549 students matching into family medicine in 2015 through the American Osteopathic Association (AOA) Intern/Resident Registration Program and 144 students through the military matching process.[11] Based upon the current composition of the primary care physician production, it is estimated that there will need to be an additional 973 family medicine and 727 non-family physician

Figure 1: PGY-1 Family Medicine Resident Types—July

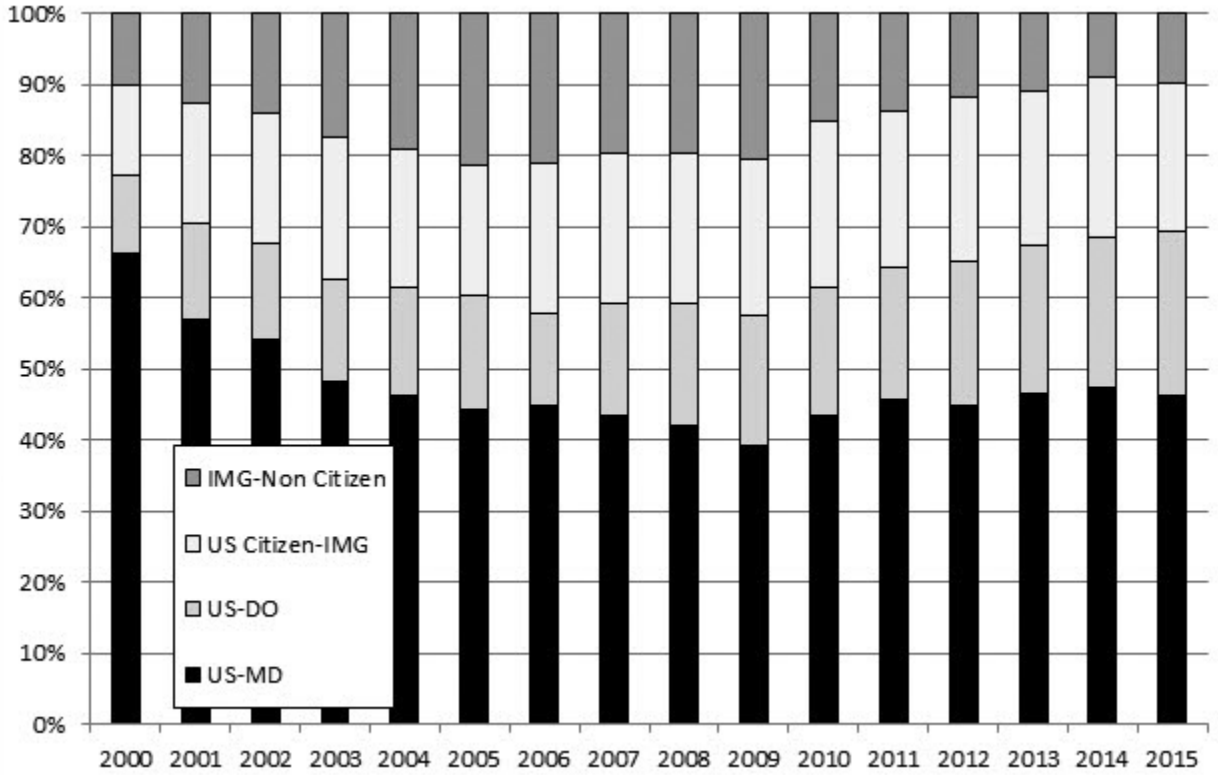
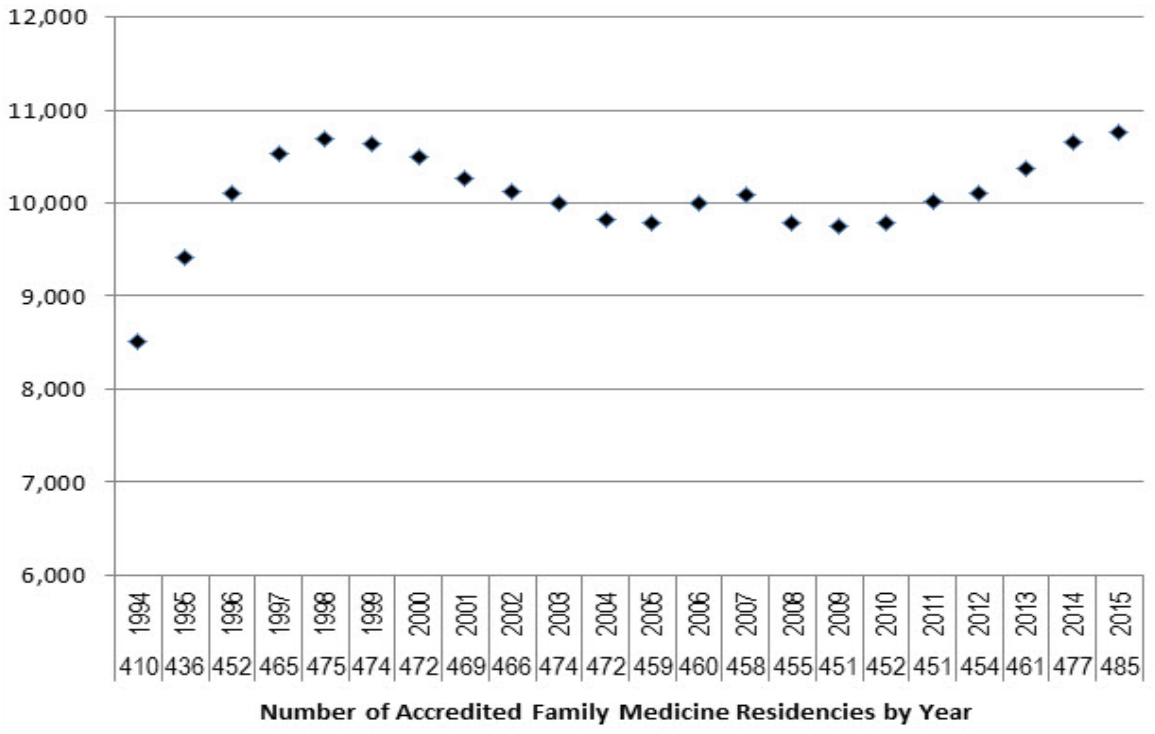


