



2021 Match[®]

RESULTS FOR FAMILY MEDICINE

The American Academy of Family Physicians' (AAFP's) brief analysis of family medicine results from the annual National Resident Matching Program Main Residency Match[®] (NRMP Match) provides a snapshot of a major input into the primary care workforce pipeline. For historical comparison, this analysis also includes insights into match data reported by the American Osteopathic Association regarding the AOA Intern/Resident Registration Program (AOA Match) prior to 2020.

Records Set in 2021 Match

More family medicine residency programs than ever matched the most students and graduates in family medicine's history. The results marked 12 years of growth in overall positions offered and filled for family medicine in the NRMP Match, with growth in nearly every applicant category. This year also marks the 10th straight year of all-time records for family medicine in the Match, and an all-time high for osteopathic medical students matching in family medicine.

Call to Action

While the residency Match results reflect momentum for family medicine, the pace needs to accelerate dramatically to reach a **national goal of 25%** of U.S. allopathic and osteopathic seniors and graduates pursuing family medicine while maintaining opportunities for international medical graduates who already make a strong contribution to the workforce. The U.S. medical education system is far from delivering the primary care medical workforce needed in the country it serves, and whose taxpayers fund it. The composition of residency training positions must reflect the composition needed in the workforce, and as such, needs to increase steeply in family medicine, other primary care specialties, and a few subspecialties. Health care, education, and societal systems need to incentivize, recruit, and support a more diverse medical student population that better represents the U.S. population and who are more likely to choose primary care careers and practice in underserved areas. Substantial increases in the family medicine and primary care workforce—while also accounting for the composition, distribution, and quality of that workforce—are needed to improve the health of Americans and the sustainability of the health care system.

What we're trying to accomplish



1 in 4 U.S. medical students/graduates enter family medicine residencies each year

Where we are today



1 in 8 U.S. medical students/graduates enter family medicine residencies each year

2021 NRMP Match Highlights

- **4,493 medical students and graduates matched to family medicine residency programs** (categorical and combined) in 2021. A breakdown of those matches:
- **1,623** U.S. allopathic medical school (MD) seniors
- **1,443** osteopathic medical school (DO) seniors
- **781** U.S. international medical graduates (IMGs)
- **444** foreign IMGs
- **125** previous graduates of U.S. MD-granting schools
- **77** previous graduates of DO-granting schools
- Family medicine offered **4,844** positions, 159 more than in 2020, and 13.8% of positions offered in all specialties.
- Most notably in 2021, the growth of family medicine continued even after the final shift to a Single Accreditation System and consolidation to the NRMP Match in 2020, which had been responsible for a large portion of the significant growth from 2017 to 2020.

The number of **US MD seniors matching increased after two years of slight year-over-year declines**. It remains significantly below—717 positions—the historical peak of 2,340 in 1997. **Only 8.8% of matched U.S. MD seniors** matched in family medicine.

- The number of DO seniors matching to family medicine reached a record high; however, the percentage of DO students matching to family medicine (22.8%) has declined slightly in recent years.
- One-quarter (24.8%) of U.S. IMGs and 10.2% of foreign IMGs who matched to any specialty matched to family medicine.
- A total of **3,268** U.S. MD and DO seniors and graduates matched in family medicine.
- This represents **12.6%** of all U.S. students or graduates matched in all specialties, half of the goal of at least 25% by 2030.

