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# DATA RESOURCE BOOK

ACADEMIC YEAR 2022-2023



# Data Resource Book Academic Year 2022-2023

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



Accreditation Council for Graduate Medical Education

401 North Michigan Avenue

Suite 2000

Chicago, Illinois 60611

Telephone: 312.755.5000

[www.acgme.org](http://www.acgme.org)

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Send inquiries to: [databook@acgme.org](mailto:databook@acgme.org).

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# Introduction

## Overview

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The mission of the Accreditation Council for Graduate Medical Education (ACGME) is to improve health care and population health by assessing and enhancing the quality of resident and fellow physicians' education through advancements in accreditation and education. The collection and analysis of data is crucial to performing these functions. The ACGME's *Data Resource Book* contains the most recent data on ACGME-accredited Sponsoring 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, GME 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](mailto:databook@acgme.org).

## Accreditation Data System

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The ACGME's proprietary 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 Accreditation, Recognition, and Field Activities in conducting accreditation activities. ADS incorporates several applications and functions, including the Annual Update, Milestones reporting, Case Logs, Surveys, and the application for accreditation.

ADS was originally built by the Department of Applications and Data Analysis (now part of the Department of Information Services) 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 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 accredited Sponsoring Institution and program, but also 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 must 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 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 and fellows, schedule Milestones evaluations for all residents and 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

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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 2021-2022 academic year). Up-to-date information on individual Sponsoring Institutions and programs can be found on the ADS public website at <https://apps.acgme.org/ads/public/>. 





# Definitions

*The definitions listed below clarify use of terms in this Data Resource Book only. These reflect the 2022-2023 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 (<https://www.acgme.org/about/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 are faculty members, who must have a significant role in the education and supervision of residents and must devote a significant portion of their entire effort to resident education and/or administration, and must, as a component of their activities, teach, evaluate, and provide formative feedback to 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 program.

**Faculty Hours:** Number of hours per week that a faculty member devotes to the program's activities in the following:

- Clinical supervision of residents – Time spent supervising/watching residents/fellows during patient care activities. Includes bedside rounds, outpatient precepting, and operative supervision.
- Administration of the program – Program oversight; curriculum development; faculty, resident, and program evaluation, career counseling.
- Research/scholarly activity with residents – Mentoring and/or working with residents, peer-reviewed funding; publication of original research or review articles in peer-reviewed journals or chapters in textbooks; publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings, participation in national committees or educational organizations.
- Didactics/teaching with residents – Lectures, simulation, case discussions, and preparation time for and participation in journal clubs, conferences, lectures, simulation, case discussions, and manuscript editing with residents.

**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, institution, or facility providing educational experiences or educational assignments/rotations for residents as part of an accredited program.

**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 in its purview 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 four categories based on patient care focus: surgical; medical; hospital-based; and sponsor institution-based fellowship. 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. Decisions regarding withdrawal of accreditation may be made effective at any time during the academic year. Any program with a Withdrawal status effective prior to June 30, 2023 will be excluded from the count of accredited programs for Academic Year 2022-2023 in this edition of the *Data Resource Book*.



# 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 2013-2014 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 programs that have achieved Osteopathic Recognition.

## Accredited Programs by Status

Of the 13,066 total accredited programs, 11,688 (5,112 specialty programs and 6,576 subspecialty programs) had a status of Continued Accreditation, accounting for 89.5% of programs. Only 130 programs (1.0%) had a status of Continued Accreditation with Warning, and an even smaller number, 28 (0.2%), had a status of Probationary Accreditation. Remaining programs had a status of either Initial Accreditation (8.9%) or Withdrawal of Accreditation (0.4%). Among specialty programs, the specialties with the highest percentage of programs with a Continued Accreditation with Warning status are:

- Radiation oncology (7.8%)
- Colon and rectal surgery (5.9%)
- Urology (4.7%)
- Dermatology (4.2%)

Surgery had four programs issued Probationary Accreditation. Specialties with two or three programs on probation include emergency medicine, neurological surgery, neurology, obstetrics and gynecology, orthopaedic surgery, pediatrics, and psychiatry. Specialties and subspecialties with one program on probation include family medicine, hematology and medical oncology, internal medicine, pathology-anatomic and clinical, pediatric critical care medicine, plastic surgery, plastic surgery-integrated, radiology-diagnostic, and urology.

## Trends in Accredited Programs

Since the 2018-2019 academic year, there has been a 11.8% increase in the total number of ACGME-accredited programs. This is primarily due to the transition to a single graduate medical education (GME) accreditation system. The following specialties had the highest five-year change in total number of programs:

- Interventional radiology – independent (92)
- Family medicine (85)
- Internal medicine (82)

- Psychiatry (47)
- Emergency medicine (40)
- Surgery (40)

## Newly Accredited Programs

A total of 401 programs were newly accredited during the 2022-2023 academic year. Of the newly accredited programs, 255 (63.6%) are in medical specialties and subspecialties, 78 (19.5%) are in hospital-based specialties and subspecialties, 66 (16.5%) are in surgical specialties and subspecialties, and two (0.5%) are in sponsor institution-based fellowship. The specialties with the highest number of newly accredited programs are:

- Family medicine (39)
- Internal medicine (32)
- Surgery (11)
- Transitional year (10)

Neurocritical care (multidisciplinary), pediatric cardiac anesthesiology, pediatric dermatology, gastroenterology, and sport medicine had the highest number of new programs among all subspecialties, with 28, 15, 12, 10, and 10 programs, respectively, accounting for 18.7% of all newly accredited programs added this year. There are six subspecialties newly accredited by the ACGME in the past five years. New programs in these six subspecialties account for 16.8% of all new subspecialty programs.

## Withdrawn Programs

Withdrawn programs are reported in three categories: those withdrawn prior to the end of the 2022-2023 academic year (which are not included in the population of accredited programs); those withdrawn at the end of the 2022-2023 academic year; and those with a future-effective withdrawal date. At the time of this report, obstetrics and gynecology and transitional year had four and three withdrawn programs, respectively; followed by family medicine, interventional radiology – independent, plastic surgery, public health and general preventive medicine, and surgery – each with two withdrawn programs during the academic year. The subspecialties of nephrology, pediatric endocrinology, and pulmonary disease each had two withdrawn programs during the academic year.

## Length of Accredited Education and Training

The majority of specialty programs take three or four years to complete. Neurological surgery has the longest

educational program length among specialty programs at seven years. Among subspecialty programs, 49.6% are one year in length, with the remaining programs requiring two 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 four subspecialties, along with the subspecialties of endovascular surgical neuroradiology, pediatric transplant hepatology, craniofacial surgery, and congenital cardiac surgery,

require six to seven total years of prior education and training before entry.

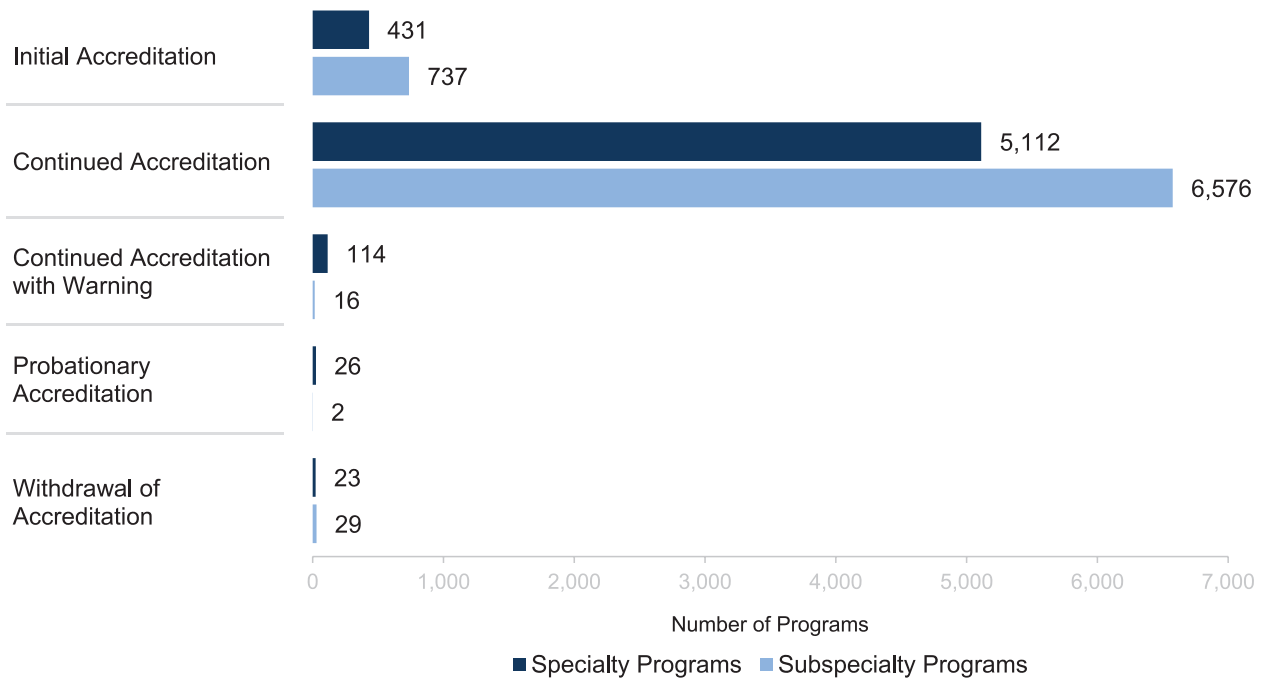
### **Osteopathic Recognition**

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The 2022-2023 academic year is the seventh year that the ACGME has recognized education and training in Osteopathic Principles and Practice in ACGME-accredited programs. Of the 253 programs with Osteopathic Recognition, 166 (65.6%) are family medicine programs and 27 (10.7%) are internal medicine programs. ↖

FIGURE A.1

Accreditation Statuses of Currently Accredited Programs



Notes: Total number of accredited programs = 13,066. Excluding programs withdrawn prior to the end of the academic year (n=12).

FIGURE A.2

Number of Accredited Programs by Academic Year, 2013-2014 to 2022-2023

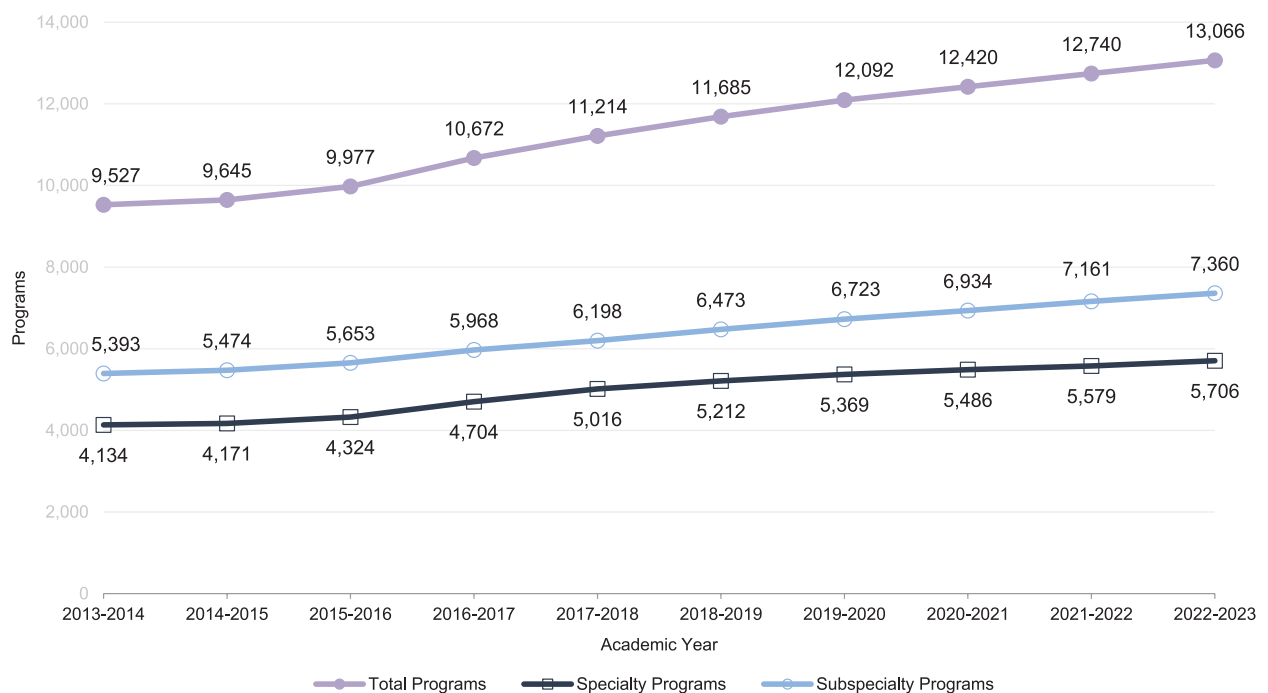


TABLE A.3											
Accreditation Statuses of Currently Accredited Programs by Specialty and Subspecialty											
Specialty	Total Programs	Accreditation Status									
		Initial Accreditation		Continued Accreditation		Continued Accreditation with Warning		Probationary Accreditation		Withdrawal of Accreditation	
		#	%	#	%	#	%	#	%	#	%
OVERALL	13,066	1,168	8.9%	11,688	89.5%	130	1.0%	28	0.2%	52	0.4%
TOTAL PIPELINE	5,382	411	7.6%	4,821	89.6%	102	1.9%	26	0.5%	22	0.4%
Allergy and immunology	87	5	5.7%	81	93.1%	1	1.1%	0	0.0%	0	0.0%
Anesthesiology	165	9	5.5%	149	90.3%	5	3.0%	0	0.0%	2	1.2%
- Adult cardiothoracic anesthesiology	75	3	4.0%	72	96.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	65	4	6.2%	61	93.8%	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	42	6	14.3%	36	85.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric cardiac anesthesiology	15	15	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	1	2.4%	40	97.6%	0	0.0%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	115	5	4.3%	110	95.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric anesthesiology	62	2	3.2%	58	93.5%	1	1.6%	0	0.0%	1	1.6%
Colon and rectal surgery	68	5	7.4%	59	86.8%	4	5.9%	0	0.0%	0	0.0%
Dermatology	144	4	2.8%	134	93.1%	6	4.2%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	57	1	1.8%	56	98.2%	0	0.0%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	81	12	14.8%	68	84.0%	1	1.2%	0	0.0%	0	0.0%
- Pediatric dermatology	29	29	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	287	31	10.8%	249	86.8%	4	1.4%	3	1.0%	0	0.0%
- Emergency medical services	83	12	14.5%	68	81.9%	2	2.4%	0	0.0%	1	1.2%
- Medical toxicology	30	2	6.7%	28	93.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	29	4	13.8%	25	86.2%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	9	1	11.1%	8	88.9%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
Family medicine	756	71	9.4%	675	89.3%	7	0.9%	1	0.1%	2	0.3%
- Clinical informatics	8	1	12.5%	7	87.5%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	46	4	8.7%	41	89.1%	0	0.0%	0	0.0%	1	2.2%
- Hospice and palliative medicine (multidisciplinary)	191	18	9.4%	171	89.5%	0	0.0%	0	0.0%	2	1.0%
- Sports medicine	171	16	9.4%	155	90.6%	0	0.0%	0	0.0%	0	0.0%
Internal medicine	627	65	10.4%	552	88.0%	8	1.3%	1	0.2%	1	0.2%
- Adult congenital heart disease	27	5	18.5%	22	81.5%	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	84	7	8.3%	77	91.7%	0	0.0%	0	0.0%	0	0.0%
- Cardiovascular disease	273	25	9.2%	247	90.5%	0	0.0%	0	0.0%	1	0.4%
- Clinical cardiac electrophysiology	116	7	6.0%	109	94.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	32	10	31.3%	22	68.8%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	66	15	22.7%	49	74.2%	0	0.0%	0	0.0%	2	3.0%
- Endocrinology, diabetes, and metabolism	159	9	5.7%	149	93.7%	0	0.0%	0	0.0%	1	0.6%
- Gastroenterology	229	25	10.9%	203	88.6%	0	0.0%	0	0.0%	1	0.4%
- Geriatric medicine	119	11	9.2%	108	90.8%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	184	18	9.8%	165	89.7%	0	0.0%	1	0.5%	0	0.0%
- Infectious disease	167	14	8.4%	153	91.6%	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	180	14	7.8%	166	92.2%	0	0.0%	0	0.0%	0	0.0%
- Nephrology	152	4	2.6%	146	96.1%	0	0.0%	0	0.0%	2	1.3%
- Medical oncology	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	5	22.7%	15	68.2%	0	0.0%	0	0.0%	2	9.1%
- Pulmonary disease and critical care medicine	202	18	8.9%	183	90.6%	0	0.0%	0	0.0%	1	0.5%
- Rheumatology	129	4	3.1%	125	96.9%	0	0.0%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	96	6	6.3%	90	93.8%	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	66	14	21.2%	52	78.8%	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	47	2	4.3%	45	95.7%	0	0.0%	0	0.0%	0	0.0%
- Medical biochemical genetics	22	5	22.7%	17	77.3%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	2	4.8%	39	92.9%	0	0.0%	0	0.0%	1	2.4%
Neurological surgery	117	2	1.7%	111	94.9%	2	1.7%	2	1.7%	0	0.0%
- Neuroendovascular intervention	3	1	33.3%	2	66.7%	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	180	16	8.9%	155	86.1%	7	3.9%	2	1.1%	0	0.0%
- Clinical neurophysiology	95	5	5.3%	90	94.7%	0	0.0%	0	0.0%	0	0.0%
- Epilepsy	95	14	14.7%	81	85.3%	0	0.0%	0	0.0%	0	0.0%
- Neurocritical care (multidisciplinary)	35	35	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Neuroendovascular intervention	2	0	0.0%	2	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	55	4	7.3%	51	92.7%	0	0.0%	0	0.0%	0	0.0%
- Vascular neurology	112	9	8.0%	103	92.0%	0	0.0%	0	0.0%	0	0.0%
Child neurology	80	4	5.0%	75	93.8%	0	0.0%	0	0.0%	1	1.3%
Nuclear medicine	36	0	0.0%	35	97.2%	1	2.8%	0	0.0%	0	0.0%
Obstetrics and gynecology	302	19	6.3%	267	88.4%	10	3.3%	2	0.7%	4	1.3%
- Female pelvic medicine and reconstructive surgery	57	5	8.8%	52	91.2%	0	0.0%	0	0.0%	0	0.0%
- Gynecologic oncology	71	9	12.7%	61	85.9%	0	0.0%	0	0.0%	1	1.4%
- Maternal-fetal medicine	104	7	6.7%	96	92.3%	1	1.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	3	6.1%	46	93.9%	0	0.0%	0	0.0%	0	0.0%
- Complex family planning	32	31	96.9%	1	3.1%	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	125	5	4.0%	119	95.2%	1	0.8%	0	0.0%	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	208	12	5.8%	189	90.9%	5	2.4%	2	1.0%	0	0.0%
- Adult reconstructive orthopaedics	25	2	8.0%	23	92.0%	0	0.0%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	1	12.5%	7	87.5%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	74	3	4.1%	70	94.6%	1	1.4%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	0	0.0%	12	100.0%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	93	6	6.5%	86	92.5%	1	1.1%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	15	0	0.0%	15	100.0%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	12	1	8.3%	11	91.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	25	2	8.0%	23	92.0%	0	0.0%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	26	12	46.2%	14	53.8%	0	0.0%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	131	6	4.6%	124	94.7%	1	0.8%	0	0.0%	0	0.0%
- Neurotology	29	5	17.2%	23	79.3%	1	3.4%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	4	11.8%	30	88.2%	0	0.0%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	146	4	2.7%	139	95.2%	2	1.4%	1	0.7%	0	0.0%
- Blood banking/transfusion medicine	54	2	3.7%	51	94.4%	0	0.0%	0	0.0%	1	1.9%
- Clinical informatics	10	0	0.0%	10	100.0%	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	93	2	2.2%	91	97.8%	0	0.0%	0	0.0%	0	0.0%
- Forensic pathology	49	6	12.2%	41	83.7%	1	2.0%	0	0.0%	1	2.0%
- Hematopathology	87	1	1.1%	86	98.9%	0	0.0%	0	0.0%	0	0.0%
- Medical microbiology	16	1	6.3%	15	93.8%	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	40	3	7.5%	37	92.5%	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	124	23	18.5%	101	81.5%	0	0.0%	0	0.0%	0	0.0%
Pediatrics	213	5	2.3%	204	95.8%	2	0.9%	2	0.9%	0	0.0%
- Adolescent medicine	34	2	5.9%	30	88.2%	1	2.9%	0	0.0%	1	2.9%
- Child abuse pediatrics	32	1	3.1%	30	93.8%	1	3.1%	0	0.0%	0	0.0%
- Clinical informatics	9	2	22.2%	7	77.8%	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	2	4.5%	42	95.5%	0	0.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	110	5	4.5%	104	94.5%	1	0.9%	0	0.0%	0	0.0%
- Pediatric cardiology	64	2	3.1%	61	95.3%	0	0.0%	0	0.0%	1	1.6%
- Pediatric critical care medicine	76	5	6.6%	70	92.1%	0	0.0%	1	1.3%	0	0.0%
- Pediatric emergency medicine	58	4	6.9%	54	93.1%	0	0.0%	0	0.0%	0	0.0%
- Pediatric endocrinology	73	1	1.4%	70	95.9%	0	0.0%	0	0.0%	2	2.7%
- Pediatric gastroenterology	67	2	3.0%	65	97.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	78	4	5.1%	74	94.9%	0	0.0%	0	0.0%	0	0.0%
- Pediatric infectious diseases	64	2	3.1%	62	96.9%	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	
		#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	48	1	2.1%	47	97.9%	0	0.0%	0	0.0%	0	0.0%
- Pediatric pulmonology	57	2	3.5%	55	96.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	37	2	5.4%	35	94.6%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	17	1	5.9%	16	94.1%	0	0.0%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	17	2	11.8%	15	88.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	68	20	29.4%	47	69.1%	0	0.0%	0	0.0%	1	1.5%
Physical medicine and rehabilitation	101	5	5.0%	95	94.1%	1	1.0%	0	0.0%	0	0.0%
- Brain injury medicine	27	2	7.4%	25	92.6%	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	26	4	15.4%	22	84.6%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	22	1	4.5%	21	95.5%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	22	0	0.0%	22	100.0%	0	0.0%	0	0.0%	0	0.0%
Plastic surgery	49	4	8.2%	41	83.7%	1	2.0%	1	2.0%	2	4.1%
Plastic surgery - integrated	89	9	10.1%	76	85.4%	3	3.4%	1	1.1%	0	0.0%
- Craniofacial surgery	9	1	11.1%	8	88.9%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	19	3	15.8%	15	78.9%	1	5.3%	0	0.0%	0	0.0%
Public health and general preventive medicine	43	1	2.3%	40	93.0%	0	0.0%	0	0.0%	2	4.7%
Aerospace medicine	5	0	0.0%	5	100.0%	0	0.0%	0	0.0%	0	0.0%
Occupational and environmental medicine	23	0	0.0%	23	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	304	27	8.9%	272	89.5%	2	0.7%	2	0.7%	1	0.3%
- Addiction medicine (multidisciplinary)	96	18	18.8%	77	80.2%	0	0.0%	0	0.0%	1	1.0%
- Addiction psychiatry	55	4	7.3%	51	92.7%	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	153	12	7.8%	141	92.2%	0	0.0%	0	0.0%	0	0.0%
- Forensic psychiatry	49	6	12.2%	43	87.8%	0	0.0%	0	0.0%	0	0.0%
- Geriatric psychiatry	63	3	4.8%	59	93.7%	0	0.0%	0	0.0%	1	1.6%
- Consultation-liaison psychiatry	67	4	6.0%	63	94.0%	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	90	0	0.0%	82	91.1%	7	7.8%	0	0.0%	1	1.1%
Radiology-diagnostic	199	5	2.5%	189	95.0%	3	1.5%	1	0.5%	1	0.5%
- Abdominal radiology	13	0	0.0%	13	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neuroendovascular intervention	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	21	3	14.3%	18	85.7%	0	0.0%	0	0.0%	0	0.0%
- Neuroradiology	91	2	2.2%	89	97.8%	0	0.0%	0	0.0%	0	0.0%
- Nuclear radiology	19	3	15.8%	16	84.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	46	2	4.3%	44	95.7%	0	0.0%	0	0.0%	0	0.0%
Interventional radiology - independent	94	19	20.2%	73	77.7%	0	0.0%	0	0.0%	2	2.1%
Interventional radiology - integrated	95	13	13.7%	82	86.3%	0	0.0%	0	0.0%	0	0.0%
Surgery	363	40	11.0%	302	83.2%	15	4.1%	4	1.1%	2	0.6%
- Complex general surgical oncology	34	5	14.7%	27	79.4%	2	5.9%	0	0.0%	0	0.0%
- Hand surgery	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric surgery	51	2	3.9%	48	94.1%	1	2.0%	0	0.0%	0	0.0%
- Surgical critical care	162	25	15.4%	137	84.6%	0	0.0%	0	0.0%	0	0.0%
- Vascular surgery	119	8	6.7%	111	93.3%	0	0.0%	0	0.0%	0	0.0%
Vascular surgery - integrated	76	12	15.8%	64	84.2%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	75	2	2.7%	71	94.7%	2	2.7%	0	0.0%	0	0.0%
- Congenital cardiac surgery	17	4	23.5%	13	76.5%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	4	11.8%	29	85.3%	1	2.9%	0	0.0%	0	0.0%
Urology	150	5	3.3%	136	90.7%	7	4.7%	1	0.7%	1	0.7%
- Female pelvic medicine and reconstructive surgery	17	2	11.8%	14	82.4%	0	0.0%	0	0.0%	1	5.9%
- Pediatric urology	26	0	0.0%	26	100.0%	0	0.0%	0	0.0%	0	0.0%
Transitional year	188	27	14.4%	153	81.4%	5	2.7%	0	0.0%	3	1.6%
Internal medicine/Pediatrics	77	0	0.0%	76	98.7%	1	1.3%	0	0.0%	0	0.0%
Health care administration, leadership, and management	2	2	100.0%	0	0.0%	0	0.0%	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=12).

