

ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION

DATA RESOURCE BOOK

ACADEMIC YEAR 2017-2018



Data Resource Book
Academic Year 2017-2018

Department of Applications and Data Analysis
Accreditation Council for Graduate Medical Education



Accreditation Council for Graduate Medical Education

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Introduction

Overview

The mission of the Accreditation Council for Graduate Medical Education (ACGME) is to improve health care and population health by assessing and advancing the quality of resident physicians' education through accreditation. The collection and analysis of data are crucial to performing these functions. The ACGME's *Data Resource Book* contains the most recent data on ACGME-accredited institutions and programs, and physicians in ACGME-accredited graduate medical education (GME) programs. The *Data Resource Book* is intended to be a concise reference for policymakers, designated institutional officials, residency/fellowship program directors, and others to identify and clarify issues affecting the accreditation of GME programs and the institutions that sponsor them.

The ACGME continues to improve the *Data Resource Book* to describe the accreditation process in greater detail, and hopes it is a valuable resource for constituents. Feedback and suggestions are welcomed and valued: send comments to databook@acgme.org.

Accreditation Data System

The Accreditation Data System (ADS) is a web-based software system that contains critical accreditation data for all Sponsoring Institutions and programs. It is a tool to collect and organize information for accreditation purposes, and serves as a means of communication between the ACGME and Sponsoring Institutions and programs. It is also used internally by the Department of Field Activities and the staff of the Review Committees in the Department of Accreditation Services in conducting accreditation activities. ADS incorporates several applications and functions, including the Annual Update, Milestones, Case Logs, Surveys, and the application for accreditation.

ADS was originally built by the Department of Applications and Data Analysis in 2000, and went through a major redesign in 2012. During the redesign process, numerous disparate data systems were consolidated and the underlying database structure was completely refactored. Resident/fellow records across programs were linked based on identifying information, and a single record was created at the database level for each individual. ADS, in this way, not only provides an annual look at every Sponsoring Institution and residency and fellowship program, but serves as a system to track residents and fellows longitudinally throughout the course of their educational experience.

The ADS Annual Update is scheduled for Sponsoring Institutions and programs following the start of each academic year. At that time, programs are required to enter information on new residents/fellows, confirm the status of existing/graduating residents/fellows, and enter critical information regarding faculty members, scholarly activity, participating sites, and other major program changes. Sponsoring Institutions are also scheduled to participate and must respond to institutional review questions, and to update any personnel or participating site information. Capturing critical information at the start of the academic year allows the ACGME to facilitate the process of archiving Case Log procedures for graduating residents/fellows, schedule Milestones evaluations for all residents/fellows twice per academic year, and conduct the annual ACGME Resident/Fellow and Faculty Surveys. While the Annual Update occurs once a year, Sponsoring Institutions and programs are expected to keep their information up-to-date at all times. In this sense, ADS is currently the most comprehensive database of GME Sponsoring Institutions, programs, and physicians-in-training in the United States.

Academic Year Reporting

To create a comprehensive report on GME for the academic year, an annual snapshot of the database is taken at the end of each academic year, the results of which are summarized in this book. The trends shown here are based on the combination of these snapshots over time. This particularly affects the counts of withdrawn and newly accredited programs which may change following the publication of this report. The timing of the snapshot also affects the ACGME's ability to report on the graduating cohort, as this information is not fully available until after the fall Annual Update reporting is complete. It is for this reason that the graduates and residents/fellows leaving their programs are reported for the previous academic year (in this edition, the 2016-2017 academic year). Up-to-date information on individual Sponsoring Institutions and programs can be found on the ADS public website (<https://apps.acgme.org/ads/public/>).

Definitions

The definitions listed below clarify use of terms in this Data Resource Book only. These reflect the 2017-2018 academic year, and not necessarily changes to ACGME definitions or data collection terms relative to revised requirements. Additional terms, and in some cases more comprehensive and current definitions of terms included here, are included in the ACGME Glossary of Terms, found on the ACGME website (<http://www.acgme.org/About-Us/Policies-and-Related-Materials>).

Continuing GME Programs: Continuing GME programs are those available to physicians only after successful completion of a pipeline program.

Core Faculty: In specialty programs, core faculty includes faculty members, other than program directors, who devote at least 15 hours per week to resident education and administration. Core faculty members should also evaluate the competency domains, work closely with and support the program director, assist in developing and implementing evaluation systems, and teach and advise residents.

Designated Institutional Official (DIO): The individual in a Sponsoring Institution who has the authority and responsibility for all of that institution's ACGME-accredited programs.

International Medical Graduate (IMG): A graduate of a medical school outside the United States and Canada. IMGs may be citizens of the United States who chose to be educated elsewhere or non-citizens who are admitted to the United States by US Immigration authorities.

Osteopathic Recognition: A determination of substantial compliance with the published Osteopathic Recognition Requirements, following a process of evaluation and peer review.

Participating Site: An organization providing educational experiences or educational assignments/rotations for residents/fellows.

Post-Graduate Year 1 (PGY-1): Any graduate medical education position available to physicians immediately after their completion of medical school. These positions are also referred to as entry-level positions.

Pipeline Specialties: Specialties that lead to primary board certification. The net output of physicians over time from the graduate medical education system into clinical practice is determined by the number of positions available in pipeline specialties. See Appendix A.

Program: A structured educational experience in graduate medical education designed to conform to the Program Requirements of a particular specialty/subspecialty, the satisfactory completion of which may result in eligibility for board certification.

Program Director: The individual designated with authority and accountability for the operation of a residency/fellowship program.

Program Year: Refers to the current year of education (of an individual resident or fellow) within a specific program; this designation may or may not correspond to a resident's or fellow's post-graduate year.

Review Committee: A group comprised of volunteers that sets accreditation standards (requirements), provides peer evaluation of Sponsoring Institutions or programs to assess the degree to which these comply with the applicable published accreditation requirements, and confers an accreditation status on each Sponsoring Institution or program with regard to substantial compliance with those requirements. There are three types of Review Committee: specialty Review Committee, Transitional Year Review Committee, and Institutional Review Committee.

Resident: For the purposes of this publication only, this term is used to refer to any physician in a graduate medical education program, including both residents and fellows.

Sponsoring Institution: The organization (or entity) with ultimate financial and academic responsibility for one or more accredited graduate medical education programs, and that has the primary purpose of providing educational programs and/or health care services. Examples include a university, a medical school, a hospital, a school of public health, a health department, a public health agency, an organized health care delivery system, a medical examiner's office, a consortium, and an educational foundation.

Specialty Group: For analytic purposes, the grouping of specialties and subspecialties into one of three categories based on patient care focus: surgical, medical, and hospital-based. See Appendix B.

Specialty Program: A structured educational experience in a field of medical practice following completion of medical school and, in some cases, prerequisite basic clinical education designed to conform to the Program Requirements of a particular specialty.

Subspecialty Program: A structured educational experience following completion of a prerequisite specialty program in graduate medical education designed to conform to the Program Requirements of a particular subspecialty area.

Withdrawal of Accreditation: The conclusion, whether voluntary or administrative, of accreditation status and services. See the ACGME Manual of Policies and Procedures for more details and specification. These decisions may be made effective at any time during the academic year. Any program with a Withdrawal status effective prior to June 30, 2018 will be excluded from the count of accredited programs for Academic Year 2017-2018 in this edition of the *Data Resource Book*.

A

Program Accreditation

This section summarizes the accreditation statuses of currently accredited programs, as well as trends in the total number of accredited programs since the 2008-2009 academic year. This section also shows the pattern of accreditation statuses by specialty for all programs, newly accredited programs, and programs with loss of accreditation. Finally, the section includes information on the lengths of programs varying by specialty, as well as on the programs that have achieved Osteopathic Recognition.

Accredited Programs by Status

Of the 11,214 total accredited programs, 9,524 (4,109 specialty programs and 5,415 subspecialty programs) had a status of Continued Accreditation, accounting for 84.9% of programs. Only 141 programs (1.3%) had a status of Continued Accreditation with Warning, and an even smaller number, 17 (0.2%), had a status of Probationary Accreditation. Remaining programs had a status of either Initial Accreditation (13.3%) or Withdrawal of Accreditation (0.3%). Among specialty programs, the specialties with the highest percentage of programs with a Continued Accreditation with Warning status are:

- Colon and rectal surgery (16.1%)
- Plastic surgery (9.8%)
- Thoracic surgery (6.9%)
- Obstetrics and gynecology (5.8%)

Dermatology, family medicine, ophthalmology, plastic surgery, surgery, and urology each had two programs issued Probationary Accreditation. Specialties with one program on probation include child neurology, obstetrics and gynecology, and psychiatry.

Trends in Accredited Programs

Since the 2014-2015 academic year, there has been a 16.3% increase in the total number of ACGME-accredited programs. This is primarily due to the continued transition to a single graduate medical education (GME) accreditation system. The following specialties had the highest 5-year change in total number of programs:

- Family medicine (149 – 81 previously AOA-approved)
- Internal medicine (139 – 79 previously AOA-approved)
- Emergency medicine (67 – 34 previously AOA-approved)
- Psychiatry (60 – 14 previously AOA-approved)

Newly Accredited Programs

A total of 620 programs were newly accredited during the 2017-2018 academic year. Of the newly-accredited programs, 375 (60.5%) are in medical specialties and subspecialties, 109 (17.6%) are in hospital-based specialties and subspecialties, and 136 (21.9%) are in surgical specialties and subspecialties. In the last three academic years, specialty programs exceeded 40% of the total number of newly accredited programs, largely due to the transition to a single GME accreditation system. The specialties with the highest number of newly accredited programs are:

- Family medicine (84)
- Internal medicine (59)
- Surgery (24)
- Transitional Year (24)

Cardiovascular disease, pulmonary disease and critical care medicine, gastroenterology, and maternal-fetal medicine had the highest number of new programs among all subspecialties, with 26, 20, 15, and 15 programs, respectively, accounting for 12.3% of all newly accredited programs added this year. There are 14 subspecialties newly accredited by the ACGME in the past 5 years. New programs in these 14 subspecialties account for 22.1% of all new subspecialty programs.

Withdrawn Programs

Withdrawn programs are reported in three categories: those withdrawn prior to the end of the 2017-2018 academic year (which are not included in the population of accredited programs); those withdrawn at the end of the 2017-2018 academic year; and those with a future effective withdrawal date. At the time of this report, family medicine and internal medicine each had 4 withdrawn programs during the academic year, followed by plastic surgery and preventive medicine each with 3 withdrawn programs. The following subspecialties each had 2 withdrawn programs during the academic year: geriatric medicine (family medicine), hematology and medical oncology, orthopaedic sports medicine, and pediatric urology.

Accredited Training Length

The majority of core programs take 3 or 4 years to complete. Neurological surgery programs have the longest training length among core programs at 7 years. Among subspecialty programs, 51.0% are 1 year in length, with the remaining

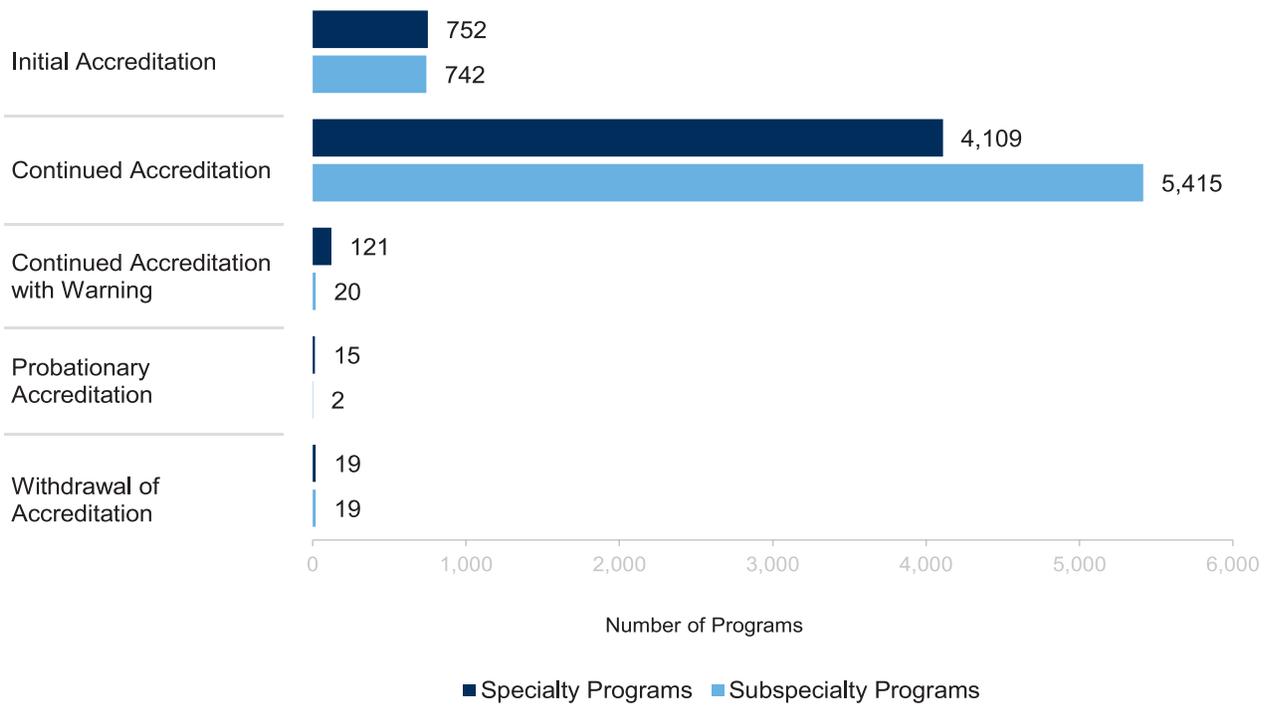
programs requiring 2 or more years to complete. The internal medicine subspecialties of advanced heart failure and transplant cardiology, clinical cardiac electrophysiology, interventional cardiology, and transplant hepatology all require the completion of another subspecialty program prior to entry. These 4 subspecialties along with the subspecialties of endovascular surgical neuroradiology, pediatric transplant hepatology, craniofacial surgery, and congenital cardiac surgery require 6-7 total years of prior education and training before entry.

Osteopathic Recognition

The 2017-2018 academic year is the third year that the ACGME has recognized training in Osteopathic Principles and Practice in ACGME-accredited programs. Of the 157 programs with Osteopathic Recognition, 101 (64.3%) are family medicine programs and 22 (14.0%) are internal medicine programs. ↗

FIGURE A.1

Accreditation Statuses of Currently Accredited Programs



Notes: Total number of accredited programs = 11,214. Excluding programs withdrawn prior to the end of the academic year (n=14).

FIGURE A.2

Number of Accredited Programs by Academic Year, 2008-2009 to 2017-2018

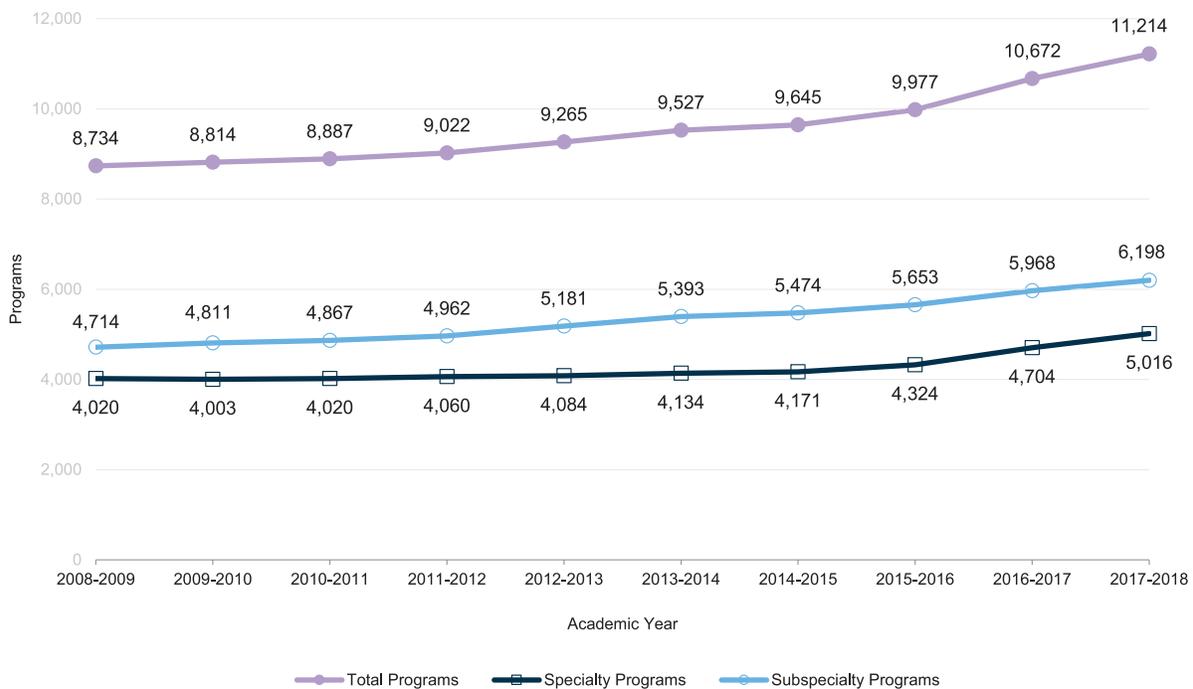


TABLE A.3											
Accreditation Statuses of Currently Accredited Programs by Specialty and Subspecialty											
Specialty	Total Programs	Accreditation Status									
		Initial Accreditation		Continued Accreditation		Continued Accreditation with Warning		Probationary Accreditation		Withdrawal of Accreditation	
		#	%	#	%	#	%	#	%	#	%
OVERALL	11,214	1,494	13.3%	9,524	84.9%	141	1.3%	17	0.2%	38	0.3%
TOTAL PIPELINE	4,668	691	14.8%	3,842	82.3%	102	2.2%	15	0.3%	18	0.4%
Allergy and immunology	79	4	5.1%	74	93.7%	1	1.3%	0	0.0%	0	0.0%
Anesthesiology	153	18	11.8%	130	85.0%	4	2.6%	0	0.0%	1	0.7%
- Adult cardiothoracic anesthesiology	66	5	7.6%	60	90.9%	1	1.5%	0	0.0%	0	0.0%
- Clinical informatics	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	62	8	12.9%	54	87.1%	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	18	18	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	34	7	20.6%	26	76.5%	1	2.9%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	102	4	3.9%	98	96.1%	0	0.0%	0	0.0%	0	0.0%
- Pediatric anesthesiology	60	5	8.3%	53	88.3%	2	3.3%	0	0.0%	0	0.0%
Colon and rectal surgery	62	7	11.3%	45	72.6%	10	16.1%	0	0.0%	0	0.0%
Dermatology	138	18	13.0%	117	84.8%	1	0.7%	2	1.4%	0	0.0%
- Dermatopathology (multidisciplinary)	56	3	5.4%	53	94.6%	0	0.0%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	10	13.0%	66	85.7%	0	0.0%	0	0.0%	1	1.3%
Emergency medicine	231	64	27.7%	162	70.1%	5	2.2%	0	0.0%	0	0.0%
- Clinical informatics	4	3	75.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	61	16	26.2%	45	73.8%	0	0.0%	0	0.0%	0	0.0%
- Medical toxicology	27	2	7.4%	25	92.6%	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	26	4	15.4%	22	84.6%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	7	0	0.0%	7	100.0%	0	0.0%	0	0.0%	0	0.0%
Family medicine	620	129	20.8%	475	76.6%	11	1.8%	2	0.3%	3	0.5%
- Clinical informatics	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	45	5	11.1%	38	84.4%	0	0.0%	0	0.0%	2	4.4%
- Hospice and palliative medicine (multidisciplinary)	140	30	21.4%	110	78.6%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	135	15	11.1%	119	88.1%	0	0.0%	0	0.0%	1	0.7%
Internal medicine	529	113	21.4%	411	77.7%	1	0.2%	0	0.0%	4	0.8%
- Adult congenital heart disease	14	10	71.4%	4	28.6%	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	75	9	12.0%	65	86.7%	0	0.0%	0	0.0%	1	1.3%
- Cardiovascular disease	235	39	16.6%	195	83.0%	1	0.4%	0	0.0%	0	0.0%
- Clinical cardiac electrophysiology	108	6	5.6%	102	94.4%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	13	7	53.8%	6	46.2%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	36	4	11.1%	32	88.9%	0	0.0%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	142	7	4.9%	135	95.1%	0	0.0%	0	0.0%	0	0.0%
- Gastroenterology	189	23	12.2%	166	87.8%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	107	5	4.7%	101	94.4%	0	0.0%	0	0.0%	1	0.9%
- Hematology	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	149	6	4.0%	141	94.6%	0	0.0%	1	0.7%	1	0.7%
- Infectious disease	148	4	2.7%	144	97.3%	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	155	10	6.5%	144	92.9%	0	0.0%	0	0.0%	1	0.6%
- Nephrology	150	4	2.7%	146	97.3%	0	0.0%	0	0.0%	0	0.0%
- Medical oncology	7	1	14.3%	6	85.7%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	5	22.7%	16	72.7%	0	0.0%	0	0.0%	1	4.5%
- Pulmonary disease and critical care medicine	170	25	14.7%	145	85.3%	0	0.0%	0	0.0%	0	0.0%
- Rheumatology	120	8	6.7%	111	92.5%	0	0.0%	0	0.0%	1	0.8%
- Sleep medicine (multidisciplinary)	84	1	1.2%	83	98.8%	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	51	5	9.8%	46	90.2%	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	46	3	6.5%	42	91.3%	1	2.2%	0	0.0%	0	0.0%
- Medical biochemical genetics	17	5	29.4%	12	70.6%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	41	2	4.9%	39	95.1%	0	0.0%	0	0.0%	0	0.0%
Neurological surgery	112	6	5.4%	101	90.2%	5	4.5%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%

TABLE A.3 Continued

Accreditation Statuses of Currently Accredited Programs by Specialty and Subspecialty											
Specialty	Total Programs	Accreditation Status									
		Initial Accreditation		Continued Accreditation		Continued Accreditation with Warning		Probationary Accreditation		Withdrawal of Accreditation	
		#	%	#	%	#	%	#	%	#	%
Neurology	153	19	12.4%	133	86.9%	1	0.7%	0	0.0%	0	0.0%
- Brain injury medicine	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	91	1	1.1%	89	97.8%	0	0.0%	0	0.0%	1	1.1%
- Epilepsy	71	29	40.8%	42	59.2%	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	49	5	10.2%	43	87.8%	1	2.0%	0	0.0%	0	0.0%
- Vascular neurology	92	8	8.7%	84	91.3%	0	0.0%	0	0.0%	0	0.0%
Child neurology	74	2	2.7%	71	95.9%	0	0.0%	1	1.4%	0	0.0%
Nuclear medicine	41	0	0.0%	39	95.1%	2	4.9%	0	0.0%	0	0.0%
Obstetrics and gynecology	278	33	11.9%	227	81.7%	16	5.8%	1	0.4%	1	0.4%
- Female pelvic medicine and reconstructive surgery	51	3	5.9%	47	92.2%	1	2.0%	0	0.0%	0	0.0%
- Gynecologic oncology	56	55	98.2%	1	1.8%	0	0.0%	0	0.0%	0	0.0%
- Maternal-fetal medicine	88	88	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	50	49	98.0%	1	2.0%	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	119	4	3.4%	110	92.4%	3	2.5%	2	1.7%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	4	100.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	175	22	12.6%	146	83.4%	7	4.0%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	24	3	12.5%	21	87.5%	0	0.0%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	6	0	0.0%	6	100.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	68	2	2.9%	64	94.1%	2	2.9%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	1	8.3%	11	91.7%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	96	5	5.2%	88	91.7%	3	3.1%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	17	1	5.9%	16	94.1%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	11	2	18.2%	9	81.8%	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	25	0	0.0%	25	100.0%	0	0.0%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	13	12	92.3%	1	7.7%	0	0.0%	0	0.0%	0	0.0%
Otolaryngology	117	11	9.4%	103	88.0%	1	0.9%	0	0.0%	2	1.7%
- Neurotology	23	3	13.0%	20	87.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	25	4	16.0%	21	84.0%	0	0.0%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	143	2	1.4%	138	96.5%	3	2.1%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	50	4	8.0%	46	92.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	7	5	71.4%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
- Chemical pathology	4	1	25.0%	3	75.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	94	3	3.2%	90	95.7%	0	0.0%	0	0.0%	1	1.1%
- Forensic pathology	39	3	7.7%	36	92.3%	0	0.0%	0	0.0%	0	0.0%
- Hematopathology	85	2	2.4%	83	97.6%	0	0.0%	0	0.0%	0	0.0%
- Medical microbiology	15	0	0.0%	15	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	34	2	5.9%	32	94.1%	0	0.0%	0	0.0%	0	0.0%
- Pediatric pathology	27	1	3.7%	26	96.3%	0	0.0%	0	0.0%	0	0.0%
- Selective pathology	83	8	9.6%	75	90.4%	0	0.0%	0	0.0%	0	0.0%
Pediatrics	210	11	5.2%	198	94.3%	1	0.5%	0	0.0%	0	0.0%
- Adolescent medicine	29	1	3.4%	28	96.6%	0	0.0%	0	0.0%	0	0.0%
- Child abuse pediatrics	32	6	18.8%	25	78.1%	0	0.0%	0	0.0%	1	3.1%
- Clinical informatics	5	2	40.0%	3	60.0%	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	41	4	9.8%	37	90.2%	0	0.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	100	2	2.0%	98	98.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric cardiology	60	1	1.7%	59	98.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric critical care medicine	67	1	1.5%	66	98.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	52	1	1.9%	51	98.1%	0	0.0%	0	0.0%	0	0.0%
- Pediatric endocrinology	72	3	4.2%	69	95.8%	0	0.0%	0	0.0%	0	0.0%
- Pediatric gastroenterology	64	6	9.4%	57	89.1%	1	1.6%	0	0.0%	0	0.0%

TABLE A.3 Continued

Accreditation Statuses of Currently Accredited Programs by Specialty and Subspecialty

Specialty	Total Programs	Accreditation Status									
		Initial Accreditation		Continued Accreditation		Continued Accreditation with Warning		Probationary Accreditation		Withdrawal of Accreditation	
		#	%	#	%	#	%	#	%	#	%
- Pediatric hematology/oncology	74	4	5.4%	70	94.6%	0	0.0%	0	0.0%	0	0.0%
- Pediatric infectious diseases	65	3	4.6%	62	95.4%	0	0.0%	0	0.0%	0	0.0%
- Pediatric nephrology	45	1	2.2%	43	95.6%	0	0.0%	0	0.0%	1	2.2%
- Pediatric pulmonology	54	2	3.7%	52	96.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	37	1	2.7%	36	97.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric sports medicine	17	2	11.8%	15	88.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	14	6	42.9%	8	57.1%	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	88	8	9.1%	78	88.6%	2	2.3%	0	0.0%	0	0.0%
- Brain injury medicine	18	11	61.1%	7	38.9%	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	22	4	18.2%	18	81.8%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rehabilitation	20	1	5.0%	19	95.0%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	19	2	10.5%	17	89.5%	0	0.0%	0	0.0%	0	0.0%
Plastic surgery	61	2	3.3%	49	80.3%	6	9.8%	2	3.3%	2	3.3%
Plastic surgery - integrated	79	11	13.9%	67	84.8%	1	1.3%	0	0.0%	0	0.0%
- Craniofacial surgery	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	16	0	0.0%	16	100.0%	0	0.0%	0	0.0%	0	0.0%
Preventive medicine	76	3	3.9%	70	92.1%	1	1.3%	0	0.0%	2	2.6%
- Medical toxicology	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	248	48	19.4%	199	80.2%	0	0.0%	1	0.4%	0	0.0%
- Addiction psychiatry	49	4	8.2%	45	91.8%	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	138	12	8.7%	124	89.9%	1	0.7%	0	0.0%	1	0.7%
- Forensic psychiatry	47	4	8.5%	42	89.4%	0	0.0%	0	0.0%	1	2.1%
- Geriatric psychiatry	60	4	6.7%	56	93.3%	0	0.0%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	61	6	9.8%	55	90.2%	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	94	5	5.3%	87	92.6%	2	2.1%	0	0.0%	0	0.0%
Radiology-diagnostic	194	10	5.2%	180	92.8%	3	1.5%	0	0.0%	1	0.5%
- Abdominal radiology	12	0	0.0%	12	100.0%	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	1	33.3%	2	66.7%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	16	1	6.3%	15	93.8%	0	0.0%	0	0.0%	0	0.0%
- Neuroradiology	85	2	2.4%	83	97.6%	0	0.0%	0	0.0%	0	0.0%
- Nuclear radiology	17	0	0.0%	17	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	46	1	2.2%	44	95.7%	0	0.0%	0	0.0%	1	2.2%
- Vascular and interventional radiology	93	2	2.2%	90	96.8%	1	1.1%	0	0.0%	0	0.0%
Interventional radiology - integrated	78	78	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Surgery	301	47	15.6%	234	77.7%	16	5.3%	2	0.7%	2	0.7%
- Complex general surgical oncology	25	4	16.0%	21	84.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric surgery	50	3	6.0%	46	92.0%	1	2.0%	0	0.0%	0	0.0%
- Surgical critical care	128	17	13.3%	110	85.9%	1	0.8%	0	0.0%	0	0.0%
- Vascular surgery	106	2	1.9%	102	96.2%	2	1.9%	0	0.0%	0	0.0%
Vascular surgery - integrated	55	4	7.3%	51	92.7%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	72	6	8.3%	61	84.7%	5	6.9%	0	0.0%	0	0.0%
- Congenital cardiac surgery	13	2	15.4%	10	76.9%	0	0.0%	0	0.0%	1	7.7%
Thoracic surgery - integrated	26	0	0.0%	25	96.2%	1	3.8%	0	0.0%	0	0.0%
Urology	138	8	5.8%	121	87.7%	7	5.1%	2	1.4%	0	0.0%
- Female pelvic medicine and reconstructive surgery	13	4	30.8%	9	69.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric urology	26	0	0.0%	23	88.5%	1	3.8%	1	3.8%	1	3.8%
Transitional year	135	44	32.6%	87	64.4%	3	2.2%	0	0.0%	1	0.7%
Internal medicine/Pediatrics	78	0	0.0%	77	98.7%	1	1.3%	0	0.0%	0	0.0%

Notes: Pipeline specialties are highlighted. Program counts exclude programs withdrawn prior to the end of the academic year (n=14).

TABLE A.4

Number of Programs by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018

Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	#	%
	#	#	#	#	#		
OVERALL	9,527	9,645	9,977	10,672	11,214	1,687	17.7%
TOTAL PIPELINE	3,831	3,875	4,021	4,383	4,668	837	21.8%
Allergy and immunology	74	75	77	79	79	5	6.8%
Anesthesiology	133	133	135	147	153	20	15.0%
- Adult cardiothoracic anesthesiology	60	61	62	66	66	6	10.0%
- Clinical informatics *			1	1	1	0	0.0%
- Critical care medicine	55	54	54	57	62	7	12.7%
- Regional anesthesiology and acute pain medicine *				9	18	9	100.0%
- Obstetric anesthesiology	27	27	28	32	34	7	25.9%
- Pain medicine (multidisciplinary)	97	97	100	101	102	5	5.2%
- Pediatric anesthesiology	51	53	56	58	60	9	17.6%
Colon and rectal surgery	55	55	57	58	62	7	12.7%
Dermatology	115	117	120	128	138	23	20.0%
- Dermatopathology (multidisciplinary)	54	53	53	53	56	2	3.7%
- Micrographic surgery and dermatologic oncology	63	63	69	75	77	14	22.2%
Emergency medicine	164	167	179	212	231	67	40.9%
- Clinical informatics *		1	3	4	4	3	300.0%
- Emergency medical services	31	42	50	55	61	30	96.8%
- Medical toxicology	26	25	26	27	27	1	3.8%
- Pediatric emergency medicine	21	22	22	26	26	5	23.8%
- Sports medicine	5	6	7	7	8	3	60.0%
- Undersea and hyperbaric medicine	6	6	7	7	7	1	16.7%
Family medicine	471	480	498	540	620	149	31.6%
- Clinical informatics *			1	2	2	1	100.0%
- Geriatric medicine	42	40	41	44	45	3	7.1%
- Hospice and palliative medicine (multidisciplinary)	97	108	115	130	140	43	44.3%
- Sports medicine	124	125	127	132	135	11	8.9%
Internal medicine	390	396	421	469	529	139	35.6%
- Adult congenital heart disease *			7	10	14	7	100.0%
- Advanced heart failure and transplant cardiology	57	62	68	71	75	18	31.6%
- Cardiovascular disease	191	192	193	210	235	44	23.0%
- Clinical cardiac electrophysiology	104	104	104	105	108	4	3.8%
- Clinical informatics *		1	8	12	13	12	1200.0%
- Critical care medicine	34	33	33	34	36	2	5.9%
- Endocrinology, diabetes, and metabolism	134	135	136	141	142	8	6.0%
- Gastroenterology	162	165	168	175	189	27	16.7%
- Geriatric medicine	105	105	105	106	107	2	1.9%
- Hematology	3	3	3	2	2	-1	-33.3%
- Hematology and medical oncology	136	139	144	146	149	13	9.6%
- Infectious disease	148	148	148	146	148	0	0.0%
- Interventional cardiology	142	142	145	150	155	13	9.2%
- Nephrology	147	147	147	149	150	3	2.0%
- Medical oncology	11	10	9	6	7	-4	-36.4%
- Pulmonary disease	20	20	18	20	22	2	10.0%
- Pulmonary disease and critical care medicine	141	142	147	151	170	29	20.6%
- Rheumatology	113	113	113	114	120	7	6.2%
- Sleep medicine (multidisciplinary)	79	83	83	84	84	5	6.3%
- Transplant hepatology	41	43	47	51	51	10	24.4%
Medical genetics and genomics	47	46	45	46	46	-1	-2.1%
- Medical biochemical genetics	12	11	14	16	17	5	41.7%
- Molecular genetic pathology (multidisciplinary)	36	37	39	39	41	5	13.9%
Neurological surgery	105	105	108	110	112	7	6.7%
- Endovascular surgical neuroradiology	2	2	2	2	2	0	0.0%

TABLE A.4 Continued							
Number of Programs by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018							
Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	#	%
	#	#	#	#	#		
Neurology	130	133	139	144	153	23	17.7%
- Brain injury medicine *				1	1	0	0.0%
- Clinical neurophysiology	97	96	96	94	91	-6	-6.2%
- Epilepsy *		11	39	61	71	60	545.5%
- Endovascular surgical neuroradiology	2	1	1	1	1	-1	-50.0%
- Neurodevelopmental disabilities	9	8	8	8	8	-1	-11.1%
- Neuromuscular medicine	38	43	45	46	49	11	28.9%
- Vascular neurology	81	84	87	93	92	11	13.6%
Child neurology	73	73	73	74	74	1	1.4%
Nuclear medicine	47	43	43	42	41	-6	-12.8%
Obstetrics and gynecology	242	243	250	269	278	36	14.9%
- Female pelvic medicine and reconstructive surgery	45	45	48	50	51	6	13.3%
- Gynecologic oncology *				48	56	8	16.7%
- Maternal-fetal medicine *				73	88	15	20.5%
- Reproductive endocrinology and infertility *				41	50	9	22.0%
Ophthalmology	116	116	116	116	119	3	2.6%
- Ophthalmic plastic and reconstructive surgery	5	5	5	5	4	-1	-20.0%
Orthopaedic surgery	155	156	162	168	175	20	12.9%
- Adult reconstructive orthopaedics	21	21	23	23	24	3	14.3%
- Foot and ankle orthopaedics	7	7	6	6	6	-1	-14.3%
- Hand surgery	65	65	67	68	68	3	4.6%
- Musculoskeletal oncology	11	11	11	11	12	1	9.1%
- Orthopaedic sports medicine	95	95	94	97	96	1	1.1%
- Orthopaedic surgery of the spine	18	17	17	16	17	-1	-5.6%
- Orthopaedic trauma	10	9	9	9	11	1	10.0%
- Pediatric orthopaedics	26	25	25	25	25	-1	-3.8%
Osteopathic neuromusculoskeletal medicine *			1	4	13	12	1200.0%
Otolaryngology	106	106	106	109	117	11	10.4%
- Neurotology	19	19	20	20	23	4	21.1%
- Pediatric otolaryngology	21	22	23	22	25	4	19.0%
Pathology-anatomic and clinical	142	142	142	142	143	1	0.7%
- Blood banking/transfusion medicine	48	47	48	49	50	2	4.2%
- Clinical informatics *			2	5	7	5	250.0%
- Chemical pathology	2	3	3	4	4	2	100.0%
- Cytopathology	93	91	91	92	94	1	1.1%
- Forensic pathology	35	36	39	40	39	4	11.4%
- Hematopathology	84	85	85	86	85	1	1.2%
- Medical microbiology	13	14	14	15	15	2	15.4%
- Neuropathology	33	32	33	35	34	1	3.0%
- Pediatric pathology	27	27	26	26	27	0	0.0%
- Selective pathology	77	80	79	85	83	6	7.8%
Pediatrics	199	199	204	207	210	11	5.5%
- Adolescent medicine	28	28	28	29	29	1	3.6%
- Child abuse pediatrics	25	26	28	30	32	7	28.0%
- Clinical informatics *		1	4	5	5	4	400.0%
- Developmental-behavioral pediatrics	35	37	38	39	41	6	17.1%
- Neonatal-perinatal medicine	97	98	98	99	100	3	3.1%
- Pediatric cardiology	56	57	59	59	60	4	7.1%
- Pediatric critical care medicine	64	64	67	67	67	3	4.7%
- Pediatric emergency medicine	51	51	52	52	52	1	2.0%
- Pediatric endocrinology	69	69	69	71	72	3	4.3%
- Pediatric gastroenterology	57	57	60	63	64	7	12.3%
- Pediatric hematology/oncology	67	70	72	73	74	7	10.4%

TABLE A.4 Continued

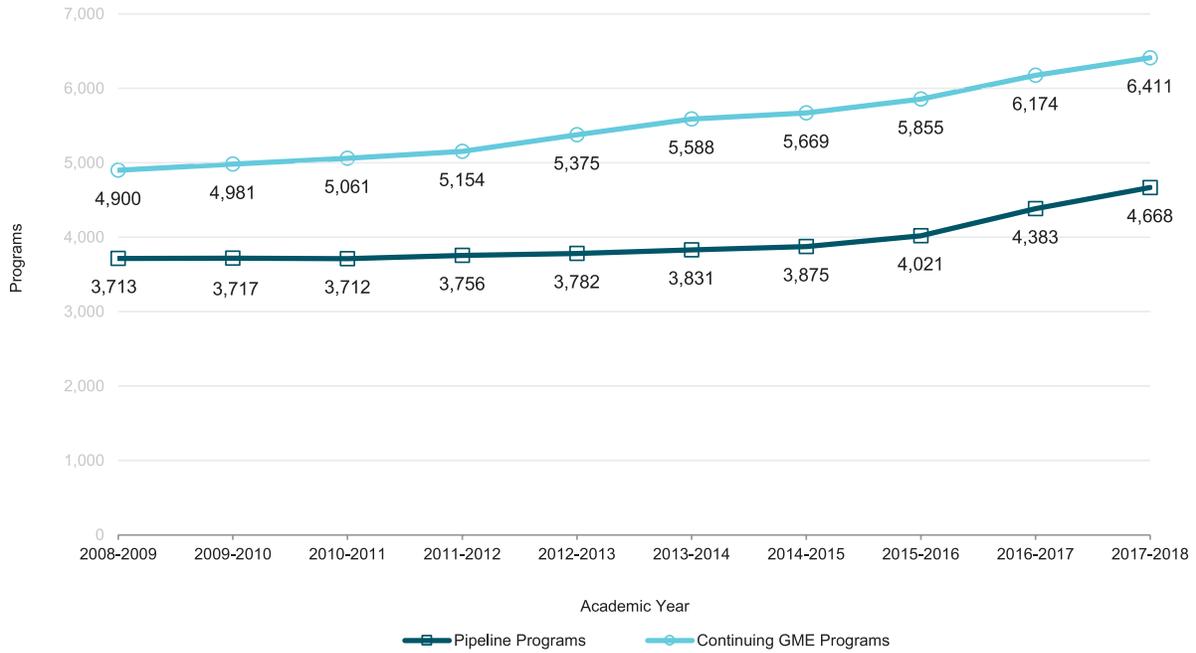
Number of Programs by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018

Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	#	%
	#	#	#	#	#		
- Pediatric infectious diseases	61	61	64	64	65	4	6.6%
- Pediatric nephrology	45	45	45	44	45	0	0.0%
- Pediatric pulmonology	52	52	54	54	54	2	3.8%
- Pediatric rheumatology	34	34	36	36	37	3	8.8%
- Pediatric sports medicine	14	14	17	18	17	3	21.4%
- Pediatric transplant hepatology	6	7	9	13	14	8	133.3%
Physical medicine and rehabilitation	77	78	83	86	88	11	14.3%
- Brain injury medicine *	3	4	8	13	18	15	500.0%
- Neuromuscular medicine	1	1	1	1	1	0	0.0%
- Spinal cord injury medicine	18	19	20	22	22	4	22.2%
- Pediatric rehabilitation	17	17	19	20	20	3	17.6%
- Sports medicine	14	16	17	19	19	5	35.7%
Plastic surgery	71	71	68	68	61	-10	-14.1%
Plastic surgery - integrated	59	67	69	76	79	20	33.9%
- Craniofacial surgery	8	9	10	9	8	0	0.0%
- Hand surgery	15	16	16	16	16	1	6.7%
Preventive medicine	74	72	74	76	76	2	2.7%
- Medical toxicology	2	2	1	1	1	-1	-50.0%
- Undersea and hyperbaric medicine	2	2	1	1	1	-1	-50.0%
Psychiatry	188	193	203	226	248	60	31.9%
- Addiction psychiatry	46	45	45	47	49	3	6.5%
- Child and adolescent psychiatry	123	124	126	134	138	15	12.2%
- Forensic psychiatry	39	40	42	46	47	8	20.5%
- Geriatric psychiatry	56	55	56	59	60	4	7.1%
- Consultation-liaison psychiatry	54	54	57	59	61	7	13.0%
Radiation oncology	88	89	91	92	94	6	6.8%
Radiology-diagnostic	185	185	188	194	194	9	4.9%
- Abdominal radiology	11	12	12	12	12	1	9.1%
- Endovascular surgical neuroradiology	3	3	3	4	3	0	0.0%
- Musculoskeletal radiology	14	15	15	16	16	2	14.3%
- Neuroradiology	85	84	86	85	85	0	0.0%
- Nuclear radiology	20	20	18	18	17	-3	-15.0%
- Pediatric radiology	47	46	46	46	46	-1	-2.1%
- Vascular and interventional radiology	92	94	95	93	93	1	1.1%
Interventional radiology - integrated *			24	65	78	54	225.0%
Surgery	254	256	261	278	301	47	18.5%
- Complex general surgical oncology	19	19	22	24	25	6	31.6%
- Hand surgery	1	1	1	1	1	0	0.0%
- Pediatric surgery	45	46	47	49	50	5	11.1%
- Surgical critical care	110	112	113	117	128	18	16.4%
- Vascular surgery	106	106	106	107	106	0	0.0%
Vascular surgery - integrated	47	51	51	53	55	8	17.0%
Thoracic surgery	66	65	68	69	72	6	9.1%
- Congenital cardiac surgery	12	12	12	13	13	1	8.3%
Thoracic surgery - integrated	23	26	27	27	26	3	13.0%
Urology	124	126	134	136	138	14	11.3%
- Female pelvic medicine and reconstructive surgery	9	9	10	11	13	4	44.4%
- Pediatric urology	28	28	28	28	26	-2	-7.1%
Transitional year	108	101	101	115	135	27	25.0%
Internal medicine/Pediatrics	79	79	79	79	78	-1	-1.3%

Notes: Pipeline specialties are highlighted. Asterisks (*) indicate specialties and subspecialties added within the last five years. For these specialties and subspecialties, the number and percent change are calculated from the first year of having accredited programs.

FIGURE A.5

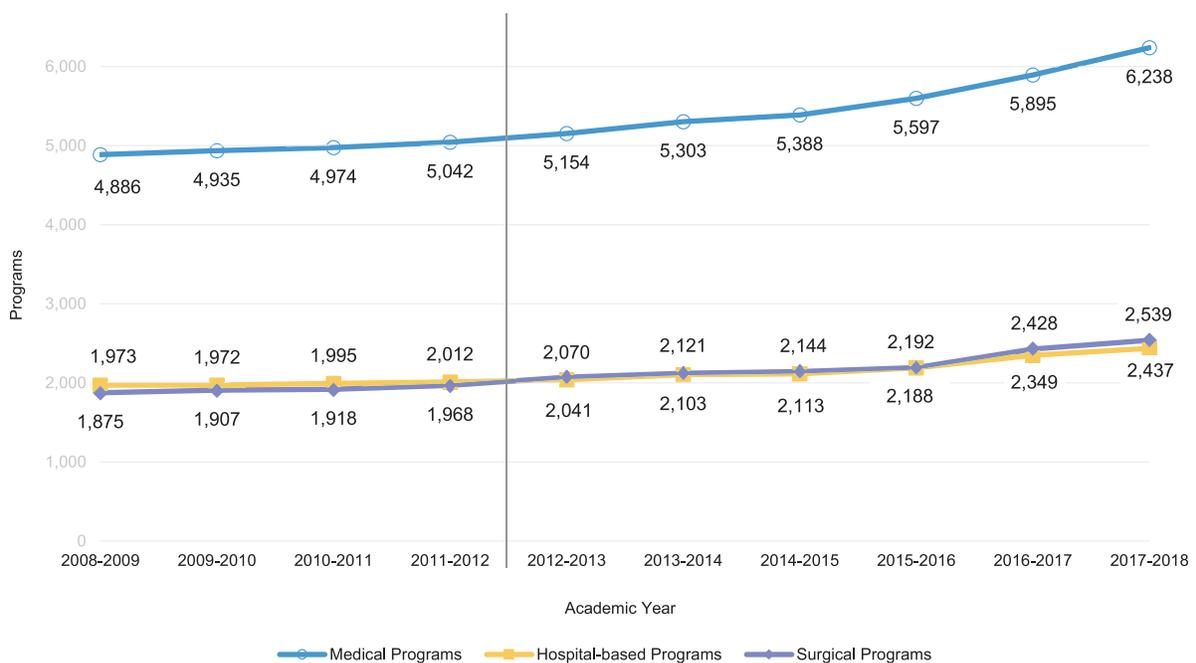
Number of Pipeline and Continuing GME Programs by Academic Year, 2008-2009 to 2017-2018



Note: Excluding transitional year programs.
Abbreviation: GME, graduate medical education.

FIGURE A.6

Number of Programs by Specialty Group and Academic Year, 2008-2009 to 2017-2018



Notes: The number of surgical programs exceeds the number of hospital-based programs beginning in the 2012-2013 academic year primarily due to the accreditation of new subspecialty programs in female pelvic medicine and reconstructive surgery and complex surgical oncology. 'Surgical Programs' labels are displayed above the line beyond that point.

FIGURE A.7

Number of Newly Accredited Programs by Specialty Group

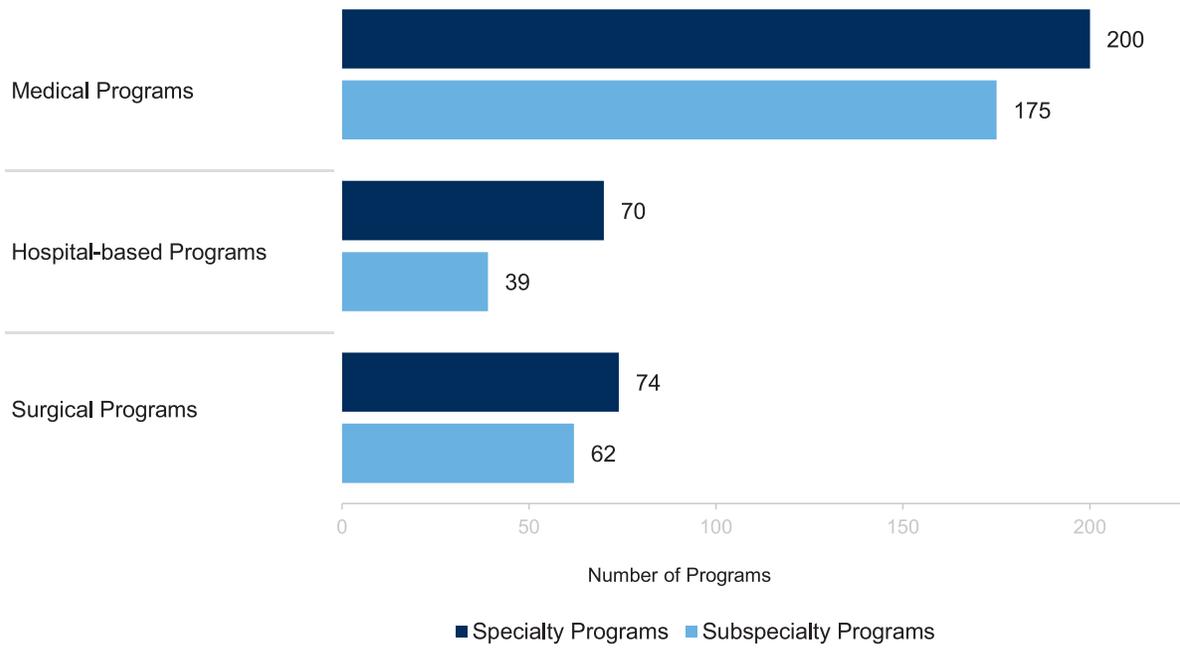
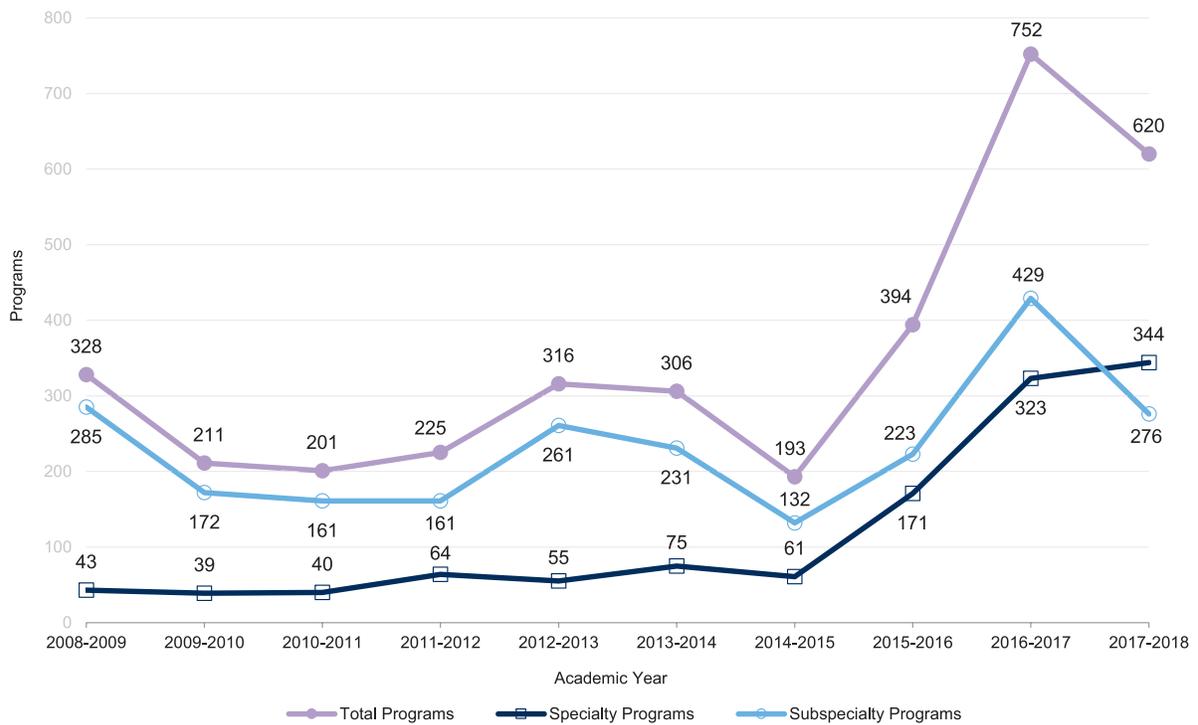


FIGURE A.8

Number of Newly Accredited Programs by Academic Year, 2008-2009 to 2017-2018



Specialty	Total Programs	Newly Accredited Programs	Percentage of Specialty	Percent of All Newly Accredited Programs
OVERALL	11,214	620	5.5%	100.0%
TOTAL PIPELINE	4,668	313	6.7%	50.5%
Allergy and immunology	79	0	0.0%	0.0%
Anesthesiology	153	6	3.9%	1.0%
- Adult cardiothoracic anesthesiology	66	0	0.0%	0.0%
- Clinical informatics *	1	0	0.0%	0.0%
- Critical care medicine	62	5	8.1%	0.8%
- Regional anesthesiology and acute pain medicine *	18	9	50.0%	1.5%
- Obstetric anesthesiology	34	2	5.9%	0.3%
- Pain medicine (multidisciplinary)	102	2	2.0%	0.3%
- Pediatric anesthesiology	60	2	3.3%	0.3%
Colon and rectal surgery	62	4	6.5%	0.6%
Dermatology	138	12	8.7%	1.9%
- Dermatopathology (multidisciplinary)	56	3	5.4%	0.5%
- Micrographic surgery and dermatologic oncology	77	3	3.9%	0.5%
Emergency medicine	231	21	9.1%	3.4%
- Clinical informatics *	4	0	0.0%	0.0%
- Emergency medical services	61	6	9.8%	1.0%
- Medical toxicology	27	1	3.7%	0.2%
- Pediatric emergency medicine	26	0	0.0%	0.0%
- Sports medicine	8	0	0.0%	0.0%
- Undersea and hyperbaric medicine	7	0	0.0%	0.0%
Family medicine	620	84	13.5%	13.5%
- Clinical informatics *	2	0	0.0%	0.0%
- Geriatric medicine	45	2	4.4%	0.3%
- Hospice and palliative medicine (multidisciplinary)	140	12	8.6%	1.9%
- Sports medicine	135	4	3.0%	0.6%
Internal medicine	529	59	11.2%	9.5%
- Adult congenital heart disease *	14	4	28.6%	0.6%
- Advanced heart failure and transplant cardiology	75	4	5.3%	0.6%
- Cardiovascular disease	235	26	11.1%	4.2%
- Clinical cardiac electrophysiology	108	3	2.8%	0.5%
- Clinical informatics *	13	1	7.7%	0.2%
- Critical care medicine	36	3	8.3%	0.5%
- Endocrinology, diabetes, and metabolism	142	2	1.4%	0.3%
- Gastroenterology	189	15	7.9%	2.4%
- Geriatric medicine	107	2	1.9%	0.3%
- Hematology	2	0	0.0%	0.0%
- Hematology and medical oncology	149	4	2.7%	0.6%
- Infectious disease	148	4	2.7%	0.6%
- Interventional cardiology	155	5	3.2%	0.8%
- Nephrology	150	2	1.3%	0.3%
- Medical oncology	7	1	14.3%	0.2%
- Pulmonary disease	22	3	13.6%	0.5%
- Pulmonary disease and critical care medicine	170	20	11.8%	3.2%
- Rheumatology	120	6	5.0%	1.0%
- Sleep medicine (multidisciplinary)	84	0	0.0%	0.0%
- Transplant hepatology	51	1	2.0%	0.2%
Medical genetics and genomics	46	1	2.2%	0.2%
- Medical biochemical genetics	17	1	5.9%	0.2%
- Molecular genetic pathology (multidisciplinary)	41	2	4.9%	0.3%
Neurological surgery	112	2	1.8%	0.3%
- Endovascular surgical neuroradiology	2	0	0.0%	0.0%
Neurology	153	7	4.6%	1.1%
- Brain injury medicine *	1	0	0.0%	0.0%
- Clinical neurophysiology	91	0	0.0%	0.0%
- Epilepsy *	71	8	11.3%	1.3%

TABLE A.9 Continued

Number of Newly Accredited Programs during the Academic Year by Specialty and Subspecialty				
Specialty	Total Programs	Newly Accredited Programs	Percentage of Specialty	Percent of All Newly Accredited Programs
- Endovascular surgical neuroradiology	1	0	0.0%	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	0.0%
- Neuromuscular medicine	49	3	6.1%	0.5%
- Vascular neurology	92	0	0.0%	0.0%
Child neurology	74	1	1.4%	0.2%
Nuclear medicine	41	0	0.0%	0.0%
Obstetrics and gynecology	278	10	3.6%	1.6%
- Female pelvic medicine and reconstructive surgery	51	1	2.0%	0.2%
- Gynecologic oncology *	56	8	14.3%	1.3%
- Maternal-fetal medicine *	88	15	17.0%	2.4%
- Reproductive endocrinology and infertility *	50	9	18.0%	1.5%
Ophthalmology	119	3	2.5%	0.5%
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0.0%
Orthopaedic surgery	175	11	6.3%	1.8%
- Adult reconstructive orthopaedics	24	2	8.3%	0.3%
- Foot and ankle orthopaedics	6	0	0.0%	0.0%
- Hand surgery	68	0	0.0%	0.0%
- Musculoskeletal oncology	12	1	8.3%	0.2%
- Orthopaedic sports medicine	96	1	1.0%	0.2%
- Orthopaedic surgery of the spine	17	1	5.9%	0.2%
- Orthopaedic trauma	11	2	18.2%	0.3%
- Pediatric orthopaedics	25	0	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine *	13	9	69.2%	1.5%
Otolaryngology	117	8	6.8%	1.3%
- Neurotology	23	3	13.0%	0.5%
- Pediatric otolaryngology	25	3	12.0%	0.5%
Pathology-anatomic and clinical	143	1	0.7%	0.2%
- Blood banking/transfusion medicine	50	2	4.0%	0.3%
- Clinical informatics *	7	2	28.6%	0.3%
- Chemical pathology	4	0	0.0%	0.0%
- Cytopathology	94	2	2.1%	0.3%
- Forensic pathology	39	1	2.6%	0.2%
- Hematopathology	85	0	0.0%	0.0%
- Medical microbiology	15	0	0.0%	0.0%
- Neuropathology	34	0	0.0%	0.0%
- Pediatric pathology	27	1	3.7%	0.2%
- Selective pathology	83	0	0.0%	0.0%
Pediatrics	210	4	1.9%	0.6%
- Adolescent medicine	29	0	0.0%	0.0%
- Child abuse pediatrics	32	2	6.3%	0.3%
- Clinical informatics *	5	0	0.0%	0.0%
- Developmental-behavioral pediatrics	41	2	4.9%	0.3%
- Neonatal-perinatal medicine	100	1	1.0%	0.2%
- Pediatric cardiology	60	1	1.7%	0.2%
- Pediatric critical care medicine	67	1	1.5%	0.2%
- Pediatric emergency medicine	52	0	0.0%	0.0%
- Pediatric endocrinology	72	1	1.4%	0.2%
- Pediatric gastroenterology	64	1	1.6%	0.2%
- Pediatric hematology/oncology	74	1	1.4%	0.2%
- Pediatric infectious diseases	65	1	1.5%	0.2%
- Pediatric nephrology	45	1	2.2%	0.2%
- Pediatric pulmonology	54	1	1.9%	0.2%
- Pediatric rheumatology	37	1	2.7%	0.2%
- Pediatric sports medicine	17	0	0.0%	0.0%
- Pediatric transplant hepatology	14	1	7.1%	0.2%

TABLE A.9 Continued

Number of Newly Accredited Programs during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Newly Accredited Programs	Percentage of Specialty	Percent of All Newly Accredited Programs
Physical medicine and rehabilitation	88	2	2.3%	0.3%
- Brain injury medicine *	18	5	27.8%	0.8%
- Neuromuscular medicine	1	0	0.0%	0.0%
- Spinal cord injury medicine	22	2	9.1%	0.3%
- Pediatric rehabilitation	20	0	0.0%	0.0%
- Sports medicine	19	0	0.0%	0.0%
Plastic surgery	61	2	3.3%	0.3%
Plastic surgery - integrated	79	3	3.8%	0.5%
- Craniofacial surgery	8	0	0.0%	0.0%
- Hand surgery	16	0	0.0%	0.0%
Preventive medicine	76	1	1.3%	0.2%
- Medical toxicology	1	0	0.0%	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0.0%
Psychiatry	248	22	8.9%	3.5%
- Addiction psychiatry	49	2	4.1%	0.3%
- Child and adolescent psychiatry	138	4	2.9%	0.6%
- Forensic psychiatry	47	1	2.1%	0.2%
- Geriatric psychiatry	60	2	3.3%	0.3%
- Consultation-liaison psychiatry	61	3	4.9%	0.5%
Radiation oncology	94	2	2.1%	0.3%
Radiology-diagnostic	194	1	0.5%	0.2%
- Abdominal radiology	12	0	0.0%	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%
- Musculoskeletal radiology	16	0	0.0%	0.0%
- Neuroradiology	85	0	0.0%	0.0%
- Nuclear radiology	17	0	0.0%	0.0%
- Pediatric radiology	46	1	2.2%	0.2%
- Vascular and interventional radiology	93	0	0.0%	0.0%
Interventional radiology - integrated *	78	13	16.7%	2.1%
Surgery	301	24	8.0%	3.9%
- Complex general surgical oncology	25	1	4.0%	0.2%
- Hand surgery	1	0	0.0%	0.0%
- Pediatric surgery	50	1	2.0%	0.2%
- Surgical critical care	128	11	8.6%	1.8%
- Vascular surgery	106	1	0.9%	0.2%
Vascular surgery - integrated	55	2	3.6%	0.3%
Thoracic surgery	72	3	4.2%	0.5%
- Congenital cardiac surgery	13	1	7.7%	0.2%
Thoracic surgery - integrated	26	0	0.0%	0.0%
Urology	138	2	1.4%	0.3%
- Female pelvic medicine and reconstructive surgery	13	1	7.7%	0.2%
- Pediatric urology	26	0	0.0%	0.0%
Transitional year	135	24	17.8%	3.9%
Internal medicine/Pediatrics	78	0	0.0%	0.0%

Notes: Pipeline specialties are highlighted. Asterisks (*) indicate specialties and subspecialties added within the last five years.

