

Graduate Medical Education in New York: The Nation's Largest Supplier of Physicians

Background

This brief examines the contribution of New York's graduate medical education (GME) training programs to the nation's supply of physicians. This brief is an update of a previous brief published in July 2014.¹

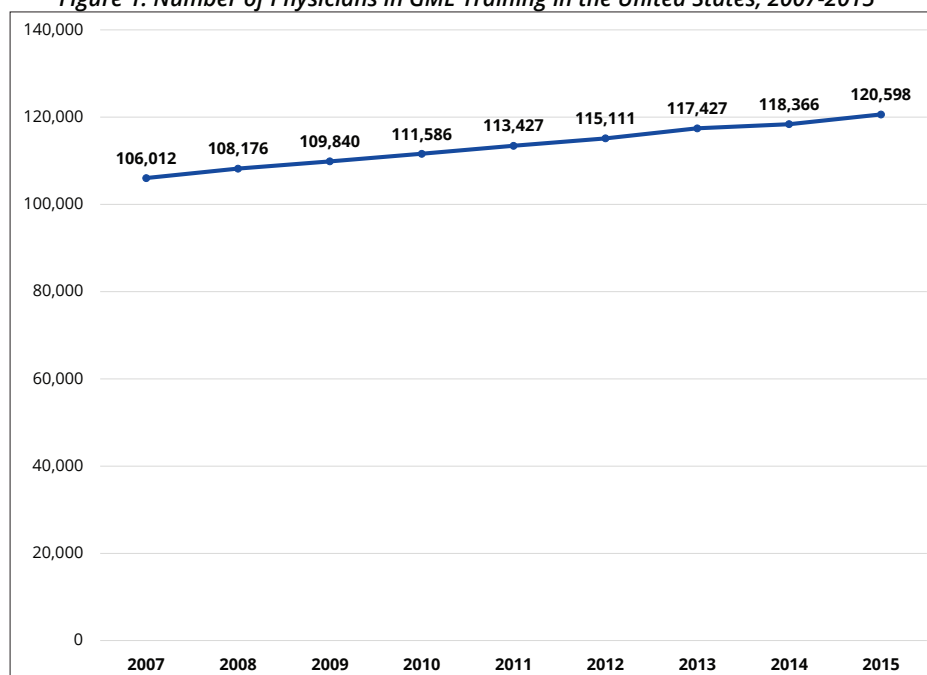
Graduate Medical Education in the United States

In order to practice medicine in the United States, physicians must complete a program of training after they obtain a Doctor of Medicine (MD) or a Doctor of Osteopathic Medicine (DO) degree from an accredited medical school or graduate from an international medical school. This additional period of time is referred to as residency, or GME training, and can last from 3 to 5 years. Many physicians also elect to continue training in a fellowship program for a particular specialty or subspecialty, which can last for several additional years beyond residency training.

During GME training, physicians see and treat patients under the supervision of more experienced physicians. Their training typically takes place in hospitals in residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). Physicians in training are an integral part of the workforce at these hospitals.²

In 2015, there were more than 120,000 physicians training (see Figure 1) in more than 9,900 ACGME-accredited GME training programs in the United States.³ It has been forecast that the supply of physicians will not be adequate to meet the requirements of the population in the future and this projected gap continues to widen. With the fundamental changes to the way health care will need to be delivered in order to meet the goals of the *Triple Aim* (improving the

Figure 1. Number of Physicians in GME Training in the United States, 2007-2015^{3,4}



patient experience of care, improving the health of populations, and reducing the per capita cost of health care),⁵ the exact number of physicians required to serve the population remains uncertain. Nevertheless, the projected shortage in the US ranges between 40,800 and 104,900 physicians by 2030.⁶

The federal government is the largest single supporter of GME training, contributing \$10.1 billion⁷ in Medicare funds and \$4.3 billion⁸ in Medicaid matching dollars. The federal government also provides funding through a number of other agencies including the Department of Veterans Affairs (\$1.5 billion⁹) and the Health Resources and Services Administration (\$350 million¹⁰).

New York's Graduate Medical Education Infrastructure

New York has the largest and most well-established GME training infrastructure in the United States. Annually, almost \$4 billion^{7,8} is spent on GME training in New York from federal, state, and private payer sources. In 2015, there were almost 16,000 physicians training (13.3 percent of all the physicians training in the US) in more than 1,100 accredited residency and fellowship programs in New York.³ The number of physicians training in New York increased by almost 700 between 2005 and 2015 (see Table 1). Only 6 states experienced greater growth in the number of physicians trained during this time period.