TABLE A.4

## Number of Programs by Specialty and Subspecialty and Academic Year, 2018-2019 to 2022-2023

Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023		
	#	#	#	#	#	#	%
OVERALL	11,685	12,092	12,420	12,740	13,066	1,381	11.8%
TOTAL PIPELINE	4,842	4,985	5,187	5,270	5,382	540	11.2%
Allergy and immunology	78	81	82	84	87	9	11.5%
Anesthesiology	155	160	161	166	165	10	6.5%
- Adult cardiothoracic anesthesiology	69	71	73	74	75	6	8.7%
- Clinical informatics	1	1	1	1		N/A	N/A
- Critical care medicine	64	63	64	64	65	1	1.6%
- Regional anesthesiology and acute pain medicine	29	35	38	40	42	13	44.8%
- Pediatric cardiac anesthesiology*					15	N/A	N/A
- Obstetric anesthesiology	37	41	41	41	41	4	10.8%
- Pain medicine (multidisciplinary)	104	108	111	114	115	11	10.6%
- Pediatric anesthesiology	61	60	60	61	62	1	1.6%
Colon and rectal surgery	63	65	66	67	68	5	7.9%
Dermatology	142	144	144	143	144	2	1.4%
- Dermatopathology (multidisciplinary)	55	56	58	57	57	2	3.6%
- Micrographic surgery and dermatologic oncology	77	78	78	77	81	4	5.2%
- Pediatric dermatology*				17	29	12	70.6%
Emergency medicine	247	265	276	279	287	40	16.2%
- Clinical informatics	4	5	5	5		N/A	N/A
- Emergency medical services	65	71	75	79	83	18	27.7%
- Medical toxicology	27	26	27	28	30	3	11.1%
- Pediatric emergency medicine	26	26	27	29	29	3	11.5%
- Sports medicine	9	8	9	10	9	0	0.0%
- Undersea and hyperbaric medicine	7	8	8	8	8	1	14.3%
Family medicine	671	701	710	722	756	85	12.7%
- Clinical informatics	3	6	6	7	8	5	166.7%
- Geriatric medicine	48	50	49	46	46	-2	-4.2%
- Hospice and palliative medicine (multidisciplinary)	149	167	180	187	191	42	28.2%
- Sports medicine	143	151	156	161	171	28	19.6%
Internal medicine	545	569	586	601	627	82	15.0%
- Adult congenital heart disease	21	24	24	26	27	6	28.6%
- Advanced heart failure and transplant cardiology	76	80	82	86	84	8	10.5%
- Cardiovascular disease	245	250	255	268	273	28	11.4%
- Clinical cardiac electrophysiology	110	110	112	115	116	6	5.5%
- Clinical informatics	16	17	19	23	32	16	100.0%
- Critical care medicine	43	45	55	62	66	23	53.5%
- Endocrinology, diabetes, and metabolism	149	151	153	157	159	10	6.7%
- Gastroenterology	202	207	211	222	229	27	13.4%
- Geriatric medicine	108	111	114	117	119	11	10.2%
- Hematology	2	2	2	2		N/A	N/A
- Hematology and medical oncology	157	167	172	180	184	27	17.2%
- Infectious disease	149	154	158	163	167	18	12.1%
- Interventional cardiology	164	166	170	177	180	16	9.8%
- Nephrology	149	151	152	151	152	3	2.0%
- Medical oncology	8	7	6	5	3	-5	-62.5%
- Pulmonary disease	23	22	20	22	22	-1	-4.3%
- Pulmonary disease and critical care medicine	178	181	188	196	202	24	13.5%
- Rheumatology	122	125	125	128	129	7	5.7%
- Sleep medicine (multidisciplinary)	86	88	89	92	96	10	11.6%
- Transplant hepatology	52	57	59	62	66	14	26.9%
Medical genetics and genomics	46	47	46	45	47	1	2.2%
- Medical biochemical genetics	19	19	20	20	22	3	15.8%
- Molecular genetic pathology (multidisciplinary)	42	42	42	42	42	0	0.0%
Neurological surgery	115	118	116	118	117	2	1.7%
- Neuroendovascular intervention	2	2	2	3	3	1	50.0%

TABLE A.4 Continued							
Number of Programs by Specialty and Subspecialty and Academic Year, 2018-2019 to 2022-2023							
Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023		
	#	#	#	#	#	#	%
Neurology	159	160	170	175	180	21	13.2%
- Brain injury medicine	1	1	1	1		N/A	N/A
- Clinical neurophysiology	91	92	93	94	95	4	4.4%
- Epilepsy	77	81	85	93	95	18	23.4%
- Neurocritical care (multidisciplinary)*				7	35	28	400.0%
- Neuroendovascular intervention	2	2	2	2	2	0	0.0%
- Neurodevelopmental disabilities	8	8	8	8	8	0	0.0%
- Neuromuscular medicine	49	52	53	55	55	6	12.2%
- Vascular neurology	99	106	109	112	112	13	13.1%
Child neurology	74	76	77	79	80	6	8.1%
Nuclear medicine	39	38	37	37	36	-3	-7.7%
Obstetrics and gynecology	282	285	294	299	302	20	7.1%
- Female pelvic medicine and reconstructive surgery	53	54	54	55	57	4	7.5%
- Gynecologic oncology	59	63	63	67	71	12	20.3%
- Maternal-fetal medicine	93	97	100	101	104	11	11.8%
- Reproductive endocrinology and infertility	50	51	49	49	49	-1	-2.0%
- Complex family planning*			26	29	32	6	23.1%
Ophthalmology	123	124	125	125	125	2	1.6%
- Ophthalmic plastic and reconstructive surgery	4	4	4	4	4	0	0.0%
Orthopaedic surgery	185	197	201	203	208	23	12.4%
- Adult reconstructive orthopaedics	24	24	25	24	25	1	4.2%
- Foot and ankle orthopaedics	7	7	7	8	8	1	14.3%
- Hand surgery	72	74	73	73	74	2	2.8%
- Musculoskeletal oncology	12	12	12	12	12	0	0.0%
- Orthopaedic sports medicine	92	90	93	93	93	1	1.1%
- Orthopaedic surgery of the spine	17	18	16	15	15	-2	-11.8%
- Orthopaedic trauma	11	11	12	12	12	1	9.1%
- Pediatric orthopaedics	26	25	25	24	25	-1	-3.8%
Osteopathic neuromusculoskeletal medicine	19	27	28	28	26	7	36.8%
Otolaryngology - head and neck surgery	122	124	125	129	131	9	7.4%
- Neurotology	24	24	26	28	29	5	20.8%
- Pediatric otolaryngology	29	30	31	34	34	5	17.2%
Pathology-anatomic and clinical	143	142	144	145	146	3	2.1%
- Blood banking/transfusion medicine	51	51	52	53	54	3	5.9%
- Clinical informatics	8	10	11	10	10	2	25.0%
- Chemical pathology	4	4	4	4	4	0	0.0%
- Cytopathology	94	93	93	92	93	-1	-1.1%
- Forensic pathology	43	45	45	45	49	6	14.0%
- Hematopathology	87	86	86	86	87	0	0.0%
- Medical microbiology	15	15	15	16	16	1	6.7%
- Neuropathology	36	37	38	39	40	4	11.1%
- Pediatric pathology	27	28	28	27	27	0	0.0%
- Selective pathology	91	101	109	116	124	33	36.3%
Pediatrics	212	211	210	212	213	1	0.5%
- Adolescent medicine	30	32	32	32	34	4	13.3%
- Child abuse pediatrics	31	31	31	31	32	1	3.2%
- Clinical informatics	5	7	8	9	9	4	80.0%
- Developmental-behavioral pediatrics	43	43	44	44	44	1	2.3%
- Neonatal-perinatal medicine	102	103	107	110	110	8	7.8%
- Pediatric cardiology	62	63	64	64	64	2	3.2%
- Pediatric critical care medicine	72	72	75	77	76	4	5.6%
- Pediatric emergency medicine	52	53	55	56	58	6	11.5%
- Pediatric endocrinology	73	72	72	72	73	0	0.0%
- Pediatric gastroenterology	65	65	67	67	67	2	3.1%
- Pediatric hematology/oncology	74	75	76	77	78	4	5.4%
- Pediatric infectious diseases	65	64	64	64	64	-1	-1.5%

TABLE A.4 Continued

## Number of Programs by Specialty and Subspecialty and Academic Year, 2018-2019 to 2022-2023

Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023		
	#	#	#	#	#	#	%
- Pediatric nephrology	46	47	47	47	48	2	4.3%
- Pediatric pulmonology	54	56	56	57	57	3	5.6%
- Pediatric rheumatology	35	36	37	38	37	2	5.7%
- Sports medicine	17	17	17	17	17	0	0.0%
- Pediatric transplant hepatology	15	16	17	17	17	2	13.3%
- Pediatric hospital medicine*		33	54	65	68	35	106.1%
Physical medicine and rehabilitation	91	94	98	100	101	10	11.0%
- Brain injury medicine	20	23	25	25	27	7	35.0%
- Neuromuscular medicine	1	1	1	1	1	0	0.0%
- Spinal cord injury medicine	24	24	24	24	26	2	8.3%
- Pediatric rehabilitation medicine	20	22	22	22	22	2	10.0%
- Sports medicine	19	20	21	22	22	3	15.8%
Plastic surgery	55	53	52	50	49	-6	-10.9%
Plastic surgery - integrated	81	82	86	88	89	8	9.9%
- Craniofacial surgery	8	8	8	8	9	1	12.5%
- Hand surgery	17	17	17	18	19	2	11.8%
Public health and general preventive medicine	75	72	72	72	43	-32	-42.7%
Aerospace medicine*					5	N/A	N/A
Occupational and environmental medicine*					23	N/A	N/A
- Undersea and hyperbaric medicine	1	1	1	1	1	0	0.0%
- Medical toxicology	1	1	1	1		N/A	N/A
Psychiatry	257	269	287	294	304	47	18.3%
- Addiction medicine (multidisciplinary)*	52	78	85	91	96	44	84.6%
- Addiction psychiatry	50	53	53	55	55	5	10.0%
- Child and adolescent psychiatry	140	141	146	152	153	13	9.3%
- Forensic psychiatry	48	48	49	49	49	1	2.1%
- Geriatric psychiatry	61	62	64	64	63	2	3.3%
- Consultation-liaison psychiatry	62	63	64	66	67	5	8.1%
Radiation oncology	94	91	91	90	90	-4	-4.3%
Radiology-diagnostic	195	197	196	197	199	4	2.1%
- Abdominal radiology	13	14	13	13	13	0	0.0%
- Neuroendovascular intervention	3	3	3	3	3	0	0.0%
- Musculoskeletal radiology	16	20	20	20	21	5	31.3%
- Neuroradiology	87	87	89	91	91	4	4.6%
- Nuclear radiology	17	17	18	18	19	2	11.8%
- Pediatric radiology	47	47	48	47	46	-1	-2.1%
- Vascular and Interventional radiology	93	92				N/A	N/A
Interventional radiology - independent*		2	95	95	94	92	4600.0%
Interventional radiology - integrated	84	89	92	92	95	11	13.1%
Surgery	323	330	344	353	363	40	12.4%
- Complex general surgical oncology	27	29	31	33	34	7	25.9%
- Hand surgery	1	1	2	2	2	1	100.0%
- Pediatric surgery	50	49	51	51	51	1	2.0%
- Surgical critical care	136	139	145	156	162	26	19.1%
- Vascular surgery	109	116	115	118	119	10	9.2%
Vascular surgery - integrated	60	64	67	73	76	16	26.7%
Thoracic surgery	72	74	74	75	75	3	4.2%
- Congenital cardiac surgery	12	14	15	16	17	5	41.7%
Thoracic surgery - integrated	27	30	33	34	34	7	25.9%
Urology	142	145	145	148	150	8	5.6%
- Female pelvic medicine and reconstructive surgery	14	15	15	16	17	3	21.4%
- Pediatric urology	26	26	26	26	26	0	0.0%
Transitional year	157	166	172	178	188	31	19.7%
Internal medicine/Pediatrics	79	79	79	78	77	-2	-2.5%
Health care administration, leadership, and management*					2	N/A	N/A

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.

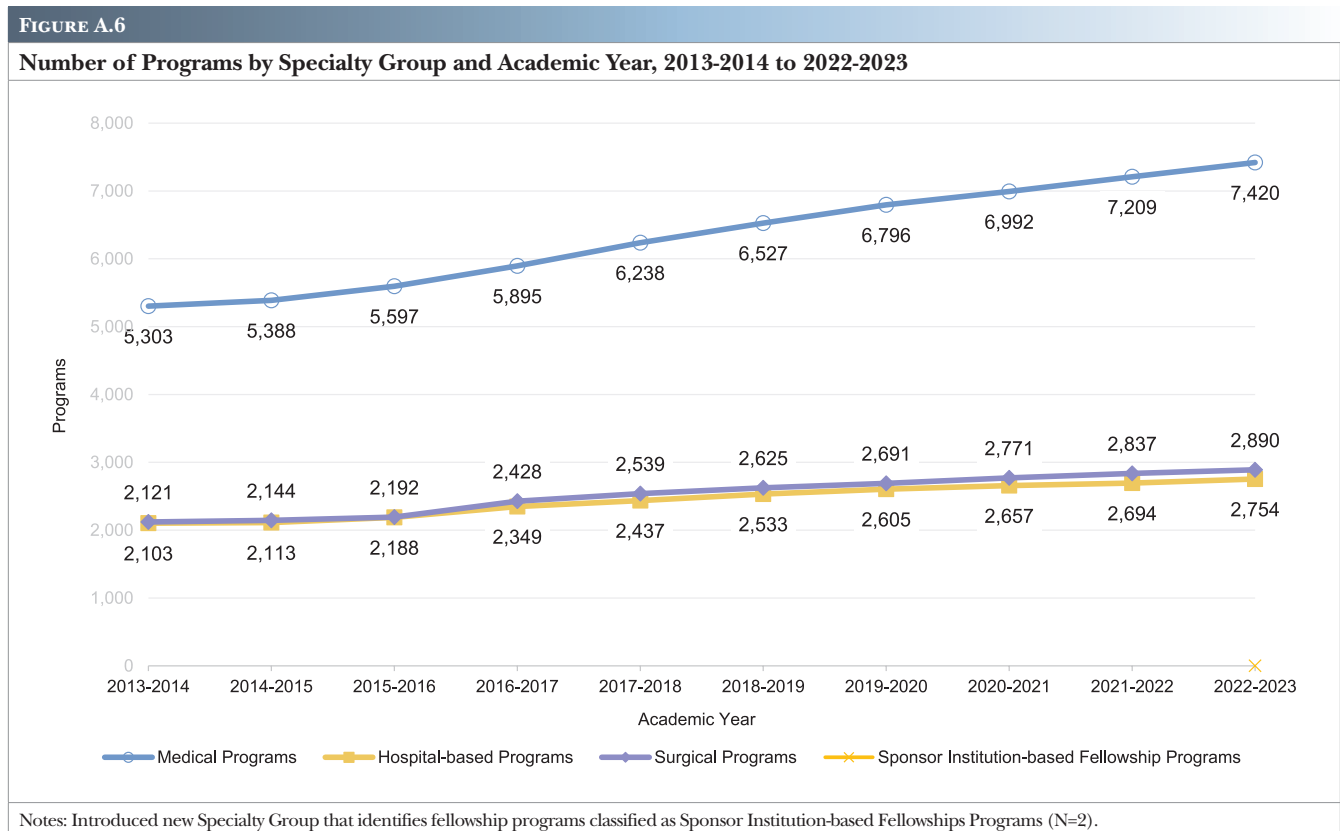
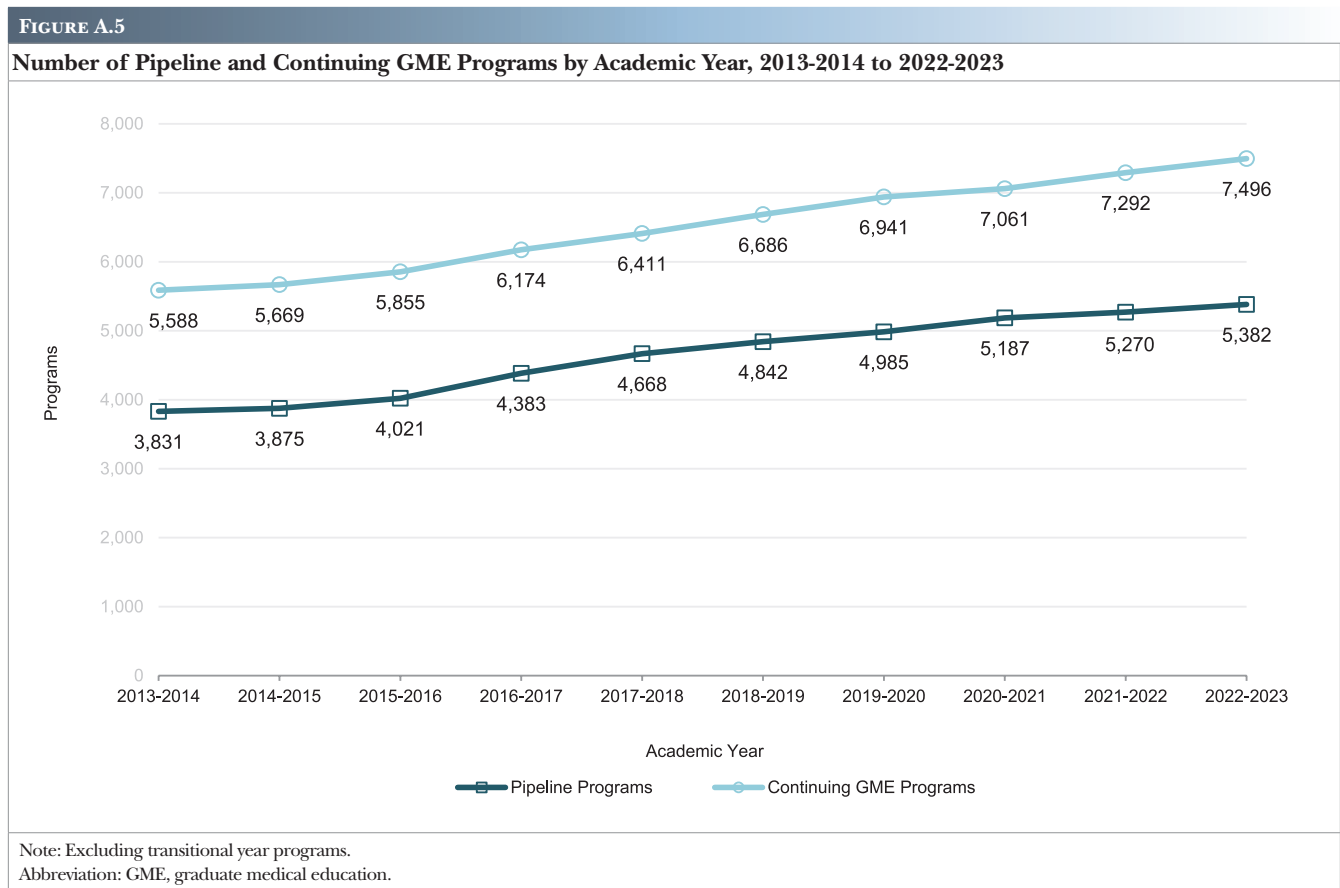
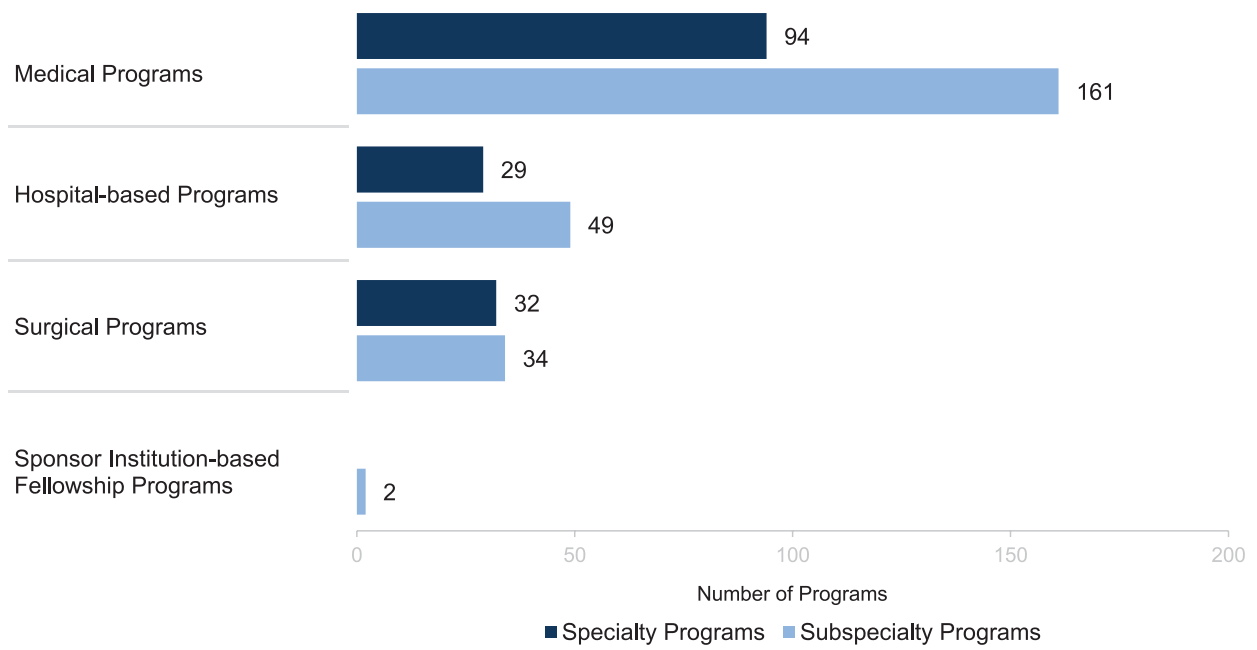


FIGURE A.7

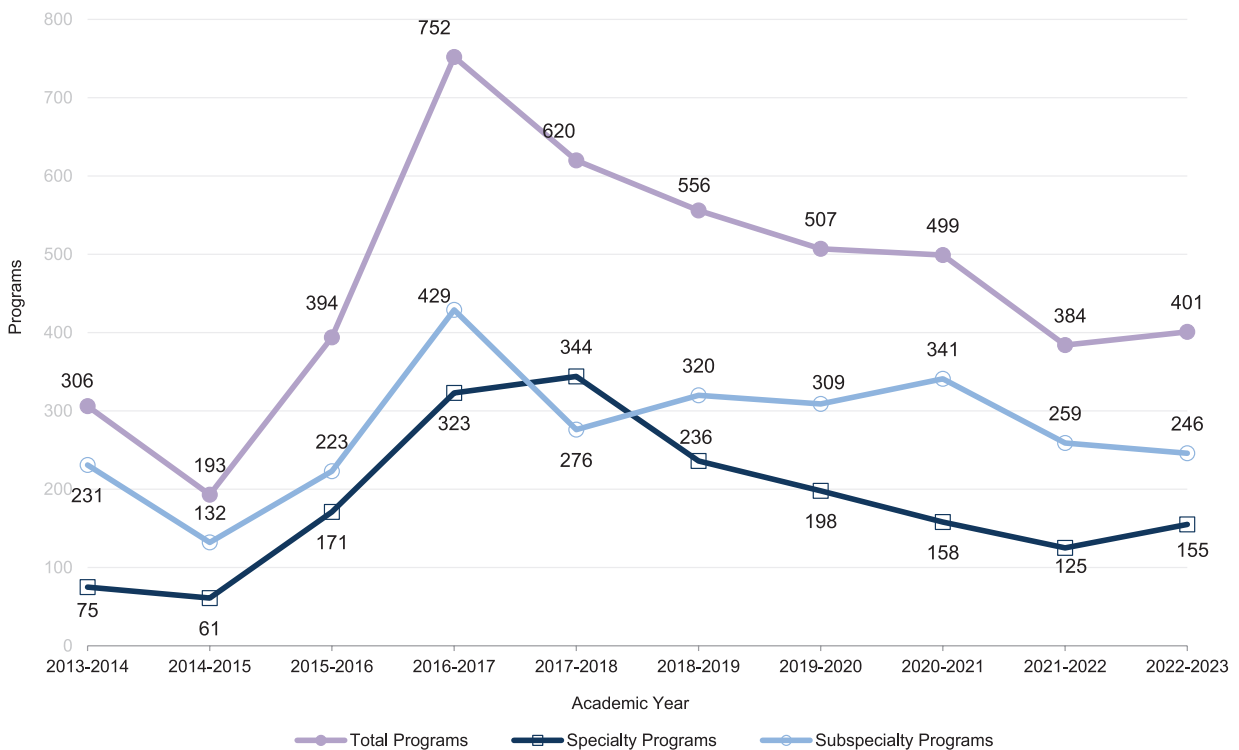
Number of Newly Accredited Programs by Specialty Group



Notes: Introduced new Specialty Group that identifies fellowship programs classified as Sponsor Institution-based Fellowships Programs (N=2).

FIGURE A.8

Number of Newly Accredited Programs by Academic Year, 2013-2014 to 2022-2023



<b>TABLE A.9</b>				
<b>Number of Newly Accredited Programs during the Academic Year by Specialty and Subspecialty</b>				
<b>Specialty</b>	<b>Total Programs</b>	<b>Newly Accredited Programs</b>	<b>Percentage of Specialty</b>	<b>Percent of All Newly Accredited Programs</b>
OVERALL	13,066	401	3.1%	100.0%
TOTAL PIPELINE	5,382	142	2.6%	35.4%
Allergy and immunology	87	3	3.4%	0.7%
Anesthesiology	165	1	0.6%	0.2%
- Adult cardiothoracic anesthesiology	75	1	1.3%	0.2%
- Critical care medicine	65	1	1.5%	0.2%
- Regional anesthesiology and acute pain medicine	42	2	4.8%	0.5%
- Pediatric cardiac anesthesiology*	15	15	100.0%	3.7%
- Obstetric anesthesiology	41	0	0.0%	0.0%
- Pain medicine (multidisciplinary)	115	2	1.7%	0.5%
- Pediatric anesthesiology	62	1	1.6%	0.2%
Colon and rectal surgery	68	1	1.5%	0.2%
Dermatology	144	3	2.1%	0.7%
- Dermatopathology (multidisciplinary)	57	0	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	81	4	4.9%	1.0%
- Pediatric dermatology*	29	12	41.4%	3.0%
Emergency medicine	287	8	2.8%	2.0%
- Emergency medical services	83	4	4.8%	1.0%
- Medical toxicology	30	1	3.3%	0.2%
- Pediatric emergency medicine	29	0	0.0%	0.0%
- Sports medicine	9	0	0.0%	0.0%
- Undersea and hyperbaric medicine	8	0	0.0%	0.0%
Family medicine	756	39	5.2%	9.7%
- Clinical informatics	8	0	0.0%	0.0%
- Geriatric medicine	46	2	4.3%	0.5%
- Hospice and palliative medicine (multidisciplinary)	191	8	4.2%	2.0%
- Sports medicine	171	10	5.8%	2.5%
Internal medicine	627	32	5.1%	8.0%
- Adult congenital heart disease	27	1	3.7%	0.2%
- Advanced heart failure and transplant cardiology	84	0	0.0%	0.0%
- Cardiovascular disease	273	6	2.2%	1.5%
- Clinical cardiac electrophysiology	116	1	0.9%	0.2%
- Clinical informatics	32	4	12.5%	1.0%
- Critical care medicine	66	4	6.1%	1.0%
- Endocrinology, diabetes, and metabolism	159	4	2.5%	1.0%
- Gastroenterology	229	10	4.4%	2.5%
- Geriatric medicine	119	3	2.5%	0.7%
- Hematology and medical oncology	184	7	3.8%	1.7%
- Infectious disease	167	4	2.4%	1.0%
- Interventional cardiology	180	4	2.2%	1.0%
- Nephrology	152	2	1.3%	0.5%
- Medical oncology	3	0	0.0%	0.0%
- Pulmonary disease	22	2	9.1%	0.5%
- Pulmonary disease and critical care medicine	202	6	3.0%	1.5%
- Rheumatology	129	1	0.8%	0.2%
- Sleep medicine (multidisciplinary)	96	4	4.2%	1.0%
- Transplant hepatology	66	4	6.1%	1.0%
Medical genetics and genomics	47	2	4.3%	0.5%
- Medical biochemical genetics	22	2	9.1%	0.5%
- Molecular genetic pathology (multidisciplinary)	42	0	0.0%	0.0%
Neurological surgery	117	0	0.0%	0.0%
- Neuroendovascular intervention	3	0	0.0%	0.0%
Neurology	180	5	2.8%	1.2%
- Clinical neurophysiology	95	1	1.1%	0.2%
- Epilepsy	95	2	2.1%	0.5%
- Neurocritical care (multidisciplinary)*	35	28	80.0%	7.0%
- Neuroendovascular intervention	2	0	0.0%	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	0.0%
- Neuromuscular medicine	55	0	0.0%	0.0%
- Vascular neurology	112	0	0.0%	0.0%

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
Child neurology	80	1	1.3%	0.2%
Nuclear medicine	36	0	0.0%	0.0%
Obstetrics and gynecology	302	4	1.3%	1.0%
- Female pelvic medicine and reconstructive surgery	57	2	3.5%	0.5%
- Gynecologic oncology	71	4	5.6%	1.0%
- Maternal-fetal medicine	104	3	2.9%	0.7%
- Reproductive endocrinology and infertility	49	2	4.1%	0.5%
- Complex family planning*	32	3	9.4%	0.7%
Ophthalmology	125	0	0.0%	0.0%
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0.0%
Orthopaedic surgery	208	5	2.4%	1.2%
- Adult reconstructive orthopaedics	25	1	4.0%	0.2%
- Foot and ankle orthopaedics	8	0	0.0%	0.0%
- Hand surgery	74	2	2.7%	0.5%
- Musculoskeletal oncology	12	0	0.0%	0.0%
- Orthopaedic sports medicine	93	2	2.2%	0.5%
- Orthopaedic surgery of the spine	15	0	0.0%	0.0%
- Orthopaedic trauma	12	0	0.0%	0.0%
- Pediatric orthopaedics	25	1	4.0%	0.2%
Osteopathic neuromusculoskeletal medicine	26	0	0.0%	0.0%
Otolaryngology - head and neck surgery	131	2	1.5%	0.5%
- Neurotology	29	1	3.4%	0.2%
- Pediatric otolaryngology	34	0	0.0%	0.0%
Pathology-anatomic and clinical	146	2	1.4%	0.5%
- Blood banking/transfusion medicine	54	1	1.9%	0.2%
- Clinical informatics	10	0	0.0%	0.0%
- Chemical pathology	4	0	0.0%	0.0%
- Cytopathology	93	1	1.1%	0.2%
- Forensic pathology	49	4	8.2%	1.0%
- Hematopathology	87	1	1.1%	0.2%
- Medical microbiology	16	0	0.0%	0.0%
- Neuropathology	40	1	2.5%	0.2%
- Pediatric pathology	27	0	0.0%	0.0%
- Selective pathology	124	8	6.5%	2.0%
Pediatrics	213	1	0.5%	0.2%
- Adolescent medicine	34	2	5.9%	0.5%
- Child abuse pediatrics	32	1	3.1%	0.2%
- Clinical informatics	9	0	0.0%	0.0%
- Developmental-behavioral pediatrics	44	0	0.0%	0.0%
- Neonatal-perinatal medicine	110	0	0.0%	0.0%
- Pediatric cardiology	64	0	0.0%	0.0%
- Pediatric critical care medicine	76	0	0.0%	0.0%
- Pediatric emergency medicine	58	2	3.4%	0.5%
- Pediatric endocrinology	73	1	1.4%	0.2%
- Pediatric gastroenterology	67	0	0.0%	0.0%
- Pediatric hematology/oncology	78	1	1.3%	0.2%
- Pediatric infectious diseases	64	1	1.6%	0.2%
- Pediatric nephrology	48	1	2.1%	0.2%
- Pediatric pulmonology	57	0	0.0%	0.0%
- Pediatric rheumatology	37	0	0.0%	0.0%
- Sports medicine	17	0	0.0%	0.0%
- Pediatric transplant hepatology	17	0	0.0%	0.0%
- Pediatric hospital medicine*	68	3	4.4%	0.7%
Physical medicine and rehabilitation	101	1	1.0%	0.2%
- Brain injury medicine	27	1	3.7%	0.2%
- Neuromuscular medicine	1	0	0.0%	0.0%
- Spinal cord injury medicine	26	2	7.7%	0.5%
- Pediatric rehabilitation medicine	22	0	0.0%	0.0%
- Sports medicine	22	0	0.0%	0.0%



**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
Plastic surgery	49	3	6.1%	0.7%
Plastic surgery - integrated	89	1	1.1%	0.2%
- Craniofacial surgery	9	1	11.1%	0.2%
- Hand surgery	19	1	5.3%	0.2%
Public health and general preventive medicine	43	0	0.0%	0.0%
Aerospace medicine*	5	0	0.0%	0.0%
Occupational and environmental medicine*	23	0	0.0%	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0.0%
Psychiatry	304	9	3.0%	2.2%
- Addiction medicine (multidisciplinary)*	96	7	7.3%	1.7%
- Addiction psychiatry	55	1	1.8%	0.2%
- Child and adolescent psychiatry	153	1	0.7%	0.2%
- Forensic psychiatry	49	2	4.1%	0.5%
- Geriatric psychiatry	63	0	0.0%	0.0%
- Consultation-liaison psychiatry	67	1	1.5%	0.2%
Radiation oncology	90	0	0.0%	0.0%
Radiology-diagnostic	199	3	1.5%	0.7%
- Abdominal radiology	13	0	0.0%	0.0%
- Neuroendovascular intervention	3	0	0.0%	0.0%
- Musculoskeletal radiology	21	2	9.5%	0.5%
- Neuroradiology	91	0	0.0%	0.0%
- Nuclear radiology	19	1	5.3%	0.2%
- Pediatric radiology	46	0	0.0%	0.0%
Interventional radiology - independent*	94	1	1.1%	0.2%
Interventional radiology - integrated	95	3	3.2%	0.7%
Surgery	363	11	3.0%	2.7%
- Complex general surgical oncology	34	1	2.9%	0.2%
- Hand surgery	2	0	0.0%	0.0%
- Pediatric surgery	51	0	0.0%	0.0%
- Surgical critical care	162	6	3.7%	1.5%
- Vascular surgery	119	2	1.7%	0.5%
Vascular surgery - integrated	76	3	3.9%	0.7%
Thoracic surgery	75	0	0.0%	0.0%
- Congenital cardiac surgery	17	1	5.9%	0.2%
Thoracic surgery - integrated	34	0	0.0%	0.0%
Urology	150	2	1.3%	0.5%
- Female pelvic medicine and reconstructive surgery	17	1	5.9%	0.2%
- Pediatric urology	26	0	0.0%	0.0%
Transitional year	188	10	5.3%	2.5%
Internal medicine/Pediatrics	77	0	0.0%	0.0%
Health care administration, leadership, and management*	2	2	100.0%	0.5%