A Closer Look at the 2021 NRMP Match Results

Family Medicine in the 2021 NRMP Match:

- Family medicine* offered 13.8% and filled 13.5% of the total positions.
- The overall fill rate (percentage of positions filled of the positions offered) in family medicine was 92.8%. Broken down by applicant type:
- **33.5%** U.S. MD seniors
- **29.8%** DO seniors
- **25.3%** IMGs (16.1% U.S.-citizen IMGs and 9.2% non-U.S. citizen IMGs)

**Includes family medicine-categorical, plus combined programs: emergency medicine-family medicine, family medicine-preventive medicine, and psychiatry-family medicine.*

Compared with 2020, family medicine residency programs in the 2021 NRMP Match:

- Offered 159 more positions (4,844 vs. 4,685)
- Matched 158 more students and graduates (4,493 vs. 4,335)
- Matched:
 - 66 more U.S. MD seniors (1,623 vs. 1,557)
 - 44 more DO seniors (1,443 vs. 1,399)
 - 7 fewer U.S. IMGs (781 vs. 788)
 - 39 more foreign IMGs (444 vs. 405)
 - 5 more previous graduates of U.S. MD-granting schools (125 vs. 120)
 - 12 more previous graduates of DO-granting schools (77 vs. 65)
- Had an overall fill rate of 92.8%, a slight increase from 92.5% the year prior, which had marked the lowest fill rate since 2010.
- Had a fill rate for U.S. MD seniors of 33.5%, also slightly increased from the historically low fill rate of 33.2% in 2020. Previous years had higher fill rates for U.S. MD seniors of 39.2% in 2019 and 45.1% in 2018.
- Offered 13.8% of all positions in the Match (vs. 13.7% in 2020)

- Matched (compared to the total matched in any specialty for each applicant type):
 - **8.8%** of all U.S. MD seniors (vs. 8.6% in 2020)
 - **22.8%** of DO seniors (vs. 23.4% in 2020)
 - **24.8%** of U.S. IMGs (vs. 25% in 2020)
 - **10.2%** of foreign IMGs (vs. 9.6% in 2020)

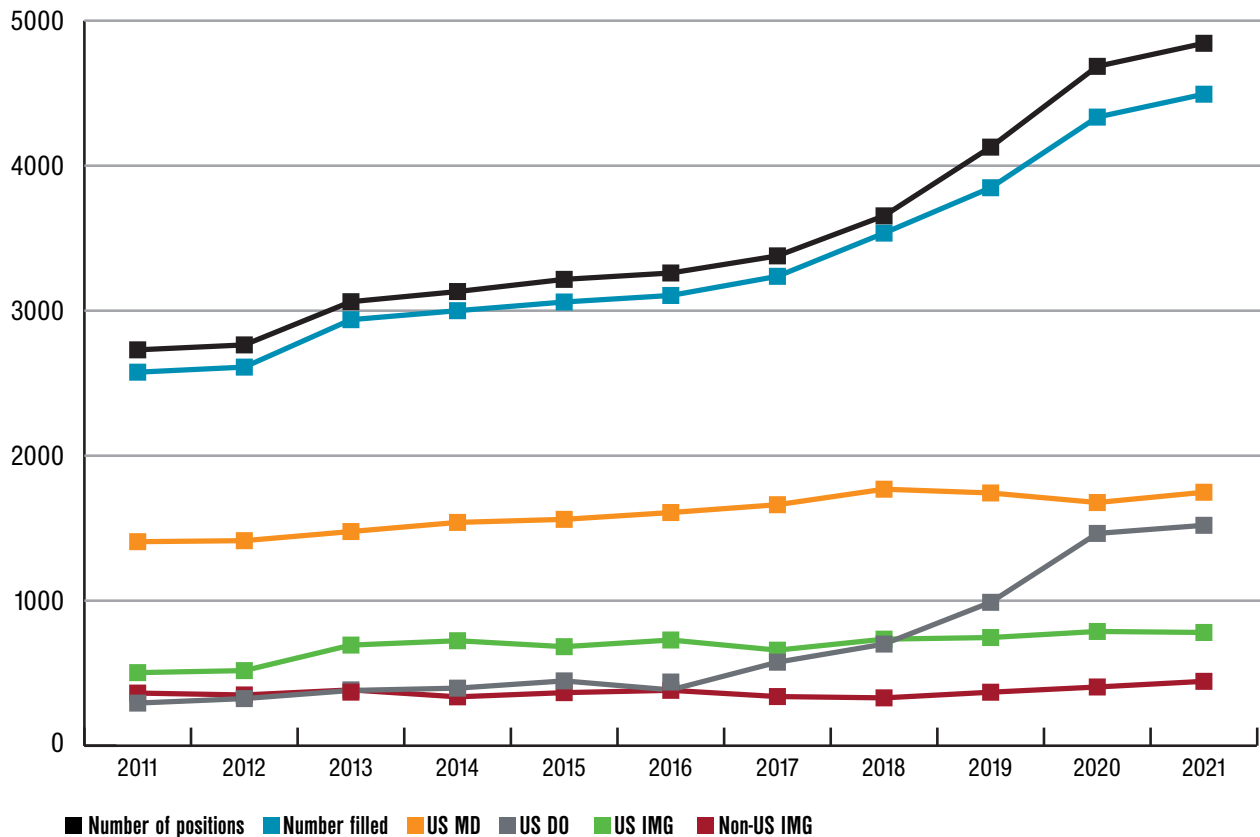
The 2021 NRMP Match results continue a 12-year trend of increases in the number of family medicine positions offered and filled. Results also indicated growth in the number of students entering family medicine of all applicant types except for U.S. IMGs, with near stability for that category. This followed three years of rapid growth due in part to the consolidation