TABLE A.10

Number of Programs with a Withdrawn Accreditation Status during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
OVERALL	11,214	14	0.1%	34	0.3%	4	0.0%
TOTAL PIPELINE	4,668	4	0.1%	17	0.4%	1	0.0%
Allergy and immunology	79	0	0.0%	0	0.0%	0	0.0%
Anesthesiology	153	0	0.0%	1	0.7%	0	0.0%
- Adult cardiothoracic anesthesiology	66	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	1	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	62	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	18	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	34	0	0.0%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	102	0	0.0%	0	0.0%	0	0.0%
- Pediatric anesthesiology	60	0	0.0%	0	0.0%	0	0.0%
Colon and rectal surgery	62	0	0.0%	0	0.0%	0	0.0%
Dermatology	138	0	0.0%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	56	0	0.0%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	0	0.0%	1	1.3%	0	0.0%
Emergency medicine	231	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	4	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	61	0	0.0%	0	0.0%	0	0.0%
- Medical toxicology	27	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	26	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	8	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	7	0	0.0%	0	0.0%	0	0.0%
Family medicine	620	1	0.2%	3	0.5%	0	0.0%
- Clinical informatics	2	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	45	0	0.0%	2	4.4%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	140	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	135	0	0.0%	1	0.7%	0	0.0%
Internal medicine	529	0	0.0%	4	0.8%	0	0.0%
- Adult congenital heart disease	14	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	75	0	0.0%	1	1.3%	0	0.0%
- Cardiovascular disease	235	0	0.0%	0	0.0%	0	0.0%
- Clinical cardiac electrophysiology	108	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	13	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	36	0	0.0%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	142	0	0.0%	0	0.0%	0	0.0%
- Gastroenterology	189	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	107	0	0.0%	1	0.9%	0	0.0%
- Hematology	2	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	149	1	0.7%	1	0.7%	0	0.0%
- Infectious disease	148	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	155	0	0.0%	1	0.6%	0	0.0%
- Nephrology	150	1	0.7%	0	0.0%	0	0.0%
- Medical oncology	7	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	0	0.0%	0	0.0%	1	4.5%
- Pulmonary disease and critical care medicine	170	0	0.0%	0	0.0%	0	0.0%
- Rheumatology	120	0	0.0%	1	0.8%	0	0.0%
- Sleep medicine (multidisciplinary)	84	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	51	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	46	0	0.0%	0	0.0%	0	0.0%
- Medical biochemical genetics	17	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	41	0	0.0%	0	0.0%	0	0.0%
Neurological surgery	112	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	2	0	0.0%	0	0.0%	0	0.0%

TABLE A.10 Continued

Number of Programs with a Withdrawn Accreditation Status during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
Neurology	153	0	0.0%	0	0.0%	0	0.0%
- Brain injury medicine	1	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	91	0	0.0%	1	1.1%	0	0.0%
- Epilepsy	71	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	1	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	49	0	0.0%	0	0.0%	0	0.0%
- Vascular neurology	92	0	0.0%	0	0.0%	0	0.0%
Child neurology	74	0	0.0%	0	0.0%	0	0.0%
Nuclear medicine	41	0	0.0%	0	0.0%	0	0.0%
Obstetrics and gynecology	278	0	0.0%	0	0.0%	1	0.4%
- Female pelvic medicine and reconstructive surgery	51	0	0.0%	0	0.0%	0	0.0%
- Gynecologic oncology	56	0	0.0%	0	0.0%	0	0.0%
- Maternal-fetal medicine	88	0	0.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	50	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	119	0	0.0%	0	0.0%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	4	1	25.0%	0	0.0%	0	0.0%
Orthopaedic surgery	175	1	0.6%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	24	1	4.2%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	6	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	68	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	96	2	2.1%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	17	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	11	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	25	0	0.0%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	13	0	0.0%	0	0.0%	0	0.0%
Otolaryngology	117	0	0.0%	2	1.7%	0	0.0%
- Neurotology	23	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	25	0	0.0%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	143	0	0.0%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	50	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	7	0	0.0%	0	0.0%	0	0.0%
- Chemical pathology	4	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	94	0	0.0%	1	1.1%	0	0.0%
- Forensic pathology	39	1	2.6%	0	0.0%	0	0.0%
- Hematopathology	85	0	0.0%	0	0.0%	0	0.0%
- Medical microbiology	15	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	34	0	0.0%	0	0.0%	0	0.0%
- Pediatric pathology	27	0	0.0%	0	0.0%	0	0.0%
- Selective pathology	83	0	0.0%	0	0.0%	0	0.0%
Pediatrics	210	0	0.0%	0	0.0%	0	0.0%
- Adolescent medicine	29	0	0.0%	0	0.0%	0	0.0%
- Child abuse pediatrics	32	0	0.0%	0	0.0%	1	3.1%
- Clinical informatics	5	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	41	0	0.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	100	0	0.0%	0	0.0%	0	0.0%
- Pediatric cardiology	60	0	0.0%	0	0.0%	0	0.0%
- Pediatric critical care medicine	67	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	52	0	0.0%	0	0.0%	0	0.0%
- Pediatric endocrinology	72	0	0.0%	0	0.0%	0	0.0%
- Pediatric gastroenterology	64	0	0.0%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	74	0	0.0%	0	0.0%	0	0.0%

TABLE A.10 Continued

Number of Programs with a Withdrawn Accreditation Status during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
- Pediatric infectious diseases	65	0	0.0%	0	0.0%	0	0.0%
- Pediatric nephrology	45	0	0.0%	1	2.2%	0	0.0%
- Pediatric pulmonology	54	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	37	0	0.0%	0	0.0%	0	0.0%
- Pediatric sports medicine	17	0	0.0%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	14	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	88	0	0.0%	0	0.0%	0	0.0%
- Brain injury medicine	18	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	1	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	22	0	0.0%	0	0.0%	0	0.0%
- Pediatric rehabilitation	20	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	19	0	0.0%	0	0.0%	0	0.0%
Plastic surgery	61	1	1.6%	2	3.3%	0	0.0%
Plastic surgery - integrated	79	0	0.0%	0	0.0%	0	0.0%
- Craniofacial surgery	8	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	16	0	0.0%	0	0.0%	0	0.0%
Preventive medicine	76	1	1.3%	2	2.6%	0	0.0%
- Medical toxicology	1	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0	0.0%	0	0.0%
Psychiatry	248	0	0.0%	0	0.0%	0	0.0%
- Addiction psychiatry	49	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	138	0	0.0%	1	0.7%	0	0.0%
- Forensic psychiatry	47	0	0.0%	1	2.1%	0	0.0%
- Geriatric psychiatry	60	0	0.0%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	61	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	94	0	0.0%	0	0.0%	0	0.0%
Radiology-diagnostic	194	0	0.0%	1	0.5%	0	0.0%
- Abdominal radiology	12	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	16	0	0.0%	0	0.0%	0	0.0%
- Neuroradiology	85	0	0.0%	0	0.0%	0	0.0%
- Nuclear radiology	17	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	46	0	0.0%	1	2.2%	0	0.0%
- Vascular and interventional radiology	93	0	0.0%	0	0.0%	0	0.0%
Interventional radiology - integrated	78	0	0.0%	0	0.0%	0	0.0%
Surgery	301	0	0.0%	2	0.7%	0	0.0%
- Complex general surgical oncology	25	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	1	0	0.0%	0	0.0%	0	0.0%
- Pediatric surgery	50	0	0.0%	0	0.0%	0	0.0%
- Surgical critical care	128	0	0.0%	0	0.0%	0	0.0%
- Vascular surgery	106	0	0.0%	0	0.0%	0	0.0%
Vascular surgery - integrated	55	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	72	0	0.0%	0	0.0%	0	0.0%
- Congenital cardiac surgery	13	0	0.0%	1	7.7%	0	0.0%
Thoracic surgery - integrated	26	0	0.0%	0	0.0%	0	0.0%
Urology	138	0	0.0%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	13	0	0.0%	0	0.0%	0	0.0%
- Pediatric urology	26	1	3.8%	1	3.8%	0	0.0%
Transitional year	135	2	1.5%	0	0.0%	1	0.7%
Internal medicine/Pediatrics	78	0	0.0%	0	0.0%	0	0.0%

Notes: Pipeline specialties are highlighted. Total program counts exclude programs withdrawn prior to the end of the academic year (n=14).

TABLE A.11									
Total Number of Programs, Years of Accredited Prior Training Required, and Accredited Training Lengths by Specialty and Subspecialty									
Specialty	MIN No. of Prior Years	Total Programs	Accredited Training Length(s)						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
Allergy and immunology	3	79		79					
Anesthesiology	1/0	153			27	126			
- Adult cardiothoracic anesthesiology	4	66	66						
- Clinical informatics	4	1		1					
- Critical care medicine	4	62	62						
- Regional anesthesiology and acute pain medicine	4	18	18						
- Obstetric anesthesiology	3/4	34	34						
- Pain medicine (multidisciplinary)	3/4	102	102						
- Pediatric anesthesiology	4	60	60						
Colon and rectal surgery	5	62	62						
Dermatology	1/0	138			133	5			
- Dermatopathology (multidisciplinary)	4	56	56						
- Micrographic surgery and dermatologic oncology	4	77	77						
Emergency medicine	0	231			173	58			
- Clinical informatics	3	4		4					
- Emergency medical services	3	61	61						
- Medical toxicology	3	27		27					
- Pediatric emergency medicine	3	26			26				
- Sports medicine	3	8	8						
- Undersea and hyperbaric medicine	3	7	7						
Family medicine	0	620			610	10			
- Clinical informatics	3	2		2					
- Geriatric medicine	3	45	45						
- Hospice and palliative medicine (multidisciplinary)	3	140	140						
- Sports medicine	3	135	135						
Internal medicine	0	529			529				
- Adult congenital heart disease	3	14		14					
- Advanced heart failure and transplant cardiology	6	75	75						
- Cardiovascular disease	3	235			235				
- Clinical cardiac electrophysiology	6	108		108					
- Clinical informatics	3	13		13					
- Critical care medicine	3	36		36					
- Endocrinology, diabetes, and metabolism	3	142		142					
- Gastroenterology	3	189			189				
- Geriatric medicine	3	107	107						
- Hematology	3	2		2					
- Hematology and medical oncology	3	149			149				
- Infectious disease	3	148		148					
- Interventional cardiology	6	155	155						
- Nephrology	3	150		150					
- Medical oncology	3	7		7					
- Pulmonary disease	3	22		22					
- Pulmonary disease and critical care medicine	3	170			170				
- Rheumatology	3	120		120					
- Sleep medicine (multidisciplinary)	3/4/5	84	84						
- Transplant hepatology	6	51	51						
Medical genetics and genomics	2/0	46		44		2			
- Medical biochemical genetics	4	17	17						
- Molecular genetic pathology (multidisciplinary)	4	41	41						
Neurological surgery	0	112							112
- Endovascular surgical neuroradiology	6	2	2						

TABLE A.11 *Continued***Total Number of Programs, Years of Accredited Prior Training Required, and Accredited Training Lengths by Specialty and Subspecialty**

Specialty	MIN No. of Prior Years	Total Programs	Accredited Training Length(s)						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
Neurology	1/0	153			57	96			
- Brain injury medicine	3/4	1	1						
- Clinical neurophysiology	4	91	91						
- Epilepsy	3	71	71						
- Endovascular surgical neuroradiology	5	1	1						
- Neurodevelopmental disabilities	2	8				8			
- Neuromuscular medicine	4	49	49						
- Vascular neurology	4	92	92						
Child neurology	2	74			74				
Nuclear medicine	1	41			41				
Obstetrics and gynecology	0	278				278			
- Female pelvic medicine and reconstructive surgery	4	51			51				
- Gynecologic oncology	4	56			56				
- Maternal-fetal medicine	4	88			88				
- Reproductive endocrinology and infertility	4	50			50				
Ophthalmology	1	119			119				
- Ophthalmic plastic and reconstructive surgery	4	4		4					
Orthopaedic surgery	0	175					175		
- Adult reconstructive orthopaedics	5	24	24						
- Foot and ankle orthopaedics	5	6	6						
- Hand surgery	5	68	68						
- Musculoskeletal oncology	5	12	12						
- Orthopaedic sports medicine	5	96	96						
- Orthopaedic surgery of the spine	5	17	17						
- Orthopaedic trauma	5	11	11						
- Pediatric orthopaedics	5	25	25						
Osteopathic neuromusculoskeletal medicine	1	13		13					
Otolaryngology	0	117					117		
- Neurotology	5	23		23					
- Pediatric otolaryngology	5	25	25						
Pathology-anatomic and clinical	0	143			1	142			
- Blood banking/transfusion medicine	2	50	50						
- Clinical informatics	2	7		7					
- Chemical pathology	2	4	4						
- Cytopathology	2	94	94						
- Forensic pathology	2	39	39						
- Hematopathology	2	85	85						
- Medical microbiology	4	15	15						
- Neuropathology	2	34		34					
- Pediatric pathology	2	27	27						
- Selective pathology	2	83	83						
Pediatrics	0	210			210				
- Adolescent medicine	3	29			29				
- Child abuse pediatrics	3	32			32				
- Clinical informatics	3	5		5					
- Developmental-behavioral pediatrics	3	41			41				
- Neonatal-perinatal medicine	3	100			100				
- Pediatric cardiology	3	60			60				
- Pediatric critical care medicine	3	67			67				
- Pediatric emergency medicine	3	52			52				
- Pediatric endocrinology	3	72			72				
- Pediatric gastroenterology	3	64			64				
- Pediatric hematology/oncology	3	74			74				

TABLE A.11 Continued

Total Number of Programs, Years of Accredited Prior Training Required, and Accredited Training Lengths by Specialty and Subspecialty

Specialty	MIN No. of Prior Years	Total Programs	Accredited Training Length(s)						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
- Pediatric infectious diseases	3	65			65				
- Pediatric nephrology	3	45			45				
- Pediatric pulmonology	3	54			54				
- Pediatric rheumatology	3	37			37				
- Pediatric sports medicine	3	17	17						
- Pediatric transplant hepatology	6	14	14						
Physical medicine and rehabilitation	1/0	88			51	37			
- Brain injury medicine	3/4	18	18						
- Neuromuscular medicine	3/4	1	1						
- Spinal cord injury medicine	3/4	22	22						
- Pediatric rehabilitation	4	20		20					
- Sports medicine	3/4	19	19						
Plastic surgery	3	61			61				
Plastic surgery - integrated	0	79						79	
- Craniofacial surgery	6	8	8						
- Hand surgery	5	16	16						
Preventive medicine	1/0	76	1	73	2				
- Medical toxicology	3	1		1					
- Undersea and hyperbaric medicine	3	1	1						
Psychiatry	0	248	1			247			
- Addiction psychiatry	4	49	48	1					
- Child and adolescent psychiatry	3	138		138					
- Forensic psychiatry	4	47	47						
- Geriatric psychiatry	4	60	59	1					
- Consultation-liaison psychiatry	4	61	61						
Radiation oncology	1	94				94			
Radiology-diagnostic	1	194				193	1		
- Abdominal radiology	5	12	12						
- Endovascular surgical neuroradiology	5	3	3						
- Musculoskeletal radiology	5	16	16						
- Neuroradiology	5	85	85						
- Nuclear radiology	5	17	17						
- Pediatric radiology	5	46	46						
- Vascular and interventional radiology	5	93	93						
Interventional radiology - integrated	1	78					78		
Surgery	0	301					301		
- Complex general surgical oncology	5	25		25					
- Hand surgery	5	1	1						
- Pediatric surgery	5	50		50					
- Surgical critical care	3	128	128						
- Vascular surgery	5	106		106					
Vascular surgery - integrated	0	55					55		
Thoracic surgery	5	72		52	20				
- Congenital cardiac surgery	7	13	13						
Thoracic surgery - integrated	0	26						26	
Urology	1/2	138				137	1		
- Female pelvic medicine and reconstructive surgery	3/4	13			13				
- Pediatric urology	5	26	26						
Transitional year	0	135	135						
Internal medicine/Pediatrics	0	78				78			

Notes: Pipeline specialties are highlighted. Under special circumstances, some programs have been granted exceptions to the typical length of accredited training.

TABLE A.12

Number of Programs with Osteopathic Recognition by Specialty and Subspecialty

Specialty	Total Programs	Programs with Osteopathic Recognition	Percent of Specialty	Percent of All Programs with Osteopathic Recognition
OVERALL	11,214	157	1.4%	100%
TOTAL PIPELINE	4,668	145	3.1%	92.4%
Allergy and immunology	79	1	1.3%	0.6%
Anesthesiology	153	2	1.3%	1.3%
Dermatology	138	2	1.4%	1.3%
Emergency medicine	231	3	1.3%	1.9%
Family medicine	620	101	16.3%	64.3%
- Geriatric medicine	45	1	2.2%	0.6%
- Hospice and palliative medicine (multidisciplinary)	140	1	0.7%	0.6%
- Sports medicine	135	2	1.5%	1.3%
Internal medicine	529	22	4.2%	14.0%
- Cardiovascular disease	235	1	0.4%	0.6%
Obstetrics and gynecology	278	6	2.2%	3.8%
Osteopathic neuromusculoskeletal medicine	13	1	7.7%	0.6%
Pediatrics	210	3	1.4%	1.9%
- Pediatric sports medicine	17	1	5.9%	0.6%
Physical medicine and rehabilitation	88	1	1.1%	0.6%
Psychiatry	248	1	0.4%	0.6%
Radiology-diagnostic	194	1	0.5%	0.6%
Surgery	301	1	0.3%	0.6%
Transitional year	135	5	3.7%	3.2%
Internal medicine/Pediatrics	78	1	1.3%	0.6%

Note: Pipeline specialties are highlighted.

B

Program Characteristics

This section summarizes the geographic distribution of programs overall and by specialty, the distribution of programs and residents by specialty group, and the average number of residents per program overall and by specialty.

Geographic Distribution

There are currently ACGME-accredited programs in all 50 states, the District of Columbia (DC), and Puerto Rico. Based on the most recent US Census estimate for 2017, there are approximately 3.41 total programs (1.52 specialty, 1.88 subspecialty) per 100,000 population, including Puerto Rico. The following states have the highest total number of programs:

- New York (1,268)
- California (991)
- Pennsylvania (719)
- Texas (697)

States with the lowest number of programs include Montana (4), Wyoming (3), and Alaska (2). These patterns are consistent when looking at total programs, specialty programs, and pipeline programs by state. Family medicine is currently the only specialty represented across all 50 states, DC, and Puerto Rico.

Distributions by Specialty and Program Size

In looking at the distribution of specialty programs and their active residents, the specialties with the highest percentage of total programs include:

- Family medicine (12.3%)
- Internal medicine (10.5%)
- Surgery (6.0%)
- Obstetrics and gynecology (5.5%)

In contrast, the specialties with the highest percentage of total residents include:

- Internal medicine (24.7%)
- Family medicine (10.9%)
- Pediatrics (8.2%)
- Surgery (7.6%)

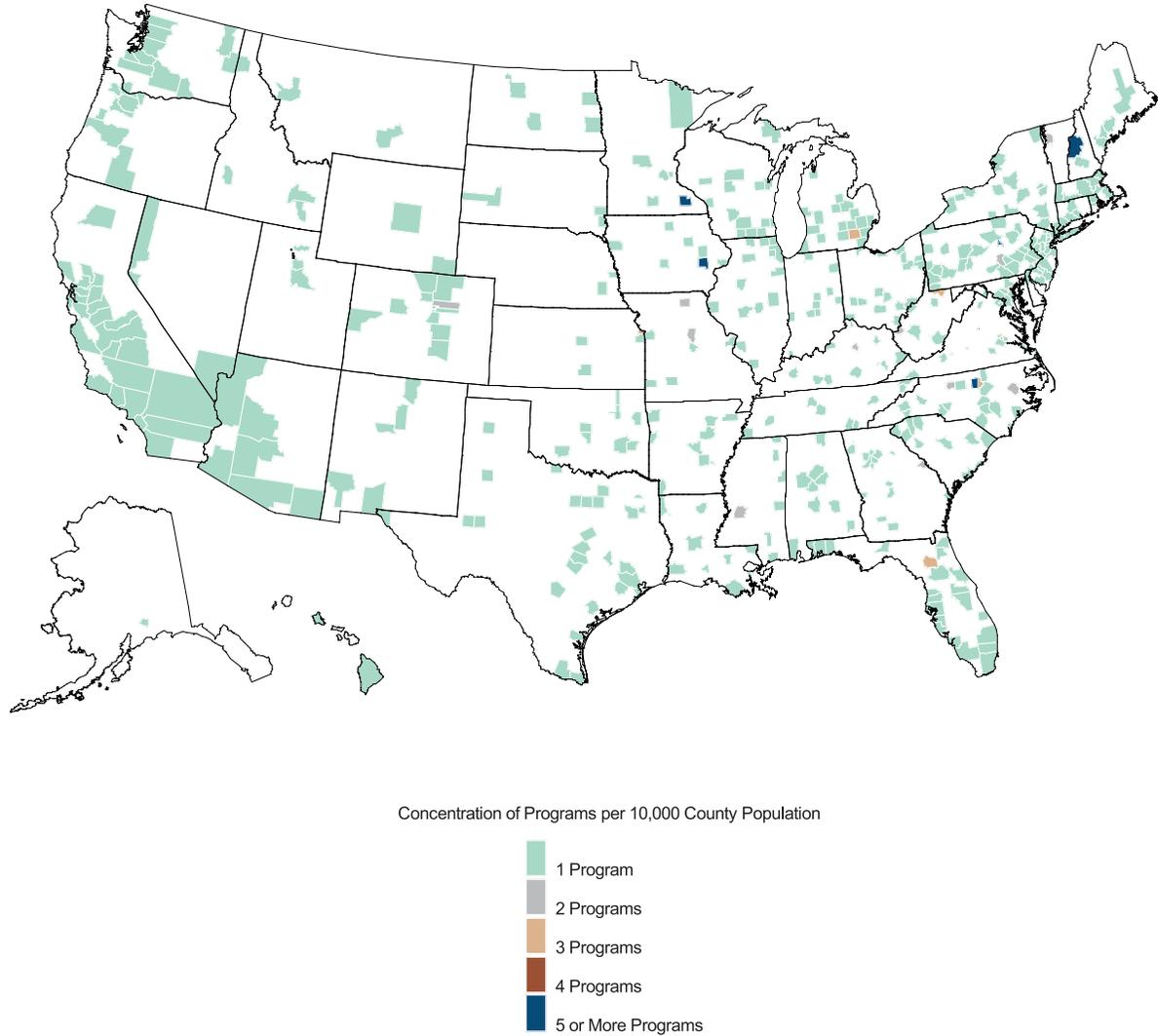
These distributions are driven by total number of programs and average program size (average number of residents per program). Internal medicine programs, for example, have an average of approximately 52 residents per program, with at least 1 program having 182 active residents during the 2017-2018 academic year. Pediatrics has the second highest average number of residents per program with approximately 44 residents per program. Overall, the trends in mean number of residents per program show that for specialties, the average number of residents per program peaked at 24 in the 2014-2015 academic year but has since fallen to 22.3 in the 2017-2018 academic year. The average size of subspecialty programs has remained fairly constant over the last 10 years. In the 2017-2018 academic year, there were approximately 3.8 residents per program.

Distributions by Specialty Group

The distribution of programs by specialty group differs in specialty versus subspecialty programs. Of the total number of specialty programs, 44.5% of programs are in medical specialties, 31.8% are in surgical specialties, and 23.7% are in hospital-based specialties. Among subspecialty programs, 64.7% of programs are in medical subspecialties, 15.2% are in surgical subspecialties, and 20.1% are in hospital-based subspecialties. The relative patterns in the distributions of residents across specialty groups can be attributed to both the number of programs and average number of residents per program in the medical, surgical, and hospital-based disciplines. ♪

FIGURE B.1

Geographic Distribution of Programs



Sources: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018; SAS Enterprise Guide Software, Version 7.11.

TABLE B.2

Number of Programs and Program Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population – Census Estimate 2017	Total Programs	Percent of All Programs	Programs per 100,000 Pop
OVERALL	--	329,056,355	11,214	100.0%	3.41
Alabama	AL	4,874,747	129	1.2%	2.65
Alaska	AK	739,795	2	0.0%	0.27
Arizona	AZ	7,016,270	167	1.5%	2.38
Arkansas	AR	3,004,279	75	0.7%	2.50
California	CA	39,536,653	991	8.8%	2.51
Colorado	CO	5,607,154	135	1.2%	2.41
Connecticut	CT	3,588,184	192	1.7%	5.35
Delaware	DE	961,939	35	0.3%	3.64
District of Columbia	DC	693,972	143	1.3%	20.61
Florida	FL	20,984,400	522	4.7%	2.49
Georgia	GA	10,429,379	219	2.0%	2.10
Hawaii	HI	1,427,538	32	0.3%	2.24
Idaho	ID	1,716,943	11	0.1%	0.64
Illinois	IL	12,802,023	499	4.4%	3.90
Indiana	IN	6,666,818	123	1.1%	1.84
Iowa	IA	3,145,711	100	0.9%	3.18
Kansas	KS	2,913,123	68	0.6%	2.33
Kentucky	KY	4,454,189	135	1.2%	3.03
Louisiana	LA	4,684,333	172	1.5%	3.67
Maine	ME	1,335,907	28	0.2%	2.10
Maryland	MD	6,052,177	259	2.3%	4.28
Massachusetts	MA	6,859,819	452	4.0%	6.59
Michigan	MI	9,962,311	535	4.8%	5.37
Minnesota	MN	5,576,606	222	2.0%	3.98
Mississippi	MS	2,984,100	73	0.7%	2.45
Missouri	MO	6,113,532	275	2.5%	4.50
Montana	MT	1,050,493	4	0.0%	0.38
Nebraska	NE	1,920,076	77	0.7%	4.01
Nevada	NV	2,998,039	39	0.3%	1.30
New Hampshire	NH	1,342,795	51	0.5%	3.80
New Jersey	NJ	9,005,644	256	2.3%	2.84
New Mexico	NM	2,088,070	64	0.6%	3.07
New York	NY	19,849,399	1,268	11.3%	6.39
North Carolina	NC	10,273,419	324	2.9%	3.15
North Dakota	ND	755,393	14	0.1%	1.85
Ohio	OH	11,658,609	591	5.3%	5.07
Oklahoma	OK	3,930,864	95	0.8%	2.42
Oregon	OR	4,142,776	95	0.8%	2.29
Pennsylvania	PA	12,805,537	719	6.4%	5.61
Puerto Rico	PR	3,337,177	72	0.6%	2.16
Rhode Island	RI	1,059,639	74	0.7%	6.98
South Carolina	SC	5,024,369	127	1.1%	2.53
South Dakota	SD	869,666	13	0.1%	1.49
Tennessee	TN	6,715,984	217	1.9%	3.23
Texas	TX	28,304,596	697	6.2%	2.46
Utah	UT	3,101,833	86	0.8%	2.77
Vermont	VT	623,657	41	0.4%	6.57
Virginia	VA	8,470,020	248	2.2%	2.93
Washington	WA	7,405,743	169	1.5%	2.28
West Virginia	WV	1,815,857	79	0.7%	4.35
Wisconsin	WI	5,795,483	197	1.8%	3.40
Wyoming	WY	579,315	3	0.0%	0.52

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE B.3					
Number of Specialty Programs and Specialty Program Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Specialty Programs	Percent of All Specialty Programs	Specialty Programs per 100,000 Pop
OVERALL	--	329,056,355	5,016	100.0%	1.52
Alabama	AL	4,874,747	55	1.1%	1.13
Alaska	AK	739,795	1	0.0%	0.14
Arizona	AZ	7,016,270	74	1.5%	1.05
Arkansas	AR	3,004,279	39	0.8%	1.30
California	CA	39,536,653	429	8.6%	1.09
Colorado	CO	5,607,154	56	1.1%	1.00
Connecticut	CT	3,588,184	76	1.5%	2.12
Delaware	DE	961,939	15	0.3%	1.56
District of Columbia	DC	693,972	56	1.1%	8.07
Florida	FL	20,984,400	254	5.1%	1.21
Georgia	GA	10,429,379	107	2.1%	1.03
Hawaii	HI	1,427,538	22	0.4%	1.54
Idaho	ID	1,716,943	9	0.2%	0.52
Illinois	IL	12,802,023	230	4.6%	1.80
Indiana	IN	6,666,818	54	1.1%	0.81
Iowa	IA	3,145,711	45	0.9%	1.43
Kansas	KS	2,913,123	38	0.8%	1.30
Kentucky	KY	4,454,189	59	1.2%	1.32
Louisiana	LA	4,684,333	90	1.8%	1.92
Maine	ME	1,335,907	17	0.3%	1.27
Maryland	MD	6,052,177	105	2.1%	1.73
Massachusetts	MA	6,859,819	161	3.2%	2.35
Michigan	MI	9,962,311	294	5.9%	2.95
Minnesota	MN	5,576,606	73	1.5%	1.31
Mississippi	MS	2,984,100	34	0.7%	1.14
Missouri	MO	6,113,532	106	2.1%	1.73
Montana	MT	1,050,493	3	0.1%	0.29
Nebraska	NE	1,920,076	35	0.7%	1.82
Nevada	NV	2,998,039	26	0.5%	0.87
New Hampshire	NH	1,342,795	22	0.4%	1.64
New Jersey	NJ	9,005,644	145	2.9%	1.61
New Mexico	NM	2,088,070	24	0.5%	1.15
New York	NY	19,849,399	543	10.8%	2.74
North Carolina	NC	10,273,419	134	2.7%	1.30
North Dakota	ND	755,393	11	0.2%	1.46
Ohio	OH	11,658,609	265	5.3%	2.27
Oklahoma	OK	3,930,864	56	1.1%	1.42
Oregon	OR	4,142,776	37	0.7%	0.89
Pennsylvania	PA	12,805,537	314	6.3%	2.45
Puerto Rico	PR	3,337,177	45	0.9%	1.35
Rhode Island	RI	1,059,639	26	0.5%	2.45
South Carolina	SC	5,024,369	64	1.3%	1.27
South Dakota	SD	869,666	9	0.2%	1.03
Tennessee	TN	6,715,984	91	1.8%	1.35
Texas	TX	28,304,596	293	5.8%	1.04
Utah	UT	3,101,833	34	0.7%	1.10
Vermont	VT	623,657	16	0.3%	2.57
Virginia	VA	8,470,020	111	2.2%	1.31
Washington	WA	7,405,743	78	1.6%	1.05
West Virginia	WV	1,815,857	50	1.0%	2.75
Wisconsin	WI	5,795,483	83	1.7%	1.43
Wyoming	WY	579,315	2	0.0%	0.35

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE B.4

Number of Subspecialty Programs and Subspecialty Program Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Subspecialty Programs	Percent of All Subspecialty Programs	Subspecialty Programs per 100,000 Pop
OVERALL	--	329,056,355	6,198	100.0%	1.88
Alabama	AL	4,874,747	74	1.2%	1.52
Alaska	AK	739,795	1	0.0%	0.14
Arizona	AZ	7,016,270	93	1.5%	1.33
Arkansas	AR	3,004,279	36	0.6%	1.20
California	CA	39,536,653	562	9.1%	1.42
Colorado	CO	5,607,154	79	1.3%	1.41
Connecticut	CT	3,588,184	116	1.9%	3.23
Delaware	DE	961,939	20	0.3%	2.08
District of Columbia	DC	693,972	87	1.4%	12.54
Florida	FL	20,984,400	268	4.3%	1.28
Georgia	GA	10,429,379	112	1.8%	1.07
Hawaii	HI	1,427,538	10	0.2%	0.70
Idaho	ID	1,716,943	2	0.0%	0.12
Illinois	IL	12,802,023	269	4.3%	2.10
Indiana	IN	6,666,818	69	1.1%	1.03
Iowa	IA	3,145,711	55	0.9%	1.75
Kansas	KS	2,913,123	30	0.5%	1.03
Kentucky	KY	4,454,189	76	1.2%	1.71
Louisiana	LA	4,684,333	82	1.3%	1.75
Maine	ME	1,335,907	11	0.2%	0.82
Maryland	MD	6,052,177	154	2.5%	2.54
Massachusetts	MA	6,859,819	291	4.7%	4.24
Michigan	MI	9,962,311	241	3.9%	2.42
Minnesota	MN	5,576,606	149	2.4%	2.67
Mississippi	MS	2,984,100	39	0.6%	1.31
Missouri	MO	6,113,532	169	2.7%	2.76
Montana	MT	1,050,493	1	0.0%	0.10
Nebraska	NE	1,920,076	42	0.7%	2.19
Nevada	NV	2,998,039	13	0.2%	0.43
New Hampshire	NH	1,342,795	29	0.5%	2.16
New Jersey	NJ	9,005,644	111	1.8%	1.23
New Mexico	NM	2,088,070	40	0.6%	1.92
New York	NY	19,849,399	725	11.7%	3.65
North Carolina	NC	10,273,419	190	3.1%	1.85
North Dakota	ND	755,393	3	0.0%	0.40
Ohio	OH	11,658,609	326	5.3%	2.80
Oklahoma	OK	3,930,864	39	0.6%	0.99
Oregon	OR	4,142,776	58	0.9%	1.40
Pennsylvania	PA	12,805,537	405	6.5%	3.16
Puerto Rico	PR	3,337,177	27	0.4%	0.81
Rhode Island	RI	1,059,639	48	0.8%	4.53
South Carolina	SC	5,024,369	63	1.0%	1.25
South Dakota	SD	869,666	4	0.1%	0.46
Tennessee	TN	6,715,984	126	2.0%	1.88
Texas	TX	28,304,596	404	6.5%	1.43
Utah	UT	3,101,833	52	0.8%	1.68
Vermont	VT	623,657	25	0.4%	4.01
Virginia	VA	8,470,020	137	2.2%	1.62
Washington	WA	7,405,743	91	1.5%	1.23
West Virginia	WV	1,815,857	29	0.5%	1.60
Wisconsin	WI	5,795,483	114	1.8%	1.97
Wyoming	WY	579,315	1	0.0%	0.17

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE B.5					
Number of Pipeline Programs and Pipeline Program Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Pipeline Programs	Percent of All Pipeline Programs	Pipeline Programs per 100,000 Pop
OVERALL	--	329,056,355	4,668	100.0%	1.42
Alabama	AL	4,874,747	52	1.1%	1.07
Alaska	AK	739,795	1	0.0%	0.14
Arizona	AZ	7,016,270	69	1.5%	0.98
Arkansas	AR	3,004,279	38	0.8%	1.26
California	CA	39,536,653	401	8.6%	1.01
Colorado	CO	5,607,154	50	1.1%	0.89
Connecticut	CT	3,588,184	72	1.5%	2.01
Delaware	DE	961,939	13	0.3%	1.35
District of Columbia	DC	693,972	55	1.2%	7.93
Florida	FL	20,984,400	231	4.9%	1.10
Georgia	GA	10,429,379	96	2.1%	0.92
Hawaii	HI	1,427,538	20	0.4%	1.40
Idaho	ID	1,716,943	9	0.2%	0.52
Illinois	IL	12,802,023	215	4.6%	1.68
Indiana	IN	6,666,818	48	1.0%	0.72
Iowa	IA	3,145,711	41	0.9%	1.30
Kansas	KS	2,913,123	36	0.8%	1.24
Kentucky	KY	4,454,189	55	1.2%	1.23
Louisiana	LA	4,684,333	83	1.8%	1.77
Maine	ME	1,335,907	17	0.4%	1.27
Maryland	MD	6,052,177	96	2.1%	1.59
Massachusetts	MA	6,859,819	143	3.1%	2.08
Michigan	MI	9,962,311	269	5.8%	2.70
Minnesota	MN	5,576,606	67	1.4%	1.20
Mississippi	MS	2,984,100	32	0.7%	1.07
Missouri	MO	6,113,532	100	2.1%	1.64
Montana	MT	1,050,493	3	0.1%	0.29
Nebraska	NE	1,920,076	33	0.7%	1.72
Nevada	NV	2,998,039	24	0.5%	0.80
New Hampshire	NH	1,342,795	22	0.5%	1.64
New Jersey	NJ	9,005,644	142	3.0%	1.58
New Mexico	NM	2,088,070	24	0.5%	1.15
New York	NY	19,849,399	508	10.9%	2.56
North Carolina	NC	10,273,419	126	2.7%	1.23
North Dakota	ND	755,393	10	0.2%	1.32
Ohio	OH	11,658,609	244	5.2%	2.09
Oklahoma	OK	3,930,864	56	1.2%	1.42
Oregon	OR	4,142,776	35	0.7%	0.84
Pennsylvania	PA	12,805,537	289	6.2%	2.26
Puerto Rico	PR	3,337,177	40	0.9%	1.20
Rhode Island	RI	1,059,639	25	0.5%	2.36
South Carolina	SC	5,024,369	60	1.3%	1.19
South Dakota	SD	869,666	8	0.2%	0.92
Tennessee	TN	6,715,984	85	1.8%	1.27
Texas	TX	28,304,596	277	5.9%	0.98
Utah	UT	3,101,833	31	0.7%	1.00
Vermont	VT	623,657	16	0.3%	2.57
Virginia	VA	8,470,020	104	2.2%	1.23
Washington	WA	7,405,743	72	1.5%	0.97
West Virginia	WV	1,815,857	47	1.0%	2.59
Wisconsin	WI	5,795,483	76	1.6%	1.31
Wyoming	WY	579,315	2	0.0%	0.35

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE B.6

Hospital-Based Specialty Programs by Specialty and State

State Name	State Abbreviation	AN	EM	MG	NM	PTH	GPM	RO	DR	IRI	TY	Total
OVERALL	-	153	231	46	41	143	76	94	194	78	135	1,191
Alabama	AL	1	1	1	1	3	2	1	3	1	1	15
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	2	4	0	0	1	0	2	4	1	2	16
Arkansas	AR	1	2	0	1	1	0	1	1	1	1	9
California	CA	13	19	5	6	11	8	12	16	9	7	106
Colorado	CO	1	1	1	0	2	2	1	1	1	2	12
Connecticut	CT	2	2	2	0	3	2	1	6	1	1	20
Delaware	DE	0	1	0	0	0	0	0	1	1	1	4
District of Columbia	DC	2	2	1	0	3	0	1	2	1	0	12
Florida	FL	11	17	1	1	7	3	4	9	4	13	70
Georgia	GA	2	3	1	1	2	3	2	3	2	7	26
Hawaii	HI	0	0	0	0	1	0	0	1	0	2	4
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	7	9	0	2	6	2	4	11	4	6	51
Indiana	IN	1	1	1	1	1	0	1	1	1	3	11
Iowa	IA	1	1	1	1	1	1	1	1	1	2	11
Kansas	KS	2	1	0	0	1	0	1	2	1	0	8
Kentucky	KY	2	2	0	0	2	2	2	2	0	1	13
Louisiana	LA	4	3	0	0	3	1	0	4	1	0	16
Maine	ME	1	1	0	0	0	1	0	1	1	0	5
Maryland	MD	3	2	2	3	4	6	3	3	1	3	30
Massachusetts	MA	9	5	1	1	7	3	2	10	3	6	47
Michigan	MI	7	23	2	2	5	1	4	10	3	16	73
Minnesota	MN	2	3	1	0	2	3	2	2	2	1	18
Mississippi	MS	1	2	1	0	1	1	1	1	0	0	8
Missouri	MO	5	4	1	3	4	0	1	4	2	1	25
Montana	MT	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	1	1	1	0	2	0	1	2	1	0	9
Nevada	NV	1	2	0	0	0	0	0	0	0	2	5
New Hampshire	NH	1	1	0	0	1	1	1	1	1	0	7
New Jersey	NJ	6	9	0	0	3	2	1	7	1	0	29
New Mexico	NM	1	1	0	0	1	1	0	1	0	0	5
New York	NY	16	28	4	6	17	8	13	25	10	9	136
North Carolina	NC	3	7	2	1	4	2	3	3	3	2	30
North Dakota	ND	0	0	0	0	0	0	0	0	0	1	1
Ohio	OH	9	13	3	1	7	4	4	8	2	8	59
Oklahoma	OK	2	4	1	1	1	0	1	3	0	0	13
Oregon	OR	1	1	1	1	1	1	1	1	1	0	9
Pennsylvania	PA	9	18	2	1	9	1	6	12	6	11	75
Puerto Rico	PR	1	2	0	1	1	0	0	1	0	4	10
Rhode Island	RI	1	2	0	0	1	0	0	1	1	0	6
South Carolina	SC	1	4	1	1	1	1	1	1	1	3	15
South Dakota	SD	0	0	0	0	1	0	0	0	0	1	2
Tennessee	TN	2	4	1	1	4	2	2	4	1	2	23
Texas	TX	8	11	3	2	9	7	6	10	4	4	64
Utah	UT	1	1	1	0	1	1	1	1	1	1	9
Vermont	VT	1	1	0	0	1	0	0	1	0	0	4
Virginia	VA	3	5	1	0	2	0	2	4	1	3	21
Washington	WA	2	2	1	1	2	2	1	4	1	3	19
West Virginia	WV	1	3	0	0	1	1	1	1	0	2	10
Wisconsin	WI	2	2	2	1	2	1	2	4	1	3	20
Wyoming	WY	0	0	0	0	0	0	0	0	0	0	0

Abbreviations: AN, Anesthesiology; EM, Emergency medicine; MG, Medical genetics and genomics; NM, Nuclear medicine; PTH, Pathology-anatomic and clinical; GPM, Preventive medicine; RO, Radiation oncology; DR, Radiology-diagnostic; IRI, Interventional radiology - integrated; TY, Transitional year.

TABLE B.7

Medical Specialty Programs by Specialty and State

State Name	State Abbreviation	AI	D	FM	IM	N	CHN	ONM	PD	PM	P	IP	Total
OVERALL	-	79	138	620	529	153	74	13	210	88	248	78	2,230
Alabama	AL	1	1	8	6	2	1	0	2	1	2	2	26
Alaska	AK	0	0	1	0	0	0	0	0	0	0	0	1
Arizona	AZ	2	3	9	9	4	1	0	2	0	3	1	34
Arkansas	AR	0	1	8	6	1	1	0	1	1	2	1	22
California	CA	10	12	60	40	13	7	0	16	6	23	4	191
Colorado	CO	3	1	15	4	2	1	0	1	1	1	1	30
Connecticut	CT	1	2	4	14	2	1	1	2	0	3	1	31
Delaware	DE	1	0	2	1	0	1	0	1	0	2	1	9
District of Columbia	DC	0	3	1	5	3	1	0	2	1	4	1	21
Florida	FL	3	10	24	35	10	2	0	13	3	16	2	118
Georgia	GA	2	2	16	14	2	2	0	5	1	5	0	49
Hawaii	HI	0	0	3	3	0	0	0	2	0	2	0	10
Idaho	ID	0	0	6	3	0	0	0	0	0	0	0	9
Illinois	IL	2	7	31	26	7	2	0	11	5	10	5	106
Indiana	IN	1	1	14	3	1	1	0	2	1	3	1	28
Iowa	IA	1	1	9	4	1	1	0	2	0	3	0	22
Kansas	KS	1	1	4	3	1	0	0	2	1	2	1	16
Kentucky	KY	0	1	8	4	2	2	0	2	2	3	2	26
Louisiana	LA	3	2	10	8	4	1	0	4	1	4	3	40
Maine	ME	0	0	4	1	0	0	0	1	0	1	1	8
Maryland	MD	3	3	4	11	3	2	0	4	3	4	2	39
Massachusetts	MA	4	4	5	17	5	4	0	5	2	11	4	61
Michigan	MI	3	6	34	35	8	2	4	9	6	10	6	123
Minnesota	MN	1	3	12	4	2	1	0	2	2	3	1	31
Mississippi	MS	1	1	4	4	1	1	0	1	0	1	1	15
Missouri	MO	3	4	8	9	4	3	1	4	2	5	2	45
Montana	MT	0	0	2	1	0	0	0	0	0	0	0	3
Nebraska	NE	0	0	5	2	2	0	0	1	1	1	1	13
Nevada	NV	0	0	6	4	1	0	0	1	0	2	0	14
New Hampshire	NH	0	1	1	1	1	0	0	1	0	1	0	6
New Jersey	NJ	1	3	16	24	4	1	1	10	2	8	2	72
New Mexico	NM	0	1	4	2	1	1	1	1	0	1	0	12
New York	NY	9	11	35	61	14	9	1	31	15	33	4	223
North Carolina	NC	3	5	16	11	3	3	0	5	3	7	3	59
North Dakota	ND	0	0	6	1	0	0	0	0	0	1	0	8
Ohio	OH	4	8	33	31	8	4	0	9	6	10	4	117
Oklahoma	OK	0	1	13	4	1	0	0	4	0	4	2	29
Oregon	OR	0	2	6	5	1	1	0	1	0	2	0	18
Pennsylvania	PA	4	8	43	33	11	3	1	8	6	13	4	134
Puerto Rico	PR	1	1	4	8	1	1	0	4	2	2	1	25
Rhode Island	RI	0	2	2	4	1	0	0	1	0	1	1	12
South Carolina	SC	0	1	11	4	2	1	0	3	0	3	2	27
South Dakota	SD	0	0	3	1	0	0	0	1	0	1	0	6
Tennessee	TN	2	2	10	7	2	2	0	4	1	4	2	36
Texas	TX	4	12	34	26	11	4	1	13	6	14	3	128
Utah	UT	0	1	5	2	1	1	0	1	1	1	1	14
Vermont	VT	0	1	1	1	1	0	0	1	0	1	0	6
Virginia	VA	2	4	13	11	3	2	1	6	3	6	1	52
Washington	WA	1	1	22	6	2	1	0	2	1	2	0	38
West Virginia	WV	0	1	7	5	2	0	1	3	0	3	2	24
Wisconsin	WI	2	3	16	5	2	2	0	3	2	4	2	41
Wyoming	WY	0	0	2	0	0	0	0	0	0	0	0	2

Abbreviations: AI, Allergy and immunology; D, Dermatology; FM, Family medicine; IM, Internal medicine; N, Neurology; CHN, Child neurology; ONM, Osteopathic neuromusculoskeletal medicine; PD, Pediatrics; PM, Physical medicine and rehabilitation; P, Psychiatry; IP, Internal medicine/Pediatrics.

TABLE B.8

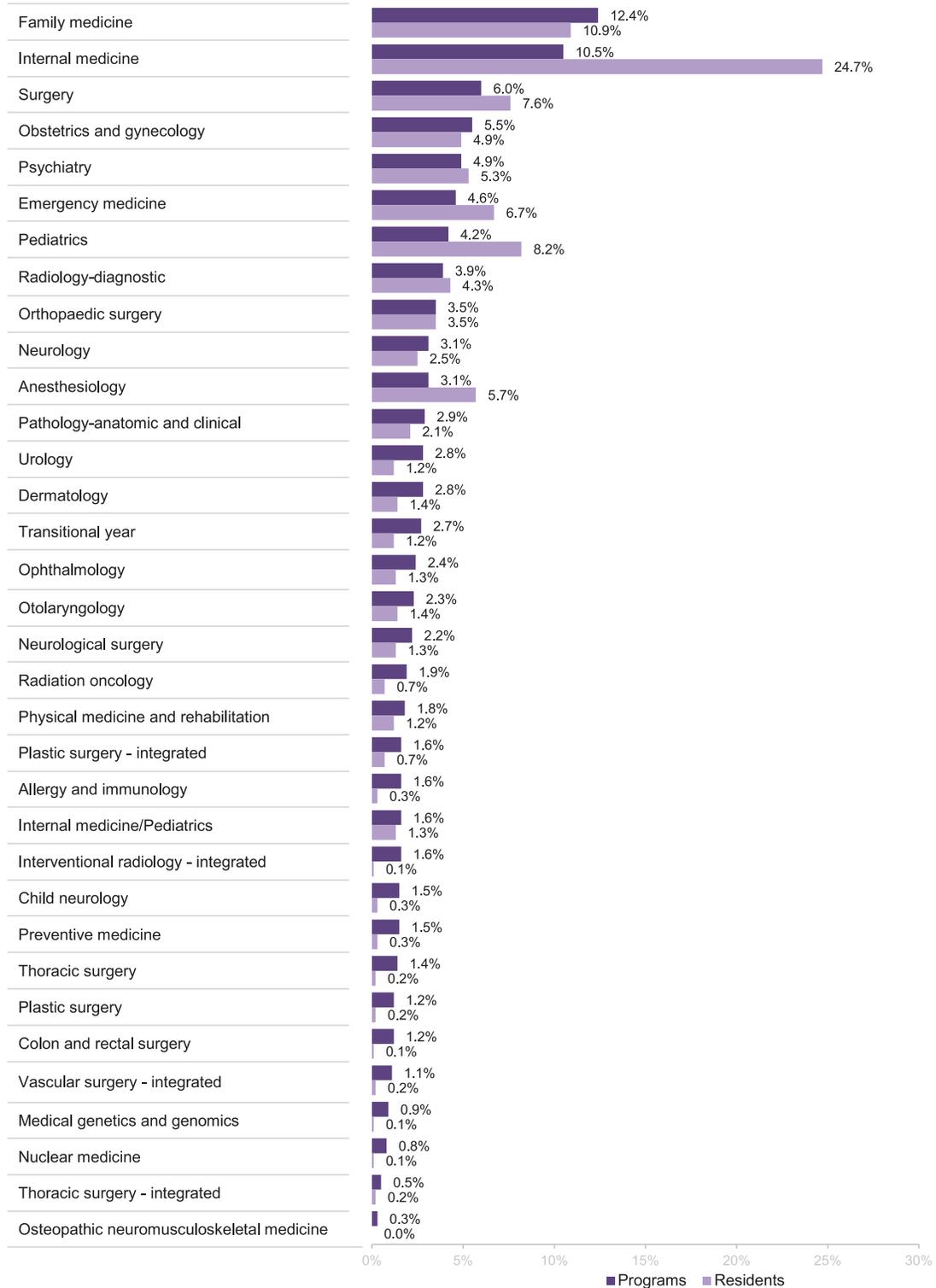
Surgical Specialty Programs by Specialty and State

State Name	State Abbreviation	CRS	NS	OBG	OPH	ORS	OTO	PS	PSI	GS	VSI	TS	TSI	U	Total
OVERALL	-	62	112	278	119	175	117	61	79	301	55	72	26	138	1,595
Alabama	AL	0	1	2	1	2	1	1	0	3	1	1	0	1	14
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	0	2	3	2	3	2	1	1	6	1	1	0	2	24
Arkansas	AR	0	1	1	1	1	1	0	0	1	1	0	0	1	8
California	CA	3	9	22	10	16	10	5	8	23	4	8	3	11	132
Colorado	CO	0	1	2	1	1	1	1	1	4	0	1	0	1	14
Connecticut	CT	1	1	6	1	2	2	0	1	6	1	1	1	2	25
Delaware	DE	0	0	1	0	0	0	0	0	1	0	0	0	0	2
District of Columbia	DC	1	2	3	3	3	2	0	1	5	1	0	0	2	23
Florida	FL	5	4	11	4	6	3	3	3	18	2	2	0	5	66
Georgia	GA	1	2	6	2	4	2	1	1	8	1	1	1	2	32
Hawaii	HI	0	0	2	0	2	1	0	0	2	0	0	0	1	8
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	3	7	13	6	6	6	3	4	11	2	4	1	7	73
Indiana	IN	1	1	2	1	1	1	1	1	2	1	1	1	1	15
Iowa	IA	0	1	1	1	1	1	1	0	2	1	1	1	1	12
Kansas	KS	0	1	3	1	2	1	0	1	3	0	1	0	1	14
Kentucky	KY	1	2	2	2	2	2	1	1	2	0	2	1	2	20
Louisiana	LA	3	3	5	3	4	3	2	1	4	1	1	0	4	34
Maine	ME	0	0	1	0	0	0	0	0	1	1	0	0	1	4
Maryland	MD	1	4	5	4	4	3	1	1	7	0	2	1	3	36
Massachusetts	MA	4	4	6	3	4	3	3	3	10	3	4	1	5	53
Michigan	MI	4	6	23	6	13	8	3	2	20	2	2	1	8	98
Minnesota	MN	2	2	2	2	2	2	2	2	3	1	2	0	2	24
Mississippi	MS	0	1	1	1	1	1	1	1	2	0	1	0	1	11
Missouri	MO	1	3	5	4	4	4	2	3	4	2	1	0	3	36
Montana	MT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	1	1	2	1	1	1	1	0	2	0	1	0	2	13
Nevada	NV	0	0	2	0	1	1	0	1	2	0	0	0	0	7
New Hampshire	NH	0	1	1	0	1	1	1	1	1	1	0	0	1	9
New Jersey	NJ	1	1	13	1	6	1	2	2	10	2	1	0	4	44
New Mexico	NM	0	1	1	0	1	1	0	1	1	0	0	0	1	7
New York	NY	9	11	35	17	19	12	4	8	34	8	8	4	15	184
North Carolina	NC	0	4	9	3	4	3	1	3	7	2	3	2	4	45
North Dakota	ND	0	0	0	0	1	0	0	0	1	0	0	0	0	2
Ohio	OH	5	4	15	6	11	5	4	5	18	4	4	2	6	89
Oklahoma	OK	0	1	5	1	1	1	1	0	3	0	0	0	1	14
Oregon	OR	1	1	1	1	1	1	0	1	1	0	1	0	1	10
Pennsylvania	PA	5	7	17	7	12	7	4	5	22	4	5	2	8	105
Puerto Rico	PR	0	1	3	1	1	1	0	0	2	0	0	0	1	10
Rhode Island	RI	1	1	1	1	1	0	0	1	1	0	0	0	1	8
South Carolina	SC	1	1	3	2	3	1	1	2	5	1	0	1	1	22
South Dakota	SD	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Tennessee	TN	1	2	7	2	3	2	3	1	6	0	1	0	4	32
Texas	TX	3	7	18	8	13	8	4	4	17	4	5	1	9	101
Utah	UT	1	1	1	1	1	1	1	1	1	0	1	0	1	11
Vermont	VT	0	1	1	0	1	1	0	0	1	0	0	0	1	6
Virginia	VA	0	4	7	3	3	4	2	3	6	0	2	1	3	38
Washington	WA	1	1	2	2	2	2	0	1	4	1	1	1	3	21
West Virginia	WV	0	1	3	1	2	1	0	1	3	1	1	0	2	16
Wisconsin	WI	1	2	3	2	2	2	0	2	4	1	1	0	2	22
Wyoming	WY	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Abbreviations: CRS, Colon and rectal surgery; NS, Neurological surgery; OBG, Obstetrics and gynecology; OPH, Ophthalmology; ORS, Orthopaedic surgery; OTO, Otolaryngology; PS, Plastic surgery; PSI, Plastic surgery - integrated; GS, Surgery; VSI, Vascular surgery - integrated; TS, Thoracic surgery; TSI, Thoracic surgery - integrated; U, Urology.

FIGURE B.9

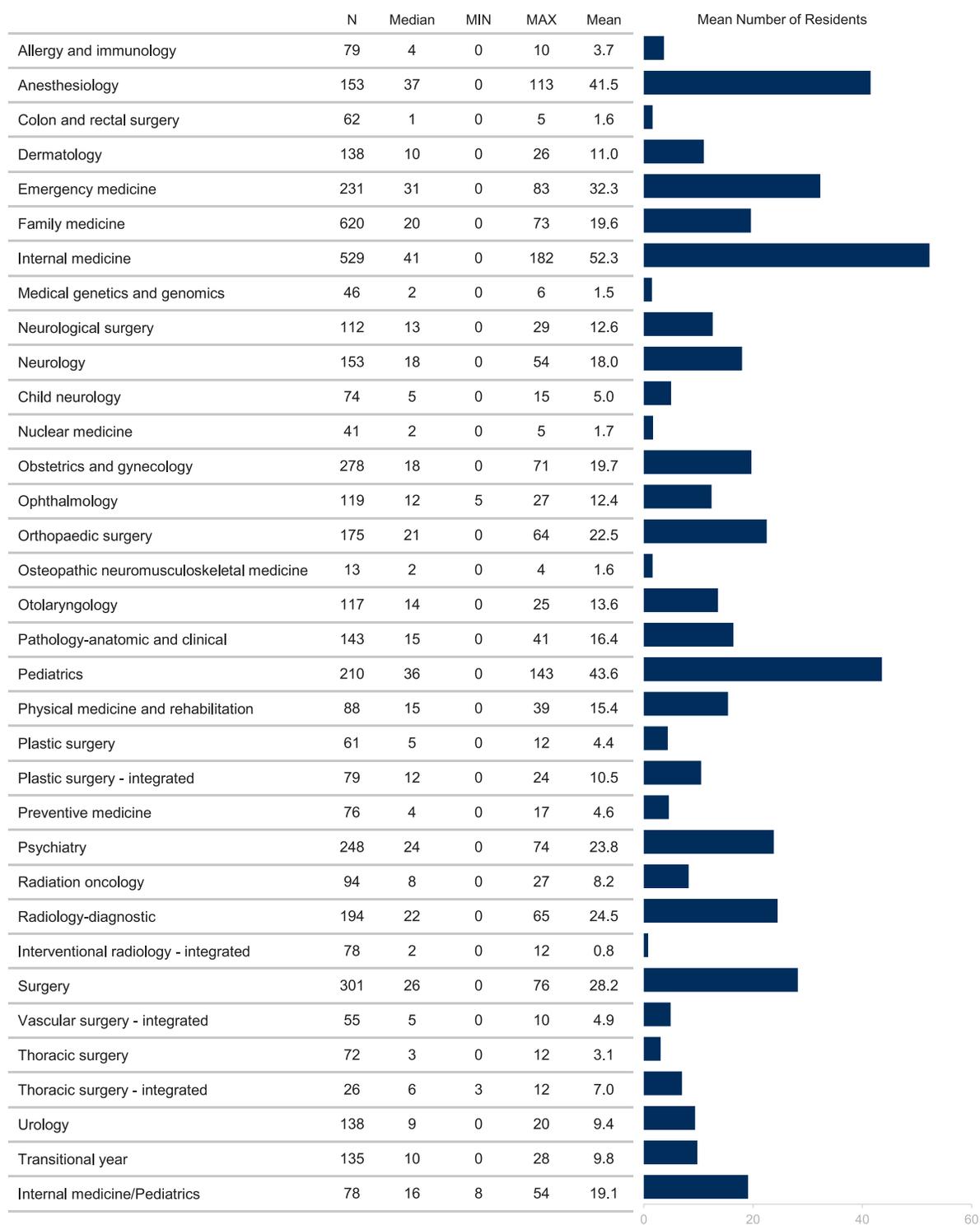
Percentage of Programs and Residents in Each Specialty



Notes: The percentages represent the number of programs/on duty residents in each specialty divided by all programs/on duty residents in specialty programs. Total number of specialty programs = 5,016. Total number of residents in specialties = 111,758.

FIGURE B.10

Mean Number of Residents per Program by Specialty



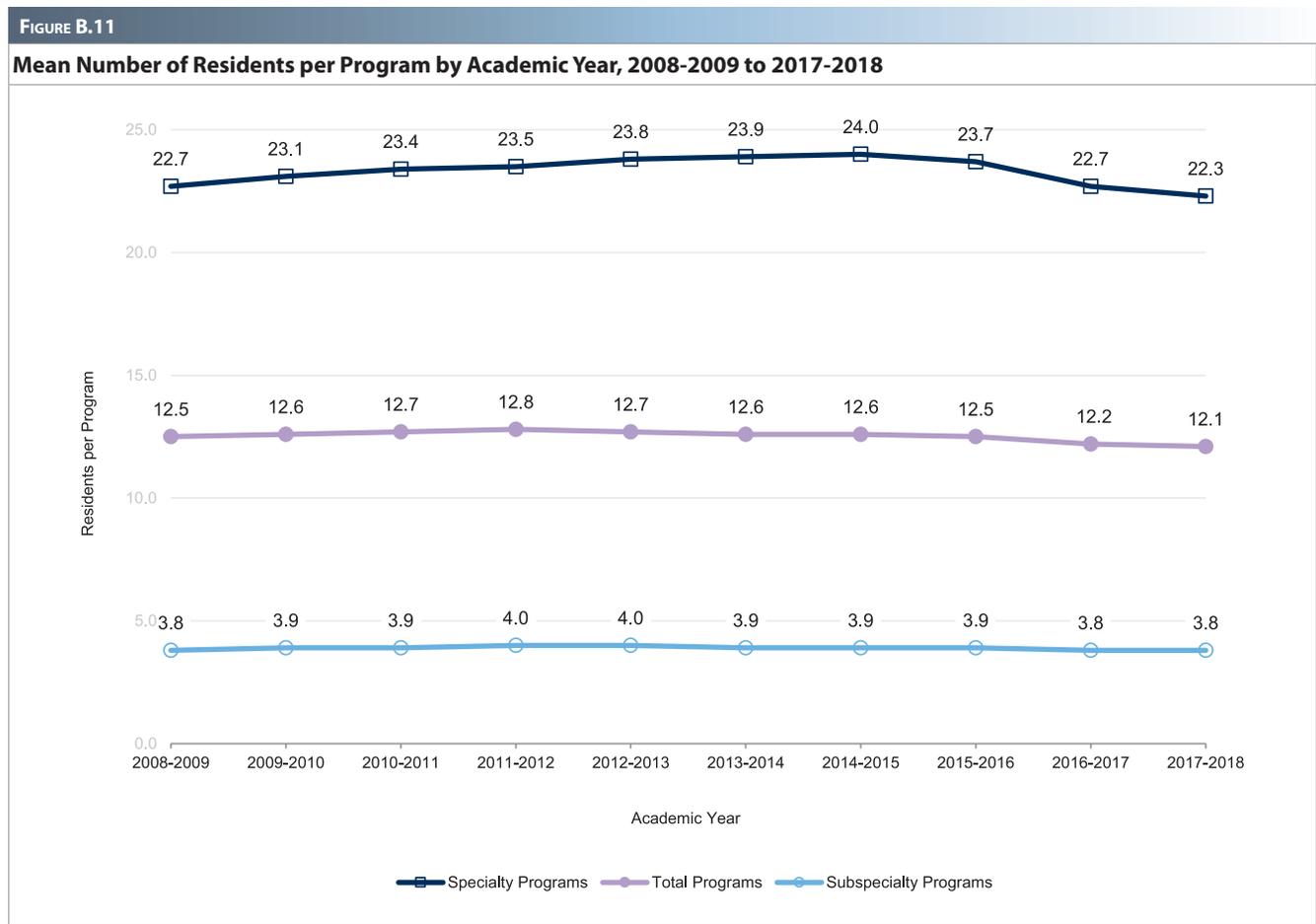
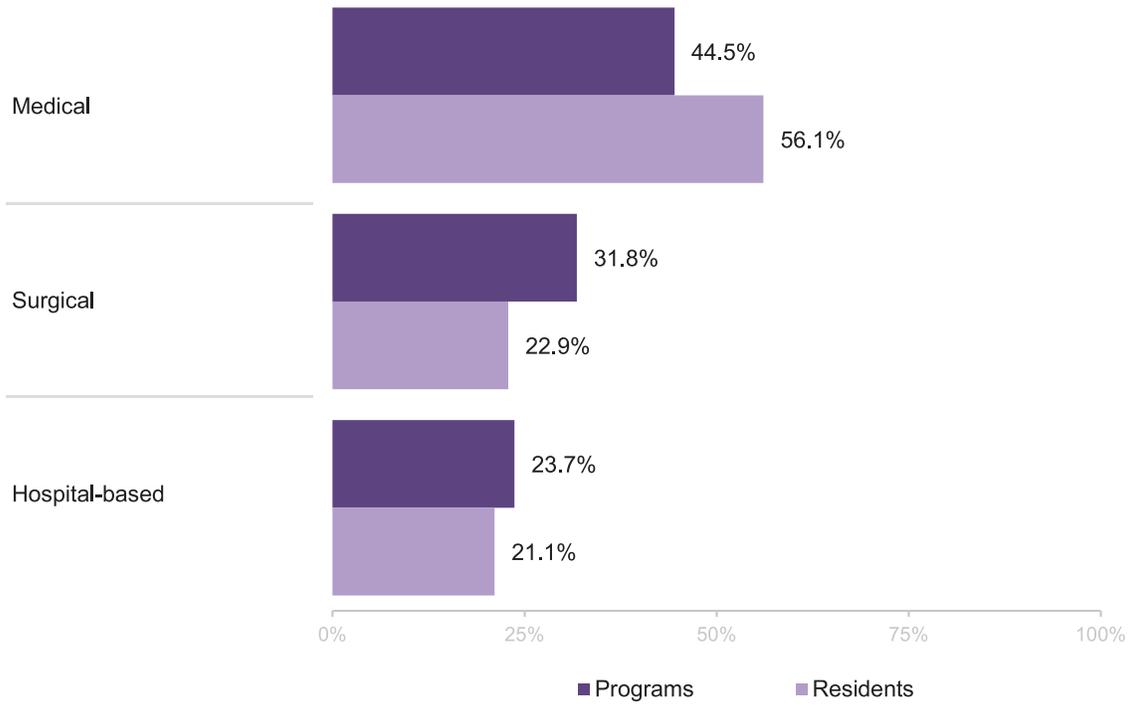


FIGURE B.12

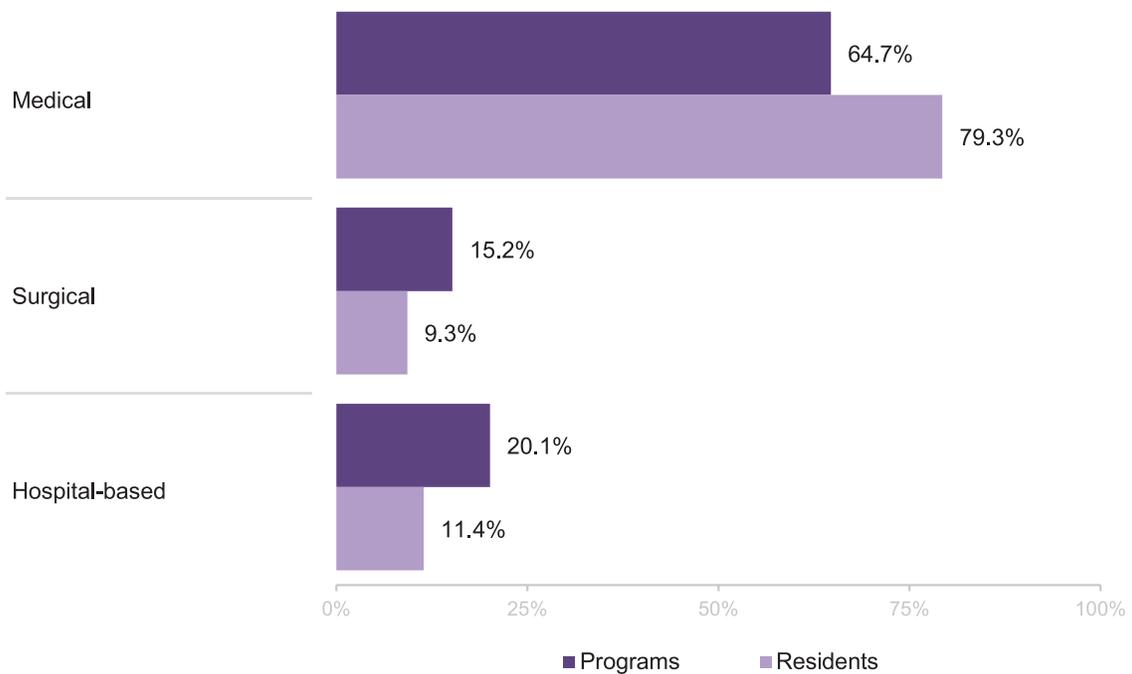
Percent of Programs and Residents in Specialties by Specialty Group



Notes: Total number of specialty programs = 5,016. Total number of residents in specialties = 111,758.

FIGURE B.13

Percent of Programs and Residents in Subspecialties by Specialty Group



Notes: Total number of subspecialty programs = 6,198. Total number of residents in subspecialties = 23,568.

Resident Characteristics

This section summarizes the characteristics of all active residents, and shows aggregate statistics on their distribution by specialty, medical school type, gender, and ethnicity since the 2008-2009 academic year. In addition, this section includes information on residents entering pipeline and continuing graduate medical education (GME) programs.

Active Residents

Of the total number of active residents (135,326), 111,758 (82.6%) are in specialty programs and 23,568 (17.4%) are in subspecialty programs. Only 0.2% (263) of the total number of active residents are part-time. In terms of trends, there has been a 23.6% increase in total active residents since 2008-2009, with growth in the number of specialty residents at 22.3% and growth in the number of subspecialty residents at 30.2% over the last 10 years. Among residents in specialty programs, 56.1% (62,674) are in medical specialties, 21.1% (23,547) are in hospital-based specialties, and 22.9% (25,537) are in surgical specialties. The specialties with the highest percentage of total active residents are:

- Internal medicine (20.4%)
- Family medicine (9.0%)
- Pediatrics (6.8%)
- Surgery (6.3%)

Geographic Distribution

Based on the most recent US Census estimate for 2017, there are approximately 41.13 active residents (33.97 specialty, 7.16 subspecialty) per 100,000 population, including Puerto Rico. In line with the states that have the highest number of programs, the following states have the highest number of total active residents:

- New York (17,519)
- California (12,150)
- Texas (8,963)
- Pennsylvania (8,720)

Active Residents by Medical School Type

Of the 111,758 total active residents in specialty programs, 63.1% (70,543) are US allopathic medical school graduates, 21.7% (24,230) are international medical school graduates (IMGs), and 15.1% (16,930) are osteopathic medical school graduates. There are also 54 Canadian medical school graduates and 1 resident for whom medical school type was unknown. The distribution by medical school type is slightly different in subspecialty programs (23,568 active residents), with 56.8% of active residents being graduates of US allopathic medical schools, 33.1% being graduates

of international medical schools, 9.7% being graduates of osteopathic medical schools, and less than 1% being Canadian medical school graduates. Over the last 10 years, there has been a 17.0% increase in US allopathic medical school graduates, a 6.8% increase in IMGs, and a 158.9% increase in osteopathic medical school graduates. The specialties with the highest percentage of IMGs include:

- Nuclear medicine (73.2%)
- Pathology – anatomic and clinical (43.2%)
- Medical genetics and genomics (40.0%)
- Internal medicine (38.4%)

While internal medicine has the fourth-highest percentage of IMGs, this specialty accounts for the highest number of IMGs (10,609) among all specialty programs.