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	13,066	12	0.1%	45	0.3%	7	0.1%
TOTAL PIPELINE	5,382	5	0.1%	20	0.4%	2	0.0%
Allergy and immunology	87	0	0.0%	0	0.0%	0	0.0%
Anesthesiology	165	0	0.0%	1	0.6%	1	0.6%
- Adult cardiothoracic anesthesiology	75	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	65	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	42	0	0.0%	0	0.0%	0	0.0%
- Pediatric cardiac anesthesiology	15	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	0	0.0%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	115	1	0.9%	0	0.0%	0	0.0%
- Pediatric anesthesiology	62	0	0.0%	1	1.6%	0	0.0%
Colon and rectal surgery	68	0	0.0%	0	0.0%	0	0.0%
Dermatology	144	0	0.0%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	57	0	0.0%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	81	0	0.0%	0	0.0%	0	0.0%
- Pediatric dermatology	29	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	287	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	83	0	0.0%	1	1.2%	0	0.0%
- Medical toxicology	30	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	29	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	9	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	0	0.0%	0	0.0%	0	0.0%
Family medicine	756	1	0.1%	2	0.3%	0	0.0%
- Clinical informatics	8	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	46	0	0.0%	0	0.0%	1	2.2%
- Hospice and palliative medicine (multidisciplinary)	191	0	0.0%	1	0.5%	1	0.5%
- Sports medicine	171	0	0.0%	0	0.0%	0	0.0%
Internal medicine	627	3	0.5%	1	0.2%	0	0.0%
- Adult congenital heart disease	27	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	84	0	0.0%	0	0.0%	0	0.0%
- Cardiovascular disease	273	0	0.0%	1	0.4%	0	0.0%
- Clinical cardiac electrophysiology	116	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	32	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	66	0	0.0%	1	1.5%	1	1.5%
- Endocrinology, diabetes, and metabolism	159	0	0.0%	1	0.6%	0	0.0%
- Gastroenterology	229	0	0.0%	1	0.4%	0	0.0%
- Geriatric medicine	119	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	184	1	0.5%	0	0.0%	0	0.0%
- Infectious disease	167	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	180	0	0.0%	0	0.0%	0	0.0%
- Nephrology	152	0	0.0%	2	1.3%	0	0.0%
- Medical oncology	3	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	0	0.0%	2	9.1%	0	0.0%
- Pulmonary disease and critical care medicine	202	0	0.0%	0	0.0%	1	0.5%
- Rheumatology	129	0	0.0%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	96	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	66	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	47	0	0.0%	0	0.0%	0	0.0%
- Medical biochemical genetics	22	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	0	0.0%	1	2.4%	0	0.0%
Neurological surgery	117	0	0.0%	0	0.0%	0	0.0%
- Neuroendovascular intervention	3	0	0.0%	0	0.0%	0	0.0%
Neurology	180	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	95	0	0.0%	0	0.0%	0	0.0%
- Epilepsy	95	0	0.0%	0	0.0%	0	0.0%
- Neurocritical care (multidisciplinary)	35	0	0.0%	0	0.0%	0	0.0%
- Neuroendovascular intervention	2	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	55	0	0.0%	0	0.0%	0	0.0%
- Vascular neurology	112	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	
		#	%	#	%	#	%
Child neurology	80	0	0.0%	1	1.3%	0	0.0%
Nuclear medicine	36	0	0.0%	0	0.0%	0	0.0%
Obstetrics and gynecology	302	0	0.0%	4	1.3%	0	0.0%
- Female pelvic medicine and reconstructive surgery	57	0	0.0%	0	0.0%	0	0.0%
- Gynecologic oncology	71	0	0.0%	1	1.4%	0	0.0%
- Maternal-fetal medicine	104	0	0.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	0	0.0%	0	0.0%	0	0.0%
- Complex family planning	32	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	125	0	0.0%	0	0.0%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	208	0	0.0%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	25	0	0.0%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	74	1	1.4%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	93	2	2.2%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	15	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	12	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	25	0	0.0%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	26	0	0.0%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	131	0	0.0%	0	0.0%	0	0.0%
- Neurotology	29	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	0	0.0%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	146	0	0.0%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	54	0	0.0%	1	1.9%	0	0.0%
- Clinical informatics	10	0	0.0%	0	0.0%	0	0.0%
- Chemical pathology	4	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	93	0	0.0%	0	0.0%	0	0.0%
- Forensic pathology	49	0	0.0%	1	2.0%	0	0.0%
- Hematopathology	87	0	0.0%	0	0.0%	0	0.0%
- Medical microbiology	16	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	40	0	0.0%	0	0.0%	0	0.0%
- Pediatric pathology	27	0	0.0%	0	0.0%	0	0.0%
- Selective pathology	124	0	0.0%	0	0.0%	0	0.0%
Pediatrics	213	0	0.0%	0	0.0%	0	0.0%
- Adolescent medicine	34	0	0.0%	1	2.9%	0	0.0%
- Child abuse pediatrics	32	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	9	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	0	0.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	110	0	0.0%	0	0.0%	0	0.0%
- Pediatric cardiology	64	0	0.0%	1	1.6%	0	0.0%
- Pediatric critical care medicine	76	1	1.3%	0	0.0%	0	0.0%
- Pediatric emergency medicine	58	0	0.0%	0	0.0%	0	0.0%
- Pediatric endocrinology	73	0	0.0%	2	2.7%	0	0.0%
- Pediatric gastroenterology	67	0	0.0%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	78	0	0.0%	0	0.0%	0	0.0%
- Pediatric infectious diseases	64	0	0.0%	0	0.0%	0	0.0%
- Pediatric nephrology	48	0	0.0%	0	0.0%	0	0.0%
- Pediatric pulmonology	57	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	37	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	17	0	0.0%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	17	0	0.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	68	0	0.0%	1	1.5%	0	0.0%
Physical medicine and rehabilitation	101	0	0.0%	0	0.0%	0	0.0%
- Brain injury medicine	27	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	26	0	0.0%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	22	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	22	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	
		#	%	#	%	#	%
Plastic surgery	49	0	0.0%	2	4.1%	0	0.0%
Plastic surgery - integrated	89	0	0.0%	0	0.0%	0	0.0%
- Craniofacial surgery	9	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	19	0	0.0%	0	0.0%	0	0.0%
Public health and general preventive medicine	43	0	0.0%	2	4.7%	0	0.0%
Aerospace medicine	5	0	0.0%	0	0.0%	0	0.0%
Occupational and environmental medicine	23	1	4.3%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0	0.0%	0	0.0%
Psychiatry	304	0	0.0%	0	0.0%	1	0.3%
- Addiction medicine (multidisciplinary)	96	1	1.0%	0	0.0%	1	1.0%
- Addiction psychiatry	55	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	153	0	0.0%	0	0.0%	0	0.0%
- Forensic psychiatry	49	0	0.0%	0	0.0%	0	0.0%
- Geriatric psychiatry	63	0	0.0%	1	1.6%	0	0.0%
- Consultation-liaison psychiatry	67	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	90	0	0.0%	1	1.1%	0	0.0%
Radiology-diagnostic	199	0	0.0%	1	0.5%	0	0.0%
- Abdominal radiology	13	0	0.0%	0	0.0%	0	0.0%
- Neuroendovascular intervention	3	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	21	0	0.0%	0	0.0%	0	0.0%
- Neuroradiology	91	0	0.0%	0	0.0%	0	0.0%
- Nuclear radiology	19	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	46	0	0.0%	0	0.0%	0	0.0%
Interventional radiology - independent	94	0	0.0%	2	2.1%	0	0.0%
Interventional radiology - integrated	95	0	0.0%	0	0.0%	0	0.0%
Surgery	363	0	0.0%	2	0.6%	0	0.0%
- Complex general surgical oncology	34	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	2	0	0.0%	0	0.0%	0	0.0%
- Pediatric surgery	51	0	0.0%	0	0.0%	0	0.0%
- Surgical critical care	162	0	0.0%	0	0.0%	0	0.0%
- Vascular surgery	119	0	0.0%	0	0.0%	0	0.0%
Vascular surgery - integrated	76	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	75	0	0.0%	0	0.0%	0	0.0%
- Congenital cardiac surgery	17	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	0	0.0%	0	0.0%	0	0.0%
Urology	150	0	0.0%	1	0.7%	0	0.0%
- Female pelvic medicine and reconstructive surgery	17	0	0.0%	1	5.9%	0	0.0%
- Pediatric urology	26	0	0.0%	0	0.0%	0	0.0%
Transitional year	188	0	0.0%	3	1.6%	0	0.0%
Internal medicine/Pediatrics	77	0	0.0%	0	0.0%	0	0.0%
Health care administration, leadership, and management	2	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=12).

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

Specialty	MIN No. of Prior Years	Total Programs	Length of Accredited Education and Training						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
Allergy and immunology	3	87		87					
Anesthesiology	1/0	165			18	147			
- Adult cardiothoracic anesthesiology	4	75	75						
- Critical care medicine	4	65	65						
- Regional anesthesiology and acute pain medicine	4	42	42						
- Pediatric cardiac anesthesiology	4	15	15						
- Obstetric anesthesiology	3/4	41	41						
- Pain medicine (multidisciplinary)	3/4	115	115						
- Pediatric anesthesiology	4	62	62						
Colon and rectal surgery	5	68	68						
Dermatology	1/0	144			139	5			
- Dermatopathology (multidisciplinary)	4	57	57						
- Micrographic surgery and dermatologic oncology	4	81	81						
- Pediatric dermatology	4	29	29						
Emergency medicine	0	287			228	59			
- Emergency medical services	3	83	83						
- Medical toxicology	3	30		30					
- Pediatric emergency medicine	3	29			29				
- Sports medicine	3	9	9						
- Undersea and hyperbaric medicine	3	8	8						
Family medicine	0	756			747	9			
- Clinical informatics	3	8		8					
- Geriatric medicine	3	46	46						
- Hospice and palliative medicine (multidisciplinary)	3	191	191						
- Sports medicine	3	171	171						
Internal medicine	0	627			627				
- Adult congenital heart disease	3	27		27					
- Advanced heart failure and transplant cardiology	6	84	84						
- Cardiovascular disease	3	273			273				
- Clinical cardiac electrophysiology	6	116		116					
- Clinical informatics	3	32		32					
- Critical care medicine	3	66		66					
- Endocrinology, diabetes, and metabolism	3	159		159					
- Gastroenterology	3	229			229				
- Geriatric medicine	3	119	119						
- Hematology and medical oncology	3	184			184				
- Infectious disease	3	167		167					
- Interventional cardiology	6	180	180						
- Nephrology	3	152		152					
- Medical oncology	3	3		3					
- Pulmonary disease	3	22		22					
- Pulmonary disease and critical care medicine	3	202			202				
- Rheumatology	3	129		129					
- Sleep medicine (multidisciplinary)	3/4/5	96	96						
- Transplant hepatology	6	66	66						
Medical genetics and genomics	2/0	47		47					
- Medical biochemical genetics	4	22	22						
- Molecular genetic pathology (multidisciplinary)	4	42	42						
Neurological surgery	0	117							117
- Neuroendovascular intervention	6	3	3						

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

Specialty	MIN No. of Prior Years	Total Programs	Length of Accredited Education and Training						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
Neurology	1/0	180			49	131			
- Clinical neurophysiology	4	95	95						
- Epilepsy	3	95	95						
- Neurocritical care (multidisciplinary)	3/4	35		35					
- Neuroendovascular intervention	5	2	2						
- Neurodevelopmental disabilities	2	8				8			
- Neuromuscular medicine	4	55	55						
- Vascular neurology	4	112	112						
Child neurology	2	80			80				
Nuclear medicine	1	36			36				
Obstetrics and gynecology	0	302				302			
- Female pelvic medicine and reconstructive surgery	4	57			57				
- Gynecologic oncology	4	71			71				
- Maternal-fetal medicine	4	104			104				
- Reproductive endocrinology and infertility	4	49			49				
- Complex family planning	4	32		32					
Ophthalmology	1	125			76	49			
- Ophthalmic plastic and reconstructive surgery	4	4		4					
Orthopaedic surgery	0	208					208		
- Adult reconstructive orthopaedics	5	25	25						
- Foot and ankle orthopaedics	5	8	8						
- Hand surgery	5	74	74						
- Musculoskeletal oncology	5	12	12						
- Orthopaedic sports medicine	5	93	93						
- Orthopaedic surgery of the spine	5	15	15						
- Orthopaedic trauma	5	12	12						
- Pediatric orthopaedics	5	25	25						
Osteopathic neuromusculoskeletal medicine	0	26			26				
Otolaryngology - head and neck surgery	0	131					131		
- Neurotology	5	29		29					
- Pediatric otolaryngology	5	34	34						
Pathology-anatomic and clinical	0	146			1	145			
- Blood banking/transfusion medicine	2	54	54						
- Clinical informatics	2	10		10					
- Chemical pathology	2	4	4						
- Cytopathology	2	93	93						
- Forensic pathology	2	49	49						
- Hematopathology	2	87	87						
- Medical microbiology	4	16	16						
- Neuropathology	2	40		40					
- Pediatric pathology	2	27	27						
- Selective pathology	2	124	124						
Pediatrics	0	213			213				
- Adolescent medicine	3	34			34				
- Child abuse pediatrics	3	32			32				
- Clinical informatics	3	9		9					
- Developmental-behavioral pediatrics	3	44			44				
- Neonatal-perinatal medicine	3	110			110				
- Pediatric cardiology	3	64			64				
- Pediatric critical care medicine	3	76			76				
- Pediatric emergency medicine	3	58			58				
- Pediatric endocrinology	3	73			73				
- Pediatric gastroenterology	3	67			67				
- Pediatric hematology/oncology	3	78			78				
- Pediatric infectious diseases	3	64			64				
- Pediatric nephrology	3	48			48				

**TABLE A.11 Continued**

**Total Number of Programs, Years of Accredited Prior Training Required, and Length of Accredited Education and Training by Specialty and Subspecialty**

Specialty	MIN No. of Prior Years	Total Programs	Length of Accredited Education and Training						
			1	2	3	4	5	6	7
			#	#	#	#	#	#	#
- Pediatric pulmonology	3	57			57				
- Pediatric rheumatology	3	37			37				
- Sports medicine	3	17	17						
- Pediatric transplant hepatology	6	17	17						
- Pediatric hospital medicine	3	68		68					
Physical medicine and rehabilitation	1/0	101			54	47			
- Brain injury medicine	3/4	27	27						
- Neuromuscular medicine	3/4	1	1						
- Spinal cord injury medicine	3/4	26	26						
- Pediatric rehabilitation medicine	4	22		22					
- Sports medicine	3/4	22	22						
Plastic surgery	3	49			49				
Plastic surgery - integrated	0	89						89	
- Craniofacial surgery	6	9	9						
- Hand surgery	5	19	19						
Public health and general preventive medicine	1/0	43		41	2				
Aerospace medicine	1/0	5		5					
Occupational and environmental medicine	1/0	23		23					
- Undersea and hyperbaric medicine	3	1	1						
Psychiatry	0	304	1			303			
- Addiction medicine (multidisciplinary)	1/2/3/4	96	96						
- Addiction psychiatry	4	55	54	1					
- Child and adolescent psychiatry	3	153		153					
- Forensic psychiatry	4	49	49						
- Geriatric psychiatry	4	63	62	1					
- Consultation-liaison psychiatry	4	67	67						
Radiation oncology	1	90				90			
Radiology-diagnostic	1	199				192	7		
- Abdominal radiology	5	13	13						
- Neuroendovascular intervention	5	3	3						
- Musculoskeletal radiology	5	21	21						
- Neuroradiology	5	91	91						
- Nuclear radiology	5	19	19						
- Pediatric radiology	5	46	46						
Interventional radiology - independent	4	94		94					
Interventional radiology - integrated	1	95				90	5		
Surgery	0	363				363			
- Complex general surgical oncology	5	34		34					
- Hand surgery	5	2	2						
- Pediatric surgery	5	51		51					
- Surgical critical care	3	162	162						
- Vascular surgery	5	119		119					
Vascular surgery - integrated	0	76				76			
Thoracic surgery	5	75		53	22				
- Congenital cardiac surgery	7	17	17						
Thoracic surgery - integrated	0	34						34	
Urology	0/1	150					150		
- Female pelvic medicine and reconstructive surgery	3/4	17			17				
- Pediatric urology	5	26		26					
Transitional year	0	188	188						
Internal medicine/Pediatrics	0	77				77			
Health care administration, leadership, and management	1	2		2					

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	13,066	253	1.9%	100.0%
TOTAL PIPELINE	5,382	235	4.4%	92.9%
Allergy and immunology	87	1	1.1%	0.4%
Anesthesiology	165	3	1.8%	1.2%
Dermatology	144	4	2.8%	1.6%
Emergency medicine	287	5	1.7%	2.0%
Family medicine	756	166	22.0%	65.6%
- Hospice and palliative medicine (multidisciplinary)	191	2	1.0%	0.8%
- Sports medicine	171	4	2.3%	1.6%
Internal medicine	627	27	4.3%	10.7%
- Cardiovascular disease	273	2	0.7%	0.8%
- Geriatric medicine	119	1	0.8%	0.4%
- Pulmonary disease and critical care medicine	202	1	0.5%	0.4%
Neurological surgery	117	1	0.9%	0.4%
Neurology	180	1	0.6%	0.4%
Obstetrics and gynecology	302	6	2.0%	2.4%
Orthopaedic surgery	208	5	2.4%	2.0%
Otolaryngology - head and neck surgery	131	3	2.3%	1.2%
Pediatrics	213	3	1.4%	1.2%
- Sports medicine	17	1	5.9%	0.4%
Physical medicine and rehabilitation	101	1	1.0%	0.4%
Plastic surgery	49	1	2.0%	0.4%
Psychiatry	304	2	0.7%	0.8%
Radiology-diagnostic	199	1	0.5%	0.4%
Surgery	363	4	1.1%	1.6%
Urology	150	1	0.7%	0.4%
Transitional year	188	6	3.2%	2.4%
Internal medicine/Pediatrics	77	1	1.3%	0.4%

Note: Pipeline specialties are highlighted.



<b>TABLE A.13</b>	
<b>Number of Medically Related Specialty Programs</b>	
<b>Specialty</b>	<b>Total Programs</b>
OVERALL	57
Clinical biochemical genetics	17
Laboratory genetics and genomics	40

# 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

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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 2022, there are approximately 3.88 total programs (1.70 specialty, 2.19 subspecialty) per 100,000 population, including Puerto Rico. The following states have the highest total number of programs:

- New York (1,432)
- California (1,178)
- Texas (869)
- Pennsylvania (834)

States with the lowest number of programs include Montana (5), Wyoming (4), and Alaska (3). 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

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

- Family medicine (13.2%)
- Internal medicine (11.0%)
- Surgery (6.4%)
- Psychiatry (5.3%)

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

- Internal medicine (24.5%)
- Family medicine (11.5%)
- Pediatrics (7.3%)
- Surgery (7.3%)

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 51 residents per program, with at least one program having 221 active residents during the 2022-2023 academic year. Pediatrics has the second highest average number of residents per program with approximately 45 residents per program. Overall, the trends in mean number of residents per program show that for specialty programs, the average number of residents per program peaked at 24 in the 2014-2015 academic year but has fallen to 22.6 in the 2022-2023 academic year. The average size of subspecialty programs has remained fairly constant over the last 10 years. In the 2022-2023 academic year, there were approximately 3.8 residents per subspecialty program.

## Distributions by Specialty Group

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The distribution of programs by specialty group differs in specialty versus subspecialty programs. Of the total number of specialty programs, 45.5% of programs are in medical specialties, 31.3% are in surgical specialties, and 23.2% are in hospital-based specialties. Among subspecialty programs, 65.6% of programs are in medical subspecialties, 15.0% are in surgical subspecialties, and 19.4% 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. <sup>^</sup>

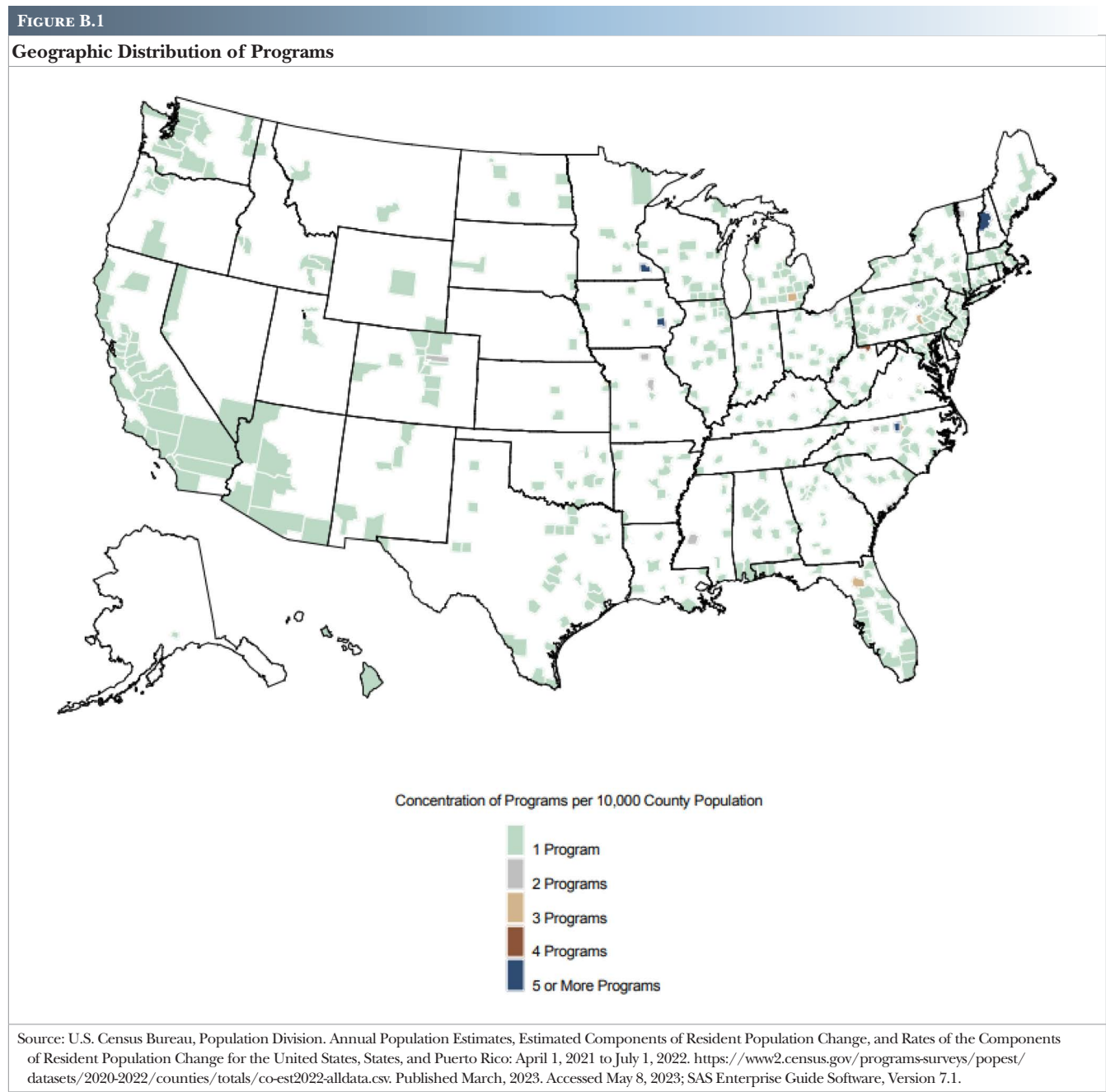


TABLE B.2

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

State Name	State Abbreviation	State Population - Census Estimate 2022	Total Programs	Percent of All Programs	Programs per 100,000 Pop
OVERALL	-	336,509,346	13,066	100.0%	3.88
Alabama	AL	5,074,296	152	1.2%	3.00
Alaska	AK	733,583	3	0.0%	0.41
Arizona	AZ	7,359,197	218	1.7%	2.96
Arkansas	AR	3,045,637	96	0.7%	3.15
California	CA	39,029,342	1,178	9.0%	3.02
Colorado	CO	5,839,926	149	1.1%	2.55
Connecticut	CT	3,626,205	212	1.6%	5.85
Delaware	DE	1,018,396	43	0.3%	4.22
District of Columbia	DC	671,803	148	1.1%	22.03
Florida	FL	22,244,823	730	5.6%	3.28
Georgia	GA	10,912,876	258	2.0%	2.36
Hawaii	HI	1,440,196	33	0.3%	2.29
Idaho	ID	1,939,033	17	0.1%	0.88
Illinois	IL	12,582,032	561	4.3%	4.46
Indiana	IN	6,833,037	146	1.1%	2.14
Iowa	IA	3,200,517	109	0.8%	3.41
Kansas	KS	2,937,150	82	0.6%	2.79
Kentucky	KY	4,512,310	155	1.2%	3.44
Louisiana	LA	4,590,241	192	1.5%	4.18
Maine	ME	1,385,340	40	0.3%	2.89
Maryland	MD	6,164,660	273	2.1%	4.43
Massachusetts	MA	6,981,974	495	3.8%	7.09
Michigan	MI	10,034,113	598	4.6%	5.96
Minnesota	MN	5,717,184	237	1.8%	4.15
Mississippi	MS	2,940,057	86	0.7%	2.93
Missouri	MO	6,177,957	301	2.3%	4.87
Montana	MT	1,122,867	5	0.0%	0.45
Nebraska	NE	1,967,923	95	0.7%	4.83
Nevada	NV	3,177,772	62	0.5%	1.95
New Hampshire	NH	1,395,231	56	0.4%	4.01
New Jersey	NJ	9,261,699	337	2.6%	3.64
New Mexico	NM	2,113,344	74	0.6%	3.50
New York	NY	19,677,151	1,432	11.0%	7.28
North Carolina	NC	10,698,973	377	2.9%	3.52
North Dakota	ND	779,261	16	0.1%	2.05
Ohio	OH	11,756,058	658	5.0%	5.60
Oklahoma	OK	4,019,800	106	0.8%	2.64
Oregon	OR	4,240,137	110	0.8%	2.59
Pennsylvania	PA	12,972,008	834	6.4%	6.43
Puerto Rico	PR	3,221,789	76	0.6%	2.36
Rhode Island	RI	1,093,734	75	0.6%	6.86
South Carolina	SC	5,282,634	167	1.3%	3.16
South Dakota	SD	909,824	15	0.1%	1.65
Tennessee	TN	7,051,339	246	1.9%	3.49
Texas	TX	30,029,572	869	6.7%	2.89
Utah	UT	3,380,800	101	0.8%	2.99
Vermont	VT	647,064	41	0.3%	6.34
Virginia	VA	8,683,619	280	2.1%	3.22
Washington	WA	7,785,786	194	1.5%	2.49
West Virginia	WV	1,775,156	99	0.8%	5.58
Wisconsin	WI	5,892,539	225	1.7%	3.82
Wyoming	WY	581,381	4	0.0%	0.69

