

First-Year Graduate Medical Education in the United States: 2002-2018*

To analyze trends in first-year graduate medical education (GME) training positions in the United States, the NRMP compiled NRMP Main Residency Match® outcome data with publicly-available information from the Association of American Medical Colleges (AAMC), the American Association of Colleges of Osteopathic Medicine (AACOM®), and the American Osteopathic Association (AOA®). Note that these data do not address the projected shortfall of an adequate number of residency training positions or physician workforce needs. For context, the AAMC projects a shortage of 14,800 to 49,300 primary care physicians and 33,800 to 72,700 specialists by 2030 as a result of population growth, the aging (and longer lifespan) of baby boomers, disease prevalence, and the work-life balance priorities of younger physicians compared to those who are expected to retire over the coming years.¹

Chart 1, which displays the numbers of post-graduate year one (PGY-1) residency positions in the NRMP Main Residency Match (“the Match”) compared to the numbers of graduating seniors from United States allopathic medical schools, shows that 20,602 PGY-1 positions were placed in the 2002 Main Residency Match. That same year, 15,676 senior students graduated from U.S. allopathic medical schools. By 2018, the number of PGY-1 positions in the Match had grown by 47 percent to 30,232 and the number of graduating seniors had increased by 25 percent to 19,553. With the exception of the 2002 Match, there have been at least 5,000 more PGY-1 residency positions in the Match than there were graduating U.S. allopathic seniors. In 2018, the gap was 10,679. Between 91 and 96 percent of U.S. allopathic medical school seniors participate in the Match every year, and about 94 percent match to PGY-1 positions (not shown in the chart).

U.S. osteopathic medical school students and graduates and international medical school students and graduates (IMGs) are other major groups seeking positions in the Main Residency Match, and their Match participation also was evaluated. As shown in Chart 2, in 2002 the numbers of osteopathic physicians and IMGs who obtained PGY-1 positions in the Main Residency Match equaled approximately one-third the number of matched U.S. allopathic seniors. By 2018, that proportion had grown to more than one-half. Chart 2 also displays the number of osteopathic students and graduates who obtained PGY-1 positions in the American Osteopathic Association (AOA) Match. The AOA Match has provided matching services for osteopathic physicians seeking positions in programs accredited by the AOA, and position fill rates have varied between 50 percent and 70 percent over the reporting period. Many unfilled AOA Match positions in programs dually accredited by the AOA and the Accreditation Council for Graduate Medical Education (ACGME) historically have been placed in the NRMP after the AOA Match concludes. In 2002, 1,326 osteopathic students and graduates obtained PGY-1 positions through the AOA Match and by 2016, that number had reached a high of 2,206. The number declined slightly in 2017 to 2,162; however, in 2018, the number of osteopathic students and graduates who obtained PGY-1 positions through the AOA Match decreased to 1,640, likely in response to the ongoing transition to a single accreditation system under the ACGME and the shuttering of the AOA Match. It is unclear how many AOA Match positions will transition to NRMP because it is difficult to predict the number of programs that will close or fail to achieve ACGME accreditation.

¹ [The complexities of physician supply and demand: Projections from 2016 to 2030 \(2018 Update\)](#).

Association of American Medical Colleges, March 2018. Accessed February 11, 2019.

<https://www.aamc.org/data/workforce/>

* Updated to incorporate 2018 Main Residency Match and AOA Match data.

The graduation data from the AAMC and AOA were combined to generate the total number of medical school graduates in the United States. Outcome data from both the NRMP and AOA Matches show that more than 30,000 applicants obtained first-year GME training positions in the United States in 2018, and more than 24,000 were senior students and prior-year graduates of U.S. allopathic and osteopathic medical schools. Since 2002, the combined number of graduating students from those schools has been lower than the total number of available PGY-1 positions in the NRMP and AOA Matches. The Match Week Supplemental Offer and Acceptance Program® (SOAP®), launched by the NRMP in 2012, has enhanced NRMP's ability to track the number of applicants obtaining residency positions.

Data Sources:

NRMP Match data from NRMP Data Warehouse and Results and Data Reports

- National Resident Matching Program, Results and Data: 2018 Main Residency Match. National Resident Matching Program, Washington, DC. 2018. <http://www.nrmp.org/match-data/main-residency-match-data/>. Accessed February 11, 2019.
- National Resident Matching Program, Results and Data: Main Residency Match. National Resident Matching Program, Washington, DC. 2002-2017. <http://www.nrmp.org/match-data/nrmp-historical-reports/>. Accessed February 11, 2019.

Allopathic graduation data from AAMC

- Graduation 2002-2006: *AAMC Data Book 2012*. Association of American Medical Colleges, 2012. Table B-1: U.S. Medical School Applicants, Matriculants, Enrollment, and Graduates.
- Graduation 2007-2018: Association of American Medical Colleges. FACTS: Applicants, Matriculants, Enrollment, Graduates, MD-PhD, and Residency Applicants Data. Table B-2: Total Graduates by US Medical School and Sex. <https://www.aamc.org/data/facts/>. Accessed February 11, 2019.

