



Residency Training Choices of South Carolina Medical School Seniors: 2016 and 2017

During their last year in medical school, students around the country and in South Carolina must decide on a clinical specialty and apply to the graduate medical education (GME) training programs they are interested in. Early in the calendar year they submit a ranked list of their preferences to the appropriate matching service which reviews the preferences of both the students and the residency programs to achieve the best possible outcome for both parties.

No single source of Information allows for a complete tally of the GME training system for physicians in the United States.¹ However, the National Residency Match Program (NRMP) Main Match event held in March every year is open to the great majority of GME training programs and to all graduating seniors (and others) seeking their first post-graduate (PGY-1) position. In addition, the American Association of Medical Colleges conducts regular surveys of GME training programs and medical schools in the United States. These two sources provided the majority of the information about national and state trends in GME summarized below:

- In 2002 a total of 20,602 entry-level positions were available in the NRMP Main Match to new physicians in their first year of post-graduate (PGY-1) training. By 2016, the number of slots for PGY-1 students had grown to 27,860 (a 35% increase).²
- Between 2007 and 2017, the total number of students enrolled in medical schools increased by 33% in the United States. That growth results from a 21% increase in MD (allopathic) enrollment and a 91% increase in DO (osteopathic) enrollment during the 10-year period. Every state experienced an increase in enrollment; 32 states had enrollment increases of 20% or more.³
 - In South Carolina enrollments increased by 127% - from 931 in 2006 to 2,117 in 2016. That growth rate, due to a 46% increase in MD enrollments in the state, and a 54% increase in DO enrollments, was the 3rd largest increase in the United States.⁴
- The total number of residents and fellows in ACGME-accredited GME programs in the country increased by 14.5% from 106,553 in 2006 to 122,002 in 2016,⁵ reflecting growth in both the size and number of GME programs.
- In 2016, there were more residents and fellows in GME programs than there were students in medical schools in the United States, the difference being made up largely by international medical schools graduates (IMGs). Nationally, the ratio of total GME to total undergraduate medical education (UME) enrollees was 1.1 in 2016. However, 24 states had fewer residents and fellows than medical students, and the median ratio of GME to UME enrollees was 0.98 across all states. In South Carolina the ratio was 0.6 in 2016.⁶
- When measured in the context of population size, South Carolina ranked 29th in the country with 27.1 residents and fellows for every 100,000 persons in 2016, compared to a national value of 37.8.
- Looking only at those training in primary care fields, South Carolina had 502 residents and fellows in training in 2016, 10.1 per 100,000 persons, resulting in a national ranking of 30th. Nationwide, there were 13.9 primary care residents and fellows that year for every 100,000 persons.
- South Carolina had the second highest in-state matriculation rate in the 2016-17 academic year: 92.2% - substantially higher than the national rate of 60.7%.⁷ And it continues to have one of the highest retention rates in the country (rank=8) when a physician attends both UME and GME in the state.

Table 1 summarizes the clinical areas chosen by South Carolina college of medicine seniors in 2016 and 2017 and how many matched to GME programs in South Carolina. This information was provided by each college of medicine in the state and may include the results of matches that occurred outside of the NRMP Main Match. The clinical areas presented in the table (the row specialties) are dictated by the clinical specialties chosen by the seniors in a given year.

Table 1. Summary of the Clinical Specialty Areas Chosen by South Carolina Medical School Seniors in the 2016 and 2017 Match Process and the Percent Matching to South Carolina GME Programs

Clinical specialty area chosen by South Carolina medical school seniors in the residency match process	Class of 2016			Class of 2017		
	Total # matching in this specialty	Total # matched to a program in SC	% matched to a program in SC	Total # matching in this specialty	Total # matched to a program in SC	% matched to a program in SC
Anesthesiology	21	5	24%	19	4	21%
Child Neurology	1	0	0%	2	0	0%
Dermatology	6	1	17%	5	2	40%
Emergency Medicine	41	3	7%	45	12	27%
Emergency Medicine - Internal Medicine	1	0	0%	1	0	0%
Family Medicine	74	27	36%	71	21	30%
Family Medicine - Sports Medicine	1	0	0%	0	0	0%
Family Medicine - Integrated NMM	1	0	0%	0	0	0%
Internal Medicine	91	15	16%	83	17	21%
Internal Medicine/Pediatrics	2	0	0%	7	4	57%
Internal Medicine/Psychiatry	3	1	33%	1	0	0%
Medicine – Preliminary*	6	2	33%	8	4	50%
Neurological Surgery	3	2	67%	2	0	0%
Neurology	7	0	0%	7	2	29%
Obstetrics and Gynecology	33	8	24%	33	6	18%
Ophthalmology	6	3	50%	6	0	0%
Orthopedic Surgery	12	1	8%	11	2	18%
Otolaryngology	3	0	0%	8	1	13%
Pathology	4	2	50%	4	2	50%
Pediatrics	44	16	36%	46	9	20%
Pediatrics/Psych/Child Psych	1	0	0%	0	0	0%
Physical Medicine and Rehabilitation	2	0	0%	2	0	0%
Plastic Surgery / Plastic Surgery (Integrated)	2	0	0%	0	0	0%
Psychiatry	26	6	23%	21	5	24%
Radiation Oncology	1	0	0%	1	0	0%
Radiology	10	3	30%	0	0	0%
Radiology-Diagnostic	1	0	0%	12	4	33%
Surgery – Preliminary*	12	7	58%	15	9	60%
General Surgery	14	3	21%	22	5	23%
Thoracic Surgery	0	0	0	2	0	0%
Urology/Urologic Surgery	5	1	25%	3	0	0%
Vascular Surgery	0	0	0	1	0	0%
Transitional Year*	4	0	0%	8	2	25%
Traditional Rotating Internship **	6	0	0%	10	0	0%
Totals:	444	106	24%	456	111	24%

Pathology and Pathology-Anatomic & Clinical have been combined

* See Endnote ⁸ for an explanation of Preliminary, Transition Year and Traditional Rotating Internships.