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Specialty Programs	Percent of All Specialty Programs	Specialty Programs per 100,000 Pop
OVERALL	-	336,509,346	5,706	100.0%	1.70
Alabama	AL	5,074,296	70	1.2%	1.38
Alaska	AK	733,583	1	0.0%	0.14
Arizona	AZ	7,359,197	91	1.6%	1.24
Arkansas	AR	3,045,637	53	0.9%	1.74
California	CA	39,029,342	502	8.8%	1.29
Colorado	CO	5,839,926	59	1.0%	1.01
Connecticut	CT	3,626,205	80	1.4%	2.21
Delaware	DE	1,018,396	20	0.4%	1.96
District of Columbia	DC	671,803	54	0.9%	8.04
Florida	FL	22,244,823	348	6.1%	1.56
Georgia	GA	10,912,876	123	2.2%	1.13
Hawaii	HI	1,440,196	21	0.4%	1.46
Idaho	ID	1,939,033	13	0.2%	0.67
Illinois	IL	12,582,032	247	4.3%	1.96
Indiana	IN	6,833,037	62	1.1%	0.91
Iowa	IA	3,200,517	46	0.8%	1.44
Kansas	KS	2,937,150	38	0.7%	1.29
Kentucky	KY	4,512,310	63	1.1%	1.40
Louisiana	LA	4,590,241	95	1.7%	2.07
Maine	ME	1,385,340	23	0.4%	1.66
Maryland	MD	6,164,660	108	1.9%	1.75
Massachusetts	MA	6,981,974	171	3.0%	2.45
Michigan	MI	10,034,113	319	5.6%	3.18
Minnesota	MN	5,717,184	72	1.3%	1.26
Mississippi	MS	2,940,057	45	0.8%	1.53
Missouri	MO	6,177,957	112	2.0%	1.81
Montana	MT	1,122,867	3	0.1%	0.27
Nebraska	NE	1,967,923	39	0.7%	1.98
Nevada	NV	3,177,772	38	0.7%	1.20
New Hampshire	NH	1,395,231	26	0.5%	1.86
New Jersey	NJ	9,261,699	181	3.2%	1.95
New Mexico	NM	2,113,344	28	0.5%	1.32
New York	NY	19,677,151	593	10.4%	3.01
North Carolina	NC	10,698,973	150	2.6%	1.40
North Dakota	ND	779,261	12	0.2%	1.54
Ohio	OH	11,756,058	288	5.0%	2.45
Oklahoma	OK	4,019,800	61	1.1%	1.52
Oregon	OR	4,240,137	45	0.8%	1.06
Pennsylvania	PA	12,972,008	367	6.4%	2.83
Puerto Rico	PR	3,221,789	46	0.8%	1.43
Rhode Island	RI	1,093,734	25	0.4%	2.29
South Carolina	SC	5,282,634	81	1.4%	1.53
South Dakota	SD	909,824	10	0.2%	1.10
Tennessee	TN	7,051,339	104	1.8%	1.47
Texas	TX	30,029,572	364	6.4%	1.21
Utah	UT	3,380,800	33	0.6%	0.98
Vermont	VT	647,064	16	0.3%	2.47
Virginia	VA	8,683,619	126	2.2%	1.45
Washington	WA	7,785,786	90	1.6%	1.16
West Virginia	WV	1,775,156	52	0.9%	2.93
Wisconsin	WI	5,892,539	89	1.6%	1.51
Wyoming	WY	581,381	3	0.1%	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Subspecialty Programs	Percent of All Subspecialty Programs	Subspecialty Programs per 100,000 Pop
OVERALL	-	336,509,346	7,360	100.0%	2.19
Alabama	AL	5,074,296	82	1.1%	1.62
Alaska	AK	733,583	2	0.0%	0.27
Arizona	AZ	7,359,197	127	1.7%	1.73
Arkansas	AR	3,045,637	43	0.6%	1.41
California	CA	39,029,342	676	9.2%	1.73
Colorado	CO	5,839,926	90	1.2%	1.54
Connecticut	CT	3,626,205	132	1.8%	3.64
Delaware	DE	1,018,396	23	0.3%	2.26
District of Columbia	DC	671,803	94	1.3%	13.99
Florida	FL	22,244,823	382	5.2%	1.72
Georgia	GA	10,912,876	135	1.8%	1.24
Hawaii	HI	1,440,196	12	0.2%	0.83
Idaho	ID	1,939,033	4	0.1%	0.21
Illinois	IL	12,582,032	314	4.3%	2.50
Indiana	IN	6,833,037	84	1.1%	1.23
Iowa	IA	3,200,517	63	0.9%	1.97
Kansas	KS	2,937,150	44	0.6%	1.50
Kentucky	KY	4,512,310	92	1.3%	2.04
Louisiana	LA	4,590,241	97	1.3%	2.11
Maine	ME	1,385,340	17	0.2%	1.23
Maryland	MD	6,164,660	165	2.2%	2.68
Massachusetts	MA	6,981,974	324	4.4%	4.64
Michigan	MI	10,034,113	279	3.8%	2.78
Minnesota	MN	5,717,184	165	2.2%	2.89
Mississippi	MS	2,940,057	41	0.6%	1.39
Missouri	MO	6,177,957	189	2.6%	3.06
Montana	MT	1,122,867	2	0.0%	0.18
Nebraska	NE	1,967,923	56	0.8%	2.85
Nevada	NV	3,177,772	24	0.3%	0.76
New Hampshire	NH	1,395,231	30	0.4%	2.15
New Jersey	NJ	9,261,699	156	2.1%	1.68
New Mexico	NM	2,113,344	46	0.6%	2.18
New York	NY	19,677,151	839	11.4%	4.26
North Carolina	NC	10,698,973	227	3.1%	2.12
North Dakota	ND	779,261	4	0.1%	0.51
Ohio	OH	11,756,058	370	5.0%	3.15
Oklahoma	OK	4,019,800	45	0.6%	1.12
Oregon	OR	4,240,137	65	0.9%	1.53
Pennsylvania	PA	12,972,008	467	6.3%	3.60
Puerto Rico	PR	3,221,789	30	0.4%	0.93
Rhode Island	RI	1,093,734	50	0.7%	4.57
South Carolina	SC	5,282,634	86	1.2%	1.63
South Dakota	SD	909,824	5	0.1%	0.55
Tennessee	TN	7,051,339	142	1.9%	2.01
Texas	TX	30,029,572	505	6.9%	1.68
Utah	UT	3,380,800	68	0.9%	2.01
Vermont	VT	647,064	25	0.3%	3.86
Virginia	VA	8,683,619	154	2.1%	1.77
Washington	WA	7,785,786	104	1.4%	1.34
West Virginia	WV	1,775,156	47	0.6%	2.65
Wisconsin	WI	5,892,539	136	1.8%	2.31
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

State Name	State Abbreviation	State Population - Census Estimate 2022	Total Pipeline Programs	Percent of All Pipeline Programs	Pipeline Programs per 100,000 Pop
OVERALL	-	336,509,346	5,382	100.0%	1.60
Alabama	AL	5,074,296	66	1.2%	1.30
Alaska	AK	733,583	1	0.0%	0.14
Arizona	AZ	7,359,197	86	1.6%	1.17
Arkansas	AR	3,045,637	50	0.9%	1.64
California	CA	39,029,342	479	8.9%	1.23
Colorado	CO	5,839,926	55	1.0%	0.94
Connecticut	CT	3,626,205	77	1.4%	2.12
Delaware	DE	1,018,396	19	0.4%	1.87
District of Columbia	DC	671,803	55	1.0%	8.19
Florida	FL	22,244,823	320	5.9%	1.44
Georgia	GA	10,912,876	111	2.1%	1.02
Hawaii	HI	1,440,196	20	0.4%	1.39
Idaho	ID	1,939,033	13	0.2%	0.67
Illinois	IL	12,582,032	234	4.3%	1.86
Indiana	IN	6,833,037	56	1.0%	0.82
Iowa	IA	3,200,517	43	0.8%	1.34
Kansas	KS	2,937,150	37	0.7%	1.26
Kentucky	KY	4,512,310	60	1.1%	1.33
Louisiana	LA	4,590,241	89	1.7%	1.94
Maine	ME	1,385,340	23	0.4%	1.66
Maryland	MD	6,164,660	102	1.9%	1.65
Massachusetts	MA	6,981,974	158	2.9%	2.26
Michigan	MI	10,034,113	297	5.5%	2.96
Minnesota	MN	5,717,184	68	1.3%	1.19
Mississippi	MS	2,940,057	42	0.8%	1.43
Missouri	MO	6,177,957	109	2.0%	1.76
Montana	MT	1,122,867	3	0.1%	0.27
Nebraska	NE	1,967,923	37	0.7%	1.88
Nevada	NV	3,177,772	36	0.7%	1.13
New Hampshire	NH	1,395,231	27	0.5%	1.94
New Jersey	NJ	9,261,699	171	3.2%	1.85
New Mexico	NM	2,113,344	28	0.5%	1.32
New York	NY	19,677,151	561	10.4%	2.85
North Carolina	NC	10,698,973	141	2.6%	1.32
North Dakota	ND	779,261	11	0.2%	1.41
Ohio	OH	11,756,058	269	5.0%	2.29
Oklahoma	OK	4,019,800	61	1.1%	1.52
Oregon	OR	4,240,137	42	0.8%	0.99
Pennsylvania	PA	12,972,008	344	6.4%	2.65
Puerto Rico	PR	3,221,789	41	0.8%	1.27
Rhode Island	RI	1,093,734	24	0.4%	2.19
South Carolina	SC	5,282,634	76	1.4%	1.44
South Dakota	SD	909,824	9	0.2%	0.99
Tennessee	TN	7,051,339	98	1.8%	1.39
Texas	TX	30,029,572	346	6.4%	1.15
Utah	UT	3,380,800	31	0.6%	0.92
Vermont	VT	647,064	17	0.3%	2.63
Virginia	VA	8,683,619	118	2.2%	1.36
Washington	WA	7,785,786	85	1.6%	1.09
West Virginia	WV	1,775,156	49	0.9%	2.76
Wisconsin	WI	5,892,539	84	1.6%	1.43
Wyoming	WY	581,381	3	0.1%	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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	-	165	287	47	36	146	43	90	199	95	188	1,324
Alabama	AL	1	2	1	1	3	0	1	3	1	2	17
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	2	6	1	0	1	0	2	3	3	3	21
Arkansas	AR	1	2	0	1	1	0	1	1	1	3	11
California	CA	16	26	6	6	11	5	11	19	9	11	123
Colorado	CO	2	1	1	0	2	1	1	1	1	1	12
Connecticut	CT	2	2	1	0	3	1	1	6	1	1	19
Delaware	DE	0	2	0	0	0	0	0	1	1	1	5
District of Columbia	DC	2	2	1	0	3	0	1	2	2	0	13
Florida	FL	12	22	1	1	8	1	4	11	4	21	87
Georgia	GA	2	5	1	1	2	3	1	3	2	8	28
Hawaii	HI	0	0	0	0	1	0	0	1	0	1	3
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	7	12	1	1	6	1	4	11	4	7	55
Indiana	IN	1	1	1	1	1	0	1	1	1	4	12
Iowa	IA	1	2	1	1	1	0	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	1	2	2	0	1	12
Louisiana	LA	4	4	0	0	3	1	0	4	2	0	18
Maine	ME	1	1	0	0	0	1	0	1	1	0	5
Maryland	MD	3	2	2	2	4	3	3	3	2	2	28
Massachusetts	MA	9	5	1	1	8	2	2	10	5	6	50
Michigan	MI	8	26	2	1	5	2	4	10	4	15	77
Minnesota	MN	2	3	1	0	2	1	2	2	2	1	18
Mississippi	MS	1	3	0	0	1	1	1	1	1	2	11
Missouri	MO	4	5	1	3	4	0	1	4	3	1	26
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	3	0	0	0	1	0	1	0	2	8
New Hampshire	NH	1	1	0	0	1	1	1	1	1	0	7
New Jersey	NJ	5	12	0	0	4	1	1	7	1	8	40
New Mexico	NM	1	1	0	0	1	1	0	1	0	1	6
New York	NY	18	31	4	5	17	6	12	25	10	17	146
North Carolina	NC	3	7	2	1	4	1	3	3	3	5	33
North Dakota	ND	0	0	0	0	0	0	0	0	0	1	1
Ohio	OH	9	17	3	0	7	1	4	8	4	9	64
Oklahoma	OK	2	5	1	1	1	0	1	3	0	1	15
Oregon	OR	1	1	1	1	1	0	1	1	1	1	9
Pennsylvania	PA	11	24	2	1	8	0	5	11	8	15	86
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	2	5	1	1	1	1	1	1	1	5	19
South Dakota	SD	0	0	0	0	1	0	0	0	0	1	2
Tennessee	TN	3	5	1	1	4	1	2	4	1	2	25
Texas	TX	10	18	3	2	10	2	6	12	4	11	81
Utah	UT	1	1	1	0	1	0	1	1	1	1	9
Vermont	VT	1	1	0	0	1	0	0	1	0	0	4
Virginia	VA	3	7	1	0	2	0	2	4	2	4	25
Washington	WA	2	2	1	1	2	1	1	4	1	3	19
West Virginia	WV	1	2	0	0	1	1	1	1	0	1	9
Wisconsin	WI	2	2	2	1	2	1	2	3	3	3	21
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	-	87	144	756	627	180	80	26	213	101	304	77	2,595
Alabama	AL	1	1	12	10	2	1	0	2	1	3	2	35
Alaska	AK	0	0	1	0	0	0	0	0	0	0	0	1
Arizona	AZ	2	4	12	12	4	1	1	3	1	3	1	44
Arkansas	AR	1	1	13	11	1	1	0	1	1	3	1	34
California	CA	10	12	76	55	17	8	0	17	6	29	4	234
Colorado	CO	3	1	14	4	2	1	1	1	1	2	1	31
Connecticut	CT	1	2	5	14	2	1	1	2	1	4	1	34
Delaware	DE	1	0	4	2	0	1	0	1	0	2	1	12
District of Columbia	DC	0	3	1	4	3	1	0	2	1	4	1	20
Florida	FL	5	11	35	49	14	3	2	14	7	24	2	166
Georgia	GA	2	3	18	19	3	2	0	5	1	8	0	61
Hawaii	HI	0	0	3	3	0	0	0	2	0	2	0	10
Idaho	ID	0	0	8	2	0	0	0	1	0	2	0	13
Illinois	IL	3	7	36	25	8	2	0	10	4	12	5	112
Indiana	IN	1	1	15	5	1	1	0	2	2	4	1	33
Iowa	IA	1	1	8	4	1	1	0	2	0	3	0	21
Kansas	KS	1	1	5	3	1	0	0	1	1	2	1	16
Kentucky	KY	0	1	9	5	2	2	0	2	2	2	2	27
Louisiana	LA	3	2	10	10	4	1	0	4	1	4	3	42
Maine	ME	0	0	4	1	1	0	2	1	0	3	1	13
Maryland	MD	3	3	5	13	3	2	0	4	3	4	2	42
Massachusetts	MA	4	4	6	16	5	4	1	5	2	11	4	62
Michigan	MI	3	7	40	34	9	3	2	10	6	12	6	132
Minnesota	MN	1	3	11	4	2	1	0	2	2	3	1	30
Mississippi	MS	1	1	8	8	1	1	0	1	0	2	1	24
Missouri	MO	3	4	12	10	4	3	1	4	2	5	2	50
Montana	MT	0	0	2	1	0	0	0	0	0	0	0	3
Nebraska	NE	1	1	5	2	2	0	0	1	1	2	1	16
Nevada	NV	0	0	8	6	2	0	0	1	1	3	0	21
New Hampshire	NH	0	1	3	2	1	0	0	1	0	2	0	10
New Jersey	NJ	1	3	21	29	4	2	2	9	2	11	1	85
New Mexico	NM	0	1	6	2	1	1	1	1	1	1	0	15
New York	NY	9	12	38	66	18	10	2	32	16	39	5	247
North Carolina	NC	3	4	20	14	3	3	1	5	3	9	3	68
North Dakota	ND	0	0	6	1	1	0	0	0	0	1	0	9
Ohio	OH	5	7	38	32	8	4	2	9	6	11	4	126
Oklahoma	OK	0	1	13	5	1	0	1	4	0	4	1	30
Oregon	OR	1	2	9	6	1	1	0	1	0	2	0	23
Pennsylvania	PA	4	8	55	35	13	4	1	8	9	16	4	157
Puerto Rico	PR	1	2	4	8	1	1	0	4	2	2	1	26
Rhode Island	RI	1	1	1	4	1	0	0	1	0	1	1	11
South Carolina	SC	0	1	17	6	3	1	0	3	0	5	2	38
South Dakota	SD	0	0	3	1	1	0	0	1	0	1	0	7
Tennessee	TN	2	2	12	10	4	2	0	4	1	5	2	44
Texas	TX	4	13	43	40	13	4	2	13	6	19	3	160
Utah	UT	0	1	4	1	1	1	0	1	1	1	1	12
Vermont	VT	0	1	1	1	1	0	0	1	0	1	0	6
Virginia	VA	2	5	17	13	3	2	2	6	3	6	1	60
Washington	WA	1	1	27	10	2	1	0	2	2	2	0	48
West Virginia	WV	1	1	8	4	3	0	1	3	0	3	2	26
Wisconsin	WI	1	3	21	5	2	2	0	3	2	4	2	45
Wyoming	WY	0	0	3	0	0	0	0	0	0	0	0	3

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

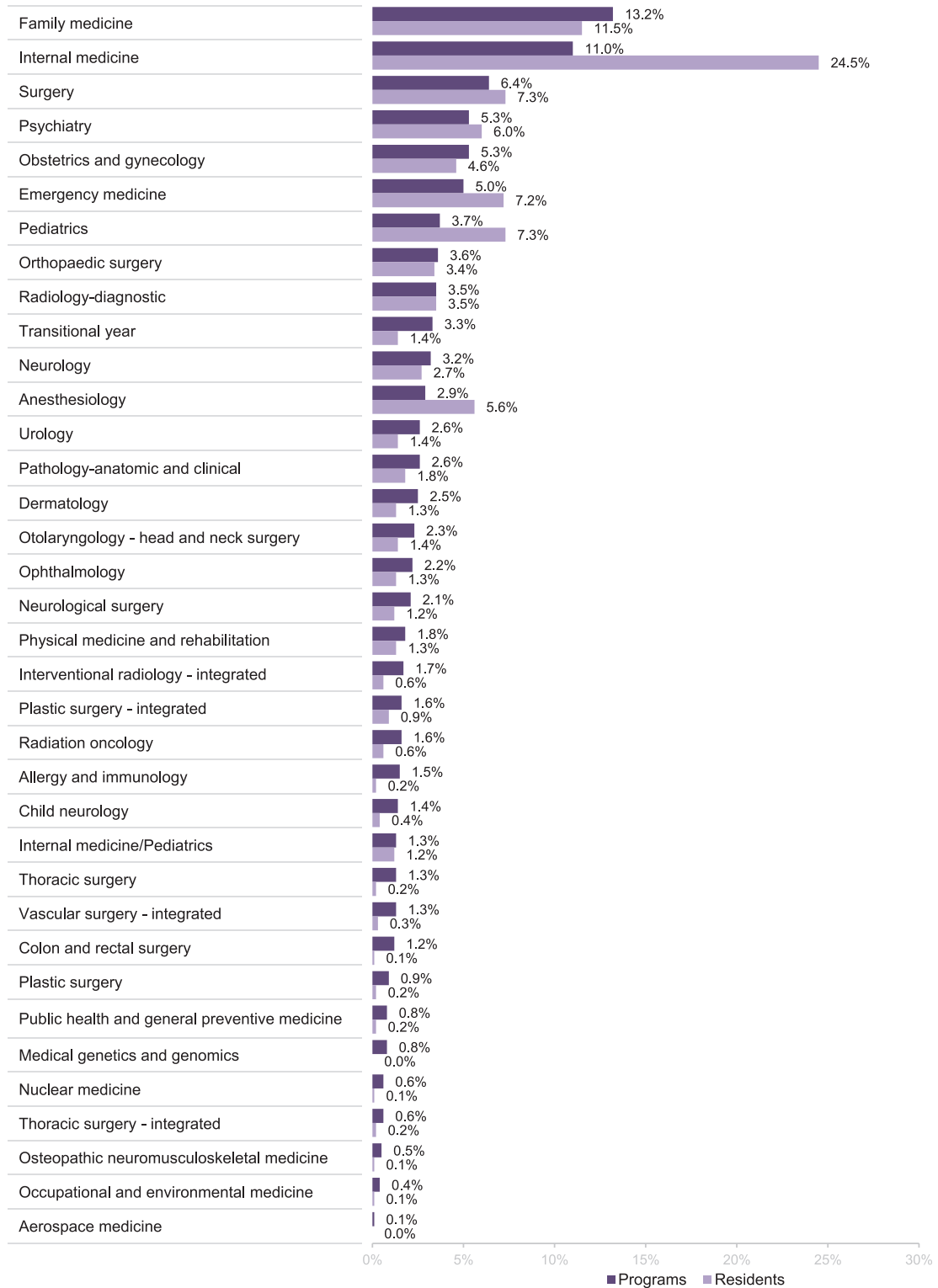
## Surgical Specialty Programs by Specialty and State

State Name	State Abbreviation	CRS	NS	OBG	OPH	ORS	OTO	PS	PSI	GS	VSI	TS	TSI	U	Total
OVERALL	-	68	117	302	125	208	131	49	89	363	76	75	34	150	1,787
Alabama	AL	1	1	2	1	3	1	1	1	3	1	1	0	2	18
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	1	3	3	1	3	2	0	1	8	1	1	0	2	26
Arkansas	AR	0	1	1	1	1	1	0	0	1	1	0	0	1	8
California	CA	3	10	23	10	17	11	4	8	26	8	8	5	12	145
Colorado	CO	0	1	2	1	1	1	1	1	5	1	1	0	1	16
Connecticut	CT	1	2	6	1	2	2	0	1	6	2	1	1	2	27
Delaware	DE	0	0	1	0	0	0	0	0	2	0	0	0	0	3
District of Columbia	DC	1	2	3	3	3	2	0	1	3	1	0	0	2	21
Florida	FL	6	4	16	7	11	4	4	5	26	2	2	1	7	95
Georgia	GA	2	2	7	2	4	2	1	1	8	1	1	1	2	34
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	7	6	2	6	13	4	4	1	8	80
Indiana	IN	1	1	3	1	1	1	1	1	3	1	1	1	1	17
Iowa	IA	0	1	1	1	1	1	1	1	3	1	1	1	1	14
Kansas	KS	0	1	3	1	2	1	0	1	3	0	1	0	1	14
Kentucky	KY	2	2	3	2	2	2	1	2	3	0	2	1	2	24
Louisiana	LA	3	3	5	3	4	3	1	1	6	1	1	0	4	35
Maine	ME	0	0	1	0	0	0	0	0	2	1	0	0	1	5
Maryland	MD	1	4	5	4	5	3	1	1	8	0	2	1	3	38
Massachusetts	MA	4	5	6	4	4	5	3	4	10	3	4	1	6	59
Michigan	MI	4	5	25	6	17	8	3	2	24	3	3	1	9	110
Minnesota	MN	2	2	2	2	2	2	1	2	3	2	2	0	2	24
Mississippi	MS	0	1	1	1	1	1	0	1	2	0	1	0	1	10
Missouri	MO	1	3	5	4	5	4	0	3	5	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	1	2	0	1	0	2	14
Nevada	NV	0	0	2	0	2	1	0	1	3	0	0	0	0	9
New Hampshire	NH	0	1	1	1	1	1	0	1	1	1	0	0	1	9
New Jersey	NJ	1	2	16	1	9	2	1	2	13	3	1	0	5	56
New Mexico	NM	0	1	1	0	1	1	0	1	1	0	0	0	1	7
New York	NY	8	12	36	18	19	12	4	8	43	10	8	6	16	200
North Carolina	NC	0	4	9	3	5	3	1	3	9	3	3	2	4	49
North Dakota	ND	0	0	0	0	1	0	0	0	1	0	0	0	0	2
Ohio	OH	4	4	15	5	17	8	3	4	20	5	4	3	6	98
Oklahoma	OK	0	1	5	1	2	2	1	0	3	0	0	0	1	16
Oregon	OR	1	1	1	1	2	1	0	1	2	1	1	0	1	13
Pennsylvania	PA	6	7	18	8	16	11	5	5	26	6	5	2	9	124
Puerto Rico	PR	0	0	3	1	1	1	0	0	2	0	0	0	2	10
Rhode Island	RI	1	1	1	1	1	0	0	1	1	0	0	0	1	8
South Carolina	SC	1	1	4	2	3	1	1	2	6	1	0	1	1	24
South Dakota	SD	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Tennessee	TN	2	2	8	2	4	2	2	1	7	0	1	0	4	35
Texas	TX	3	8	23	9	14	9	4	5	25	5	6	2	10	123
Utah	UT	1	1	1	1	1	1	1	1	1	0	1	1	1	12
Vermont	VT	0	1	1	0	1	1	0	0	1	0	0	0	1	6
Virginia	VA	1	4	7	3	3	4	0	4	7	2	2	1	3	41
Washington	WA	1	1	3	2	2	2	0	1	5	1	1	1	3	23
West Virginia	WV	0	1	3	1	2	1	0	1	4	1	1	0	2	17
Wisconsin	WI	1	2	3	2	2	2	0	2	4	1	2	0	2	23
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 - head and neck surgery; 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**

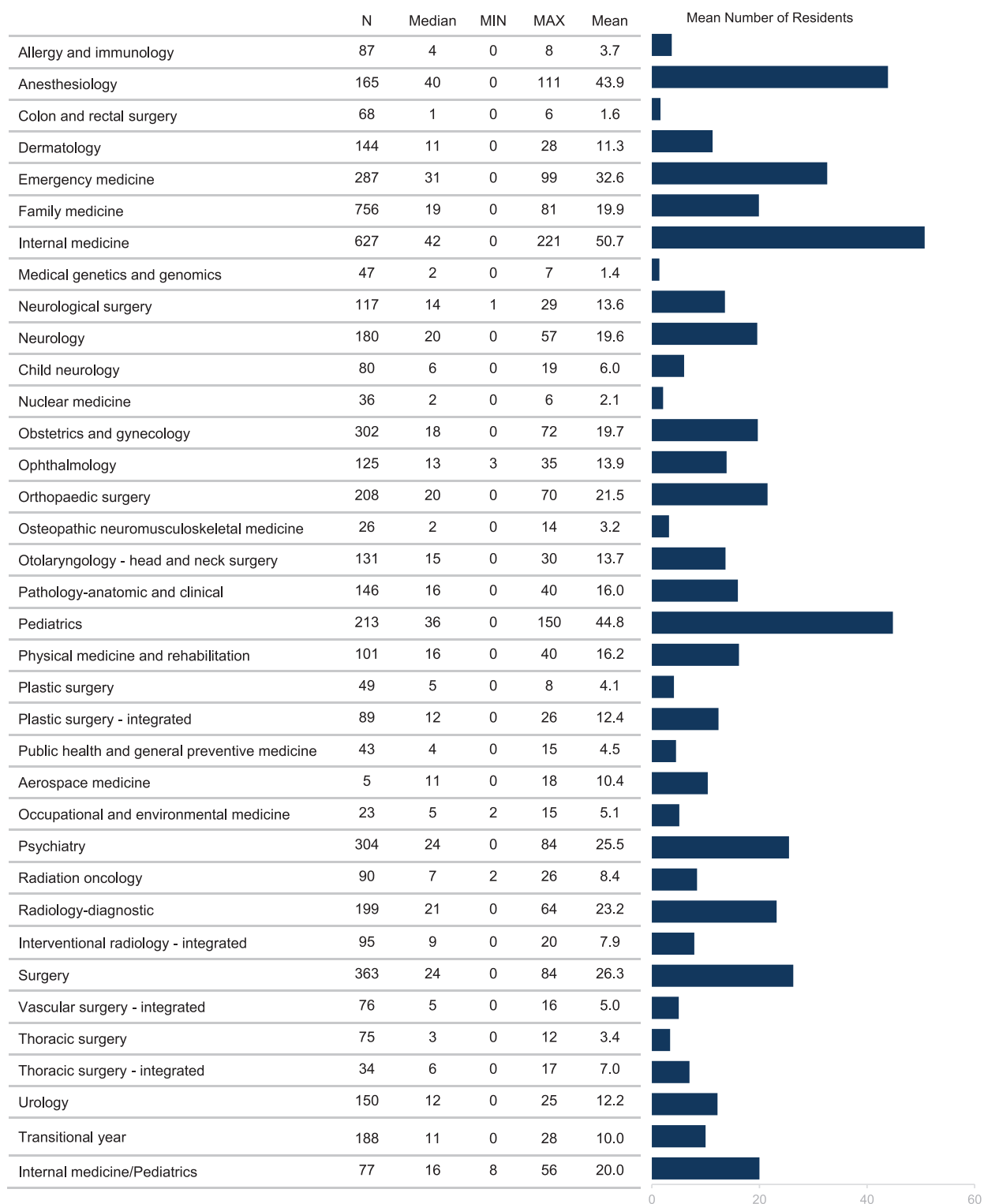
**Percentage of Programs and Residents in Each Specialty**

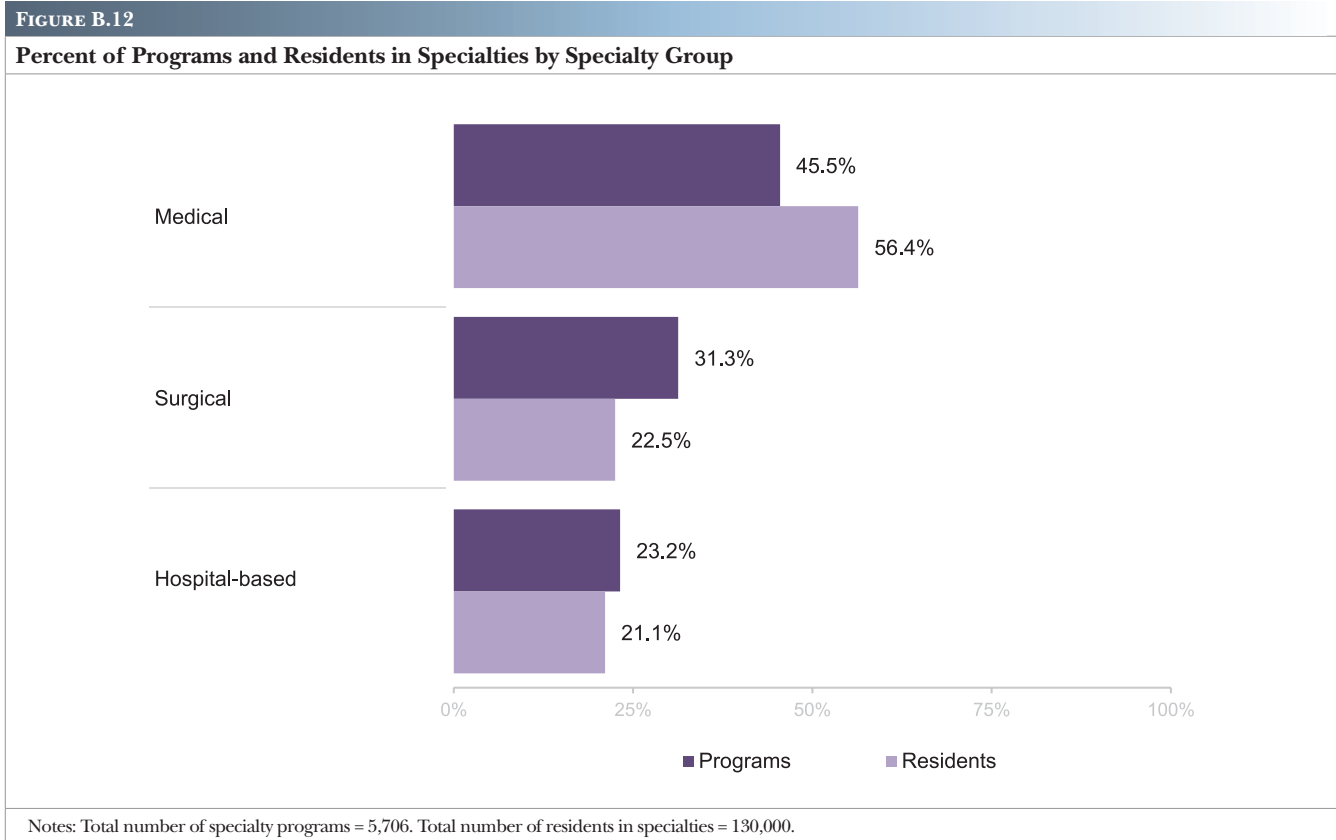
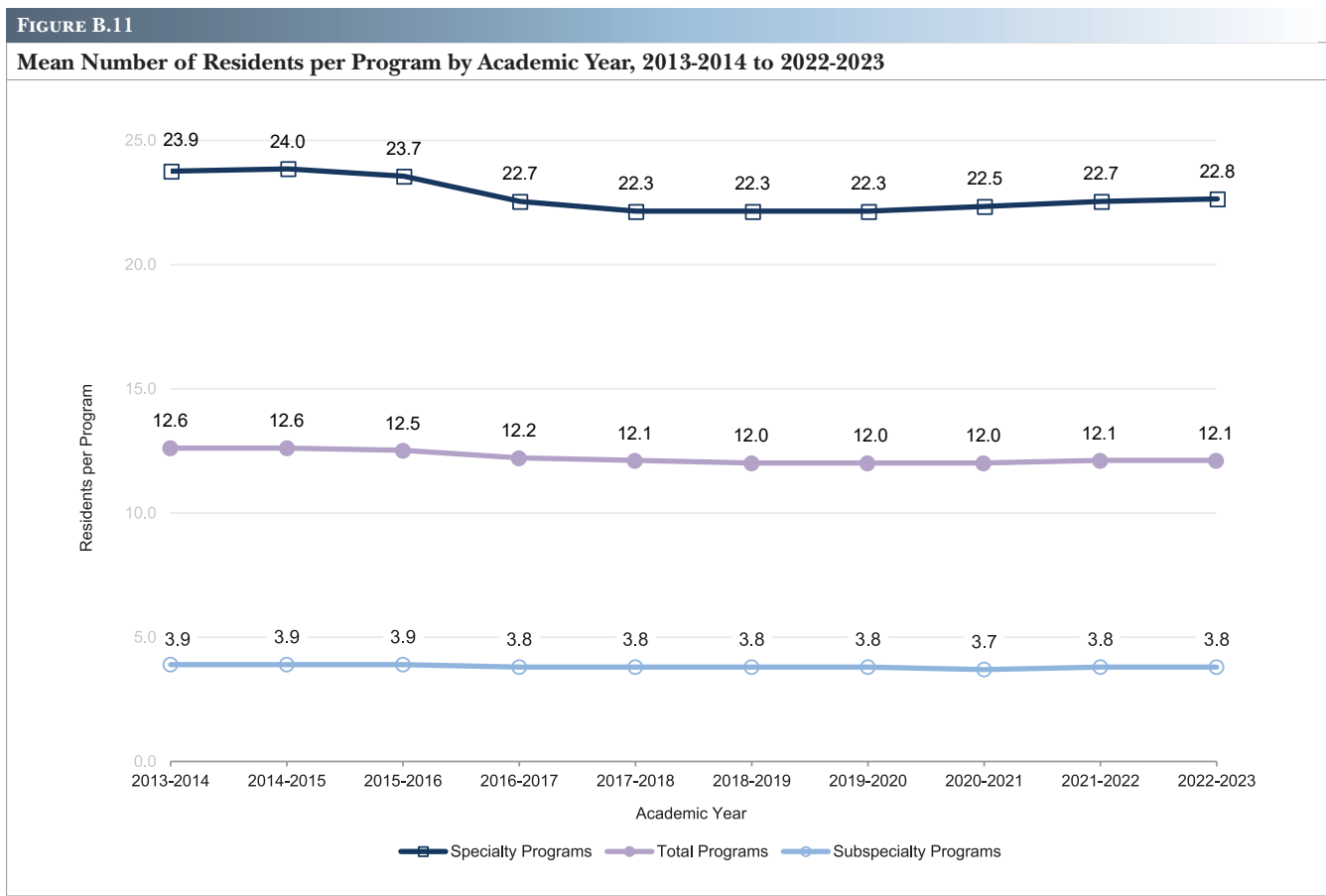


Notes: The percentages represent the number of programs/on duty residents in each specialty divided by all programs/on duty residents in specialty programs. Total number of specialty programs = 5,706. Total number of residents in specialties = 130,000.