Osteopathic graduation data from AACOM:

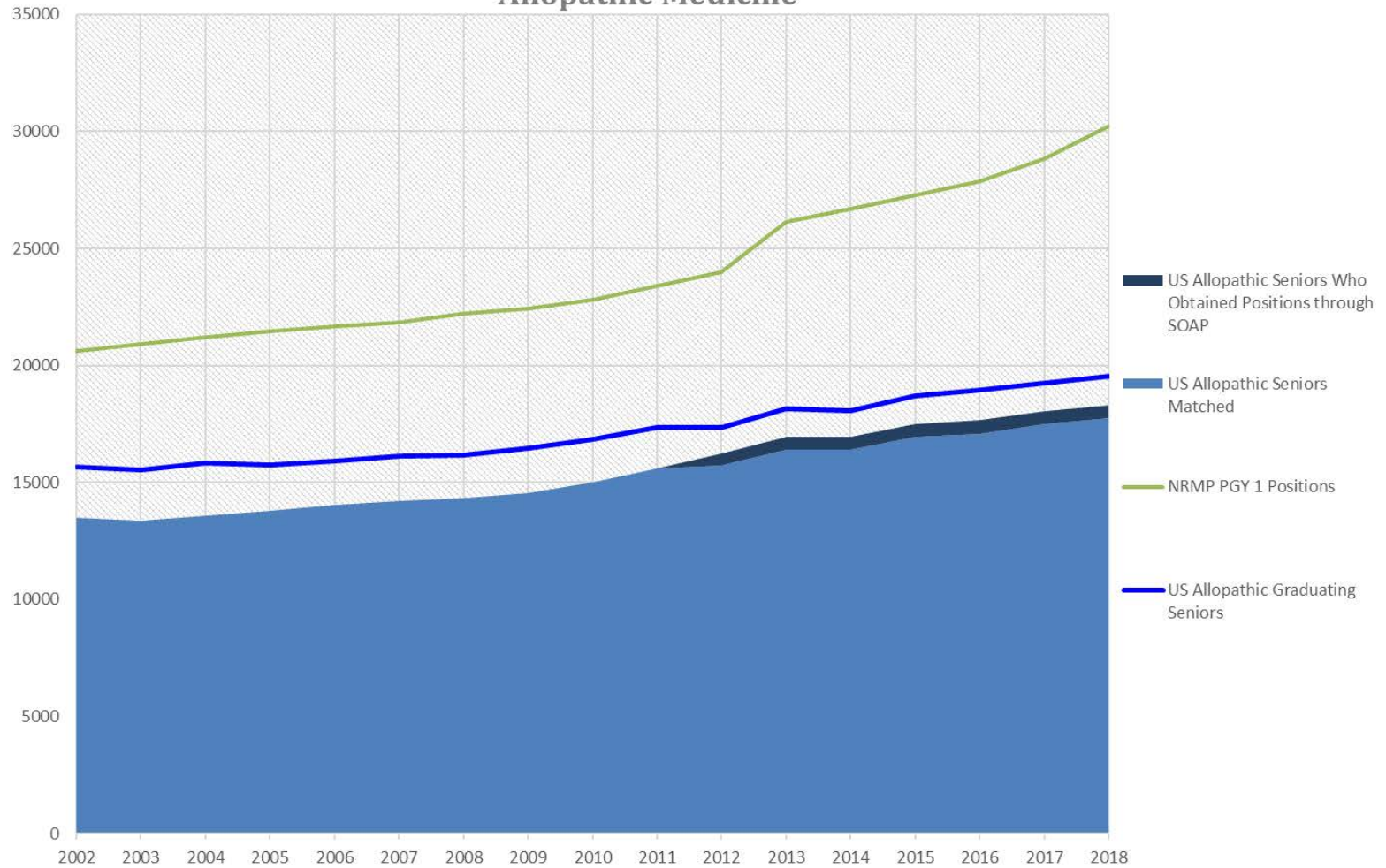
- Graduation 2002-2017: Graduates by Gender 1969-2017. <http://www.aacom.org/reports-programs-initiatives/aacom-reports/graduates>. Accessed February 11, 2019.
- Graduation 2018: Preliminary Enrollment Report Fall 2018. https://www.aacom.org/docs/default-source/data-and-trends/preliminary-enrollment-report-fall-20180c104f43514d6e069d49ff00008852d2.pdf?sfvrsn=54422197_6. Accessed March 6, 2019.

AOA Match data from AOA and NMS:

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- Obradovic JL, Beaudry SW, Winslow-Falbo P. Osteopathic graduate medical education. *J Am Osteopath Assoc*. 2004 Nov;104(11):468-78.
- Obradovic JL, Beaudry SW, Winslow-Falbo P. Osteopathic graduate medical education. *J Am Osteopath Assoc*. 2006 Feb;106(2):59-68.
- Obradovic JL, Winslow-Falbo P. Osteopathic graduate medical education. *J Am Osteopath Assoc*. 2007 Feb;107(2):57-66.
- Burkhart DN, Lischka TA. Osteopathic graduate medical education. *J Am Osteopath Assoc*. 2008 Mar;108(3):127-37.