** Traditional Rotating Internships are accredited through the American Osteopathic Association.

South Carolina student-GME match information was provided by the Colleges of Medicine at the University of South Carolina, the Medical University of South Carolina, the Greenville Hospital System, and by the Edward Via College of Osteopathic Medicine-Carolinas Campus.

The percentage of South Carolina seniors who matched to a South Carolina residency program in a specific clinical area of study is calculated by dividing the number matched to a South Carolina program by the total number of seniors that year who matched to any residency program in the United States focused on that clinical specialty.

Selected Clinical Specialty Areas	2013	2014	2015	2016	2017	5 Year Average %
Anesthesiology	15%	23%	26%	24%	21%	22.4%
Emergency Medicine	13%	14%	31%	7%	27%	18.1%
Family Medicine	38%	43%	32%	36%	30%	34.0%
Internal Medicine	35%	33%	17%	16%	21%	22.0%
Obstetrics/Gynecology	44%	29%	31%	24%	18%	27.6%
Pediatrics	30%	27%	37%	36%	20%	30.1%
Psychiatry	60%	57%	22%	23%	24%	34.0%
Surgery (General and Preliminary)	25%	22%	46%	39%	38%	36.3%
All Clinical Specialties Chosen:	30%	28%	27%	24%	24%	26.2%

The 5 year average % figures are calculated by summing the total number of seniors matching to a GME program in South Carolina in a specific specialty across years and dividing by the total number of seniors choosing that specific specialty across all years.

Table 2 shows how much the percent of students staying in state for GME can vary over time. In addition to variation in the location of GME programs chosen by graduating seniors, there is also substantial variation in the clinical fields that new graduates are drawn into in any given year. Table 3 summarizes the percent of each graduating class from South Carolina medical schools in 2013 through 2017 choosing the largest clinical specialty areas.

	2013	2014	2015	2016	2017
Clinical specialty area chosen by South Carolina medical school seniors in the match process each year	% of all seniors choosing this specialty				
Anesthesiology	5.5%	5.4%	4.8%	4.7%	4.2%
Emergency Medicine	10.2%	9.1%	6.6%	9.5%	10.1%
Family Medicine	11.0%	9.5%	13.7%	17.1%	15.6%
Internal Medicine	19.5%	18.7%	22.9%	20.5%	18.0%
Obstetrics and Gynecology	7.6%	8.7%	7.4%	7.4%	7.2%
Pediatrics	8.5%	12.4%	10.9%	9.9%	10.1%
Psychiatry	6.4%	5.8%	4.6%	5.9%	4.6%
Surgery	10.2%	7.5%	10.4%	5.9%	8.1%

Only the clinical areas chosen by more than 10 seniors in a given year are included in Tables 2 and 3.

Conclusions

This report examines how many of our recent medical school graduates in South Carolina remain in state for their initial GME training, and how that is changing over time. Overall, the percentage of graduates from South Carolina medical schools who remain in state for GME training has decreased slightly in recent years. However, those percentages vary considerably between different areas of clinical specialization and from year to year. In addition, the percentage of graduates choosing different clinical specialties also varies widely over time.

The size of the national GME training system has been growing over the past 10 years, and still exceeds the number of undergraduate students enrolled in medical schools in the country. In South Carolina the situation is a little different due to the 127% increase in the number of medical school enrollees between 2006 and 2016. Our ratio of GME to UME was 0.6 in 2016 – well below the median rate of 0.98 across all states or the 1.1 ratio in the U.S. as a whole.

Although South Carolina continues to have both a high in-state matriculation rate and a high retention rate (when measured across the entire workforce) for those who attend both GME and UME in the state, times are changing. Medical students are beginning to face a more competitive environment for GME placements and less discretion in choosing their practice location once finished with their training. See our companion data brief titled “***The Migration Patterns of Physicians Who Were in Residency Training in South Carolina in 2009***” for more insight into the association between the location of GME training and first practice location among a recent cohort of new physicians.

End Notes and References

¹ A small number of GME programs participate in match services provided by specialty accreditation bodies such as the Urology Residency Match Program offered through the American Urological Association.

² First Year Graduate Medical Education in the United States: 2002-2016. National Resident Matching Program, February 2017. Web accessed October 13, 2017. www.nrmp.org/wp-content/uploads/2017/02/First-Year-GME-in-the-US-2016.pdf

³ 2017 State Physician Workforce Data Report. Association of American Medical Colleges. November, 2017. Web accessed December 5, 2017. Available at: <https://www.aamc.org/data/workforce/reports/484392/2017-state-physician-workforce-data-report.html>

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid. In-state matriculation rate is the percentage of students who matriculated to an MD-granting institution in their legal state of residence. It does not include students in DO programs.

⁸ The first year of clinical training after graduation from medical school is referred to as an internship. Some clinical specialty programs require an internship of more generalized training before specialty training. Generally one year in length, these preliminary or transition programs expose new physicians to surgical and internal medicine experiences. If a new physician is unable to match to their specialty of choice as a senior, or is uncertain about a specialty choice, a preliminary or transition year allows them to hone their skills and be better prepared for the next year’s residency match process. A traditional rotating internship is the term used in osteopathic medicine that generally equates to a preliminary or transition year.