**FIGURE B.10**

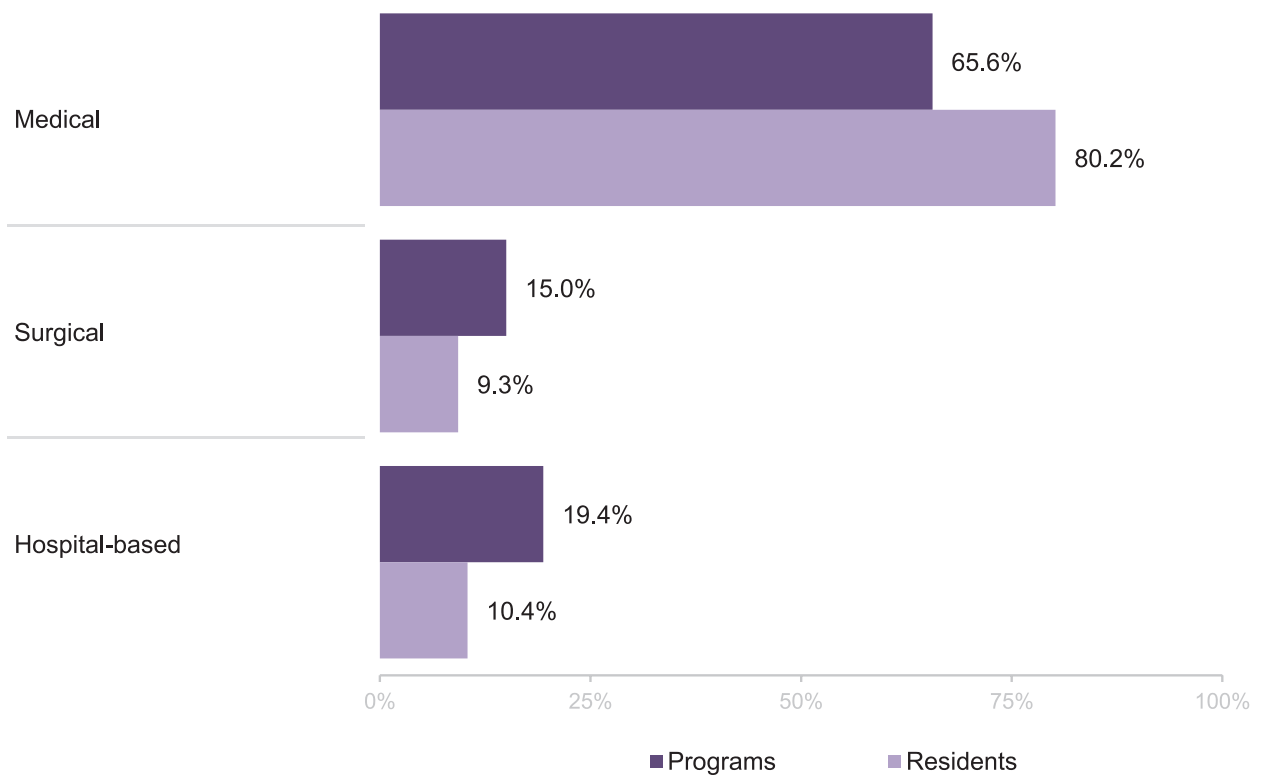
**Mean Number of Residents per Program by Specialty**





**FIGURE B.13**

**Percent of Programs and Residents in Subspecialties by Specialty Group**



Notes: Total number of subspecialty programs = 7,360. Total number of residents in subspecialties = 28,079. Not shown are those subspecialty programs classified as Sponsor Institution-based Fellowships (N=2).





# 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 race/ethnicity since the 2013-2014 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 (158,079), 130,000 (82.2%) are in specialty programs and 28,079 (17.8%) are in subspecialty programs. Only 0.1% (135) of the total number of active residents are part-time. In terms of trends, there has been a 31.6% increase in total active residents since 2013-2014, with growth in the number of specialty residents at 31.6%, and growth in the number of subspecialty residents at 31.8% over the last 10 years. Among residents in specialty programs, 56.4% (73,309) are in medical specialties, 21.1% (27,441) are in hospital-based specialties, and 22.5% (29,250) are in surgical specialties. The specialties with the highest percentage of total active residents are:

- Internal medicine (20.1%)
- Family medicine (9.5%)
- Pediatrics (6.0%)
- Surgery (6.0%)

## Geographic Distribution

Based on the most recent US Census estimate for 2022, there are approximately 46.98 active residents (38.63 specialty, 8.34 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 (19,517)
- California (14,705)
- Texas (10,889)
- Pennsylvania (10,057)

## Active Residents by Medical School Type

Of the 130,000 total active residents in specialty programs, 60.0% (78,007) are US allopathic medical school graduates, 21.0% (27,324) are international medical school graduates (IMGs), and 18.9% (24,616) are osteopathic medical school graduates. There are also 45 Canadian medical school graduates, and eight residents for whom medical school type was unknown. The distribution by

medical school type is slightly different in subspecialty programs (28,079 active residents), with 55.6% of active residents being graduates of US allopathic medical schools, 31.5% being graduates of international medical schools, 12.7% being graduates of osteopathic medical schools, and less than 1% being graduates of Canadian medical schools. Over the last 10 years, there has been a 19.7% increase in US allopathic medical school graduates, a 172.4% increase in osteopathic medical school graduates, and a 15.2% increase in IMGs. The specialties with the highest percentage of IMGs include:

- Nuclear medicine (76.6%)
- Pathology – anatomic and clinical (48.7%)
- Medical genetics and genomics (40.6%)
- Internal medicine (38.8%)

While internal medicine has the fourth-highest percentage of IMGs, this specialty accounts for the highest number of IMGs (12,345) among all specialty programs.

## Active Residents by Gender and Race/Ethnicity

Gender and race/ethnicity reported for the 2022-2023 academic year are based upon self-reported data provided by the Association of American Medical Colleges (“AAMC”). Note that beginning with the 2021-2022 *Data Resource Book*, the ACGME has adopted a race/ethnicity reporting standard in line with that of the Integrated Postsecondary Education Data System as follows:

- If an individual self-identifies as Hispanic only, or Hispanic and any race category, report as Hispanic
- If an individual self-identifies as not Hispanic; more than one race category, report as two or more races (“Multiple Race/Ethnicity”)

Of the 158,079 active residents, 52.0% are male, 47.7% are female, and 0.3% are not reported. The specialties with the highest percentage of female residents include:

- Obstetrics and gynecology (87.1%)
- Pediatrics (73.3%)
- Child neurology (69.1%)
- Medical genetics and genomics (67.2%)

The specialties with the lowest percentage of female residents include:

- Interventional radiology - independent (13.6%)
- Orthopaedic surgery (20.3%)
- Interventional radiology - integrated (22.8%)
- Neurological surgery (23.7%)



Overall, 47.7% of all active residents are White; 26.9% are Asian; 9.5% are Hispanic, Latino, or of Spanish origin; 6.3% are Black or African American; 0.1% are American Indian or Alaskan Native; and 0.04% are Native Hawaiian or Pacific Islander. Of all active residents, 4.3% were reported as Multiple Race/Ethnicity. Of active residents, 3.2% were reported as “Other,” and 1.9% were reported as “Unknown.”

### **Residents Entering the Pipeline**

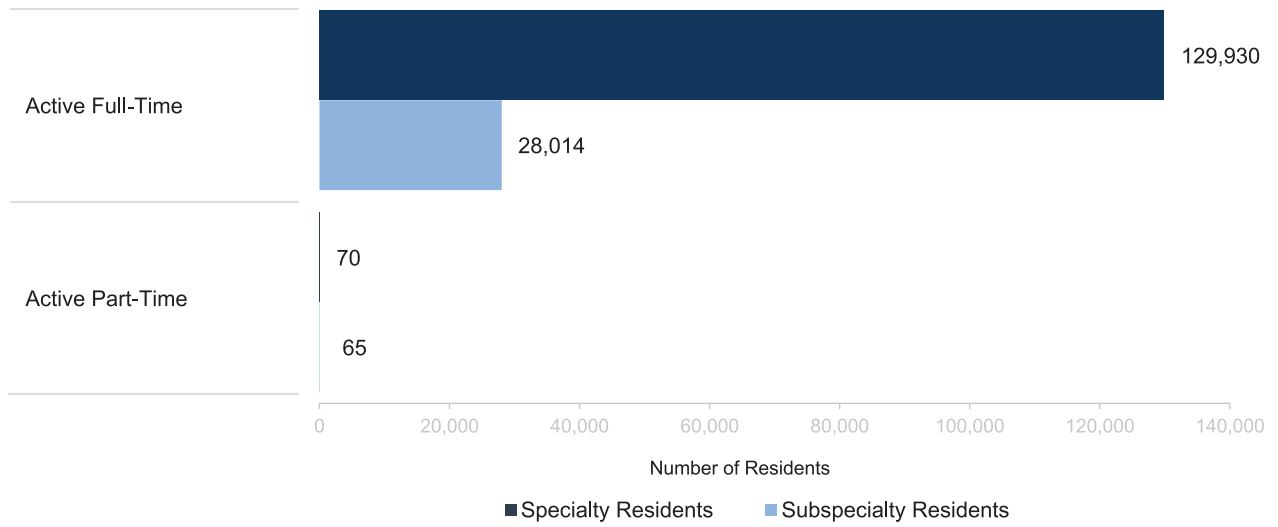
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The total number of residents entering the pipeline reached 36,628 for the 2022-2023 academic year. Since

2013-2014, there has been a 35.6% increase in residents entering the pipeline, with varying patterns in growth by medical school type (17.7% increase among US Liaison Committee for Medical Education (LCME)-accredited medical school graduates, 25.6% increase among IMGs, and 174.6% increase among osteopathic medical school graduates). Among the 2022-2023 residents entering the pipeline, 56.4% (20,641) are US LCME-accredited medical school graduates, 23.0% (8,407) are IMGs, 20.6% (7,558) are osteopathic medical school graduates, and less than one percent (17) are Canadian medical school graduates. <sup>△</sup>

**FIGURE C.1**

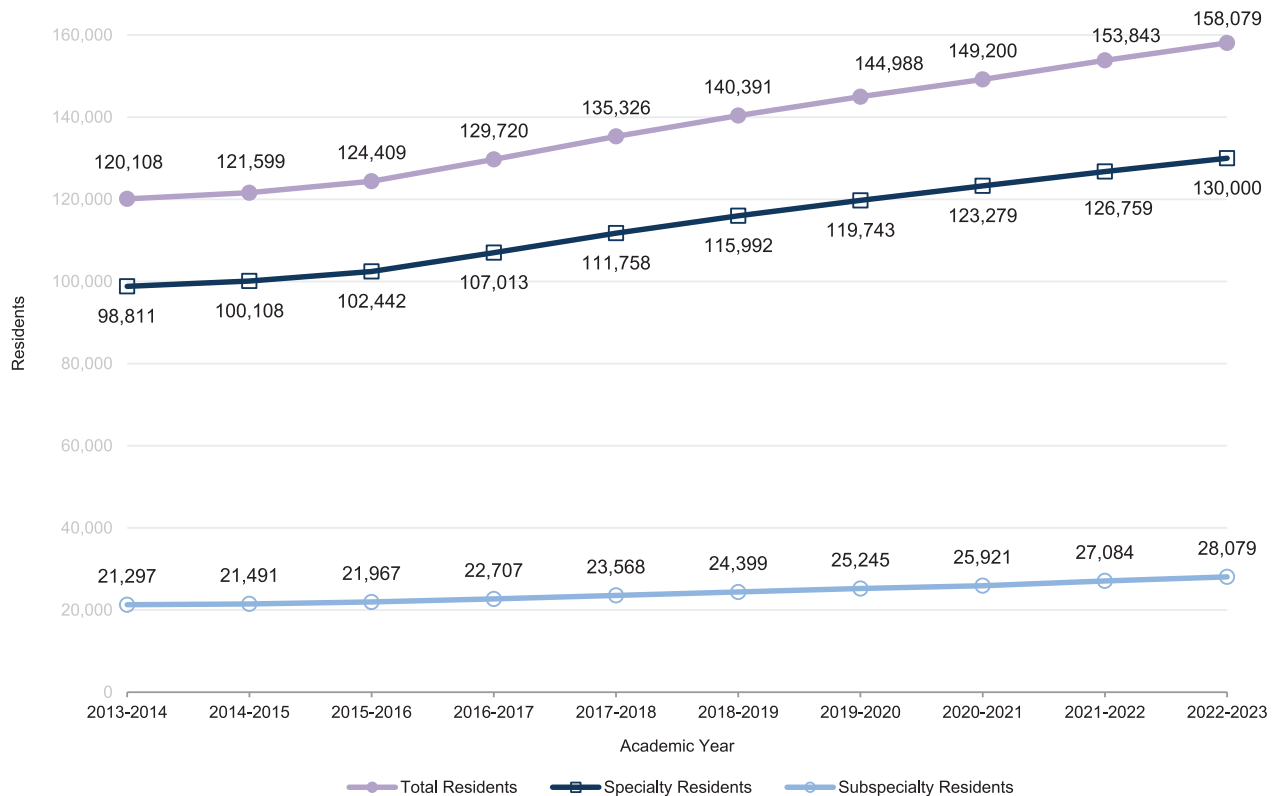
**Number of Active Residents by Status**



Note: Total number of active residents = 158,079.

**FIGURE C.2**

**Number of Active Residents by Academic Year, 2013-2014 to 2022-2023**



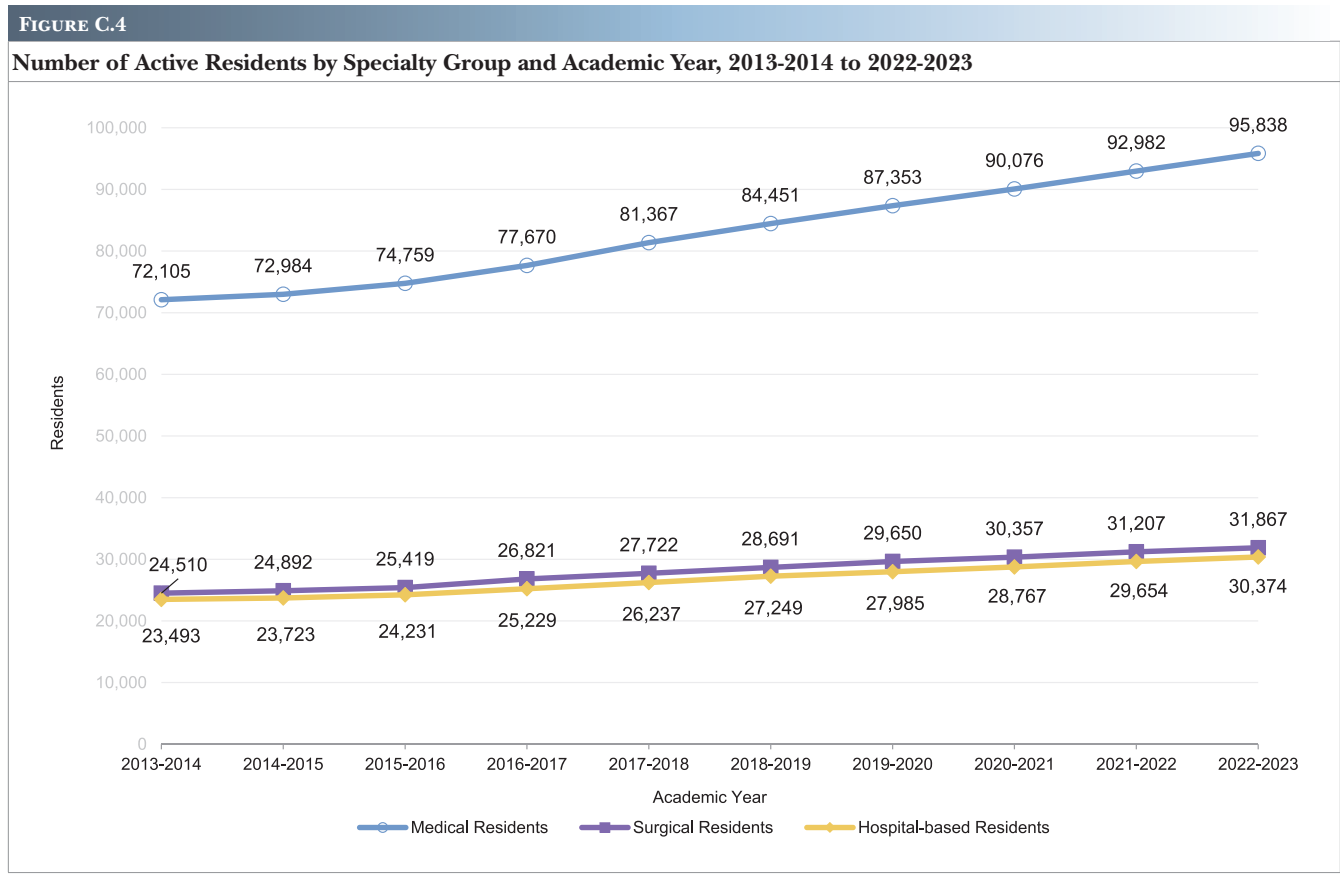
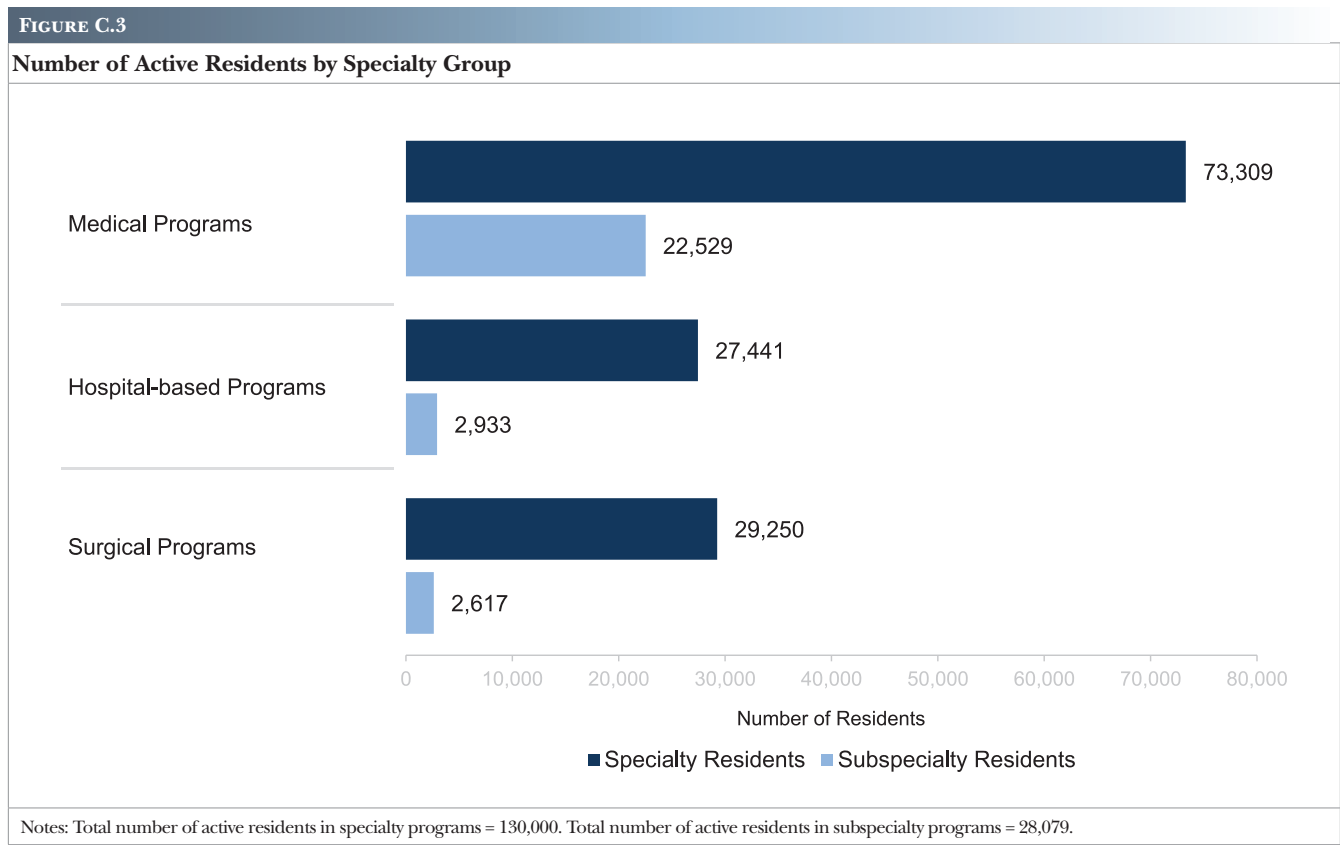


TABLE C.5

## 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	158,079	54,163	3,377	44,274	278	39,302		12,286	3,754	423	222
TOTAL PIPELINE	127,604	36,628	3,377	36,137	278	34,506		12,279	3,754	423	222
Allergy and immunology	323	160		163							
Anesthesiology	7,241	1,695		1,949		1,915		1,682			
- Adult cardiothoracic anesthesiology	254	254									
- Critical care medicine	210	210									
- Regional anesthesiology and acute pain medicine	92	92									
- Pediatric cardiac anesthesiology	15	15									
- Obstetric anesthesiology	48	48									
- Pain medicine (multidisciplinary)	411	411									
- Pediatric anesthesiology	183	183									
Colon and rectal surgery	110	110									
Dermatology	1,633	549		544		526		14			
- Dermatopathology (multidisciplinary)	77	77									
- Micrographic surgery and dermatologic oncology	91	91									
- Pediatric dermatology	19	19									
Emergency medicine	9,346	3,010		2,937		2,735		664			
- Emergency medical services	95	95									
- Medical toxicology	93	53		40							
- Pediatric emergency medicine	143	53		51		39					
- Sports medicine	18	18									
- Undersea and hyperbaric medicine	11	11									
Family medicine	15,010	5,121		5,009		4,832		48			
- Clinical informatics	23	11		12							
- Geriatric medicine	43	43									
- Hospice and palliative medicine (multidisciplinary)	481	481									
- Sports medicine	294	294									
Internal medicine	31,794	10,260	2,007	10,027		9,500					
- Adult congenital heart disease	30	14		16							
- Advanced heart failure and transplant cardiology	97	97									
- Cardiovascular disease	3,456	1,234		1,128		1,094					
- Clinical cardiac electrophysiology	329	180		149							
- Clinical informatics	65	39		26							
- Critical care medicine	358	213		145							
- Endocrinology, diabetes, and metabolism	721	379		342							
- Gastroenterology	1,975	697		660		618					
- Geriatric medicine	270	270									
- Hematology and medical oncology	2,098	737		701		660					
- Infectious disease	817	422		395							
- Interventional cardiology	373	373									
- Nephrology	872	455		417							
- Medical oncology	10	5		5							
- Pulmonary disease	65	36		29							
- Pulmonary disease and critical care medicine	2,268	829		751		688					
- Rheumatology	551	299		252							
- Sleep medicine (multidisciplinary)	214	214									
- Transplant hepatology	48	48									
Medical genetics and genomics	64	34		30							
- Medical biochemical genetics	15	15									
- Molecular genetic pathology (multidisciplinary)	59	59									
Neurological surgery	1,593	242		235		235		225	215	219	222
- Neuroendovascular intervention	3	3									

TABLE C.5 <i>Continued</i>											
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	3,530	1,025		988		931		586			
- Clinical neurophysiology	153	153									
- Epilepsy	158	158									
- Neurocritical care (multidisciplinary)	120	69		51							
- Neuroendovascular intervention	1	1									
- Neurodevelopmental disabilities	31	8		7		9		7			
- Neuromuscular medicine	77	77									
- Vascular neurology	189	189									
Child neurology	479	169		166		144					
Nuclear medicine	77	37		21		19					
Obstetrics and gynecology	5,962	1,543	17	1,496		1,474		1,432			
- Female pelvic medicine and reconstructive surgery	155	57		51		47					
- Gynecologic oncology	240	83		79		78					
- Maternal-fetal medicine	416	146		139		131					
- Reproductive endocrinology and infertility	173	55		60		58					
- Complex family planning	55	29		26							
Ophthalmology	1,738	524		527		508		179			
- Ophthalmic plastic and reconstructive surgery	3	2		1							
Orthopaedic surgery	4,481	897		903		900		880	901		
- Adult reconstructive orthopaedics	52	52									
- Foot and ankle orthopaedics	16	16									
- Hand surgery	159	159									
- Musculoskeletal oncology	14	14									
- Orthopaedic sports medicine	223	223									
- Orthopaedic surgery of the spine	24	24									
- Orthopaedic trauma	20	20									
- Pediatric orthopaedics	39	39									
Osteopathic neuromusculoskeletal medicine	83	15		22		46					
Otolaryngology - head and neck surgery	1,795	380		364		364		348	339		
- Neurotology	37	19		18							
- Pediatric otolaryngology	40	40									
Pathology-anatomic and clinical	2,342	644		619		574		505			
- Blood banking/transfusion medicine	44	44									
- Clinical informatics	23	12		11							
- Chemical pathology	1	1									
- Cytopathology	116	116									
- Forensic pathology	60	60									
- Hematopathology	139	139									
- Medical microbiology	14	14									
- Neuropathology	56	33		23							
- Pediatric pathology	21	21									
- Selective pathology	176	176									
Pediatrics	9,539	3,214	93	3,148	77	3,007					
- Adolescent medicine	91	39		25		27					
- Child abuse pediatrics	58	28		18		12					
- Clinical informatics	28	17		11							
- Developmental-behavioral pediatrics	103	39		36		28					
- Neonatal-perinatal medicine	830	302		282		246					
- Pediatric cardiology	480	169		161		150					
- Pediatric critical care medicine	618	219		204		195					
- Pediatric emergency medicine	454	176		144		134					
- Pediatric endocrinology	249	88		78		83					
- Pediatric gastroenterology	340	121		109		110					
- Pediatric hematology/oncology	463	160		151		152					
- Pediatric infectious diseases	193	69		58		66					