to the NRMP Match for osteopathic applicants, and yet two years of decreases in U.S. MD seniors matching to family medicine after nine previous years of growth. The number of family medicine positions filled in the 2021 NRMP Match is the highest in the history of the specialty and has been each year since 2013. However, the number of positions filled with U.S. MD seniors remains 717 below the historical high of 2,340 in 1997 and leaves the workforce input still half of where it needs to be to achieve 25% of U.S. medical graduates matching to family medicine by 2030 (12.6%).

The number of unfilled positions after the main Match remained higher than recent history, with 351 unfilled positions. From 2012 to 2018, each year averaged

Family Medicine in the NRMP Match 2011-2021

PGY-1 Residency Positions Offered and Filled by Applicant Type



Graph created by the American Academy of Family Physicians | MED21030138
 Data are sourced from the National Resident Matching Program as of Match Day each year and do not include positions filled in the Supplemental Offer and Acceptance Program or through the American Osteopathic Association Intern/Resident Registration Program.



140 unfilled positions in family medicine with narrow variation. In 2019 and 2020 the figure rose to 280 and 350 respectively and seemed to correlate with the rapid growth in the number of positions offered and consolidation to the NRMP Match from the AOA Intern/Resident Registration Program. That transition was finalized in 2020 and did not factor in 2021. However, the COVID-19 pandemic upended residency recruitment processes and limited opportunities for students to participate in away rotations and visit residency programs. Definitive data were not available on Match Day, but it is likely that the impact of the pandemic on the residency recruitment process will be studied and may reveal that the application process, interview acceptance, and ranking behaviors were different and contributed to the number of unfilled positions. It is likely that family medicine residency program growth is also a factor, as new family medicine residency programs may be accredited at different stages of the application cycle and may list positions with intention to fill during the Supplemental Offer and Acceptance Program® (SOAP). If recent history is an indicator, most of the 351 family medicine positions unfilled after the 2021 NRMP Match are anticipated to be filled during the NRMP SOAP. In 2020, 43 family medicine positions were unfilled post-SOAP, and 33 in 2019.

The number of unfilled positions in family medicine reflects a lower fill rate (92.8%) when compared to the recent trend, although there was a slight year-over-year increase from 92.5% in 2020. The gap between positions offered and positions filled in family medicine has diminished significantly since 2003 when the family medicine fill rate hit a low of 76.2%. Since then, the fill rate steadily grew each year until a record-high fill rate of 96.7% was achieved in 2018. This year, and the previous two years, have resulted in fill rates of 93.2% in 2019, 92.5% in 2020, and 92.8% in 2021, likely impacted by the consolidation of the AOA Match to the NRMP Match in 2019 and 2020, and the COVID-19 pandemic in 2021.