Active Residents by Sex and Ethnicity

Of the 135,326 active residents, 53.1% are male, 43.9% are female, and 3.1% are unreported. The specialties with the highest percentage of female residents include:

- Obstetrics and gynecology (81.3%)
- Allergy and immunology (72.6%)
- Child neurology (67.3%)
- Medical genetics and genomics (67.1%)

The specialties with the lowest percentage of female residents include:

- Interventional radiology – integrated (13.3%)
- Orthopaedic surgery (14.7%)
- Neurological surgery (17.6%)

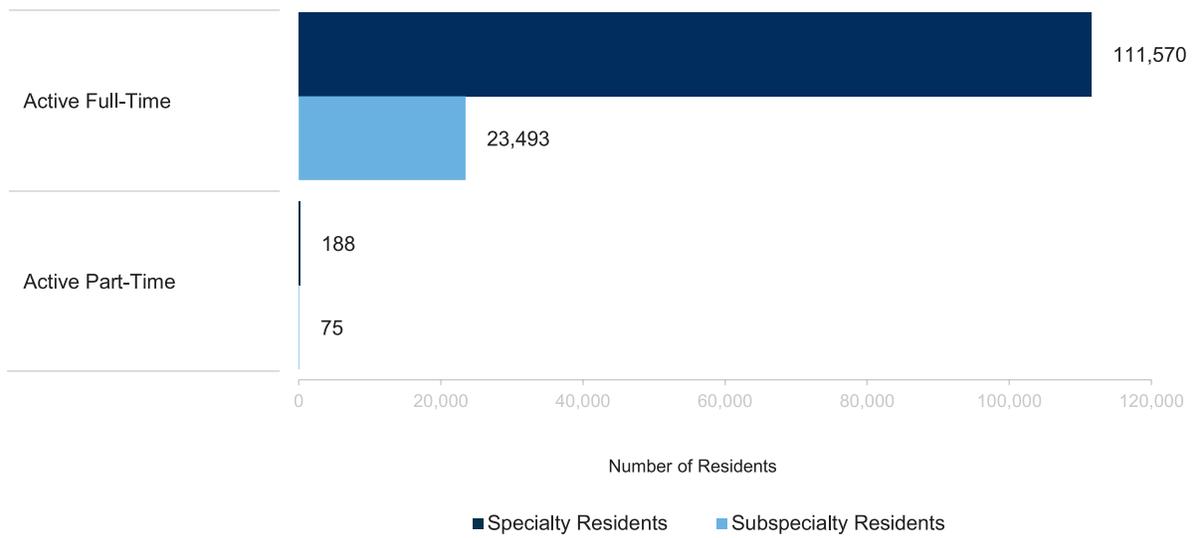
Overall, 42.7% of all active residents are white, non-Hispanic; 17.9% are Asian or Pacific Islander; 5.1% are Hispanic; 4.4% are black (non-Hispanic); and 0.2% are Native American/Alaskan. 5.2% of active residents were reported as “other,” and 24.5% were reported as “unknown.”

Residents Entering the Pipeline

The total number of residents entering the pipeline reached 31,355 for the 2017-2018 academic year. Since 2008-2009, there has been a 22.9% increase in entering pipeline residents, with varying patterns in growth by medical school type (16.3% increase among US LCME-accredited medical school graduates, 1.0% increase among IMGs, and 146.0% increase among osteopathic medical school graduates). Among the 2017-2018 entering pipeline residents, 60.2% (18,880) are US LCME-accredited graduates, 22.9% (7,165) are IMGs, 16.9% (5,297) are osteopathic medical school graduates, and 0.04% (12) are Canadian medical school graduates. ↘

FIGURE C.1

Number of Active Residents by Status



Note: Total number of active residents = 135,326.

FIGURE C.2

Number of Active Residents by Academic Year, 2008-2009 to 2017-2018

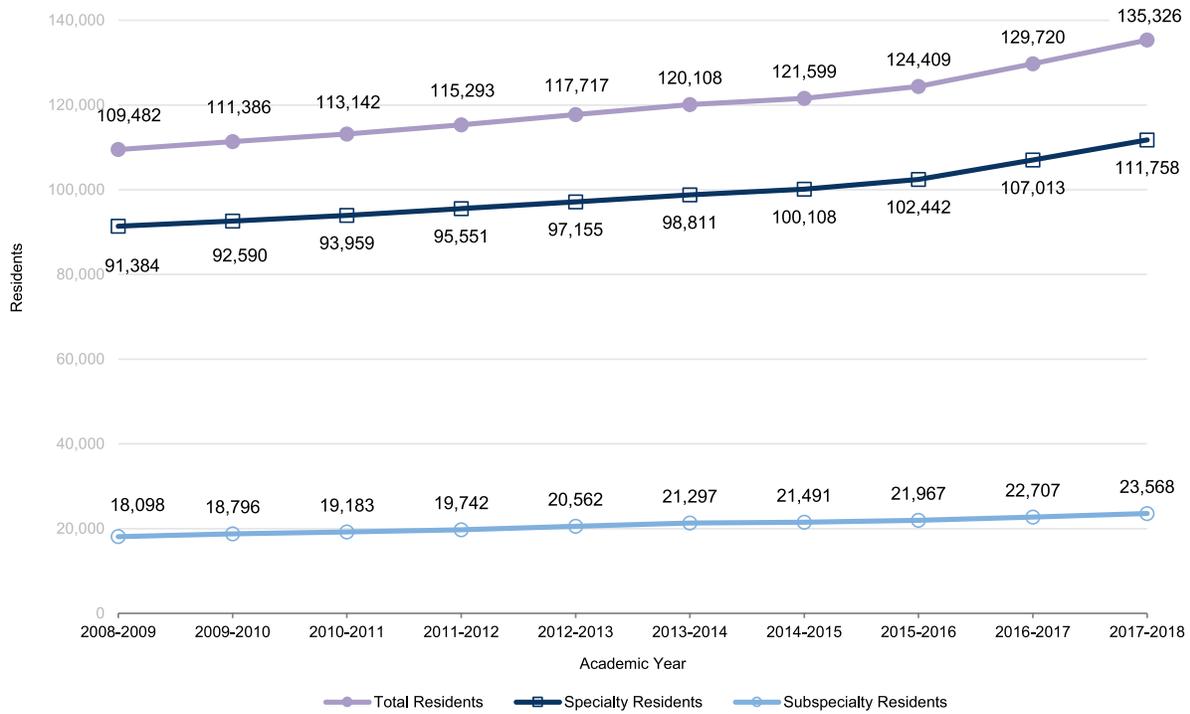
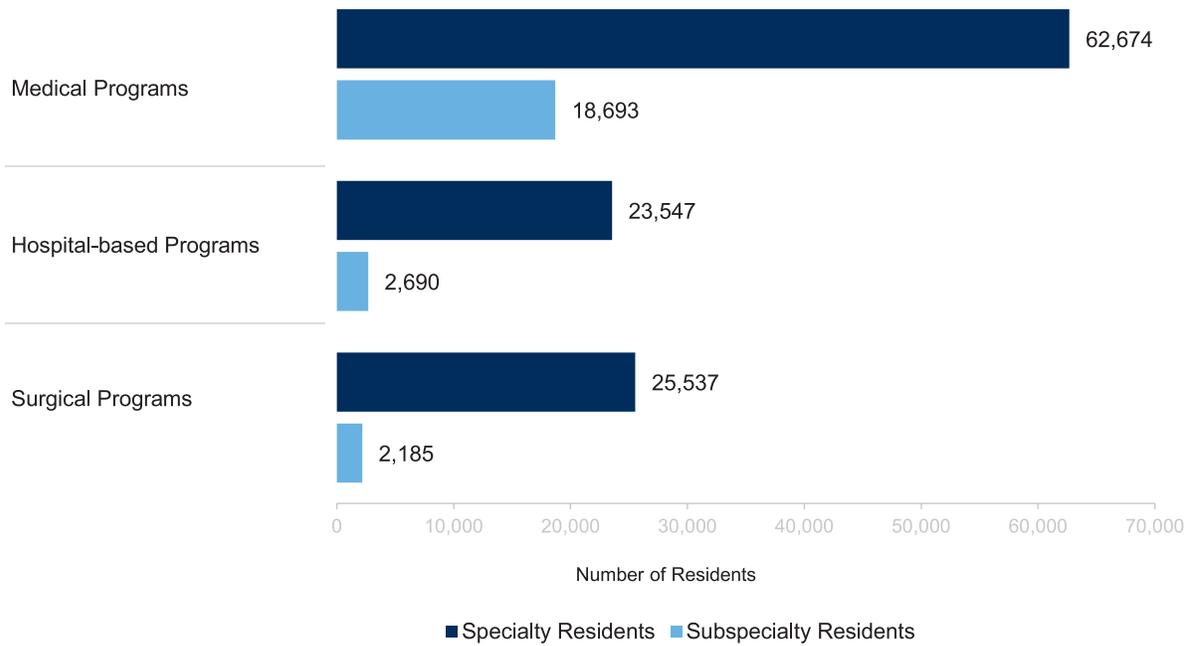


FIGURE C.3

Number of Active Residents by Specialty Group



Notes: Total number of active residents in specialty programs = 111,758. Total number of active residents in subspecialty programs = 23,568.

FIGURE C.4

Number of Active Residents by Specialty Group and Academic Year, 2008-2009 to 2017-2018

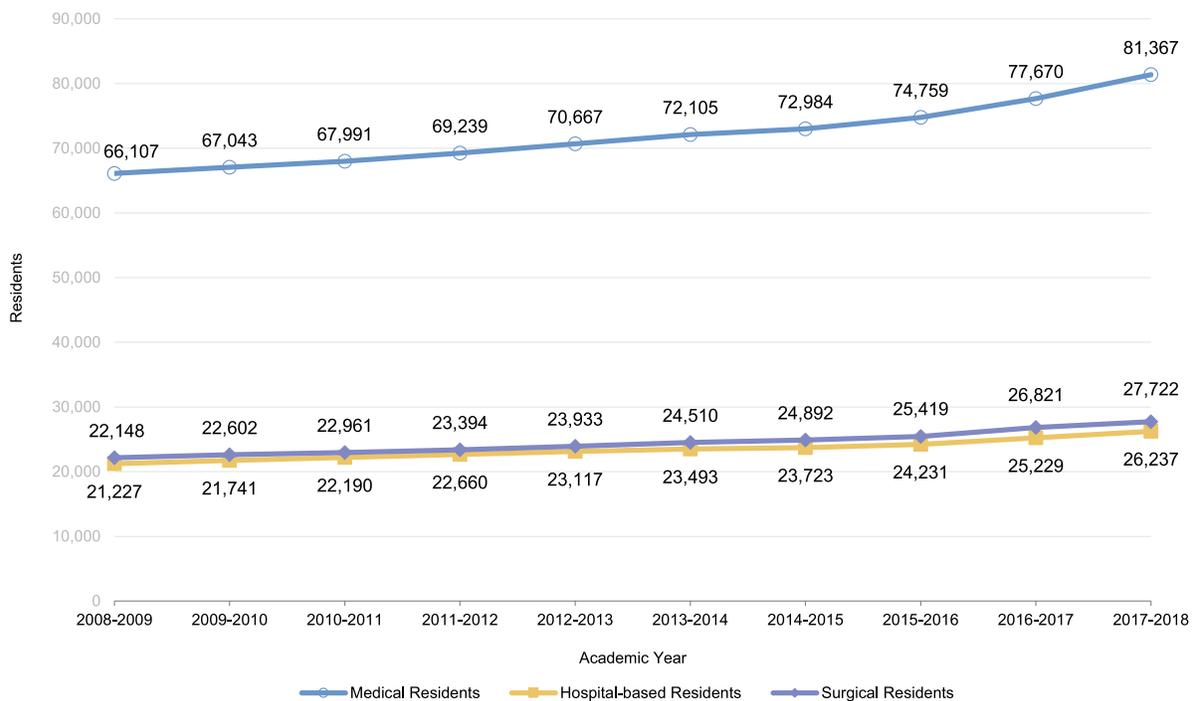


TABLE C.5											
Number of Active Residents by Specialty and Subspecialty, Position Type, and Resident Year											
Specialty	Total Residents	Resident Year									
		1		2		3		4	5	6	7
		Cat #	Prel #	Cat #	Prel #	Cat #	Prel #	Cat #	Cat #	Cat #	Cat #
OVERALL	135,326	46,005	3,643	37,695	288	33,930	8	10,485	2,797	327	148
TOTAL PIPELINE	109,822	31,355	3,643	30,947	288	29,833	8	10,476	2,797	327	148
Allergy and immunology	296	149		147							
Anesthesiology	6,346	1,458		1,747		1,707		1,434			
- Adult cardiothoracic anesthesiology	207	207									
- Clinical informatics	2	1		1							
- Critical care medicine	181	181									
- Regional anesthesiology and acute pain medicine	48	48									
- Obstetric anesthesiology	39	39									
- Pain medicine (multidisciplinary)	361	361									
- Pediatric anesthesiology	205	205									
Colon and rectal surgery	97	97									
Dermatology	1,517	499		501		510		7			
- Dermatopathology (multidisciplinary)	72	72									
- Micrographic surgery and dermatologic oncology	83	83									
Emergency medicine	7,461	2,412		2,256		2,198		595			
- Clinical informatics	4	4									
- Emergency medical services	46	46									
- Medical toxicology	63	37		26							
- Pediatric emergency medicine	119	54		40		25					
- Sports medicine	16	16									
- Undersea and hyperbaric medicine	8	8									
Family medicine	12,161	4,218		4,019		3,880		44			
- Clinical informatics	8	3		5							
- Geriatric medicine	41	41									
- Hospice and palliative medicine (multidisciplinary)	333	333									
- Sports medicine	229	229									
Internal medicine	27,647	8,716	2,166	8,563	6	8,191	5				
- Adult congenital heart disease	14	5		9							
- Advanced heart failure and transplant cardiology	98	98									
- Cardiovascular disease	2,918	990		979		949					
- Clinical cardiac electrophysiology	185	150		35							
- Clinical informatics	34	18		16							
- Critical care medicine	238	159		79							
- Endocrinology, diabetes, and metabolism	645	348		297							
- Gastroenterology	1,656	578		558		520					
- Geriatric medicine	274	274									
- Hematology	16	11		5							
- Hematology and medical oncology	1,745	604		596		545					
- Infectious disease	715	399		316							
- Interventional cardiology	318	318									
- Nephrology	808	411		397							
- Medical oncology	34	17		17							
- Pulmonary disease	73	40		33							
- Pulmonary disease and critical care medicine	1,812	657		599		556					
- Rheumatology	477	247		230							
- Sleep medicine (multidisciplinary)	164	164									
- Transplant hepatology	46	46									
Medical genetics and genomics	70	37		33							
- Medical biochemical genetics	12	12									
- Molecular genetic pathology (multidisciplinary)	56	56									
Neurological surgery	1,408	220		221		219		204	198	198	148
- Endovascular surgical neuroradiology	3	3									

TABLE C.5 Continued

Number of Active Residents by Specialty and Subspecialty, Position Type, and Resident Year											
Specialty	Total Residents	Resident Year									
		1		2		3		4	5	6	7
		Cat	Prel	Cat	Prel	Cat	Prel	Cat	Cat	Cat	Cat
		#	#	#	#	#	#	#	#	#	#
Neurology	2,750	824		787		747		392			
- Brain injury medicine	1	1									
- Clinical neurophysiology	171	171									
- Epilepsy	101	101									
- Endovascular surgical neuroradiology	1	1									
- Neurodevelopmental disabilities	28	5		7		7		9			
- Neuromuscular medicine	55	55									
- Vascular neurology	115	115									
Child neurology	373	132		119		122					
Nuclear medicine	71	30		19		22					
Obstetrics and gynecology	5,473	1,373	25	1,370		1,345		1,360			
- Female pelvic medicine and reconstructive surgery	142	49		45		48					
- Gynecologic oncology	187	66		61		60					
- Maternal-fetal medicine	322	111		107		104					
- Reproductive endocrinology and infertility	160	57		55		48					
Ophthalmology	1,474	491		480		503					
- Ophthalmic plastic and reconstructive surgery	5	2		3							
Orthopaedic surgery	3,941	806		802		793		765	775		
- Adult reconstructive orthopaedics	40	40									
- Foot and ankle orthopaedics	14	14									
- Hand surgery	151	151									
- Musculoskeletal oncology	17	17									
- Orthopaedic sports medicine	204	204									
- Orthopaedic surgery of the spine	32	32									
- Orthopaedic trauma	18	18									
- Pediatric orthopaedics	39	39									
Osteopathic neuromusculoskeletal medicine	21	8		13							
Otolaryngology	1,592	327		324		315		311	315		
- Neurotology	29	17		12							
- Pediatric otolaryngology	34	34									
Pathology-anatomic and clinical	2,341	626		610		598		507			
- Blood banking/transfusion medicine	49	49									
- Clinical informatics	11	4		7							
- Chemical pathology	1	1									
- Cytopathology	138	138									
- Forensic pathology	43	43									
- Hematopathology	125	125									
- Medical microbiology	10	10									
- Neuropathology	48	32		16							
- Pediatric pathology	17	17									
- Selective pathology	168	168									
Pediatrics	9,159	3,078	72	3,058	44	2,907					
- Adolescent medicine	88	32		33		23					
- Child abuse pediatrics	34	13		9		12					
- Clinical informatics	10	5		5							
- Developmental-behavioral pediatrics	108	43		30		35					
- Neonatal-perinatal medicine	759	256		257		246					
- Pediatric cardiology	434	151		145		138					
- Pediatric critical care medicine	518	194		169		155					
- Pediatric emergency medicine	392	144		138		110					
- Pediatric endocrinology	241	82		84		75					
- Pediatric gastroenterology	300	108		99		93					
- Pediatric hematology/oncology	501	171		164		166					

TABLE C.5 Continued

Number of Active Residents by Specialty and Subspecialty, Position Type, and Resident Year

Specialty	Total Residents	Resident Year									
		1		2		3		4	5	6	7
		Cat #	Prel #	Cat #	Prel #	Cat #	Prel #	Cat #	Cat #	Cat #	Cat #
- Pediatric infectious diseases	171	67		60		44					
- Pediatric nephrology	101	36		34		31					
- Pediatric pulmonology	158	55		61		42					
- Pediatric rheumatology	86	34		28		24					
- Pediatric sports medicine	26	26									
- Pediatric transplant hepatology	12	12									
Physical medicine and rehabilitation	1,351	395		409		394		153			
- Brain injury medicine	13	13									
- Neuromuscular medicine	0										
- Spinal cord injury medicine	21	21									
- Pediatric rehabilitation	27	15		12							
- Sports medicine	28	28									
Plastic surgery	266	77		86		103					
Plastic surgery - integrated	829	155		152		153		140	121	108	
- Craniofacial surgery	4	4									
- Hand surgery	23	23									
Preventive medicine	351	195		156							
- Medical toxicology	4	2		2							
- Undersea and hyperbaric medicine	2	2									
Psychiatry	5,907	1,660		1,622		1,527		1,098			
- Addiction psychiatry	74	72		2							
- Child and adolescent psychiatry	865	468		397							
- Forensic psychiatry	79	79									
- Geriatric psychiatry	53	53									
- Consultation-liaison psychiatry	86	86									
Radiation oncology	767	193		191		195		188			
Radiology-diagnostic	4,760	1,204		1,183		1,197		1,170	6		
- Abdominal radiology	44	44									
- Endovascular surgical neuroradiology	6	6									
- Musculoskeletal radiology	32	32									
- Neuroradiology	269	269									
- Nuclear radiology	11	11									
- Pediatric radiology	55	55									
- Vascular and interventional radiology	290	290									
Interventional radiology - integrated	60	20		13		10		15	2		
Surgery	8,475	1,396	1,380	1,407	238	1,409	3	1,334	1,308		
- Complex general surgical oncology	107	54		53							
- Hand surgery	8	8									
- Pediatric surgery	80	42		38							
- Surgical critical care	253	253									
- Vascular surgery	246	123		123							
Vascular surgery - integrated	272	60		59		61		52	40		
Thoracic surgery	223	96		95		32					
- Congenital cardiac surgery	9	9									
Thoracic surgery - integrated	183	35		37		35		27	28	21	
Urology	1,304	333		327		324		316	4		
- Female pelvic medicine and reconstructive surgery	34	13		12		9					
- Pediatric urology	24	24									
Transitional year	1,320	1,320									
Internal medicine/Pediatrics	1,492	377		383		368		364			

Note: Pipeline specialties are highlighted.
Abbreviations: Cat, categorical resident positions; Prel, preliminary resident positions.

TABLE C.6

Number of Active Residents by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018

Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018		
	#	#	#	#	#	#	%
OVERALL	120,108	121,599	124,409	129,720	135,326	15,218	12.7%
TOTAL PIPELINE	97,035	98,411	100,761	105,297	109,822	12,787	13.2%
Allergy and immunology	298	298	287	287	296	-2	-0.7%
Anesthesiology	5,931	5,978	6,051	6,207	6,346	415	7.0%
- Adult cardiothoracic anesthesiology	167	177	183	193	207	40	24.0%
- Clinical informatics *				1	2	1	100.0%
- Critical care medicine	142	159	175	183	181	39	27.5%
- Regional anesthesiology and acute pain medicine *				20	48	28	140.0%
- Obstetric anesthesiology	26	35	38	39	39	13	50.0%
- Pain medicine (multidisciplinary)	326	336	337	354	361	35	10.7%
- Pediatric anesthesiology	200	191	205	205	205	5	2.5%
Colon and rectal surgery	91	94	94	95	97	6	6.6%
Dermatology	1,262	1,275	1,323	1,424	1,517	255	20.2%
- Dermatopathology (multidisciplinary)	76	77	76	71	72	-4	-5.3%
- Micrographic surgery and dermatologic oncology	64	68	73	83	83	19	29.7%
Emergency medicine	5,743	5,941	6,244	6,885	7,461	1,718	29.9%
- Clinical informatics *		1	3	4	4	3	300.0%
- Emergency medical services	36	44	50	62	46	10	27.8%
- Medical toxicology	60	58	61	63	63	3	5.0%
- Pediatric emergency medicine	90	98	101	113	119	29	32.2%
- Sports medicine	9	9	11	14	16	7	77.8%
- Undersea and hyperbaric medicine	8	7	9	13	8	0	0.0%
Family medicine	10,316	10,499	10,762	11,277	12,161	1,845	17.9%
- Clinical informatics *			2	7	8	6	300.0%
- Geriatric medicine	55	49	49	44	41	-14	-25.5%
- Hospice and palliative medicine (multidisciplinary)	209	243	274	304	333	124	59.3%
- Sports medicine	190	202	210	217	229	39	20.5%
Internal medicine	23,891	24,259	24,983	26,301	27,647	3,756	15.7%
- Adult congenital heart disease *			5	15	14	9	180.0%
- Advanced heart failure and transplant cardiology	58	74	82	94	98	40	69.0%
- Cardiovascular disease	2,617	2,626	2,670	2,746	2,918	301	11.5%
- Clinical cardiac electrophysiology	146	151	154	142	185	39	26.7%
- Clinical informatics *			5	19	34	29	580.0%
- Critical care medicine	206	210	208	217	238	32	15.5%
- Endocrinology, diabetes, and metabolism	597	604	613	624	645	48	8.0%
- Gastroenterology	1,458	1,467	1,505	1,565	1,656	198	13.6%
- Geriatric medicine	268	249	239	260	274	6	2.2%
- Hematology	24	21	22	15	16	-8	-33.3%
- Hematology and medical oncology	1,586	1,637	1,660	1,713	1,745	159	10.0%
- Infectious disease	752	727	724	694	715	-37	-4.9%
- Interventional cardiology	308	309	309	315	318	10	3.2%
- Nephrology	930	895	863	844	808	-122	-13.1%
- Medical oncology	73	67	59	34	34	-39	-53.4%
- Pulmonary disease	80	81	75	74	73	-7	-8.8%
- Pulmonary disease and critical care medicine	1,535	1,571	1,630	1,702	1,812	277	18.0%
- Rheumatology	433	431	445	458	477	44	10.2%
- Sleep medicine (multidisciplinary)	154	153	165	163	164	10	6.5%
- Transplant hepatology	38	41	40	39	46	8	21.1%
Medical genetics and genomics	79	74	73	71	70	-9	-11.4%
- Medical biochemical genetics	5	8	9	9	12	7	140.0%
- Molecular genetic pathology (multidisciplinary)	48	49	53	53	56	8	16.7%
Neurological surgery	1,265	1,295	1,325	1,375	1,408	143	11.3%
- Endovascular surgical neuroradiology	3	2	2	1	3	0	0.0%

TABLE C.6 Continued							
Number of Active Residents by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018							
Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	#	%
	#	#	#	#	#	#	%
Neurology	2,238	2,323	2,413	2,544	2,750	512	22.9%
- Brain injury medicine *					1	N/A	N/A
- Clinical neurophysiology	249	220	200	169	171	-78	-31.3%
- Epilepsy *		12	53	74	101	89	741.7%
- Endovascular surgical neuroradiology	2	2	1	2	1	-1	-50.0%
- Neurodevelopmental disabilities	18	17	23	27	28	10	55.6%
- Neuromuscular medicine	56	54	63	60	55	-1	-1.8%
- Vascular neurology	96	91	112	126	115	19	19.8%
Child neurology	341	347	360	360	373	32	9.4%
Nuclear medicine	107	93	84	74	71	-36	-33.6%
Obstetrics and gynecology	5,021	5,102	5,187	5,372	5,473	452	9.0%
- Female pelvic medicine and reconstructive surgery	120	123	132	139	142	22	18.3%
- Gynecologic oncology *				172	187	15	8.7%
- Maternal-fetal medicine *				268	322	54	20.1%
- Reproductive endocrinology and infertility *				120	160	40	33.3%
Ophthalmology	1,409	1,420	1,432	1,446	1,474	65	4.6%
- Ophthalmic plastic and reconstructive surgery	6	6	6	6	5	-1	-16.7%
Orthopaedic surgery	3,566	3,604	3,684	3,760	3,941	375	10.5%
- Adult reconstructive orthopaedics	36	37	44	41	40	4	11.1%
- Foot and ankle orthopaedics	18	16	16	15	14	-4	-22.2%
- Hand surgery	140	140	144	146	151	11	7.9%
- Musculoskeletal oncology	14	15	15	16	17	3	21.4%
- Orthopaedic sports medicine	216	219	203	217	204	-12	-5.6%
- Orthopaedic surgery of the spine	36	31	31	32	32	-4	-11.1%
- Orthopaedic trauma	16	16	17	14	18	2	12.5%
- Pediatric orthopaedics	39	39	43	38	39	0	0.0%
Osteopathic neuromusculoskeletal medicine *			3	8	21	18	600.0%
Otolaryngology	1,488	1,506	1,517	1,541	1,592	104	7.0%
- Neurotology	29	28	30	28	29	0	0.0%
- Pediatric otolaryngology	32	34	33	33	34	2	6.3%
Pathology-anatomic and clinical	2,341	2,339	2,318	2,334	2,341	0	0.0%
- Blood banking/transfusion medicine	45	53	48	47	49	4	8.9%
- Clinical informatics *			3	10	11	8	266.7%
- Chemical pathology	1	1	2	1	1	0	0.0%
- Cytopathology	150	136	141	139	138	-12	-8.0%
- Forensic pathology	39	41	50	46	43	4	10.3%
- Hematopathology	134	137	132	132	125	-9	-6.7%
- Medical microbiology	11	11	10	12	10	-1	-9.1%
- Neuropathology	41	44	50	55	48	7	17.1%
- Pediatric pathology	20	28	22	23	17	-3	-15.0%
- Selective pathology	156	158	154	154	168	12	7.7%
Pediatrics	8,828	8,867	8,933	9,063	9,159	331	3.7%
- Adolescent medicine	74	72	79	89	88	14	18.9%
- Child abuse pediatrics	31	34	37	35	34	3	9.7%
- Clinical informatics *		2	7	9	10	8	400.0%
- Developmental-behavioral pediatrics	97	97	102	92	108	11	11.3%
- Neonatal-perinatal medicine	685	703	738	759	759	74	10.8%
- Pediatric cardiology	411	415	422	432	434	23	5.6%
- Pediatric critical care medicine	447	467	496	507	518	71	15.9%
- Pediatric emergency medicine	349	355	373	385	392	43	12.3%
- Pediatric endocrinology	244	245	243	243	241	-3	-1.2%
- Pediatric gastroenterology	274	274	282	290	300	26	9.5%
- Pediatric hematology/oncology	461	473	476	488	501	40	8.7%

TABLE C.6 Continued

Number of Active Residents by Specialty and Subspecialty and Academic Year, 2013-2014 to 2017-2018

Specialty	Academic Year					5-Year Change	
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	#	%
	#	#	#	#	#	#	%
- Pediatric infectious diseases	177	175	162	164	171	-6	-3.4%
- Pediatric nephrology	111	115	101	102	101	-10	-9.0%
- Pediatric pulmonology	158	165	159	167	158	0	0.0%
- Pediatric rheumatology	69	76	76	81	86	17	24.6%
- Pediatric sports medicine	21	22	24	23	26	5	23.8%
- Pediatric transplant hepatology	6	8	6	8	12	6	100.0%
Physical medicine and rehabilitation	1,265	1,276	1,293	1,324	1,351	86	6.8%
- Brain injury medicine *	3	3	7	9	13	10	333.3%
- Neuromuscular medicine	1	0	1	0	0	-1	-100.0%
- Spinal cord injury medicine	17	15	16	16	21	4	23.5%
- Pediatric rehabilitation	22	28	25	26	27	5	22.7%
- Sports medicine	18	21	24	22	28	10	55.6%
Plastic surgery	401	392	363	316	266	-135	-33.7%
Plastic surgery - integrated	501	574	663	748	829	328	65.5%
- Craniofacial surgery	8	10	9	9	4	-4	-50.0%
- Hand surgery	20	20	23	24	23	3	15.0%
Preventive medicine	326	332	355	353	351	25	7.7%
- Medical toxicology	5	4	3	5	4	-1	-20.0%
- Undersea and hyperbaric medicine	6	5	3	3	2	-4	-66.7%
Psychiatry	5,128	5,176	5,358	5,619	5,907	779	15.2%
- Addiction psychiatry	66	66	80	77	74	8	12.1%
- Child and adolescent psychiatry	853	820	826	840	865	12	1.4%
- Forensic psychiatry	69	66	72	63	79	10	14.5%
- Geriatric psychiatry	65	58	58	56	53	-12	-18.5%
- Consultation-liaison psychiatry	81	82	79	80	86	5	6.2%
Radiation oncology	705	721	733	749	767	62	8.8%
Radiology-diagnostic	4,652	4,676	4,740	4,769	4,760	108	2.3%
- Abdominal radiology	47	44	45	46	44	-3	-6.4%
- Endovascular surgical neuroradiology	4	4	5	6	6	2	50.0%
- Musculoskeletal radiology	33	33	30	33	32	-1	-3.0%
- Neuroradiology	259	245	256	265	269	10	3.9%
- Nuclear radiology	15	16	13	12	11	-4	-26.7%
- Pediatric radiology	88	88	79	65	55	-33	-37.5%
- Vascular and interventional radiology	259	260	275	284	290	31	12.0%
Interventional radiology - integrated *				13	60	47	361.5%
Surgery	7,720	7,732	7,834	8,184	8,475	755	9.8%
- Complex general surgical oncology	97	104	101	105	107	10	10.3%
- Hand surgery	8	8	8	8	8	0	0.0%
- Pediatric surgery	83	83	82	83	80	-3	-3.6%
- Surgical critical care	211	218	236	248	253	42	19.9%
- Vascular surgery	248	248	233	241	246	-2	-0.8%
Vascular surgery - integrated	171	205	234	260	272	101	59.1%
Thoracic surgery	208	216	223	224	223	15	7.2%
- Congenital cardiac surgery	8	8	10	5	9	1	12.5%
Thoracic surgery - integrated	85	117	138	161	183	98	115.3%
Urology	1,146	1,177	1,254	1,276	1,304	158	13.8%
- Female pelvic medicine and reconstructive surgery	27	27	28	29	34	7	25.9%
- Pediatric urology	23	26	25	25	24	1	4.3%
Transitional year	1,179	1,089	1,077	1,110	1,320	141	12.0%
Internal medicine/Pediatrics	1,450	1,458	1,464	1,483	1,492	42	2.9%

Notes: Pipeline specialties are highlighted. Asterisks (*) indicate specialties and subspecialties added within the last five years. For these specialties and subspecialties, the number and percent change are calculated from the first year of having active residents.

TABLE C.7				
Number of Active Part-Time Residents by Specialty and Subspecialty				
Specialty	Total Residents	Number of Part-Time Residents	Percent of All Residents in Specialty	Percent of All Part-Time Residents
OVERALL	135,326	263	0.2%	100.0%
TOTAL PIPELINE	109,822	180	0.2%	68.4%
Allergy and immunology	296	8	2.7%	3.0%
Anesthesiology	6,346	3	0.0%	1.1%
- Adult cardiothoracic anesthesiology	207	0	0.0%	0.0%
- Clinical informatics	2	0	0.0%	0.0%
- Critical care medicine	181	0	0.0%	0.0%
- Regional anesthesiology and acute pain medicine	48	1	2.1%	0.4%
- Obstetric anesthesiology	39	0	0.0%	0.0%
- Pain medicine (multidisciplinary)	361	3	0.8%	1.1%
- Pediatric anesthesiology	205	0	0.0%	0.0%
Colon and rectal surgery	97	0	0.0%	0.0%
Dermatology	1,517	3	0.2%	1.1%
- Dermatopathology (multidisciplinary)	72	0	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	83	0	0.0%	0.0%
Emergency medicine	7,461	9	0.1%	3.4%
- Clinical informatics	4	0	0.0%	0.0%
- Emergency medical services	46	1	2.2%	0.4%
- Medical toxicology	63	0	0.0%	0.0%
- Pediatric emergency medicine	119	0	0.0%	0.0%
- Sports medicine	16	0	0.0%	0.0%
- Undersea and hyperbaric medicine	8	0	0.0%	0.0%
Family medicine	12,161	21	0.2%	8.0%
- Clinical informatics	8	0	0.0%	0.0%
- Geriatric medicine	41	1	2.4%	0.4%
- Hospice and palliative medicine (multidisciplinary)	333	9	2.7%	3.4%
- Sports medicine	229	2	0.9%	0.8%
Internal medicine	27,647	44	0.2%	16.7%
- Adult congenital heart disease	14	0	0.0%	0.0%
- Advanced heart failure and transplant cardiology	98	0	0.0%	0.0%
- Cardiovascular disease	2,918	2	0.1%	0.8%
- Clinical cardiac electrophysiology	185	1	0.5%	0.4%
- Clinical informatics	34	0	0.0%	0.0%
- Critical care medicine	238	0	0.0%	0.0%
- Endocrinology, diabetes, and metabolism	645	0	0.0%	0.0%
- Gastroenterology	1,656	8	0.5%	3.0%
- Geriatric medicine	274	5	1.8%	1.9%
- Hematology	16	0	0.0%	0.0%
- Hematology and medical oncology	1,745	7	0.4%	2.7%
- Infectious disease	715	1	0.1%	0.4%
- Interventional cardiology	318	1	0.3%	0.4%
- Nephrology	808	1	0.1%	0.4%
- Medical oncology	34	0	0.0%	0.0%
- Pulmonary disease	73	0	0.0%	0.0%
- Pulmonary disease and critical care medicine	1,812	1	0.1%	0.4%
- Rheumatology	477	0	0.0%	0.0%
- Sleep medicine (multidisciplinary)	164	1	0.6%	0.4%
- Transplant hepatology	46	0	0.0%	0.0%
Medical genetics and genomics	70	0	0.0%	0.0%
- Medical biochemical genetics	12	0	0.0%	0.0%
- Molecular genetic pathology (multidisciplinary)	56	0	0.0%	0.0%
Neurological surgery	1,408	1	0.1%	0.4%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%

TABLE C.7 Continued

Number of Active Part-Time Residents by Specialty and Subspecialty				
Specialty	Total Residents	Number of Part-Time Residents	Percent of All Residents in Specialty	Percent of All Part-Time Residents
Neurology	2,750	5	0.2%	1.9%
- Brain injury medicine	1	0	0.0%	0.0%
- Clinical neurophysiology	171	0	0.0%	0.0%
- Epilepsy	101	0	0.0%	0.0%
- Endovascular surgical neuroradiology	1	0	0.0%	0.0%
- Neurodevelopmental disabilities	28	1	3.6%	0.4%
- Neuromuscular medicine	55	0	0.0%	0.0%
- Vascular neurology	115	1	0.9%	0.4%
Child neurology	373	0	0.0%	0.0%
Nuclear medicine	71	0	0.0%	0.0%
Obstetrics and gynecology	5,473	6	0.1%	2.3%
- Female pelvic medicine and reconstructive surgery	142	0	0.0%	0.0%
- Gynecologic oncology	187	0	0.0%	0.0%
- Maternal-fetal medicine	322	1	0.3%	0.4%
- Reproductive endocrinology and infertility	160	0	0.0%	0.0%
Ophthalmology	1,474	3	0.2%	1.1%
- Ophthalmic plastic and reconstructive surgery	5	0	0.0%	0.0%
Orthopaedic surgery	3,941	3	0.1%	1.1%
- Adult reconstructive orthopaedics	40	0	0.0%	0.0%
- Foot and ankle orthopaedics	14	0	0.0%	0.0%
- Hand surgery	151	0	0.0%	0.0%
- Musculoskeletal oncology	17	0	0.0%	0.0%
- Orthopaedic sports medicine	204	0	0.0%	0.0%
- Orthopaedic surgery of the spine	32	0	0.0%	0.0%
- Orthopaedic trauma	18	0	0.0%	0.0%
- Pediatric orthopaedics	39	0	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine	21	0	0.0%	0.0%
Otolaryngology	1,592	3	0.2%	1.1%
- Neurotology	29	0	0.0%	0.0%
- Pediatric otolaryngology	34	0	0.0%	0.0%
Pathology-anatomic and clinical	2,341	2	0.1%	0.8%
- Blood banking/transfusion medicine	49	1	2.0%	0.4%
- Clinical informatics	11	0	0.0%	0.0%
- Chemical pathology	1	0	0.0%	0.0%
- Cytopathology	138	0	0.0%	0.0%
- Forensic pathology	43	0	0.0%	0.0%
- Hematopathology	125	0	0.0%	0.0%
- Medical microbiology	10	0	0.0%	0.0%
- Neuropathology	48	0	0.0%	0.0%
- Pediatric pathology	17	0	0.0%	0.0%
- Selective pathology	168	0	0.0%	0.0%
Pediatrics	9,159	16	0.2%	6.1%
- Adolescent medicine	88	0	0.0%	0.0%
- Child abuse pediatrics	34	0	0.0%	0.0%
- Clinical informatics	10	0	0.0%	0.0%
- Developmental-behavioral pediatrics	108	1	0.9%	0.4%
- Neonatal-perinatal medicine	759	2	0.3%	0.8%
- Pediatric cardiology	434	2	0.5%	0.8%
- Pediatric critical care medicine	518	4	0.8%	1.5%
- Pediatric emergency medicine	392	2	0.5%	0.8%
- Pediatric endocrinology	241	0	0.0%	0.0%
- Pediatric gastroenterology	300	0	0.0%	0.0%
- Pediatric hematology/oncology	501	1	0.2%	0.4%

TABLE C.7 Continued

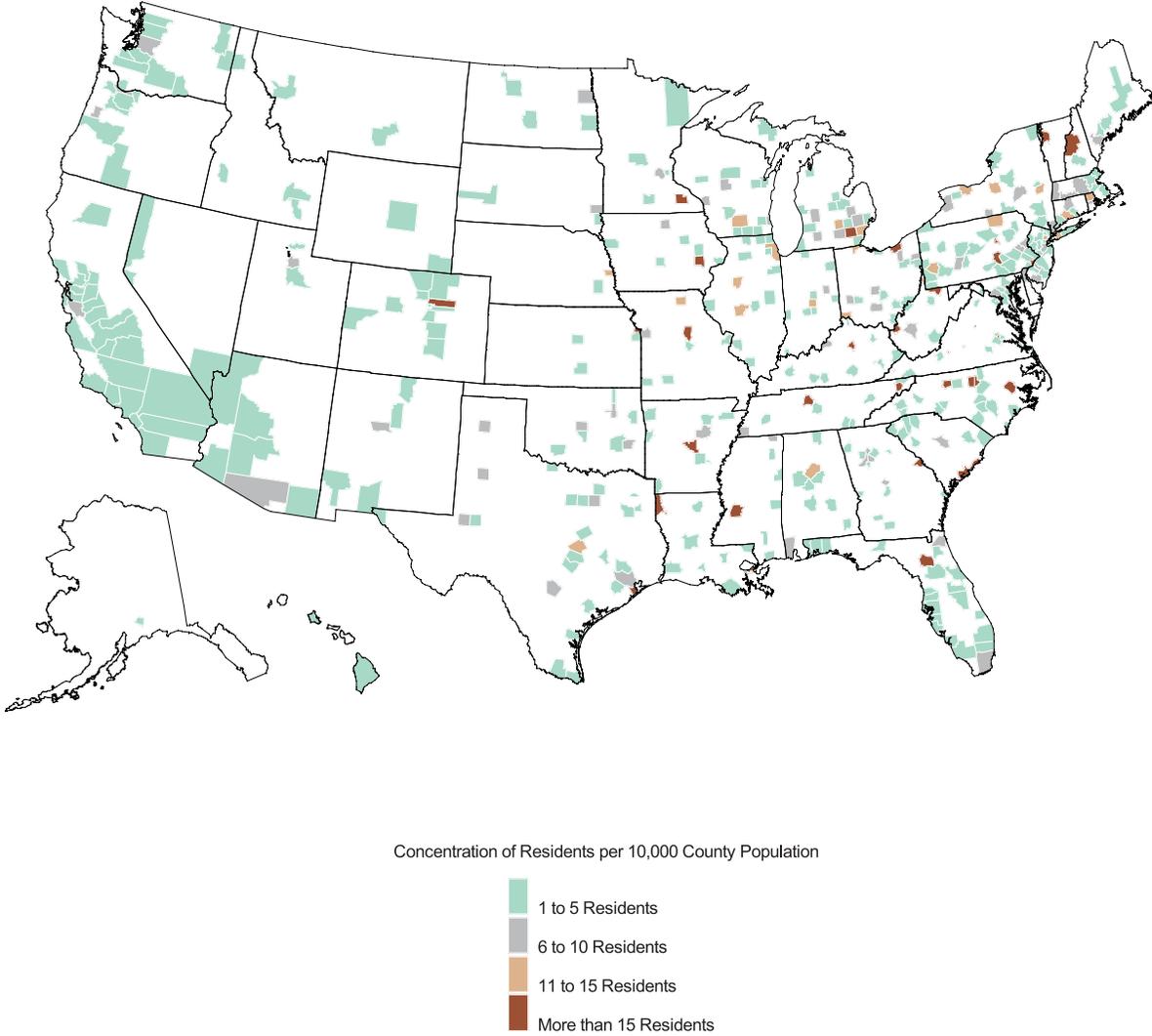
Number of Active Part-Time Residents by Specialty and Subspecialty

Specialty	Total Residents	Number of Part-Time Residents	Percent of All Residents in Specialty	Percent of All Part-Time Residents
- Pediatric infectious diseases	171	0	0.0%	0.0%
- Pediatric nephrology	101	0	0.0%	0.0%
- Pediatric pulmonology	158	0	0.0%	0.0%
- Pediatric rheumatology	86	0	0.0%	0.0%
- Pediatric sports medicine	26	0	0.0%	0.0%
- Pediatric transplant hepatology	12	0	0.0%	0.0%
Physical medicine and rehabilitation	1,351	2	0.1%	0.8%
- Brain injury medicine	13	0	0.0%	0.0%
- Neuromuscular medicine	0	0	N/A	0.0%
- Spinal cord injury medicine	21	0	0.0%	0.0%
- Pediatric rehabilitation	27	0	0.0%	0.0%
- Sports medicine	28	0	0.0%	0.0%
Plastic surgery	266	0	0.0%	0.0%
Plastic surgery - integrated	829	0	0.0%	0.0%
- Craniofacial surgery	4	0	0.0%	0.0%
- Hand surgery	23	0	0.0%	0.0%
Preventive medicine	351	3	0.9%	1.1%
- Medical toxicology	4	0	0.0%	0.0%
- Undersea and hyperbaric medicine	2	0	0.0%	0.0%
Psychiatry	5,907	26	0.4%	9.9%
- Addiction psychiatry	74	4	5.4%	1.5%
- Child and adolescent psychiatry	865	3	0.3%	1.1%
- Forensic psychiatry	79	0	0.0%	0.0%
- Geriatric psychiatry	53	2	3.8%	0.8%
- Consultation-liaison psychiatry	86	0	0.0%	0.0%
Radiation oncology	767	0	0.0%	0.0%
Radiology-diagnostic	4,760	12	0.3%	4.6%
- Abdominal radiology	44	0	0.0%	0.0%
- Endovascular surgical neuroradiology	6	0	0.0%	0.0%
- Musculoskeletal radiology	32	0	0.0%	0.0%
- Neuroradiology	269	0	0.0%	0.0%
- Nuclear radiology	11	0	0.0%	0.0%
- Pediatric radiology	55	1	1.8%	0.4%
- Vascular and interventional radiology	290	0	0.0%	0.0%
Interventional radiology - integrated	60	0	0.0%	0.0%
Surgery	8,475	11	0.1%	4.2%
- Complex general surgical oncology	107	0	0.0%	0.0%
- Hand surgery	8	0	0.0%	0.0%
- Pediatric surgery	80	0	0.0%	0.0%
- Surgical critical care	253	4	1.6%	1.5%
- Vascular surgery	246	0	0.0%	0.0%
Vascular surgery - integrated	272	1	0.4%	0.4%
Thoracic surgery	223	0	0.0%	0.0%
- Congenital cardiac surgery	9	0	0.0%	0.0%
Thoracic surgery - integrated	183	0	0.0%	0.0%
Urology	1,304	4	0.3%	1.5%
- Female pelvic medicine and reconstructive surgery	34	0	0.0%	0.0%
- Pediatric urology	24	0	0.0%	0.0%
Transitional year	1,320	0	0.0%	0.0%
Internal medicine/Pediatrics	1,492	2	0.1%	0.8%

Note: Pipeline specialties are highlighted.

FIGURE C.8

Geographic Distribution of Active Residents



Sources: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018; SAS Enterprise Guide Software, Version 7.11.

TABLE C.9					
Number of Active Residents and Active Resident Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Residents	Percent of All Residents	Residents per 100,000 Pop
OVERALL	--	329,056,355	135,326	100.0%	41.13
Alabama	AL	4,874,747	1,440	1.1%	29.54
Alaska	AK	739,795	36	0.0%	4.87
Arizona	AZ	7,016,270	1,818	1.3%	25.91
Arkansas	AR	3,004,279	861	0.6%	28.66
California	CA	39,536,653	12,150	9.0%	30.73
Colorado	CO	5,607,154	1,565	1.2%	27.91
Connecticut	CT	3,588,184	2,420	1.8%	67.44
Delaware	DE	961,939	349	0.3%	36.28
District of Columbia	DC	693,972	1,722	1.3%	248.14
Florida	FL	20,984,400	5,856	4.3%	27.91
Georgia	GA	10,429,379	2,590	1.9%	24.83
Hawaii	HI	1,427,538	454	0.3%	31.80
Idaho	ID	1,716,943	129	0.1%	7.51
Illinois	IL	12,802,023	6,503	4.8%	50.80
Indiana	IN	6,666,818	1,456	1.1%	21.84
Iowa	IA	3,145,711	967	0.7%	30.74
Kansas	KS	2,913,123	819	0.6%	28.11
Kentucky	KY	4,454,189	1,402	1.0%	31.48
Louisiana	LA	4,684,333	2,123	1.6%	45.32
Maine	ME	1,335,907	337	0.2%	25.23
Maryland	MD	6,052,177	3,292	2.4%	54.39
Massachusetts	MA	6,859,819	5,628	4.2%	82.04
Michigan	MI	9,962,311	6,783	5.0%	68.09
Minnesota	MN	5,576,606	2,308	1.7%	41.39
Mississippi	MS	2,984,100	752	0.6%	25.20
Missouri	MO	6,113,532	3,014	2.2%	49.30
Montana	MT	1,050,493	86	0.1%	8.19
Nebraska	NE	1,920,076	793	0.6%	41.30
Nevada	NV	2,998,039	629	0.5%	20.98
New Hampshire	NH	1,342,795	423	0.3%	31.50
New Jersey	NJ	9,005,644	3,358	2.5%	37.29
New Mexico	NM	2,088,070	628	0.5%	30.08
New York	NY	19,849,399	17,519	12.9%	88.26
North Carolina	NC	10,273,419	3,575	2.6%	34.80
North Dakota	ND	755,393	155	0.1%	20.52
Ohio	OH	11,658,609	6,848	5.1%	58.74
Oklahoma	OK	3,930,864	1,121	0.8%	28.52
Oregon	OR	4,142,776	1,010	0.7%	24.38
Pennsylvania	PA	12,805,537	8,720	6.4%	68.10
Puerto Rico	PR	3,337,177	935	0.7%	28.02
Rhode Island	RI	1,059,639	849	0.6%	80.12
South Carolina	SC	5,024,369	1,459	1.1%	29.04
South Dakota	SD	869,666	152	0.1%	17.48
Tennessee	TN	6,715,984	2,562	1.9%	38.15
Texas	TX	28,304,596	8,963	6.6%	31.67
Utah	UT	3,101,833	820	0.6%	26.44
Vermont	VT	623,657	317	0.2%	50.83
Virginia	VA	8,470,020	2,666	2.0%	31.48
Washington	WA	7,405,743	2,102	1.6%	28.38
West Virginia	WV	1,815,857	869	0.6%	47.86
Wisconsin	WI	5,795,483	1,951	1.4%	33.66
Wyoming	WY	579,315	42	0.0%	7.25

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE C.10

Number of Active Specialty Residents and Active Specialty Resident Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Specialty Residents	Percent of All Specialty Residents	Specialty Residents per 100,000 Pop
OVERALL	--	329,056,355	111,758	100.0%	33.96
Alabama	AL	4,874,747	1,199	1.1%	24.60
Alaska	AK	739,795	35	0.0%	4.73
Arizona	AZ	7,016,270	1,548	1.4%	22.06
Arkansas	AR	3,004,279	732	0.7%	24.37
California	CA	39,536,653	9,919	8.9%	25.09
Colorado	CO	5,607,154	1,261	1.1%	22.49
Connecticut	CT	3,588,184	1,986	1.8%	55.35
Delaware	DE	961,939	299	0.3%	31.08
District of Columbia	DC	693,972	1,375	1.2%	198.13
Florida	FL	20,984,400	4,950	4.4%	23.59
Georgia	GA	10,429,379	2,159	1.9%	20.70
Hawaii	HI	1,427,538	421	0.4%	29.49
Idaho	ID	1,716,943	127	0.1%	7.40
Illinois	IL	12,802,023	5,525	4.9%	43.16
Indiana	IN	6,666,818	1,235	1.1%	18.52
Iowa	IA	3,145,711	803	0.7%	25.53
Kansas	KS	2,913,123	721	0.6%	24.75
Kentucky	KY	4,454,189	1,159	1.0%	26.02
Louisiana	LA	4,684,333	1,820	1.6%	38.85
Maine	ME	1,335,907	301	0.3%	22.53
Maryland	MD	6,052,177	2,548	2.3%	42.10
Massachusetts	MA	6,859,819	4,312	3.9%	62.86
Michigan	MI	9,962,311	5,885	5.3%	59.07
Minnesota	MN	5,576,606	1,794	1.6%	32.17
Mississippi	MS	2,984,100	641	0.6%	21.48
Missouri	MO	6,113,532	2,400	2.1%	39.26
Montana	MT	1,050,493	85	0.1%	8.09
Nebraska	NE	1,920,076	675	0.6%	35.15
Nevada	NV	2,998,039	575	0.5%	19.18
New Hampshire	NH	1,342,795	342	0.3%	25.47
New Jersey	NJ	9,005,644	2,977	2.7%	33.06
New Mexico	NM	2,088,070	506	0.5%	24.23
New York	NY	19,849,399	14,435	12.9%	72.72
North Carolina	NC	10,273,419	2,848	2.5%	27.72
North Dakota	ND	755,393	152	0.1%	20.12
Ohio	OH	11,658,609	5,587	5.0%	47.92
Oklahoma	OK	3,930,864	990	0.9%	25.19
Oregon	OR	4,142,776	831	0.7%	20.06
Pennsylvania	PA	12,805,537	7,055	6.3%	55.09
Puerto Rico	PR	3,337,177	812	0.7%	24.33
Rhode Island	RI	1,059,639	675	0.6%	63.70
South Carolina	SC	5,024,369	1,246	1.1%	24.80
South Dakota	SD	869,666	139	0.1%	15.98
Tennessee	TN	6,715,984	2,073	1.9%	30.87
Texas	TX	28,304,596	7,250	6.5%	25.61
Utah	UT	3,101,833	633	0.6%	20.41
Vermont	VT	623,657	256	0.2%	41.05
Virginia	VA	8,470,020	2,279	2.0%	26.91
Washington	WA	7,405,743	1,750	1.6%	23.63
West Virginia	WV	1,815,857	789	0.7%	43.45
Wisconsin	WI	5,795,483	1,601	1.4%	27.62
Wyoming	WY	579,315	42	0.0%	7.25

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE C.11

Number of Active Subspecialty Residents and Active Subspecialty Resident Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Subspecialty Residents	Percent of All Subspecialty Residents	Subspecialty Residents per 100,000 Pop
OVERALL	--	329,056,355	23,568	100.0%	7.16
Alabama	AL	4,874,747	241	1.0%	4.94
Alaska	AK	739,795	1	0.0%	0.14
Arizona	AZ	7,016,270	270	1.1%	3.85
Arkansas	AR	3,004,279	129	0.5%	4.29
California	CA	39,536,653	2,231	9.5%	5.64
Colorado	CO	5,607,154	304	1.3%	5.42
Connecticut	CT	3,588,184	434	1.8%	12.10
Delaware	DE	961,939	50	0.2%	5.20
District of Columbia	DC	693,972	347	1.5%	50.00
Florida	FL	20,984,400	906	3.8%	4.32
Georgia	GA	10,429,379	431	1.8%	4.13
Hawaii	HI	1,427,538	33	0.1%	2.31
Idaho	ID	1,716,943	2	0.0%	0.12
Illinois	IL	12,802,023	978	4.1%	7.64
Indiana	IN	6,666,818	221	0.9%	3.31
Iowa	IA	3,145,711	164	0.7%	5.21
Kansas	KS	2,913,123	98	0.4%	3.36
Kentucky	KY	4,454,189	243	1.0%	5.46
Louisiana	LA	4,684,333	303	1.3%	6.47
Maine	ME	1,335,907	36	0.2%	2.69
Maryland	MD	6,052,177	744	3.2%	12.29
Massachusetts	MA	6,859,819	1,316	5.6%	19.18
Michigan	MI	9,962,311	898	3.8%	9.01
Minnesota	MN	5,576,606	514	2.2%	9.22
Mississippi	MS	2,984,100	111	0.5%	3.72
Missouri	MO	6,113,532	614	2.6%	10.04
Montana	MT	1,050,493	1	0.0%	0.10
Nebraska	NE	1,920,076	118	0.5%	6.15
Nevada	NV	2,998,039	54	0.2%	1.80
New Hampshire	NH	1,342,795	81	0.3%	6.03
New Jersey	NJ	9,005,644	381	1.6%	4.23
New Mexico	NM	2,088,070	122	0.5%	5.84
New York	NY	19,849,399	3,084	13.1%	15.54
North Carolina	NC	10,273,419	727	3.1%	7.08
North Dakota	ND	755,393	3	0.0%	0.40
Ohio	OH	11,658,609	1,261	5.4%	10.82
Oklahoma	OK	3,930,864	131	0.6%	3.33
Oregon	OR	4,142,776	179	0.8%	4.32
Pennsylvania	PA	12,805,537	1,665	7.1%	13.00
Puerto Rico	PR	3,337,177	123	0.5%	3.69
Rhode Island	RI	1,059,639	174	0.7%	16.42
South Carolina	SC	5,024,369	213	0.9%	4.24
South Dakota	SD	869,666	13	0.1%	1.49
Tennessee	TN	6,715,984	489	2.1%	7.28
Texas	TX	28,304,596	1,713	7.3%	6.05
Utah	UT	3,101,833	187	0.8%	6.03
Vermont	VT	623,657	61	0.3%	9.78
Virginia	VA	8,470,020	387	1.6%	4.57
Washington	WA	7,405,743	352	1.5%	4.75
West Virginia	WV	1,815,857	80	0.3%	4.41
Wisconsin	WI	5,795,483	350	1.5%	6.04
Wyoming	WY	579,315	0	0.0%	0.0

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE C.12

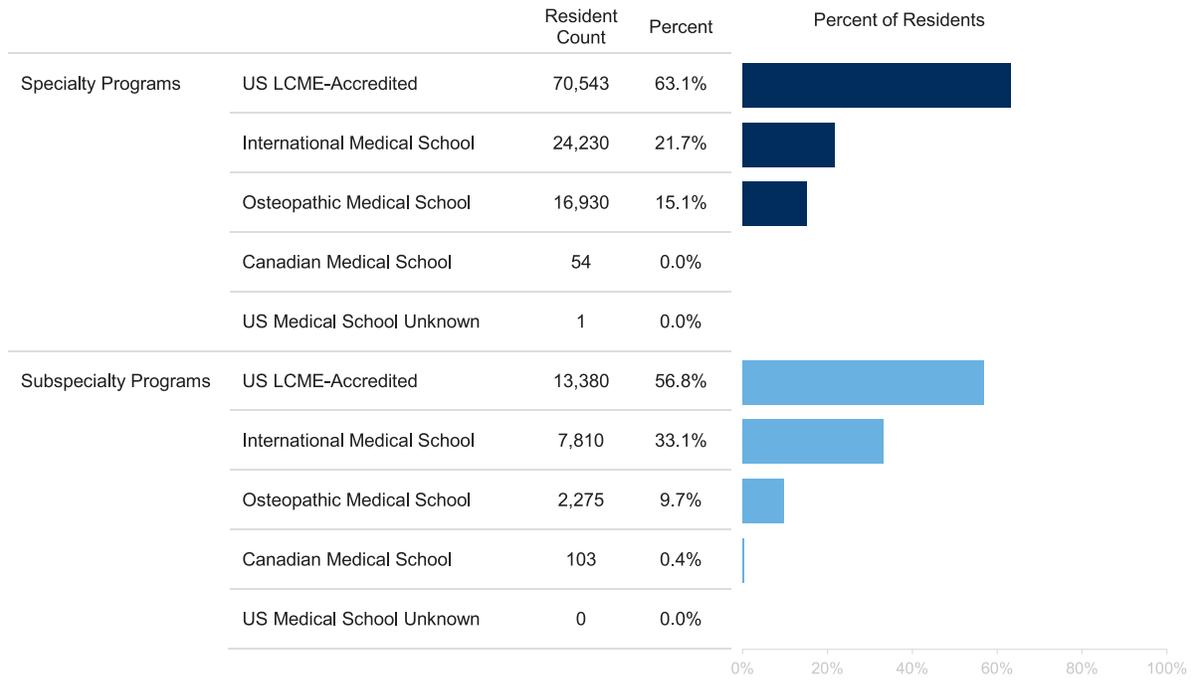
Number of Active Pipeline Residents and Active Pipeline Resident Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Pipeline Residents	Percent of All Pipeline Residents	Pipeline Residents per 100,000 Pop
OVERALL	--	329,056,355	109,822	100.0%	33.37
Alabama	AL	4,874,747	1,176	1.1%	24.12
Alaska	AK	739,795	35	0.0%	4.73
Arizona	AZ	7,016,270	1,521	1.4%	21.68
Arkansas	AR	3,004,279	727	0.7%	24.20
California	CA	39,536,653	9,770	8.9%	24.71
Colorado	CO	5,607,154	1,220	1.1%	21.76
Connecticut	CT	3,588,184	1,971	1.8%	54.93
Delaware	DE	961,939	291	0.3%	30.25
District of Columbia	DC	693,972	1,374	1.3%	197.99
Florida	FL	20,984,400	4,810	4.4%	22.92
Georgia	GA	10,429,379	2,087	1.9%	20.01
Hawaii	HI	1,427,538	400	0.4%	28.02
Idaho	ID	1,716,943	127	0.1%	7.40
Illinois	IL	12,802,023	5,431	4.9%	42.42
Indiana	IN	6,666,818	1,187	1.1%	17.80
Iowa	IA	3,145,711	789	0.7%	25.08
Kansas	KS	2,913,123	716	0.7%	24.58
Kentucky	KY	4,454,189	1,153	1.0%	25.89
Louisiana	LA	4,684,333	1,804	1.6%	38.51
Maine	ME	1,335,907	301	0.3%	22.53
Maryland	MD	6,052,177	2,483	2.3%	41.03
Massachusetts	MA	6,859,819	4,229	3.9%	61.65
Michigan	MI	9,962,311	5,691	5.2%	57.13
Minnesota	MN	5,576,606	1,753	1.6%	31.43
Mississippi	MS	2,984,100	635	0.6%	21.28
Missouri	MO	6,113,532	2,370	2.2%	38.77
Montana	MT	1,050,493	85	0.1%	8.09
Nebraska	NE	1,920,076	672	0.6%	35.00
Nevada	NV	2,998,039	563	0.5%	18.78
New Hampshire	NH	1,342,795	342	0.3%	25.47
New Jersey	NJ	9,005,644	2,971	2.7%	32.99
New Mexico	NM	2,088,070	506	0.5%	24.23
New York	NY	19,849,399	14,274	13.0%	71.91
North Carolina	NC	10,273,419	2,807	2.6%	27.32
North Dakota	ND	755,393	144	0.1%	19.06
Ohio	OH	11,658,609	5,487	5.0%	47.06
Oklahoma	OK	3,930,864	990	0.9%	25.19
Oregon	OR	4,142,776	828	0.8%	19.99
Pennsylvania	PA	12,805,537	6,941	6.3%	54.20
Puerto Rico	PR	3,337,177	772	0.7%	23.13
Rhode Island	RI	1,059,639	673	0.6%	63.51
South Carolina	SC	5,024,369	1,222	1.1%	24.32
South Dakota	SD	869,666	133	0.1%	15.29
Tennessee	TN	6,715,984	2,040	1.9%	30.38
Texas	TX	28,304,596	7,150	6.5%	25.26
Utah	UT	3,101,833	618	0.6%	19.92
Vermont	VT	623,657	256	0.2%	41.05
Virginia	VA	8,470,020	2,229	2.0%	26.32
Washington	WA	7,405,743	1,698	1.5%	22.93
West Virginia	WV	1,815,857	777	0.7%	42.79
Wisconsin	WI	5,795,483	1,551	1.4%	26.76
Wyoming	WY	579,315	42	0.0%	7.25

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

FIGURE C.13

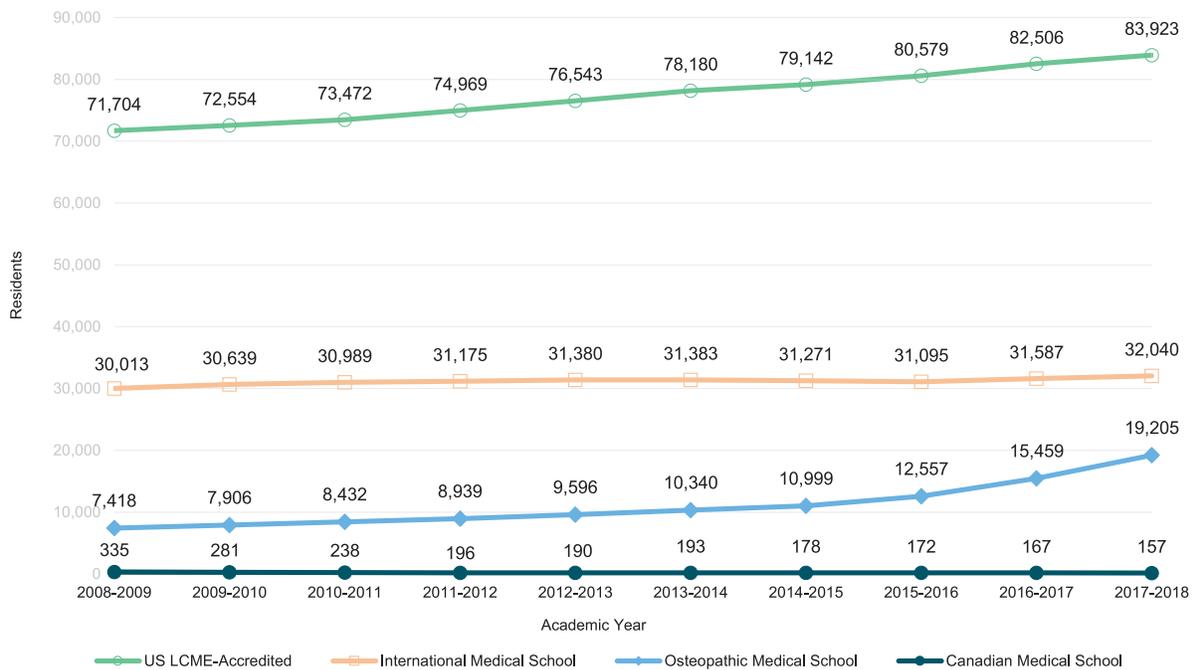
Number of Active Residents by Medical School Type



Notes: Total number of active residents in specialty programs = 111,758. Total number of active residents in subspecialty programs = 23,568.

FIGURE C.14

Number of Active Residents by Medical School Type and Academic Year, 2008-2009 to 2017-2018



Note: Not shown are those graduates for which the specific U.S. medical school is unknown. This number has been fewer than 13 per year for the past five years. Abbreviations: LCME, Liaison Committee on Medical Education.