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 nephrology	144	46		57		41					
- Pediatric pulmonology	194	77		63		54					
- Pediatric rheumatology	109	38		35		36					
- Sports medicine	27	27									
- Pediatric transplant hepatology	12	12									
- Pediatric hospital medicine	191	108		83							
Physical medicine and rehabilitation	1,640	456		498		495		191			
- Brain injury medicine	22	22									
- Neuromuscular medicine	0										
- Spinal cord injury medicine	24	24									
- Pediatric rehabilitation medicine	42	28		14							
- Sports medicine	41	41									
Plastic surgery	202	68		67		67					
Plastic Surgery - integrated	1,107	196		199		187		181	178	166	
- Craniofacial surgery	5	5									
- Hand surgery	27	27									
Public health and general preventive medicine	195	95		94		6					
Aerospace medicine	52	21		31							
Occupational and environmental medicine	118	66		52							
- Undersea and hyperbaric medicine	2	2									
Psychiatry	7,739	2,146		2,096		1,999		1,498			
- Addiction medicine (multidisciplinary)	159	159									
- Addiction psychiatry	92	91		1							
- Child and adolescent psychiatry	966	502		464							
- Forensic psychiatry	75	75									
- Geriatric psychiatry	58	58									
- Consultation-liaison psychiatry	92	92									
Radiation oncology	758	186		185		199		188			
Radiology-diagnostic	4,614	1,153		1,159		1,150		1,129	23		
- Abdominal radiology	50	50									
- Neuroendovascular intervention	5	5									
- Musculoskeletal radiology	38	38									
- Neuroradiology	300	300									
- Nuclear radiology	10	10									
- Pediatric radiology	54	54									
Interventional radiology - independent	177	130		47							
Interventional radiology - integrated	750	160		153		154		139	138	6	
Surgery	9,554	1,681	1,260	1,674	201	1,669		1,558	1,511		
- Complex general surgical oncology	127	66		61							
- Hand surgery	8	8									
- Pediatric surgery	88	41		47							
- Surgical critical care	341	341									
- Vascular surgery	270	135		135							
Vascular surgery - integrated	381	86		85		83		62	65		
Thoracic surgery	256	108		116		32					
- Congenital cardiac surgery	8	8									
Thoracic surgery - integrated	237	46		45		43		39	32	32	
Urology	1,834	385		375		360		362	352		
- Female pelvic medicine and reconstructive surgery	42	16		18		8					
- Pediatric urology	32	14		18							
Transitional year	1,884	1,884									
Internal medicine /Pediatrics	1,539	394		392		384		369			
Health care administration, leadership, and management	0										

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, 2018-2019 to 2022-2023**

Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	#	%
	#	#	#	#	#	#	%
OVERALL	140,391	144,988	149,200	153,843	158,079	17,688	12.6%
TOTAL PIPELINE	113,823	117,496	121,110	124,521	127,604	13,781	12.1%
Allergy and immunology	304	308	312	320	323	19	6.3%
Anesthesiology	6,507	6,698	6,895	7,086	7,241	734	11.3%
- Adult cardiothoracic anesthesiology	215	220	235	238	254	39	18.1%
- Critical care medicine	182	191	194	202	210	28	15.4%
- Regional anesthesiology and acute pain medicine	58	72	77	88	92	34	58.6%
- Pediatric cardiac anesthesiology *					15	N/A	N/A
- Obstetric anesthesiology	44	38	48	53	48	4	9.1%
- Pain medicine (multidisciplinary)	372	386	400	409	411	39	10.5%
- Pediatric anesthesiology	199	192	185	193	183	-16	-8.0%
Colon and rectal surgery	101	106	105	107	110	9	8.9%
Dermatology	1,563	1,594	1,612	1,609	1,633	70	4.5%
- Dermatopathology (multidisciplinary)	67	69	69	71	77	10	14.9%
- Micrographic surgery and dermatologic oncology	82	88	86	88	91	9	11.0%
- Pediatric dermatology *				3	19	16	533.3%
Emergency medicine	7,940	8,293	8,642	9,037	9,346	1,406	17.7%
- Emergency medical services	62	87	86	104	95	33	53.2%
- Medical toxicology	72	72	79	81	93	21	29.2%
- Pediatric emergency medicine	129	134	134	140	143	14	10.9%
- Sports medicine	16	17	16	17	18	2	12.5%
- Undersea and hyperbaric medicine	9	10	11	12	11	2	22.2%
Family medicine	13,116	13,725	14,225	14,657	15,010	1,894	14.4%
- Clinical informatics	12	10	10	18	23	11	91.7%
- Geriatric medicine	46	38	39	45	43	-3	-6.5%
- Hospice and palliative medicine (multidisciplinary)	355	374	401	445	481	126	35.5%
- Sports medicine	239	261	278	282	294	55	23.0%
Internal medicine	28,420	29,243	30,087	30,936	31,794	3,374	11.9%
- Adult congenital heart disease	25	25	28	34	30	5	0.2
- Advanced heart failure and transplant cardiology	105	109	101	101	97	-8	-7.6%
- Cardiovascular disease	3,017	3,105	3,240	3,320	3,456	439	14.6%
- Clinical cardiac electrophysiology	259	255	276	310	329	70	27.0%
- Clinical informatics	36	36	36	50	65	29	80.6%
- Critical care medicine	253	264	280	320	358	105	41.5%
- Endocrinology, diabetes, and metabolism	660	675	689	700	721	61	9.2%
- Gastroenterology	1,741	1,792	1,844	1,911	1,975	234	13.4%
- Geriatric medicine	258	261	272	289	270	12	4.7%
- Hematology and medical oncology	1,776	1,843	1,895	1,970	2,098	322	18.1%
- Infectious disease	760	762	763	798	817	57	7.5%
- Interventional cardiology	339	350	355	359	373	34	10.0%
- Nephrology	805	828	829	850	872	67	8.3%
- Medical oncology	39	35	34	34	10	-29	-74.4%
- Pulmonary disease	70	73	70	67	65	-5	-7.1%
- Pulmonary disease and critical care medicine	1,898	1,999	2,085	2,175	2,268	370	19.5%
- Rheumatology	503	515	520	531	551	48	9.5%
- Sleep medicine (multidisciplinary)	177	182	190	202	214	37	20.9%
- Transplant hepatology	47	52	47	48	48	1	2.1%
Medical genetics and genomics	69	60	68	72	64	-5	-7.2%
- Medical biochemical genetics	14	16	14	17	15	1	7.1%
- Molecular genetic pathology (multidisciplinary)	61	56	57	58	59	-2	-3.3%
Neurological surgery	1,462	1,515	1,561	1,579	1,593	131	9.0%
- Neuroendovascular intervention	1	1	1	3	3	2	200.0%

TABLE C.6 Continued

Number of Active Residents by Specialty and Subspecialty and Academic Year, 2018-2019 to 2022-2023							
Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	#	%
	#	#	#	#	#	#	%
Neurology	2,893	3,062	3,221	3,369	3,530	637	22.0%
- Clinical neurophysiology	163	163	143	149	153	-10	-6.1%
- Epilepsy	112	126	134	154	158	46	41.1%
- Neurocritical care (multidisciplinary) *				12	120	108	900.0%
- Neuroendovascular intervention	1	2	3	2	1	0	0.0%
- Neurodevelopmental disabilities	25	24	26	27	31	6	24.0%
- Neuromuscular medicine	67	73	74	73	77	10	14.9%
- Vascular neurology	129	128	162	151	189	60	46.5%
Child neurology	383	401	419	455	479	96	25.1%
Nuclear medicine	75	78	69	76	77	2	2.7%
Obstetrics and gynecology	5,571	5,677	5,769	5,861	5,962	391	7.0%
- Female pelvic medicine and reconstructive surgery	145	149	146	151	155	10	6.9%
- Gynecologic oncology	197	210	221	229	240	43	21.8%
- Maternal-fetal medicine	350	368	391	404	416	66	18.9%
- Reproductive endocrinology and infertility	163	167	166	171	173	10	6.1%
- Complex family planning *			32	50	55	23	71.9%
Ophthalmology	1,473	1,512	1,531	1,693	1,738	265	18.0%
- Ophthalmic plastic and reconstructive surgery	5	3	3	5	3	-2	-40.0%
Orthopaedic surgery	4,125	4,342	4,415	4,463	4,481	356	8.6%
- Adult reconstructive orthopaedics	47	46	50	53	52	5	10.6%
- Foot and ankle orthopaedics	15	16	17	16	16	1	6.7%
- Hand surgery	154	154	155	154	159	5	3.2%
- Musculoskeletal oncology	14	17	16	16	14	0	0.0%
- Orthopaedic sports medicine	205	215	211	216	223	18	8.8%
- Orthopaedic surgery of the spine	28	34	25	25	24	-4	-14.3%
- Orthopaedic trauma	19	20	20	20	20	1	5.3%
- Pediatric orthopaedics	37	37	34	35	39	2	5.4%
Osteopathic neuromusculoskeletal medicine	34	53	68	84	83	49	144.1%
Otolaryngology - head and neck surgery	1,651	1,689	1,723	1,763	1,795	144	8.7%
- Neurotology	32	35	36	37	37	5	15.6%
- Pediatric otolaryngology	35	36	34	42	40	5	14.3%
Pathology-anatomic and clinical	2,329	2,324	2,346	2,340	2,342	13	0.6%
- Blood banking/transfusion medicine	57	50	52	44	44	-13	-22.8%
- Clinical informatics	9	16	19	20	23	14	155.6%
- Chemical pathology	1	2			1	0	0.0%
- Cytopathology	134	125	127	123	116	-18	-13.4%
- Forensic pathology	44	54	49	58	60	16	36.4%
- Hematopathology	131	135	117	126	139	8	6.1%
- Medical microbiology	12	9	16	12	14	2	16.7%
- Neuropathology	50	59	53	53	56	6	12.0%
- Pediatric pathology	23	23	21	22	21	-2	-8.7%
- Selective pathology	166	167	176	183	176	10	6.0%
Pediatrics	9,221	9,323	9,419	9,476	9,539	318	3.4%
- Adolescent medicine	87	94	97	93	91	4	4.6%
- Child abuse pediatrics	38	47	44	46	58	20	52.6%
- Clinical informatics	12	15	19	28	28	16	133.3%
- Developmental-behavioral pediatrics	102	119	114	113	103	1	1.0%
- Neonatal-perinatal medicine	761	772	783	795	830	69	9.1%
- Pediatric cardiology	444	457	468	482	480	36	8.1%
- Pediatric critical care medicine	534	557	575	594	618	84	15.7%
- Pediatric emergency medicine	408	424	434	446	454	46	11.3%
- Pediatric endocrinology	241	227	230	228	249	8	3.3%
- Pediatric gastroenterology	311	322	329	330	340	29	9.3%
- Pediatric hematology/oncology	484	485	475	482	463	-21	-4.3%
- Pediatric infectious diseases	177	169	175	180	193	16	9.0%



TABLE C.6 <i>Continued</i>							
Number of Active Residents by Specialty and Subspecialty and Academic Year, 2018-2019 to 2022-2023							
Specialty	Academic Year					5-Year Change	
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	#	%
	#	#	#	#	#	#	%
- Pediatric nephrology	116	110	120	132	144	28	24.1%
- Pediatric pulmonology	162	168	176	184	194	32	19.8%
- Pediatric rheumatology	91	90	88	102	109	18	19.8%
- Sports medicine	26	26	26	28	27	1	3.8%
- Pediatric transplant hepatology	9	10	11	15	12	3	33.3%
- Pediatric hospital medicine *		71	115	164	191	120	169.0%
Physical medicine and rehabilitation	1,395	1,453	1,510	1,578	1,640	245	17.6%
- Brain injury medicine	17	18	17	26	22	5	29.4%
- Neuromuscular medicine *	1	1	1	1		N/A	N/A
- Spinal cord injury medicine	20	21	19	22	24	4	20.0%
- Pediatric rehabilitation medicine	38	38	30	31	42	4	10.5%
- Sports medicine	30	32	33	40	41	11	36.7%
Plastic surgery	243	226	214	202	202	-41	-16.9%
Plastic Surgery - integrated	901	961	1,009	1,060	1,107	206	22.9%
- Craniofacial surgery	8	5	7	5	5	-3	-37.5%
- Hand surgery	22	23	23	24	27	5	22.7%
Public health and general preventive medicine	357	347	350	346	195	-162	-45.4%
Aerospace medicine *					52	N/A	N/A
Occupational and environmental medicine *					118	N/A	N/A
- Undersea and hyperbaric medicine	2	1	1	1	2	0	0.0%
Psychiatry	6,247	6,618	6,976	7,353	7,739	1,492	23.9%
- Addiction medicine (multidisciplinary) *	39	79	129	169	159	120	307.7%
- Addiction psychiatry	83	78	86	89	92	9	10.8%
- Child and adolescent psychiatry	869	889	919	953	966	97	11.2%
- Forensic psychiatry	66	80	80	89	75	9	13.6%
- Geriatric psychiatry	52	42	44	58	58	6	11.5%
- Consultation-liaison psychiatry	71	86	82	89	92	21	29.6%
Radiation oncology	774	771	773	763	758	-16	-2.1%
Radiology-diagnostic	4,671	4,551	4,557	4,567	4,614	-57	-1.2%
- Abdominal radiology	41	49	46	49	50	9	22.0%
- Neuroendovascular intervention	5	5	2	3	5	0	0.0%
- Musculoskeletal radiology	32	35	40	38	38	6	18.8%
- Neuroradiology	259	280	272	292	300	41	15.8%
- Nuclear radiology	11	12	7	14	10	-1	-9.1%
- Pediatric radiology	55	58	51	51	54	-1	-1.8%
Interventional radiology - independent *			184	205	177	-7	-3.8%
Interventional radiology - integrated	246	424	591	678	750	504	204.9%
Surgery	8,844	8,809	9,063	9,299	9,554	710	8.0%
- Complex general surgical oncology	111	115	120	123	127	16	14.4%
- Hand surgery	8	8	7	7	8	0	0.0%
- Pediatric surgery	83	85	86	86	88	5	6.0%
- Surgical critical care	284	290	299	332	341	57	20.1%
- Vascular surgery	248	244	255	264	270	22	8.9%
Vascular surgery - integrated	292	309	332	361	381	89	30.5%
Thoracic surgery	232	236	243	249	256	24	10.3%
- Congenital cardiac surgery	8	8	11	12	8	0	0.0%
Thoracic surgery - integrated	189	193	203	230	237	48	25.4%
Urology	1,331	1,734	1,768	1,794	1,834	503	37.8%
- Female pelvic medicine and reconstructive surgery	37	35	37	38	42	5	13.5%
- Pediatric urology	20	20	18	28	32	12	6.1%
Transitional year	1,532	1,597	1,693	1,767	1,884	352	23.0%
Internal medicine/Pediatrics	1,501	1,511	1,510	1,529	1,539	38	2.5%
Health care administration, leadership, and management *						N/A	N/A

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	158,079	135	0.1%	100.0%
TOTAL PIPELINE	127,604	70	0.1%	51.9%
Allergy and immunology	323	0	0.0%	0.0%
Anesthesiology	7,241	1	0.0%	0.7%
- Adult cardiothoracic anesthesiology	254	0	0.0%	0.0%
- Critical care medicine	210	0	0.0%	0.0%
- Regional anesthesiology and acute pain medicine	92	0	0.0%	0.0%
- Pediatric cardiac anesthesiology	15	0	0.0%	0.0%
- Obstetric anesthesiology	48	1	2.1%	0.7%
- Pain medicine (multidisciplinary)	411	0	0.0%	0.0%
- Pediatric anesthesiology	183	0	0.0%	0.0%
Colon and rectal surgery	110	0	0.0%	0.0%
Dermatology	1,633	0	0.0%	0.0%
- Dermatopathology (multidisciplinary)	77	0	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	91	0	0.0%	0.0%
- Pediatric dermatology	19	0	0.0%	0.0%
Emergency medicine	9,346	5	0.1%	3.7%
- Emergency medical services	95	1	1.1%	0.7%
- Medical toxicology	93	1	1.1%	0.7%
- Pediatric emergency medicine	143	0	0.0%	0.0%
- Sports medicine	18	0	0.0%	0.0%
- Undersea and hyperbaric medicine	11	0	0.0%	0.0%
Family medicine	15,010	6	0.0%	4.4%
- Clinical informatics	23	0	0.0%	0.0%
- Geriatric medicine	43	0	0.0%	0.0%
- Hospice and palliative medicine (multidisciplinary)	481	8	1.7%	5.9%
- Sports medicine	294	1	0.3%	0.7%
Internal medicine	31,794	16	0.1%	11.9%
- Adult congenital heart disease	30	0	0.0%	0.0%
- Advanced heart failure and transplant cardiology	97	0	0.0%	0.0%
- Cardiovascular disease	3,456	4	0.1%	3.0%
- Clinical cardiac electrophysiology	329	0	0.0%	0.0%
- Clinical informatics	65	0	0.0%	0.0%
- Critical care medicine	358	0	0.0%	0.0%
- Endocrinology, diabetes, and metabolism	721	0	0.0%	0.0%
- Gastroenterology	1,975	1	0.1%	0.7%
- Geriatric medicine	270	2	0.7%	1.5%
- Hematology and medical oncology	2,098	3	0.1%	2.2%
- Infectious disease	817	1	0.1%	0.7%
- Interventional cardiology	373	0	0.0%	0.0%
- Nephrology	872	0	0.0%	0.0%
- Medical oncology	10	0	0.0%	0.0%
- Pulmonary disease	65	0	0.0%	0.0%
- Pulmonary disease and critical care medicine	2,268	0	0.0%	0.0%
- Rheumatology	551	0	0.0%	0.0%
- Sleep medicine (multidisciplinary)	214	16	7.5%	11.9%
- Transplant hepatology	48	0	0.0%	0.0%
Medical genetics and genomics	64	1	1.6%	0.7%
- Medical biochemical genetics	15	0	0.0%	0.0%
- Molecular genetic pathology (multidisciplinary)	59	0	0.0%	0.0%
Neurological surgery	1,593	0	0.0%	0.0%
- Neuroendovascular intervention	3	0	0.0%	0.0%

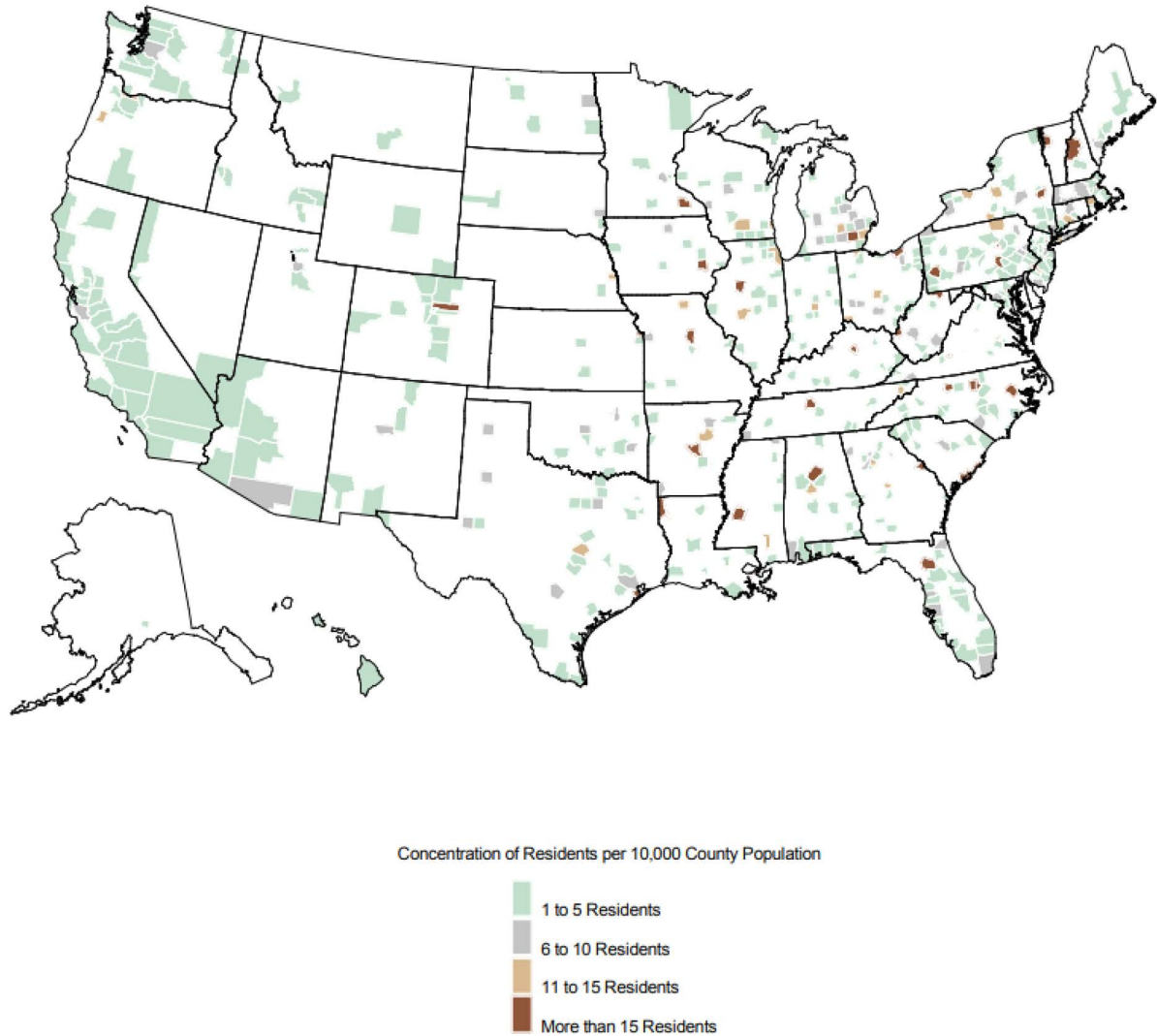
<b>TABLE C.7 Continued</b>				
<b>Number of Active Part-Time Residents by Specialty and Subspecialty</b>				
<b>Specialty</b>	<b>Total Residents</b>	<b>Number of Part-Time Residents</b>	<b>Percent of All Residents in Specialty</b>	<b>Percent of All Part-Time Residents</b>
Neurology	3,530	6	0.2%	4.4%
- Clinical neurophysiology	153	0	0.0%	0.0%
- Epilepsy	158	1	0.6%	0.7%
- Neurocritical care (multidisciplinary)	120	2	1.7%	1.5%
- Neuroendovascular intervention	1	0	0.0%	0.0%
- Neurodevelopmental disabilities	31	0	0.0%	0.0%
- Neuromuscular medicine	77	0	0.0%	0.0%
- Vascular neurology	189	0	0.0%	0.0%
Child neurology	479	1	0.2%	0.7%
Nuclear medicine	77	0	0.0%	0.0%
Obstetrics and gynecology	5,962	2	0.0%	1.5%
- Female pelvic medicine and reconstructive surgery	155	0	0.0%	0.0%
- Gynecologic oncology	240	0	0.0%	0.0%
- Maternal-fetal medicine	416	0	0.0%	0.0%
- Reproductive endocrinology and infertility	173	0	0.0%	0.0%
- Complex family planning	55	0	0.0%	0.0%
Ophthalmology	1,738	2	0.1%	1.5%
- Ophthalmic plastic and reconstructive surgery	3	0	0.0%	0.0%
Orthopaedic surgery	4,481	3	0.1%	2.2%
- Adult reconstructive orthopaedics	52	0	0.0%	0.0%
- Foot and ankle orthopaedics	16	0	0.0%	0.0%
- Hand surgery	159	0	0.0%	0.0%
- Musculoskeletal oncology	14	0	0.0%	0.0%
- Orthopaedic sports medicine	223	0	0.0%	0.0%
- Orthopaedic surgery of the spine	24	0	0.0%	0.0%
- Orthopaedic trauma	20	0	0.0%	0.0%
- Pediatric orthopaedics	39	0	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine	83	1	1.2%	0.7%
Otolaryngology - head and neck surgery	1,795	0	0.0%	0.0%
- Neurotology	37	0	0.0%	0.0%
- Pediatric otolaryngology	40	0	0.0%	0.0%
Pathology-anatomic and clinical	2,342	0	0.0%	0.0%
- Blood banking/transfusion medicine	44	0	0.0%	0.0%
- Clinical informatics	23	1	4.3%	0.7%
- Chemical pathology	1	0	0.0%	0.0%
- Cytopathology	116	0	0.0%	0.0%
- Forensic pathology	60	0	0.0%	0.0%
- Hematopathology	139	0	0.0%	0.0%
- Medical microbiology	14	0	0.0%	0.0%
- Neuropathology	56	0	0.0%	0.0%
- Pediatric pathology	21	0	0.0%	0.0%
- Selective pathology	176	1	0.6%	0.7%
Pediatrics	9,539	5	0.1%	3.7%
- Adolescent medicine	91	1	1.1%	0.7%
- Child abuse pediatrics	58	0	0.0%	0.0%
- Clinical informatics	28	0	0.0%	0.0%
- Developmental-behavioral pediatrics	103	0	0.0%	0.0%
- Neonatal-perinatal medicine	830	0	0.0%	0.0%
- Pediatric cardiology	480	1	0.2%	0.7%
- Pediatric critical care medicine	618	3	0.5%	2.2%
- Pediatric emergency medicine	454	2	0.4%	1.5%
- Pediatric endocrinology	249	0	0.0%	0.0%
- Pediatric gastroenterology	340	0	0.0%	0.0%
- Pediatric hematology/oncology	463	2	0.4%	1.5%
- Pediatric infectious diseases	193	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
- Pediatric nephrology	144	1	0.7%	0.7%
- Pediatric pulmonology	194	2	1.0%	1.5%
- Pediatric rheumatology	109	1	0.9%	0.7%
- Sports medicine	27	0	0.0%	0.0%
- Pediatric transplant hepatology	12	0	0.0%	0.0%
- Pediatric hospital medicine	191	0	0.0%	0.0%
Physical medicine and rehabilitation	1,640	1	0.1%	0.7%
- Brain injury medicine	22	0	0.0%	0.0%
- Neuromuscular medicine	0	0	0.0%	0.0%
- Spinal cord injury medicine	24	0	0.0%	0.0%
- Pediatric rehabilitation medicine	42	0	0.0%	0.0%
- Sports medicine	41	0	0.0%	0.0%
Plastic surgery	202	0	0.0%	0.0%
Plastic Surgery - integrated	1,107	0	0.0%	0.0%
- Craniofacial surgery	5	0	0.0%	0.0%
- Hand surgery	27	0	0.0%	0.0%
Public health and general preventive medicine	195	0	0.0%	0.0%
Aerospace medicine	52	0	0.0%	0.0%
Occupational and environmental medicine	118	0	0.0%	0.0%
- Undersea and hyperbaric medicine	2	0	0.0%	0.0%
Psychiatry	7,739	6	0.1%	4.4%
- Addiction medicine (multidisciplinary)	159	2	1.3%	1.5%
- Addiction psychiatry	92	2	2.2%	1.5%
- Child and adolescent psychiatry	966	3	0.3%	2.2%
- Forensic psychiatry	75	0	0.0%	0.0%
- Geriatric psychiatry	58	0	0.0%	0.0%
- Consultation-liaison psychiatry	92	0	0.0%	0.0%
Radiation oncology	758	0	0.0%	0.0%
Radiology-diagnostic	4,614	3	0.1%	2.2%
- Abdominal radiology	50	0	0.0%	0.0%
- Neuroendovascular intervention	5	0	0.0%	0.0%
- Musculoskeletal radiology	38	0	0.0%	0.0%
- Neuroradiology	300	0	0.0%	0.0%
- Nuclear radiology	10	0	0.0%	0.0%
- Pediatric radiology	54	1	1.9%	0.7%
Interventional radiology - independent	177	0	0.0%	0.0%
Interventional radiology - integrated	750	0	0.0%	0.0%
Surgery	9,554	11	0.1%	8.1%
- Complex general surgical oncology	127	0	0.0%	0.0%
- Hand surgery	8	0	0.0%	0.0%
- Pediatric surgery	88	0	0.0%	0.0%
- Surgical critical care	341	0	0.0%	0.0%
- Vascular surgery	270	0	0.0%	0.0%
Vascular surgery - integrated	381	0	0.0%	0.0%
Thoracic surgery	256	0	0.0%	0.0%
- Congenital cardiac surgery	8	0	0.0%	0.0%
Thoracic surgery - integrated	237	0	0.0%	0.0%
Urology	1,834	0	0.0%	0.0%
- Female pelvic medicine and reconstructive surgery	42	0	0.0%	0.0%
- Pediatric urology	32	0	0.0%	0.0%
Transitional year	1,884	0	0.0%	0.0%
Internal medicine/Pediatrics	1,539	0	0.0%	0.0%
Health care administration, leadership, and management	0	0	0.0%	0.0%

Note: Pipeline specialties are highlighted.