Table 1. Increase in Number of Physicians in GME Training Programs, 2005-2015^{3,11}

State	2005		2015		Difference 2005-2015
	Number	Percentage	Number	Percentage	
New York	15,283	14.8	15,980	13.3	697
California	8,926	8.7	10,713	8.9	1,787
Pennsylvania	7,015	6.8	8,150	6.8	1,135
Texas	6,453	6.3	7,800	6.5	1,347
Illinois	5,648	5.5	6,044	5.0	396
Ohio	4,875	4.7	6,003	5.0	1,128
Massachusetts	4,893	4.7	5,552	4.6	659
Michigan	4,168	4.0	5,075	4.2	907
Florida	3,012	2.9	4,225	3.5	1,213
North Carolina	2,710	2.6	3,267	2.7	557

Almost 7,000 physicians are training in primary care specialties (family medicine, general internal medicine, general pediatrics, internal medicine and pediatrics (combined), obstetrics and gynecology, and geriatrics) in 176 primary care training programs in the state (see Table 2). This comprises 13.7% of all the primary care physicians in training. Other specialties with more than 600 physicians in training include: general surgery (982), emergency medicine (958), psychiatry (940), anesthesiology (845), and radiology (702). It should be noted that New York trains a large percentage of the nation's general internal medicine physicians (17.4%) and psychiatrists (17.1%). In recent years, both of these specialties have been in high demand.¹² New York has served as an important source of physicians in these specialties across the country.

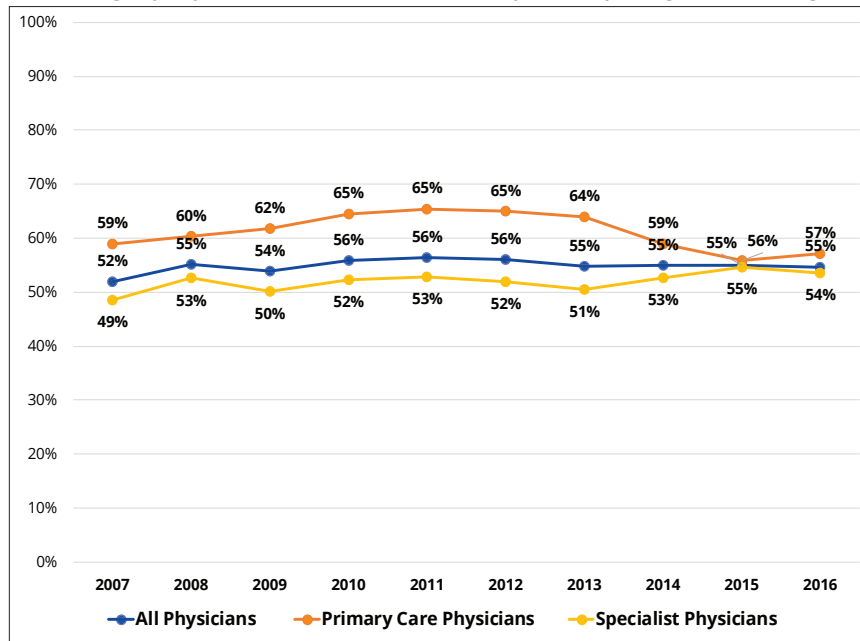
Each year, approximately 5,000 physicians complete training in one of the programs in New York. In 2016, 54.7% of all physicians (57.2% of primary care physicians and 53.6% of specialist physicians) who completed a GME training program in New York left the state to practice (See Figure 2).¹² The percentage of all physicians leaving New York after completing training has remained constant over the past decade. However, the percentage of primary care physicians leaving the state has decreased in recent years and the percentage of specialist physicians has increased. As such,