TABLE C.15

Number of Active Residents by Specialty and Subspecialty and Medical School Type

Specialty	Total Residents	USLCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	135,326	83,923	62.0%	32,040	23.7%	19,205	14.2%	157	0.1%	1	0.0%
TOTAL PIPELINE	109,822	69,148	63.0%	23,996	21.8%	16,629	15.1%	48	0.0%	1	0.0%
Allergy and immunology	296	215	72.6%	50	16.9%	31	10.5%	0	0.0%	0	0.0%
Anesthesiology	6,346	4,613	72.7%	816	12.9%	915	14.4%	2	0.0%	0	0.0%
- Adult cardiothoracic anesthesiology	207	150	72.5%	26	12.6%	30	14.5%	1	0.5%	0	0.0%
- Clinical informatics	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	181	131	72.4%	32	17.7%	18	9.9%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	48	38	79.2%	6	12.5%	3	6.3%	1	2.1%	0	0.0%
- Obstetric anesthesiology	39	32	82.1%	5	12.8%	1	2.6%	1	2.6%	0	0.0%
- Pain medicine (multidisciplinary)	361	248	68.7%	55	15.2%	56	15.5%	2	0.6%	0	0.0%
- Pediatric anesthesiology	205	153	74.6%	25	12.2%	25	12.2%	2	1.0%	0	0.0%
Colon and rectal surgery	97	73	75.3%	18	18.6%	5	5.2%	1	1.0%	0	0.0%
Dermatology	1,517	1,302	85.8%	53	3.5%	162	10.7%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	72	50	69.4%	16	22.2%	5	6.9%	1	1.4%	0	0.0%
- Micrographic surgery and dermatologic oncology	83	76	91.6%	2	2.4%	5	6.0%	0	0.0%	0	0.0%
Emergency medicine	7,461	5,283	70.8%	376	5.0%	1,799	24.1%	3	0.0%	0	0.0%
- Clinical informatics	4	3	75.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	46	35	76.1%	8	17.4%	3	6.5%	0	0.0%	0	0.0%
- Medical toxicology	63	43	68.3%	14	22.2%	6	9.5%	0	0.0%	0	0.0%
- Pediatric emergency medicine	119	67	56.3%	38	31.9%	14	11.8%	0	0.0%	0	0.0%
- Sports medicine	16	7	43.8%	3	18.8%	6	37.5%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	3	37.5%	3	37.5%	1	12.5%	1	12.5%	0	0.0%
Family medicine	12,161	5,291	43.5%	3,366	27.7%	3,498	28.8%	6	0.0%	0	0.0%
- Clinical informatics	8	5	62.5%	2	25.0%	1	12.5%	0	0.0%	0	0.0%
- Geriatric medicine	41	18	43.9%	17	41.5%	6	14.6%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	333	215	64.6%	83	24.9%	33	9.9%	2	0.6%	0	0.0%
- Sports medicine	229	101	44.1%	47	20.5%	81	35.4%	0	0.0%	0	0.0%
Internal medicine	27,647	12,935	46.8%	10,609	38.4%	4,089	14.8%	14	0.1%	0	0.0%
- Adult congenital heart disease	14	9	64.3%	3	21.4%	1	7.1%	1	7.1%	0	0.0%
- Advanced heart failure and transplant cardiology	98	55	56.1%	33	33.7%	8	8.2%	2	2.0%	0	0.0%
- Cardiovascular disease	2,918	1,467	50.3%	1,143	39.2%	306	10.5%	2	0.1%	0	0.0%
- Clinical cardiac electrophysiology	185	97	52.4%	70	37.8%	16	8.6%	2	1.1%	0	0.0%
- Clinical informatics	34	22	64.7%	10	29.4%	2	5.9%	0	0.0%	0	0.0%
- Critical care medicine	238	73	30.7%	126	52.9%	39	16.4%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	645	265	41.1%	340	52.7%	40	6.2%	0	0.0%	0	0.0%
- Gastroenterology	1,656	1,018	61.5%	492	29.7%	145	8.8%	1	0.1%	0	0.0%
- Geriatric medicine	274	105	38.3%	143	52.2%	26	9.5%	0	0.0%	0	0.0%
- Hematology	16	11	68.8%	5	31.3%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	1,745	937	53.7%	716	41.0%	90	5.2%	2	0.1%	0	0.0%
- Infectious disease	715	347	48.5%	294	41.1%	72	10.1%	2	0.3%	0	0.0%
- Interventional cardiology	318	134	42.1%	165	51.9%	18	5.7%	1	0.3%	0	0.0%
- Nephrology	808	184	22.8%	543	67.2%	79	9.8%	2	0.2%	0	0.0%
- Medical oncology	34	19	55.9%	14	41.2%	1	2.9%	0	0.0%	0	0.0%
- Pulmonary disease	73	6	8.2%	61	83.6%	6	8.2%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	1,812	889	49.1%	712	39.3%	210	11.6%	1	0.1%	0	0.0%
- Rheumatology	477	212	44.4%	205	43.0%	58	12.2%	2	0.4%	0	0.0%
- Sleep medicine (multidisciplinary)	164	58	35.4%	82	50.0%	24	14.6%	0	0.0%	0	0.0%
- Transplant hepatology	46	32	69.6%	12	26.1%	1	2.2%	1	2.2%	0	0.0%
Medical genetics and genomics	70	36	51.4%	28	40.0%	6	8.6%	0	0.0%	0	0.0%
- Medical biochemical genetics	12	7	58.3%	5	41.7%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	56	26	46.4%	27	48.2%	2	3.6%	1	1.8%	0	0.0%
Neurological surgery	1,408	1,268	90.1%	112	8.0%	26	1.8%	2	0.1%	0	0.0%
- Endovascular surgical neuroradiology	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

TABLE C.15 Continued

Number of Active Residents by Specialty and Subspecialty and Medical School Type

Specialty	Total Residents	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
		Neurology	2,750	1,494	54.3%	910	33.1%	345	12.5%	1	0.0%
- Brain injury medicine	1	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	171	80	46.8%	69	40.4%	19	11.1%	3	1.8%	0	0.0%
- Epilepsy	101	57	56.4%	38	37.6%	4	4.0%	2	2.0%	0	0.0%
- Endovascular surgical neuroradiology	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	28	22	78.6%	5	17.9%	1	3.6%	0	0.0%	0	0.0%
- Neuromuscular medicine	55	27	49.1%	24	43.6%	3	5.5%	1	1.8%	0	0.0%
- Vascular neurology	115	45	39.1%	62	53.9%	7	6.1%	1	0.9%	0	0.0%
Child neurology	373	260	69.7%	88	23.6%	25	6.7%	0	0.0%	0	0.0%
Nuclear medicine	71	17	23.9%	52	73.2%	2	2.8%	0	0.0%	0	0.0%
Obstetrics and gynecology	5,473	4,136	75.6%	516	9.4%	819	15.0%	1	0.0%	1	0.0%
- Female pelvic medicine and reconstructive surgery	142	116	81.7%	12	8.5%	14	9.9%	0	0.0%	0	0.0%
- Gynecologic oncology	187	161	86.1%	12	6.4%	13	7.0%	1	0.5%	0	0.0%
- Maternal-fetal medicine	322	255	79.2%	50	15.5%	17	5.3%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	160	130	81.3%	20	12.5%	9	5.6%	1	0.6%	0	0.0%
Ophthalmology	1,474	1,349	91.5%	57	3.9%	67	4.5%	1	0.1%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	5	4	80.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	3,941	3,599	91.3%	77	2.0%	265	6.7%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	40	32	80.0%	2	5.0%	4	10.0%	2	5.0%	0	0.0%
- Foot and ankle orthopaedics	14	9	64.3%	1	7.1%	2	14.3%	2	14.3%	0	0.0%
- Hand surgery	151	141	93.4%	3	2.0%	4	2.6%	3	2.0%	0	0.0%
- Musculoskeletal oncology	17	12	70.6%	4	23.5%	0	0.0%	1	5.9%	0	0.0%
- Orthopaedic sports medicine	204	167	81.9%	12	5.9%	21	10.3%	4	2.0%	0	0.0%
- Orthopaedic surgery of the spine	32	27	84.4%	3	9.4%	2	6.3%	0	0.0%	0	0.0%
- Orthopaedic trauma	18	15	83.3%	1	5.6%	0	0.0%	2	11.1%	0	0.0%
- Pediatric orthopaedics	39	29	74.4%	7	17.9%	1	2.6%	2	5.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	21	0	0.0%	0	0.0%	21	100.0%	0	0.0%	0	0.0%
Otolaryngology	1,592	1,500	94.2%	28	1.8%	64	4.0%	0	0.0%	0	0.0%
- Neurotology	29	27	93.1%	0	0.0%	0	0.0%	2	6.9%	0	0.0%
- Pediatric otolaryngology	34	30	88.2%	2	5.9%	0	0.0%	2	5.9%	0	0.0%
Pathology-anatomic and clinical	2,341	1,127	48.1%	1,012	43.2%	198	8.5%	4	0.2%	0	0.0%
- Blood banking/transfusion medicine	49	26	53.1%	20	40.8%	3	6.1%	0	0.0%	0	0.0%
- Clinical informatics	11	6	54.5%	3	27.3%	2	18.2%	0	0.0%	0	0.0%
- Chemical pathology	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	138	62	44.9%	62	44.9%	14	10.1%	0	0.0%	0	0.0%
- Forensic pathology	43	23	53.5%	11	25.6%	8	18.6%	1	2.3%	0	0.0%
- Hematopathology	125	53	42.4%	62	49.6%	8	6.4%	2	1.6%	0	0.0%
- Medical microbiology	10	8	80.0%	0	0.0%	1	10.0%	1	10.0%	0	0.0%
- Neuropathology	48	27	56.3%	16	33.3%	5	10.4%	0	0.0%	0	0.0%
- Pediatric pathology	17	8	47.1%	7	41.2%	1	5.9%	1	5.9%	0	0.0%
- Selective pathology	168	67	39.9%	79	47.0%	17	10.1%	5	3.0%	0	0.0%
Pediatrics	9,159	6,169	67.4%	1,725	18.8%	1,260	13.8%	5	0.1%	0	0.0%
- Adolescent medicine	88	70	79.5%	13	14.8%	4	4.5%	1	1.1%	0	0.0%
- Child abuse pediatrics	34	26	76.5%	4	11.8%	4	11.8%	0	0.0%	0	0.0%
- Clinical informatics	10	9	90.0%	0	0.0%	1	10.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	108	65	60.2%	26	24.1%	17	15.7%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	759	434	57.2%	218	28.7%	107	14.1%	0	0.0%	0	0.0%
- Pediatric cardiology	434	313	72.1%	93	21.4%	25	5.8%	3	0.7%	0	0.0%
- Pediatric critical care medicine	518	355	68.5%	113	21.8%	49	9.5%	1	0.2%	0	0.0%
- Pediatric emergency medicine	392	283	72.2%	71	18.1%	38	9.7%	0	0.0%	0	0.0%
- Pediatric endocrinology	241	131	54.4%	97	40.2%	12	5.0%	1	0.4%	0	0.0%
- Pediatric gastroenterology	300	183	61.0%	85	28.3%	32	10.7%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	501	346	69.1%	95	19.0%	59	11.8%	1	0.2%	0	0.0%

TABLE C.15 Continued

Number of Active Residents by Specialty and Subspecialty and Medical School Type

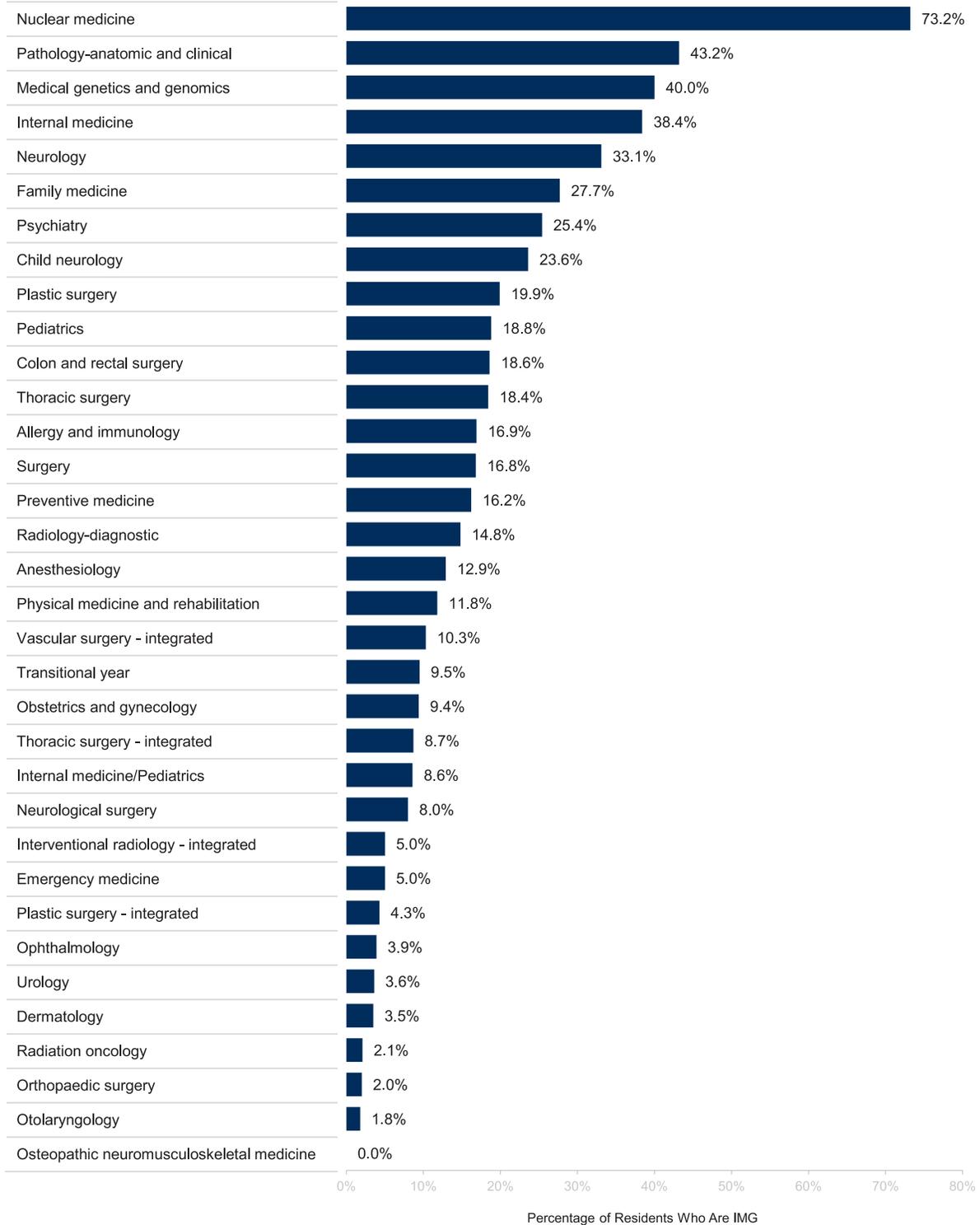
Specialty	Total Residents	USLCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric infectious diseases	171	103	60.2%	57	33.3%	11	6.4%	0	0.0%	0	0.0%
- Pediatric nephrology	101	52	51.5%	42	41.6%	7	6.9%	0	0.0%	0	0.0%
- Pediatric pulmonology	158	83	52.5%	58	36.7%	17	10.8%	0	0.0%	0	0.0%
- Pediatric rheumatology	86	55	64.0%	22	25.6%	9	10.5%	0	0.0%	0	0.0%
- Pediatric sports medicine	26	17	65.4%	4	15.4%	5	19.2%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	12	8	66.7%	4	33.3%	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	1,351	753	55.7%	159	11.8%	439	32.5%	0	0.0%	0	0.0%
- Brain injury medicine	13	6	46.2%	2	15.4%	4	30.8%	1	7.7%	0	0.0%
- Neuromuscular medicine	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
- Spinal cord injury medicine	21	11	52.4%	4	19.0%	6	28.6%	0	0.0%	0	0.0%
- Pediatric rehabilitation	27	17	63.0%	5	18.5%	5	18.5%	0	0.0%	0	0.0%
- Sports medicine	28	18	64.3%	2	7.1%	7	25.0%	1	3.6%	0	0.0%
Plastic surgery	266	204	76.7%	53	19.9%	9	3.4%	0	0.0%	0	0.0%
Plastic surgery - integrated	829	789	95.2%	36	4.3%	4	0.5%	0	0.0%	0	0.0%
- Craniofacial surgery	4	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	23	18	78.3%	0	0.0%	1	4.3%	4	17.4%	0	0.0%
Preventive medicine	351	235	67.0%	57	16.2%	58	16.5%	1	0.3%	0	0.0%
- Medical toxicology	4	3	75.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	2	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%
Psychiatry	5,907	3,452	58.4%	1,498	25.4%	953	16.1%	4	0.1%	0	0.0%
- Addiction psychiatry	74	39	52.7%	30	40.5%	5	6.8%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	865	450	52.0%	303	35.0%	111	12.8%	1	0.1%	0	0.0%
- Forensic psychiatry	79	50	63.3%	19	24.1%	9	11.4%	1	1.3%	0	0.0%
- Geriatric psychiatry	53	24	45.3%	25	47.2%	3	5.7%	1	1.9%	0	0.0%
- Consultation-liaison psychiatry	86	49	57.0%	26	30.2%	11	12.8%	0	0.0%	0	0.0%
Radiation oncology	767	732	95.4%	16	2.1%	19	2.5%	0	0.0%	0	0.0%
Radiology-diagnostic	4,760	3,518	73.9%	705	14.8%	535	11.2%	2	0.0%	0	0.0%
- Abdominal radiology	44	21	47.7%	17	38.6%	3	6.8%	3	6.8%	0	0.0%
- Endovascular surgical neuroradiology	6	3	50.0%	2	33.3%	0	0.0%	1	16.7%	0	0.0%
- Musculoskeletal radiology	32	27	84.4%	4	12.5%	0	0.0%	1	3.1%	0	0.0%
- Neuroradiology	269	206	76.6%	44	16.4%	17	6.3%	2	0.7%	0	0.0%
- Nuclear radiology	11	6	54.5%	5	45.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	55	40	72.7%	10	18.2%	5	9.1%	0	0.0%	0	0.0%
- Vascular and interventional radiology	290	236	81.4%	28	9.7%	25	8.6%	1	0.3%	0	0.0%
Interventional radiology - integrated	60	56	93.3%	3	5.0%	1	1.7%	0	0.0%	0	0.0%
Surgery	8,475	6,220	73.4%	1,425	16.8%	829	9.8%	1	0.0%	0	0.0%
- Complex general surgical oncology	107	87	81.3%	13	12.1%	3	2.8%	4	3.7%	0	0.0%
- Hand surgery	8	4	50.0%	1	12.5%	3	37.5%	0	0.0%	0	0.0%
- Pediatric surgery	80	71	88.8%	7	8.8%	0	0.0%	2	2.5%	0	0.0%
- Surgical critical care	253	198	78.3%	27	10.7%	27	10.7%	1	0.4%	0	0.0%
- Vascular surgery	246	175	71.1%	58	23.6%	12	4.9%	1	0.4%	0	0.0%
Vascular surgery - integrated	272	232	85.3%	28	10.3%	12	4.4%	0	0.0%	0	0.0%
Thoracic surgery	223	167	74.9%	41	18.4%	10	4.5%	5	2.2%	0	0.0%
- Congenital cardiac surgery	9	8	88.9%	1	11.1%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	183	161	88.0%	16	8.7%	6	3.3%	0	0.0%	0	0.0%
Urology	1,304	1,181	90.6%	47	3.6%	76	5.8%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	34	31	91.2%	1	2.9%	1	2.9%	1	2.9%	0	0.0%
- Pediatric urology	24	24	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Transitional year	1,320	940	71.2%	125	9.5%	255	19.3%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	1,492	1,236	82.8%	128	8.6%	127	8.5%	1	0.1%	0	0.0%

Note: Pipeline specialties are highlighted.

Abbreviations: LCME, Liaison Committee on Medical Education.

FIGURE C.16

Specialties Organized by Largest Percentages of Active Residents Who Are International Medical Graduates



Abbreviations: IMG, international medical school graduates.

TABLE C.17

Number of Active Residents by Medical School Type and State

State Name	State Abbreviation	Total Residents	Medical School Type				
			USLCME-Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
OVERALL	-	135,326	83,923	32,040	19,205	157	1
Alabama	AL	1,440	1,013	318	109	0	0
Alaska	AK	36	28	0	8	0	0
Arizona	AZ	1,818	1,141	362	314	1	0
Arkansas	AR	861	487	255	119	0	0
California	CA	12,150	9,628	1,251	1,240	31	0
Colorado	CO	1,565	1,235	64	266	0	0
Connecticut	CT	2,420	1,330	852	233	5	0
Delaware	DE	349	192	59	98	0	0
District of Columbia	DC	1,722	1,117	518	86	1	0
Florida	FL	5,856	2,946	1,731	1,175	4	0
Georgia	GA	2,590	1,714	625	251	0	0
Hawaii	HI	454	275	77	99	3	0
Idaho	ID	129	74	12	43	0	0
Illinois	IL	6,503	3,967	1,681	850	5	0
Indiana	IN	1,456	1,016	227	213	0	0
Iowa	IA	967	573	198	196	0	0
Kansas	KS	819	505	167	147	0	0
Kentucky	KY	1,402	874	285	243	0	0
Louisiana	LA	2,123	1,374	608	141	0	0
Maine	ME	337	193	44	98	2	0
Maryland	MD	3,292	2,333	698	256	5	0
Massachusetts	MA	5,628	4,174	1,177	251	26	0
Michigan	MI	6,783	2,899	1,910	1,972	2	0
Minnesota	MN	2,308	1,687	414	201	6	0
Mississippi	MS	752	442	133	177	0	0
Missouri	MO	3,014	1,963	646	403	2	0
Montana	MT	86	41	21	24	0	0
Nebraska	NE	793	465	215	113	0	0
Nevada	NV	629	245	201	183	0	0
New Hampshire	NH	423	304	82	37	0	0
New Jersey	NJ	3,358	1,006	1,613	739	0	0
New Mexico	NM	628	411	139	78	0	0
New York	NY	17,519	8,848	6,865	1,782	23	1
North Carolina	NC	3,575	2,773	396	400	6	0
North Dakota	ND	155	69	78	8	0	0
Ohio	OH	6,848	3,790	1,602	1,453	3	0
Oklahoma	OK	1,121	489	230	402	0	0
Oregon	OR	1,010	775	76	158	1	0
Pennsylvania	PA	8,720	5,083	1,958	1,664	15	0
Puerto Rico	PR	935	624	311	0	0	0
Rhode Island	RI	849	621	152	75	1	0
South Carolina	SC	1,459	1,078	174	207	0	0
South Dakota	SD	152	80	40	32	0	0
Tennessee	TN	2,562	1,845	482	233	2	0
Texas	TX	8,963	6,004	1,813	1,142	4	0
Utah	UT	820	701	67	51	1	0
Vermont	VT	317	247	47	22	1	0
Virginia	VA	2,666	1,782	412	471	1	0
Washington	WA	2,102	1,696	128	273	5	0
West Virginia	WV	869	411	251	207	0	0
Wisconsin	WI	1,951	1,351	358	241	1	0
Wyoming	WY	42	4	17	21	0	0

Abbreviations: LCME, Liaison Committee on Medical Education.

TABLE C.18						
Mean Age of Year 1 Residents by Specialty and Subspecialty and Medical School Type						
Specialty	OVERALL Age (Avg)	Medical School Type				
		USLCME-Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
OVERALL	30.7	30.1	32.3	30.4	33.2	26.0
TOTAL PIPELINE	29.7	29.1	31.1	29.8	31.1	26.0
Allergy and immunology	32.2	31.8	34.3	32.1		
Anesthesiology	29.6	29.1	31.2	30.3		
- Adult cardiothoracic anesthesiology	32.9	32.4	34.4	34.4	33.0	
- Clinical informatics	33.0	33.0				
- Critical care medicine	33.5	33.2	34.7	33.0		
- Regional anesthesiology and acute pain medicine	32.6	32.2	35.2	33.3	30.0	
- Obstetric anesthesiology	32.8	32.7	32.0	40.0	32.0	
- Pain medicine (multidisciplinary)	33.1	32.8	34.9	32.6	36.5	
- Pediatric anesthesiology	32.8	32.5	33.4	33.6	36.5	
Colon and rectal surgery	34.8	34.7	35.3	34.0	35.0	
Dermatology	29.9	29.7	35.5	29.9		
- Dermatopathology (multidisciplinary)	34.3	33.5	37.5	33.0	33.0	
- Micrographic surgery and dermatologic oncology	32.9	32.9	35.0	33.0		
Emergency medicine	29.5	29.2	30.4	30.0	33.0	
- Clinical informatics	31.8	31.7	32.0			
- Emergency medical services	33.1	33.1	32.8	34.0		
- Medical toxicology	33.4	33.5	32.8	33.6		
- Pediatric emergency medicine	32.6	32.2	33.4	33.8		
- Sports medicine	33.9	32.4	36.3	34.3		
- Undersea and hyperbaric medicine	33.5	33.3	32.3	37.0	34.0	
Family medicine	30.4	29.9	31.8	30.1	28.0	
- Clinical informatics	38.7		37.0	42.0		
- Geriatric medicine	35.1	33.9	36.6	34.5		
- Hospice and palliative medicine (multidisciplinary)	35.4	35.8	34.1	35.1	45.0	
- Sports medicine	32.7	32.5	33.7	32.4		
Internal medicine	29.5	28.8	30.4	29.5	28.8	
- Adult congenital heart disease	34.4	35.7	35.0		30.0	
- Advanced heart failure and transplant cardiology	35.1	34.6	36.4	34.5	32.5	
- Cardiovascular disease	31.8	31.3	32.6	32.0		
- Clinical cardiac electrophysiology	35.6	34.6	37.1	34.8	35.5	
- Clinical informatics	34.9	35.1	35.8	31.0		
- Critical care medicine	33.5	33.1	33.7	33.2		
- Endocrinology, diabetes, and metabolism	32.7	31.5	33.7	31.1		
- Gastroenterology	32.0	31.4	33.0	32.6		
- Geriatric medicine	34.1	33.4	34.5	34.5		
- Hematology	32.1	31.1	34.7			
- Hematology and medical oncology	32.6	32.2	33.1	32.3		
- Infectious disease	33.1	32.7	33.6	32.6	35.0	
- Interventional cardiology	35.1	34.7	35.5	34.6	31.0	
- Nephrology	34.3	32.2	35.2	32.1	37.0	
- Medical oncology	32.5	30.9	34.0			
- Pulmonary disease	34.8	37.3	34.9	29.5		
- Pulmonary disease and critical care medicine	32.2	31.8	33.0	31.9	30.0	
- Rheumatology	32.5	32.0	33.4	31.6	32.0	
- Sleep medicine (multidisciplinary)	35.3	34.4	35.8	35.9		
- Transplant hepatology	33.9	33.3	35.6	33.0	34.0	
Medical genetics and genomics	33.6	33.7	34.2	31.8		
- Medical biochemical genetics	35.3	33.7	37.4			
- Molecular genetic pathology (multidisciplinary)	37.8	37.3	38.5	33.5	42.0	
Neurological surgery	28.9	28.7	30.1	29.2		
- Endovascular surgical neuroradiology	32.3	32.3				

TABLE C.18 Continued

Mean Age of Year 1 Residents by Specialty and Subspecialty and Medical School Type						
Specialty	OVERALL Age (Avg)	Medical School Type				
		US LCME - Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
Neurology	30.2	29.8	31.2	29.7	31.0	
- Brain injury medicine	33.0			33.0		
- Clinical neurophysiology	34.6	33.1	36.7	33.4	34.3	
- Epilepsy	34.1	33.5	35.2	34.0	32.0	
- Endovascular surgical neuroradiology	38.0		38.0			
- Neurodevelopmental disabilities	31.2	31.0	32.0	31.0		
- Neuromuscular medicine	34.8	33.2	36.5	35.0	38.0	
- Vascular neurology	33.5	32.5	34.5	31.9	33.0	
Child neurology	31.6	31.4	32.2	31.8		
Nuclear medicine	36.4	36.2	36.6			
Obstetrics and gynecology	28.7	28.5	30.0	29.3		26.0
- Female pelvic medicine and reconstructive surgery	32.4	32.3	33.8	32.0		
- Gynecologic oncology	33.2	32.7	35.6	34.4		
- Maternal-fetal medicine	33.3	33.2	34.5	32.5		
- Reproductive endocrinology and infertility	32.1	31.9	33.7	31.8		
Ophthalmology	29.5	29.2	35.2	31.1		
- Ophthalmic plastic and reconstructive surgery	32.0	31.0	33.0			
Orthopaedic surgery	28.6	28.4	31.6	29.7		
- Adult reconstructive orthopaedics	33.5	33.2	41.0	32.0	33.5	
- Foot and ankle orthopaedics	33.6	33.2	38.0	34.0	33.0	
- Hand surgery	33.6	33.6	33.3	35.3	32.0	
- Musculoskeletal oncology	34.2	34.2	35.3		31.0	
- Orthopaedic sports medicine	34.0	33.8	37.1	34.4	30.3	
- Orthopaedic surgery of the spine	34.1	33.8	36.7	34.0		
- Orthopaedic trauma	33.7	33.3	38.0		34.5	
- Pediatric orthopaedics	34.1	33.3	37.7	32.0	34.5	
Osteopathic neuromusculoskeletal medicine	31.6			31.6		
Otolaryngology	28.3	28.2	29.0	29.8		
- Neurotology	32.4	32.6			30.5	
- Pediatric otolaryngology	32.9	33.0	34.5		30.0	
Pathology-anatomic and clinical	32.1	30.3	33.9	29.7	30.0	
- Blood banking/transfusion medicine	36.3	35.2	38.1	34.3		
- Clinical informatics	38.8	37.0	40.5			
- Chemical pathology	33.0	33.0				
- Cytopathology	36.3	34.7	38.4	34.4		
- Forensic pathology	34.9	35.0	35.1	33.9	39.0	
- Hematopathology	37.0	34.5	39.2	36.6	36.0	
- Medical microbiology	35.7	35.9		38.0	32.0	
- Neuropathology	36.8	34.5	39.8	37.7		
- Pediatric pathology	36.9	36.4	38.6	35.0	31.0	
- Selective pathology	36.1	33.6	38.7	34.6	34.0	
Pediatrics	28.7	28.3	30.2	28.7	27.5	
- Adolescent medicine	31.8	32.0	31.5	30.0		
- Child abuse pediatrics	31.6	31.4		33.0		
- Clinical informatics	33.8	33.8				
- Developmental-behavioral pediatrics	33.9	33.0	36.2	33.4		
- Neonatal-perinatal medicine	32.1	31.5	33.6	31.8		
- Pediatric cardiology	31.7	31.5	32.4	32.1	30.5	
- Pediatric critical care medicine	31.8	31.6	32.3	31.6		
- Pediatric emergency medicine	31.8	31.6	32.5	31.6		
- Pediatric endocrinology	32.0	31.2	33.7	30.6		
- Pediatric gastroenterology	31.9	31.8	32.4	31.5		
- Pediatric hematology/oncology	32.0	31.8	32.6	31.9		

TABLE C.18 Continued

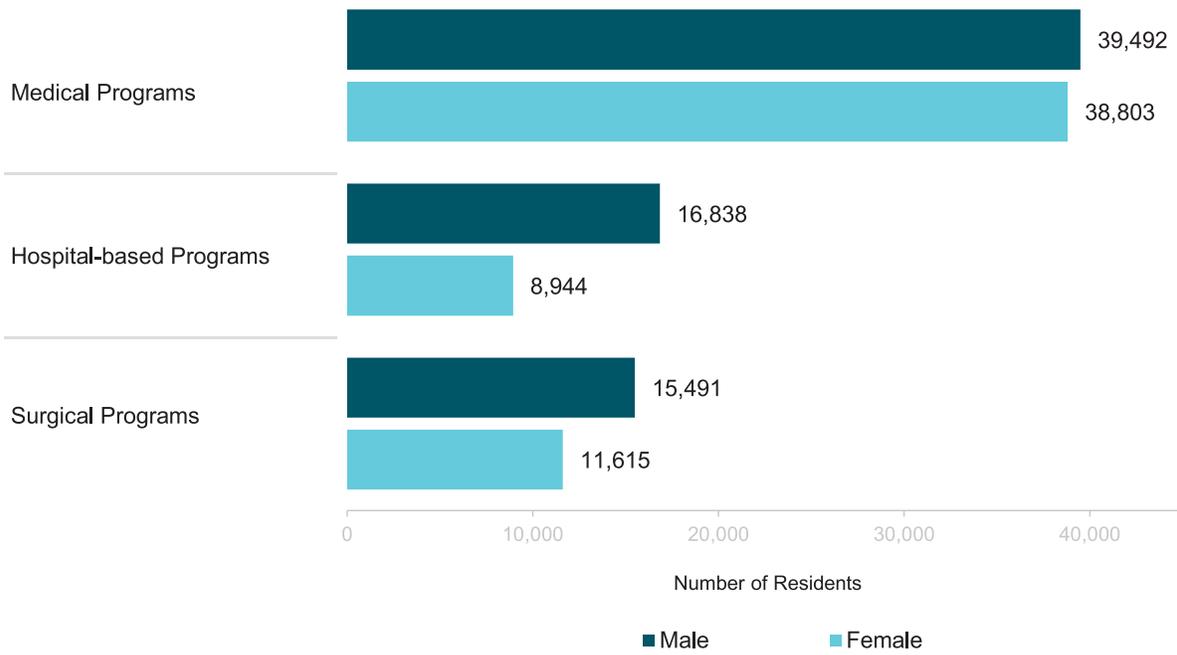
Mean Age of Year 1 Residents by Specialty and Subspecialty and Medical School Type

Specialty	OVERALL Age (Avg)	Medical School Type				
		USLCME - Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
- Pediatric infectious diseases	33.3	32.8	34.3	32.5		
- Pediatric nephrology	33.4	32.0	35.8	32.0		
- Pediatric pulmonology	31.9	32.0	32.7	30.1		
- Pediatric rheumatology	31.6	31.9	30.0	32.3		
- Pediatric sports medicine	32.7	33.2	31.5	31.8		
- Pediatric transplant hepatology	34.2	34.1	34.3			
Physical medicine and rehabilitation	30.2	29.5	33.4	30.1		
- Brain injury medicine	32.3	32.8	32.5	32.0	30.0	
- Neuromuscular medicine						
- Spinal cord injury medicine	32.7	32.9	32.3	32.7		
- Pediatric rehabilitation	32.6	31.9	38.0	33.0		
- Sports medicine	32.5	31.8	33.0	34.6	29.0	
Plastic surgery	33.7	33.6	34.7	33.3		
Plastic surgery - integrated	28.5	28.4	30.0	27.0		
- Craniofacial surgery	35.3	35.3				
- Hand surgery	34.0	34.6		34.0	31.5	
Preventive medicine	36.9	36.4	37.4	37.6	54.0	
- Medical toxicology	33.5	31.0	36.0			
- Undersea and hyperbaric medicine	41.0	37.0		45.0		
Psychiatry	30.3	29.6	32.4	29.9		
- Addiction psychiatry	35.3	34.9	35.8	35.4		
- Child and adolescent psychiatry	34.0	33.1	35.4	33.9	31.0	
- Forensic psychiatry	34.9	35.0	35.3	34.4	31.0	
- Geriatric psychiatry	37.1	37.9	36.8	36.0	30.0	
- Consultation-liaison psychiatry	33.6	33.1	34.7	33.0		
Radiation oncology	30.4	30.3	32.1	30.8		
Radiology-diagnostic	30.5	30.0	31.9	31.2		
- Abdominal radiology	34.7	35.5	34.7	31.7	31.7	
- Endovascular surgical neuroradiology	36.8	39.0	35.0		34.0	
- Musculoskeletal radiology	35.5	34.8	36.3		52.0	
- Neuroradiology	34.9	34.6	36.5	35.3	34.5	
- Nuclear radiology	35.6	35.8	35.4			
- Pediatric radiology	34.4	33.8	37.4	33.6		
- Vascular and interventional radiology	34.0	33.8	35.6	34.4	32.0	
Interventional radiology - integrated	29.6	29.6				
Surgery	29.2	28.8	30.8	29.3		
- Complex general surgical oncology	34.8	34.9	35.8		31.7	
- Hand surgery	34.5	34.0	31.0	36.3		
- Pediatric surgery	35.3	35.1	37.3		36.0	
- Surgical critical care	35.0	34.8	36.2	34.9	34.0	
- Vascular surgery	34.0	33.5	35.3	34.4		
Vascular surgery - integrated	29.2	28.8	32.8	27.5		
Thoracic surgery	34.6	34.6	34.7	34.8	31.5	
- Congenital cardiac surgery	36.8	36.6	38.0			
Thoracic surgery - integrated	30.2	29.6	36.3	29.0		
Urology	29.7	29.5	32.3	30.5		
- Female pelvic medicine and reconstructive surgery	33.6	33.8	32.0			
- Pediatric urology	33.8	33.8				
Transitional year	29.2	28.7	32.4	29.6		
Internal medicine/Pediatrics	28.8	28.4	30.8	29.1		

Note: Pipeline specialties are highlighted.
Abbreviations: LCME, Liaison Committee on Medical Education.

FIGURE C.19

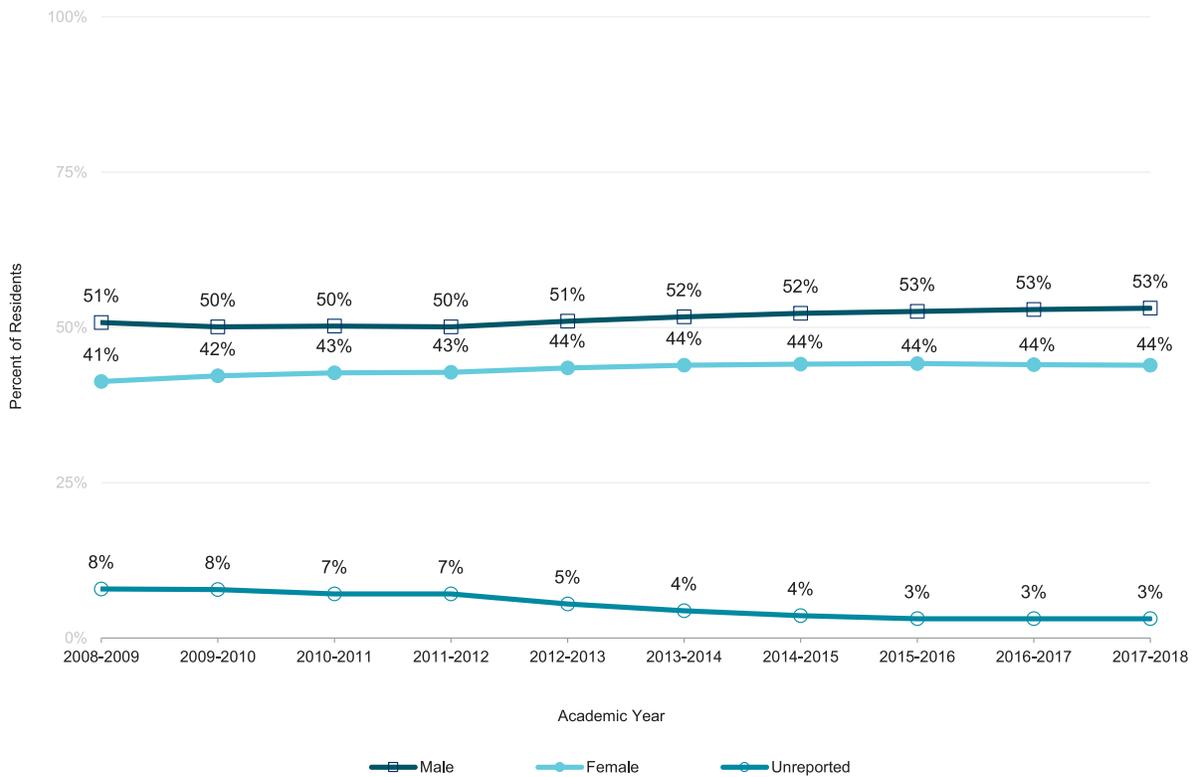
Number of Active Residents by Specialty Group and Sex



Note: Not shown are those residents for which sex is unreported (n = 4,143).

FIGURE C.20

Percent of Active Residents by Sex and Academic Year, 2008-2009 to 2017-2018



Specialty	Total Programs	Total Residents	Sex					
			Female		Male		Not Reported	
			#	%	#	%	#	%
OVERALL	11,214	135,326	59,362	43.9%	71,821	53.1%	4,143	3.1%
TOTAL PIPELINE	4,668	109,822	48,249	43.9%	57,620	52.5%	3,953	3.6%
Allergy and immunology	79	296	215	72.6%	79	26.7%	2	0.7%
Anesthesiology	153	6,346	2,119	33.4%	4,101	64.6%	126	2.0%
- Adult cardiothoracic anesthesiology	66	207	60	29.0%	147	71.0%	0	0.0%
- Clinical informatics	1	2	0	0.0%	2	100.0%	0	0.0%
- Critical care medicine	62	181	65	35.9%	115	63.5%	1	0.6%
- Regional anesthesiology and acute pain medicine	18	48	18	37.5%	30	62.5%	0	0.0%
- Obstetric anesthesiology	34	39	24	61.5%	15	38.5%	0	0.0%
- Pain medicine (multidisciplinary)	102	361	80	22.2%	281	77.8%	0	0.0%
- Pediatric anesthesiology	60	205	101	49.3%	100	48.8%	4	2.0%
Colon and rectal surgery	62	97	35	36.1%	62	63.9%	0	0.0%
Dermatology	138	1,517	957	63.1%	555	36.6%	5	0.3%
- Dermatopathology (multidisciplinary)	56	72	43	59.7%	29	40.3%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	83	41	49.4%	42	50.6%	0	0.0%
Emergency medicine	231	7,461	2,593	34.8%	4,713	63.2%	155	2.1%
- Clinical informatics	4	4	0	0.0%	4	100.0%	0	0.0%
- Emergency medical services	61	46	16	34.8%	30	65.2%	0	0.0%
- Medical toxicology	27	63	24	38.1%	39	61.9%	0	0.0%
- Pediatric emergency medicine	26	119	83	69.7%	33	27.7%	3	2.5%
- Sports medicine	8	16	4	25.0%	12	75.0%	0	0.0%
- Undersea and hyperbaric medicine	7	8	6	75.0%	2	25.0%	0	0.0%
Family medicine	620	12,161	6,505	53.5%	5,539	45.5%	117	1.0%
- Clinical informatics	2	8	1	12.5%	7	87.5%	0	0.0%
- Geriatric medicine	45	41	27	65.9%	14	34.1%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	140	333	214	64.3%	116	34.8%	3	0.9%
- Sports medicine	135	229	59	25.8%	170	74.2%	0	0.0%
Internal medicine	529	27,647	11,042	39.9%	14,979	54.2%	1,626	5.9%
- Adult congenital heart disease	14	14	7	50.0%	7	50.0%	0	0.0%
- Advanced heart failure and transplant cardiology	75	98	32	32.7%	66	67.3%	0	0.0%
- Cardiovascular disease	235	2,918	684	23.4%	2,217	76.0%	17	0.6%
- Clinical cardiac electrophysiology	108	185	18	9.7%	165	89.2%	2	1.1%
- Clinical informatics	13	34	4	11.8%	30	88.2%	0	0.0%
- Critical care medicine	36	238	66	27.7%	170	71.4%	2	0.8%
- Endocrinology, diabetes, and metabolism	142	645	452	70.1%	192	29.8%	1	0.2%
- Gastroenterology	189	1,656	545	32.9%	1,105	66.7%	6	0.4%
- Geriatric medicine	107	274	173	63.1%	101	36.9%	0	0.0%
- Hematology	2	16	8	50.0%	8	50.0%	0	0.0%
- Hematology and medical oncology	149	1,745	729	41.8%	1,006	57.7%	10	0.6%
- Infectious disease	148	715	357	49.9%	355	49.7%	3	0.4%
- Interventional cardiology	155	318	28	8.8%	286	89.9%	4	1.3%
- Nephrology	150	808	278	34.4%	529	65.5%	1	0.1%
- Medical oncology	7	34	12	35.3%	22	64.7%	0	0.0%
- Pulmonary disease	22	73	22	30.1%	51	69.9%	0	0.0%
- Pulmonary disease and critical care medicine	170	1,812	592	32.7%	1,214	67.0%	6	0.3%
- Rheumatology	120	477	288	60.4%	187	39.2%	2	0.4%
- Sleep medicine (multidisciplinary)	84	164	78	47.6%	85	51.8%	1	0.6%
- Transplant hepatology	51	46	23	50.0%	22	47.8%	1	2.2%
Medical genetics and genomics	46	70	47	67.1%	23	32.9%	0	0.0%
- Medical biochemical genetics	17	12	10	83.3%	2	16.7%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	41	56	21	37.5%	33	58.9%	2	3.6%
Neurological surgery	112	1,408	248	17.6%	1,146	81.4%	14	1.0%
- Endovascular surgical neuroradiology	2	3	0	0.0%	3	100.0%	0	0.0%

TABLE C.21 *Continued*

Number of Active Residents by Specialty and Subspecialty and Sex								
Specialty	Total Programs	Total Residents	Sex					
			Female		Male		Not Reported	
			#	%	#	%	#	%
Neurology	153	2,750	1,174	42.7%	1,447	52.6%	129	4.7%
- Brain injury medicine	1	1	0	0.0%	1	100.0%	0	0.0%
- Clinical neurophysiology	91	171	90	52.6%	80	46.8%	1	0.6%
- Epilepsy	71	101	57	56.4%	44	43.6%	0	0.0%
- Endovascular surgical neuroradiology	1	1	0	0.0%	1	100.0%	0	0.0%
- Neurodevelopmental disabilities	8	28	19	67.9%	9	32.1%	0	0.0%
- Neuromuscular medicine	49	55	29	52.7%	26	47.3%	0	0.0%
- Vascular neurology	92	115	36	31.3%	78	67.8%	1	0.9%
Child neurology	74	373	251	67.3%	122	32.7%	0	0.0%
Nuclear medicine	41	71	27	38.0%	44	62.0%	0	0.0%
Obstetrics and gynecology	278	5,473	4,452	81.3%	915	16.7%	106	1.9%
- Female pelvic medicine and reconstructive surgery	51	142	110	77.5%	32	22.5%	0	0.0%
- Gynecologic oncology	56	187	141	75.4%	46	24.6%	0	0.0%
- Maternal-fetal medicine	88	322	234	72.7%	88	27.3%	0	0.0%
- Reproductive endocrinology and infertility	50	160	125	78.1%	35	21.9%	0	0.0%
Ophthalmology	119	1,474	592	40.2%	878	59.6%	4	0.3%
- Ophthalmic plastic and reconstructive surgery	4	5	2	40.0%	3	60.0%	0	0.0%
Orthopaedic surgery	175	3,941	579	14.7%	3,246	82.4%	116	2.9%
- Adult reconstructive orthopaedics	24	40	5	12.5%	35	87.5%	0	0.0%
- Foot and ankle orthopaedics	6	14	5	35.7%	9	64.3%	0	0.0%
- Hand surgery	68	151	24	15.9%	127	84.1%	0	0.0%
- Musculoskeletal oncology	12	17	2	11.8%	15	88.2%	0	0.0%
- Orthopaedic sports medicine	96	204	23	11.3%	180	88.2%	1	0.5%
- Orthopaedic surgery of the spine	17	32	2	6.3%	30	93.8%	0	0.0%
- Orthopaedic trauma	11	18	4	22.2%	14	77.8%	0	0.0%
- Pediatric orthopaedics	25	39	14	35.9%	25	64.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	13	21	7	33.3%	13	61.9%	1	4.8%
Otolaryngology	117	1,592	564	35.4%	1,004	63.1%	24	1.5%
- Neurotology	23	29	8	27.6%	21	72.4%	0	0.0%
- Pediatric otolaryngology	25	34	20	58.8%	14	41.2%	0	0.0%
Pathology-anatomic and clinical	143	2,341	1,160	49.6%	1,143	48.8%	38	1.6%
- Blood banking/transfusion medicine	50	49	22	44.9%	27	55.1%	0	0.0%
- Clinical informatics	7	11	3	27.3%	8	72.7%	0	0.0%
- Chemical pathology	4	1	1	100.0%	0	0.0%	0	0.0%
- Cytopathology	94	138	83	60.1%	54	39.1%	1	0.7%
- Forensic pathology	39	43	29	67.4%	14	32.6%	0	0.0%
- Hematopathology	85	125	56	44.8%	69	55.2%	0	0.0%
- Medical microbiology	15	10	6	60.0%	4	40.0%	0	0.0%
- Neuropathology	34	48	19	39.6%	29	60.4%	0	0.0%
- Pediatric pathology	27	17	12	70.6%	5	29.4%	0	0.0%
- Selective pathology	83	168	85	50.6%	79	47.0%	4	2.4%
Pediatrics	210	9,159	5,963	65.1%	2,318	25.3%	878	9.6%
- Adolescent medicine	29	88	68	77.3%	20	22.7%	0	0.0%
- Child abuse pediatrics	32	34	31	91.2%	3	8.8%	0	0.0%
- Clinical informatics	5	10	3	30.0%	7	70.0%	0	0.0%
- Developmental-behavioral pediatrics	41	108	89	82.4%	19	17.6%	0	0.0%
- Neonatal-perinatal medicine	100	759	555	73.1%	201	26.5%	3	0.4%
- Pediatric cardiology	60	434	220	50.7%	213	49.1%	1	0.2%
- Pediatric critical care medicine	67	518	325	62.7%	186	35.9%	7	1.4%
- Pediatric emergency medicine	52	392	260	66.3%	130	33.2%	2	0.5%
- Pediatric endocrinology	72	241	190	78.8%	51	21.2%	0	0.0%
- Pediatric gastroenterology	64	300	196	65.3%	101	33.7%	3	1.0%
- Pediatric hematology/oncology	74	501	355	70.9%	145	28.9%	1	0.2%

TABLE C.21 <i>Continued</i>								
Number of Active Residents by Specialty and Subspecialty and Sex								
Specialty	Total Programs	Total Residents	Sex					
			Female		Male		Not Reported	
			#	%	#	%	#	%
- Pediatric infectious diseases	65	171	105	61.4%	65	38.0%	1	0.6%
- Pediatric nephrology	45	101	72	71.3%	29	28.7%	0	0.0%
- Pediatric pulmonology	54	158	97	61.4%	61	38.6%	0	0.0%
- Pediatric rheumatology	37	86	64	74.4%	22	25.6%	0	0.0%
- Pediatric sports medicine	17	26	15	57.7%	11	42.3%	0	0.0%
- Pediatric transplant hepatology	14	12	9	75.0%	3	25.0%	0	0.0%
Physical medicine and rehabilitation	88	1,351	534	39.5%	811	60.0%	6	0.4%
- Brain injury medicine	18	13	10	76.9%	3	23.1%	0	0.0%
- Neuromuscular medicine	1	0	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	22	21	14	66.7%	7	33.3%	0	0.0%
- Pediatric rehabilitation	20	27	24	88.9%	3	11.1%	0	0.0%
- Sports medicine	19	28	9	32.1%	19	67.9%	0	0.0%
Plastic surgery	61	266	77	28.9%	189	71.1%	0	0.0%
Plastic surgery - integrated	79	829	342	41.3%	470	56.7%	17	2.1%
- Craniofacial surgery	8	4	1	25.0%	3	75.0%	0	0.0%
- Hand surgery	16	23	11	47.8%	12	52.2%	0	0.0%
Preventive medicine	76	351	156	44.4%	191	54.4%	4	1.1%
- Medical toxicology	1	4	1	25.0%	3	75.0%	0	0.0%
- Undersea and hyperbaric medicine	1	2	0	0.0%	2	100.0%	0	0.0%
Psychiatry	248	5,907	2,889	48.9%	2,848	48.2%	170	2.9%
- Addiction psychiatry	49	74	27	36.5%	47	63.5%	0	0.0%
- Child and adolescent psychiatry	138	865	555	64.2%	305	35.3%	5	0.6%
- Forensic psychiatry	47	79	42	53.2%	37	46.8%	0	0.0%
- Geriatric psychiatry	60	53	38	71.7%	15	28.3%	0	0.0%
- Consultation-liaison psychiatry	61	86	49	57.0%	37	43.0%	0	0.0%
Radiation oncology	94	767	222	28.9%	536	69.9%	9	1.2%
Radiology-diagnostic	194	4,760	1,238	26.0%	3,501	73.6%	21	0.4%
- Abdominal radiology	12	44	14	31.8%	30	68.2%	0	0.0%
- Endovascular surgical neuroradiology	3	6	1	16.7%	5	83.3%	0	0.0%
- Musculoskeletal radiology	16	32	7	21.9%	25	78.1%	0	0.0%
- Neuroradiology	85	269	55	20.4%	214	79.6%	0	0.0%
- Nuclear radiology	17	11	2	18.2%	9	81.8%	0	0.0%
- Pediatric radiology	46	55	20	36.4%	34	61.8%	1	1.8%
- Vascular and interventional radiology	93	290	39	13.4%	251	86.6%	0	0.0%
Interventional radiology - integrated	78	60	8	13.3%	52	86.7%	0	0.0%
Surgery	301	8,475	3,211	37.9%	4,945	58.3%	319	3.8%
- Complex general surgical oncology	25	107	36	33.6%	71	66.4%	0	0.0%
- Hand surgery	1	8	2	25.0%	6	75.0%	0	0.0%
- Pediatric surgery	50	80	33	41.3%	47	58.8%	0	0.0%
- Surgical critical care	128	253	99	39.1%	154	60.9%	0	0.0%
- Vascular surgery	106	246	62	25.2%	184	74.8%	0	0.0%
Vascular surgery - integrated	55	272	94	34.6%	174	64.0%	4	1.5%
Thoracic surgery	72	223	52	23.3%	171	76.7%	0	0.0%
- Congenital cardiac surgery	13	9	0	0.0%	9	100.0%	0	0.0%
Thoracic surgery - integrated	26	183	48	26.2%	131	71.6%	4	2.2%
Urology	138	1,304	318	24.4%	980	75.2%	6	0.5%
- Female pelvic medicine and reconstructive surgery	13	34	28	82.4%	6	17.6%	0	0.0%
- Pediatric urology	26	24	12	50.0%	11	45.8%	1	4.2%
Transitional year	135	1,320	407	30.8%	827	62.7%	86	6.5%
Internal medicine/Pediatrics	78	1,492	832	55.8%	606	40.6%	54	3.6%

Note: Pipeline specialties are highlighted.

FIGURE C.22

Specialties Organized by Largest Percentages of Active Female Residents

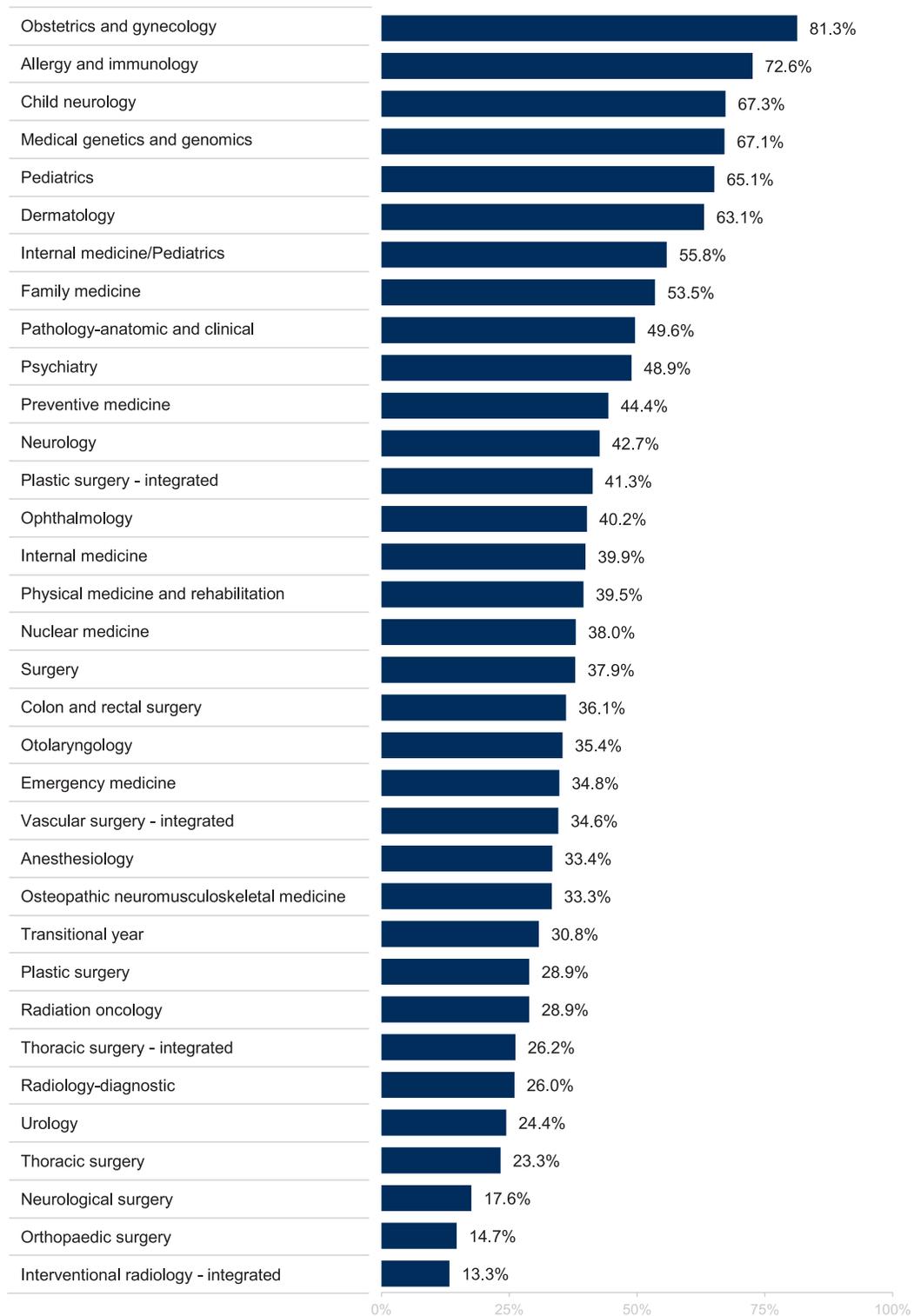


TABLE C.23							
Number of Active Residents by Specialty and Subspecialty and Ethnicity							
Specialty	Ethnicity						
	White, Non-Hispanic	Asian or Pacific Islander	Hispanic	Black, Non-Hispanic	Native American/Alaskan	Other	Unknown
OVERALL	57,732	24,208	6,941	5,981	274	7,034	33,156
TOTAL PIPELINE	46,556	18,141	5,505	4,878	229	5,212	29,301
Allergy and immunology	112	86	12	11	0	18	57
Anesthesiology	2,814	1,102	240	304	18	206	1,662
- Adult cardiothoracic anesthesiology	127	31	9	9	1	8	22
- Clinical informatics	2	0	0	0	0	0	0
- Critical care medicine	99	34	7	3	0	10	28
- Regional anesthesiology and acute pain medicine	20	16	2	2	0	2	6
- Obstetric anesthesiology	16	4	2	0	0	4	13
- Pain medicine (multidisciplinary)	168	101	11	14	1	20	46
- Pediatric anesthesiology	106	31	10	7	0	10	41
Colon and rectal surgery	56	16	6	4	1	8	6
Dermatology	883	222	42	45	2	68	255
- Dermatopathology (multidisciplinary)	45	10	0	5	0	6	6
- Micrographic surgery and dermatologic oncology	51	11	6	0	0	3	12
Emergency medicine	4,230	735	371	286	16	240	1,583
- Clinical informatics	4	0	0	0	0	0	0
- Emergency medical services	32	0	3	3	0	4	4
- Medical toxicology	42	10	1	1	0	2	7
- Pediatric emergency medicine	50	20	12	10	0	8	19
- Sports medicine	11	2	0	0	0	3	0
- Undersea and hyperbaric medicine	5	3	0	0	0	0	0
Family medicine	5,946	2,204	810	806	44	573	1,778
- Clinical informatics	2	1	0	1	0	1	3
- Geriatric medicine	14	7	7	2	1	6	4
- Hospice and palliative medicine (multidisciplinary)	170	65	19	18	0	15	46
- Sports medicine	159	21	11	13	1	6	18
Internal medicine	7,830	5,777	1,396	1,139	23	1,708	9,774
- Adult congenital heart disease	10	2	2	0	0	0	0
- Advanced heart failure and transplant cardiology	34	33	9	5	0	6	11
- Cardiovascular disease	1,031	808	140	118	5	288	528
- Clinical cardiac electrophysiology	89	52	17	5	0	12	10
- Clinical informatics	11	13	1	1	0	2	6
- Critical care medicine	92	65	12	4	0	26	39
- Endocrinology, diabetes, and metabolism	171	213	55	28	0	72	106
- Gastroenterology	620	493	89	76	0	110	268
- Geriatric medicine	87	78	26	14	2	29	38
- Hematology	3	8	0	0	0	2	3
- Hematology and medical oncology	587	518	71	48	2	135	384
- Infectious disease	294	151	68	44	2	36	120
- Interventional cardiology	112	92	14	15	2	53	30
- Nephrology	181	342	52	58	3	82	90
- Medical oncology	8	20	0	0	0	5	1
- Pulmonary disease	15	28	6	3	0	11	10
- Pulmonary disease and critical care medicine	762	421	90	57	4	131	347
- Rheumatology	172	143	28	19	3	30	82
- Sleep medicine (multidisciplinary)	56	53	11	8	1	16	19
- Transplant hepatology	18	20	3	1	0	0	4
Medical genetics and genomics	35	14	3	5	0	5	8
- Medical biochemical genetics	8	3	1	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	23	14	2	0	0	8	9
Neurological surgery	715	199	51	59	3	99	282
- Endovascular surgical neuroradiology	2	1	0	0	0	0	0

TABLE C.23 *Continued*

Number of Active Residents by Specialty and Subspecialty and Ethnicity							
Specialty	Ethnicity						
	White, Non-Hispanic	Asian or Pacific Islander	Hispanic	Black, Non-Hispanic	Native American/Alaskan	Other	Unknown
Neurology	1,054	569	138	94	4	199	692
- Brain injury medicine	1	0	0	0	0	0	0
- Clinical neurophysiology	69	38	16	10	0	13	25
- Epilepsy	40	27	3	2	0	16	13
- Endovascular surgical neuroradiology	1	0	0	0	0	0	0
- Neurodevelopmental disabilities	19	2	2	1	0	2	2
- Neuromuscular medicine	28	10	2	1	0	6	8
- Vascular neurology	39	39	5	2	0	11	19
Child neurology	175	76	34	15	1	19	53
Nuclear medicine	17	23	6	4	0	13	8
Obstetrics and gynecology	2,676	535	349	385	14	192	1,322
- Female pelvic medicine and reconstructive surgery	76	27	10	12	0	3	14
- Gynecologic oncology	133	25	8	7	0	5	9
- Maternal-fetal medicine	202	30	22	22	0	20	26
- Reproductive endocrinology and infertility	96	23	5	13	1	6	16
Ophthalmology	775	330	52	34	0	70	213
- Ophthalmic plastic and reconstructive surgery	5	0	0	0	0	0	0
Orthopaedic surgery	2,253	343	120	119	10	118	978
- Adult reconstructive orthopaedics	29	5	1	1	0	2	2
- Foot and ankle orthopaedics	8	2	0	0	0	0	4
- Hand surgery	105	9	5	2	1	13	16
- Musculoskeletal oncology	11	2	1	1	0	1	1
- Orthopaedic sports medicine	135	28	4	5	0	9	23
- Orthopaedic surgery of the spine	21	5	2	2	0	2	0
- Orthopaedic trauma	12	3	0	0	0	0	3
- Pediatric orthopaedics	19	7	0	2	0	7	4
Osteopathic neuromusculoskeletal medicine	17	2	0	0	0	0	2
Otolaryngology	866	233	54	31	5	62	341
- Neurotology	21	4	1	0	0	1	2
- Pediatric otolaryngology	24	4	0	0	1	1	4
Pathology-anatomic and clinical	944	493	113	81	2	165	543
- Blood banking/transfusion medicine	19	15	2	4	0	5	4
- Clinical informatics	6	1	0	1	0	0	3
- Chemical pathology	0	1	0	0	0	0	0
- Cytopathology	63	31	8	3	0	13	20
- Forensic pathology	30	4	0	3	0	2	4
- Hematopathology	53	34	10	2	0	12	14
- Medical microbiology	5	1	1	1	0	1	1
- Neuropathology	31	5	5	0	0	1	6
- Pediatric pathology	8	4	1	1	0	3	0
- Selective pathology	78	44	10	0	1	10	25
Pediatrics	3,007	1,078	537	337	15	242	3,943
- Adolescent medicine	50	10	9	15	0	2	2
- Child abuse pediatrics	23	2	3	3	0	0	3
- Clinical informatics	6	1	0	0	0	1	2
- Developmental-behavioral pediatrics	61	17	10	5	0	5	10
- Neonatal-perinatal medicine	373	175	43	49	1	48	70
- Pediatric cardiology	237	92	21	15	0	26	43
- Pediatric critical care medicine	305	78	36	13	0	25	61
- Pediatric emergency medicine	234	64	17	20	1	18	38
- Pediatric endocrinology	99	60	22	16	1	15	28
- Pediatric gastroenterology	136	67	24	14	1	28	30
- Pediatric hematology/oncology	287	92	24	16	0	15	67

TABLE C.23 Continued

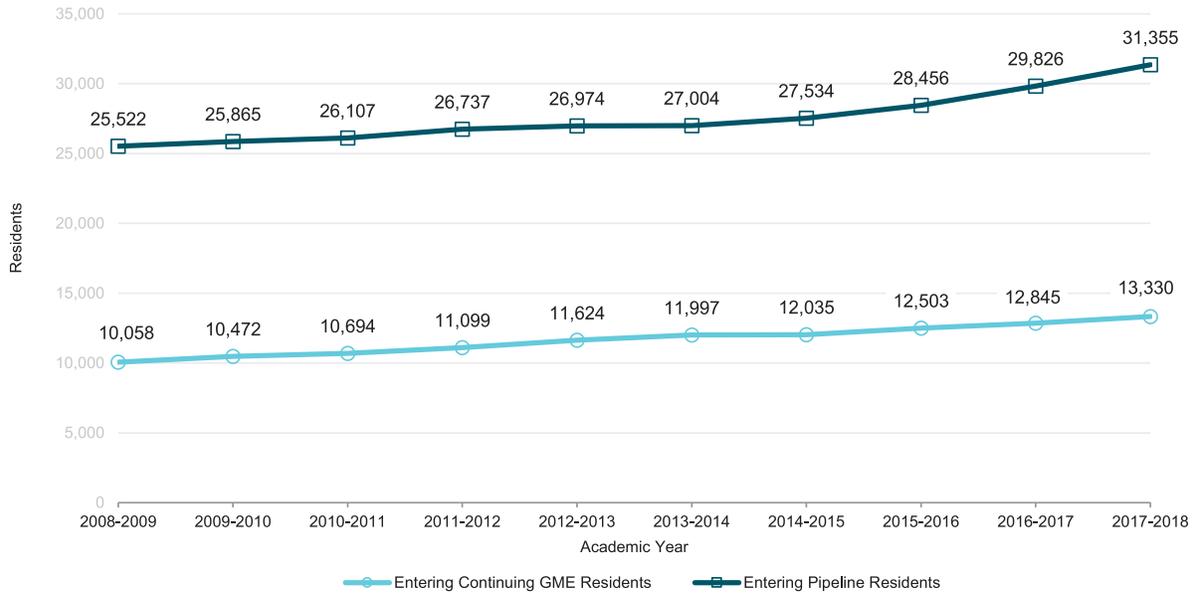
Number of Active Residents by Specialty and Subspecialty and Ethnicity

Specialty	Ethnicity						
	White, Non-Hispanic	Asian or Pacific Islander	Hispanic	Black, Non-Hispanic	Native American/Alaskan	Other	Unknown
- Pediatric infectious diseases	96	28	11	5	0	10	21
- Pediatric nephrology	40	28	6	10	0	8	9
- Pediatric pulmonology	81	24	24	4	0	14	11
- Pediatric rheumatology	45	15	6	5	0	5	10
- Pediatric sports medicine	20	1	1	0	0	0	4
- Pediatric transplant hepatology	5	4	1	0	0	2	0
Physical medicine and rehabilitation	673	271	65	69	6	61	206
- Brain injury medicine	6	4	0	1	0	2	0
- Neuromuscular medicine	0	0	0	0	0	0	0
- Spinal cord injury medicine	9	6	1	1	0	2	2
- Pediatric rehabilitation	15	6	1	1	0	1	3
- Sports medicine	16	4	2	1	0	1	4
Plastic surgery	152	34	21	17	1	17	24
Plastic surgery - integrated	433	106	23	22	3	35	207
- Craniofacial surgery	4	0	0	0	0	0	0
- Hand surgery	14	6	1	0	0	1	1
Preventive medicine	157	68	25	53	1	13	34
- Medical toxicology	3	1	0	0	0	0	0
- Undersea and hyperbaric medicine	1	0	0	0	0	0	1
Psychiatry	2,460	1,072	337	349	22	290	1,377
- Addiction psychiatry	32	18	7	5	1	6	5
- Child and adolescent psychiatry	309	266	68	75	3	37	107
- Forensic psychiatry	43	12	5	6	0	7	6
- Geriatric psychiatry	19	12	5	3	0	3	11
- Consultation-liaison psychiatry	31	27	8	5	0	4	11
Radiation oncology	390	194	27	21	2	31	102
Radiology-diagnostic	2,483	972	189	152	11	252	701
- Abdominal radiology	17	11	1	2	1	10	2
- Endovascular surgical neuroradiology	1	1	1	1	0	2	0
- Musculoskeletal radiology	14	14	0	3	0	0	1
- Neuroradiology	136	54	10	6	0	22	41
- Nuclear radiology	7	0	0	0	0	3	1
- Pediatric radiology	30	11	1	2	0	5	6
- Vascular and interventional radiology	157	65	7	10	0	23	28
Interventional radiology - integrated	34	12	0	1	1	3	9
Surgery	3,878	1,018	394	329	20	402	2,434
- Complex general surgical oncology	62	19	4	3	0	7	12
- Hand surgery	6	1	0	0	0	0	1
- Pediatric surgery	53	12	2	3	0	4	6
- Surgical critical care	167	23	20	11	0	7	25
- Vascular surgery	123	53	10	12	0	24	24
Vascular surgery - integrated	130	48	9	10	1	22	52
Thoracic surgery	126	38	16	11	0	8	24
- Congenital cardiac surgery	3	2	0	1	0	3	0
Thoracic surgery - integrated	100	30	8	4	0	13	28
Urology	757	210	41	38	2	49	207
- Female pelvic medicine and reconstructive surgery	21	6	3	4	0	0	0
- Pediatric urology	12	3	3	0	0	0	6
Transitional year	577	164	63	41	3	65	407
Internal medicine/Pediatrics	672	171	50	69	2	45	483

Notes: Pipeline specialties are highlighted. Unknown ethnicity includes both unknown and blank, while 'Other' indicates a known ethnicity other than the ones available for selection.