**FIGURE C.8**  
**Geographic Distribution of Active Residents**



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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/counties/totals/co-est2022-alldata.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Residents	Percent of All Residents	Residents per 100,000 Pop
OVERALL	-	336,509,346	158,079	100.0%	46.98
Alabama	AL	5,074,296	1,822	1.2%	35.91
Alaska	AK	733,583	36	0.0%	4.91
Arizona	AZ	7,359,197	2,193	1.4%	29.80
Arkansas	AR	3,045,637	1,179	0.7%	38.71
California	CA	39,029,342	14,705	9.3%	37.68
Colorado	CO	5,839,926	1,773	1.1%	30.36
Connecticut	CT	3,626,205	2,617	1.7%	72.17
Delaware	DE	1,018,396	425	0.3%	41.73
District of Columbia	DC	671,803	1,814	1.1%	270.02
Florida	FL	22,244,823	8,525	5.4%	38.32
Georgia	GA	10,912,876	3,345	2.1%	30.65
Hawaii	HI	1,440,196	471	0.3%	32.70
Idaho	ID	1,939,033	209	0.1%	10.78
Illinois	IL	12,582,032	7,134	4.5%	56.70
Indiana	IN	6,833,037	1,697	1.1%	24.84
Iowa	IA	3,200,517	1,050	0.7%	32.81
Kansas	KS	2,937,150	958	0.6%	32.62
Kentucky	KY	4,512,310	1,607	1.0%	35.61
Louisiana	LA	4,590,241	2,405	1.5%	52.39
Maine	ME	1,385,340	386	0.2%	27.86
Maryland	MD	6,164,660	3,479	2.2%	56.43
Massachusetts	MA	6,981,974	6,135	3.9%	87.87
Michigan	MI	10,034,113	7,663	4.8%	76.37
Minnesota	MN	5,717,184	2,462	1.6%	43.06
Mississippi	MS	2,940,057	994	0.6%	33.81
Missouri	MO	6,177,957	3,331	2.1%	53.92
Montana	MT	1,122,867	83	0.1%	7.39
Nebraska	NE	1,967,923	941	0.6%	47.82
Nevada	NV	3,177,772	951	0.6%	29.93
New Hampshire	NH	1,395,231	532	0.3%	38.13
New Jersey	NJ	9,261,699	4,364	2.8%	47.12
New Mexico	NM	2,113,344	770	0.5%	36.44
New York	NY	19,677,151	19,517	12.3%	99.19
North Carolina	NC	10,698,973	4,266	2.7%	39.87
North Dakota	ND	779,261	187	0.1%	24.00
Ohio	OH	11,756,058	7,812	4.9%	66.45
Oklahoma	OK	4,019,800	1,298	0.8%	32.29
Oregon	OR	4,240,137	1,176	0.7%	27.73
Pennsylvania	PA	12,972,008	10,057	6.4%	77.53
Puerto Rico	PR	3,221,789	965	0.6%	29.95
Rhode Island	RI	1,093,734	942	0.6%	86.13
South Carolina	SC	5,282,634	1,924	1.2%	36.42
South Dakota	SD	909,824	167	0.1%	18.36
Tennessee	TN	7,051,339	2,785	1.8%	39.50
Texas	TX	30,029,572	10,889	6.9%	36.26
Utah	UT	3,380,800	946	0.6%	27.98
Vermont	VT	647,064	332	0.2%	51.31
Virginia	VA	8,683,619	3,136	2.0%	36.11
Washington	WA	7,785,786	2,359	1.5%	30.30
West Virginia	WV	1,775,156	1,036	0.7%	58.36
Wisconsin	WI	5,892,539	2,186	1.4%	37.10
Wyoming	WY	581,381	43	0.0%	7.40

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

**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 2022	Total Specialty Residents	Percent of All Specialty Residents	Specialty Residents per 100,000 Pop
OVERALL	-	336,509,346	130,000	100.0%	38.63
Alabama	AL	5,074,296	1,521	1.2%	29.97
Alaska	AK	733,583	35	0.0%	4.77
Arizona	AZ	7,359,197	1,836	1.4%	24.95
Arkansas	AR	3,045,637	1,041	0.8%	34.18
California	CA	39,029,342	11,936	9.2%	30.58
Colorado	CO	5,839,926	1,389	1.1%	23.78
Connecticut	CT	3,626,205	2,124	1.6%	58.57
Delaware	DE	1,018,396	369	0.3%	36.23
District of Columbia	DC	671,803	1,422	1.1%	211.67
Florida	FL	22,244,823	7,189	5.5%	32.32
Georgia	GA	10,912,876	2,822	2.2%	25.86
Hawaii	HI	1,440,196	436	0.3%	30.27
Idaho	ID	1,939,033	205	0.2%	10.57
Illinois	IL	12,582,032	5,970	4.6%	47.45
Indiana	IN	6,833,037	1,428	1.1%	20.90
Iowa	IA	3,200,517	872	0.7%	27.25
Kansas	KS	2,937,150	830	0.6%	28.26
Kentucky	KY	4,512,310	1,337	1.0%	29.63
Louisiana	LA	4,590,241	2,057	1.6%	44.81
Maine	ME	1,385,340	341	0.3%	24.61
Maryland	MD	6,164,660	2,698	2.1%	43.77
Massachusetts	MA	6,981,974	4,626	3.6%	66.26
Michigan	MI	10,034,113	6,572	5.1%	65.50
Minnesota	MN	5,717,184	1,894	1.5%	33.13
Mississippi	MS	2,940,057	871	0.7%	29.63
Missouri	MO	6,177,957	2,621	2.0%	42.43
Montana	MT	1,122,867	83	0.1%	7.39
Nebraska	NE	1,967,923	754	0.6%	38.31
Nevada	NV	3,177,772	860	0.7%	27.06
New Hampshire	NH	1,395,231	438	0.3%	31.39
New Jersey	NJ	9,261,699	3,814	2.9%	41.18
New Mexico	NM	2,113,344	629	0.5%	29.76
New York	NY	19,677,151	15,982	12.3%	81.22
North Carolina	NC	10,698,973	3,418	2.6%	31.95
North Dakota	ND	779,261	182	0.1%	23.36
Ohio	OH	11,756,058	6,350	4.9%	54.01
Oklahoma	OK	4,019,800	1,149	0.9%	28.58
Oregon	OR	4,240,137	970	0.7%	22.88
Pennsylvania	PA	12,972,008	8,138	6.3%	62.74
Puerto Rico	PR	3,221,789	835	0.6%	25.92
Rhode Island	RI	1,093,734	756	0.6%	69.12
South Carolina	SC	5,282,634	1,661	1.3%	31.44
South Dakota	SD	909,824	156	0.1%	17.15
Tennessee	TN	7,051,339	2,222	1.7%	31.51
Texas	TX	30,029,572	8,826	6.8%	29.39
Utah	UT	3,380,800	727	0.6%	21.50
Vermont	VT	647,064	266	0.2%	41.11
Virginia	VA	8,683,619	2,677	2.1%	30.83
Washington	WA	7,785,786	1,956	1.5%	25.12
West Virginia	WV	1,775,156	885	0.7%	49.85
Wisconsin	WI	5,892,539	1,781	1.4%	30.22
Wyoming	WY	581,381	43	0.0%	7.40

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Subspecialty Residents	Percent of All Subspecialty Residents	Subspecialty Residents per 100,000 Pop
OVERALL	-	336,509,346	28,079	100.0%	8.34
Alabama	AL	5,074,296	301	1.1%	5.93
Alaska	AK	733,583	1	0.0%	0.14
Arizona	AZ	7,359,197	357	1.3%	4.85
Arkansas	AR	3,045,637	138	0.5%	4.53
California	CA	39,029,342	2,769	9.9%	7.09
Colorado	CO	5,839,926	384	1.4%	6.58
Connecticut	CT	3,626,205	493	1.8%	13.60
Delaware	DE	1,018,396	56	0.2%	5.50
District of Columbia	DC	671,803	392	1.4%	58.35
Florida	FL	22,244,823	1,336	4.8%	6.01
Georgia	GA	10,912,876	523	1.9%	4.79
Hawaii	HI	1,440,196	35	0.1%	2.43
Idaho	ID	1,939,033	4	0.0%	0.21
Illinois	IL	12,582,032	1,164	4.1%	9.25
Indiana	IN	6,833,037	269	1.0%	3.94
Iowa	IA	3,200,517	178	0.6%	5.56
Kansas	KS	2,937,150	128	0.5%	4.36
Kentucky	KY	4,512,310	270	1.0%	5.98
Louisiana	LA	4,590,241	348	1.2%	7.58
Maine	ME	1,385,340	45	0.2%	3.25
Maryland	MD	6,164,660	781	2.8%	12.67
Massachusetts	MA	6,981,974	1,509	5.4%	21.61
Michigan	MI	10,034,113	1,091	3.9%	10.87
Minnesota	MN	5,717,184	568	2.0%	9.93
Mississippi	MS	2,940,057	123	0.4%	4.18
Missouri	MO	6,177,957	710	2.5%	11.49
Montana	MT	1,122,867	0	0.0%	0.00
Nebraska	NE	1,967,923	187	0.7%	9.50
Nevada	NV	3,177,772	91	0.3%	2.86
New Hampshire	NH	1,395,231	94	0.3%	6.74
New Jersey	NJ	9,261,699	550	2.0%	5.94
New Mexico	NM	2,113,344	141	0.5%	6.67
New York	NY	19,677,151	3,535	12.6%	17.96
North Carolina	NC	10,698,973	848	3.0%	7.93
North Dakota	ND	779,261	5	0.0%	0.64
Ohio	OH	11,756,058	1,462	5.2%	12.44
Oklahoma	OK	4,019,800	149	0.5%	3.71
Oregon	OR	4,240,137	206	0.7%	4.86
Pennsylvania	PA	12,972,008	1,919	6.8%	14.79
Puerto Rico	PR	3,221,789	130	0.5%	4.04
Rhode Island	RI	1,093,734	186	0.7%	17.01
South Carolina	SC	5,282,634	263	0.9%	4.98
South Dakota	SD	909,824	11	0.0%	1.21
Tennessee	TN	7,051,339	563	2.0%	7.98
Texas	TX	30,029,572	2,063	7.3%	6.87
Utah	UT	3,380,800	219	0.8%	6.48
Vermont	VT	647,064	66	0.2%	10.20
Virginia	VA	8,683,619	459	1.6%	5.29
Washington	WA	7,785,786	403	1.4%	5.18
West Virginia	WV	1,775,156	151	0.5%	8.51
Wisconsin	WI	5,892,539	405	1.4%	6.87
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.



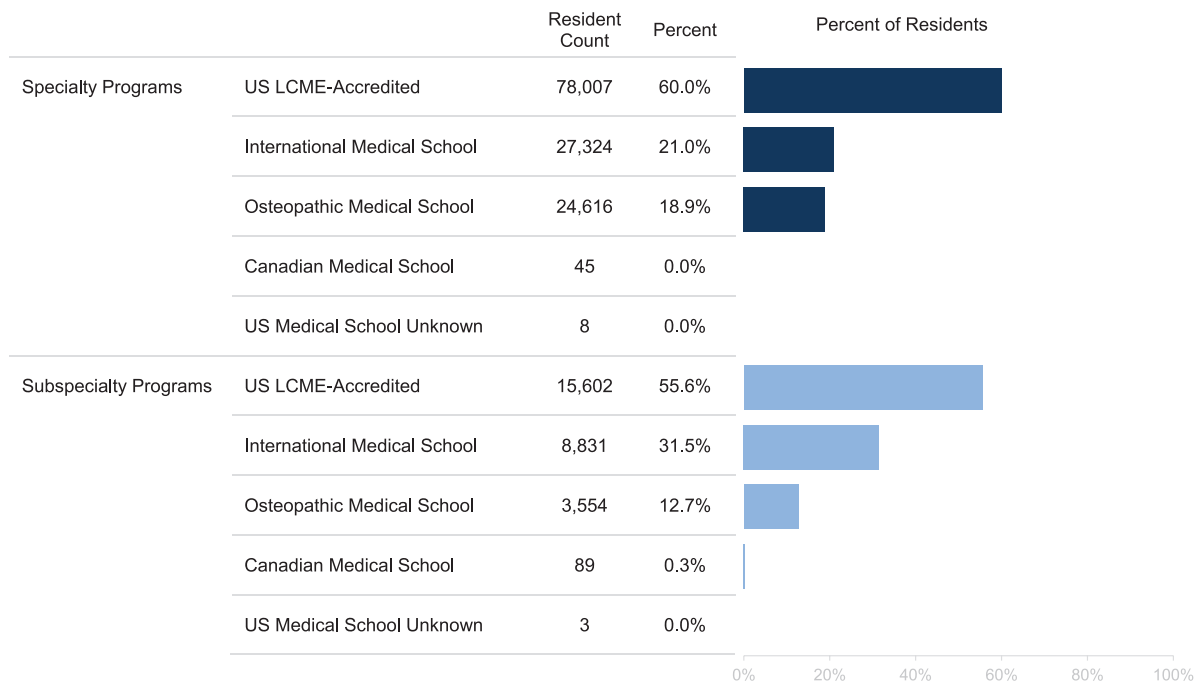
**TABLE C.12**  
**Number of Active Pipeline Residents and Active Pipeline Resident Concentration per 100,000 Population by State**

State Name	State Abbreviation	State Population - Census Estimate 2022	Total Pipeline Residents	Percent of All Pipeline Residents	Pipeline Residents per 100,000 Pop
OVERALL	-	336,509,346	127,604	100.0%	37.92
Alabama	AL	5,074,296	1,488	1.2%	29.32
Alaska	AK	733,583	35	0.0%	4.77
Arizona	AZ	7,359,197	1,795	1.4%	24.39
Arkansas	AR	3,045,637	1,011	0.8%	33.20
California	CA	39,029,342	11,742	9.2%	30.09
Colorado	CO	5,839,926	1,364	1.1%	23.36
Connecticut	CT	3,626,205	2,110	1.7%	58.19
Delaware	DE	1,018,396	362	0.3%	35.55
District of Columbia	DC	671,803	1,424	1.1%	211.97
Florida	FL	22,244,823	6,944	5.4%	31.22
Georgia	GA	10,912,876	2,714	2.1%	24.87
Hawaii	HI	1,440,196	419	0.3%	29.09
Idaho	ID	1,939,033	205	0.2%	10.57
Illinois	IL	12,582,032	5,884	4.6%	46.77
Indiana	IN	6,833,037	1,378	1.1%	20.17
Iowa	IA	3,200,517	862	0.7%	26.93
Kansas	KS	2,937,150	824	0.6%	28.05
Kentucky	KY	4,512,310	1,323	1.0%	29.32
Louisiana	LA	4,590,241	2,042	1.6%	44.49
Maine	ME	1,385,340	341	0.3%	24.61
Maryland	MD	6,164,660	2,632	2.1%	42.69
Massachusetts	MA	6,981,974	4,539	3.6%	65.01
Michigan	MI	10,034,113	6,407	5.0%	63.85
Minnesota	MN	5,717,184	1,854	1.5%	32.43
Mississippi	MS	2,940,057	849	0.7%	28.88
Missouri	MO	6,177,957	2,594	2.0%	41.99
Montana	MT	1,122,867	83	0.1%	7.39
Nebraska	NE	1,967,923	750	0.6%	38.11
Nevada	NV	3,177,772	834	0.7%	26.24
New Hampshire	NH	1,395,231	438	0.3%	31.39
New Jersey	NJ	9,261,699	3,725	2.9%	40.22
New Mexico	NM	2,113,344	621	0.5%	29.38
New York	NY	19,677,151	15,783	12.4%	80.21
North Carolina	NC	10,698,973	3,350	2.6%	31.31
North Dakota	ND	779,261	177	0.1%	22.71
Ohio	OH	11,756,058	6,249	4.9%	53.16
Oklahoma	OK	4,019,800	1,145	0.9%	28.48
Oregon	OR	4,240,137	965	0.8%	22.76
Pennsylvania	PA	12,972,008	8,005	6.3%	61.71
Puerto Rico	PR	3,221,789	797	0.6%	24.74
Rhode Island	RI	1,093,734	755	0.6%	69.03
South Carolina	SC	5,282,634	1,627	1.3%	30.80
South Dakota	SD	909,824	150	0.1%	16.49
Tennessee	TN	7,051,339	2,194	1.7%	31.11
Texas	TX	30,029,572	8,670	6.8%	28.87
Utah	UT	3,380,800	714	0.6%	21.12
Vermont	VT	647,064	267	0.2%	41.26
Virginia	VA	8,683,619	2,613	2.0%	30.09
Washington	WA	7,785,786	1,902	1.5%	24.43
West Virginia	WV	1,775,156	870	0.7%	49.01
Wisconsin	WI	5,892,539	1,735	1.4%	29.44
Wyoming	WY	581,381	43	0.0%	7.40

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

**FIGURE C.13**

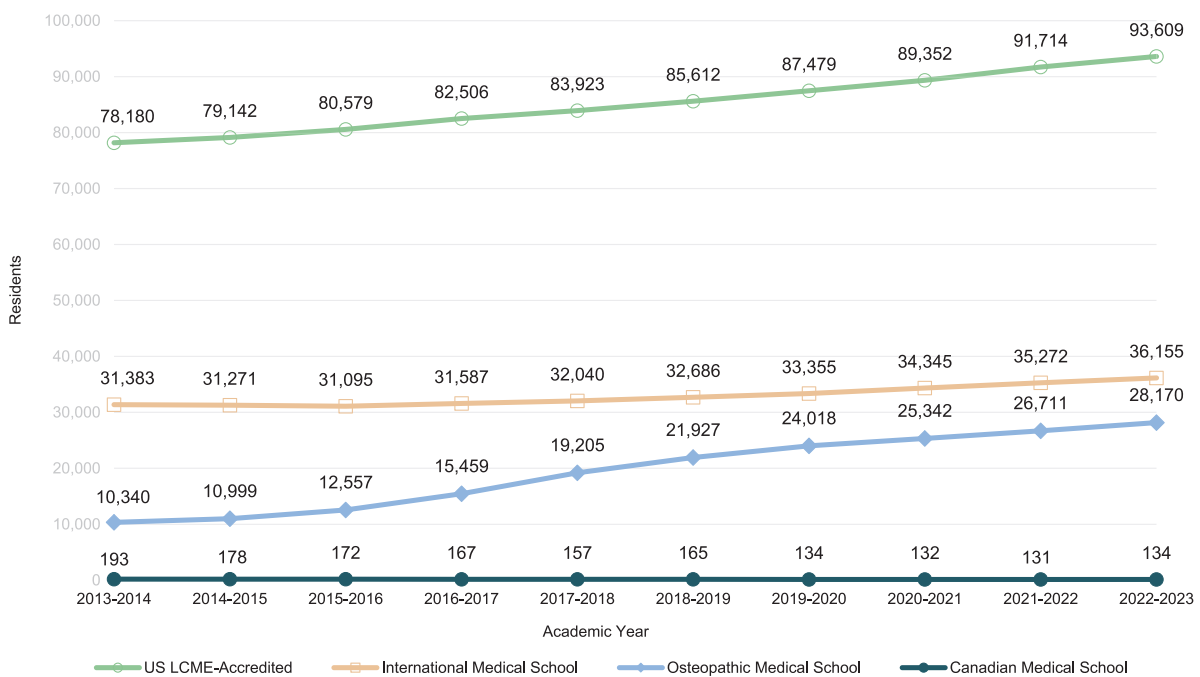
**Number of Active Residents by Medical School Type**



Notes: Total number of active residents in specialty programs = 130,000. Total number of active residents in subspecialty programs = 28,079.

**FIGURE C.14**

**Number of Active Residents by Medical School Type and Academic Year, 2013-2014 to 2022-2023**



Note: Not shown are those graduates for which the specific U.S. medical school is unknown.  
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	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
		OVERALL	158,079	93,609	59.2%	36,155	22.9%	28,170	17.8%	134	0.1%
TOTAL PIPELINE	127,604	76,448	59.9%	27,083	21.2%	24,024	18.8%	41	0.0%	8	0.0%
Allergy and immunology	323	231	71.5%	50	15.5%	42	13.0%	0	0.0%	0	0.0%
Anesthesiology	7,241	5,140	71.0%	705	9.7%	1,393	19.2%	3	0.0%	0	0.0%
- Adult cardiothoracic anesthesiology	254	165	65.0%	51	20.1%	35	13.8%	3	1.2%	0	0.0%
- Critical care medicine	210	138	65.7%	40	19.0%	32	15.2%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	92	53	57.6%	27	29.3%	12	13.0%	0	0.0%	0	0.0%
- Pediatric cardiac anesthesiology	15	10	66.7%	2	13.3%	3	20.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	48	30	62.5%	12	25.0%	4	8.3%	2	4.2%	0	0.0%
- Pain medicine (multidisciplinary)	411	250	60.8%	70	17.0%	91	22.1%	0	0.0%	0	0.0%
- Pediatric anesthesiology	183	123	67.2%	30	16.4%	30	16.4%	0	0.0%	0	0.0%
Colon and rectal surgery	110	89	80.9%	12	10.9%	6	5.5%	3	2.7%	0	0.0%
Dermatology	1,633	1,405	86.0%	53	3.2%	174	10.7%	1	0.1%	0	0.0%
- Dermatopathology (multidisciplinary)	77	48	62.3%	21	27.3%	5	6.5%	3	3.9%	0	0.0%
- Micrographic surgery and dermatologic oncology	91	80	87.9%	3	3.3%	7	7.7%	1	1.1%	0	0.0%
- Pediatric dermatology	19	15	78.9%	3	15.8%	1	5.3%	0	0.0%	0	0.0%
Emergency medicine	9,346	6,026	64.5%	659	7.1%	2,657	28.4%	1	0.0%	3	0.0%
- Emergency medical services	95	64	67.4%	6	6.3%	25	26.3%	0	0.0%	0	0.0%
- Medical toxicology	93	71	76.3%	7	7.5%	15	16.1%	0	0.0%	0	0.0%
- Pediatric emergency medicine	143	79	55.2%	33	23.1%	31	21.7%	0	0.0%	0	0.0%
- Sports medicine	18	10	55.6%	3	16.7%	5	27.8%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	11	10	90.9%	1	9.1%	0	0.0%	0	0.0%	0	0.0%
Family medicine	15,010	5,773	38.5%	4,101	27.3%	5,133	34.2%	2	0.0%	1	0.0%
- Clinical informatics	23	18	78.3%	3	13.0%	2	8.7%	0	0.0%	0	0.0%
- Geriatric medicine	43	16	37.2%	20	46.5%	7	16.3%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	481	270	56.1%	116	24.1%	92	19.1%	3	0.6%	0	0.0%
- Sports medicine	294	129	43.9%	44	15.0%	121	41.2%	0	0.0%	0	0.0%
Internal medicine	31,794	13,891	43.7%	12,345	38.8%	5,546	17.4%	10	0.0%	2	0.0%
- Adult congenital heart disease	30	24	80.0%	5	16.7%	1	3.3%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	97	42	43.3%	47	48.5%	6	6.2%	2	2.1%	0	0.0%
- Cardiovascular disease	3,456	1,745	50.5%	1,307	37.8%	403	11.7%	1	0.0%	0	0.0%
- Clinical cardiac electrophysiology	329	177	53.8%	127	38.6%	20	6.1%	5	1.5%	0	0.0%
- Clinical informatics	65	45	69.2%	15	23.1%	5	7.7%	0	0.0%	0	0.0%
- Critical care medicine	358	139	38.8%	139	38.8%	80	22.3%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	721	212	29.4%	429	59.5%	79	11.0%	1	0.1%	0	0.0%
- Gastroenterology	1,975	1,171	59.3%	555	28.1%	249	12.6%	0	0.0%	0	0.0%
- Geriatric medicine	270	93	34.4%	146	54.1%	31	11.5%	0	0.0%	0	0.0%
- Hematology and medical oncology	2,098	1,133	54.0%	787	37.5%	176	8.4%	2	0.1%	0	0.0%
- Infectious disease	817	371	45.4%	342	41.9%	103	12.6%	1	0.1%	0	0.0%
- Interventional cardiology	373	144	38.6%	197	52.8%	31	8.3%	1	0.3%	0	0.0%
- Nephrology	872	202	23.2%	549	63.0%	118	13.5%	1	0.1%	2	0.2%
- Medical oncology	10	2	20.0%	7	70.0%	1	10.0%	0	0.0%	0	0.0%
- Pulmonary disease	65	7	10.8%	53	81.5%	5	7.7%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	2,268	1,090	48.1%	829	36.6%	347	15.3%	2	0.1%	0	0.0%
- Rheumatology	551	239	43.4%	222	40.3%	90	16.3%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	214	92	43.0%	91	42.5%	31	14.5%	0	0.0%	0	0.0%
- Transplant hepatology	48	32	66.7%	15	31.3%	1	2.1%	0	0.0%	0	0.0%
Medical genetics and genomics	64	34	53.1%	26	40.6%	4	6.3%	0	0.0%	0	0.0%
- Medical biochemical genetics	15	12	80.0%	3	20.0%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	59	24	40.7%	31	52.5%	4	6.8%	0	0.0%	0	0.0%
Neurological surgery	1,593	1,415	88.8%	127	8.0%	51	3.2%	0	0.0%	0	0.0%
- Neuroendovascular intervention	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	3,530	1,864	52.8%	1,136	32.2%	527	14.9%	2	0.1%	1	0.0%
- Clinical neurophysiology	153	75	49.0%	55	35.9%	22	14.4%	1	0.7%	0	0.0%
- Epilepsy	158	88	55.7%	48	30.4%	20	12.7%	2	1.3%	0	0.0%
- Neurocritical care (multidisciplinary)	120	54	45.0%	49	40.8%	16	13.3%	1	0.8%	0	0.0%
- Neuroendovascular intervention	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	31	23	74.2%	5	16.1%	2	6.5%	1	3.2%	0	0.0%
- Neuromuscular medicine	77	49	63.6%	20	26.0%	5	6.5%	3	3.9%	0	0.0%
- Vascular neurology	189	99	52.4%	70	37.0%	20	10.6%	0	0.0%	0	0.0%
Child neurology	479	339	70.8%	91	19.0%	48	10.0%	1	0.2%	0	0.0%
Nuclear medicine	77	14	18.2%	59	76.6%	3	3.9%	1	1.3%	0	0.0%
Obstetrics and gynecology	5,962	4,593	77.0%	386	6.5%	982	16.5%	1	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	155	131	84.5%	9	5.8%	15	9.7%	0	0.0%	0	0.0%
- Gynecologic oncology	240	222	92.5%	12	5.0%	5	2.1%	1	0.4%	0	0.0%
- Maternal-fetal medicine	416	336	80.8%	48	11.5%	31	7.5%	1	0.2%	0	0.0%
- Reproductive endocrinology and infertility	173	149	86.1%	14	8.1%	8	4.6%	2	1.2%	0	0.0%
- Complex family planning	55	52	94.5%	0	0.0%	3	5.5%	0	0.0%	0	0.0%
Ophthalmology	1,738	1,577	90.7%	69	4.0%	91	5.2%	1	0.1%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	4,481	3,804	84.9%	66	1.5%	611	13.6%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	52	46	88.5%	3	5.8%	1	1.9%	2	3.8%	0	0.0%
- Foot and ankle orthopaedics	16	11	68.8%	2	12.5%	2	12.5%	1	6.3%	0	0.0%
- Hand surgery	159	142	89.3%	5	3.1%	7	4.4%	5	3.1%	0	0.0%
- Musculoskeletal oncology	14	12	85.7%	2	14.3%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	223	184	82.5%	11	4.9%	24	10.8%	4	1.8%	0	0.0%
- Orthopaedic surgery of the spine	24	21	87.5%	1	4.2%	2	8.3%	0	0.0%	0	0.0%
- Orthopaedic trauma	20	16	80.0%	2	10.0%	1	5.0%	1	5.0%	0	0.0%
- Pediatric orthopaedics	39	24	61.5%	8	20.5%	5	12.8%	2	5.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	83	2	2.4%	1	1.2%	80	96.4%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	1,795	1,651	92.0%	34	1.9%	110	6.1%	0	0.0%	0	0.0%
- Neurotology	37	32	86.5%	2	5.4%	0	0.0%	3	8.1%	0	0.0%
- Pediatric otolaryngology	40	27	67.5%	9	22.5%	1	2.5%	2	5.0%	1	2.5%
Pathology-anatomic and clinical	2,342	934	39.9%	1,140	48.7%	266	11.4%	2	0.1%	0	0.0%
- Blood banking/transfusion medicine	44	27	61.4%	17	38.6%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	23	9	39.1%	12	52.2%	2	8.7%	0	0.0%	0	0.0%
- Chemical pathology	1	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%
- Cytopathology	116	42	36.2%	61	52.6%	12	10.3%	1	0.9%	0	0.0%
- Forensic pathology	60	33	55.0%	15	25.0%	11	18.3%	1	1.7%	0	0.0%
- Hematopathology	139	52	37.4%	72	51.8%	15	10.8%	0	0.0%	0	0.0%
- Medical microbiology	14	10	71.4%	2	14.3%	1	7.1%	1	7.1%	0	0.0%
- Neuropathology	56	31	55.4%	19	33.9%	6	10.7%	0	0.0%	0	0.0%
- Pediatric pathology	21	10	47.6%	4	19.0%	2	9.5%	5	23.8%	0	0.0%
- Selective pathology	176	36	20.5%	128	72.7%	8	4.5%	4	2.3%	0	0.0%
Pediatrics	9,539	5,759	60.4%	2,025	21.2%	1,751	18.4%	3	0.0%	1	0.0%
- Adolescent medicine	91	71	78.0%	9	9.9%	11	12.1%	0	0.0%	0	0.0%
- Child abuse pediatrics	58	39	67.2%	9	15.5%	9	15.5%	1	1.7%	0	0.0%
- Clinical informatics	28	18	64.3%	7	25.0%	2	7.1%	1	3.6%	0	0.0%
- Developmental-behavioral pediatrics	103	49	47.6%	34	33.0%	20	19.4%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	830	482	58.1%	233	28.1%	114	13.7%	1	0.1%	0	0.0%
- Pediatric cardiology	480	321	66.9%	109	22.7%	50	10.4%	0	0.0%	0	0.0%
- Pediatric critical care medicine	618	428	69.3%	112	18.1%	78	12.6%	0	0.0%	0	0.0%
- Pediatric emergency medicine	454	328	72.2%	60	13.2%	65	14.3%	1	0.2%	0	0.0%
- Pediatric endocrinology	249	122	49.0%	97	39.0%	30	12.0%	0	0.0%	0	0.0%
- Pediatric gastroenterology	340	213	62.6%	91	26.8%	36	10.6%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	463	282	60.9%	116	25.1%	64	13.8%	1	0.2%	0	0.0%
- Pediatric infectious diseases	193	109	56.5%	66	34.2%	18	9.3%	0	0.0%	0	0.0%