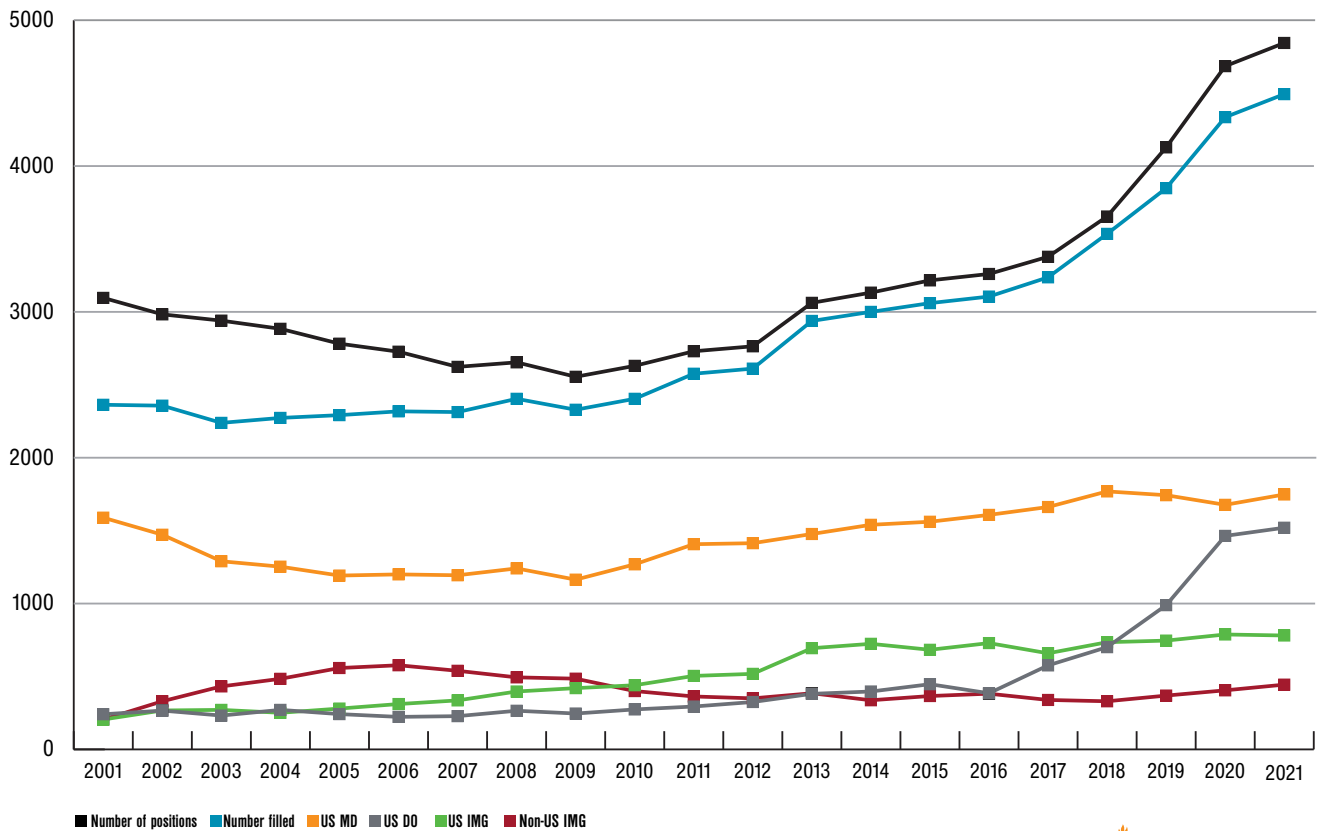
By contrast, the fill rate in family medicine for U.S. MD seniors decreased drastically between 1996 (72.6%) and 2005 (40.7%). Since then it has fluctuated to a high of 48.3% in 2012, but had a sharper downturn in recent years to break historical records in 2019 (39.2%) and 2020 (33.2%). These results are likely impacted by family medicine positions moving from the AOA to the NRMP Match, causing a significant increase in the number of positions offered in family medicine and the number of osteopathic students matching in family medicine, shifting the trend lines for positions filled and offered and increasing the proportion of positions filled with DO students and graduates. However, it also reflects that pursuit of family medicine careers among students and graduates of U.S. MD schools did not regain momentum after the decline of the late 1990s and early 2000s alongside family medicine's record growth of the 2010s and now early 2020s.