FIGURE C.24

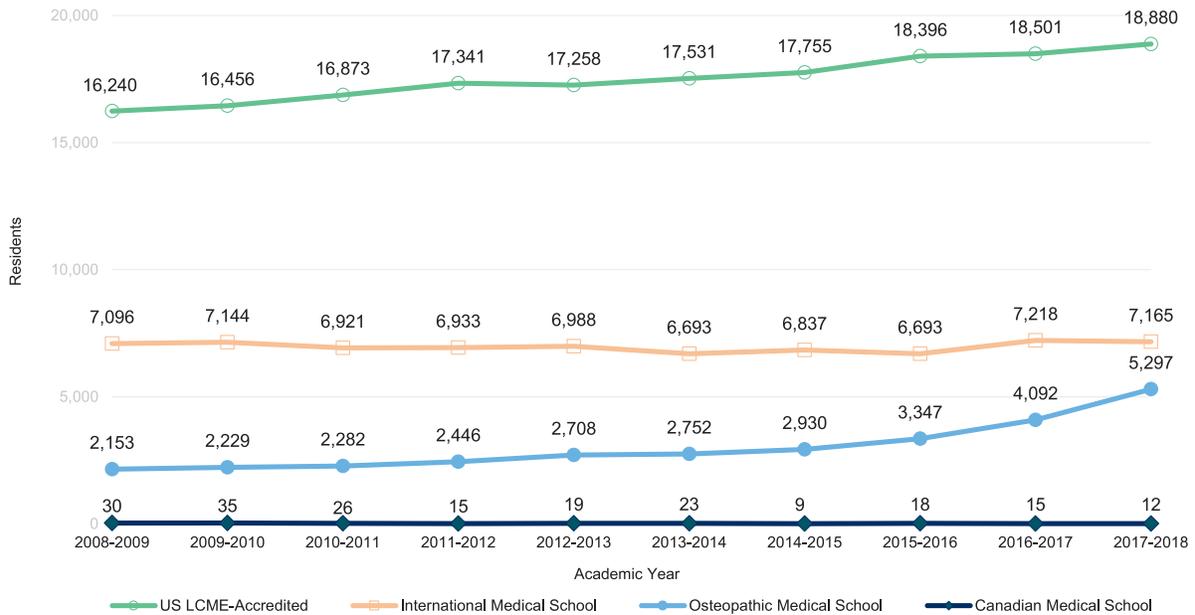
Number of Residents Entering Pipeline and Continuing GME Programs by Academic Year, 2008-2009 to 2017-2018



Notes: Excluding residents doing prerequisite training for a pipeline specialty program (preliminary and transitional year residents).
Abbreviations: GME, graduate medical education.

FIGURE C.25

Number of Residents Entering the Pipeline by Medical School Type and Academic Year, 2008-2009 to 2017-2018



Notes: Not shown are those graduates for which the specific U.S. medical school is unknown. This number has been fewer than 6 per year for the past five years.
Abbreviations: LCME, Liaison Committee on Medical Education.

TABLE C.26											
Number of Residents Entering the GME Pipeline by Specialty and Medical School Type											
Specialty	Total Residents	Medical School Type									
		US LCME-Accredited		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	31,355	18,880	60.2%	7,165	22.9%	5,297	16.9%	12	0.0%	1	0.0%
Anesthesiology	1,458	1,030	70.6%	206	14.1%	222	15.2%	0	0.0%	0	0.0%
Dermatology	499	429	86.0%	17	3.4%	53	10.6%	0	0.0%	0	0.0%
Emergency medicine	2,412	1,727	71.6%	106	4.4%	578	24.0%	1	0.0%	0	0.0%
Family medicine	4,218	1,818	43.1%	1,088	25.8%	1,311	31.1%	1	0.0%	0	0.0%
Internal medicine	8,716	3,786	43.4%	3,495	40.1%	1,430	16.4%	5	0.1%	0	0.0%
Medical genetics and genomics	37	21	56.8%	11	29.7%	5	13.5%	0	0.0%	0	0.0%
Neurological surgery	220	196	89.1%	18	8.2%	6	2.7%	0	0.0%	0	0.0%
Neurology	824	454	55.1%	259	31.4%	110	13.3%	1	0.1%	0	0.0%
Child neurology	132	90	68.2%	30	22.7%	12	9.1%	0	0.0%	0	0.0%
Nuclear medicine	30	10	33.3%	20	66.7%	0	0.0%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,373	1,053	76.7%	113	8.2%	206	15.0%	0	0.0%	1	0.1%
Ophthalmology	491	456	92.9%	14	2.9%	21	4.3%	0	0.0%	0	0.0%
Orthopaedic surgery	806	739	91.7%	14	1.7%	53	6.6%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	8	0	0.0%	0	0.0%	8	100.0%	0	0.0%	0	0.0%
Otolaryngology	327	314	96.0%	1	0.3%	12	3.7%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	626	271	43.3%	316	50.5%	38	6.1%	1	0.2%	0	0.0%
Pediatrics	3,078	2,056	66.8%	584	19.0%	436	14.2%	2	0.1%	0	0.0%
Physical medicine and rehabilitation	395	222	56.2%	50	12.7%	123	31.1%	0	0.0%	0	0.0%
Plastic surgery	77	63	81.8%	10	13.0%	4	5.2%	0	0.0%	0	0.0%
Plastic surgery - integrated	155	150	96.8%	4	2.6%	1	0.6%	0	0.0%	0	0.0%
Preventive medicine	195	129	66.2%	29	14.9%	36	18.5%	1	0.5%	0	0.0%
Psychiatry	1,660	1,006	60.6%	374	22.5%	280	16.9%	0	0.0%	0	0.0%
Radiation oncology	193	182	94.3%	7	3.6%	4	2.1%	0	0.0%	0	0.0%
Radiology-diagnostic	1,204	863	71.7%	201	16.7%	140	11.6%	0	0.0%	0	0.0%
Interventional radiology - integrated	20	20	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Surgery	1,396	1,104	79.1%	135	9.7%	157	11.2%	0	0.0%	0	0.0%
Vascular surgery - integrated	60	52	86.7%	6	10.0%	2	3.3%	0	0.0%	0	0.0%
Thoracic surgery - integrated	35	31	88.6%	3	8.6%	1	2.9%	0	0.0%	0	0.0%
Urology	333	304	91.3%	11	3.3%	18	5.4%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	377	304	80.6%	43	11.4%	30	8.0%	0	0.0%	0	0.0%

Abbreviations: GME, graduate medical education; LCME, Liaison Committee on Medical Education.

TABLE C.27

Hospital-Based Specialty Residents Entering the GME Pipeline by Specialty and State

State Name	State Abbreviation	AN	EM	MG	NM	PTH	GPM	RO	DR	IRI	Total
OVERALL	-	1,458	2,412	37	30	626	195	193	1,204	20	6,175
Alabama	AL	21	20	0	0	11	4	2	18	0	76
Alaska	AK	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	16	39	0	0	7	0	4	22	0	88
Arkansas	AR	13	13	0	0	5	0	0	7	1	39
California	CA	139	214	6	5	61	19	25	106	0	575
Colorado	CO	4	17	2	0	9	6	2	10	0	50
Connecticut	CT	20	33	1	0	13	2	3	28	0	100
Delaware	DE	0	12	0	0	0	0	0	5	0	17
District of Columbia	DC	13	19	1	0	7	0	1	10	2	53
Florida	FL	70	136	2	3	20	14	9	57	0	311
Georgia	GA	23	33	1	1	11	2	3	23	0	97
Hawaii	HI	0	0	0	0	3	0	0	2	0	5
Idaho	ID	0	0	0	0	0	0	0	0	0	0
Illinois	IL	72	120	0	2	29	6	9	53	3	294
Indiana	IN	27	21	0	0	4	0	2	13	0	67
Iowa	IA	15	8	0	0	5	1	0	8	0	37
Kansas	KS	13	8	0	0	5	0	2	10	1	39
Kentucky	KY	22	22	0	0	8	4	3	12	0	71
Louisiana	LA	23	33	0	0	10	3	0	16	0	85
Maine	ME	4	10	0	0	0	2	0	4	0	20
Maryland	MD	40	24	7	4	17	24	8	27	0	151
Massachusetts	MA	68	69	2	3	38	7	10	68	1	266
Michigan	MI	70	222	1	0	15	5	9	59	3	384
Minnesota	MN	26	30	0	0	11	7	5	23	0	102
Mississippi	MS	8	19	0	0	3	0	1	5	0	36
Missouri	MO	39	41	0	3	21	0	4	35	2	145
Montana	MT	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	12	10	2	0	6	0	1	10	0	41
Nevada	NV	0	10	0	0	0	0	0	0	0	10
New Hampshire	NH	7	6	0	0	3	8	0	5	0	29
New Jersey	NJ	25	75	0	0	10	5	3	27	0	145
New Mexico	NM	6	12	0	0	5	2	0	4	0	29
New York	NY	195	323	4	3	79	16	27	131	1	779
North Carolina	NC	39	71	0	0	19	5	5	33	0	172
North Dakota	ND	0	0	0	0	0	0	0	0	0	0
Ohio	OH	64	136	0	0	27	21	8	47	0	303
Oklahoma	OK	15	25	0	0	3	0	1	13	0	57
Oregon	OR	10	11	0	0	3	0	0	7	0	31
Pennsylvania	PA	88	183	3	0	41	4	12	82	2	415
Puerto Rico	PR	3	18	0	0	3	0	0	4	0	28
Rhode Island	RI	0	21	0	0	3	0	0	7	0	31
South Carolina	SC	15	41	0	0	5	2	2	9	0	74
South Dakota	SD	0	0	0	0	2	0	0	0	0	2
Tennessee	TN	26	34	0	2	18	6	4	25	3	118
Texas	TX	108	147	3	0	45	9	15	85	0	412
Utah	UT	3	9	0	0	5	4	1	7	1	30
Vermont	VT	6	0	0	0	4	0	0	6	0	16
Virginia	VA	25	53	1	0	10	0	4	29	0	122
Washington	WA	35	24	1	3	8	5	3	22	0	101
West Virginia	WV	4	19	0	0	3	0	1	6	0	33
Wisconsin	WI	26	21	0	1	11	2	4	24	0	89
Wyoming	WY	0	0	0	0	0	0	0	0	0	0

Abbreviations: GME, graduate medical education; AN, Anesthesiology; EM, Emergency medicine; MG, Medical genetics and genomics; NM, Nuclear medicine; PTH, Pathology-anatomic and clinical; GPM, Preventive medicine; RO, Radiation oncology; DR, Radiology-diagnostic; IRI, Interventional radiology - integrated.

TABLE C.28												
Medical Specialty Residents Entering the GME Pipeline by Specialty and State												
State Name	State Abbreviation	D	FM	IM	N	CHN	ONM	PD	PM	P	IP	Total
OVERALL	-	499	4,218	8,716	824	132	8	3,078	395	1,660	377	19,907
Alabama	AL	4	49	77	10	2	0	37	4	12	6	201
Alaska	AK	0	12	0	0	0	0	0	0	0	0	12
Arizona	AZ	6	56	116	15	2	0	50	0	23	6	274
Arkansas	AR	3	55	51	4	1	0	25	4	13	4	160
California	CA	53	456	674	70	14	0	291	29	155	18	1,760
Colorado	CO	6	94	87	11	3	0	31	5	12	4	253
Connecticut	CT	7	26	224	15	0	0	41	0	32	4	349
Delaware	DE	0	15	12	0	0	0	24	0	5	4	60
District of Columbia	DC	7	6	118	13	3	0	48	0	26	4	225
Florida	FL	37	167	503	44	2	0	146	9	70	9	987
Georgia	GA	10	105	200	12	2	0	63	6	25	0	423
Hawaii	HI	0	16	36	0	0	0	17	0	13	0	82
Idaho	ID	0	29	12	0	0	0	0	0	0	0	41
Illinois	IL	22	233	477	42	5	0	131	17	61	24	1,012
Indiana	IN	0	105	66	7	1	0	31	6	12	14	242
Iowa	IA	5	58	47	8	0	0	22	0	7	0	147
Kansas	KS	5	41	35	7	0	0	13	3	13	2	119
Kentucky	KY	3	39	61	10	2	0	34	7	26	11	193
Louisiana	LA	9	68	121	14	1	0	42	6	33	16	310
Maine	ME	0	34	14	0	0	0	6	0	5	3	62
Maryland	MD	14	22	230	18	3	0	57	14	38	8	404
Massachusetts	MA	19	48	371	44	9	0	84	10	85	20	690
Michigan	MI	26	213	433	43	4	3	116	26	68	28	960
Minnesota	MN	12	82	113	15	2	0	34	12	24	10	304
Mississippi	MS	4	27	45	4	3	0	16	0	8	4	111
Missouri	MO	15	59	157	23	9	1	74	7	40	10	395
Montana	MT	0	18	13	0	0	0	0	0	0	0	31
Nebraska	NE	0	45	44	4	0	0	14	0	9	4	120
Nevada	NV	0	40	82	2	0	0	14	0	16	0	154
New Hampshire	NH	2	8	19	4	0	0	7	0	8	0	48
New Jersey	NJ	5	94	317	17	1	1	88	13	34	6	576
New Mexico	NM	0	27	30	4	1	1	17	0	9	0	89
New York	NY	54	261	1,384	92	13	0	442	80	259	19	2,604
North Carolina	NC	14	123	174	16	4	0	71	13	47	18	480
North Dakota	ND	0	27	9	0	0	0	0	0	6	0	42
Ohio	OH	23	165	427	47	11	0	182	15	62	27	959
Oklahoma	OK	3	79	41	6	0	0	35	0	21	4	189
Oregon	OR	7	38	74	5	1	0	16	0	12	0	153
Pennsylvania	PA	30	263	564	57	9	0	152	29	77	16	1,197
Puerto Rico	PR	3	26	77	3	1	0	32	6	12	2	162
Rhode Island	RI	6	17	69	7	0	0	16	0	9	4	128
South Carolina	SC	5	85	57	12	0	0	41	0	25	9	234
South Dakota	SD	0	15	8	0	0	0	6	0	6	0	35
Tennessee	TN	7	67	135	13	5	0	64	4	27	18	340
Texas	TX	43	285	461	57	12	0	232	39	108	20	1,257
Utah	UT	3	29	33	6	1	0	21	7	9	3	112
Vermont	VT	2	5	15	4	0	0	6	0	5	0	37
Virginia	VA	8	93	155	15	1	0	80	12	38	4	406
Washington	WA	4	136	102	9	2	0	48	3	19	0	323
West Virginia	WV	2	44	54	5	0	2	18	0	13	6	144
Wisconsin	WI	11	98	92	10	2	0	43	9	23	8	296
Wyoming	WY	0	15	0	0	0	0	0	0	0	0	15

Abbreviations: GME, graduate medical education; D, Dermatology; FM, Family medicine; IM, Internal medicine; N, Neurology; CHN, Child neurology; ONM, Osteopathic neuromusculoskeletal medicine; PD, Pediatrics; PM, Physical medicine and rehabilitation; P, Psychiatry; IP, Internal medicine/Pediatrics.

TABLE C.29

Surgical Specialty Residents Entering the GME Pipeline by Specialty and State

State Name	State Abbreviation	NS	OBG	OPH	ORS	OTO	PS	PSI	GS	VSI	TSI	U	Total
OVERALL	-	220	1,373	491	806	327	77	155	1,396	60	35	333	5,273
Alabama	AL	3	12	5	9	4	3	0	18	1	0	2	57
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	5	22	4	10	3	0	0	27	1	0	5	77
Arkansas	AR	2	5	3	4	3	0	0	5	1	0	2	25
California	CA	18	114	45	77	32	3	18	114	4	6	27	458
Colorado	CO	1	15	5	7	3	2	2	20	0	0	3	58
Connecticut	CT	2	33	5	10	5	0	2	28	1	2	5	93
Delaware	DE	0	6	0	0	0	0	0	6	0	0	0	12
District of Columbia	DC	4	21	13	12	4	0	3	18	1	0	5	81
Florida	FL	9	43	19	26	10	3	5	55	3	0	13	186
Georgia	GA	4	30	9	16	6	2	2	32	0	2	6	109
Hawaii	HI	0	11	0	5	2	0	0	8	0	0	1	27
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	11	63	23	31	14	4	7	51	2	1	18	225
Indiana	IN	3	16	6	5	3	2	2	13	1	1	4	56
Iowa	IA	2	5	5	6	5	1	0	10	1	1	3	39
Kansas	KS	2	9	3	8	4	0	2	11	0	0	4	43
Kentucky	KY	4	12	9	10	5	1	2	17	0	1	5	66
Louisiana	LA	5	27	16	13	9	2	2	21	2	0	8	105
Maine	ME	0	4	0	0	0	0	0	4	1	0	1	10
Maryland	MD	9	25	14	20	10	2	4	28	0	1	7	120
Massachusetts	MA	8	32	16	26	10	5	5	50	5	2	12	171
Michigan	MI	8	92	26	50	18	3	6	79	1	2	18	303
Minnesota	MN	5	14	9	20	9	0	5	22	1	0	8	93
Mississippi	MS	2	5	4	4	3	1	1	9	0	0	2	31
Missouri	MO	6	24	15	22	11	0	4	21	2	0	6	111
Montana	MT	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	2	8	2	5	3	1	0	10	0	0	3	34
Nevada	NV	0	10	0	4	0	0	1	9	0	0	0	24
New Hampshire	NH	1	4	0	4	1	1	0	4	1	0	2	18
New Jersey	NJ	1	53	5	19	2	3	3	44	2	0	5	137
New Mexico	NM	2	6	0	5	2	0	1	6	0	0	2	24
New York	NY	21	168	68	97	31	8	17	152	10	4	40	616
North Carolina	NC	8	46	14	23	10	0	7	36	0	1	8	153
North Dakota	ND	0	0	0	0	0	0	0	5	0	0	0	5
Ohio	OH	10	82	24	45	17	4	8	76	4	3	17	290
Oklahoma	OK	2	15	4	6	3	1	0	13	0	0	3	47
Oregon	OR	3	7	5	5	3	0	2	13	0	0	3	41
Pennsylvania	PA	14	90	24	54	20	5	9	99	6	4	21	346
Puerto Rico	PR	2	12	3	4	2	0	0	8	0	0	2	33
Rhode Island	RI	1	1	3	6	0	0	2	7	0	0	2	22
South Carolina	SC	1	16	7	10	4	2	1	20	1	1	3	66
South Dakota	SD	0	0	0	0	0	0	0	3	0	0	0	3
Tennessee	TN	6	31	10	16	9	7	2	35	0	0	10	126
Texas	TX	16	104	39	60	21	8	13	97	5	1	24	388
Utah	UT	2	6	4	5	3	2	1	6	0	0	2	31
Vermont	VT	1	3	0	3	1	0	0	4	0	0	1	13
Virginia	VA	6	33	9	15	8	1	6	28	0	1	6	113
Washington	WA	3	11	7	11	6	0	4	21	1	1	5	70
West Virginia	WV	1	9	3	7	2	0	1	12	1	0	3	39
Wisconsin	WI	4	18	6	11	6	0	5	21	1	0	6	78
Wyoming	WY	0	0	0	0	0	0	0	0	0	0	0	0

Abbreviations: GME, graduate medical education; NS, Neurological surgery; OBG, Obstetrics and gynecology; OPH, Ophthalmology; ORS, Orthopaedic surgery; OTO, Otolaryngology; PS, Plastic surgery; PSI, Plastic surgery - integrated; GS, Surgery; VSI, Vascular surgery - integrated; TSI, Thoracic surgery - integrated; U, Urology.

TABLE C.30						
Number of Residents Entering GME and the GME Pipeline by Specialty						
Specialty	PGY1 Residents	PGY1 Residents as % of Total	PGY1 Residents with No Prior Training	PGY1 Residents with No Prior Training as % of Total	Entering Pipeline Residents	Entering Pipeline Residents as % of Total
OVERALL	32,028	100.0%	31,033	100.0%	31,355	100.0%
Anesthesiology	1,102	3.4%	1,062	3.4%	1,458	4.6%
Dermatology	11	0.0%	5	0.0%	499	1.6%
Emergency medicine	2,398	7.5%	2,303	7.4%	2,412	7.7%
Family medicine	4,218	13.2%	4,069	13.1%	4,218	13.5%
Internal medicine	10,882	34.0%	10,597	34.1%	8,716	27.8%
Medical genetics and genomics	3	0.0%	1	0.0%	37	0.1%
Neurological surgery	220	0.7%	206	0.7%	220	0.7%
Neurology	392	1.2%	368	1.2%	824	2.6%
Child neurology	0	0.0%	0	0.0%	132	0.4%
Nuclear medicine	0	0.0%	0	0.0%	30	0.1%
Obstetrics and gynecology	1,398	4.4%	1,383	4.5%	1,373	4.4%
Ophthalmology	0	0.0%	0	0.0%	491	1.6%
Orthopaedic surgery	806	2.5%	770	2.5%	806	2.6%
Osteopathic neuromusculoskeletal medicine	0	0.0%	0	0.0%	8	0.0%
Otolaryngology	327	1.0%	318	1.0%	327	1.0%
Pathology-anatomic and clinical	626	2.0%	586	1.9%	626	2.0%
Pediatrics	3,150	9.8%	3,112	10.0%	3,078	9.8%
Physical medicine and rehabilitation	102	0.3%	93	0.3%	395	1.3%
Plastic surgery	0	0.0%	0	0.0%	77	0.2%
Plastic surgery - integrated	155	0.5%	147	0.5%	155	0.5%
Preventive medicine	10	0.0%	0	0.0%	195	0.6%
Psychiatry	1,660	5.2%	1,632	5.3%	1,660	5.3%
Radiation oncology	0	0.0%	0	0.0%	193	0.6%
Radiology-diagnostic	0	0.0%	0	0.0%	1,204	3.8%
Interventional radiology - integrated	0	0.0%	0	0.0%	20	0.1%
Surgery	2,776	8.7%	2,663	8.6%	1,396	4.5%
Vascular surgery - integrated	60	0.2%	55	0.2%	60	0.2%
Thoracic surgery - integrated	35	0.1%	29	0.1%	35	0.1%
Urology	0	0.0%	0	0.0%	333	1.1%
Transitional year	1,320	4.1%	1,262	4.1%	0	0.0%
Internal medicine/Pediatrics	377	1.2%	372	1.2%	377	1.2%

Abbreviations: GME, graduate medical education; PGY1, post graduate year 1.

TABLE C.31

Number of Residents Entering GME and the GME Pipeline by State

State Name	PGY1 Residents	PGY1 Residents as % of Total	PGY1 Residents with No Prior Training	PGY1 Residents with No Prior Training as % of Total	Entering Pipeline Residents	Entering Pipeline Residents as % of Total
OVERALL	32,028	100.0%	31,033	100.0%	31,355	100.0%
Alabama	332	1.0%	322	1.0%	334	1.1%
Alaska	12	0.0%	12	0.0%	12	0.0%
Arizona	458	1.4%	438	1.4%	439	1.4%
Arkansas	230	0.7%	222	0.7%	224	0.7%
California	2,817	8.8%	2,745	8.8%	2,793	8.9%
Colorado	377	1.2%	365	1.2%	361	1.2%
Connecticut	546	1.7%	538	1.7%	542	1.7%
Delaware	89	0.3%	85	0.3%	89	0.3%
District of Columbia	357	1.1%	342	1.1%	359	1.1%
Florida	1,538	4.8%	1,484	4.8%	1,484	4.7%
Georgia	649	2.0%	625	2.0%	629	2.0%
Hawaii	142	0.4%	139	0.4%	114	0.4%
Idaho	45	0.1%	44	0.1%	41	0.1%
Illinois	1,592	5.0%	1,546	5.0%	1,531	4.9%
Indiana	364	1.1%	343	1.1%	365	1.2%
Iowa	226	0.7%	220	0.7%	223	0.7%
Kansas	188	0.6%	187	0.6%	201	0.6%
Kentucky	332	1.0%	326	1.1%	330	1.1%
Louisiana	499	1.6%	482	1.6%	500	1.6%
Maine	90	0.3%	86	0.3%	92	0.3%
Maryland	697	2.2%	679	2.2%	675	2.2%
Massachusetts	1,115	3.5%	1,100	3.5%	1,127	3.6%
Michigan	1,693	5.3%	1,653	5.3%	1,647	5.3%
Minnesota	469	1.5%	463	1.5%	499	1.6%
Mississippi	184	0.6%	178	0.6%	178	0.6%
Missouri	630	2.0%	611	2.0%	651	2.1%
Montana	31	0.1%	25	0.1%	31	0.1%
Nebraska	192	0.6%	185	0.6%	195	0.6%
Nevada	218	0.7%	205	0.7%	188	0.6%
New Hampshire	85	0.3%	84	0.3%	95	0.3%
New Jersey	849	2.7%	826	2.7%	858	2.7%
New Mexico	146	0.5%	135	0.4%	142	0.5%
New York	4,189	13.1%	4,060	13.1%	3,999	12.8%
North Carolina	811	2.5%	786	2.5%	805	2.6%
North Dakota	58	0.2%	54	0.2%	47	0.1%
Ohio	1,608	5.0%	1,551	5.0%	1,552	4.9%
Oklahoma	285	0.9%	271	0.9%	293	0.9%
Oregon	224	0.7%	217	0.7%	225	0.7%
Pennsylvania	1,982	6.2%	1,932	6.2%	1,958	6.2%
Puerto Rico	282	0.9%	256	0.8%	223	0.7%
Rhode Island	180	0.6%	176	0.6%	181	0.6%
South Carolina	404	1.3%	391	1.3%	374	1.2%
South Dakota	48	0.1%	46	0.1%	40	0.1%
Tennessee	594	1.9%	578	1.9%	584	1.9%
Texas	2,028	6.3%	1,946	6.3%	2,057	6.6%
Utah	166	0.5%	159	0.5%	173	0.6%
Vermont	63	0.2%	60	0.2%	66	0.2%
Virginia	683	2.1%	663	2.1%	641	2.0%
Washington	517	1.6%	499	1.6%	494	1.6%
West Virginia	236	0.7%	228	0.7%	216	0.7%
Wisconsin	463	1.4%	450	1.5%	463	1.5%
Wyoming	15	0.0%	15	0.0%	15	0.0%

Abbreviations: GME, graduate medical education; PGY1, post graduate year 1.



Graduating Residents and Residents Leaving Prior to Completion

This section summarizes the characteristics of both graduating residents who successfully completed all accredited training, and residents who left their program prior to successful completion of their training. Resident completion status for the 2016-2017 academic year was reported during the fall of the 2017-2018 academic year, therefore, the following data includes only those residents who graduated or left their programs between September 1, 2016 and August 31, 2017.

Graduating Residents

Of the 42,441 residents graduating from ACGME-accredited programs in the 2016-2017 academic year, 62.1% graduated from a medical program, 22.8% graduated from a hospital-based program, and 15.1% graduated from a surgical program. From the 2007-2008 academic year to the 2016-2017 academic year, there was a 23.7% increase in graduating residents (a 19.1% increase in specialty program graduates and a 36.8% increase in subspecialty program graduates). The specialties with the highest number of graduating residents in the 2016-2017 academic year include:

- Internal medicine (7,975)
- Family medicine (3,747)
- Pediatrics (2,963)

International medical school graduates account for 10,995 (25.9%) of all graduating residents.

Residents Completing Preliminary Training and Transitional Year Graduates

There were 3,573 residents who completed preliminary training and 1,146 residents graduating from transitional year programs during the 2016-2017 academic year for a total of 4,719 residents completing the necessary prerequisite training for specialty programs that require a clinical base year. Of the 3,573 preliminary training graduates, 2,159 (60.4%) were in internal medicine, 1,325 (37.1%) were in surgery, 72 (2.0%) were in pediatrics, and 17 (0.5%) were in obstetrics and gynecology. Over the last 10 years the total number of preliminary graduates has

fluctuated, with a high of 3,854 completing training in the 2008-2009 academic year, and a low of 3,118 completing training in the 2011-2012. The number of transitional year graduates has remained fairly constant, with approximately 1,100 residents completing transitional year programs every year.

Geographic Distribution of Graduates

There were approximately 12.9 graduating residents per 100,000 population, including Puerto Rico, during the 2016-2017 academic year (9.17 specialty graduates and 3.73 subspecialty graduates). The following states have the highest total number of graduating residents:

- New York (5,492)
- California (3,800)
- Pennsylvania (2,830)
- Texas (2,790)

The concentration of specialty graduates ranges from 1.49 per 100,000 population in Alaska to 53.7 per 100,000 population in the District of Columbia.

Residents Leaving Prior to Completion

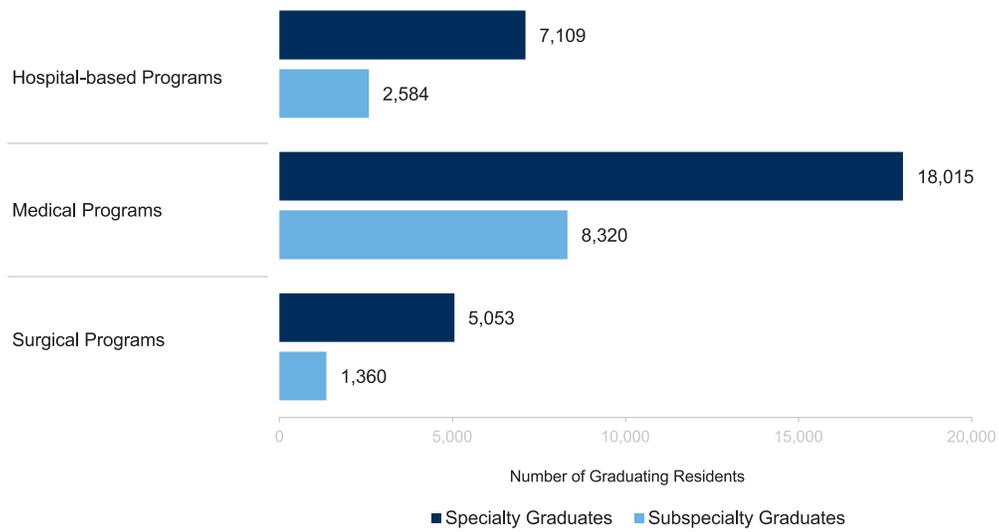
In the 2016-2017 academic year, 2,200 left their programs prior to successful completion with statuses of either deceased (1.0%), dismissed (9.6%), transferred (49.8%), unsuccessfully completed program (0.3%), or withdrawn (39.2%). The following specialties have the highest number of transferring residents:

- Psychiatry (351)
- Surgery (152)
- Internal medicine (119)

Overall, of the 1,044 transfers that occurred among residents in specialty programs during the 2016-2017 academic year, 413 (39.6%) occurred during the first year of the program, 228 (21.8%) occurred during the second year of the program, 364 (34.9%) occurred during the third year of the program, and 39 (3.7%) occurred in the fourth, fifth, or sixth years of the program. ↘

FIGURE D.1

Number of Graduating Residents by Specialty Group, 2016-2017 AY



Note: Total number of graduating residents = 42,441.
Abbreviations: AY, academic year.

FIGURE D.2

Number of Graduating Residents by Academic Year, 2007-2008 to 2016-2017

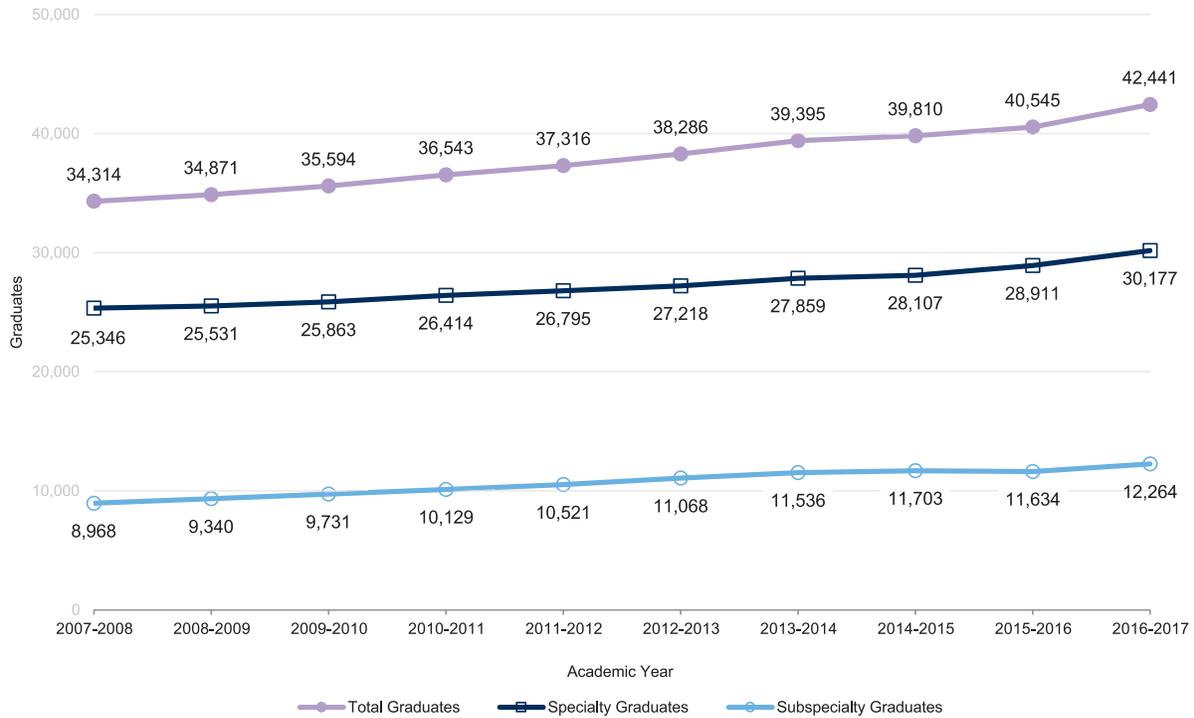
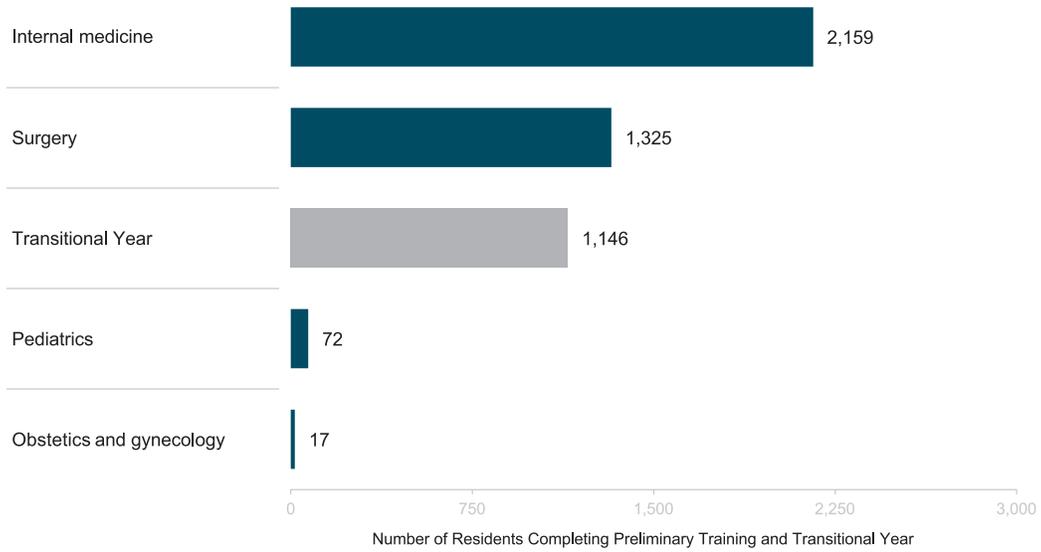


FIGURE D.3

Number of Residents Completing Preliminary Training and Transitional Year by Specialty, 2016-2017 AY



Notes: Total number of residents completing preliminary training = 3,573. Total number of residents completing transitional year programs = 1,146.
Abbreviations: AY, academic year

FIGURE D.4

Number of Residents Completing Preliminary Training and Transitional Year by Academic Year, 2007-2008 to 2016-2017

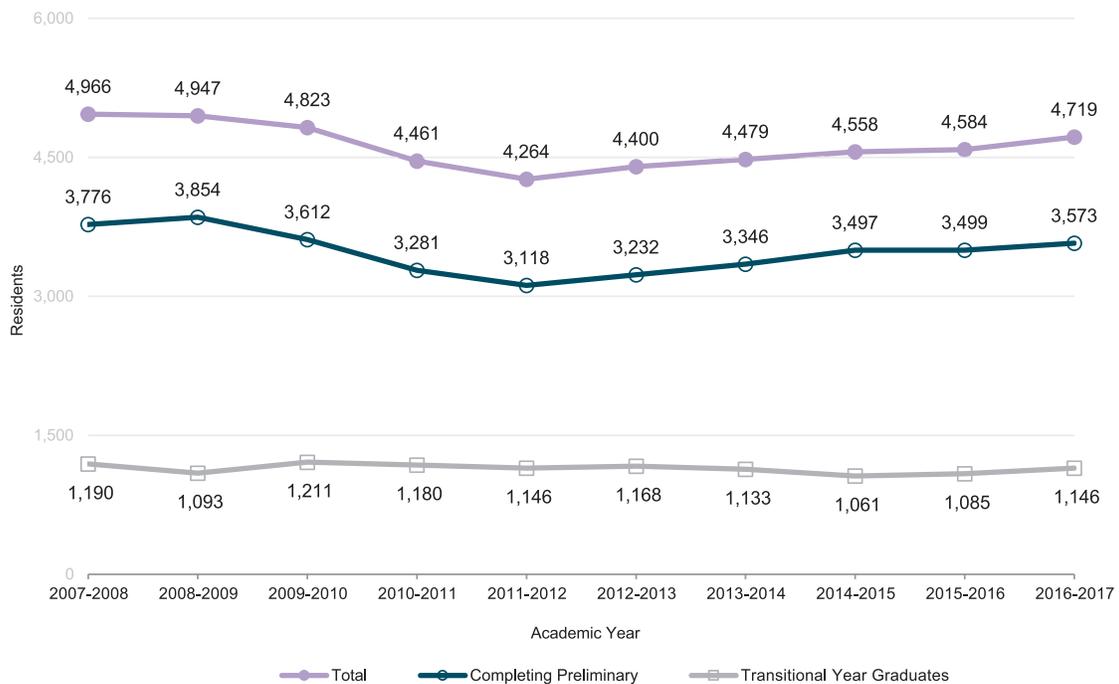


TABLE D.5
Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2016-2017 AY

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
OVERALL	42,441	100.0%	3,573	100.0%
TOTAL PIPELINE	28,700	67.6%	3,573	100.0%
Allergy and immunology	139	0.3%	0	0.0%
Anesthesiology	1,664	3.9%	0	0.0%
- Adult cardiothoracic anesthesiology	202	0.5%	0	0.0%
- Clinical informatics	0	0.0%	0	0.0%
- Critical care medicine	186	0.4%	0	0.0%
- Regional anesthesiology and acute pain medicine	37	0.1%	0	0.0%
- Obstetric anesthesiology	43	0.1%	0	0.0%
- Pain medicine (multidisciplinary)	359	0.8%	0	0.0%
- Pediatric anesthesiology	223	0.5%	0	0.0%
Colon and rectal surgery	95	0.2%	0	0.0%
Dermatology	474	1.1%	0	0.0%
- Dermatopathology (multidisciplinary)	73	0.2%	0	0.0%
- Micrographic surgery and dermatologic oncology	82	0.2%	0	0.0%
Emergency medicine	2,070	4.9%	0	0.0%
- Clinical informatics	2	0.0%	0	0.0%
- Emergency medical services	64	0.2%	0	0.0%
- Medical toxicology	33	0.1%	0	0.0%
- Pediatric emergency medicine	36	0.1%	0	0.0%
- Sports medicine	14	0.0%	0	0.0%
- Undersea and hyperbaric medicine	13	0.0%	0	0.0%
Family medicine	3,747	8.8%	0	0.0%
- Clinical informatics	2	0.0%	0	0.0%
- Geriatric medicine	44	0.1%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	292	0.7%	0	0.0%
- Sports medicine	214	0.5%	0	0.0%
Internal medicine	7,975	18.8%	2,159	60.4%
- Adult congenital heart disease	7	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	95	0.2%	0	0.0%
- Cardiovascular disease	915	2.2%	0	0.0%
- Clinical cardiac electrophysiology	118	0.3%	0	0.0%
- Clinical informatics	4	0.0%	0	0.0%
- Critical care medicine	122	0.3%	0	0.0%
- Endocrinology, diabetes, and metabolism	302	0.7%	0	0.0%
- Gastroenterology	520	1.2%	0	0.0%
- Geriatric medicine	277	0.7%	0	0.0%
- Hematology	7	0.0%	0	0.0%
- Hematology and medical oncology	586	1.4%	0	0.0%
- Infectious disease	363	0.9%	0	0.0%
- Interventional cardiology	315	0.7%	0	0.0%
- Nephrology	431	1.0%	0	0.0%
- Medical oncology	18	0.0%	0	0.0%
- Pulmonary disease	34	0.1%	0	0.0%
- Pulmonary disease and critical care medicine	566	1.3%	0	0.0%
- Rheumatology	224	0.5%	0	0.0%
- Sleep medicine (multidisciplinary)	169	0.4%	0	0.0%
- Transplant hepatology	39	0.1%	0	0.0%
Medical genetics and genomics	35	0.1%	0	0.0%
- Medical biochemical genetics	10	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	54	0.1%	0	0.0%
Neurological surgery	189	0.4%	0	0.0%
- Endovascular surgical neuroradiology	1	0.0%	0	0.0%

TABLE D.5 Continued
Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2016-2017 AY

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
Neurology	684	1.6%	0	0.0%
- Brain injury medicine	0	0.0%	0	0.0%
- Clinical neurophysiology	170	0.4%	0	0.0%
- Epilepsy	81	0.2%	0	0.0%
- Endovascular surgical neuroradiology	3	0.0%	0	0.0%
- Neurodevelopmental disabilities	3	0.0%	0	0.0%
- Neuromuscular medicine	62	0.1%	0	0.0%
- Vascular neurology	130	0.3%	0	0.0%
Child neurology	120	0.3%	0	0.0%
Nuclear medicine	40	0.1%	0	0.0%
Obstetrics and gynecology	1,329	3.1%	17	0.5%
- Female pelvic medicine and reconstructive surgery	45	0.1%	0	0.0%
- Gynecologic oncology	55	0.1%	0	0.0%
- Maternal-fetal medicine	102	0.2%	0	0.0%
- Reproductive endocrinology and infertility	41	0.1%	0	0.0%
Ophthalmology	479	1.1%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	2	0.0%	0	0.0%
Orthopaedic surgery	732	1.7%	0	0.0%
- Adult reconstructive orthopaedics	41	0.1%	0	0.0%
- Foot and ankle orthopaedics	15	0.0%	0	0.0%
- Hand surgery	147	0.3%	0	0.0%
- Musculoskeletal oncology	16	0.0%	0	0.0%
- Orthopaedic sports medicine	215	0.5%	0	0.0%
- Orthopaedic surgery of the spine	32	0.1%	0	0.0%
- Orthopaedic trauma	15	0.0%	0	0.0%
- Pediatric orthopaedics	38	0.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	9	0.0%	0	0.0%
Otolaryngology	304	0.7%	0	0.0%
- Neurotology	15	0.0%	0	0.0%
- Pediatric otolaryngology	33	0.1%	0	0.0%
Pathology-anatomic and clinical	614	1.4%	0	0.0%
- Blood banking/transfusion medicine	45	0.1%	0	0.0%
- Clinical informatics	3	0.0%	0	0.0%
- Chemical pathology	1	0.0%	0	0.0%
- Cytopathology	140	0.3%	0	0.0%
- Forensic pathology	48	0.1%	0	0.0%
- Hematopathology	136	0.3%	0	0.0%
- Medical microbiology	12	0.0%	0	0.0%
- Neuropathology	29	0.1%	0	0.0%
- Pediatric pathology	24	0.1%	0	0.0%
- Selective pathology	155	0.4%	0	0.0%
Pediatrics	2,963	7.0%	72	2.0%
- Adolescent medicine	28	0.1%	0	0.0%
- Child abuse pediatrics	13	0.0%	0	0.0%
- Clinical informatics	4	0.0%	0	0.0%
- Developmental-behavioral pediatrics	25	0.1%	0	0.0%
- Neonatal-perinatal medicine	244	0.6%	0	0.0%
- Pediatric cardiology	140	0.3%	0	0.0%
- Pediatric critical care medicine	169	0.4%	0	0.0%
- Pediatric emergency medicine	135	0.3%	0	0.0%
- Pediatric endocrinology	81	0.2%	0	0.0%
- Pediatric gastroenterology	89	0.2%	0	0.0%
- Pediatric hematology/oncology	152	0.4%	0	0.0%

TABLE D.5 Continued

Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2016-2017 AY

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
- Pediatric infectious diseases	65	0.2%	0	0.0%
- Pediatric nephrology	37	0.1%	0	0.0%
- Pediatric pulmonology	61	0.1%	0	0.0%
- Pediatric rheumatology	28	0.1%	0	0.0%
- Pediatric sports medicine	22	0.1%	0	0.0%
- Pediatric transplant hepatology	9	0.0%	0	0.0%
Physical medicine and rehabilitation	407	1.0%	0	0.0%
- Brain injury medicine	9	0.0%	0	0.0%
- Neuromuscular medicine	0	0.0%	0	0.0%
- Spinal cord injury medicine	16	0.0%	0	0.0%
- Pediatric rehabilitation	14	0.0%	0	0.0%
- Sports medicine	22	0.1%	0	0.0%
Plastic surgery	111	0.3%	0	0.0%
Plastic surgery - integrated	81	0.2%	0	0.0%
- Craniofacial surgery	8	0.0%	0	0.0%
- Hand surgery	24	0.1%	0	0.0%
Preventive medicine	198	0.5%	0	0.0%
- Medical toxicology	3	0.0%	0	0.0%
- Undersea and hyperbaric medicine	3	0.0%	0	0.0%
Psychiatry	1,141	2.7%	0	0.0%
- Addiction psychiatry	75	0.2%	0	0.0%
- Child and adolescent psychiatry	413	1.0%	0	0.0%
- Forensic psychiatry	62	0.1%	0	0.0%
- Geriatric psychiatry	56	0.1%	0	0.0%
- Consultation-liaison psychiatry	83	0.2%	0	0.0%
Radiation oncology	177	0.4%	0	0.0%
Radiology-diagnostic	1,165	2.7%	0	0.0%
- Abdominal radiology	47	0.1%	0	0.0%
- Endovascular surgical neuroradiology	4	0.0%	0	0.0%
- Musculoskeletal radiology	33	0.1%	0	0.0%
- Neuroradiology	268	0.6%	0	0.0%
- Nuclear radiology	12	0.0%	0	0.0%
- Pediatric radiology	62	0.1%	0	0.0%
- Vascular and interventional radiology	283	0.7%	0	0.0%
Interventional radiology - integrated	0	0.0%	0	0.0%
Surgery	1,272	3.0%	1,325	37.1%
- Complex general surgical oncology	52	0.1%	0	0.0%
- Hand surgery	8	0.0%	0	0.0%
- Pediatric surgery	45	0.1%	0	0.0%
- Surgical critical care	255	0.6%	0	0.0%
- Vascular surgery	112	0.3%	0	0.0%
Vascular surgery - integrated	41	0.1%	0	0.0%
Thoracic surgery	97	0.2%	0	0.0%
- Congenital cardiac surgery	6	0.0%	0	0.0%
Thoracic surgery - integrated	12	0.0%	0	0.0%
Urology	311	0.7%	0	0.0%
- Female pelvic medicine and reconstructive surgery	15	0.0%	0	0.0%
- Pediatric urology	22	0.1%	0	0.0%
Transitional year	1,146	2.7%	0	0.0%
Internal medicine/Pediatrics	356	0.8%	0	0.0%

Note: Pipeline specialties are highlighted.
Abbreviations: AY, academic year.

TABLE D.6

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2016-2017 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	42,441	25,917	61.1%	10,995	25.9%	5,410	12.7%	116	0.3%	3	0.0%
TOTAL PIPELINE	28,700	17,691	61.6%	6,856	23.9%	4,133	14.4%	18	0.1%	2	0.0%
Allergy and immunology	139	103	74.1%	24	17.3%	11	7.9%	1	0.7%	0	0.0%
Anesthesiology	1,664	1,256	75.5%	190	11.4%	214	12.9%	2	0.1%	2	0.1%
- Adult cardiothoracic anesthesiology	202	150	74.3%	26	12.9%	26	12.9%	0	0.0%	0	0.0%
- Clinical informatics	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
- Critical care medicine	186	146	78.5%	34	18.3%	6	3.2%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	37	33	89.2%	2	5.4%	2	5.4%	0	0.0%	0	0.0%
- Obstetric anesthesiology	43	35	81.4%	6	14.0%	1	2.3%	1	2.3%	0	0.0%
- Pain medicine (multidisciplinary)	359	247	68.8%	59	16.4%	51	14.2%	2	0.6%	0	0.0%
- Pediatric anesthesiology	223	163	73.1%	29	13.0%	29	13.0%	2	0.9%	0	0.0%
Colon and rectal surgery	95	78	82.1%	14	14.7%	0	0.0%	3	3.2%	0	0.0%
Dermatology	474	414	87.3%	12	2.5%	48	10.1%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	73	52	71.2%	17	23.3%	4	5.5%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	82	76	92.7%	1	1.2%	4	4.9%	1	1.2%	0	0.0%
Emergency medicine	2,070	1,537	74.3%	113	5.5%	419	20.2%	1	0.0%	0	0.0%
- Clinical informatics	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	64	46	71.9%	8	12.5%	10	15.6%	0	0.0%	0	0.0%
- Medical toxicology	33	25	75.8%	3	9.1%	4	12.1%	1	3.0%	0	0.0%
- Pediatric emergency medicine	36	19	52.8%	11	30.6%	6	16.7%	0	0.0%	0	0.0%
- Sports medicine	14	8	57.1%	3	21.4%	3	21.4%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	13	9	69.2%	1	7.7%	2	15.4%	1	7.7%	0	0.0%
Family medicine	3,747	1,611	43.0%	1,132	30.2%	1,004	26.8%	0	0.0%	0	0.0%
- Clinical informatics	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	44	19	43.2%	17	38.6%	8	18.2%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	292	159	54.5%	75	25.7%	56	19.2%	2	0.7%	0	0.0%
- Sports medicine	214	101	47.2%	50	23.4%	63	29.4%	0	0.0%	0	0.0%
Internal medicine	7,975	3,644	45.7%	3,262	40.9%	1,066	13.4%	3	0.0%	0	0.0%
- Adult congenital heart disease	7	5	71.4%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	95	62	65.3%	27	28.4%	5	5.3%	1	1.1%	0	0.0%
- Cardiovascular disease	915	480	52.5%	347	37.9%	84	9.2%	4	0.4%	0	0.0%
- Clinical cardiac electrophysiology	118	60	50.8%	55	46.6%	3	2.5%	0	0.0%	0	0.0%
- Clinical informatics	4	2	50.0%	2	50.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	122	37	30.3%	71	58.2%	12	9.8%	2	1.6%	0	0.0%
- Endocrinology, diabetes, and metabolism	302	123	40.7%	154	51.0%	25	8.3%	0	0.0%	0	0.0%
- Gastroenterology	520	328	63.1%	165	31.7%	27	5.2%	0	0.0%	0	0.0%
- Geriatric medicine	277	99	35.7%	154	55.6%	24	8.7%	0	0.0%	0	0.0%
- Hematology	7	5	71.4%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	586	302	51.5%	251	42.8%	31	5.3%	2	0.3%	0	0.0%
- Infectious disease	363	168	46.3%	166	45.7%	29	8.0%	0	0.0%	0	0.0%
- Interventional cardiology	315	130	41.3%	169	53.7%	16	5.1%	0	0.0%	0	0.0%
- Nephrology	431	108	25.1%	282	65.4%	41	9.5%	0	0.0%	0	0.0%
- Medical oncology	18	8	44.4%	9	50.0%	1	5.6%	0	0.0%	0	0.0%
- Pulmonary disease	34	2	5.9%	32	94.1%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	566	291	51.4%	227	40.1%	47	8.3%	1	0.2%	0	0.0%
- Rheumatology	224	81	36.2%	117	52.2%	26	11.6%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	169	70	41.4%	89	52.7%	10	5.9%	0	0.0%	0	0.0%
- Transplant hepatology	39	25	64.1%	13	33.3%	1	2.6%	0	0.0%	0	0.0%
Medical genetics and genomics	35	19	54.3%	14	40.0%	1	2.9%	1	2.9%	0	0.0%
- Medical biochemical genetics	10	3	30.0%	7	70.0%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	54	35	64.8%	17	31.5%	2	3.7%	0	0.0%	0	0.0%
Neurological surgery	189	174	92.1%	12	6.3%	3	1.6%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%

TABLE D.6 Continued

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2016-2017 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
Neurology	684	368	53.8%	246	36.0%	70	10.2%	0	0.0%	0	0.0%
- Brain injury medicine	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
- Clinical neurophysiology	170	85	50.0%	76	44.7%	8	4.7%	1	0.6%	0	0.0%
- Epilepsy	81	44	54.3%	28	34.6%	7	8.6%	2	2.5%	0	0.0%
- Endovascular surgical neuroradiology	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	62	38	61.3%	19	30.6%	4	6.5%	1	1.6%	0	0.0%
- Vascular neurology	130	57	43.8%	62	47.7%	8	6.2%	3	2.3%	0	0.0%
Child neurology	120	84	70.0%	29	24.2%	7	5.8%	0	0.0%	0	0.0%
Nuclear medicine	40	14	35.0%	25	62.5%	1	2.5%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,329	966	72.7%	156	11.7%	206	15.5%	1	0.1%	0	0.0%
- Female pelvic medicine and reconstructive surgery	45	32	71.1%	9	20.0%	4	8.9%	0	0.0%	0	0.0%
- Gynecologic oncology	55	52	94.5%	1	1.8%	2	3.6%	0	0.0%	0	0.0%
- Maternal-fetal medicine	102	84	82.4%	10	9.8%	7	6.9%	1	1.0%	0	0.0%
- Reproductive endocrinology and infertility	41	33	80.5%	8	19.5%	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	479	439	91.6%	22	4.6%	18	3.8%	0	0.0%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	732	679	92.8%	10	1.4%	43	5.9%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	41	31	75.6%	3	7.3%	5	12.2%	2	4.9%	0	0.0%
- Foot and ankle orthopaedics	15	11	73.3%	1	6.7%	2	13.3%	1	6.7%	0	0.0%
- Hand surgery	147	135	91.8%	4	2.7%	5	3.4%	3	2.0%	0	0.0%
- Musculoskeletal oncology	16	11	68.8%	5	31.3%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	215	183	85.1%	7	3.3%	17	7.9%	8	3.7%	0	0.0%
- Orthopaedic surgery of the spine	32	25	78.1%	5	15.6%	1	3.1%	1	3.1%	0	0.0%
- Orthopaedic trauma	15	11	73.3%	4	26.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	38	28	73.7%	5	13.2%	2	5.3%	3	7.9%	0	0.0%
Osteopathic neuromusculoskeletal medicine	9	0	0.0%	0	0.0%	9	100.0%	0	0.0%	0	0.0%
Otolaryngology	304	290	95.4%	1	0.3%	13	4.3%	0	0.0%	0	0.0%
- Neurotology	15	15	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	33	28	84.8%	1	3.0%	0	0.0%	4	12.1%	0	0.0%
Pathology-anatomic and clinical	614	334	54.4%	229	37.3%	50	8.1%	1	0.2%	0	0.0%
- Blood banking/transfusion medicine	45	27	60.0%	15	33.3%	3	6.7%	0	0.0%	0	0.0%
- Clinical informatics	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
- Chemical pathology	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	140	62	44.3%	67	47.9%	11	7.9%	0	0.0%	0	0.0%
- Forensic pathology	48	35	72.9%	6	12.5%	7	14.6%	0	0.0%	0	0.0%
- Hematopathology	136	66	48.5%	60	44.1%	10	7.4%	0	0.0%	0	0.0%
- Medical microbiology	12	4	33.3%	8	66.7%	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	29	19	65.5%	6	20.7%	4	13.8%	0	0.0%	0	0.0%
- Pediatric pathology	24	16	66.7%	7	29.2%	1	4.2%	0	0.0%	0	0.0%
- Selective pathology	155	49	31.6%	91	58.7%	12	7.7%	3	1.9%	0	0.0%
Pediatrics	2,963	1,981	66.9%	603	20.4%	378	12.8%	1	0.0%	0	0.0%
- Adolescent medicine	28	21	75.0%	4	14.3%	3	10.7%	0	0.0%	0	0.0%
- Child abuse pediatrics	13	12	92.3%	0	0.0%	1	7.7%	0	0.0%	0	0.0%
- Clinical informatics	4	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	25	14	56.0%	9	36.0%	2	8.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	244	134	54.9%	84	34.4%	26	10.7%	0	0.0%	0	0.0%
- Pediatric cardiology	140	104	74.3%	30	21.4%	5	3.6%	1	0.7%	0	0.0%
- Pediatric critical care medicine	169	108	63.9%	43	25.4%	14	8.3%	3	1.8%	1	0.6%
- Pediatric emergency medicine	135	109	80.7%	13	9.6%	13	9.6%	0	0.0%	0	0.0%
- Pediatric endocrinology	81	43	53.1%	35	43.2%	3	3.7%	0	0.0%	0	0.0%
- Pediatric gastroenterology	89	45	50.6%	37	41.6%	7	7.9%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	152	99	65.1%	42	27.6%	10	6.6%	1	0.7%	0	0.0%

TABLE D.6 Continued

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2016-2017 AY											
Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric infectious diseases	65	43	66.2%	20	30.8%	2	3.1%	0	0.0%	0	0.0%
- Pediatric nephrology	37	23	62.2%	14	37.8%	0	0.0%	0	0.0%	0	0.0%
- Pediatric pulmonology	61	38	62.3%	18	29.5%	5	8.2%	0	0.0%	0	0.0%
- Pediatric rheumatology	28	15	53.6%	10	35.7%	3	10.7%	0	0.0%	0	0.0%
- Pediatric sports medicine	22	16	72.7%	3	13.6%	2	9.1%	1	4.5%	0	0.0%
- Pediatric transplant hepatology	9	7	77.8%	2	22.2%	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	407	216	53.1%	61	15.0%	129	31.7%	1	0.2%	0	0.0%
- Brain injury medicine	9	5	55.6%	1	11.1%	3	33.3%	0	0.0%	0	0.0%
- Neuromuscular medicine	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
- Spinal cord injury medicine	16	11	68.8%	2	12.5%	3	18.8%	0	0.0%	0	0.0%
- Pediatric rehabilitation	14	9	64.3%	2	14.3%	3	21.4%	0	0.0%	0	0.0%
- Sports medicine	22	11	50.0%	3	13.6%	8	36.4%	0	0.0%	0	0.0%
Plastic surgery	111	89	80.2%	18	16.2%	4	3.6%	0	0.0%	0	0.0%
Plastic surgery - integrated	81	74	91.4%	4	4.9%	3	3.7%	0	0.0%	0	0.0%
- Craniofacial surgery	8	7	87.5%	0	0.0%	0	0.0%	1	12.5%	0	0.0%
- Hand surgery	24	22	91.7%	1	4.2%	0	0.0%	1	4.2%	0	0.0%
Preventive medicine	198	139	70.2%	23	11.6%	34	17.2%	2	1.0%	0	0.0%
- Medical toxicology	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	1,141	624	54.7%	356	31.2%	159	13.9%	2	0.2%	0	0.0%
- Addiction psychiatry	75	36	48.0%	33	44.0%	5	6.7%	1	1.3%	0	0.0%
- Child and adolescent psychiatry	413	220	53.3%	132	32.0%	61	14.8%	0	0.0%	0	0.0%
- Forensic psychiatry	62	36	58.1%	18	29.0%	7	11.3%	1	1.6%	0	0.0%
- Geriatric psychiatry	56	26	46.4%	23	41.1%	7	12.5%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	83	43	51.8%	28	33.7%	9	10.8%	3	3.6%	0	0.0%
Radiation oncology	177	175	98.9%	0	0.0%	2	1.1%	0	0.0%	0	0.0%
Radiology-diagnostic	1,165	940	80.7%	119	10.2%	104	8.9%	2	0.2%	0	0.0%
- Abdominal radiology	47	29	61.7%	12	25.5%	1	2.1%	5	10.6%	0	0.0%
- Endovascular surgical neuroradiology	4	2	50.0%	2	50.0%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	33	32	97.0%	1	3.0%	0	0.0%	0	0.0%	0	0.0%
- Neuroradiology	268	213	79.5%	35	13.1%	14	5.2%	6	2.2%	0	0.0%
- Nuclear radiology	12	7	58.3%	4	33.3%	1	8.3%	0	0.0%	0	0.0%
- Pediatric radiology	62	46	74.2%	10	16.1%	4	6.5%	2	3.2%	0	0.0%
- Vascular and interventional radiology	283	224	79.2%	31	11.0%	28	9.9%	0	0.0%	0	0.0%
Interventional radiology - integrated	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Surgery	1,272	991	77.9%	179	14.1%	102	8.0%	0	0.0%	0	0.0%
- Complex general surgical oncology	52	41	78.8%	5	9.6%	1	1.9%	5	9.6%	0	0.0%
- Hand surgery	8	6	75.0%	0	0.0%	0	0.0%	2	25.0%	0	0.0%
- Pediatric surgery	45	42	93.3%	3	6.7%	0	0.0%	0	0.0%	0	0.0%
- Surgical critical care	255	186	72.9%	36	14.1%	27	10.6%	6	2.4%	0	0.0%
- Vascular surgery	112	87	77.7%	17	15.2%	8	7.1%	0	0.0%	0	0.0%
Vascular surgery - integrated	41	36	87.8%	4	9.8%	1	2.4%	0	0.0%	0	0.0%
Thoracic surgery	97	75	77.3%	15	15.5%	6	6.2%	1	1.0%	0	0.0%
- Congenital cardiac surgery	6	4	66.7%	2	33.3%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	12	11	91.7%	0	0.0%	1	8.3%	0	0.0%	0	0.0%
Urology	311	277	89.1%	12	3.9%	21	6.8%	1	0.3%	0	0.0%
- Female pelvic medicine and reconstructive surgery	15	14	93.3%	1	6.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric urology	22	21	95.5%	0	0.0%	1	4.5%	0	0.0%	0	0.0%
Transitional year	1,146	843	73.6%	108	9.4%	194	16.9%	1	0.1%	0	0.0%
Internal medicine/Pediatrics	356	309	86.8%	24	6.7%	23	6.5%	0	0.0%	0	0.0%

Note: Pipeline specialties are highlighted.
Abbreviations: AY, academic year; LCME, Liaison Committee on Medical Education.