Figure 2: Number of Residents in Family Medicine Programs



primary care graduates per year until 2035 in order to eliminate projected shortages.[12]

The Institute of Medicine (IOM) Report on Graduate Medical Education recommends that the Graduate Medical Education (GME) system must become accountable to the public for the more than $15 billion federal dollars spent annually on GME in the United States to produce a physician workforce that will meet the health care needs of the population.[13] To achieve that aim, the IOM recommends the creation of a national overarching policy-development and decision-making body within the US Department of Health and Human Services and a separate operations center to administer GME payment reform within the Centers for Medicare and Medicaid Services. The mismatch between the recommendations of COGME for primary care production and the decline in primary care production relative to the growth of non-primary care specialties may be interpreted as a by-product lacking a national GME strategy.

This study has several limitations. The Match represents the largest, but not the only, pathway to residency education and therefore does not provide a complete picture of the input into the primary care residencies. However, the number of students entering the GME system via other matching processes is relatively small in comparison to the Match. Changes in the NRMP Match policy may account for some of the variations in the number of positions that have been offered in the Match over the last several years.[14,15] In 2013, residents matched through the AOA Match, those who may have entered off-cycle, or through an exception to the NRMP Match All-In Policy accounted for 437 additional first-year residents in ACGME-accredited family medicine residency programs than would have been anticipated by the 2013 NRMP Match. The authors' definition of primary care is different than that of some groups and organizations. As in previous articles in this annual series, the authors have used the definition of primary care as care that is first-contact, continuous, comprehensive, and coordinated care to populations undifferentiated by gender, disease, or organ system are the defining attributes of primary care.[16] Primary care specialties were limited to family medicine, medicine-primary care, pediatrics-primary care, and medicine-pediatrics because the majority of the care rendered by these graduates fits the primary care definition with the exception of age for medicine-primary care and pediatrics-primary care. The authors acknowledge that some residents graduating from categorical internal medicine and pediatrics residencies enter into primary care practice.

The release of the IOM report on GME in July 2014 has sparked considerable debate among many GME stakeholders and legislators. The report concludes that support for continued Medicare spending for GME must be contingent upon accountability and transparency to produce a workforce that is suited to the needs of the health care system. There have been calls for medical schools to be socially responsible for the production of physicians who will improve health care access and equity, which is accomplished through a focus on primary care and underserved areas and populations.[17] These calls for accountability come at a time when there is an overall failure of the system to produce a sufficient number of primary care physicians and especially family physicians.

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