This trend is deeply concerning for the U.S. primary care workforce and calls for U.S. MD medical schools, especially, to recruit and graduate more students who are likely to enter primary care specialties and practice in underserved areas.

Possibly the most striking trend in Match results in recent years is the strong and rising contribution to the family medicine workforce from DO students and graduates. Though some of the growth is an artifact of the migration from the AOA Match to the NRMP Match, there is also real growth in the number of DOs matching in family medicine. Looking deeper, the percentage of DOs has remained fairly constant and even had a slight decline in recent years (23.4% in 2020 to 22.8% in 2021), but the growth of DO schools has produced a rising number of graduates and, therefore, more total going into family medicine. For perspective, U.S. MD seniors made up 55.3% of the total applicants who matched in 2021 (18,435 of 33,353 total), while DO seniors made up only 18.9% (6,327 of 33,353). However, in family medicine, U.S. MD seniors made up 36.1% of the applicants who matched (1,623 of 4,493) and DO seniors made up 32.1% of applicants who matched (1,443 of 4,493).

Family Medicine in the NRMP Match 2001-2021

PGY-1 Residency Positions Offered and Filled by Applicant Type



Graph created by the American Academy of Family Physicians | MED21030138
 Data are sourced from the National Resident Matching Program as of Match Day each year and do not include positions filled in the Supplemental Offer and Acceptance Program or through the American Osteopathic Association Intern/Resident Registration Program.



Family medicine categorical had the most programs (729) participating in the 2021 NRMP Match. Family medicine was the most-ranked specialty for DO seniors with 21,935 ranked positions for categorical family medicine programs. Among U.S. MD seniors, family medicine was the sixth highest ranked specialty with 23,779 ranked positions for categorical family medicine programs. U.S. MD seniors ranked more preliminary year positions (54,107 for 356 programs and 1,883 positions), internal medicine (51,491 for 607 programs and 9,024 positions), transitional year (27,767 for 184 programs and 1,497 positions), emergency medicine (26,746 rankings for 273 programs and 2,840 positions), and pediatrics (25,828 rankings for 222 programs and 2,901 positions).