TABLE D.7					
Number of Graduating Residents and Graduate Concentration per 100,000 Population by State, 2016-2017 AY					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Graduates	Percent of All Graduates	Graduates per 100,000 Pop
OVERALL	--	329,056,355	42,441	100.0%	12.90
Alabama	AL	4,874,747	468	1.1%	9.60
Alaska	AK	739,795	13	0.0%	1.76
Arizona	AZ	7,016,270	551	1.3%	7.85
Arkansas	AR	3,004,279	242	0.6%	8.06
California	CA	39,536,653	3,800	9.0%	9.61
Colorado	CO	5,607,154	494	1.2%	8.81
Connecticut	CT	3,588,184	758	1.8%	21.12
Delaware	DE	961,939	119	0.3%	12.37
District of Columbia	DC	693,972	528	1.2%	76.08
Florida	FL	20,984,400	1,652	3.9%	7.87
Georgia	GA	10,429,379	795	1.9%	7.62
Hawaii	HI	1,427,538	133	0.3%	9.32
Idaho	ID	1,716,943	41	0.1%	2.39
Illinois	IL	12,802,023	2,095	4.9%	16.36
Indiana	IN	6,666,818	508	1.2%	7.62
Iowa	IA	3,145,711	303	0.7%	9.63
Kansas	KS	2,913,123	242	0.6%	8.31
Kentucky	KY	4,454,189	391	0.9%	8.78
Louisiana	LA	4,684,333	610	1.4%	13.02
Maine	ME	1,335,907	98	0.2%	7.34
Maryland	MD	6,052,177	1,095	2.6%	18.09
Massachusetts	MA	6,859,819	2,004	4.7%	29.21
Michigan	MI	9,962,311	2,133	5.0%	21.41
Minnesota	MN	5,576,606	809	1.9%	14.51
Mississippi	MS	2,984,100	213	0.5%	7.14
Missouri	MO	6,113,532	913	2.2%	14.93
Montana	MT	1,050,493	26	0.1%	2.48
Nebraska	NE	1,920,076	233	0.5%	12.13
Nevada	NV	2,998,039	145	0.3%	4.84
New Hampshire	NH	1,342,795	142	0.3%	10.57
New Jersey	NJ	9,005,644	988	2.3%	10.97
New Mexico	NM	2,088,070	205	0.5%	9.82
New York	NY	19,849,399	5,492	12.9%	27.67
North Carolina	NC	10,273,419	1,123	2.6%	10.93
North Dakota	ND	755,393	44	0.1%	5.82
Ohio	OH	11,658,609	2,198	5.2%	18.85
Oklahoma	OK	3,930,864	317	0.7%	8.06
Oregon	OR	4,142,776	301	0.7%	7.27
Pennsylvania	PA	12,805,537	2,830	6.7%	22.10
Puerto Rico	PR	3,337,177	305	0.7%	9.14
Rhode Island	RI	1,059,639	262	0.6%	24.73
South Carolina	SC	5,024,369	439	1.0%	8.74
South Dakota	SD	869,666	47	0.1%	5.40
Tennessee	TN	6,715,984	776	1.8%	11.55
Texas	TX	28,304,596	2,790	6.6%	9.86
Utah	UT	3,101,833	279	0.7%	8.99
Vermont	VT	623,657	92	0.2%	14.75
Virginia	VA	8,470,020	848	2.0%	10.01
Washington	WA	7,405,743	676	1.6%	9.13
West Virginia	WV	1,815,857	233	0.5%	12.83
Wisconsin	WI	5,795,483	630	1.5%	10.87
Wyoming	WY	579,315	12	0.0%	2.07

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

Abbreviations: AY, academic year.

TABLE D.8
Number of Specialty Graduates and Specialty Graduate Concentration per 100,000 Population by State, 2016-2017 AY

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Specialty Graduates	Percent of All Specialty Graduates	Specialty Graduates per 100,000 Pop
OVERALL	--	329,056,355	30,177	100.0%	9.17
Alabama	AL	4,874,747	343	1.1%	7.04
Alaska	AK	739,795	11	0.0%	1.49
Arizona	AZ	7,016,270	429	1.4%	6.11
Arkansas	AR	3,004,279	183	0.6%	6.09
California	CA	39,536,653	2,615	8.7%	6.61
Colorado	CO	5,607,154	337	1.1%	6.01
Connecticut	CT	3,588,184	534	1.8%	14.88
Delaware	DE	961,939	90	0.3%	9.36
District of Columbia	DC	693,972	369	1.2%	53.17
Florida	FL	20,984,400	1,183	3.9%	5.64
Georgia	GA	10,429,379	568	1.9%	5.45
Hawaii	HI	1,427,538	115	0.4%	8.06
Idaho	ID	1,716,943	38	0.1%	2.21
Illinois	IL	12,802,023	1,582	5.2%	12.36
Indiana	IN	6,666,818	383	1.3%	5.74
Iowa	IA	3,145,711	225	0.7%	7.15
Kansas	KS	2,913,123	185	0.6%	6.35
Kentucky	KY	4,454,189	281	0.9%	6.31
Louisiana	LA	4,684,333	464	1.5%	9.91
Maine	ME	1,335,907	80	0.3%	5.99
Maryland	MD	6,052,177	703	2.3%	11.62
Massachusetts	MA	6,859,819	1,230	4.1%	17.93
Michigan	MI	9,962,311	1,646	5.5%	16.52
Minnesota	MN	5,576,606	512	1.7%	9.18
Mississippi	MS	2,984,100	162	0.5%	5.43
Missouri	MO	6,113,532	618	2.0%	10.11
Montana	MT	1,050,493	25	0.1%	2.38
Nebraska	NE	1,920,076	174	0.6%	9.06
Nevada	NV	2,998,039	123	0.4%	4.10
New Hampshire	NH	1,342,795	86	0.3%	6.40
New Jersey	NJ	9,005,644	807	2.7%	8.96
New Mexico	NM	2,088,070	131	0.4%	6.27
New York	NY	19,849,399	3,942	13.1%	19.86
North Carolina	NC	10,273,419	725	2.4%	7.06
North Dakota	ND	755,393	44	0.1%	5.82
Ohio	OH	11,658,609	1,542	5.1%	13.23
Oklahoma	OK	3,930,864	261	0.9%	6.64
Oregon	OR	4,142,776	210	0.7%	5.07
Pennsylvania	PA	12,805,537	1,931	6.4%	15.08
Puerto Rico	PR	3,337,177	256	0.8%	7.67
Rhode Island	RI	1,059,639	182	0.6%	17.18
South Carolina	SC	5,024,369	327	1.1%	6.51
South Dakota	SD	869,666	41	0.1%	4.71
Tennessee	TN	6,715,984	538	1.8%	8.01
Texas	TX	28,304,596	1,918	6.4%	6.78
Utah	UT	3,101,833	186	0.6%	6.00
Vermont	VT	623,657	61	0.2%	9.78
Virginia	VA	8,470,020	635	2.1%	7.50
Washington	WA	7,405,743	473	1.6%	6.39
West Virginia	WV	1,815,857	199	0.7%	10.96
Wisconsin	WI	5,795,483	462	1.5%	7.97
Wyoming	WY	579,315	12	0.0%	2.07

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

Abbreviations: AY, academic year.

TABLE D.9					
Number of Subspecialty Graduates and Subspecialty Graduate Concentration per 100,000 Population by State, 2016-2017 AY					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Subspecialty Graduates	Percent of All Subspecialty Graduates	Subspecialty Graduates per 100,000 Pop
OVERALL	--	329,056,355	12,264	100.0%	3.73
Alabama	AL	4,874,747	125	1.0%	2.56
Alaska	AK	739,795	2	0.0%	0.27
Arizona	AZ	7,016,270	122	1.0%	1.74
Arkansas	AR	3,004,279	59	0.5%	1.96
California	CA	39,536,653	1,185	9.7%	3.00
Colorado	CO	5,607,154	157	1.3%	2.80
Connecticut	CT	3,588,184	224	1.8%	6.24
Delaware	DE	961,939	29	0.2%	3.01
District of Columbia	DC	693,972	159	1.3%	22.91
Florida	FL	20,984,400	469	3.8%	2.23
Georgia	GA	10,429,379	227	1.9%	2.18
Hawaii	HI	1,427,538	18	0.1%	1.26
Idaho	ID	1,716,943	3	0.0%	0.17
Illinois	IL	12,802,023	513	4.2%	4.01
Indiana	IN	6,666,818	125	1.0%	1.87
Iowa	IA	3,145,711	78	0.6%	2.48
Kansas	KS	2,913,123	57	0.5%	1.96
Kentucky	KY	4,454,189	110	0.9%	2.47
Louisiana	LA	4,684,333	146	1.2%	3.12
Maine	ME	1,335,907	18	0.1%	1.35
Maryland	MD	6,052,177	392	3.2%	6.48
Massachusetts	MA	6,859,819	774	6.3%	11.28
Michigan	MI	9,962,311	487	4.0%	4.89
Minnesota	MN	5,576,606	297	2.4%	5.33
Mississippi	MS	2,984,100	51	0.4%	1.71
Missouri	MO	6,113,532	295	2.4%	4.83
Montana	MT	1,050,493	1	0.0%	0.10
Nebraska	NE	1,920,076	59	0.5%	3.07
Nevada	NV	2,998,039	22	0.2%	0.73
New Hampshire	NH	1,342,795	56	0.5%	4.17
New Jersey	NJ	9,005,644	181	1.5%	2.01
New Mexico	NM	2,088,070	74	0.6%	3.54
New York	NY	19,849,399	1,550	12.6%	7.81
North Carolina	NC	10,273,419	398	3.2%	3.87
North Dakota	ND	755,393	0	0.0%	0.00
Ohio	OH	11,658,609	656	5.3%	5.63
Oklahoma	OK	3,930,864	56	0.5%	1.42
Oregon	OR	4,142,776	91	0.7%	2.20
Pennsylvania	PA	12,805,537	899	7.3%	7.02
Puerto Rico	PR	3,337,177	49	0.4%	1.47
Rhode Island	RI	1,059,639	80	0.7%	7.55
South Carolina	SC	5,024,369	112	0.9%	2.23
South Dakota	SD	869,666	6	0.0%	0.69
Tennessee	TN	6,715,984	238	1.9%	3.54
Texas	TX	28,304,596	872	7.1%	3.08
Utah	UT	3,101,833	93	0.8%	3.00
Vermont	VT	623,657	31	0.3%	4.97
Virginia	VA	8,470,020	213	1.7%	2.51
Washington	WA	7,405,743	203	1.7%	2.74
West Virginia	WV	1,815,857	34	0.3%	1.87
Wisconsin	WI	5,795,483	168	1.4%	2.90
Wyoming	WY	579,315	0	0.0%	0.00

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

Abbreviations: AY, academic year.

TABLE D.10

Number of Pipeline Graduates and Pipeline Graduate Concentration per 100,000 Population by State, 2016-2017 AY

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Pipeline Graduates	Percent of All Pipeline Graduates	Pipeline Graduates per 100,000 Pop
OVERALL	--	329,056,355	28,700	100.0%	8.72
Alabama	AL	4,874,747	319	1.1%	6.54
Alaska	AK	739,795	11	0.0%	1.49
Arizona	AZ	7,016,270	405	1.4%	5.77
Arkansas	AR	3,004,279	183	0.6%	6.09
California	CA	39,536,653	2,509	8.7%	6.35
Colorado	CO	5,607,154	311	1.1%	5.55
Connecticut	CT	3,588,184	523	1.8%	14.58
Delaware	DE	961,939	83	0.3%	8.63
District of Columbia	DC	693,972	368	1.3%	53.03
Florida	FL	20,984,400	1,134	4.0%	5.40
Georgia	GA	10,429,379	520	1.8%	4.99
Hawaii	HI	1,427,538	95	0.3%	6.65
Idaho	ID	1,716,943	38	0.1%	2.21
Illinois	IL	12,802,023	1,501	5.2%	11.72
Indiana	IN	6,666,818	338	1.2%	5.07
Iowa	IA	3,145,711	216	0.8%	6.87
Kansas	KS	2,913,123	183	0.6%	6.28
Kentucky	KY	4,454,189	278	1.0%	6.24
Louisiana	LA	4,684,333	454	1.6%	9.69
Maine	ME	1,335,907	80	0.3%	5.99
Maryland	MD	6,052,177	647	2.3%	10.69
Massachusetts	MA	6,859,819	1,162	4.0%	16.94
Michigan	MI	9,962,311	1,469	5.1%	14.75
Minnesota	MN	5,576,606	480	1.7%	8.61
Mississippi	MS	2,984,100	159	0.6%	5.33
Missouri	MO	6,113,532	600	2.1%	9.81
Montana	MT	1,050,493	25	0.1%	2.38
Nebraska	NE	1,920,076	172	0.6%	8.96
Nevada	NV	2,998,039	123	0.4%	4.10
New Hampshire	NH	1,342,795	86	0.3%	6.40
New Jersey	NJ	9,005,644	803	2.8%	8.92
New Mexico	NM	2,088,070	131	0.5%	6.27
New York	NY	19,849,399	3,815	13.3%	19.22
North Carolina	NC	10,273,419	708	2.5%	6.89
North Dakota	ND	755,393	36	0.1%	4.77
Ohio	OH	11,658,609	1,459	5.1%	12.51
Oklahoma	OK	3,930,864	261	0.9%	6.64
Oregon	OR	4,142,776	208	0.7%	5.02
Pennsylvania	PA	12,805,537	1,844	6.4%	14.40
Puerto Rico	PR	3,337,177	217	0.8%	6.50
Rhode Island	RI	1,059,639	180	0.6%	16.99
South Carolina	SC	5,024,369	303	1.1%	6.03
South Dakota	SD	869,666	35	0.1%	4.02
Tennessee	TN	6,715,984	516	1.8%	7.68
Texas	TX	28,304,596	1,844	6.4%	6.51
Utah	UT	3,101,833	172	0.6%	5.55
Vermont	VT	623,657	61	0.2%	9.78
Virginia	VA	8,470,020	591	2.1%	6.98
Washington	WA	7,405,743	425	1.5%	5.74
West Virginia	WV	1,815,857	189	0.7%	10.41
Wisconsin	WI	5,795,483	418	1.5%	7.21
Wyoming	WY	579,315	12	0.0%	2.07

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

Abbreviations: AY, academic year.

TABLE D.11							
Number of Graduating Residents by State and Medical School Type, 2016-2017 AY							
State Name	State Abbreviation	Total Graduates	Medical School Type				
			US LCME-Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
OVERALL	-	42,441	25,917	10,995	5,410	116	3
Alabama	AL	468	338	99	31	0	0
Alaska	AK	13	8	1	4	0	0
Arizona	AZ	551	323	149	77	2	0
Arkansas	AR	242	129	89	24	0	0
California	CA	3,800	2,992	456	337	15	0
Colorado	CO	494	396	17	80	1	0
Connecticut	CT	758	403	276	75	4	0
Delaware	DE	119	66	17	36	0	0
District of Columbia	DC	528	341	163	23	1	0
Florida	FL	1,652	837	514	296	5	0
Georgia	GA	795	529	183	82	0	1
Hawaii	HI	133	85	20	28	0	0
Idaho	ID	41	23	7	11	0	0
Illinois	IL	2,095	1,309	540	243	3	0
Indiana	IN	508	380	74	54	0	0
Iowa	IA	303	165	68	70	0	0
Kansas	KS	242	129	58	55	0	0
Kentucky	KY	391	250	85	54	2	0
Louisiana	LA	610	372	197	41	0	0
Maine	ME	98	57	15	26	0	0
Maryland	MD	1,095	746	238	107	4	0
Massachusetts	MA	2,004	1,432	445	102	25	0
Michigan	MI	2,133	909	669	552	3	0
Minnesota	MN	809	554	178	70	7	0
Mississippi	MS	213	142	43	28	0	0
Missouri	MO	913	579	219	114	1	0
Montana	MT	26	13	9	4	0	0
Nebraska	NE	233	138	80	15	0	0
Nevada	NV	145	49	58	38	0	0
New Hampshire	NH	142	103	26	13	0	0
New Jersey	NJ	988	268	512	208	0	0
New Mexico	NM	205	133	58	14	0	0
New York	NY	5,492	2,614	2,374	490	13	1
North Carolina	NC	1,123	859	165	96	3	0
North Dakota	ND	44	27	11	6	0	0
Ohio	OH	2,198	1,193	598	402	5	0
Oklahoma	OK	317	145	73	99	0	0
Oregon	OR	301	222	26	53	0	0
Pennsylvania	PA	2,830	1,609	715	493	12	1
Puerto Rico	PR	305	213	92	0	0	0
Rhode Island	RI	262	185	55	21	1	0
South Carolina	SC	439	335	55	49	0	0
South Dakota	SD	47	21	19	7	0	0
Tennessee	TN	776	550	180	46	0	0
Texas	TX	2,790	1,792	630	366	2	0
Utah	UT	279	224	37	18	0	0
Vermont	VT	92	69	19	4	0	0
Virginia	VA	848	568	140	138	2	0
Washington	WA	676	535	50	86	5	0
West Virginia	WV	233	112	79	42	0	0
Wisconsin	WI	630	444	106	80	0	0
Wyoming	WY	12	2	8	2	0	0

Abbreviations: AY, academic year; LCME, Liaison Committee on Medical Education.

FIGURE D.12

Number of Residents Leaving Prior to Completion of a Program by Status, 2016-2017 AY

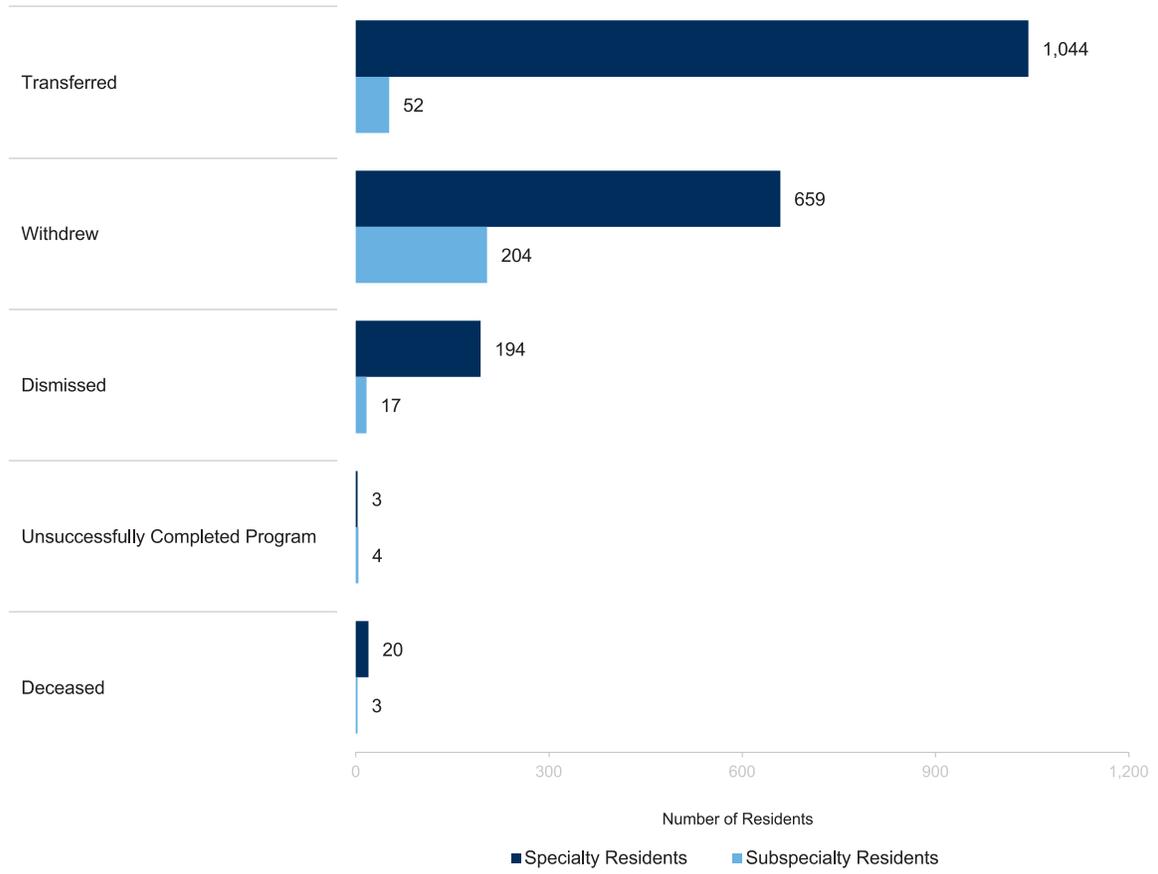


TABLE D.13

Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2016-2017 AY

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
OVERALL	2,200	1,096	863	211	7	23
TOTAL PIPELINE	1,896	1,034	647	192	3	20
Allergy and immunology	3	1	2	0	0	0
Anesthesiology	91	18	53	15	0	5
- Adult cardiothoracic anesthesiology	0	0	0	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Critical care medicine	1	0	1	0	0	0
- Regional anesthesiology and acute pain medicine	0	0	0	0	0	0
- Obstetric anesthesiology	0	0	0	0	0	0
- Pain medicine (multidisciplinary)	1	0	1	0	0	0
- Pediatric anesthesiology	0	0	0	0	0	0
Colon and rectal surgery	0	0	0	0	0	0
Dermatology	4	3	0	1	0	0
- Dermatopathology (multidisciplinary)	0	0	0	0	0	0
- Micrographic surgery and dermatologic oncology	1	1	0	0	0	0
Emergency medicine	70	42	23	4	0	1
- Clinical informatics	0	0	0	0	0	0
- Emergency medical services	0	0	0	0	0	0
- Medical toxicology	0	0	0	0	0	0
- Pediatric emergency medicine	3	1	2	0	0	0
- Sports medicine	0	0	0	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0
Family medicine	236	86	103	45	1	1
- Clinical informatics	0	0	0	0	0	0
- Geriatric medicine	3	0	3	0	0	0
- Hospice and palliative medicine (multidisciplinary)	6	0	5	1	0	0
- Sports medicine	2	0	2	0	0	0
Internal medicine	258	119	91	44	0	4
- Adult congenital heart disease	1	0	1	0	0	0
- Advanced heart failure and transplant cardiology	2	0	1	0	1	0
- Cardiovascular disease	11	1	8	1	0	1
- Clinical cardiac electrophysiology	3	0	3	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Critical care medicine	4	2	2	0	0	0
- Endocrinology, diabetes, and metabolism	7	1	6	0	0	0
- Gastroenterology	4	1	3	0	0	0
- Geriatric medicine	5	1	4	0	0	0
- Hematology	0	0	0	0	0	0
- Hematology and medical oncology	12	3	7	2	0	0
- Infectious disease	15	2	13	0	0	0
- Interventional cardiology	1	0	0	1	0	0
- Nephrology	27	0	25	1	0	1
- Medical oncology	1	0	0	1	0	0
- Pulmonary disease	3	3	0	0	0	0
- Pulmonary disease and critical care medicine	18	7	8	3	0	0
- Rheumatology	5	1	4	0	0	0
- Sleep medicine (multidisciplinary)	1	0	0	1	0	0
- Transplant hepatology	1	0	1	0	0	0
Medical genetics and genomics	7	1	6	0	0	0
- Medical biochemical genetics	0	0	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	0	0	0	0	0	0
Neurological surgery	34	21	12	1	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0

TABLE D.13 Continued

Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2016-2017 AY

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
Neurology	41	21	14	6	0	0
- Brain injury medicine	0	0	0	0	0	0
- Clinical neurophysiology	3	1	2	0	0	0
- Epilepsy	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0
- Neurodevelopmental disabilities	0	0	0	0	0	0
- Neuromuscular medicine	0	0	0	0	0	0
- Vascular neurology	0	0	0	0	0	0
Child neurology	7	2	5	0	0	0
Nuclear medicine	6	2	4	0	0	0
Obstetrics and gynecology	76	34	32	9	0	1
- Female pelvic medicine and reconstructive surgery	1	0	1	0	0	0
- Gynecologic oncology	2	1	1	0	0	0
- Maternal-fetal medicine	1	1	0	0	0	0
- Reproductive endocrinology and infertility	1	0	1	0	0	0
Ophthalmology	14	4	10	0	0	0
- Ophthalmic plastic and reconstructive surgery	0	0	0	0	0	0
Orthopaedic surgery	28	7	18	3	0	0
- Adult reconstructive orthopaedics	0	0	0	0	0	0
- Foot and ankle orthopaedics	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
- Musculoskeletal oncology	0	0	0	0	0	0
- Orthopaedic sports medicine	2	0	2	0	0	0
- Orthopaedic surgery of the spine	0	0	0	0	0	0
- Orthopaedic trauma	0	0	0	0	0	0
- Pediatric orthopaedics	0	0	0	0	0	0
Osteopathic neuromusculoskeletal medicine	0	0	0	0	0	0
Otolaryngology	16	5	9	1	0	1
- Neurotology	1	0	1	0	0	0
- Pediatric otolaryngology	1	0	0	0	1	0
Pathology-anatomic and clinical	56	29	24	2	0	1
- Blood banking/transfusion medicine	2	0	2	0	0	0
- Clinical informatics	1	1	0	0	0	0
- Chemical pathology	1	0	1	0	0	0
- Cytopathology	0	0	0	0	0	0
- Forensic pathology	0	0	0	0	0	0
- Hematopathology	1	0	1	0	0	0
- Medical microbiology	0	0	0	0	0	0
- Neuropathology	0	0	0	0	0	0
- Pediatric pathology	1	0	1	0	0	0
- Selective pathology	6	1	5	0	0	0
Pediatrics	102	52	38	11	1	0
- Adolescent medicine	3	1	2	0	0	0
- Child abuse pediatrics	1	0	1	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Developmental-behavioral pediatrics	1	0	0	1	0	0
- Neonatal-perinatal medicine	13	7	6	0	0	0
- Pediatric cardiology	10	1	8	1	0	0
- Pediatric critical care medicine	9	0	9	0	0	0
- Pediatric emergency medicine	5	1	4	0	0	0
- Pediatric endocrinology	4	0	4	0	0	0
- Pediatric gastroenterology	1	0	1	0	0	0
- Pediatric hematology/oncology	5	1	4	0	0	0

TABLE D.13 Continued

Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2016-2017 AY

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
- Pediatric infectious diseases	4	1	3	0	0	0
- Pediatric nephrology	6	2	4	0	0	0
- Pediatric pulmonology	6	1	5	0	0	0
- Pediatric rheumatology	1	0	1	0	0	0
- Pediatric sports medicine	0	0	0	0	0	0
- Pediatric transplant hepatology	0	0	0	0	0	0
Physical medicine and rehabilitation	15	8	7	0	0	0
- Brain injury medicine	0	0	0	0	0	0
- Neuromuscular medicine	0	0	0	0	0	0
- Spinal cord injury medicine	0	0	0	0	0	0
- Pediatric rehabilitation	1	0	1	0	0	0
- Sports medicine	0	0	0	0	0	0
Plastic surgery	2	0	2	0	0	0
Plastic surgery - integrated	12	4	6	2	0	0
- Craniofacial surgery	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
Preventive medicine	14	2	8	4	0	0
- Medical toxicology	0	0	0	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0
Psychiatry	398	351	30	16	0	1
- Addiction psychiatry	5	0	3	1	0	1
- Child and adolescent psychiatry	23	6	15	2	0	0
- Forensic psychiatry	1	0	0	0	1	0
- Geriatric psychiatry	0	0	0	0	0	0
- Consultation-liaison psychiatry	2	1	1	0	0	0
Radiation oncology	9	7	2	0	0	0
Radiology-diagnostic	78	57	15	4	0	2
- Abdominal radiology	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0
- Musculoskeletal radiology	0	0	0	0	0	0
- Neuroradiology	5	0	5	0	0	0
- Nuclear radiology	0	0	0	0	0	0
- Pediatric radiology	0	0	0	0	0	0
- Vascular and interventional radiology	4	1	2	0	1	0
Interventional radiology - integrated	0	0	0	0	0	0
Surgery	292	152	117	22	0	1
- Complex general surgical oncology	1	0	1	0	0	0
- Hand surgery	0	0	0	0	0	0
- Pediatric surgery	0	0	0	0	0	0
- Surgical critical care	5	0	4	1	0	0
- Vascular surgery	2	0	2	0	0	0
Vascular surgery - integrated	4	0	3	1	0	0
Thoracic surgery	6	2	4	0	0	0
- Congenital cardiac surgery	0	0	0	0	0	0
Thoracic surgery - integrated	5	1	4	0	0	0
Urology	11	1	8	0	1	1
- Female pelvic medicine and reconstructive surgery	0	0	0	0	0	0
- Pediatric urology	0	0	0	0	0	0
Transitional year	15	7	6	2	0	0
Internal medicine/Pediatrics	10	5	3	1	0	1

Note: Pipeline specialties are highlighted.
Abbreviations: AY, academic year.

TABLE D.14

Number of Transferring Residents by Specialty and Resident Year, 2016-2017 AY

Specialty	Number of Transferring Residents	Resident Year					
		1	2	3	4	5	6
OVERALL	1,044	413	228	364	35	3	1
Allergy and immunology	1		1				
Anesthesiology	18	8	6	2	2		
Colon and rectal surgery	0						
Dermatology	3	3					
Emergency medicine	42	28	10	4			
Family medicine	86	70	14	2			
Internal medicine	119	79	40				
Medical genetics and genomics	1		1				
Neurological surgery	21	3	4	10	1	2	1
Neurology	21	9	8	3	1		
Child neurology	2	2					
Nuclear medicine	2	2					
Obstetrics and gynecology	34	19	12	3			
Ophthalmology	4	4					
Orthopaedic surgery	7	3	1	3			
Osteopathic neuromusculoskeletal medicine	0						
Otolaryngology	5	1	3	1			
Pathology-anatomic and clinical	29	15	9	3	2		
Pediatrics	52	27	22	3			
Physical medicine and rehabilitation	8	5	3				
Plastic surgery	0						
Plastic surgery - integrated	4	2	1	1			
Preventive medicine	2	1	1				
Psychiatry	351	23	26	281	21		
Radiation oncology	7	1	4	2			
Radiology-diagnostic	57	29	12	14	2		
Interventional radiology - integrated	0						
Surgery	152	65	48	32	6	1	
Vascular surgery - integrated	0						
Thoracic surgery	2	2					
Thoracic surgery - integrated	1	1					
Urology	1	1					
Transitional year	7	7					
Internal medicine/Pediatrics	5	3	2				

Abbreviations: AY, academic year.

E

Sponsoring Institutions

This section describes characteristics of ACGME-accredited Sponsoring Institutions. It includes the distribution of accreditation status decisions, information on sponsor size, geographic location, institution type, and designated institutional official (DIO) changes that have occurred throughout the 2017-2018 academic year.

Accredited Sponsors by Status

Of the 830 total number of ACGME-accredited Sponsoring Institutions, 156 (18.8%) are in the initial phase of accreditation, 665 (80.1%) have a status of Continued Accreditation, 8 (1.0%) have a status of Continued Accreditation with Warning, and 1 (0.1%) is on probation. Overall there has been a 20.8% increase in number of sponsors since the 2012-2013 academic year (at that time the total number of Sponsoring Institutions was 687). Effective July 1, 2013, new policies required Sponsoring Institutions to become accredited prior to applying for program accreditation. Prior to that, the accreditation of the program and its sponsor occurred simultaneously. This change, combined with sponsors seeking accreditation through the transition to a single graduate medical education accreditation system, has led to the recent upward trend in total accredited Sponsoring Institutions.

Distribution by Sponsor Size

Sponsors with 1 program and those with 2-5 programs account for the majority of all Sponsoring Institutions (31.2% and 27.2%, respectively). The remaining Sponsoring Institutions with accredited programs all have more than 5 programs: 20.8% have between 6 and 25 programs; 10.7% have between 26 and 75 programs; 3.5% have between 76 and 100 programs; and 1.3% have more than 100 programs. There are 43 (5.2%) Sponsoring Institutions that currently do not have any accredited programs.

Geographic Distribution

There are ACGME-accredited Sponsoring Institutions in all 50 states, the District of Columbia, and Puerto Rico. The following states have the highest total number of Sponsoring Institutions:

- California (91)
- New York (67)
- Florida (50)

The following states have the highest total number of multi-program Sponsoring Institutions:

- New York (47)
- California (47)
- Michigan (37)

Finally, the following states have the highest total number of single-program Sponsoring Institutions:

- California (38)
- Florida (17)
- New York (15)

Sponsors that do not yet have ACGME-accredited programs (43) are located in 22 states, with the highest number of these (6) located in California.

Distribution by Institution Type

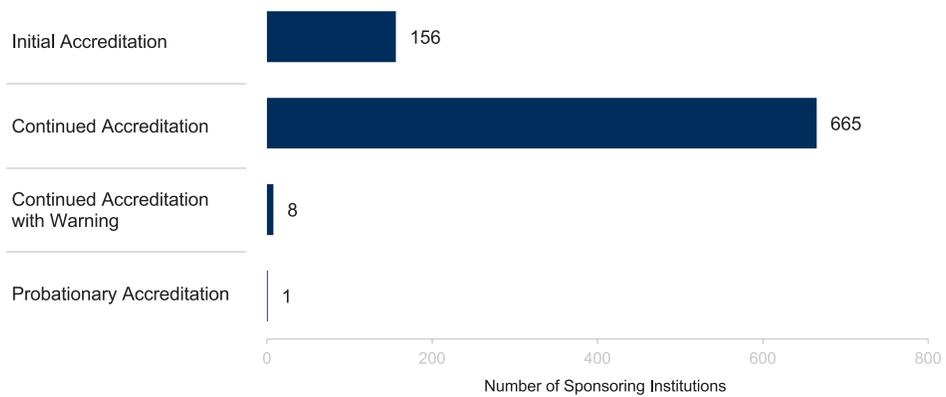
The type of institution is self-reported by Sponsoring Institutions. Approximately half of Sponsoring Institutions with ACGME-accredited programs are General/Teaching Hospitals (387, 49.2%); the next largest group are Academic Medical Centers/Medical Schools, with 117 (14.9%) in this category. Though a much smaller percentage of total Sponsoring Institutions, Academic Medical Centers/Medical Schools account for almost the same number of programs and residents as General/Teaching Hospitals.

DIO Changes

Each year between 12% and 16% of Sponsoring Institutions have a change in leadership in the DIO role (Sponsoring Institutions that have no accredited programs). In the 2017-2018 academic year, 98 (12.5%) Sponsoring Institutions had a single DIO change and 10 (1.3%) had more than one DIO change. ⁸

FIGURE E.1

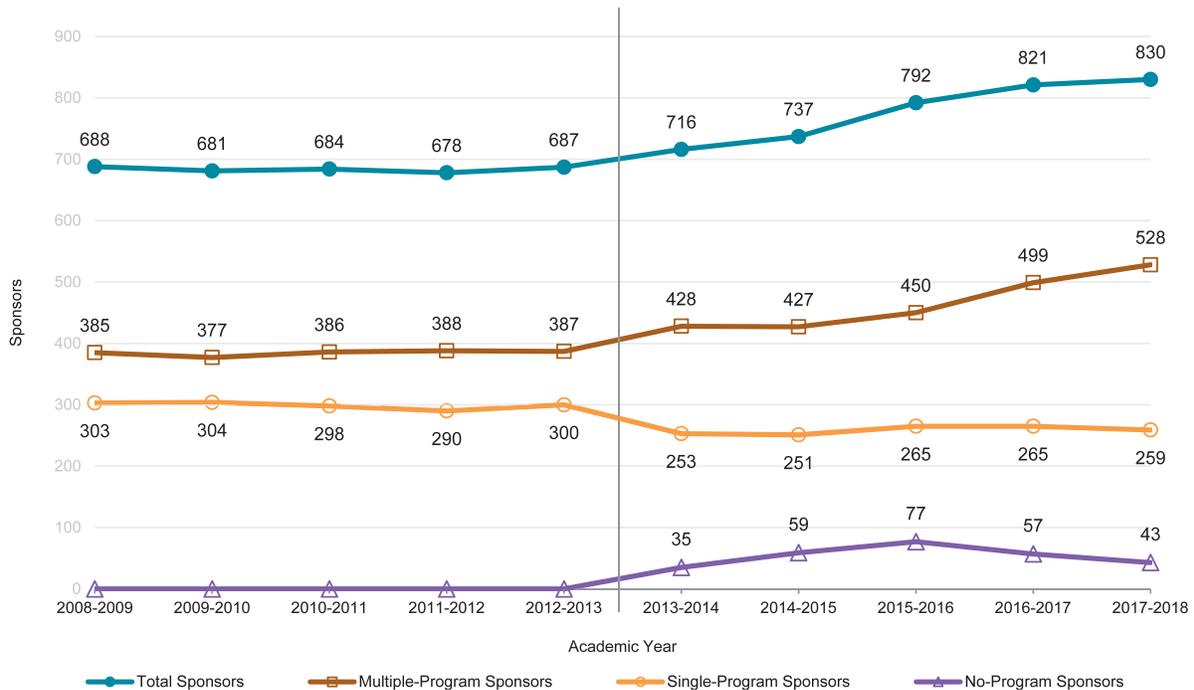
Accreditation Statuses of Currently Accredited Sponsoring Institutions



Note: Total number of ACGME-accredited Sponsoring Institutions = 830.

FIGURE E.2

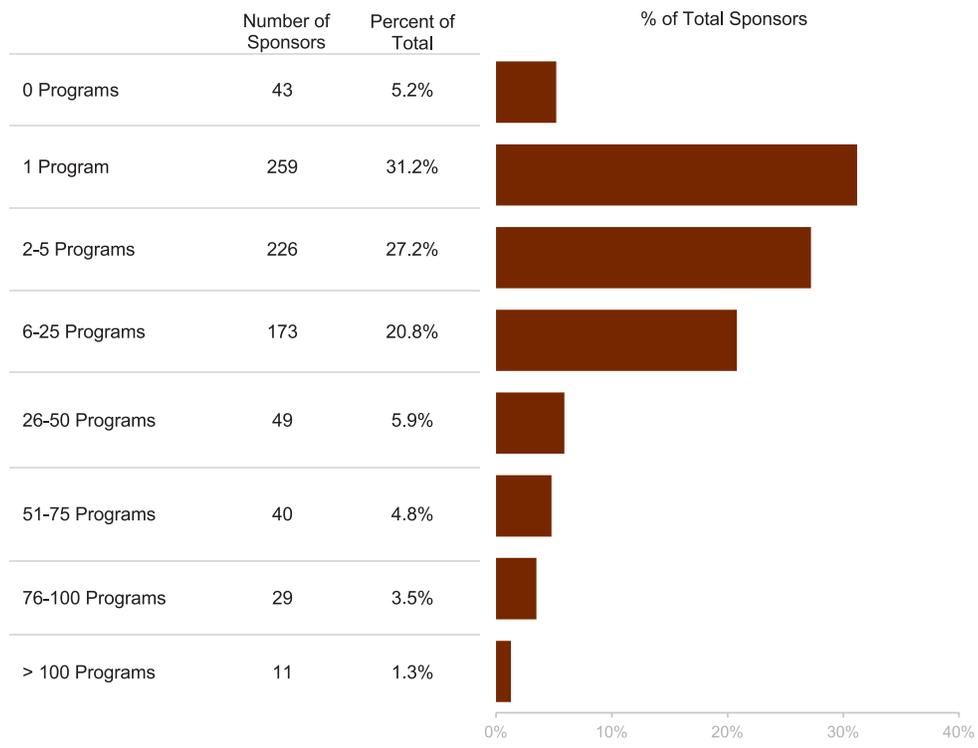
Number of Sponsoring Institutions by Academic Year, 2008-2009 to 2017-2018



Note: Effective July 1, 2013, new policies required Sponsoring Institutions to be accredited prior to applying for program accreditation. There was also a change in the definitions of single-program and multi-program sponsors at that time. The trends in the 2013-2014 academic year and beyond reflect these changes.

FIGURE E.3

Number of Sponsoring Institutions by Size of Sponsor



Notes: Total number of ACGME-accredited Sponsoring Institutions = 830. Percentages may not add to 100% due to rounding.

TABLE E.4					
Number of Sponsoring Institutions and Sponsoring Institution Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Sponsors	Percent of All Sponsors	Sponsors per 100,000 Pop
OVERALL	--	329,056,355	830	100.0%	0.25
Alabama	AL	4,874,747	15	1.8%	0.31
Alaska	AK	739,795	1	0.1%	0.14
Arizona	AZ	7,016,270	12	1.4%	0.17
Arkansas	AR	3,004,279	5	0.6%	0.17
California	CA	39,536,653	91	11.0%	0.23
Colorado	CO	5,607,154	13	1.6%	0.23
Connecticut	CT	3,588,184	17	2.0%	0.47
Delaware	DE	961,939	3	0.4%	0.31
District of Columbia	DC	693,972	5	0.6%	0.72
Florida	FL	20,984,400	50	6.0%	0.24
Georgia	GA	10,429,379	25	3.0%	0.24
Hawaii	HI	1,427,538	4	0.5%	0.28
Idaho	ID	1,716,943	4	0.5%	0.23
Illinois	IL	12,802,023	33	4.0%	0.26
Indiana	IN	6,666,818	10	1.2%	0.15
Iowa	IA	3,145,711	10	1.2%	0.32
Kansas	KS	2,913,123	2	0.2%	0.07
Kentucky	KY	4,454,189	6	0.7%	0.13
Louisiana	LA	4,684,333	10	1.2%	0.21
Maine	ME	1,335,907	4	0.5%	0.30
Maryland	MD	6,052,177	13	1.6%	0.21
Massachusetts	MA	6,859,819	26	3.1%	0.38
Michigan	MI	9,962,311	48	5.8%	0.48
Minnesota	MN	5,576,606	10	1.2%	0.18
Mississippi	MS	2,984,100	8	1.0%	0.27
Missouri	MO	6,113,532	13	1.6%	0.21
Montana	MT	1,050,493	4	0.5%	0.38
Nebraska	NE	1,920,076	4	0.5%	0.21
Nevada	NV	2,998,039	6	0.7%	0.20
New Hampshire	NH	1,342,795	3	0.4%	0.22
New Jersey	NJ	9,005,644	27	3.3%	0.30
New Mexico	NM	2,088,070	6	0.7%	0.29
New York	NY	19,849,399	67	8.1%	0.34
North Carolina	NC	10,273,419	16	1.9%	0.16
North Dakota	ND	755,393	2	0.2%	0.26
Ohio	OH	11,658,609	44	5.3%	0.38
Oklahoma	OK	3,930,864	10	1.2%	0.25
Oregon	OR	4,142,776	4	0.5%	0.10
Pennsylvania	PA	12,805,537	46	5.5%	0.36
Puerto Rico	PR	3,337,177	12	1.4%	0.36
Rhode Island	RI	1,059,639	7	0.8%	0.66
South Carolina	SC	5,024,369	12	1.4%	0.24
South Dakota	SD	869,666	3	0.4%	0.34
Tennessee	TN	6,715,984	8	1.0%	0.12
Texas	TX	28,304,596	47	5.7%	0.17
Utah	UT	3,101,833	6	0.7%	0.19
Vermont	VT	623,657	1	0.1%	0.16
Virginia	VA	8,470,020	19	2.3%	0.22
Washington	WA	7,405,743	22	2.7%	0.30
West Virginia	WV	1,815,857	8	1.0%	0.44
Wisconsin	WI	5,795,483	7	0.8%	0.12
Wyoming	WY	579,315	1	0.1%	0.17

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE E.5

Number of Multiple-Program Sponsoring Institutions and Multiple-Program Sponsoring Institution Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	Total Multiple-Program Sponsors	Percent of All Multiple-Program Sponsors	Multiple-Program Sponsors per 100,000 Pop
OVERALL	--	329,056,355	528	100.0%	0.16
Alabama	AL	4,874,747	8	1.5%	0.16
Alaska	AK	739,795	1	0.2%	0.14
Arizona	AZ	7,016,270	7	1.3%	0.10
Arkansas	AR	3,004,279	3	0.6%	0.10
California	CA	39,536,653	47	8.9%	0.12
Colorado	CO	5,607,154	8	1.5%	0.14
Connecticut	CT	3,588,184	12	2.3%	0.33
Delaware	DE	961,939	1	0.2%	0.10
District of Columbia	DC	693,972	5	0.9%	0.72
Florida	FL	20,984,400	29	5.5%	0.14
Georgia	GA	10,429,379	13	2.5%	0.12
Hawaii	HI	1,427,538	2	0.4%	0.14
Idaho	ID	1,716,943	1	0.2%	0.06
Illinois	IL	12,802,023	24	4.5%	0.19
Indiana	IN	6,666,818	6	1.1%	0.09
Iowa	IA	3,145,711	5	0.9%	0.16
Kansas	KS	2,913,123	2	0.4%	0.07
Kentucky	KY	4,454,189	4	0.8%	0.09
Louisiana	LA	4,684,333	6	1.1%	0.13
Maine	ME	1,335,907	3	0.6%	0.22
Maryland	MD	6,052,177	11	2.1%	0.18
Massachusetts	MA	6,859,819	18	3.4%	0.26
Michigan	MI	9,962,311	37	7.0%	0.37
Minnesota	MN	5,576,606	4	0.8%	0.07
Mississippi	MS	2,984,100	3	0.6%	0.10
Missouri	MO	6,113,532	9	1.7%	0.15
Montana	MT	1,050,493	1	0.2%	0.10
Nebraska	NE	1,920,076	2	0.4%	0.10
Nevada	NV	2,998,039	3	0.6%	0.10
New Hampshire	NH	1,342,795	1	0.2%	0.07
New Jersey	NJ	9,005,644	17	3.2%	0.19
New Mexico	NM	2,088,070	2	0.4%	0.10
New York	NY	19,849,399	47	8.9%	0.24
North Carolina	NC	10,273,419	13	2.5%	0.13
North Dakota	ND	755,393	2	0.4%	0.26
Ohio	OH	11,658,609	33	6.3%	0.28
Oklahoma	OK	3,930,864	6	1.1%	0.15
Oregon	OR	4,142,776	3	0.6%	0.07
Pennsylvania	PA	12,805,537	33	6.3%	0.26
Puerto Rico	PR	3,337,177	7	1.3%	0.21
Rhode Island	RI	1,059,639	5	0.9%	0.47
South Carolina	SC	5,024,369	8	1.5%	0.16
South Dakota	SD	869,666	2	0.4%	0.23
Tennessee	TN	6,715,984	7	1.3%	0.10
Texas	TX	28,304,596	29	5.5%	0.10
Utah	UT	3,101,833	3	0.6%	0.10
Vermont	VT	623,657	1	0.2%	0.16
Virginia	VA	8,470,020	12	2.3%	0.14
Washington	WA	7,405,743	10	1.9%	0.14
West Virginia	WV	1,815,857	4	0.8%	0.22
Wisconsin	WI	5,795,483	7	1.3%	0.12
Wyoming	WY	579,315	1	0.2%	0.17

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE E.6					
Number of Single-Program Sponsoring Institutions and Single-Program Sponsoring Institution Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2017	Total Single-Program Sponsors	Percent of All Sponsors	Single-Program Sponsors per 100,000 Pop
OVERALL	--	329,056,355	259	100.0%	0.08
Alabama	AL	4,874,747	5	1.9%	0.10
Alaska	AK	739,795	0	0.0%	0.00
Arizona	AZ	7,016,270	4	1.5%	0.06
Arkansas	AR	3,004,279	1	0.4%	0.03
California	CA	39,536,653	38	14.7%	0.10
Colorado	CO	5,607,154	5	1.9%	0.09
Connecticut	CT	3,588,184	5	1.9%	0.14
Delaware	DE	961,939	2	0.8%	0.21
District of Columbia	DC	693,972	0	0.0%	0.00
Florida	FL	20,984,400	17	6.6%	0.08
Georgia	GA	10,429,379	12	4.6%	0.12
Hawaii	HI	1,427,538	2	0.8%	0.14
Idaho	ID	1,716,943	3	1.2%	0.17
Illinois	IL	12,802,023	9	3.5%	0.07
Indiana	IN	6,666,818	4	1.5%	0.06
Iowa	IA	3,145,711	4	1.5%	0.13
Kansas	KS	2,913,123	0	0.0%	0.00
Kentucky	KY	4,454,189	1	0.4%	0.02
Louisiana	LA	4,684,333	3	1.2%	0.06
Maine	ME	1,335,907	1	0.4%	0.07
Maryland	MD	6,052,177	2	0.8%	0.03
Massachusetts	MA	6,859,819	8	3.1%	0.12
Michigan	MI	9,962,311	9	3.5%	0.09
Minnesota	MN	5,576,606	6	2.3%	0.11
Mississippi	MS	2,984,100	5	1.9%	0.17
Missouri	MO	6,113,532	4	1.5%	0.07
Montana	MT	1,050,493	2	0.8%	0.19
Nebraska	NE	1,920,076	2	0.8%	0.10
Nevada	NV	2,998,039	1	0.4%	0.03
New Hampshire	NH	1,342,795	1	0.4%	0.07
New Jersey	NJ	9,005,644	8	3.1%	0.09
New Mexico	NM	2,088,070	4	1.5%	0.19
New York	NY	19,849,399	15	5.8%	0.08
North Carolina	NC	10,273,419	3	1.2%	0.03
North Dakota	ND	755,393	0	0.0%	0.00
Ohio	OH	11,658,609	10	3.9%	0.09
Oklahoma	OK	3,930,864	4	1.5%	0.10
Oregon	OR	4,142,776	1	0.4%	0.02
Pennsylvania	PA	12,805,537	12	4.6%	0.09
Puerto Rico	PR	3,337,177	5	1.9%	0.15
Rhode Island	RI	1,059,639	1	0.4%	0.09
South Carolina	SC	5,024,369	3	1.2%	0.06
South Dakota	SD	869,666	1	0.4%	0.11
Tennessee	TN	6,715,984	0	0.0%	0.00
Texas	TX	28,304,596	13	5.0%	0.05
Utah	UT	3,101,833	3	1.2%	0.10
Vermont	VT	623,657	0	0.0%	0.00
Virginia	VA	8,470,020	6	2.3%	0.07
Washington	WA	7,405,743	10	3.9%	0.14
West Virginia	WV	1,815,857	4	1.5%	0.22
Wisconsin	WI	5,795,483	0	0.0%	0.00
Wyoming	WY	579,315	0	0.0%	0.00

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

TABLE E.7

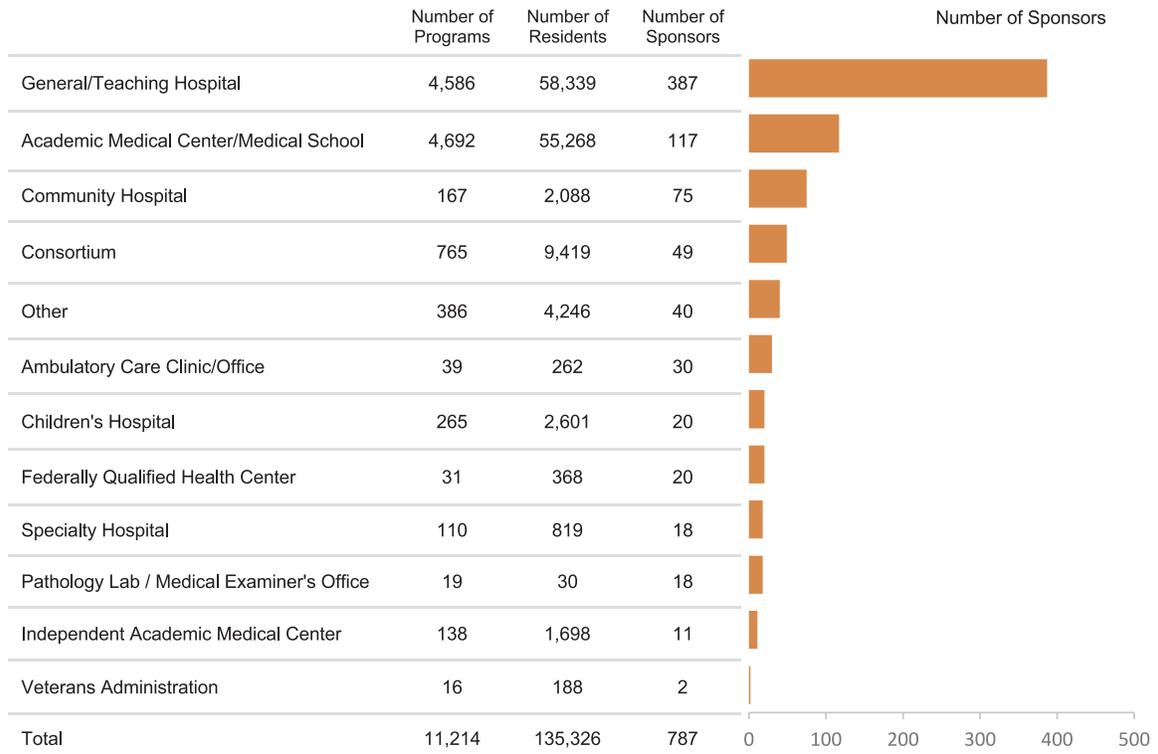
Number of No-Program Sponsoring Institutions and No-Program Sponsoring Institution Concentration per 100,000 Population by State

State Name	State Abbreviation	State Population - Census Estimate 2017	No-Program Sponsors	Percent of All No-Program Sponsors	No-Program Sponsors per 100,000 Pop
OVERALL	--	329,056,355	43	100.0%	0.01
Alabama	AL	4,874,747	2	4.7%	0.04
Alaska	AK	739,795	0	0.0%	0.00
Arizona	AZ	7,016,270	1	2.3%	0.01
Arkansas	AR	3,004,279	1	2.3%	0.03
California	CA	39,536,653	6	14.0%	0.02
Colorado	CO	5,607,154	0	0.0%	0.00
Connecticut	CT	3,588,184	0	0.0%	0.00
Delaware	DE	961,939	0	0.0%	0.00
District of Columbia	DC	693,972	0	0.0%	0.00
Florida	FL	20,984,400	4	9.3%	0.02
Georgia	GA	10,429,379	0	0.0%	0.00
Hawaii	HI	1,427,538	0	0.0%	0.00
Idaho	ID	1,716,943	0	0.0%	0.00
Illinois	IL	12,802,023	0	0.0%	0.00
Indiana	IN	6,666,818	0	0.0%	0.00
Iowa	IA	3,145,711	1	2.3%	0.03
Kansas	KS	2,913,123	0	0.0%	0.00
Kentucky	KY	4,454,189	1	2.3%	0.02
Louisiana	LA	4,684,333	1	2.3%	0.02
Maine	ME	1,335,907	0	0.0%	0.00
Maryland	MD	6,052,177	0	0.0%	0.00
Massachusetts	MA	6,859,819	0	0.0%	0.00
Michigan	MI	9,962,311	2	4.7%	0.02
Minnesota	MN	5,576,606	0	0.0%	0.00
Mississippi	MS	2,984,100	0	0.0%	0.00
Missouri	MO	6,113,532	0	0.0%	0.00
Montana	MT	1,050,493	1	2.3%	0.10
Nebraska	NE	1,920,076	0	0.0%	0.00
Nevada	NV	2,998,039	2	4.7%	0.07
New Hampshire	NH	1,342,795	1	2.3%	0.07
New Jersey	NJ	9,005,644	2	4.7%	0.02
New Mexico	NM	2,088,070	0	0.0%	0.00
New York	NY	19,849,399	5	11.6%	0.03
North Carolina	NC	10,273,419	0	0.0%	0.00
North Dakota	ND	755,393	0	0.0%	0.00
Ohio	OH	11,658,609	1	2.3%	0.01
Oklahoma	OK	3,930,864	0	0.0%	0.00
Oregon	OR	4,142,776	0	0.0%	0.00
Pennsylvania	PA	12,805,537	1	2.3%	0.01
Puerto Rico	PR	3,337,177	0	0.0%	0.00
Rhode Island	RI	1,059,639	1	2.3%	0.09
South Carolina	SC	5,024,369	1	2.3%	0.02
South Dakota	SD	869,666	0	0.0%	0.00
Tennessee	TN	6,715,984	1	2.3%	0.01
Texas	TX	28,304,596	5	11.6%	0.02
Utah	UT	3,101,833	0	0.0%	0.00
Vermont	VT	623,657	0	0.0%	0.00
Virginia	VA	8,470,020	1	2.3%	0.01
Washington	WA	7,405,743	2	4.7%	0.03
West Virginia	WV	1,815,857	0	0.0%	0.00
Wisconsin	WI	5,795,483	0	0.0%	0.00
Wyoming	WY	579,315	0	0.0%	0.00

Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2010 to July 1, 2017. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2017/counties/totals/co-est2017-alldata.csv>. Published March, 2018. Accessed July 12, 2018.

FIGURE E.8

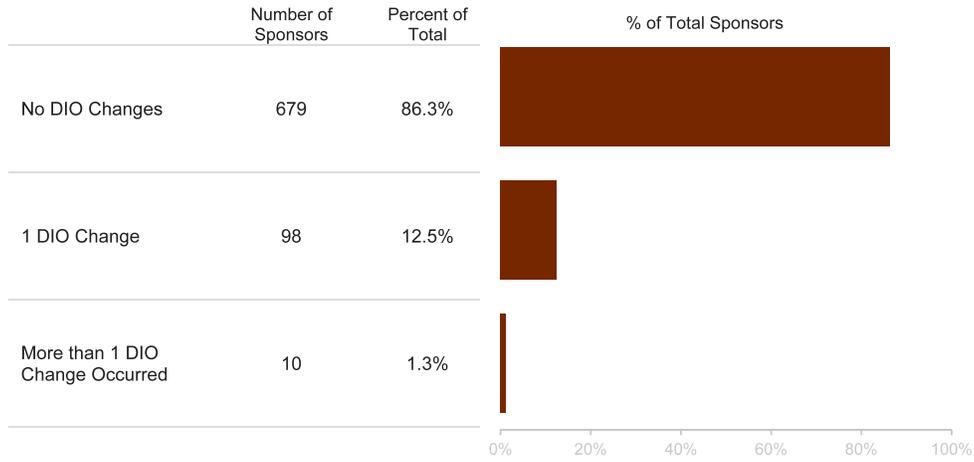
Number of Sponsoring Institutions by Institution Type



Note: Excluding sponsors with no ACGME-accredited programs.

FIGURE E.9

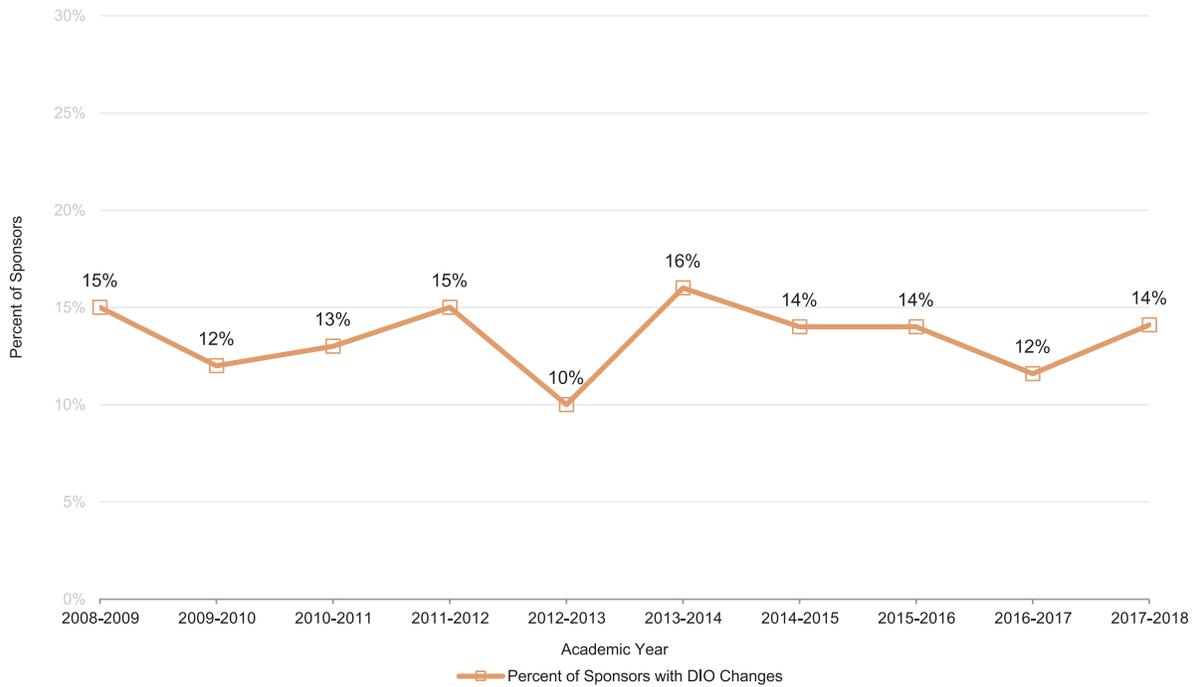
Number of Sponsoring Institutions with DIO Changes



Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the 2017-2018 academic year. Total number of sponsors included = 787. Percentages may not add to 100% due to rounding.
 Abbreviations: DIO, designated institutional official

FIGURE E.10

Percent of Sponsoring Institutions with at Least One DIO Change by Academic Year, 2008-2009 to 2017-2018



Note: Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the academic year. Total number of sponsors included = 787.
 Abbreviations: DIO, designated institutional official.

F

Participating Sites

This section includes information and trends on the number of unique participating sites where residents rotate. The total and average number of sites used by programs in each specialty and subspecialty are also reported.

Distribution by Institution Type

There was a total of 6,575 unique participating sites at which residents rotated during the 2017-2018 academic year. The highest number of sites were in the following categories:

- Ambulatory Care Clinic/Office (2,316)
- General/Teaching Hospital (1,588)
- Other (687)

Since the 2008-2009 academic year, there has been a 93.4% increase in the total number of sites listed by programs as places of rotation. This increase is primarily driven by increases in the following institution type groupings during that time:

- Ambulatory Care Clinic/FQHC (400.4% increase)
- Specialty Hospital (63.5% increase)
- General Teaching/Community Hospital (57.6% increase)

The number of academic medical centers listed as participating sites also increased by 126.6%. With only 179 unique sites in this category in the 2017-2018 academic year, however, this change had a relatively small impact on the overall increase in participating sites.

Number of Sites per Program

Overall, the average number of participating sites listed per program is 3. Among pipeline specialty programs, this

number is similar at 3.9 participating sites per program. The pipeline specialties with the highest average number of participating sites include:

- Preventive medicine (7.3)
- Psychiatry (5.3)
- Plastic surgery – integrated (5.2)
- Physical medicine and rehabilitation (5.2)

The pipeline specialties with the highest maximum number of participating sites per program include:

- Family medicine (35)
- Preventive medicine (27)
- Internal medicine (20)
- Pediatrics (18)

The subspecialty with the highest average number of participating sites per program is ophthalmic plastic and reconstructive surgery, which, along with the family medicine subspecialty of sports medicine, has the highest maximum number of participating sites per program at 17.

Number of Sites by Specialty and Subspecialty

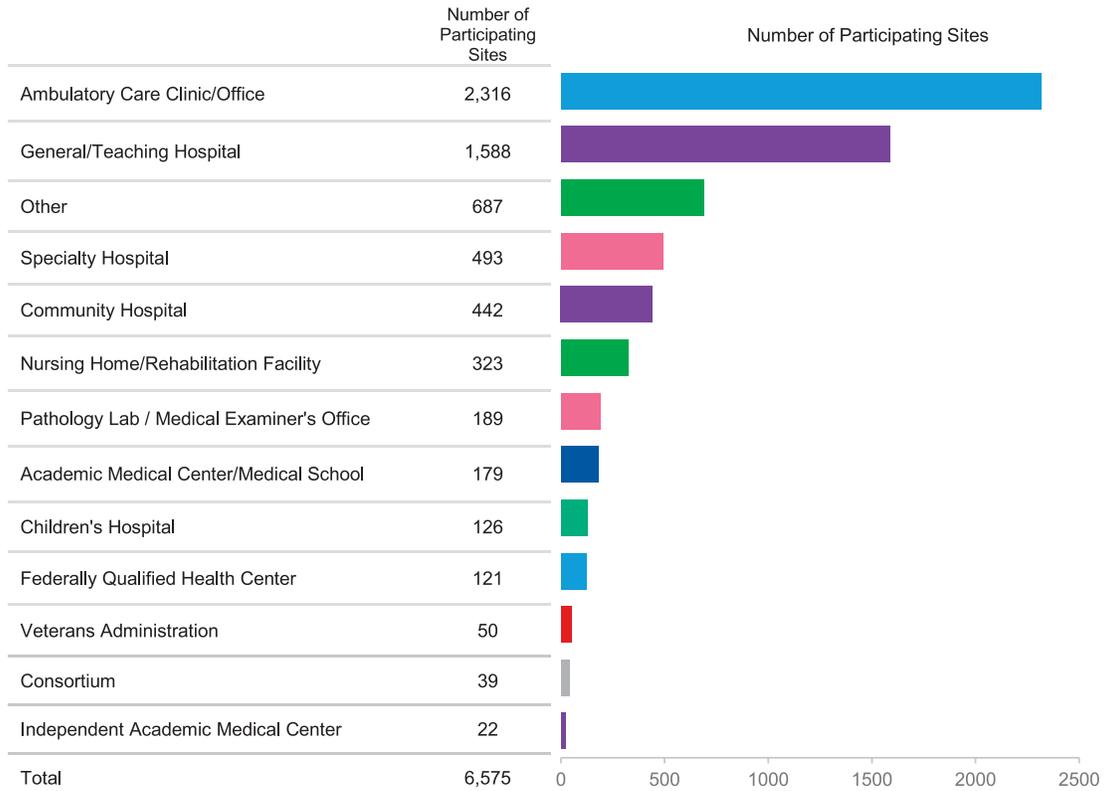
The specialties with the highest number of unique participating sites to which residents rotate include:

- Family medicine (1,826)
- Internal medicine (1,300)
- Psychiatry (1,166)
- Surgery (1,005)

Sponsors account for 8.8% of all participating sites with 579 Sponsoring Institutions listed as participating sites to which residents rotate. ^Λ

FIGURE F.1

Number of Unique Participating Sites where Residents Rotate by Institution Type



Notes: Bar color denotes institution type groupings. See Appendix C for complete list of institution type groups.