- Freeman E, Lischka TA. Osteopathic graduate medical education. J Am Osteopath Assoc. 2009 Mar;109(3):135-45,196-8.
- National Matching Services Inc. AOA Intern/Resident Registration Program. Statistics for Previous Years' Matches 2009-2013. <https://www.natmatch.com/aoairp/aboutstats.html>. Accessed March 28, 2014.
- National Matching Services Inc. AOA Intern/Resident Registration Program. Match Statistics 2014-2017. <https://natmatch.com/aoairp/aboutstats.html>. Accessed February 9, 2018.

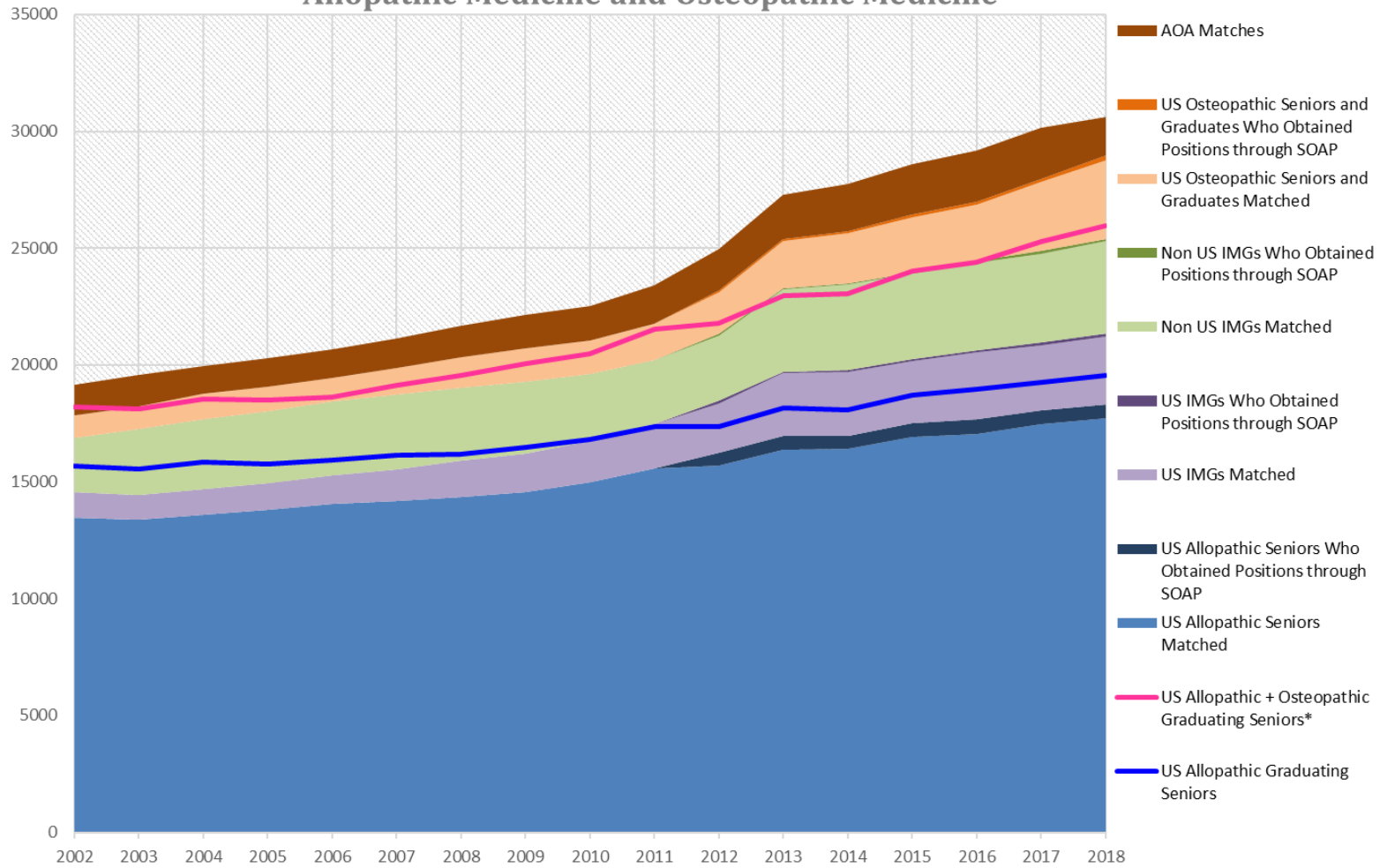
**Chart 1. First-Year Graduate Medical Education in the United States
Allopathic Medicine***



Data sources: NRMP, AAMC

* Updated February 2019

**Chart 2. First-Year Graduate Medical Education in the United States
Allopathic Medicine and Osteopathic Medicine***



Data sources: NRMP, AAMC, AACOM, AOA

* Updated February 2019