Family Medicine Positions Offered and Filled: 5- and 20-Year Data

	2017	2018	2019	2020	2021
Positions Offered	3378	3654	4128	4685	4844
Positions Filled	3237	3535	3848	4335	4493
Positions Filled by U.S. MD Senior	1530	1648	1617	1557	1623
Positions Unfilled (Pre-SOAP)	141	119	280	349	351
Fill Rate	95.8%	96.7%	93.2%	92.5%	92.8%
Fill Rate by U.S. MD Senior	45.3%	45.1%	39.2%	33.2%	33.5%
Rate of U.S. MD Senior Matching to Family Medicine	8.8%	9.3%	9.1%	8.6%	8.8%
Fill Rate by U.S. DO Seniors	N/A	N/A	N/A	29.9%	29.8%
Rate of U.S. DO Seniors Matching to Family Medicine	N/A	N/A	N/A	23.4%	22.8%
Fill Rate of DO Seniors and DO Graduates Combined	17.1%	19.2%	24.0%	N/A	N/A
Rate of DO Seniors and DO Graduates Matching to Family Medicine	19.6%	18.6%	19.5%	N/A	N/A
Fill Rate by U.S. IMG	19.5%	20.1%	18.1%	16.8%	16.1%
Rate of U.S. IMG Matching to Family Medicine	23.7%	25.3%	24.9%	25.0%	24.8%
Fill Rate by Non U.S. IMG	10.0%	9.0%	8.9%	8.6%	9.2%
Rate of Non U.S. IMG Matching to Family Medicine	8.9%	8.3%	9.2%	9.6%	10.2%
Fill Rate by U.S. MD Grad	3.9%	3.3%	3.1%	2.6%	2.6%
Rate of U.S. MD Grad Matching to Family Medicine	19.5%	18.3%	18.7%	17.3%	15.5%
Fill Rate by U.S. DO Grads	N/A	N/A	N/A	1.4%	1.6%
Rate of U.S. DO Grads Matching to Family Medicine	N/A	N/A	N/A	26.3%	28.5%
Fill Rate by Other	0.0%	0.0%	0.0%	1.4%	0.0%
Rate of Other Matching to Family Medicine	14.3%	0.0%	8.3%	14.3%	0.0%

[Data since 2001 are available as a download. These data are represented in the 10- and 20-year graphs above.](#)

Family Medicine Programs

These results are a combination of all PGY-1 positions that result in eligibility for licensure and board certification in family medicine. Those include family medicine categorical and combined residency programs. Broken down:

- 729 family medicine categorical programs offered 4,823 and filled 4,472 positions. The overall fill rate for family medicine-categorical programs was 92.7%.
- 7 family medicine-psychiatry programs offered and filled 12 positions.
- 3 emergency medicine-family medicine programs offered and filled 7 positions.
- 2 family medicine-preventive medicine programs offered and filled 2 positions.

Altogether, a total of 741 family medicine categorical and combined residency programs offered positions in the 2021 NRMP Match, 21 more programs than in 2020.

Other Primary Care Specialties

In the 2021 NRMP Match:

- Primary care* positions were 16.3% of the positions offered overall (5,745 of 35,194) and 16.2% of the positions filled overall (5,389 of 33,353). This is consistent with 2020 and increased nearly a percent from the previous year (15.5% of offered and 15.4% of filled in 2019).
- Primary care residency programs filled with U.S. MD seniors at a rate of 38.7% (2,226 of 5,745), consistent with 2020 but down significantly from 44.1% in 2019 and 49.3% in 2018 and a recent historical average of 49.6%.
- Of the U.S. MD seniors matched, 12.1% were in primary care residencies (2,226 of 18,435).
- Primary care residency programs filled with DO seniors at a rate of 26.7% (1,534 of 5,745).
- Of the DO seniors matched, 24.2% were in primary care residencies (1,534 of 6,327), a significantly higher rate than U.S. MD seniors

In total, 148 more positions were offered in primary care specialties in 2021 compared to 2020. These results show a year-over-year increase of 2.6% in the number of positions offered in all primary care specialties. Comparatively, the 2021 NRMP Match had 2.7% more positions overall, across all specialties, than the year prior.

**Defined as family medicine categorical and combined programs, internal medicine-primary, internal medicine-pediatrics, and pediatrics-primary.*



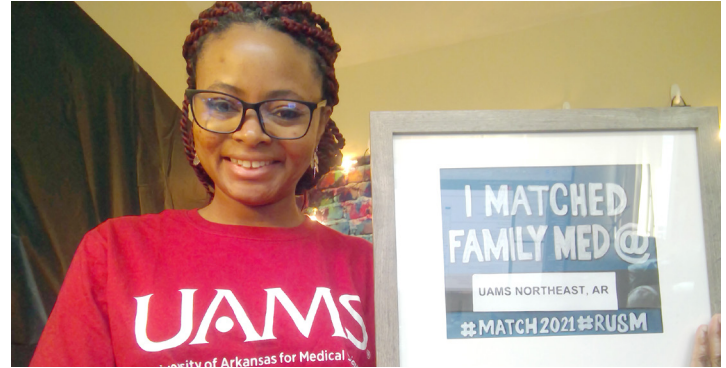
Ally Abel, MPH, from Albany Medical College, Albany, NY, matched to Christiana Care Emergency Medicine/Family Medicine Residency Program, Wilmington, DE.