FIGURE F.2

Number of Unique Participating Sites where Residents Rotate by Academic Year, 2008-2009 to 2017-2018

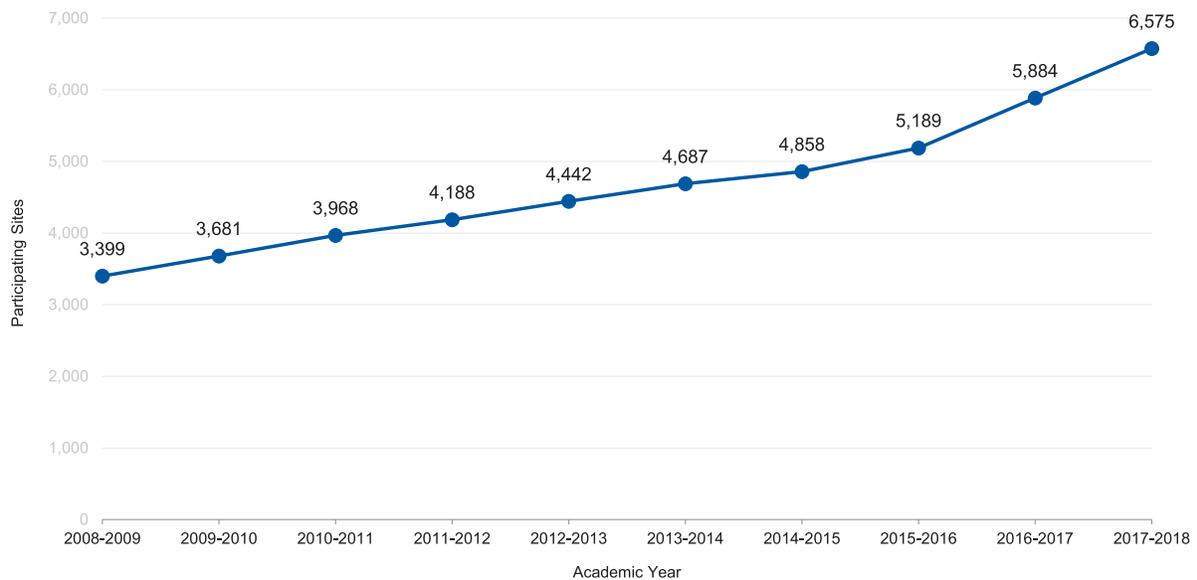
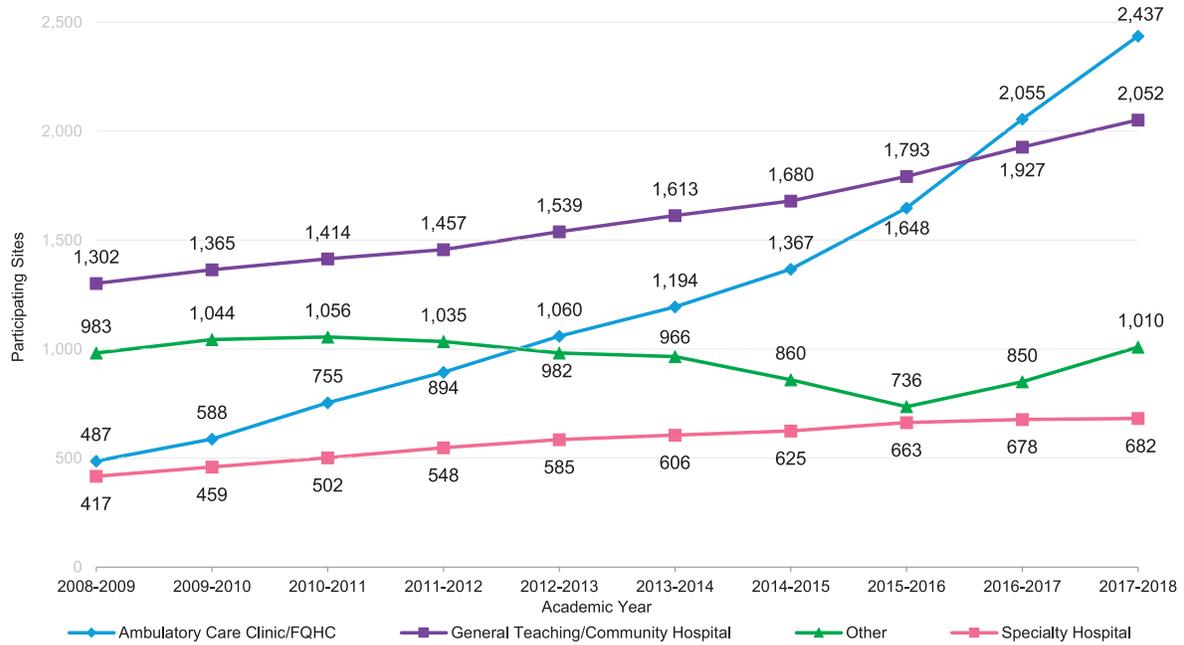


FIGURE F.3

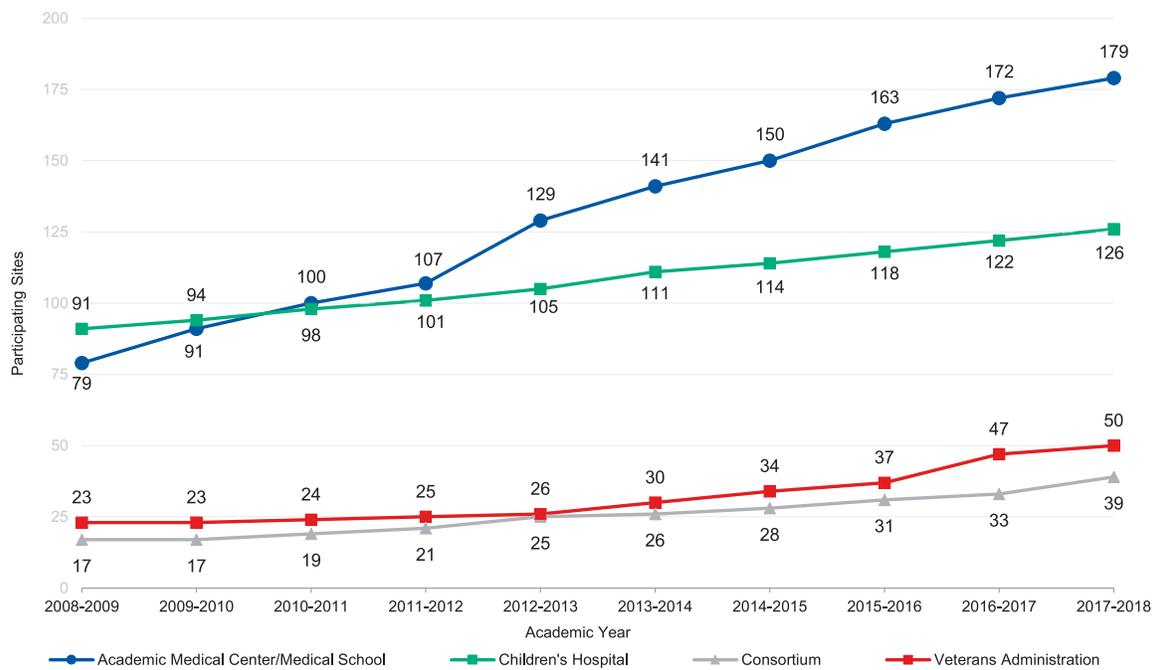
Number of Participating Sites where Residents Rotate by Institution Type Groups (Largest Groups Only) and Academic Year, 2008-2009 to 2017-2018



Note: See Appendix C for list of institution type groups.
Abbreviation: FQHC, Federally Qualified Health Center.

FIGURE F.4

Number of Participating Sites where Residents Rotate by Institution Type Groups (Smallest Groups Only) and Academic Year, 2008-2009 to 2017-2018



Note: See Appendix C for list of institution type groups.

TABLE F.5					
Mean Number of Participating Sites per Program where Residents Rotate by Specialty and Subspecialty					
Specialty	Total Programs	Number of Participating Sites per Program			
		AVG	STD	MIN	MAX
OVERALL	11,214	3.0	2.1	1	35
TOTAL PIPELINE	4,668	3.9	2.5	1	35
Allergy and immunology	79	2.7	1.5	1	6
Anesthesiology	153	4.0	1.8	1	10
- Adult cardiothoracic anesthesiology	66	1.8	1.0	1	5
- Clinical informatics	1	1.0	0.0	1	1
- Critical care medicine	62	1.9	1.0	1	5
- Regional anesthesiology and acute pain medicine	18	2.1	1.2	1	6
- Obstetric anesthesiology	34	1.4	0.6	1	3
- Pain medicine (multidisciplinary)	102	2.6	1.3	1	7
- Pediatric anesthesiology	60	1.6	0.8	1	4
Colon and rectal surgery	62	2.8	1.8	1	10
Dermatology	138	4.0	2.6	1	13
- Dermatopathology (multidisciplinary)	56	2.0	1.0	1	5
- Micrographic surgery and dermatologic oncology	77	2.1	1.6	1	11
Emergency medicine	231	4.0	2.0	1	12
- Clinical informatics	4	4.5	2.6	2	8
- Emergency medical services	61	3.1	2.7	1	13
- Medical toxicology	27	3.0	1.1	1	5
- Pediatric emergency medicine	26	2.6	0.9	1	4
- Sports medicine	8	4.1	3.8	1	12
- Undersea and hyperbaric medicine	7	1.9	0.6	1	3
Family medicine	620	3.8	3.3	1	35
- Clinical informatics	2	2.5	1.5	1	4
- Geriatric medicine	45	3.7	2.4	1	11
- Hospice and palliative medicine (multidisciplinary)	140	4.4	1.8	1	12
- Sports medicine	135	3.8	3.0	1	17
Internal medicine	529	2.9	2.5	1	20
- Adult congenital heart disease	14	1.9	0.8	1	3
- Advanced heart failure and transplant cardiology	75	1.4	0.6	1	3
- Cardiovascular disease	235	2.6	1.2	1	8
- Clinical cardiac electrophysiology	108	1.6	0.8	1	4
- Clinical informatics	13	1.8	1.3	1	5
- Critical care medicine	36	2.7	1.4	1	7
- Endocrinology, diabetes, and metabolism	142	2.7	1.3	1	7
- Gastroenterology	189	2.8	1.2	1	7
- Geriatric medicine	107	3.6	1.8	1	9
- Hematology	2	2.5	0.5	2	3
- Hematology and medical oncology	149	2.9	1.3	1	6
- Infectious disease	148	2.8	1.2	1	7
- Interventional cardiology	155	1.6	0.8	1	4
- Nephrology	150	2.8	1.3	1	7
- Medical oncology	7	2.4	0.7	1	3
- Pulmonary disease	22	2.4	1.0	1	4
- Pulmonary disease and critical care medicine	170	3.1	1.5	1	8
- Rheumatology	120	2.7	1.2	1	7
- Sleep medicine (multidisciplinary)	84	2.5	1.0	1	5
- Transplant hepatology	51	1.3	0.5	1	2
Medical genetics and genomics	46	3.3	2.0	1	8
- Medical biochemical genetics	17	2.2	1.2	1	5
- Molecular genetic pathology (multidisciplinary)	41	2.0	1.3	1	6
Neurological surgery	112	3.5	1.7	1	11
- Endovascular surgical neuroradiology	2	1.5	0.5	1	2

TABLE F.5 Continued

Mean Number of Participating Sites per Program where Residents Rotate by Specialty and Subspecialty

Specialty	Total Programs	Number of Participating Sites per Program			
		AVG	STD	MIN	MAX
Neurology	153	3.4	1.8	1	14
- Brain injury medicine	1	1.0	0.0	1	1
- Clinical neurophysiology	91	2.2	1.1	1	6
- Epilepsy	71	2.0	0.9	1	4
- Endovascular surgical neuroradiology	1	2.0	0.0	2	2
- Neurodevelopmental disabilities	8	4.5	1.3	3	7
- Neuromuscular medicine	49	2.2	1.1	1	6
- Vascular neurology	92	1.8	0.8	1	4
Child neurology	74	2.8	1.2	1	6
Nuclear medicine	41	2.4	1.3	1	6
Obstetrics and gynecology	278	3.5	2.0	1	12
- Female pelvic medicine and reconstructive surgery	51	2.5	1.1	1	5
- Gynecologic oncology	56	2.0	1.0	1	5
- Maternal-fetal medicine	88	2.0	1.0	1	5
- Reproductive endocrinology and infertility	50	2.4	1.5	1	6
Ophthalmology	119	3.8	1.8	1	11
- Ophthalmic plastic and reconstructive surgery	4	6.8	6.0	2	17
Orthopaedic surgery	175	5.1	2.2	1	14
- Adult reconstructive orthopaedics	24	2.4	1.3	1	5
- Foot and ankle orthopaedics	6	2.0	1.2	1	4
- Hand surgery	68	3.5	2.1	1	11
- Musculoskeletal oncology	12	2.1	1.0	1	4
- Orthopaedic sports medicine	96	2.9	2.2	1	15
- Orthopaedic surgery of the spine	17	2.1	1.1	1	5
- Orthopaedic trauma	11	1.6	1.2	1	5
- Pediatric orthopaedics	25	1.6	0.8	1	3
Osteopathic neuromusculoskeletal medicine	13	4.1	2.3	1	8
Otolaryngology	117	4.1	1.8	1	8
- Neurotology	23	2.5	1.4	1	5
- Pediatric otolaryngology	25	1.3	0.4	1	2
Pathology-anatomic and clinical	143	4.1	1.9	1	10
- Blood banking/transfusion medicine	50	3.1	1.5	1	7
- Clinical informatics	7	2.0	1.6	1	5
- Chemical pathology	4	1.3	0.4	1	2
- Cytopathology	94	1.4	0.6	1	3
- Forensic pathology	39	1.2	0.6	1	4
- Hematopathology	85	1.8	1.0	1	5
- Medical microbiology	15	1.9	1.0	1	4
- Neuropathology	34	2.1	1.1	1	5
- Pediatric pathology	27	2.3	1.2	1	5
- Selective pathology	83	1.4	0.7	1	3
Pediatrics	210	2.8	1.9	1	18
- Adolescent medicine	29	2.8	2.3	1	10
- Child abuse pediatrics	32	2.6	1.3	1	6
- Clinical informatics	5	2.4	1.2	1	4
- Developmental-behavioral pediatrics	41	2.0	1.2	1	5
- Neonatal-perinatal medicine	100	2.1	1.0	1	6
- Pediatric cardiology	60	1.5	0.8	1	5
- Pediatric critical care medicine	67	1.5	0.8	1	4
- Pediatric emergency medicine	52	2.9	0.9	1	4
- Pediatric endocrinology	72	1.6	0.7	1	4
- Pediatric gastroenterology	64	1.6	0.7	1	3
- Pediatric hematology/oncology	74	1.9	0.9	1	4
- Pediatric infectious diseases	65	2.1	1.3	1	7

TABLE F.5 Continued					
Mean Number of Participating Sites per Program where Residents Rotate by Specialty and Subspecialty					
Specialty	Total Programs	Number of Participating Sites per Program			
		AVG	STD	MIN	MAX
- Pediatric nephrology	45	1.3	0.6	1	3
- Pediatric pulmonology	54	1.6	0.8	1	5
- Pediatric rheumatology	37	1.6	0.7	1	3
- Pediatric sports medicine	17	3.0	1.8	1	7
- Pediatric transplant hepatology	14	1.5	0.5	1	2
Physical medicine and rehabilitation	88	5.2	2.6	1	17
- Brain injury medicine	18	2.7	0.7	2	4
- Neuromuscular medicine	1	2.0	0.0	2	2
- Spinal cord injury medicine	22	2.9	0.7	2	4
- Pediatric rehabilitation	20	2.1	1.0	1	5
- Sports medicine	19	2.7	1.5	1	6
Plastic surgery	61	5.0	2.3	1	11
Plastic surgery - integrated	79	5.2	2.5	1	12
- Craniofacial surgery	8	2.5	1.2	1	5
- Hand surgery	16	3.5	2.2	1	10
Preventive medicine	76	7.3	4.7	1	27
- Medical toxicology	1	4.0	0.0	4	4
- Undersea and hyperbaric medicine	1	2.0	0.0	2	2
Psychiatry	248	5.3	2.8	1	14
- Addiction psychiatry	49	3.2	1.4	1	8
- Child and adolescent psychiatry	138	4.4	2.7	1	13
- Forensic psychiatry	47	3.9	1.5	1	8
- Geriatric psychiatry	60	3.3	1.6	1	10
- Consultation-liaison psychiatry	61	2.2	1.0	1	6
Radiation oncology	94	2.7	1.4	1	7
Radiology-diagnostic	194	3.1	1.7	1	14
- Abdominal radiology	12	1.8	1.0	1	4
- Endovascular surgical neuroradiology	3	1.7	0.9	1	3
- Musculoskeletal radiology	16	1.7	1.0	1	4
- Neuroradiology	85	2.0	1.1	1	5
- Nuclear radiology	17	1.8	1.2	1	5
- Pediatric radiology	46	1.4	0.8	1	4
- Vascular and interventional radiology	93	2.2	1.3	1	8
Interventional radiology - integrated	78	3.0	1.5	1	9
Surgery	301	4.8	1.9	1	12
- Complex general surgical oncology	25	1.8	0.9	1	4
- Hand surgery	1	5.0	0.0	5	5
- Pediatric surgery	50	1.6	0.7	1	3
- Surgical critical care	128	1.7	0.9	1	5
- Vascular surgery	106	2.4	1.1	1	6
Vascular surgery - integrated	55	3.6	1.4	1	7
Thoracic surgery	72	2.6	1.2	1	6
- Congenital cardiac surgery	13	1.5	0.6	1	3
Thoracic surgery - integrated	26	4.3	1.8	2	7
Urology	138	3.8	1.4	1	7
- Female pelvic medicine and reconstructive surgery	13	1.8	0.9	1	4
- Pediatric urology	26	1.4	0.7	1	4
Transitional year	135	2.1	1.4	1	9
Internal medicine/Pediatrics	78	3.6	2.0	1	14

Note: Pipeline specialties are highlighted.

TABLE F.6

Total Number of Participating Sites and Number of Sponsoring Institutions where Residents Rotate by Specialty and Subspecialty

Specialty	Total Participating Sites	Sponsors	
		#	%
OVERALL	6,575	579	8.8%
TOTAL PIPELINE	4,904	516	10.5%
Allergy and immunology	193	37	19.2%
Anesthesiology	488	69	14.1%
- Adult cardiothoracic anesthesiology	114	34	29.8%
- Clinical informatics	1	1	100.0%
- Critical care medicine	116	32	27.6%
- Regional anesthesiology and acute pain medicine	33	8	24.2%
- Obstetric anesthesiology	47	18	38.3%
- Pain medicine (multidisciplinary)	243	53	21.8%
- Pediatric anesthesiology	85	21	24.7%
Colon and rectal surgery	165	34	20.6%
Dermatology	514	60	11.7%
- Dermatopathology (multidisciplinary)	108	27	25.0%
- Micrographic surgery and dermatologic oncology	164	37	22.6%
Emergency medicine	657	113	17.2%
- Clinical informatics	17	2	11.8%
- Emergency medical services	189	27	14.3%
- Medical toxicology	79	8	10.1%
- Pediatric emergency medicine	63	14	22.2%
- Sports medicine	33	0	0.0%
- Undersea and hyperbaric medicine	13	5	38.5%
Family medicine	1,826	299	16.4%
- Clinical informatics	5	1	20.0%
- Geriatric medicine	165	24	14.5%
- Hospice and palliative medicine (multidisciplinary)	524	69	13.2%
- Sports medicine	487	71	14.6%
Internal medicine	1,300	284	21.8%
- Adult congenital heart disease	27	7	25.9%
- Advanced heart failure and transplant cardiology	101	33	32.7%
- Cardiovascular disease	495	107	21.6%
- Clinical cardiac electrophysiology	174	53	30.5%
- Clinical informatics	24	6	25.0%
- Critical care medicine	92	18	19.6%
- Endocrinology, diabetes, and metabolism	348	62	17.8%
- Gastroenterology	440	89	20.2%
- Geriatric medicine	376	50	13.3%
- Hematology	5	1	20.0%
- Hematology and medical oncology	357	72	20.2%
- Infectious disease	358	67	18.7%
- Interventional cardiology	251	72	28.7%
- Nephrology	373	74	19.8%
- Medical oncology	17	2	11.8%
- Pulmonary disease	52	15	28.8%
- Pulmonary disease and critical care medicine	453	82	18.1%
- Rheumatology	299	54	18.1%
- Sleep medicine (multidisciplinary)	199	37	18.6%
- Transplant hepatology	68	25	36.8%
Medical genetics and genomics	136	24	17.6%
- Medical biochemical genetics	37	8	21.6%
- Molecular genetic pathology (multidisciplinary)	78	20	25.6%
Neurological surgery	337	50	14.8%
- Endovascular surgical neuroradiology	3	1	33.3%

TABLE F.6 Continued			
Total Number of Participating Sites and Number of Sponsoring Institutions where Residents Rotate by Specialty and Subspecialty			
Specialty	Total Participating Sites	Sponsors	
		#	%
Neurology	463	64	13.8%
- Brain injury medicine	1	1	100.0%
- Clinical neurophysiology	188	43	22.9%
- Epilepsy	119	31	26.1%
- Endovascular surgical neuroradiology	2	0	0.0%
- Neurodevelopmental disabilities	36	4	11.1%
- Neuromuscular medicine	105	28	26.7%
- Vascular neurology	160	45	28.1%
Child neurology	204	34	16.7%
Nuclear medicine	98	19	19.4%
Obstetrics and gynecology	831	151	18.2%
- Female pelvic medicine and reconstructive surgery	127	25	19.7%
- Gynecologic oncology	114	26	22.8%
- Maternal-fetal medicine	176	39	22.2%
- Reproductive endocrinology and infertility	117	23	19.7%
Ophthalmology	407	50	12.3%
- Ophthalmic plastic and reconstructive surgery	27	1	3.7%
Orthopaedic surgery	713	84	11.8%
- Adult reconstructive orthopaedics	53	10	18.9%
- Foot and ankle orthopaedics	12	5	41.7%
- Hand surgery	222	30	13.5%
- Musculoskeletal oncology	25	7	28.0%
- Orthopaedic sports medicine	266	54	20.3%
- Orthopaedic surgery of the spine	36	11	30.6%
- Orthopaedic trauma	18	6	33.3%
- Pediatric orthopaedics	41	13	31.7%
Osteopathic neuromusculoskeletal medicine	46	8	17.4%
Otolaryngology	417	51	12.2%
- Neurotology	58	12	20.7%
- Pediatric otolaryngology	32	12	37.5%
Pathology-anatomic and clinical	471	66	14.0%
- Blood banking/transfusion medicine	147	29	19.7%
- Clinical informatics	14	3	21.4%
- Chemical pathology	5	4	80.0%
- Cytopathology	129	44	34.1%
- Forensic pathology	48	20	41.7%
- Hematopathology	143	42	29.4%
- Medical microbiology	28	9	32.1%
- Neuropathology	67	16	23.9%
- Pediatric pathology	62	13	21.0%
- Selective pathology	64	17	26.6%
Pediatrics	476	108	22.7%
- Adolescent medicine	81	11	13.6%
- Child abuse pediatrics	79	13	16.5%
- Clinical informatics	12	4	33.3%
- Developmental-behavioral pediatrics	78	21	26.9%
- Neonatal-perinatal medicine	200	43	21.5%
- Pediatric cardiology	88	26	29.5%
- Pediatric critical care medicine	89	31	34.8%
- Pediatric emergency medicine	137	22	16.1%
- Pediatric endocrinology	109	32	29.4%
- Pediatric gastroenterology	100	26	26.0%
- Pediatric hematology/oncology	127	31	24.4%

TABLE F.6 Continued

Total Number of Participating Sites and Number of Sponsoring Institutions where Residents Rotate by Specialty and Subspecialty

Specialty	Total Participating Sites	Sponsors	
		#	%
- Pediatric infectious diseases	126	29	23.0%
- Pediatric nephrology	59	19	32.2%
- Pediatric pulmonology	82	24	29.3%
- Pediatric rheumatology	60	13	21.7%
- Pediatric sports medicine	51	11	21.6%
- Pediatric transplant hepatology	21	4	19.0%
Physical medicine and rehabilitation	413	41	9.9%
- Brain injury medicine	46	6	13.0%
- Neuromuscular medicine	2	0	0.0%
- Spinal cord injury medicine	61	7	11.5%
- Pediatric rehabilitation	43	6	14.0%
- Sports medicine	50	2	4.0%
Plastic surgery	277	25	9.0%
Plastic surgery - integrated	386	32	8.3%
- Craniofacial surgery	20	3	15.0%
- Hand surgery	56	8	14.3%
Preventive medicine	460	35	7.6%
- Medical toxicology	4	1	25.0%
- Undersea and hyperbaric medicine	2	1	50.0%
Psychiatry	1,166	124	10.6%
- Addiction psychiatry	152	19	12.5%
- Child and adolescent psychiatry	578	58	10.0%
- Forensic psychiatry	177	17	9.6%
- Geriatric psychiatry	194	22	11.3%
- Consultation-liaison psychiatry	130	28	21.5%
Radiation oncology	231	43	18.6%
Radiology-diagnostic	466	96	20.6%
- Abdominal radiology	21	6	28.6%
- Endovascular surgical neuroradiology	5	2	40.0%
- Musculoskeletal radiology	27	10	37.0%
- Neuroradiology	162	42	25.9%
- Nuclear radiology	30	11	36.7%
- Pediatric radiology	63	21	33.3%
- Vascular and interventional radiology	202	45	22.3%
Interventional radiology - integrated	219	38	17.4%
Surgery	1,005	156	15.5%
- Complex general surgical oncology	45	12	26.7%
- Hand surgery	5	0	0.0%
- Pediatric surgery	76	17	22.4%
- Surgical critical care	202	59	29.2%
- Vascular surgery	248	50	20.2%
Vascular surgery - integrated	190	26	13.7%
Thoracic surgery	176	37	21.0%
- Congenital cardiac surgery	19	4	21.1%
Thoracic surgery - integrated	112	14	12.5%
Urology	463	64	13.8%
- Female pelvic medicine and reconstructive surgery	24	9	37.5%
- Pediatric urology	37	10	27.0%
Transitional year	267	83	31.1%
Internal medicine/Pediatrics	272	35	12.9%

Notes: The same institution can be counted by programs across specialties. Pipeline specialties are highlighted.



Program Directors and Faculty

This section includes information and trends regarding program director turnover, tenure, and hours spent in key areas related to the program. Statistics on the total number of faculty members, faculty members per program, and the hours faculty members spend in key areas are also included.

Program Director Changes

A total of 656 specialty programs (13.1%) and 762 subspecialty programs (12.3%) had at least one program director change. Of these, a small number (30 specialty programs and 28 subspecialty programs) had more than one program director change during the academic year. Overall, 1,478 distinct program director changes occurred in 1,418 programs. The specialties with the highest percentage of program director turnover include:

- Thoracic surgery – integrated (19.2%)
- Radiation oncology (18.1%)
- Obstetrics and gynecology (17.3%)
- Pathology-anatomic and clinical (16.8%)

The specialties with the highest total number of program director changes include:

- Internal medicine (79)
- Family medicine (70)
- Obstetrics and gynecology (53)

The specialties with the lowest percentage of program director turnover include:

- Colon and rectal surgery (6.5%)
- Neurological surgery (7.1%)
- Nuclear medicine (7.3%)

Historically, between 11% and 14% of programs have a change in the program director role each year.

Program Director Tenure

On average, program directors of ACGME-accredited specialty programs spend approximately seven years in this role. Among all past program directors in specialty programs since July 1, 2008, nuclear medicine program directors have had the highest average tenure at 9.3 years, while integrated interventional radiology program directors have had the lowest tenure at 0.9 years.

Program Director Years Teaching in Specialty

In general, new program directors have spent less time teaching in their specialty than program directors that

are not new to their role (continuing program directors). The mean length in years that new program directors have taught in their specialty is 13.4 years among medical specialty programs, 10.2 years among hospital-based specialty programs, and 12.6 years among surgical specialty programs. In each group, the years that subspecialty program directors have taught in their subspecialty is 11.2 years, 9.5 years, and 13.7 years in medical, hospital-based, and surgical subspecialty programs, respectively. The mean length in years that continuing program directors have taught in their specialty is 18.4 years among medical specialty programs, 16.0 years among hospital-based specialty programs, and 17.7 years among surgical specialty programs.

Physician Faculty

A total of 176,616 physician faculty members were listed as active at the time of the Academic Year 2017-2018 snapshot. Note that these are not necessarily distinct people, as an individual may be listed as a faculty member for multiple programs. The average number of physician faculty members listed per program was 15.7 overall. The specialties with the highest average number of faculty members per program include:

- Anesthesiology (57.8)
- Pediatrics (45.1)
- Radiology – diagnostic (37.0)

The subspecialties with the highest average number of faculty members per program include:

- Pediatric emergency medicine (18.4)
- Pediatric cardiology (17.7)
- Pediatric anesthesiology (15.7)

Core Faculty

A total of 65,573 core faculty members were listed as active in specialty programs at the time of the Academic Year 2017-2018 snapshot. The specialties with the highest average number of core faculty members per program include:

- Anesthesiology (26.8)
- Pediatrics (24.1)
- Radiology – diagnostic (23.3)

A small number of programs had over 100 core faculty members listed on their Faculty Roster. ♪

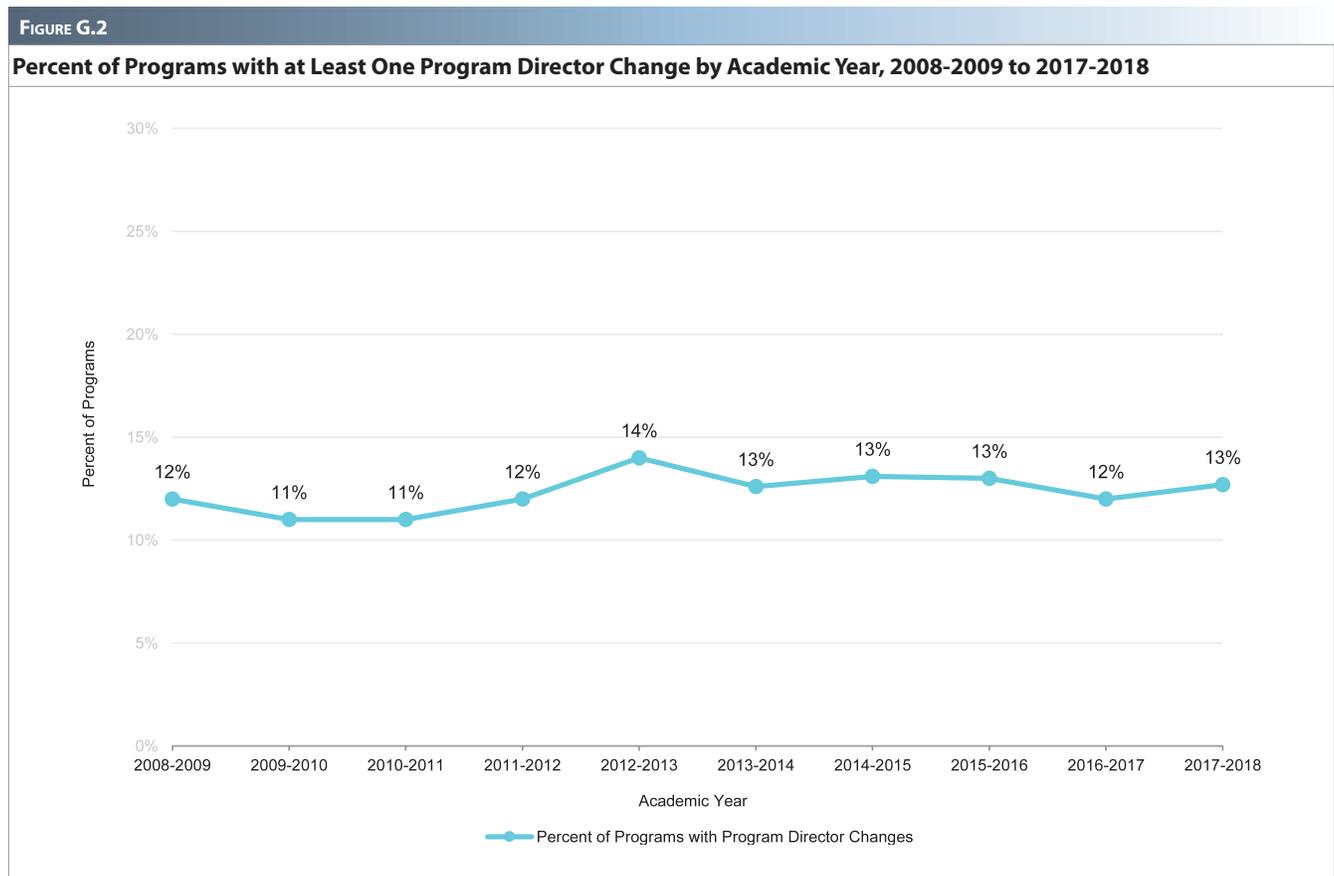
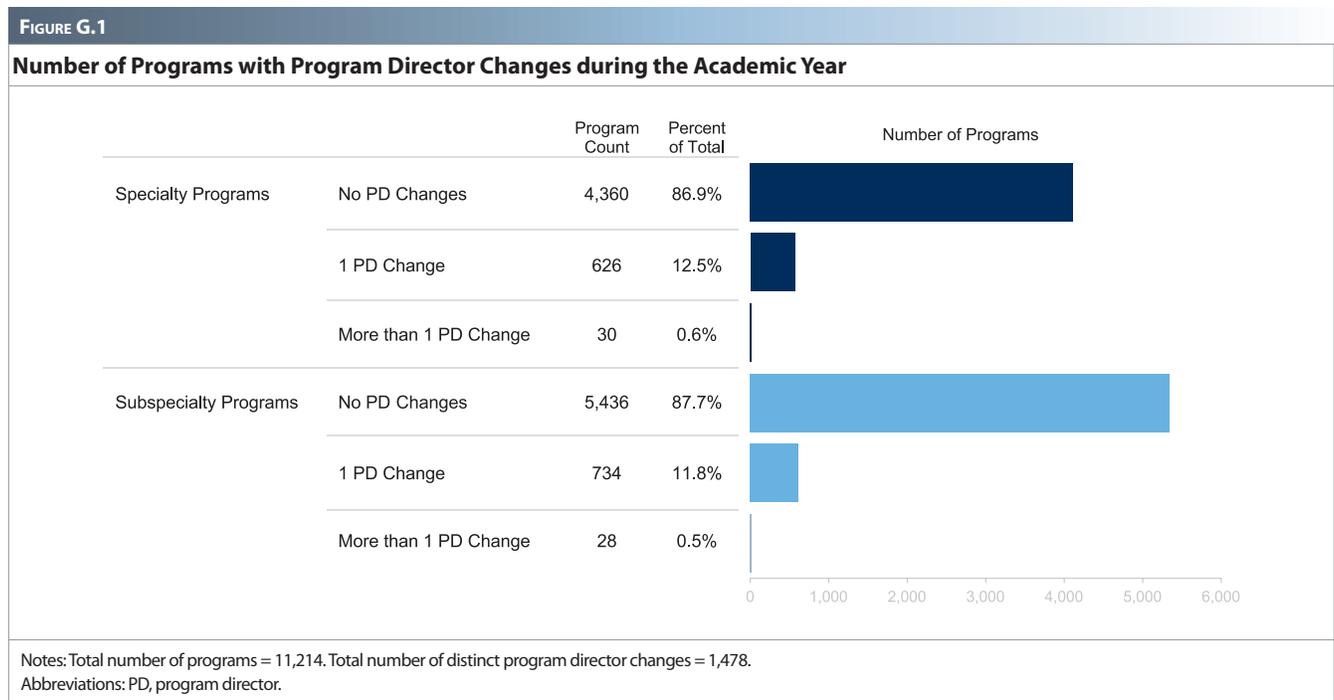


TABLE G.3

Number of Programs with New Program Directors and Number of Distinct Program Director Changes during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Programs with New PDs		Number of Distinct PD Changes
		#	%	
OVERALL	11,214	1,418	12.6%	1,478
TOTAL PIPELINE	4,668	620	13.3%	649
Allergy and immunology	79	6	7.6%	7
Anesthesiology	153	22	14.4%	23
- Adult cardiothoracic anesthesiology	66	7	10.6%	7
- Clinical informatics	1	0	0.0%	0
- Critical care medicine	62	11	17.7%	12
- Regional anesthesiology and acute pain medicine	18	1	5.6%	1
- Obstetric anesthesiology	34	2	5.9%	2
- Pain medicine (multidisciplinary)	102	23	22.5%	23
- Pediatric anesthesiology	60	8	13.3%	8
Colon and rectal surgery	62	4	6.5%	4
Dermatology	138	16	11.6%	19
- Dermatopathology (multidisciplinary)	56	9	16.1%	9
- Micrographic surgery and dermatologic oncology	77	5	6.5%	5
Emergency medicine	231	29	12.6%	29
- Clinical informatics	4	1	25.0%	1
- Emergency medical services	61	4	6.6%	4
- Medical toxicology	27	2	7.4%	2
- Pediatric emergency medicine	26	3	11.5%	4
- Sports medicine	8	1	12.5%	1
- Undersea and hyperbaric medicine	7	1	14.3%	1
Family medicine	620	66	10.6%	70
- Clinical informatics	2	0	0.0%	0
- Geriatric medicine	45	5	11.1%	5
- Hospice and palliative medicine (multidisciplinary)	140	27	19.3%	28
- Sports medicine	135	13	9.6%	13
Internal medicine	529	76	14.4%	79
- Adult congenital heart disease	14	5	35.7%	5
- Advanced heart failure and transplant cardiology	75	10	13.3%	12
- Cardiovascular disease	235	30	12.8%	32
- Clinical cardiac electrophysiology	108	10	9.3%	10
- Clinical informatics	13	1	7.7%	1
- Critical care medicine	36	6	16.7%	6
- Endocrinology, diabetes, and metabolism	142	16	11.3%	16
- Gastroenterology	189	17	9.0%	18
- Geriatric medicine	107	11	10.3%	12
- Hematology	2	1	50.0%	1
- Hematology and medical oncology	149	23	15.4%	24
- Infectious disease	148	29	19.6%	30
- Interventional cardiology	155	13	8.4%	14
- Nephrology	150	23	15.3%	23
- Medical oncology	7	1	14.3%	3
- Pulmonary disease	22	0	0.0%	0
- Pulmonary disease and critical care medicine	170	20	11.8%	21
- Rheumatology	120	7	5.8%	7
- Sleep medicine (multidisciplinary)	84	5	6.0%	5
- Transplant hepatology	51	5	9.8%	5
Medical genetics and genomics	46	4	8.7%	4
- Medical biochemical genetics	17	1	5.9%	1
- Molecular genetic pathology (multidisciplinary)	41	6	14.6%	7
Neurological surgery	112	8	7.1%	8
- Endovascular surgical neuroradiology	2	0	0.0%	0

TABLE G.3 Continued				
Number of Programs with New Program Directors and Number of Distinct Program Director Changes during the Academic Year by Specialty and Subspecialty				
Specialty	Total Programs	Programs with New PDs		Number of Distinct PD Changes
		#	%	
Neurology	153	18	11.8%	20
- Brain injury medicine	1	0	0.0%	0
- Clinical neurophysiology	91	13	14.3%	13
- Epilepsy	71	8	11.3%	8
- Endovascular surgical neuroradiology	1	0	0.0%	0
- Neurodevelopmental disabilities	8	0	0.0%	0
- Neuromuscular medicine	49	4	8.2%	4
- Vascular neurology	92	14	15.2%	14
Child neurology	74	10	13.5%	11
Nuclear medicine	41	3	7.3%	3
Obstetrics and gynecology	278	48	17.3%	53
- Female pelvic medicine and reconstructive surgery	51	5	9.8%	5
- Gynecologic oncology	56	5	8.9%	5
- Maternal-fetal medicine	88	13	14.8%	14
- Reproductive endocrinology and infertility	50	4	8.0%	4
Ophthalmology	119	17	14.3%	17
- Ophthalmic plastic and reconstructive surgery	4	1	25.0%	1
Orthopaedic surgery	175	20	11.4%	21
- Adult reconstructive orthopaedics	24	1	4.2%	1
- Foot and ankle orthopaedics	6	0	0.0%	0
- Hand surgery	68	4	5.9%	4
- Musculoskeletal oncology	12	1	8.3%	1
- Orthopaedic sports medicine	96	5	5.2%	5
- Orthopaedic surgery of the spine	17	2	11.8%	2
- Orthopaedic trauma	11	0	0.0%	0
- Pediatric orthopaedics	25	3	12.0%	3
Osteopathic neuromusculoskeletal medicine	13	1	7.7%	1
Otolaryngology	117	16	13.7%	17
- Neurotology	23	5	21.7%	5
- Pediatric otolaryngology	25	1	4.0%	1
Pathology-anatomic and clinical	143	24	16.8%	24
- Blood banking/transfusion medicine	50	3	6.0%	3
- Clinical informatics	7	1	14.3%	1
- Chemical pathology	4	0	0.0%	0
- Cytopathology	94	14	14.9%	14
- Forensic pathology	39	6	15.4%	6
- Hematopathology	85	11	12.9%	11
- Medical microbiology	15	2	13.3%	2
- Neuropathology	34	3	8.8%	3
- Pediatric pathology	27	3	11.1%	3
- Selective pathology	83	6	7.2%	6
Pediatrics	210	29	13.8%	30
- Adolescent medicine	29	3	10.3%	3
- Child abuse pediatrics	32	3	9.4%	3
- Clinical informatics	5	1	20.0%	1
- Developmental-behavioral pediatrics	41	3	7.3%	4
- Neonatal-perinatal medicine	100	17	17.0%	17
- Pediatric cardiology	60	12	20.0%	13
- Pediatric critical care medicine	67	14	20.9%	14
- Pediatric emergency medicine	52	7	13.5%	7
- Pediatric endocrinology	72	8	11.1%	8
- Pediatric gastroenterology	64	9	14.1%	9
- Pediatric hematology/oncology	74	13	17.6%	14

TABLE G.3 Continued

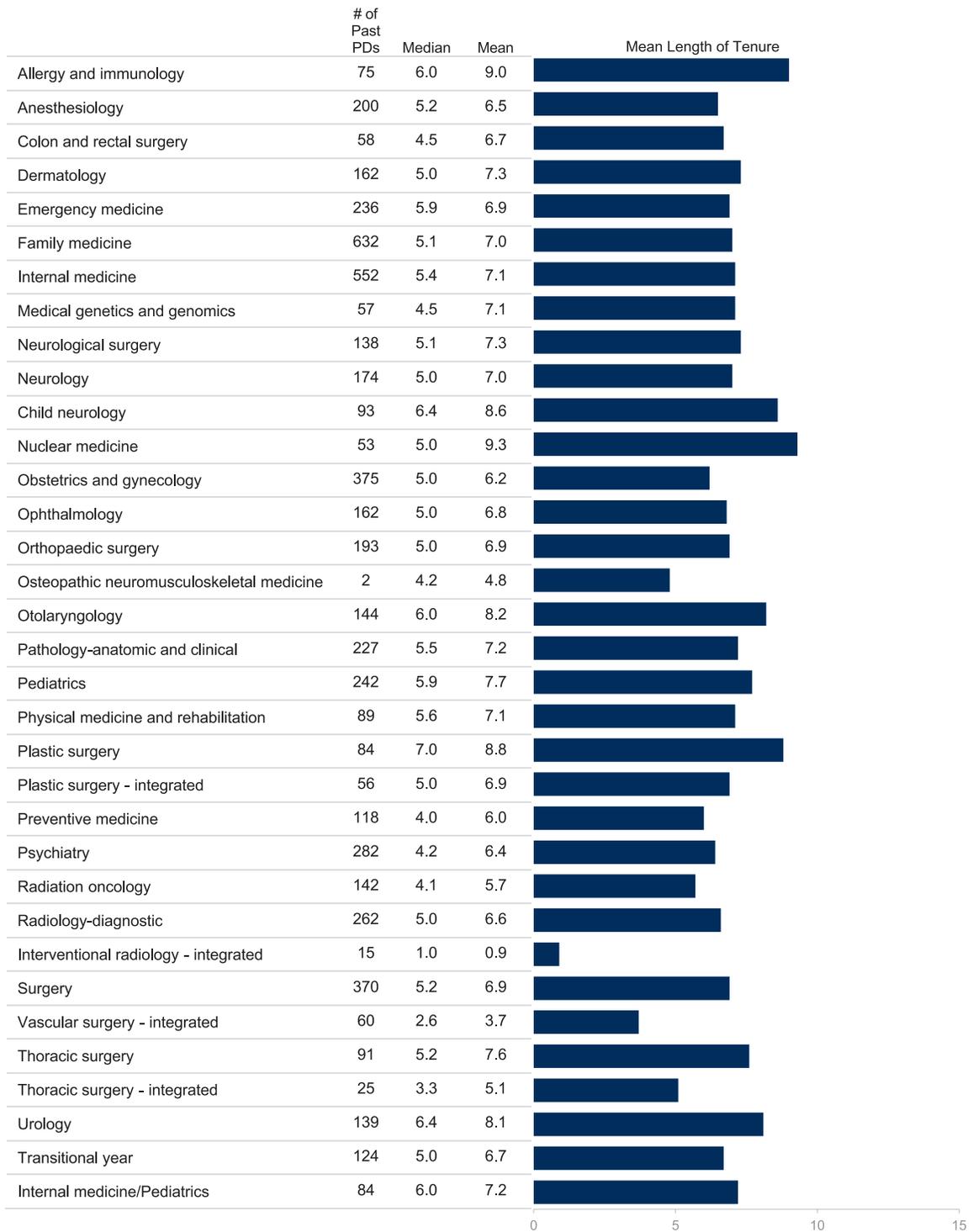
Number of Programs with New Program Directors and Number of Distinct Program Director Changes during the Academic Year by Specialty and Subspecialty

Specialty	Total Programs	Programs with New PDs		Number of Distinct PD Changes
		#	%	
- Pediatric infectious diseases	65	13	20.0%	13
- Pediatric nephrology	45	8	17.8%	8
- Pediatric pulmonology	54	4	7.4%	4
- Pediatric rheumatology	37	8	21.6%	9
- Pediatric sports medicine	17	1	5.9%	1
- Pediatric transplant hepatology	14	1	7.1%	1
Physical medicine and rehabilitation	88	8	9.1%	8
- Brain injury medicine	18	2	11.1%	3
- Neuromuscular medicine	1	0	0.0%	0
- Spinal cord injury medicine	22	1	4.5%	1
- Pediatric rehabilitation	20	1	5.0%	2
- Sports medicine	19	4	21.1%	4
Plastic surgery	61	8	13.1%	9
Plastic surgery - integrated	79	11	13.9%	12
- Craniofacial surgery	8	1	12.5%	1
- Hand surgery	16	3	18.8%	3
Preventive medicine	76	10	13.2%	10
- Medical toxicology	1	0	0.0%	0
- Undersea and hyperbaric medicine	1	0	0.0%	0
Psychiatry	248	36	14.5%	37
- Addiction psychiatry	49	9	18.4%	9
- Child and adolescent psychiatry	138	17	12.3%	17
- Forensic psychiatry	47	8	17.0%	8
- Geriatric psychiatry	60	6	10.0%	6
- Consultation-liaison psychiatry	61	4	6.6%	5
Radiation oncology	94	17	18.1%	18
Radiology-diagnostic	194	32	16.5%	33
- Abdominal radiology	12	3	25.0%	5
- Endovascular surgical neuroradiology	3	0	0.0%	0
- Musculoskeletal radiology	16	4	25.0%	4
- Neuroradiology	85	13	15.3%	13
- Nuclear radiology	17	2	11.8%	2
- Pediatric radiology	46	6	13.0%	6
- Vascular and interventional radiology	93	9	9.7%	11
Interventional radiology - integrated	78	12	15.4%	13
Surgery	301	38	12.6%	39
- Complex general surgical oncology	25	5	20.0%	5
- Hand surgery	1	0	0.0%	0
- Pediatric surgery	50	5	10.0%	5
- Surgical critical care	128	18	14.1%	19
- Vascular surgery	106	12	11.3%	12
Vascular surgery - integrated	55	8	14.5%	8
Thoracic surgery	72	9	12.5%	10
- Congenital cardiac surgery	13	2	15.4%	2
Thoracic surgery - integrated	26	5	19.2%	5
Urology	138	22	15.9%	22
- Female pelvic medicine and reconstructive surgery	13	0	0.0%	0
- Pediatric urology	26	1	3.8%	1
Transitional year	135	17	12.6%	17
Internal medicine/Pediatrics	78	6	7.7%	6

Notes: Total number of new program directors = 1,478 (687 in specialty programs and 791 in subspecialty programs). Pipeline specialties are highlighted.
Abbreviations: PD, program director.

FIGURE G.4

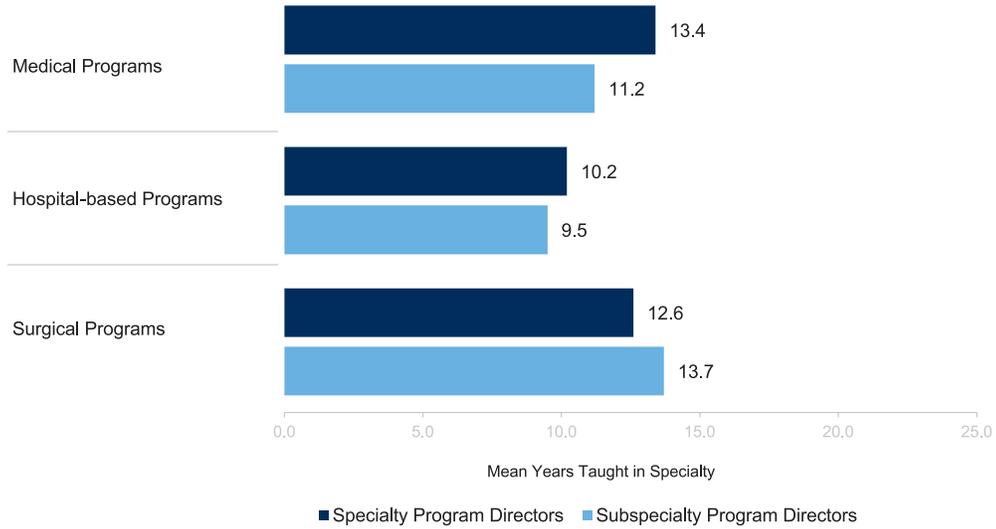
Mean Length in Years of Past Program Director Tenure by Specialty



Notes: Data are based on program director changes since 7/1/2008 (n = 5,716). Overall mean length in tenure = 7.0 years.
Abbreviations: PD, program director.

FIGURE G.5

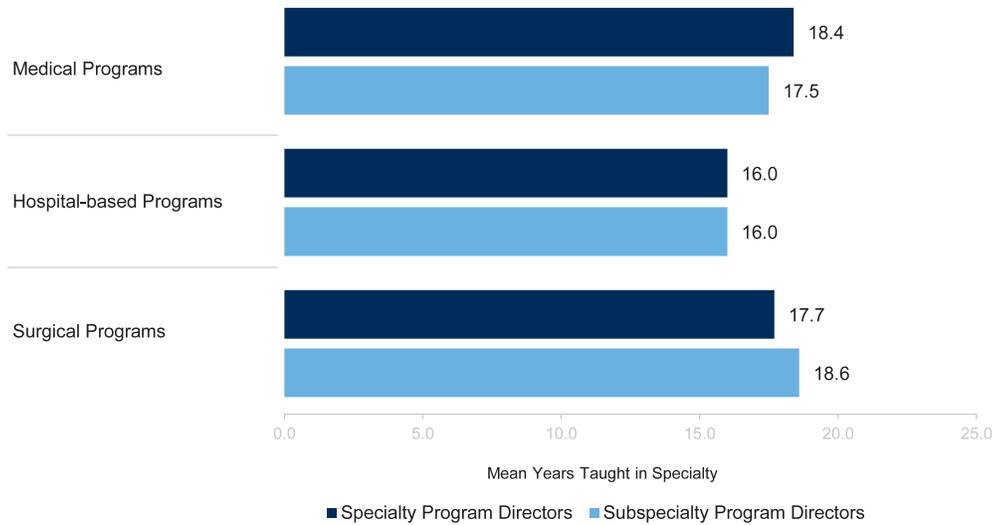
Mean Length in Years New Program Directors Have Taught in Their Specialty by Specialty Group



Notes: Total number of new program directors in specialty programs = 964. Total number of new program directors in subspecialty programs = 1,021.

FIGURE G.6

Mean Length in Years Continuing Program Directors Have Taught in Their Specialty by Specialty Group



Notes: Total number of continuing program directors in specialty programs = 4,052. Total number of continuing program directors in subspecialty programs = 5,177.

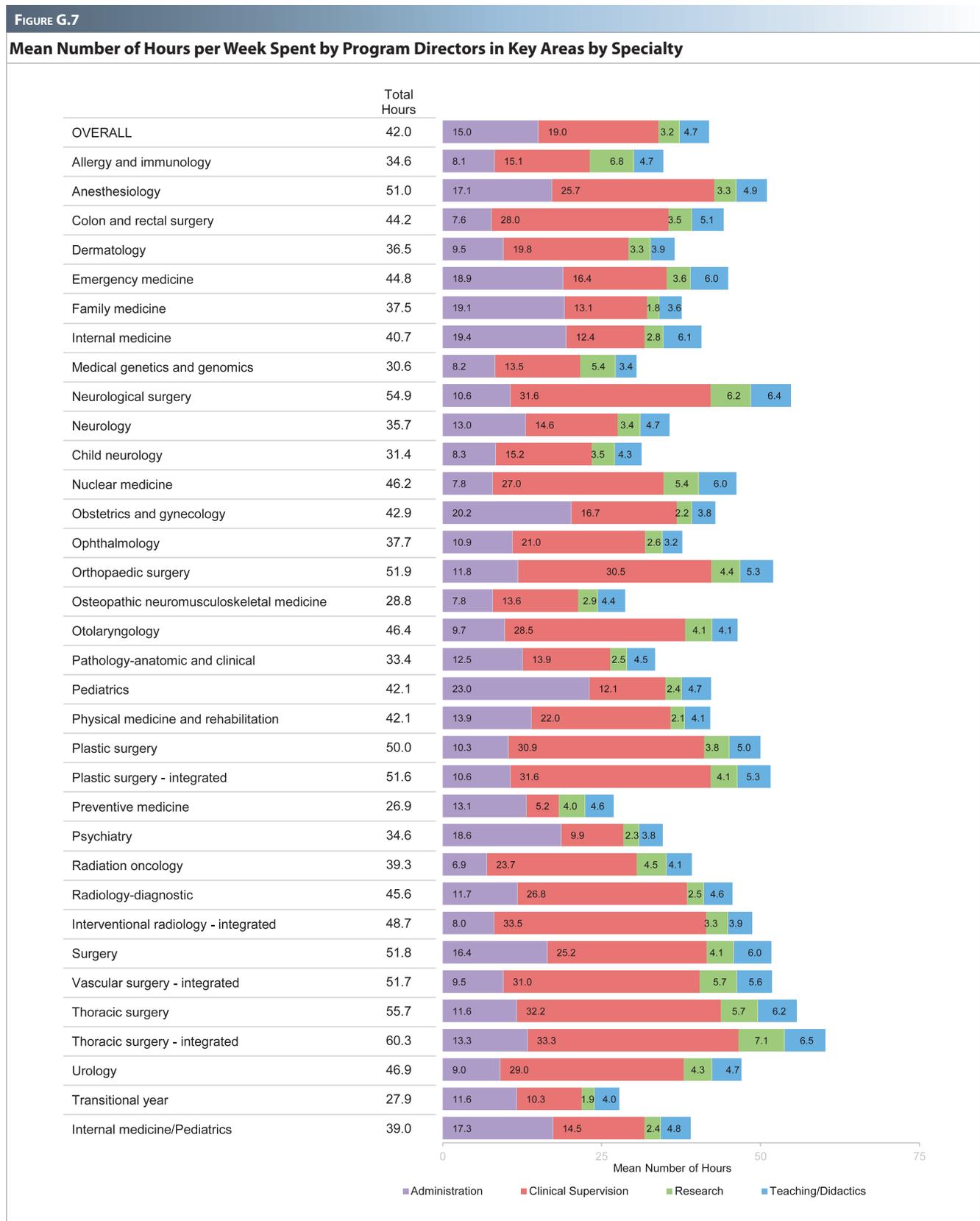


TABLE G.8

Number of Physician Faculty and Mean Number of Physician Faculty per Program by Specialty and Subspecialty

Specialty	Total Programs	Total Number of Physician Faculty	Mean	MIN	MAX
OVERALL	11,214	176,616	15.7	0	289
TOTAL PIPELINE	4,668	119,769	25.7	1	289
Allergy and immunology	79	805	10.2	2	29
Anesthesiology	153	8,850	57.8	7	173
- Adult cardiothoracic anesthesiology	66	769	11.7	4	31
- Clinical informatics	1	7	7.0	7	7
- Critical care medicine	62	814	13.1	3	31
- Regional anesthesiology and acute pain medicine	18	221	12.3	5	35
- Obstetric anesthesiology	34	316	9.3	2	21
- Pain medicine (multidisciplinary)	102	899	8.8	1	27
- Pediatric anesthesiology	60	939	15.7	4	49
Colon and rectal surgery	62	397	6.4	2	20
Dermatology	138	2,125	15.4	3	58
- Dermatopathology (multidisciplinary)	56	413	7.4	1	25
- Micrographic surgery and dermatologic oncology	77	301	3.9	0	14
Emergency medicine	231	5,151	22.3	4	127
- Clinical informatics	4	36	9.0	5	13
- Emergency medical services	61	211	3.5	1	9
- Medical toxicology	27	135	5.0	2	13
- Pediatric emergency medicine	26	265	10.2	1	29
- Sports medicine	8	39	4.9	1	10
- Undersea and hyperbaric medicine	7	23	3.3	1	6
Family medicine	620	15,959	25.7	3	143
- Clinical informatics	2	14	7.0	4	10
- Geriatric medicine	45	409	9.1	2	21
- Hospice and palliative medicine (multidisciplinary)	140	1,186	8.5	2	27
- Sports medicine	135	1,126	8.3	1	35
Internal medicine	529	10,523	19.9	2	117
- Adult congenital heart disease	14	82	5.9	1	15
- Advanced heart failure and transplant cardiology	75	376	5.0	1	12
- Cardiovascular disease	235	3,078	13.1	3	36
- Clinical cardiac electrophysiology	108	528	4.9	1	19
- Clinical informatics	13	120	9.2	5	15
- Critical care medicine	36	410	11.4	2	34
- Endocrinology, diabetes, and metabolism	142	1,034	7.3	1	23
- Gastroenterology	189	2,154	11.4	1	46
- Geriatric medicine	107	646	6.0	1	19
- Hematology	2	21	10.5	7	14
- Hematology and medical oncology	149	1,964	13.2	3	50
- Infectious disease	148	1,312	8.9	2	38
- Interventional cardiology	155	728	4.7	1	17
- Nephrology	150	1,310	8.7	2	26
- Medical oncology	7	68	9.7	3	17
- Pulmonary disease	22	134	6.1	2	14
- Pulmonary disease and critical care medicine	170	2,218	13.0	3	38
- Rheumatology	120	805	6.7	1	23
- Sleep medicine (multidisciplinary)	84	445	5.3	1	17
- Transplant hepatology	51	270	5.3	1	11
Medical genetics and genomics	46	499	10.8	2	56
- Medical biochemical genetics	17	85	5.0	2	12
- Molecular genetic pathology (multidisciplinary)	41	220	5.4	0	12
Neurological surgery	112	1,909	17.0	5	46
- Endovascular surgical neuroradiology	2	3	1.5	1	2

TABLE G.8 Continued

Number of Physician Faculty and Mean Number of Physician Faculty per Program by Specialty and Subspecialty

Specialty	Total Programs	Total Number of Physician Faculty	Mean	MIN	MAX
Neurology	153	4,589	30.0	5	99
- Brain injury medicine	1	2	2.0	2	2
- Clinical neurophysiology	91	849	9.3	2	28
- Epilepsy	71	543	7.6	1	22
- Endovascular surgical neuroradiology	1	2	2.0	2	2
- Neurodevelopmental disabilities	8	124	15.5	5	26
- Neuromuscular medicine	49	297	6.1	0	13
- Vascular neurology	92	583	6.3	1	19
Child neurology	74	1,124	15.2	3	50
Nuclear medicine	41	246	6.0	2	16
Obstetrics and gynecology	278	8,317	29.9	3	122
- Female pelvic medicine and reconstructive surgery	51	343	6.7	2	14
- Gynecologic oncology	56	611	10.9	3	60
- Maternal-fetal medicine	88	1,150	13.1	3	28
- Reproductive endocrinology and infertility	50	394	7.9	2	23
Ophthalmology	119	3,268	27.5	8	75
- Ophthalmic plastic and reconstructive surgery	4	20	5.0	2	8
Orthopaedic surgery	175	5,507	31.5	8	103
- Adult reconstructive orthopaedics	24	131	5.5	1	20
- Foot and ankle orthopaedics	6	31	5.2	3	8
- Hand surgery	68	432	6.4	2	22
- Musculoskeletal oncology	12	32	2.7	1	5
- Orthopaedic sports medicine	96	613	6.4	0	27
- Orthopaedic surgery of the spine	17	106	6.2	2	21
- Orthopaedic trauma	11	47	4.3	2	9
- Pediatric orthopaedics	25	239	9.6	4	21
Osteopathic neuromusculoskeletal medicine	13	75	5.8	2	12
Otolaryngology	117	2,518	21.5	6	49
- Neurotology	23	126	5.5	2	12
- Pediatric otolaryngology	25	211	8.4	3	16
Pathology-anatomic and clinical	143	4,176	29.2	6	94
- Blood banking/transfusion medicine	50	266	5.3	1	14
- Clinical informatics	7	58	8.3	5	15
- Chemical pathology	4	10	2.5	1	5
- Cytopathology	94	504	5.4	1	15
- Forensic pathology	39	247	6.3	2	19
- Hematopathology	85	510	6.0	1	17
- Medical microbiology	15	46	3.1	1	10
- Neuropathology	34	138	4.1	1	10
- Pediatric pathology	27	219	8.1	0	23
- Selective pathology	83	627	7.6	0	31
Pediatrics	210	9,478	45.1	12	289
- Adolescent medicine	29	168	5.8	1	16
- Child abuse pediatrics	32	101	3.2	0	9
- Clinical informatics	5	40	8.0	4	11
- Developmental-behavioral pediatrics	41	246	6.0	1	15
- Neonatal-perinatal medicine	100	1,487	14.9	3	50
- Pediatric cardiology	60	1,061	17.7	2	71
- Pediatric critical care medicine	67	913	13.6	5	59
- Pediatric emergency medicine	52	955	18.4	5	51
- Pediatric endocrinology	72	541	7.5	1	30
- Pediatric gastroenterology	64	584	9.1	3	25
- Pediatric hematology/oncology	74	1,138	15.4	5	53

TABLE G.8 *Continued***Number of Physician Faculty and Mean Number of Physician Faculty per Program by Specialty and Subspecialty**

Specialty	Total Programs	Total Number of Physician Faculty	Mean	MIN	MAX
- Pediatric infectious diseases	65	460	7.1	2	23
- Pediatric nephrology	45	262	5.8	1	16
- Pediatric pulmonology	54	445	8.2	2	22
- Pediatric rheumatology	37	174	4.7	1	11
- Pediatric sports medicine	17	111	6.5	1	15
- Pediatric transplant hepatology	14	73	5.2	1	11
Physical medicine and rehabilitation	88	1,771	20.1	4	50
- Brain injury medicine	18	86	4.8	1	12
- Neuromuscular medicine	1	3	3.0	3	3
- Spinal cord injury medicine	22	114	5.2	2	10
- Pediatric rehabilitation	20	112	5.6	2	15
- Sports medicine	19	109	5.7	1	12
Plastic surgery	61	871	14.3	4	43
Plastic surgery - integrated	79	1,659	21.0	3	70
- Craniofacial surgery	8	23	2.9	2	5
- Hand surgery	16	94	5.9	1	12
Preventive medicine	76	747	9.8	1	38
- Medical toxicology	1	5	5.0	5	5
- Undersea and hyperbaric medicine	1	7	7.0	7	7
Psychiatry	248	5,716	23.0	2	85
- Addiction psychiatry	49	290	5.9	2	15
- Child and adolescent psychiatry	138	1,270	9.2	2	36
- Forensic psychiatry	47	232	4.9	0	14
- Geriatric psychiatry	60	340	5.7	1	14
- Consultation-liaison psychiatry	61	332	5.4	1	18
Radiation oncology	94	1,076	11.4	3	58
Radiology-diagnostic	194	7,169	37.0	8	145
- Abdominal radiology	12	149	12.4	6	21
- Endovascular surgical neuroradiology	3	11	3.7	2	6
- Musculoskeletal radiology	16	106	6.6	2	17
- Neuroradiology	85	819	9.6	2	31
- Nuclear radiology	17	74	4.4	1	13
- Pediatric radiology	46	504	11.0	2	39
- Vascular and interventional radiology	93	701	7.5	1	29
Interventional radiology - integrated	78	1,930	24.7	5	84
Surgery	301	10,289	34.2	3	137
- Complex general surgical oncology	25	378	15.1	4	27
- Hand surgery	1	10	10.0	10	10
- Pediatric surgery	50	446	8.9	2	19
- Surgical critical care	128	1,218	9.5	2	25
- Vascular surgery	106	733	6.9	2	16
Vascular surgery - integrated	55	724	13.2	2	40
Thoracic surgery	72	974	13.5	4	49
- Congenital cardiac surgery	13	47	3.6	2	7
Thoracic surgery - integrated	26	554	21.3	5	94
Urology	138	2,382	17.3	3	50
- Female pelvic medicine and reconstructive surgery	13	97	7.5	3	12
- Pediatric urology	26	126	4.8	2	11
Transitional year	135	1,831	13.6	3	68
Internal medicine/Pediatrics	78	567	7.3	1	22

Notes: Excluding program directors. Total number of physician faculty does not represent the count of distinct people as individuals may be listed in more than one program. Total number of distinct physician faculty across all programs=145,749. Pipeline specialties are highlighted.