Table 2. GME Training in New York, 2015¹³

Specialty	Number of GME Programs in NY	Number of Physicians in Training in NY	Number of GME Programs in US	Number of Physicians in Training in US	Percentage of GME Programs in NY	Percentage of Physicians in Training in NY
Primary Care	176	6,857	1,797	49,976	9.8%	13.7%
Family medicine	31	636	664	10,610	4.7%	6.0%
Internal medicine	54	4,125	417	23,664	12.9%	17.4%
Pediatrics	31	1,312	239	8,874	13.0%	14.8%
IM and Peds (Combined)	5	84	79	1,436	6.3%	5.8%
Obstetrics and Gynecology	37	662	293	5,190	12.6%	12.8%
Geriatrics	18	38	105	202	17.1%	18.8%
Internal Medicine Specialties	224	1,556	1,684	11,128	13.3%	14.0%
Cardiology	53	396	514	3,053	10.3%	13.0%
Critical care medicine	5	54	33	193	15.2%	28.0%
Endocrinology	17	79	135	607	12.6%	13.0%
Gastroenterology	29	216	167	1,452	17.4%	14.9%
Hematology/Oncology	22	269	156	1,732	14.1%	15.5%
Infectious disease	19	96	148	743	12.8%	12.9%
Nephrology	26	142	147	886	17.7%	16.0%
Pulmonary disease and critical care	28	241	165	1,652	17.0%	14.6%
Rheumatology	13	52	112	443	11.6%	11.7%
Other IM Subspecialties	12	11	107	367	11.2%	3.0%
General Surgery	28	982	311	8,560	9.0%	11.5%
Surgical Specialties	173	1,355	1,574	11,759	11.0%	11.5%
Ophthalmology	17	188	121	1,355	14.0%	13.9%
Otolaryngology	12	169	148	1,561	8.1%	10.8%
Neurological surgery	11	134	110	1,339	10.0%	10.0%
Orthopedic surgery	51	480	416	4,043	12.3%	11.9%
Plastic surgery	16	82	161	1,045	9.9%	7.8%
Thoracic surgery	12	45	107	373	11.2%	12.1%
Urology	18	152	169	1,304	10.7%	11.7%
Other surgical specialties	36	105	342	739	10.5%	14.2%
Facility Based	170	1,857	1,587	15,131	10.7%	12.3%
Anesthesiology	44	845	432	6,437	10.2%	13.1%
Pathology	52	310	561	2,803	9.3%	11.1%
Radiology	74	702	594	5,891	12.5%	11.9%
Psychiatry	81	1,069	528	6,287	15.3%	17.0%
Psychiatry	64	940	403	5,500	15.9%	17.1%
Child and adolescent psychiatry	17	129	125	787	13.6%	16.4%
Other	296	2,304	2,476	17,757	12.0%	13.0%
Allergy and immunology	9	34	76	279	11.8%	12.2%
Dermatology	23	168	240	1,399	9.6%	12.0%
Emergency medicine	42	958	277	6,149	15.2%	15.6%
Neurology	54	377	483	3,079	11.2%	12.2%
Pediatric subspecialties	95	382	809	3,749	11.7%	10.2%
Physical medicine and rehabilitation	22	233	124	1,335	17.7%	17.5%
Other specialty	51	152	467	1,767	10.9%	8.6%
Total	1,148	15,980	9,957	120,598	11.5%	13.3%



Figure 2. Percentage of Physicians Who Leave New York After Completing GME Training, 2007-2016¹⁴



New York remains an important source of physicians for the nation across all specialties.

Today, of the more than 1 million active physicians in the United States, 170,828 (17.1%) received their GME training in New York. In 18 states, more than 10% of active physicians completed their GME training in New York (See Table 3). In those 18 states (excluding New York), the percentage ranged from 10.4% in Arizona to 40.8% in New Jersey. States in the New England and Mid-Atlantic regions, most states along the Eastern Seaboard, and in the Pacific Southwest had the greatest concentrations of active physicians who received training in New York (See Map 1).

New York GME programs train a high percentage of physicians in states with fast growing populations.¹⁵ New York-trained physicians provided relief to the increasing demand for health care services in these states. In 3 of the top 10 fastest growing states, physicians trained in New York made up a significant proportion of the active physicians: Florida (18%), Nevada (12%), and Arizona (10%).

With the nation's evolving health care delivery system and the shifting demand for physicians, New York continues to be the nation's leader in training physicians. In 2015, New York trained 5,200 more physicians than the next closest state (California) and given the state's GME training infrastructure, this situation is unlikely to change in the near future.