Eli Benchell Eisman, PhD, from Michigan State University College of Osteopathic Medicine, East Lansing, MI, matched to Henry Ford Hospital Family Medicine Residency, Detroit, MI.

Compared with the 2020 NRMP Match:

- Medicine-primary (primary care internal medicine) filled 14 more positions in 2021 (437 vs. 423) and matched 251 U.S. MD seniors and 41 DO seniors.
- Medicine-pediatrics (med-peds) filled 4 more positions (385 vs. 381) and matched 313 U.S. MD seniors and 47 DO seniors.
- Pediatrics-primary (primary care pediatrics) filled 16 fewer positions (74 vs. 90) and matched 39 U.S. MD seniors and 3 DO seniors.



Priscilla Auguste from Ross University School of Medicine, St. Michael, Barbados, matched to the University of Arkansas for Medical Sciences Northeast Family Medicine Residency Program in Jonesboro, AR.

All specialties in the NRMP Match

A total of 35,194 PGY-1 positions were offered in all medical specialties in the 2021 NRMP Match, and 33,353 were filled. The breakdown of filled positions by applicant type:

- 18,435 seniors in Liaison Committee on Medical Education (LCME)-accredited U.S. schools of medicine (MD-granting)
- 6,327 seniors from Commission on Osteopathic College Accreditation (COCA)-accredited U.S. osteopathic colleges of medicine (DO-granting)
- 4,356 non-U.S. citizen seniors or previous graduates of international medical schools
- 3,152 U.S. citizen seniors or previous graduates of international medical schools
- 806 previous graduates of U.S. MD-granting schools
- 270 previous graduates of DO-granting schools
- 7 were from another pathway (Canadian, Fifth Pathway, etc.).



Crystal Huang from the Mayo Clinic Alix School of Medicine in Scottsdale, AZ, was among the first graduating class from her school's campus and matched to the Family Health Centers of San Diego Family Medicine Residency Training Program, San Diego, CA.

Beyond the NRMP Match

Some of the growth seen in the NRMP Match in recent years can be attributed to a change in the Match services available to programs and students and do not reflect changes to the actual workforce input.

Historically, another prominent matching program for medical students or graduates was the AOA Intern/Resident Registration Program, the AOA Match. This program matched students into graduate medical education programs that were either solely accredited by the AOA or were dually accredited by the AOA and the Accreditation Council for Graduate Medical Education (ACGME). However, 2020 marked the first year without an AOA Match as all programs transitioned to ACGME accreditation and to the NRMP Match.

The United States is the only country that trains osteopathic physicians; the AOA Match did not include international medical graduates.

Looking Forward

The nation's family physicians, through the [America Needs More Family Doctors: 25x2030 Collaborative](#), are calling for 25% of all U.S. medical school seniors and graduates—both allopathic and osteopathic—to match into family medicine by the year 2030. This vital and ambitious goal was envisioned and is supported by the eight family medicine organizations that represent Family Medicine for America's Health to better deliver the primary care workforce needed for a high-functioning, affordable U.S. health care system leading to better health outcomes.



Hannah Smith from the East Carolina University Brody School of Medicine, Greenville, NC, matched to the University of North Carolina Family Medicine Residency Program, Chapel Hill, NC, into the rural track.

Achieving this goal will take both reform of the nation's medical education system to provide training opportunities that reflect the workforce needs of the U.S. To improve health outcomes, workforce shortages need to be addressed by increasing residency training in family medicine and other primary care specialties and a few subspecialties. It will also take societal and educational support of transformed pathways before and during medical school to increase the diversity of U.S. medical graduates—in the broadest sense of the term—to better reflect and care for the U.S. population.