TABLE G.9					
Total Number of Core Faculty and Core Faculty per Program by Specialty					
Specialty	Total Programs	Total Number of Core Faculty	Mean	MIN	MAX
OVERALL	5,016	65,573	13.1	0	113
Allergy and immunology	79	395	5.0	0	14
Anesthesiology	153	4,098	26.8	3	101
Colon and rectal surgery	62	298	4.8	1	16
Dermatology	138	1,165	8.4	2	24
Emergency medicine	231	3,086	13.4	3	63
Family medicine	620	4,245	6.8	1	28
Internal medicine	529	6,157	11.6	2	59
Medical genetics and genomics	46	213	4.6	1	14
Neurological surgery	112	1,324	11.8	3	28
Neurology	153	2,330	15.2	2	61
Child neurology	74	726	9.8	2	34
Nuclear medicine	41	186	4.5	1	16
Obstetrics and gynecology	278	4,570	16.4	1	56
Ophthalmology	119	1,594	13.4	1	38
Orthopaedic surgery	175	3,529	20.2	3	52
Osteopathic neuromusculoskeletal medicine	13	30	2.3	0	6
Otolaryngology	117	1,672	14.3	3	34
Pathology-anatomic and clinical	143	2,211	15.5	3	43
Pediatrics	210	5,055	24.1	5	76
Physical medicine and rehabilitation	88	1,154	13.1	3	32
Plastic surgery	61	560	9.2	2	35
Plastic surgery - integrated	79	793	10.0	3	35
Preventive medicine	76	302	4.0	0	17
Psychiatry	248	2,825	11.4	0	47
Radiation oncology	94	822	8.7	3	39
Radiology-diagnostic	194	4,515	23.3	5	86
Interventional radiology - integrated	78	1,409	18.1	5	49
Surgery	301	5,842	19.4	2	113
Vascular surgery - integrated	55	466	8.5	2	34
Thoracic surgery	72	776	10.8	3	29
Thoracic surgery - integrated	26	309	11.9	4	28
Urology	138	1,514	11.0	2	32
Transitional year	135	1,008	7.5	0	43
Internal medicine/Pediatrics	78	394	5.1	0	15

Notes: Excluding program directors. Total number of core faculty does not represent the count of distinct people as individuals may be listed in more than one program. Total number of distinct core faculty in specialty programs = 61,982.

FIGURE G.10

Specialties Organized by Largest Mean Number of Core Faculty per Program

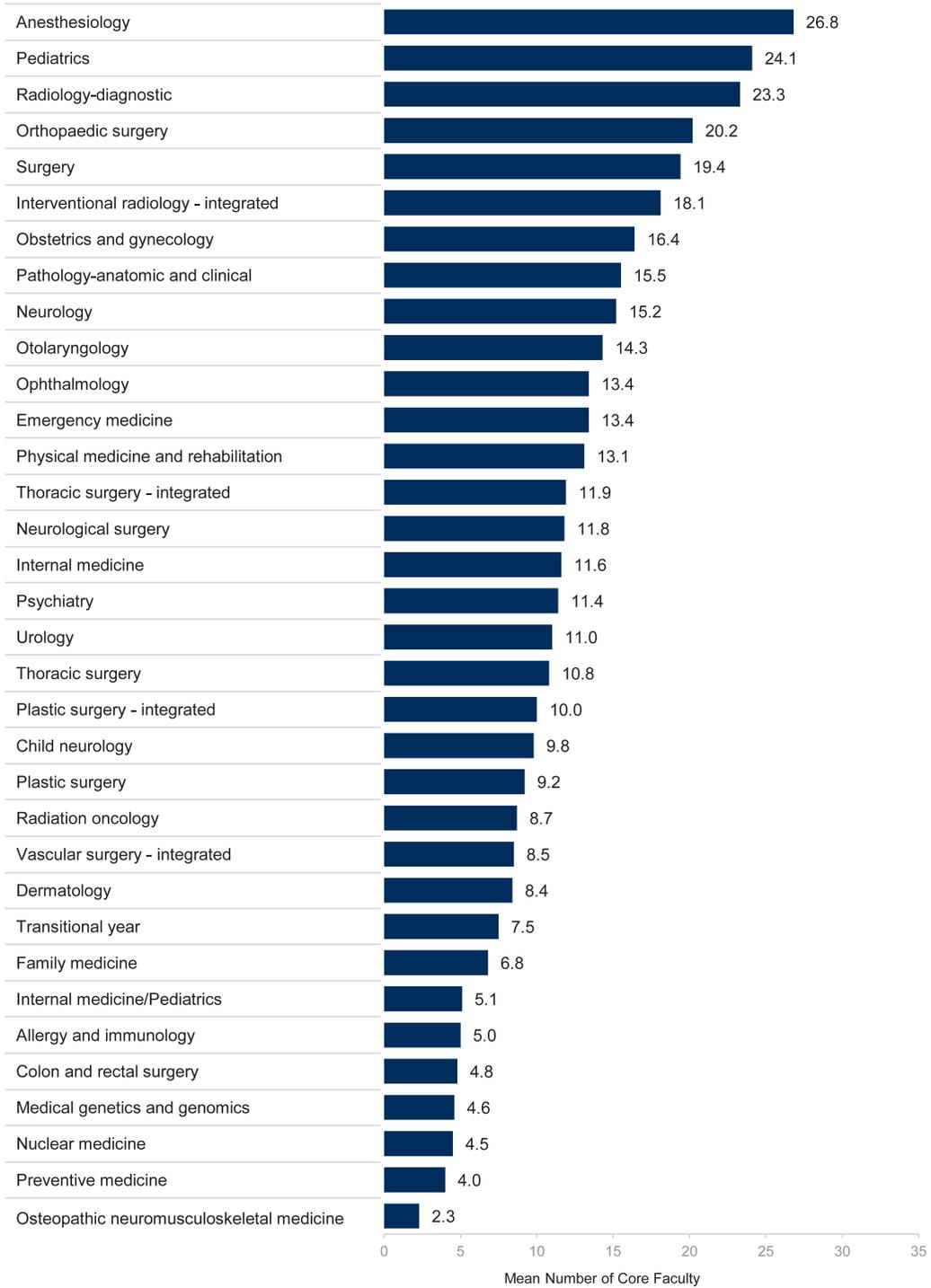
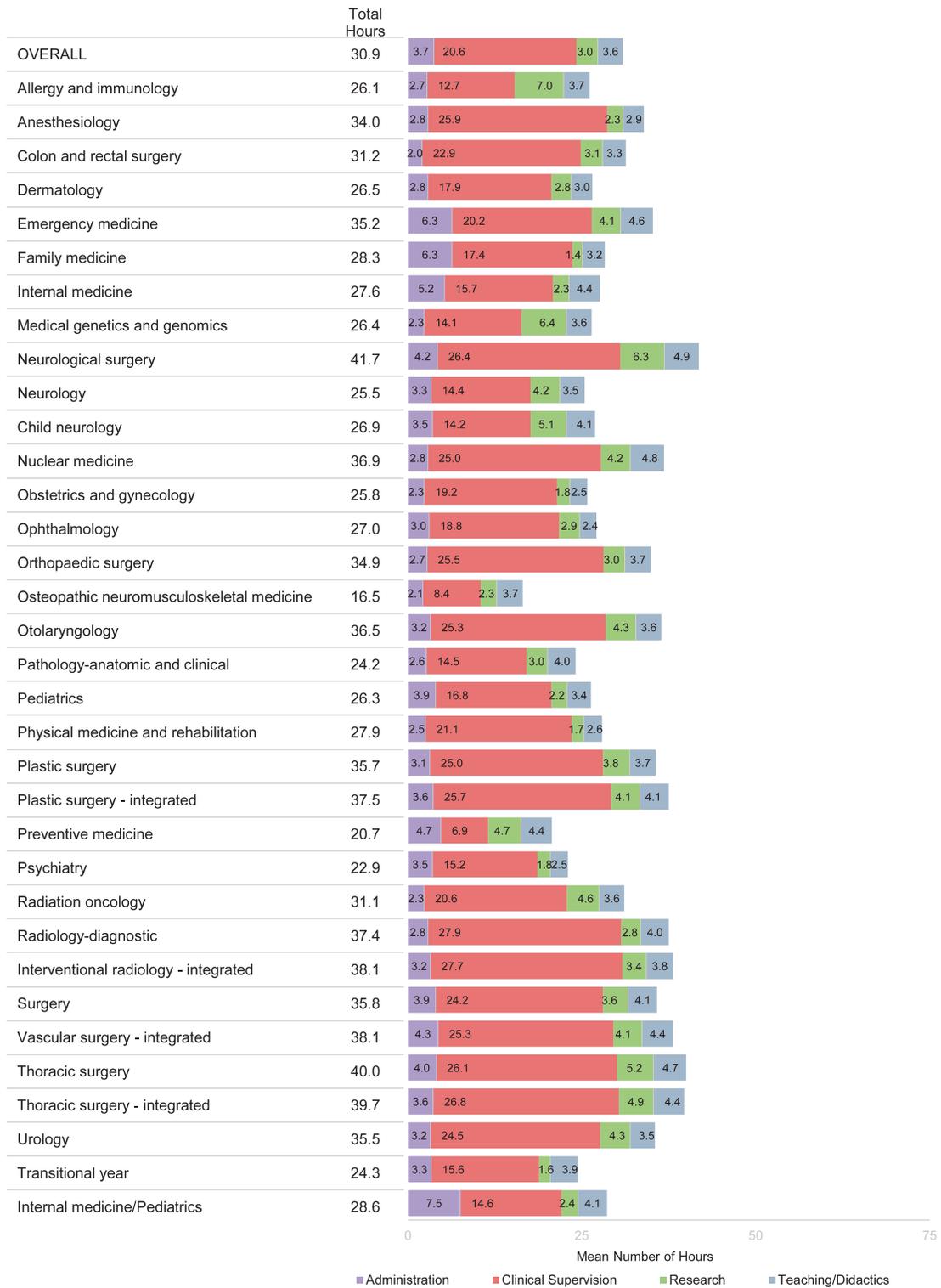
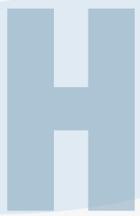


FIGURE G.11

Mean Number of Hours per Week Core Faculty Spent in Key Areas by Specialty





Program Activities

This section summarizes resident participation in patient safety and quality improvement programs, use of electronic medical records, and use of ambulatory and/or non-hospital settings and by specialty and subspecialty programs during the 2017-2018 academic year.

Patient Safety and Quality Improvement

The vast majority of specialty and subspecialty programs reported that all residents participated in patient safety in at least one year of their educational program (98.5% and 99.0% of programs respectively). The percentage of programs reporting that 100% of residents participated in interprofessional clinical quality improvement programs in at least one year of the educational program was slightly less: 97.0% and 98.5% of specialty and subspecialty programs, respectively. Overall, the percentage of programs reporting that none of their residents participated in patient safety and interprofessional clinical quality improvement programs was less than 1%.

Use of Ambulatory and/or Non-Hospital Settings

Across all programs, 91.8% of programs reported using ambulatory and/or non-hospital settings. The following ambulatory and/or non-hospital settings were used by the highest percentage of specialty programs:

- Ambulatory/outpatient settings (71.9%)
- Hospital-based continuity clinic (61.4%)
- Faculty ambulatory practice (57.2%)
- Private physician's offices (52.5%)

The percentage of programs using each type of setting varies significantly across pipeline specialties. For example, of those programs that use ambulatory/non-hospital settings, 14.5% of pathology-anatomic and clinical programs reported using a hospital-based continuity clinic while 91.4% of child neurology programs reported using a hospital-based continuity clinic. ↵

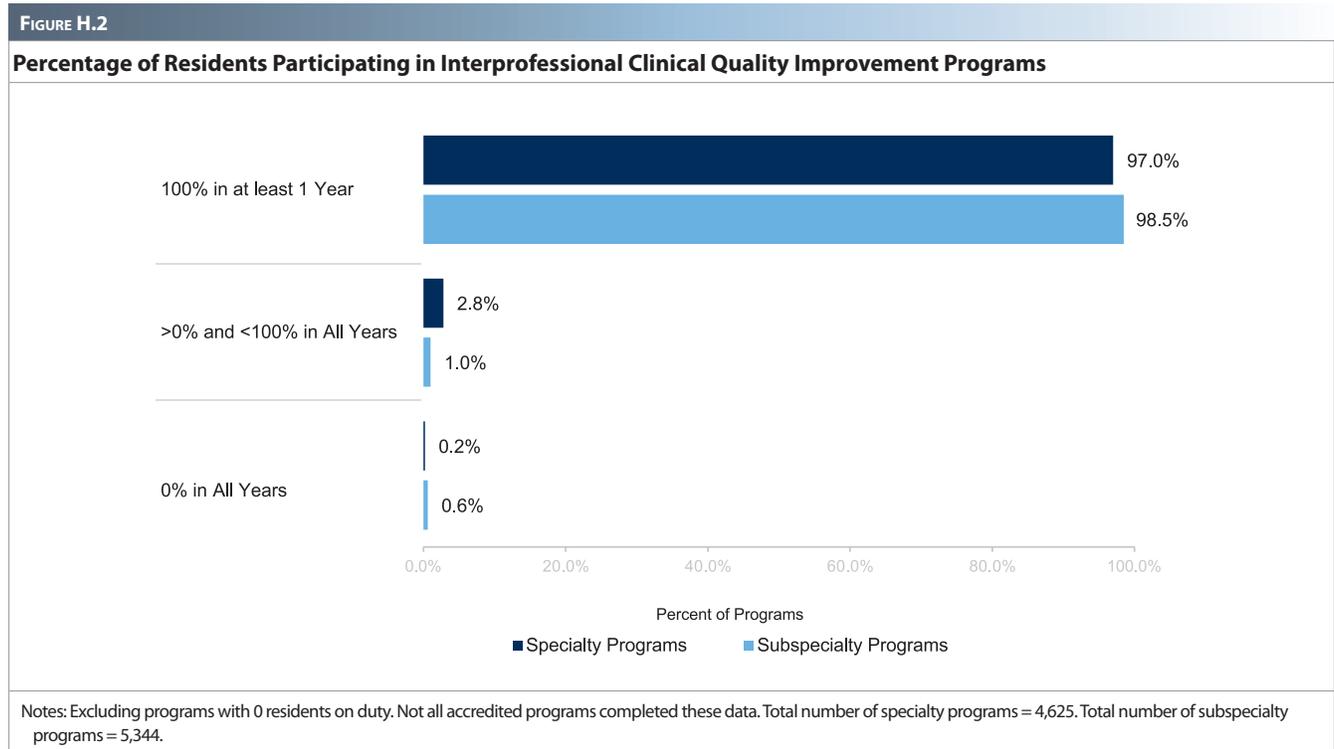
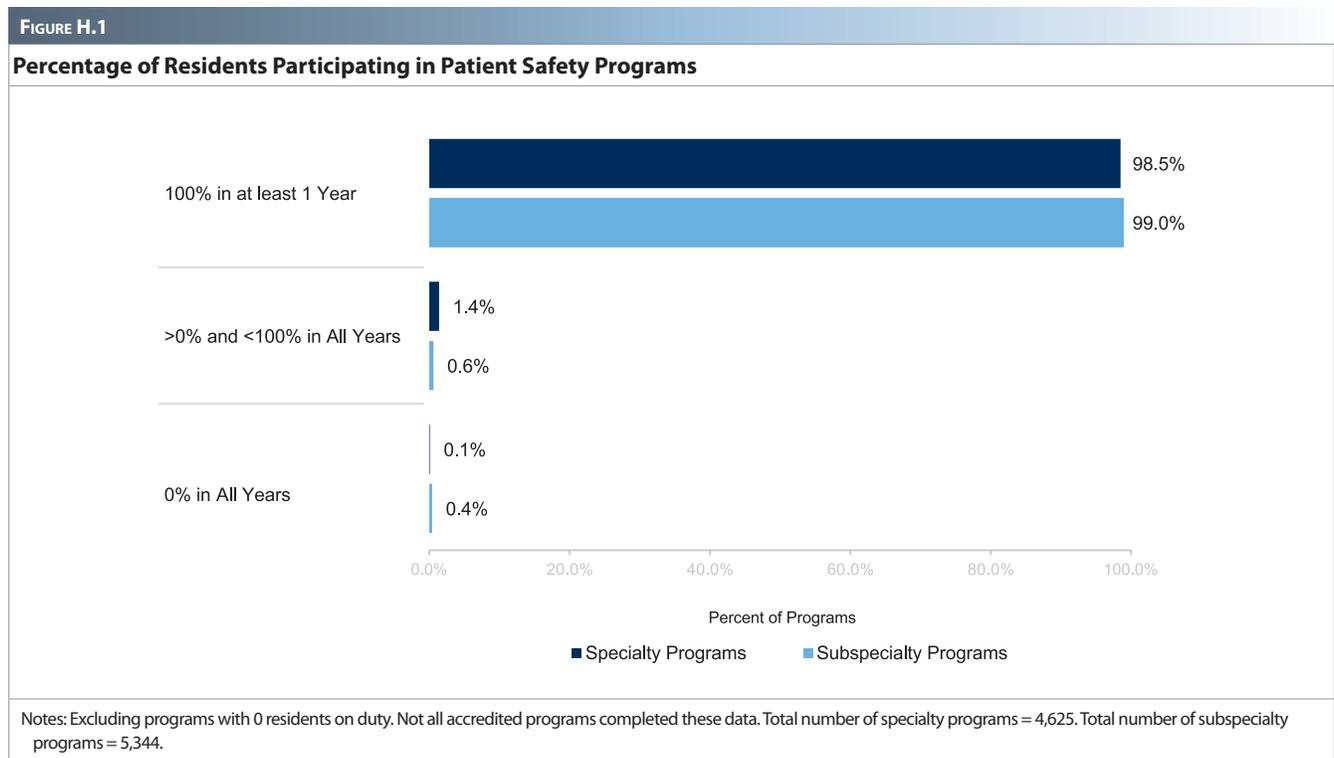


TABLE H.3

Percentage of Residents Participating in Patient Safety Programs and Interprofessional Clinical Quality Improvement Programs by Specialty and Subspecialty

Specialty	Total Programs	Patient Safety Programs			Interprofessional Clinical Quality Improvement Programs		
		100% in at least 1 Year	>0% and <100% in All Years	0% in All Years	100% in at least 1 Year	>0% and <100% in All Years	0% in All Years
OVERALL	9,969	98.8%	1.0%	0.3%	97.8%	1.8%	0.4%
TOTAL PIPELINE	4,423	98.4%	1.4%	0.1%	96.9%	2.9%	0.2%
Allergy and immunology	78	100.0%	0.0%	0.0%	98.7%	1.3%	0.0%
Anesthesiology	148	96.6%	3.4%	0.0%	95.9%	4.1%	0.0%
- Adult cardiothoracic anesthesiology	63	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Clinical informatics	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Critical care medicine	50	98.0%	2.0%	0.0%	98.0%	2.0%	0.0%
- Regional anesthesiology and acute pain medicine	12	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Obstetric anesthesiology	21	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pain medicine (multidisciplinary)	98	100.0%	0.0%	0.0%	99.0%	1.0%	0.0%
- Pediatric anesthesiology	53	98.1%	1.9%	0.0%	100.0%	0.0%	0.0%
Colon and rectal surgery	58	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Dermatology	135	98.5%	1.5%	0.0%	96.3%	3.7%	0.0%
- Dermatopathology (multidisciplinary)	49	98.0%	0.0%	2.0%	100.0%	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	68	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Emergency medicine	223	99.6%	0.4%	0.0%	96.9%	2.7%	0.4%
- Clinical informatics	2	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Emergency medical services	30	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Medical toxicology	21	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric emergency medicine	25	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Sports medicine	8	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Undersea and hyperbaric medicine	4	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Family medicine	586	99.3%	0.3%	0.3%	99.3%	0.3%	0.2%
- Clinical informatics	2	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Geriatric medicine	25	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Hospice and palliative medicine (multidisciplinary)	116	99.1%	0.9%	0.0%	99.1%	0.9%	0.0%
- Sports medicine	122	99.2%	0.0%	0.8%	99.2%	0.0%	0.8%
Internal medicine	512	96.5%	3.5%	0.0%	94.7%	5.3%	0.0%
- Adult congenital heart disease	8	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Advanced heart failure and transplant cardiology	58	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Cardiovascular disease	227	99.1%	0.9%	0.0%	94.7%	5.3%	0.0%
- Clinical cardiac electrophysiology	82	100.0%	0.0%	0.0%	98.8%	0.0%	1.2%
- Clinical informatics	11	90.9%	9.1%	0.0%	100.0%	0.0%	0.0%
- Critical care medicine	34	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Endocrinology, diabetes, and metabolism	139	96.4%	2.9%	0.7%	99.3%	0.0%	0.7%
- Gastroenterology	181	98.9%	1.1%	0.0%	98.3%	1.1%	0.6%
- Geriatric medicine	90	98.9%	1.1%	0.0%	98.9%	1.1%	0.0%
- Hematology	2	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Hematology and medical oncology	147	98.6%	0.7%	0.7%	97.3%	2.7%	0.0%
- Infectious disease	138	99.3%	0.7%	0.0%	99.3%	0.7%	0.0%
- Interventional cardiology	150	99.3%	0.0%	0.7%	99.3%	0.7%	0.0%
- Nephrology	145	98.6%	1.4%	0.0%	98.6%	1.4%	0.0%
- Medical oncology	6	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pulmonary disease	18	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pulmonary disease and critical care medicine	160	96.3%	3.1%	0.6%	96.3%	3.1%	0.6%
- Rheumatology	113	99.1%	0.9%	0.0%	97.3%	2.7%	0.0%
- Sleep medicine (multidisciplinary)	74	98.6%	1.4%	0.0%	97.3%	2.7%	0.0%
- Transplant hepatology	28	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Medical genetics and genomics	29	100.0%	0.0%	0.0%	96.6%	0.0%	3.4%
- Medical biochemical genetics	10	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Molecular genetic pathology (multidisciplinary)	33	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Neurological surgery	110	99.1%	0.9%	0.0%	99.1%	0.9%	0.0%
- Endovascular surgical neuroradiology	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%

TABLE H.3 Continued							
Percentage of Residents Participating in Patient Safety Programs and Interprofessional Clinical Quality Improvement Programs by Specialty and Subspecialty							
Specialty	Total Programs	Patient Safety Programs			Interprofessional Clinical Quality Improvement Programs		
		100% in at least 1 Year	>0% and <100% in All Years	0% in All Years	100% in at least 1 Year	>0% and <100% in All Years	0% in All Years
Neurology	148	98.0%	2.0%	0.0%	93.2%	6.1%	0.7%
- Brain injury medicine	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Clinical neurophysiology	71	100.0%	0.0%	0.0%	97.2%	0.0%	2.8%
- Epilepsy	45	97.8%	2.2%	0.0%	100.0%	0.0%	0.0%
- Endovascular surgical neuroradiology	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neurodevelopmental disabilities	7	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neuromuscular medicine	34	100.0%	0.0%	0.0%	97.1%	0.0%	2.9%
- Vascular neurology	63	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Child neurology	72	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Nuclear medicine	28	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Obstetrics and gynecology	271	99.6%	0.4%	0.0%	97.8%	2.2%	0.0%
- Female pelvic medicine and reconstructive surgery	50	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Gynecologic oncology	52	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Maternal-fetal medicine	82	98.8%	1.2%	0.0%	98.8%	1.2%	0.0%
- Reproductive endocrinology and infertility	47	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Ophthalmology	119	97.5%	2.5%	0.0%	95.0%	4.2%	0.8%
- Ophthalmic plastic and reconstructive surgery	4	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Orthopaedic surgery	171	98.8%	1.2%	0.0%	97.7%	1.8%	0.6%
- Adult reconstructive orthopaedics	20	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Foot and ankle orthopaedics	6	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Hand surgery	65	96.9%	0.0%	3.1%	96.9%	0.0%	3.1%
- Musculoskeletal oncology	11	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Orthopaedic sports medicine	82	98.8%	1.2%	0.0%	100.0%	0.0%	0.0%
- Orthopaedic surgery of the spine	16	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Orthopaedic trauma	10	100.0%	0.0%	0.0%	90.0%	0.0%	10.0%
- Pediatric orthopaedics	20	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine	9	88.9%	11.1%	0.0%	100.0%	0.0%	0.0%
Otolaryngology	116	98.3%	1.7%	0.0%	97.4%	1.7%	0.9%
- Neurotology	19	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric otolaryngology	21	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Pathology-anatomic and clinical	141	96.5%	2.1%	1.4%	95.0%	5.0%	0.0%
- Blood banking/transfusion medicine	36	97.2%	0.0%	2.8%	100.0%	0.0%	0.0%
- Clinical informatics	3	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Chemical pathology	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Cytopathology	84	97.6%	0.0%	2.4%	98.8%	0.0%	1.2%
- Forensic pathology	24	83.3%	0.0%	16.7%	79.2%	0.0%	20.8%
- Hematopathology	75	97.3%	1.3%	1.3%	97.3%	1.3%	1.3%
- Medical microbiology	8	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neuropathology	27	96.3%	0.0%	3.7%	100.0%	0.0%	0.0%
- Pediatric pathology	13	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Selective pathology	72	97.2%	1.4%	1.4%	95.8%	1.4%	2.8%
Pediatrics	207	98.1%	1.9%	0.0%	96.1%	3.9%	0.0%
- Adolescent medicine	25	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Child abuse pediatrics	22	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Clinical informatics	4	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Developmental-behavioral pediatrics	36	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neonatal-perinatal medicine	98	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric cardiology	59	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric critical care medicine	66	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric emergency medicine	52	98.1%	1.9%	0.0%	100.0%	0.0%	0.0%
- Pediatric endocrinology	65	100.0%	0.0%	0.0%	98.5%	1.5%	0.0%
- Pediatric gastroenterology	60	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric hematology/oncology	71	98.6%	1.4%	0.0%	95.8%	4.2%	0.0%

TABLE H.3 Continued

Percentage of Residents Participating in Patient Safety Programs and Interprofessional Clinical Quality Improvement Programs by Specialty and Subspecialty

Specialty	Total Programs	Patient Safety Programs			Interprofessional Clinical Quality Improvement Programs		
		100% in at least 1 Year	>0% and <100% in All Years	0% in All Years	100% in at least 1 Year	>0% and <100% in All Years	0% in All Years
- Pediatric infectious diseases	56	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric nephrology	34	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric pulmonology	44	100.0%	0.0%	0.0%	97.7%	0.0%	2.3%
- Pediatric rheumatology	31	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric sports medicine	15	100.0%	0.0%	0.0%	93.3%	6.7%	0.0%
- Pediatric transplant hepatology	11	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Physical medicine and rehabilitation	85	98.8%	1.2%	0.0%	98.8%	1.2%	0.0%
- Brain injury medicine	12	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neuromuscular medicine	0	N/A	N/A	N/A	N/A	N/A	N/A
- Spinal cord injury medicine	15	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric rehabilitation	17	100.0%	0.0%	0.0%	94.1%	0.0%	5.9%
- Sports medicine	18	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Plastic surgery	57	100.0%	0.0%	0.0%	96.5%	3.5%	0.0%
Plastic surgery - integrated	74	97.3%	1.4%	1.4%	95.9%	2.7%	1.4%
- Craniofacial surgery	4	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Hand surgery	16	93.8%	6.3%	0.0%	100.0%	0.0%	0.0%
Preventive medicine	70	100.0%	0.0%	0.0%	98.6%	1.4%	0.0%
- Medical toxicology	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Undersea and hyperbaric medicine	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Psychiatry	225	98.7%	1.3%	0.0%	96.4%	3.1%	0.4%
- Addiction psychiatry	32	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Child and adolescent psychiatry	129	100.0%	0.0%	0.0%	95.3%	3.1%	1.6%
- Forensic psychiatry	34	97.1%	0.0%	2.9%	94.1%	0.0%	5.9%
- Geriatric psychiatry	33	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Consultation-liaison psychiatry	44	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Radiation oncology	91	98.9%	1.1%	0.0%	98.9%	1.1%	0.0%
Radiology-diagnostic	192	97.4%	2.6%	0.0%	92.7%	7.3%	0.0%
- Abdominal radiology	11	100.0%	0.0%	0.0%	90.9%	0.0%	9.1%
- Endovascular surgical neuroradiology	3	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Musculoskeletal radiology	15	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Neuroradiology	74	100.0%	0.0%	0.0%	95.9%	0.0%	4.1%
- Nuclear radiology	8	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric radiology	20	95.0%	5.0%	0.0%	90.0%	5.0%	5.0%
- Vascular and interventional radiology	90	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Interventional radiology - integrated	20	95.0%	5.0%	0.0%	95.0%	5.0%	0.0%
Surgery	291	98.6%	1.4%	0.0%	97.6%	2.4%	0.0%
- Complex general surgical oncology	23	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Hand surgery	1	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric surgery	48	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Surgical critical care	105	100.0%	0.0%	0.0%	99.0%	1.0%	0.0%
- Vascular surgery	102	100.0%	0.0%	0.0%	99.0%	1.0%	0.0%
Vascular surgery - integrated	52	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Thoracic surgery	66	100.0%	0.0%	0.0%	98.5%	1.5%	0.0%
- Congenital cardiac surgery	9	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Thoracic surgery - integrated	26	96.2%	0.0%	3.8%	100.0%	0.0%	0.0%
Urology	137	100.0%	0.0%	0.0%	98.5%	1.5%	0.0%
- Female pelvic medicine and reconstructive surgery	12	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
- Pediatric urology	23	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Transitional year	0	N/A	N/A	N/A	N/A	N/A	N/A
Internal medicine/Pediatrics	78	100.0%	0.0%	0.0%	97.4%	2.6%	0.0%

Notes: Pipeline specialties are highlighted. Excluding programs with 0 residents on duty. Not all accredited programs completed these data. Total number of specialty programs = 4,625. Total number of subspecialty programs = 5,344.

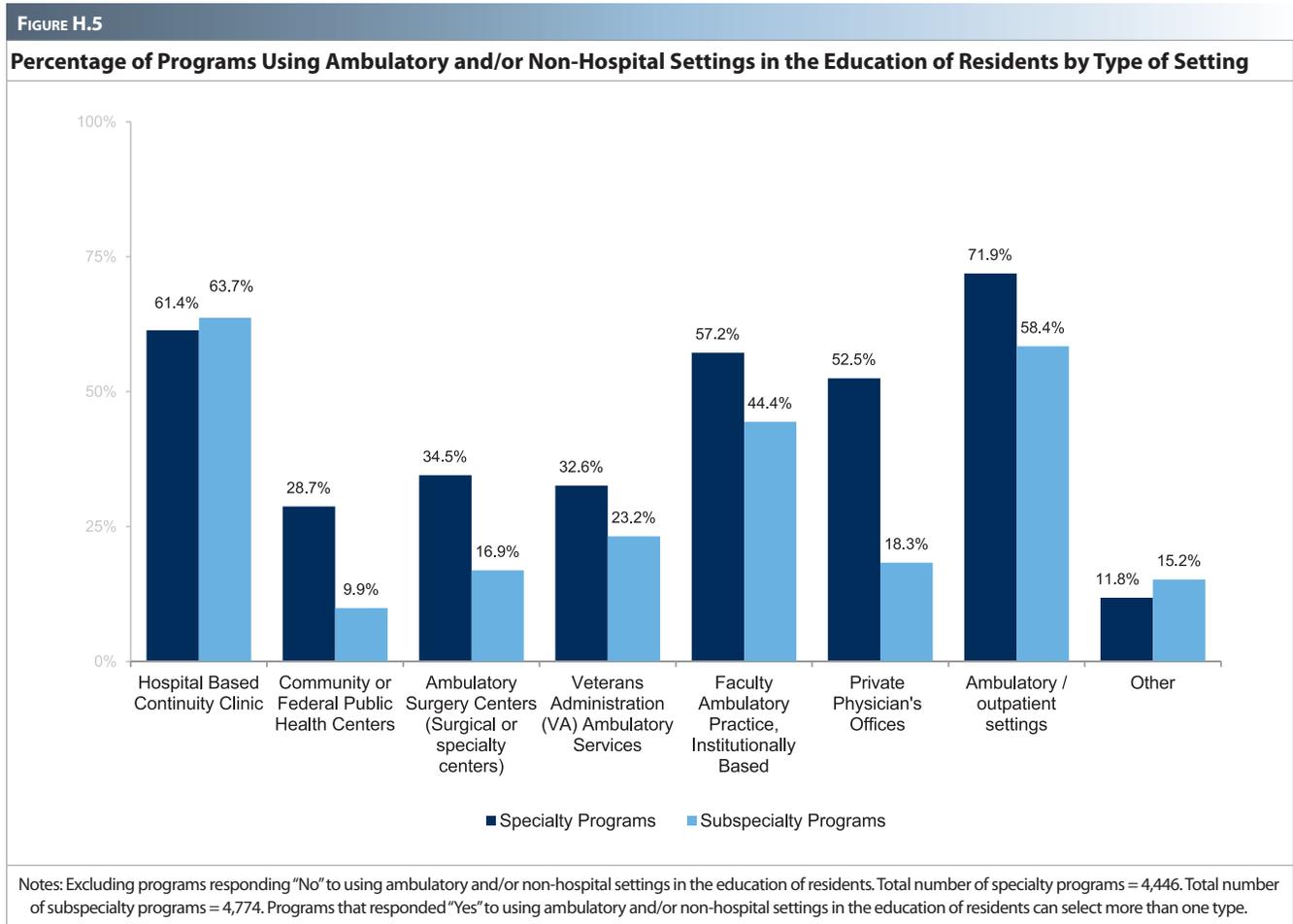
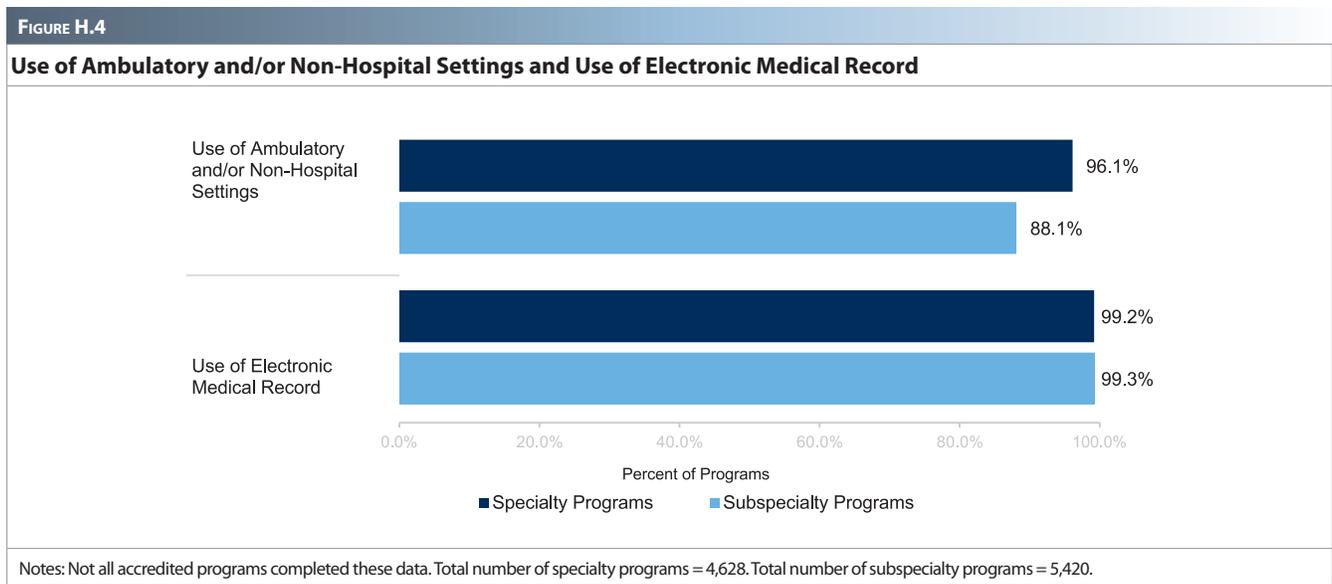


TABLE H.6

Use of Ambulatory and/or Non-Hospital Settings and Use of Electronic Medical Record by Specialty and Subspecialty

Specialty	Total Programs	Use Ambulatory and/or Non-Hospital Settings				Use Electronic Medical Record			
		Yes	%	No	%	Yes	%	No	%
OVERALL	10,048	9,220	91.8%	828	8.2%	9,975	99.3%	73	0.7%
TOTAL PIPELINE	4,426	4,250	96.0%	176	4.0%	4,391	99.2%	35	0.8%
Allergy and immunology	78	75	96.2%	3	3.8%	78	100.0%	0	0.0%
Anesthesiology	148	140	94.6%	8	5.4%	146	98.6%	2	1.4%
- Adult cardiothoracic anesthesiology	64	11	17.2%	53	82.8%	63	98.4%	1	1.6%
- Clinical informatics	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
- Critical care medicine	52	1	1.9%	51	98.1%	52	100.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	12	11	91.7%	1	8.3%	12	100.0%	0	0.0%
- Obstetric anesthesiology	23	18	78.3%	5	21.7%	23	100.0%	0	0.0%
- Pain medicine (multidisciplinary)	100	99	99.0%	1	1.0%	100	100.0%	0	0.0%
- Pediatric anesthesiology	53	40	75.5%	13	24.5%	53	100.0%	0	0.0%
Colon and rectal surgery	58	57	98.3%	1	1.7%	58	100.0%	0	0.0%
Dermatology	135	135	100.0%	0	0.0%	134	99.3%	1	0.7%
- Dermatopathology (multidisciplinary)	50	42	84.0%	8	16.0%	50	100.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	69	68	98.6%	1	1.4%	66	95.7%	3	4.3%
Emergency medicine	223	164	73.5%	59	26.5%	223	100.0%	0	0.0%
- Clinical informatics	2	2	100.0%	0	0.0%	2	100.0%	0	0.0%
- Emergency medical services	30	28	93.3%	2	6.7%	30	100.0%	0	0.0%
- Medical toxicology	21	21	100.0%	0	0.0%	21	100.0%	0	0.0%
- Pediatric emergency medicine	25	23	92.0%	2	8.0%	25	100.0%	0	0.0%
- Sports medicine	8	8	100.0%	0	0.0%	8	100.0%	0	0.0%
- Undersea and hyperbaric medicine	4	4	100.0%	0	0.0%	4	100.0%	0	0.0%
Family medicine	586	586	100.0%	0	0.0%	584	99.7%	2	0.3%
- Clinical informatics	2	2	100.0%	0	0.0%	2	100.0%	0	0.0%
- Geriatric medicine	26	26	100.0%	0	0.0%	26	100.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	119	119	100.0%	0	0.0%	119	100.0%	0	0.0%
- Sports medicine	128	128	100.0%	0	0.0%	125	97.7%	3	2.3%
Internal medicine	512	512	100.0%	0	0.0%	508	99.2%	4	0.8%
- Adult congenital heart disease	8	8	100.0%	0	0.0%	8	100.0%	0	0.0%
- Advanced heart failure and transplant cardiology	59	58	98.3%	1	1.7%	59	100.0%	0	0.0%
- Cardiovascular disease	227	225	99.1%	2	0.9%	225	99.1%	2	0.9%
- Clinical cardiac electrophysiology	83	80	96.4%	3	3.6%	83	100.0%	0	0.0%
- Clinical informatics	11	11	100.0%	0	0.0%	11	100.0%	0	0.0%
- Critical care medicine	34	5	14.7%	29	85.3%	34	100.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	139	139	100.0%	0	0.0%	138	99.3%	1	0.7%
- Gastroenterology	181	180	99.4%	1	0.6%	180	99.4%	1	0.6%
- Geriatric medicine	91	91	100.0%	0	0.0%	91	100.0%	0	0.0%
- Hematology	2	2	100.0%	0	0.0%	2	100.0%	0	0.0%
- Hematology and medical oncology	147	146	99.3%	1	0.7%	145	98.6%	2	1.4%
- Infectious disease	138	138	100.0%	0	0.0%	137	99.3%	1	0.7%
- Interventional cardiology	150	142	94.7%	8	5.3%	150	100.0%	0	0.0%
- Nephrology	145	145	100.0%	0	0.0%	145	100.0%	0	0.0%
- Medical oncology	6	6	100.0%	0	0.0%	6	100.0%	0	0.0%
- Pulmonary disease	19	18	94.7%	1	5.3%	19	100.0%	0	0.0%
- Pulmonary disease and critical care medicine	160	160	100.0%	0	0.0%	159	99.4%	1	0.6%
- Rheumatology	114	113	99.1%	1	0.9%	114	100.0%	0	0.0%
- Sleep medicine (multidisciplinary)	76	74	97.4%	2	2.6%	76	100.0%	0	0.0%
- Transplant hepatology	32	31	96.9%	1	3.1%	32	100.0%	0	0.0%
Medical genetics and genomics	30	29	96.7%	1	3.3%	30	100.0%	0	0.0%
- Medical biochemical genetics	10	9	90.0%	1	10.0%	10	100.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	36	22	61.1%	14	38.9%	36	100.0%	0	0.0%
Neurological surgery	110	108	98.2%	2	1.8%	109	99.1%	1	0.9%
- Endovascular surgical neuroradiology	2	2	100.0%	0	0.0%	2	100.0%	0	0.0%

TABLE H.6 Continued									
Use of Ambulatory and/or Non-Hospital Settings and Use of Electronic Medical Record by Specialty and Subspecialty									
Specialty	Total Programs	Use Ambulatory and/or Non-Hospital Settings				Use Electronic Medical Record			
		Yes	%	No	%	Yes	%	No	%
Neurology	148	148	100.0%	0	0.0%	147	99.3%	1	0.7%
- Brain injury medicine	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
- Clinical neurophysiology	73	71	97.3%	2	2.7%	73	100.0%	0	0.0%
- Epilepsy	47	47	100.0%	0	0.0%	47	100.0%	0	0.0%
- Endovascular surgical neuroradiology	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
- Neurodevelopmental disabilities	7	7	100.0%	0	0.0%	7	100.0%	0	0.0%
- Neuromuscular medicine	34	34	100.0%	0	0.0%	33	97.1%	1	2.9%
- Vascular neurology	66	66	100.0%	0	0.0%	66	100.0%	0	0.0%
Child neurology	72	70	97.2%	2	2.8%	70	97.2%	2	2.8%
Nuclear medicine	28	18	64.3%	10	35.7%	27	96.4%	1	3.6%
Obstetrics and gynecology	271	270	99.6%	1	0.4%	268	98.9%	3	1.1%
- Female pelvic medicine and reconstructive surgery	50	50	100.0%	0	0.0%	50	100.0%	0	0.0%
- Gynecologic oncology	52	51	98.1%	1	1.9%	52	100.0%	0	0.0%
- Maternal-fetal medicine	82	81	98.8%	1	1.2%	82	100.0%	0	0.0%
- Reproductive endocrinology and infertility	47	46	97.9%	1	2.1%	47	100.0%	0	0.0%
Ophthalmology	119	117	98.3%	2	1.7%	118	99.2%	1	0.8%
- Ophthalmic plastic and reconstructive surgery	4	4	100.0%	0	0.0%	4	100.0%	0	0.0%
Orthopaedic surgery	172	169	98.3%	3	1.7%	170	98.8%	2	1.2%
- Adult reconstructive orthopaedics	20	19	95.0%	1	5.0%	19	95.0%	1	5.0%
- Foot and ankle orthopaedics	6	6	100.0%	0	0.0%	6	100.0%	0	0.0%
- Hand surgery	66	65	98.5%	1	1.5%	66	100.0%	0	0.0%
- Musculoskeletal oncology	11	9	81.8%	2	18.2%	11	100.0%	0	0.0%
- Orthopaedic sports medicine	85	84	98.8%	1	1.2%	85	100.0%	0	0.0%
- Orthopaedic surgery of the spine	16	15	93.8%	1	6.3%	16	100.0%	0	0.0%
- Orthopaedic trauma	10	10	100.0%	0	0.0%	10	100.0%	0	0.0%
- Pediatric orthopaedics	21	17	81.0%	4	19.0%	20	95.2%	1	4.8%
Osteopathic neuromusculoskeletal medicine	9	9	100.0%	0	0.0%	9	100.0%	0	0.0%
Otolaryngology	116	115	99.1%	1	0.9%	115	99.1%	1	0.9%
- Neurotology	19	18	94.7%	1	5.3%	19	100.0%	0	0.0%
- Pediatric otolaryngology	22	22	100.0%	0	0.0%	22	100.0%	0	0.0%
Pathology-anatomic and clinical	141	110	78.0%	31	22.0%	140	99.3%	1	0.7%
- Blood banking/transfusion medicine	38	31	81.6%	7	18.4%	37	97.4%	1	2.6%
- Clinical informatics	3	3	100.0%	0	0.0%	3	100.0%	0	0.0%
- Chemical pathology	1	0	0.0%	1	100.0%	1	100.0%	0	0.0%
- Cytopathology	85	49	57.6%	36	42.4%	84	98.8%	1	1.2%
- Forensic pathology	25	12	48.0%	13	52.0%	20	80.0%	5	20.0%
- Hematopathology	78	33	42.3%	45	57.7%	78	100.0%	0	0.0%
- Medical microbiology	9	3	33.3%	6	66.7%	9	100.0%	0	0.0%
- Neuropathology	27	10	37.0%	17	63.0%	27	100.0%	0	0.0%
- Pediatric pathology	14	5	35.7%	9	64.3%	14	100.0%	0	0.0%
- Selective pathology	74	25	33.8%	49	66.2%	74	100.0%	0	0.0%
Pediatrics	207	206	99.5%	1	0.5%	204	98.6%	3	1.4%
- Adolescent medicine	25	25	100.0%	0	0.0%	25	100.0%	0	0.0%
- Child abuse pediatrics	22	22	100.0%	0	0.0%	22	100.0%	0	0.0%
- Clinical informatics	4	4	100.0%	0	0.0%	4	100.0%	0	0.0%
- Developmental-behavioral pediatrics	37	37	100.0%	0	0.0%	37	100.0%	0	0.0%
- Neonatal-perinatal medicine	98	96	98.0%	2	2.0%	96	98.0%	2	2.0%
- Pediatric cardiology	59	57	96.6%	2	3.4%	59	100.0%	0	0.0%
- Pediatric critical care medicine	66	7	10.6%	59	89.4%	65	98.5%	1	1.5%
- Pediatric emergency medicine	52	44	84.6%	8	15.4%	52	100.0%	0	0.0%
- Pediatric endocrinology	65	63	96.9%	2	3.1%	65	100.0%	0	0.0%
- Pediatric gastroenterology	60	57	95.0%	3	5.0%	60	100.0%	0	0.0%
- Pediatric hematology/oncology	71	69	97.2%	2	2.8%	71	100.0%	0	0.0%

TABLE H.6 *Continued***Use of Ambulatory and/or Non-Hospital Settings and Use of Electronic Medical Record by Specialty and Subspecialty**

Specialty	Total Programs	Use Ambulatory and/or Non-Hospital Settings				Use Electronic Medical Record			
		Yes	%	No	%	Yes	%	No	%
- Pediatric infectious diseases	56	55	98.2%	1	1.8%	56	100.0%	0	0.0%
- Pediatric nephrology	34	34	100.0%	0	0.0%	34	100.0%	0	0.0%
- Pediatric pulmonology	44	44	100.0%	0	0.0%	44	100.0%	0	0.0%
- Pediatric rheumatology	31	30	96.8%	1	3.2%	31	100.0%	0	0.0%
- Pediatric sports medicine	15	15	100.0%	0	0.0%	15	100.0%	0	0.0%
- Pediatric transplant hepatology	12	11	91.7%	1	8.3%	12	100.0%	0	0.0%
Physical medicine and rehabilitation	85	85	100.0%	0	0.0%	84	98.8%	1	1.2%
- Brain injury medicine	12	12	100.0%	0	0.0%	12	100.0%	0	0.0%
- Neuromuscular medicine	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	16	14	87.5%	2	12.5%	16	100.0%	0	0.0%
- Pediatric rehabilitation	17	17	100.0%	0	0.0%	17	100.0%	0	0.0%
- Sports medicine	18	18	100.0%	0	0.0%	17	94.4%	1	5.6%
Plastic surgery	57	56	98.2%	1	1.8%	57	100.0%	0	0.0%
Plastic surgery - integrated	74	73	98.6%	1	1.4%	74	100.0%	0	0.0%
- Craniofacial surgery	4	3	75.0%	1	25.0%	4	100.0%	0	0.0%
- Hand surgery	16	16	100.0%	0	0.0%	16	100.0%	0	0.0%
Preventive medicine	70	70	100.0%	0	0.0%	68	97.1%	2	2.9%
- Medical toxicology	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
- Undersea and hyperbaric medicine	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
Psychiatry	225	223	99.1%	2	0.9%	223	99.1%	2	0.9%
- Addiction psychiatry	34	32	94.1%	2	5.9%	34	100.0%	0	0.0%
- Child and adolescent psychiatry	130	130	100.0%	0	0.0%	127	97.7%	3	2.3%
- Forensic psychiatry	36	36	100.0%	0	0.0%	30	83.3%	6	16.7%
- Geriatric psychiatry	35	35	100.0%	0	0.0%	35	100.0%	0	0.0%
- Consultation-liaison psychiatry	46	46	100.0%	0	0.0%	46	100.0%	0	0.0%
Radiation oncology	91	84	92.3%	7	7.7%	91	100.0%	0	0.0%
Radiology-diagnostic	192	162	84.4%	30	15.6%	191	99.5%	1	0.5%
- Abdominal radiology	11	6	54.5%	5	45.5%	11	100.0%	0	0.0%
- Endovascular surgical neuroradiology	3	2	66.7%	1	33.3%	3	100.0%	0	0.0%
- Musculoskeletal radiology	15	13	86.7%	2	13.3%	15	100.0%	0	0.0%
- Neuroradiology	75	48	64.0%	27	36.0%	75	100.0%	0	0.0%
- Nuclear radiology	8	4	50.0%	4	50.0%	8	100.0%	0	0.0%
- Pediatric radiology	22	15	68.2%	7	31.8%	22	100.0%	0	0.0%
- Vascular and interventional radiology	92	78	84.8%	14	15.2%	92	100.0%	0	0.0%
Interventional radiology - integrated	21	19	90.5%	2	9.5%	21	100.0%	0	0.0%
Surgery	291	284	97.6%	7	2.4%	289	99.3%	2	0.7%
- Complex general surgical oncology	24	24	100.0%	0	0.0%	24	100.0%	0	0.0%
- Hand surgery	1	1	100.0%	0	0.0%	1	100.0%	0	0.0%
- Pediatric surgery	48	44	91.7%	4	8.3%	48	100.0%	0	0.0%
- Surgical critical care	105	21	20.0%	84	80.0%	105	100.0%	0	0.0%
- Vascular surgery	102	96	94.1%	6	5.9%	102	100.0%	0	0.0%
Vascular surgery - integrated	52	51	98.1%	1	1.9%	52	100.0%	0	0.0%
Thoracic surgery	66	64	97.0%	2	3.0%	66	100.0%	0	0.0%
- Congenital cardiac surgery	9	5	55.6%	4	44.4%	9	100.0%	0	0.0%
Thoracic surgery - integrated	26	25	96.2%	1	3.8%	26	100.0%	0	0.0%
Urology	137	134	97.8%	3	2.2%	136	99.3%	1	0.7%
- Female pelvic medicine and reconstructive surgery	12	12	100.0%	0	0.0%	12	100.0%	0	0.0%
- Pediatric urology	23	22	95.7%	1	4.3%	23	100.0%	0	0.0%
Transitional year	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	78	78	100.0%	0	0.0%	77	98.7%	1	1.3%

Notes: Pipeline specialties are highlighted. Not all accredited programs completed these data. Total number of specialty programs = 4,628. Total number of subspecialty programs = 5,420.

TABLE H.7									
Use of Ambulatory and/or Non-Hospital Settings by Type of Setting (Most Common Selections) by Pipeline Specialty									
Pipeline Specialty	Total Programs Using Ambulatory and/or Non-Hospital Settings	Type of Setting							
		Ambulatory / Outpatient Settings		Hospital Based Continuity Clinic		Faculty Ambulatory Practice		Private Physician's Office	
		#	%	#	%	#	%	#	%
TOTAL PIPELINE	4,250	3,083	72.5%	2,609	61.4%	2,442	57.5%	2,267	53.3%
Anesthesiology	140	95	67.9%	29	20.7%	44	31.4%	19	13.6%
Dermatology	135	101	74.8%	95	70.4%	90	66.7%	74	54.8%
Emergency medicine	164	59	36.0%	43	26.2%	50	30.5%	47	28.7%
Family medicine	586	536	91.5%	370	63.1%	271	46.2%	525	89.6%
Internal medicine	512	404	78.9%	395	77.1%	325	63.5%	359	70.1%
Medical genetics and genomics	29	20	69.0%	22	75.9%	14	48.3%	2	6.9%
Neurological surgery	108	61	56.5%	54	50.0%	68	63.0%	29	26.9%
Neurology	148	94	63.5%	127	85.8%	105	70.9%	45	30.4%
Child neurology	70	55	78.6%	64	91.4%	40	57.1%	9	12.9%
Nuclear medicine	18	10	55.6%	7	38.9%	6	33.3%	2	11.1%
Obstetrics and gynecology	270	180	66.7%	235	87.0%	205	75.9%	175	64.8%
Ophthalmology	117	78	66.7%	82	70.1%	83	70.9%	63	53.8%
Orthopaedic surgery	169	114	67.5%	84	49.7%	108	63.9%	107	63.3%
Osteopathic neuromusculoskeletal medicine	9	7	77.8%	0	0.0%	7	77.8%	9	100.0%
Otolaryngology	115	79	68.7%	57	49.6%	83	72.2%	56	48.7%
Pathology-anatomic and clinical	110	29	26.4%	16	14.5%	10	9.1%	17	15.5%
Pediatrics	206	182	88.3%	158	76.7%	136	66.0%	165	80.1%
Physical medicine and rehabilitation	85	76	89.4%	57	67.1%	69	81.2%	46	54.1%
Plastic surgery	56	45	80.4%	35	62.5%	37	66.1%	44	78.6%
Plastic surgery - integrated	73	49	67.1%	44	60.3%	51	69.9%	50	68.5%
Preventive medicine	70	65	92.9%	41	58.6%	49	70.0%	33	47.1%
Psychiatry	223	168	75.3%	153	68.6%	94	42.2%	51	22.9%
Radiation oncology	84	58	69.0%	35	41.7%	35	41.7%	7	8.3%
Radiology-diagnostic	162	126	77.8%	46	28.4%	53	32.7%	24	14.8%
Interventional radiology - integrated	19	16	84.2%	11	57.9%	5	26.3%	2	10.5%
Surgery	284	181	63.7%	171	60.2%	194	68.3%	181	63.7%
Vascular surgery - integrated	51	28	54.9%	24	47.1%	40	78.4%	20	39.2%
Thoracic surgery - integrated	25	11	44.0%	13	52.0%	17	68.0%	4	16.0%
Urology	134	84	62.7%	78	58.2%	97	72.4%	46	34.3%
Internal medicine/Pediatrics	78	72	92.3%	63	80.8%	56	71.8%	56	71.8%

Notes: Excluding programs responding "No" to using ambulatory and/or non-hospital settings in the education of residents. Programs that responded "Yes" to using ambulatory and/or non-hospital settings in the education of residents can select more than one type.

TABLE H.8

Use of Ambulatory and/or Non-Hospital Settings by Type of Setting (Least Common Selections) by Pipeline Specialty

Pipeline Specialty	Total Programs Using Ambulatory and/or Non-Hospital Settings	Type of Setting							
		Ambulatory Surgery Centers		VA Ambulatory Services		Community or Federal Public Health Centers		Other	
		#	%	#	%	#	%	#	%
TOTAL PIPELINE	4,250	1,489	35.0%	1,400	32.9%	1,269	29.9%	517	12.2%
Anesthesiology	140	96	68.6%	26	18.6%	3	2.1%	11	7.9%
Dermatology	135	33	24.4%	77	57.0%	37	27.4%	6	4.4%
Emergency medicine	164	25	15.2%	9	5.5%	11	6.7%	95	57.9%
Family medicine	586	243	41.5%	112	19.1%	378	64.5%	89	15.2%
Internal medicine	512	30	5.9%	159	31.1%	177	34.6%	37	7.2%
Medical genetics and genomics	29	1	3.4%	2	6.9%	8	27.6%	3	10.3%
Neurological surgery	108	27	25.0%	40	37.0%	5	4.6%	5	4.6%
Neurology	148	6	4.1%	75	50.7%	18	12.2%	6	4.1%
Child neurology	70	5	7.1%	33	47.1%	11	15.7%	1	1.4%
Nuclear medicine	18	0	0.0%	7	38.9%	2	11.1%	1	5.6%
Obstetrics and gynecology	270	158	58.5%	32	11.9%	83	30.7%	14	5.2%
Ophthalmology	117	93	79.5%	85	72.6%	21	17.9%	6	5.1%
Orthopaedic surgery	169	145	85.8%	60	35.5%	11	6.5%	9	5.3%
Osteopathic neuromusculoskeletal medicine	9	2	22.2%	1	11.1%	0	0.0%	1	11.1%
Otolaryngology	115	86	74.8%	65	56.5%	13	11.3%	1	0.9%
Pathology-anatomic and clinical	110	16	14.5%	18	16.4%	11	10.0%	76	69.1%
Pediatrics	206	26	12.6%	0	0.0%	125	60.7%	33	16.0%
Physical medicine and rehabilitation	85	38	44.7%	62	72.9%	13	15.3%	3	3.5%
Plastic surgery	56	49	87.5%	26	46.4%	5	8.9%	0	0.0%
Plastic surgery - integrated	73	64	87.7%	43	58.9%	9	12.3%	0	0.0%
Preventive medicine	70	7	10.0%	33	47.1%	48	68.6%	26	37.1%
Psychiatry	223	5	2.2%	136	61.0%	168	75.3%	42	18.8%
Radiation oncology	84	7	8.3%	22	26.2%	4	4.8%	3	3.6%
Radiology-diagnostic	162	28	17.3%	42	25.9%	11	6.8%	28	17.3%
Interventional radiology - integrated	19	4	21.1%	6	31.6%	1	5.3%	1	5.3%
Surgery	284	180	63.4%	83	29.2%	29	10.2%	9	3.2%
Vascular surgery - integrated	51	23	45.1%	28	54.9%	5	9.8%	0	0.0%
Thoracic surgery - integrated	25	7	28.0%	11	44.0%	2	8.0%	0	0.0%
Urology	134	77	57.5%	66	49.3%	16	11.9%	3	2.2%
Internal medicine/Pediatrics	78	8	10.3%	41	52.6%	44	56.4%	8	10.3%

Notes: Excluding programs responding "No" to using ambulatory and/or non-hospital settings in the education of residents. Programs that responded "Yes" to using ambulatory and/or non-hospital settings in the education of residents can select more than one type.

Appendix A

ACGME-Accredited Pipeline Specialties

Anesthesiology
Dermatology
Emergency medicine
Family medicine
Internal medicine
Medical genetics and genomics
Neurological surgery
Neurology
Child neurology
Nuclear medicine
Obstetrics and gynecology
Ophthalmology
Orthopaedic surgery
Osteopathic neuromusculoskeletal medicine
Otolaryngology
Pathology-anatomic and clinical
Pediatrics
Physical medicine and rehabilitation
Plastic surgery
Plastic surgery - integrated
Preventive medicine
Psychiatry
Radiation oncology
Radiology-diagnostic
Interventional radiology - integrated
Surgery
Vascular surgery - integrated
Thoracic surgery - integrated
Urology
Internal medicine/Pediatrics

Appendix B

Specialties and Subspecialties by Specialty Group

Hospital-based Specialties and Subspecialties

Anesthesiology

- Adult cardiothoracic anesthesiology
- Clinical informatics
- Critical care medicine
- Regional anesthesiology and acute pain medicine
- Obstetric anesthesiology
- Pain medicine (multidisciplinary)
- Pediatric anesthesiology

Emergency medicine

- Clinical informatics
- Emergency medical services
- Medical toxicology
- Pediatric emergency medicine
- Sports medicine
- Undersea and hyperbaric medicine

Medical genetics and genomics

- Medical biochemical genetics
- Molecular genetic pathology (multidisciplinary)

Nuclear medicine

Pathology-anatomic and clinical

- Blood banking/transfusion medicine
- Clinical informatics
- Chemical pathology
- Cytopathology
- Forensic pathology
- Hematopathology
- Medical microbiology
- Neuropathology
- Pediatric pathology
- Selective pathology

Preventive medicine

- Medical toxicology
- Undersea and hyperbaric medicine

Radiation oncology

Radiology-diagnostic

- Abdominal radiology
- Endovascular surgical neuroradiology
- Musculoskeletal radiology
- Neuroradiology
- Nuclear radiology
- Pediatric radiology
- Vascular and interventional radiology

Interventional radiology - integrated

Transitional year

Medical Specialties and Subspecialties

Allergy and immunology

Dermatology

- Dermatopathology (multidisciplinary)

- Micrographic surgery and dermatologic oncology
- Family medicine
 - Clinical informatics
 - Geriatric medicine
 - Hospice and palliative medicine (multidisciplinary)
 - Sports medicine
- Internal medicine
 - Adult congenital heart disease
 - Advanced heart failure and transplant cardiology
 - Cardiovascular disease
 - Clinical cardiac electrophysiology
 - Clinical informatics
 - Critical care medicine
 - Endocrinology, diabetes, and metabolism
 - Gastroenterology
 - Geriatric medicine
 - Hematology
 - Hematology and medical oncology
 - Infectious disease
 - Interventional cardiology
 - Nephrology
 - Medical oncology
 - Pulmonary disease
 - Pulmonary disease and critical care medicine
 - Rheumatology
 - Sleep medicine (multidisciplinary)
 - Transplant hepatology
- Neurology
 - Brain injury medicine
 - Clinical neurophysiology
 - Epilepsy
 - Endovascular surgical neuroradiology
 - Neurodevelopmental disabilities
 - Neuromuscular medicine
 - Vascular neurology
- Child neurology
- Osteopathic neuromusculoskeletal medicine
- Pediatrics
 - Adolescent medicine
 - Child abuse pediatrics
 - Clinical informatics
 - Developmental-behavioral pediatrics
 - Neonatal-perinatal medicine
 - Pediatric cardiology
 - Pediatric critical care medicine
 - Pediatric emergency medicine
 - Pediatric endocrinology
 - Pediatric gastroenterology
 - Pediatric hematology/oncology
 - Pediatric infectious diseases
 - Pediatric nephrology
 - Pediatric pulmonology
 - Pediatric rheumatology
 - Pediatric sports medicine
 - Pediatric transplant hepatology

Physical medicine and rehabilitation

- Brain injury medicine
- Neuromuscular medicine
- Spinal cord injury medicine
- Pediatric rehabilitation
- Sports medicine

Psychiatry

- Addiction psychiatry
- Child and adolescent psychiatry
- Forensic psychiatry
- Geriatric psychiatry
- Consultation-liaison psychiatry

Internal medicine/Pediatrics

Surgical Specialties and Subspecialties

Colon and rectal surgery

Neurological surgery

- Endovascular surgical neuroradiology

Obstetrics and gynecology

- Female pelvic medicine and reconstructive surgery
- Gynecologic oncology
- Maternal-fetal medicine
- Reproductive endocrinology and infertility

Ophthalmology

- Ophthalmic plastic and reconstructive surgery

Orthopaedic surgery

- Adult reconstructive orthopaedics
- Foot and ankle orthopaedics
- Hand surgery
- Musculoskeletal oncology
- Orthopaedic sports medicine
- Orthopaedic surgery of the spine
- Orthopaedic trauma
- Pediatric orthopaedics

Otolaryngology

- Neurotology
- Pediatric otolaryngology

Plastic surgery

Plastic surgery - integrated

- Craniofacial surgery
- Hand surgery

Surgery

- Complex general surgical oncology
- Hand surgery
- Pediatric surgery
- Surgical critical care
- Vascular surgery

Vascular surgery - integrated

Thoracic surgery

- Congenital cardiac surgery

Thoracic surgery - integrated

Urology

- Female pelvic medicine and reconstructive surgery
- Pediatric urology

Appendix C

Institution Type Groups

Academic Medical Center/Medical School

Ambulatory Care Clinic/Federally Qualified Health Center (FQHC)

- Ambulatory Care Clinic/Office

- Federally Qualified Health Center (FQHC)

Children's Hospital

Consortium

General Teaching/Community Hospital

- General/Teaching Hospital

- Community Hospital

- Independent Academic Medical Center

Other

- Other

- Nursing Home/Rehabilitation Facility

Specialty Hospital

- Specialty Hospital

- Pathology Lab / Medical Examiner's Office

Veterans Administration



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