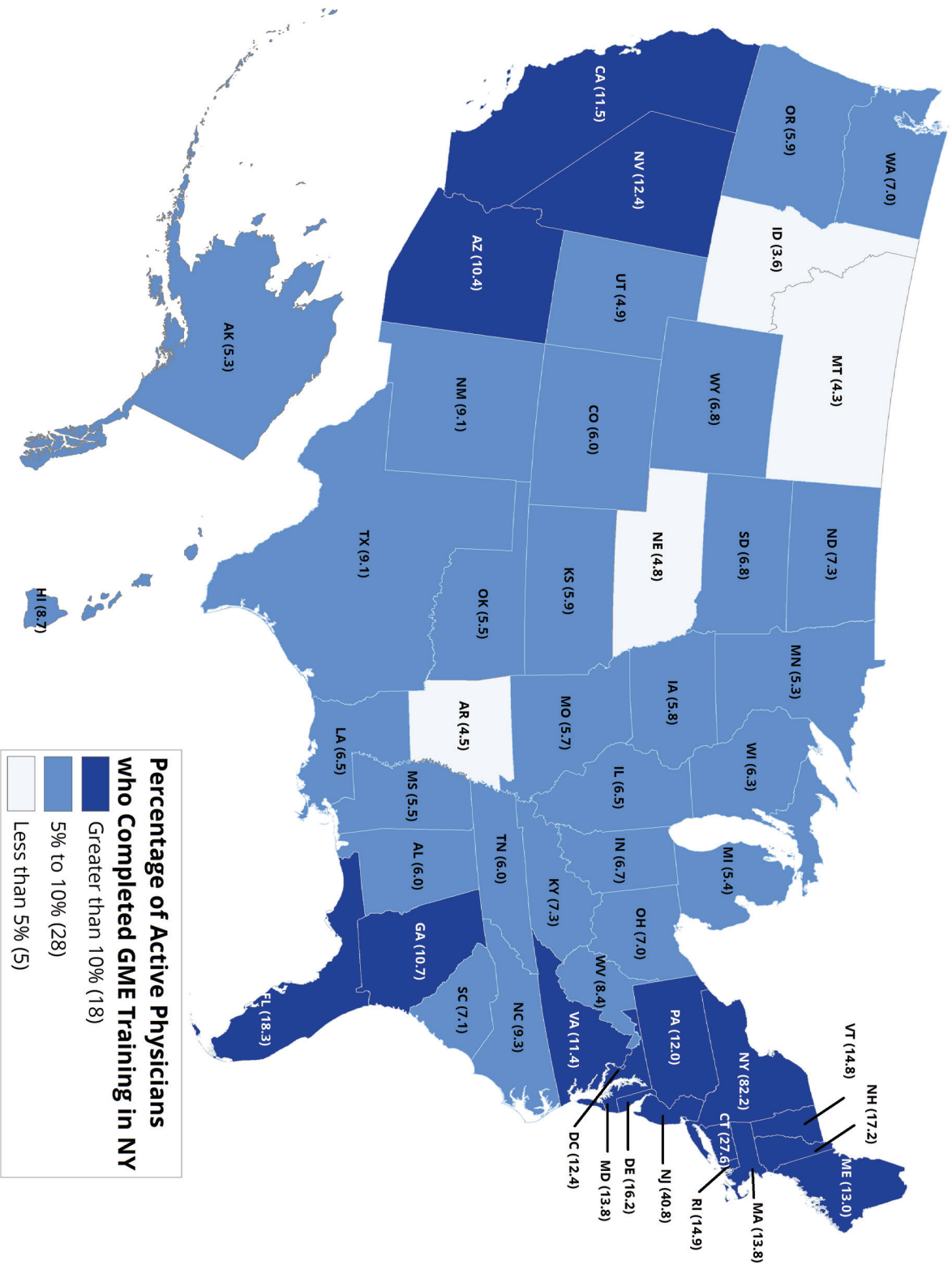


Table 3. Number of Active Physicians in Selected States Who Completed GME Training in New York, 2017¹⁶

State	Active Physicians	Active Physicians who Received GME Training in New York	Percent that Received GME Training in New York
New York	85,661	70,393	82.2%
New Jersey	31,490	12,835	40.8%
Connecticut	14,807	4,092	27.6%
Florida	59,003	10,786	18.3%
New Hampshire	4,470	771	17.2%
Delaware	2,739	444	16.2%
Rhode Island	4,670	698	14.9%
Vermont	2,621	387	14.8%
Massachusetts	35,583	4,924	13.8%
Maryland	26,816	3,703	13.8%
Maine	4,639	604	13.0%
District of Columbia	5,873	728	12.4%
Nevada	6,424	794	12.4%
Pennsylvania	47,236	5,684	12.0%
California	117,462	13,463	11.5%
Virginia	25,370	2,901	11.4%
Georgia	25,599	2,748	10.7%
Arizona	18,060	1,874	10.4%
North Carolina	28,537	2,657	9.3%
New Mexico	5,517	501	9.1%
Texas	69,573	6,301	9.1%
Hawaii	4,771	413	8.7%
West Virginia	5,290	443	8.4%
Kentucky	11,360	831	7.3%
North Dakota	1,921	140	7.3%
South Carolina	12,675	897	7.1%
Ohio	39,646	2,780	7.0%
Washington	21,436	1,495	7.0%



Figure 3. Percentage of Active Physicians Who Completed GME Training in New York, 2017¹⁶



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Established in 1996, CHWS is an academic research center based at the School of Public Health, University at Albany, State University of New York (SUNY). The mission of CHWS is to provide timely, accurate data and conduct policy relevant research about the health workforce. The research conducted by CHWS supports and promotes health workforce planning and policymaking at local, regional, state, and national levels.