The cultural and systematic shifts needed to achieve this rebalancing of the U.S. physician workforce need immediate attention across sectors and communities, including teaching hospitals, payers, health policy makers, employers, and individuals. The nation's primary care workforce shortage is already affecting patients and communities in every state and is exacerbated with each passing day. Achieving health equity is only possible with a strong foundation of primary care accessible to all. Family medicine is calling for dramatic changes to be implemented

immediately across the pipeline, process of medical education, practice transformation, and payment reform, building with each year toward the 2030 goal.

The family medicine community commits itself to leading and supporting this change, partnering with the public and private sectors, medical schools and residencies, sponsoring institutions, policymakers and public officials, payers, communities, and their patients to change the trajectory.

Understanding the Data

Two significant procedural changes to the NRMP Match process affect the results data from the NRMP, meaning variances and trends do not directly reflect changes in the physician workforce pipeline.

Single Accreditation System: From 2014 to 2020, the U.S. graduate medical education system shifted to a single accreditation system (SAS) under the Accreditation Council for Graduate Medical Education. The 2020 NRMP Match was the first year in which there was no AOA Intern/Resident Matching Service. This means that a portion of the growth in family medicine in the NRMP Match does not reflect new training positions, but rather the shift from one matching service to another.

The NRMP's All-In Policy: Instituted in 2013, this policy changed how programs offered their positions, with programs that had previously only offered only a portion of their positions in the NRMP Match now offering all their positions in the Match. Again, some of the increases for family medicine, and overall, in the years since then have been a result of a shift in how positions were filled rather than reflective of new training opportunities or an increasing workforce.

More on the Family Medicine and Primary Care Workforce

The NRMP Match is the largest and most representative mechanism for medical student recruitment into specialized medical residencies in the United States, and as such, serves as a barometer of workforce production.

However, NRMP Match results are not comprehensive of all entry into graduate medical education in the U.S. The NRMP Match is not the only mechanism through which medical students or graduates are matched with their required graduate medical education, or residency programs, in a specialized field to lead to board certification in a medical specialty (or multiple specialties). Other matching services, like the annual Military Match, as well as private arrangements also fill residency openings. The results published on Match Day each year also exclude the SOAP.

The following resources provide a more in-depth look at the family medicine workforce pipeline:

- [Trends in US Medical School Contributions to the Family Physician Workforce: 2018 Update From the American Academy of Family Physicians](#) – This article provides an in-depth look at those entering family medicine residency programs each year, including the percentage of graduates from U.S. medical schools.
- [Results of the 2017 National Resident Matching Program® and the American Osteopathic Association Intern/Resident Registration Program: An Examination of Family Medicine and Primary Care](#) – This article is the latest in a long-running series that reports on the performance of family medicine and other primary care specialties in the NRMP Match. A detailed analysis of the AOA Match is also included for the first time.
- [Graduate Medical Education Financing Policy](#) – The AAFP's recommended six principles to reforming the nation's graduate medical education system to meet workforce needs.
- [Strolling Through The Match](#) – The AAFP's comprehensive guide to matching provides information from start to finish of the Match process, including the timeline, process, and tips on ranking programs and interviewing. This resource has been updated for the 2021-2022 Match season to focus entirely on careers in family medicine and family medicine residency.
- [The State of Primary Care in the United States: A Chartbook of Facts and Statistics](#) – From the Robert Graham Center for Policy Studies in Primary Care, this describes the current state of primary care in the U.S. and presents information from a variety of national sources to answer questions about who, what, where, and how primary care is being delivered.
- [No More Lip Service: It's Time We Fixed Primary Care](#) – This two-part Health Affairs blog post calls for changes across the system to reach the optimal primary care workforce.