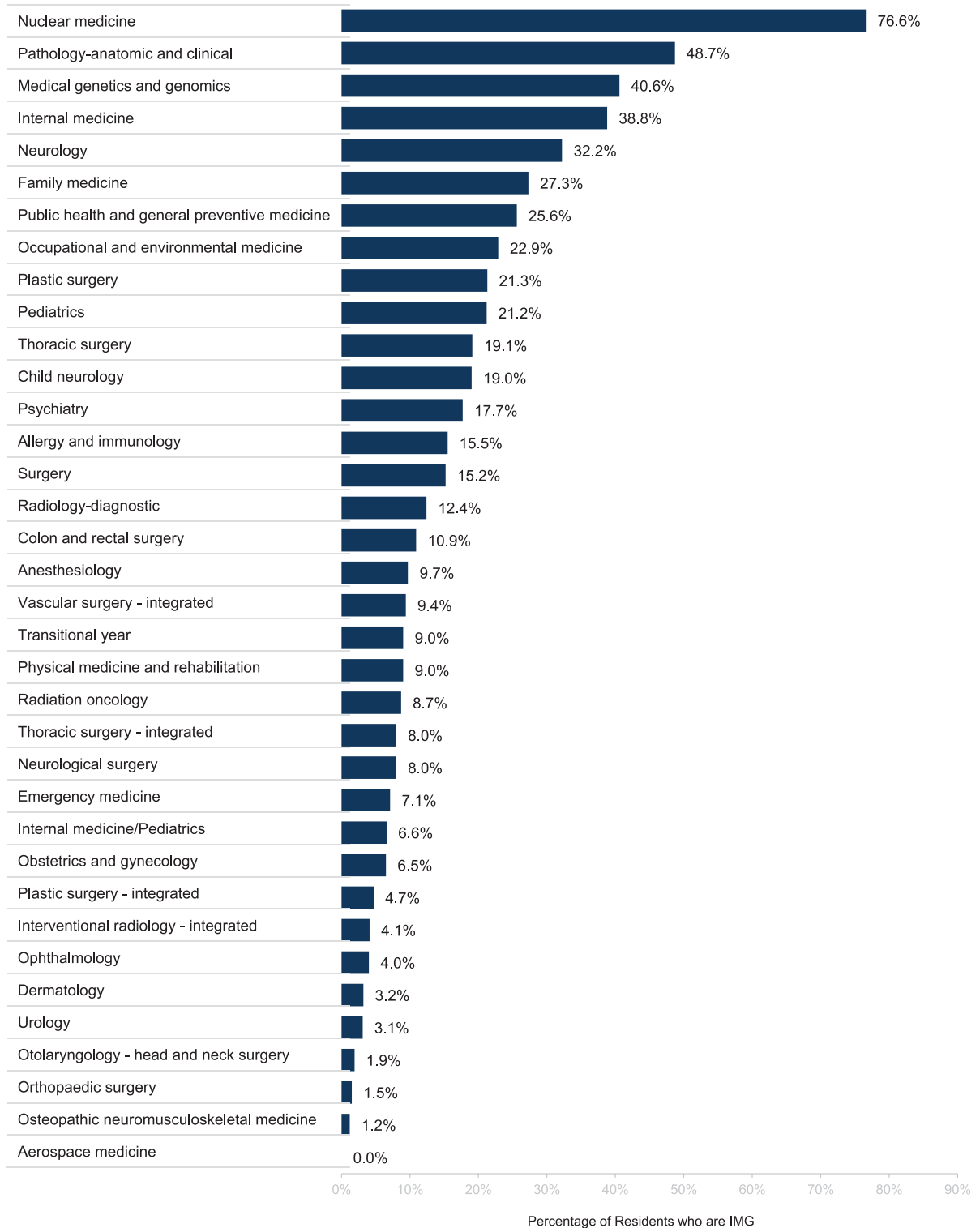
TABLE C.15 <i>Continued</i>											
Number of Active Residents by Specialty and Subspecialty and Medical School Type											
Specialty	Total Residents	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	144	93	64.6%	36	25.0%	15	10.4%	0	0.0%	0	0.0%
- Pediatric pulmonology	194	108	55.7%	61	31.4%	25	12.9%	0	0.0%	0	0.0%
- Pediatric rheumatology	109	82	75.2%	21	19.3%	6	5.5%	0	0.0%	0	0.0%
- Sports medicine	27	18	66.7%	1	3.7%	8	29.6%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	12	8	66.7%	3	25.0%	1	8.3%	0	0.0%	0	0.0%
- Pediatric hospital medicine	191	150	78.5%	13	6.8%	27	14.1%	1	0.5%	0	0.0%
Physical medicine and rehabilitation	1,640	891	54.3%	147	9.0%	602	36.7%	0	0.0%	0	0.0%
- Brain injury medicine	22	14	63.6%	2	9.1%	6	27.3%	0	0.0%	0	0.0%
- Neuromuscular medicine	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	24	15	62.5%	1	4.2%	8	33.3%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	42	30	71.4%	4	9.5%	8	19.0%	0	0.0%	0	0.0%
- Sports medicine	41	29	70.7%	6	14.6%	6	14.6%	0	0.0%	0	0.0%
Plastic surgery	202	141	69.8%	43	21.3%	18	8.9%	0	0.0%	0	0.0%
Plastic Surgery - integrated	1,107	1,045	94.4%	52	4.7%	10	0.9%	0	0.0%	0	0.0%
- Craniofacial surgery	5	3	60.0%	1	20.0%	1	20.0%	0	0.0%	0	0.0%
- Hand surgery	27	22	81.5%	1	3.7%	1	3.7%	3	11.1%	0	0.0%
Public health and general preventive medicine	195	119	61.0%	50	25.6%	25	12.8%	1	0.5%	0	0.0%
Aerospace medicine	52	34	65.4%	0	0.0%	17	32.7%	1	1.9%	0	0.0%
Occupational and environmental medicine	118	68	57.6%	27	22.9%	22	18.6%	1	0.8%	0	0.0%
- Undersea and hyperbaric medicine	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	7,739	4,891	63.2%	1,369	17.7%	1,477	19.1%	2	0.0%	0	0.0%
- Addiction medicine (multidisciplinary)	159	91	57.2%	45	28.3%	23	14.5%	0	0.0%	0	0.0%
- Addiction psychiatry	92	53	57.6%	26	28.3%	13	14.1%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	966	573	59.3%	224	23.2%	169	17.5%	0	0.0%	0	0.0%
- Forensic psychiatry	75	44	58.7%	20	26.7%	11	14.7%	0	0.0%	0	0.0%
- Geriatric psychiatry	58	33	56.9%	23	39.7%	2	3.4%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	92	55	59.8%	24	26.1%	13	14.1%	0	0.0%	0	0.0%
Radiation oncology	758	660	87.1%	66	8.7%	32	4.2%	0	0.0%	0	0.0%
Radiology-diagnostic	4,614	3,328	72.1%	574	12.4%	711	15.4%	1	0.0%	0	0.0%
- Abdominal radiology	50	23	46.0%	18	36.0%	7	14.0%	2	4.0%	0	0.0%
- Neuroendovascular intervention	5	0	0.0%	5	100.0%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	38	27	71.1%	8	21.1%	2	5.3%	1	2.6%	0	0.0%
- Neuroradiology	300	198	66.0%	74	24.7%	28	9.3%	0	0.0%	0	0.0%
- Nuclear radiology	10	5	50.0%	5	50.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	54	27	50.0%	24	44.4%	3	5.6%	0	0.0%	0	0.0%
Interventional radiology - independent	177	124	70.1%	40	22.6%	13	7.3%	0	0.0%	0	0.0%
Interventional radiology - integrated	750	657	87.6%	31	4.1%	62	8.3%	0	0.0%	0	0.0%
Surgery	9,554	6,782	71.0%	1,448	15.2%	1,318	13.8%	6	0.1%	0	0.0%
- Complex general surgical oncology	127	104	81.9%	20	15.7%	2	1.6%	1	0.8%	0	0.0%
- Hand surgery	8	4	50.0%	1	12.5%	2	25.0%	1	12.5%	0	0.0%
- Pediatric surgery	88	84	95.5%	3	3.4%	1	1.1%	0	0.0%	0	0.0%
- Surgical critical care	341	253	74.2%	32	9.4%	56	16.4%	0	0.0%	0	0.0%
- Vascular surgery	270	175	64.8%	47	17.4%	47	17.4%	1	0.4%	0	0.0%
Vascular surgery - integrated	381	326	85.6%	36	9.4%	18	4.7%	1	0.3%	0	0.0%
Thoracic surgery	256	190	74.2%	49	19.1%	16	6.3%	1	0.4%	0	0.0%
- Congenital cardiac surgery	8	8	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	237	213	89.9%	19	8.0%	5	2.1%	0	0.0%	0	0.0%
Urology	1,834	1,659	90.5%	57	3.1%	118	6.4%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	42	32	76.2%	5	11.9%	4	9.5%	1	2.4%	0	0.0%
- Pediatric urology	32	29	90.6%	0	0.0%	2	6.3%	1	3.1%	0	0.0%
Transitional year	1,884	1,173	62.3%	170	9.0%	541	28.7%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	1,539	1,289	83.8%	101	6.6%	149	9.7%	0	0.0%	0	0.0%
Health care administration, leadership, and management	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	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				
			US LCME-Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
OVERALL	-	158,079	93,609	36,155	28,170	134	11
Alabama	AL	1,822	1,138	413	270	1	0
Alaska	AK	36	21	2	13	0	0
Arizona	AZ	2,193	1,257	368	567	1	0
Arkansas	AR	1,179	538	410	231	0	0
California	CA	14,705	10,883	1,900	1,899	23	0
Colorado	CO	1,773	1,363	86	322	2	0
Connecticut	CT	2,617	1,468	860	284	5	0
Delaware	DE	425	206	63	155	1	0
District of Columbia	DC	1,814	1,204	466	144	0	0
Florida	FL	8,525	3,824	2,750	1,948	2	1
Georgia	GA	3,345	2,027	809	505	2	2
Hawaii	HI	471	305	66	100	0	0
Idaho	ID	209	97	31	81	0	0
Illinois	IL	7,134	4,255	1,678	1,196	4	1
Indiana	IN	1,697	1,022	289	386	0	0
Iowa	IA	1,050	638	184	228	0	0
Kansas	KS	958	579	171	208	0	0
Kentucky	KY	1,607	926	320	358	2	1
Louisiana	LA	2,405	1,472	674	259	0	0
Maine	ME	386	218	60	108	0	0
Maryland	MD	3,479	2,369	761	345	4	0
Massachusetts	MA	6,135	4,515	1,217	374	29	0
Michigan	MI	7,663	3,282	2,164	2,211	6	0
Minnesota	MN	2,462	1,749	462	244	7	0
Mississippi	MS	994	485	244	264	1	0
Missouri	MO	3,331	2,093	660	576	2	0
Montana	MT	83	38	12	33	0	0
Nebraska	NE	941	561	213	167	0	0
Nevada	NV	951	361	158	432	0	0
New Hampshire	NH	532	364	90	77	1	0
New Jersey	NJ	4,364	1,389	1,786	1,188	1	0
New Mexico	NM	770	448	159	163	0	0
New York	NY	19,517	10,010	7,155	2,338	11	3
North Carolina	NC	4,266	3,113	489	663	1	0
North Dakota	ND	187	87	82	18	0	0
Ohio	OH	7,812	4,235	1,550	2,023	4	0
Oklahoma	OK	1,298	529	157	612	0	0
Oregon	OR	1,176	822	114	240	0	0
Pennsylvania	PA	10,057	5,486	2,278	2,283	9	1
Puerto Rico	PR	965	603	360	1	0	1
Rhode Island	RI	942	672	171	97	2	0
South Carolina	SC	1,924	1,229	224	471	0	0
South Dakota	SD	167	79	46	42	0	0
Tennessee	TN	2,785	2,040	404	340	1	0
Texas	TX	10,889	6,910	2,133	1,841	4	1
Utah	UT	946	783	80	83	0	0
Vermont	VT	332	266	33	33	0	0
Virginia	VA	3,136	1,927	462	746	1	0
Washington	WA	2,359	1,789	179	388	3	0
West Virginia	WV	1,036	451	328	257	0	0
Wisconsin	WI	2,186	1,474	370	338	4	0
Wyoming	WY	43	9	14	20	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				
		US LCME - Accredited Medical School	International Medical School	Osteopathic Medical School	Canadian Medical School	US Medical School Unknown
OVERALL	30.9	30.2	32.8	30.5	32.8	34.4
TOTAL PIPELINE	29.9	29.2	31.7	29.8	31.2	34.8
Allergy and immunology	32.3	31.9	32.9	33.2		
Anesthesiology	29.5	29.0	32.8	29.8		
- Adult cardiothoracic anesthesiology	33.4	32.9	34.4	34.2	33.0	
- Critical care medicine	33.8	33.6	34.2	34.5		
- Regional anesthesiology and acute pain medicine	33.9	33.0	35.9	33.8		
- Pediatric cardiac anesthesiology	35.3	34.1	43.0	34.0		
- Obstetric anesthesiology	33.5	32.5	36.4	32.5	32.5	
- Pain medicine (multidisciplinary)	34.0	33.5	36.2	33.7		
- Pediatric anesthesiology	33.7	33.4	34.7	33.8		
Colon and rectal surgery	34.4	34.5	35.1	33.0	30.7	
Dermatology	30.4	30.2	34.6	30.8		
- Dermatopathology (multidisciplinary)	34.9	33.7	38.0	34.6	32.0	
- Micrographic surgery and dermatologic oncology	33.2	33.0	38.3	32.7	31.0	
- Pediatric dermatology	34.4	34.0	37.0	32.0		
Emergency medicine	29.8	29.4	31.8	30.1	37.0	29.0
- Emergency medical services	33.6	33.6	34.7	33.5		
- Medical toxicology	32.7	32.4	34.5	33.6		
- Pediatric emergency medicine	32.9	32.3	33.7	33.1		
- Sports medicine	33.3	33.4	36.7	31.0		
- Undersea and hyperbaric medicine	36.5	36.6	36.0			
Family medicine	30.6	29.4	33.0	29.9	30.0	32.0
- Clinical informatics	37.7	38.1	41.0	34.5		
- Geriatric medicine	35.7	35.7	36.4	33.4		
- Hospice and palliative medicine (multidisciplinary)	36.3	36.2	36.9	35.9	39.3	
- Sports medicine	33.0	32.8	34.4	32.7		
Internal medicine	29.7	28.8	30.9	29.6	29.7	57.0
- Adult congenital heart disease	34.9	35.1	33.0			
- Advanced heart failure and transplant cardiology	35.4	34.7	35.8	37.8	33.0	
- Cardiovascular disease	32.3	31.7	33.0	32.1		
- Clinical cardiac electrophysiology	35.2	35.2	35.5	35.2	33.0	
- Clinical informatics	34.7	34.6	35.3	33.8		
- Critical care medicine	34.0	33.3	35.0	34.0		
- Endocrinology, diabetes, and metabolism	32.8	32.1	33.4	32.2		
- Gastroenterology	32.3	31.8	33.5	31.9		
- Geriatric medicine	34.7	33.7	35.5	33.4		
- Hematology and medical oncology	32.7	32.3	33.4	32.2		
- Infectious disease	33.0	32.2	34.0	32.8		
- Interventional cardiology	35.7	35.3	36.0	36.0	33.0	
- Nephrology	34.1	32.1	35.1	33.6		31.5
- Medical oncology	32.4	31.5	33.0			
- Pulmonary disease	35.2	36.0	35.5	31.7		
- Pulmonary disease and critical care medicine	32.7	32.1	33.6	32.6	34.0	
- Rheumatology	32.8	32.1	33.7	32.0		
- Sleep medicine (multidisciplinary)	34.7	34.5	35.3	33.6		
- Transplant hepatology	34.4	33.9	35.4	34.0		
Medical genetics and genomics	35.6	36.0	35.9	31.7		
- Medical biochemical genetics	34.0	33.8	34.7			
- Molecular genetic pathology (multidisciplinary)	38.1	36.4	40.0	32.8		
Neurological surgery	29.5	29.3	33.0	29.1		
- Neuroendovascular intervention	38.3	38.3				



TABLE C.18 <i>Continued</i>						
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	30.1	29.3	31.6	29.8	29.0	27.0
- Clinical neurophysiology	34.3	33.3	35.5	34.3	41	
- Epilepsy	34.2	33.5	35.3	34.5	33	
- Neurocritical care (multidisciplinary)	34.1	33.4	34.6	35.7	33.0	
- Neuroendovascular intervention	32.0		32.0			
- Neurodevelopmental disabilities	30.5	30.3	31.0			
- Neuromuscular medicine	33.5	33.4	34.0	33.6	31.7	
- Vascular neurology	33.6	33.1	34.4	33.0		
Child neurology	31.2	31.2	31.7	30.8	27.0	
Nuclear medicine	37.8	36.6	37.6	41.7		
Obstetrics and gynecology	28.6	28.4	30.2	28.8	30.0	
- Female pelvic medicine and reconstructive surgery	32.6	32.5	32.0	33.3		
- Gynecologic oncology	33.0	32.9	33.6			
- Maternal-fetal medicine	32.9	32.8	34.5	32.1		
- Reproductive endocrinology and infertility	33.1	32.6	36.3	34.0		
- Complex family planning	32.2	32.2		32.0		
Ophthalmology	29.2	29.1	32.8	29.7	28.0	
- Ophthalmic plastic and reconstructive surgery	32.5	32.5				
Orthopaedic surgery	28.6	28.5	31.5	29.1		
- Adult reconstructive orthopaedics	33.8	33.8	36.0	33.0	31.5	
- Foot and ankle orthopaedics	33.6	32.8	39.0	33.0	32.0	
- Hand surgery	33.9	33.8	37.4	34.4	32.6	
- Musculoskeletal oncology	34.9	34.6	36.5			
- Orthopaedic sports medicine	34.1	34.0	38.2	34.0	31.3	
- Orthopaedic surgery of the spine	33.5	33.3	39.0	33.5		
- Orthopaedic trauma	34.1	34.5	32.5	33.0	31.0	
- Pediatric orthopaedics	35.3	33.9	40.1	34.6	33.5	
Osteopathic neuromusculoskeletal medicine	31.5			31.5		
Otolaryngology - head and neck surgery	28.6	28.5	31.0	29.1		
- Neurotology	33.6	33.4	36.0		36.0	
- Pediatric otolaryngology	33.9	33.1	36.1	34.0	32.5	38.0
Pathology-anatomic and clinical	32.2	30.6	34.1	31.0		
- Blood banking/transfusion medicine	35.7	35.1	36.5			
- Clinical informatics	38.1	39.5	36.9	41.0		
- Chemical pathology	35.0			35.0		
- Cytopathology	36.6	34.0	38.4	35.3	50.0	
- Forensic pathology	34.6	34.0	33.9	37.2	33.0	
- Hematopathology	36.5	34.6	38.1	34.9		
- Medical microbiology	35.3	34.9	38.5	35.0	33.0	
- Neuropathology	36.1	35.0	38.7	33.0		
- Pediatric pathology	34.6	34.4	39.8	32.5	31.8	
- Selective pathology	37.4	34.4	38.5	35.1	33.3	
Pediatrics	29.1	28.5	31.0	28.9	35.5	
- Adolescent medicine	31.7	31.5	34.5	31.5		
- Child abuse pediatrics	32.9	32.7	33.3	34.5	32.0	
- Clinical informatics	34.4	35.0	33.5	31.0		
- Developmental-behavioral pediatrics	33.9	35.1	34.0	31.8		
- Neonatal-perinatal medicine	32.6	32.1	33.9	32.5		
- Pediatric cardiology	31.7	31.4	32.3	32.5		
- Pediatric critical care medicine	32.0	31.7	32.5	32.5		
- Pediatric emergency medicine	32.2	31.8	34.5	32.0	32.0	
- Pediatric endocrinology	33.0	31.8	35.4	32.2		
- Pediatric gastroenterology	32.1	31.8	32.1	33.1		
- Pediatric hematology/oncology	32.3	31.8	33.3	32.2		
- Pediatric infectious diseases	33.6	32.6	34.6	33.0		

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
- Pediatric nephrology	33.3	32.1	36.5	32.6		
- Pediatric pulmonology	32.3	32.2	32.3	33.0		
- Pediatric rheumatology	32.7	32.4	33.8	31.0		
- Sports medicine	33.3	33.1	33.0	33.9		
- Pediatric transplant hepatology	35.4	35.0	37.3	33.0		
- Pediatric hospital medicine	31.4	31.4	31.3	31.5		
Physical medicine and rehabilitation	30.2	29.6	33.7	30.2		
- Brain injury medicine	33.1	32.1	33.5	35.5		
- Neuromuscular medicine						
- Spinal cord injury medicine	33.1	32.3	41.0	33.6		
- Pediatric rehabilitation medicine	33.2	32.3	37.3	34.5		
- Sports medicine	34.4	34.1	32.2	38.2		
Plastic surgery	34.0	33.6	35.1	33.3		
Plastic Surgery - integrated	28.9	28.6	33.3	32.0		
- Craniofacial surgery	35.2	34.3	36.0	37.0		
- Hand surgery	33.8	34.1	32.0	33.0	32.0	
Public health and general preventive medicine	35.9	35.0	37.4	38.3	34.0	
Aerospace medicine	36.9	37.6		35.0	34.0	
Occupational and environmental medicine	38.1	39.4	37.0	34.3		
- Undersea and hyperbaric medicine	35.5	35.5				
Psychiatry	30.4	29.7	33.1	29.9	38.0	
- Addiction medicine (multidisciplinary)	37.0	36.5	38.8	35.8		
- Addiction psychiatry	36.0	35.2	37.9	35.8		
- Child and adolescent psychiatry	33.6	32.7	35.9	33.3		
- Forensic psychiatry	35.1	35.1	35.7	33.9		
- Geriatric psychiatry	35.1	33.2	38.1	31.5		
- Consultation-liaison psychiatry	33.3	32.8	34.3	34.0		
Radiation oncology	32.1	30.8	36.2	33.8		
Radiology-diagnostic	30.4	30.1	32.2	30.6		
- Abdominal radiology	36.0	35.3	38.2	33.9	31.0	
- Neuroendovascular intervention	36.6		36.6			
- Musculoskeletal radiology	34.5	34.2	36.0	34.0	33.0	
- Neuroradiology	35.2	34.2	37.7	35.2		
- Nuclear radiology	36.9	32.8	41.0			
- Pediatric radiology	36.0	34.5	37.2	39.7		
Interventional radiology - independent	34.3	33.7	35.8	35.9		
Interventional radiology - integrated	30.2	30.0	30.5	31.9		
Surgery	29.4	29.0	31.3	29.8	28.5	
- Complex general surgical oncology	35.5	35.7	34.5	38.0	36.0	
- Hand surgery	37.8	35.8	42.0	38.5	40.0	
- Pediatric surgery	36.7	36.6	41.0			
- Surgical critical care	35.3	35.4	35.0	35.4		
- Vascular surgery	34.2	34.2	35.1	33.8		
Vascular surgery - integrated	29.2	28.6	34.5	29.3		
Thoracic surgery	34.8	34.6	35.7	34.8		
- Congenital cardiac surgery	37.6	37.6				
Thoracic surgery - integrated	29.2	29.0	31.2	27.0		
Urology	28.9	28.8	31.6	29.6		
- Female pelvic medicine and reconstructive surgery	33.3	32.8	38.0	34.0	35.0	
- Pediatric urology	34.0	33.8		35.5		
Transitional year	29.3	28.8	32.4	29.4		
Internal medicine/Pediatrics	28.8	28.6	31.3	29.4		
Health care administration, leadership, and management						

Note: Pipeline specialties are highlighted.

Abbreviations: LCME, Liaison Committee on Medical Education.

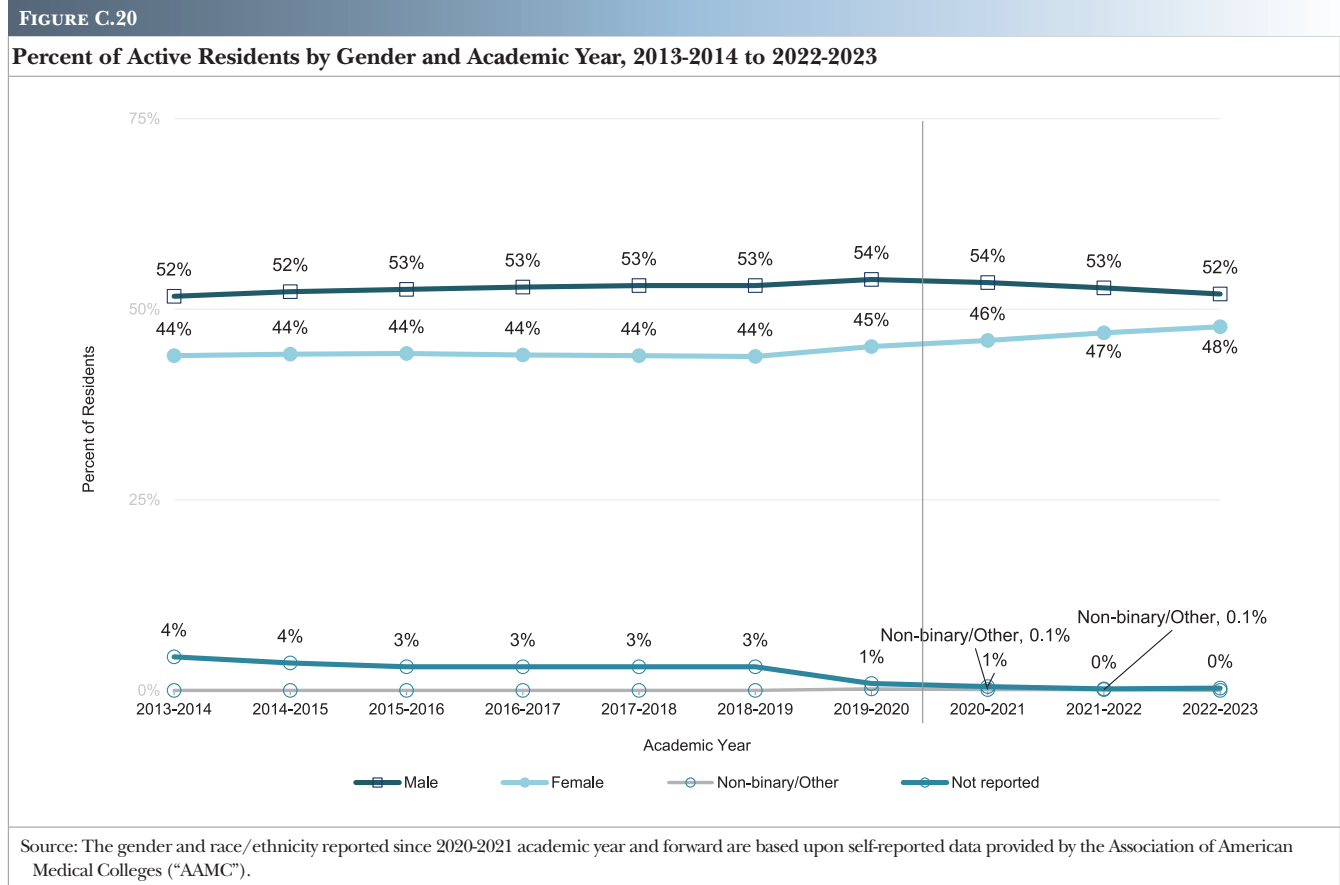
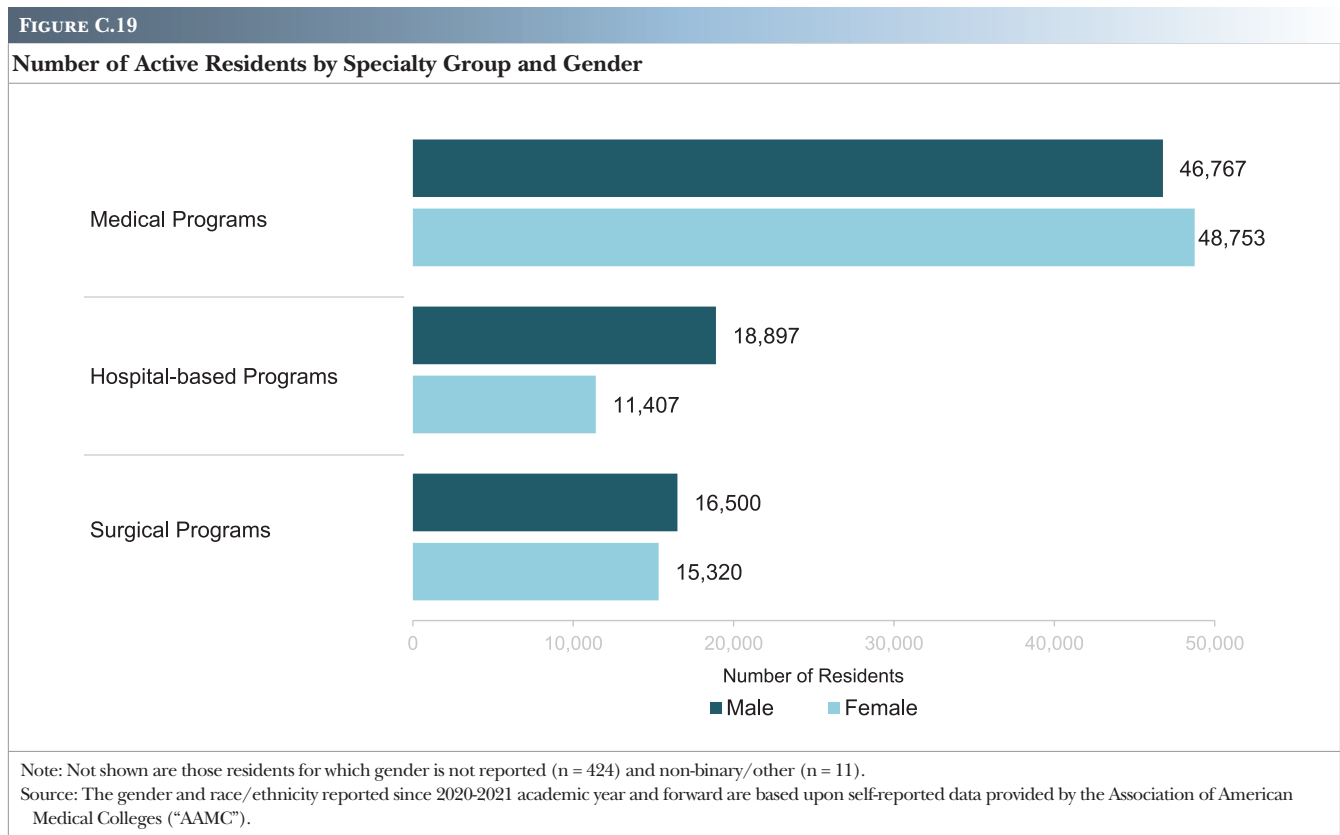


TABLE C.21

## Number of Active Residents by Specialty and Subspecialty and Gender

Specialty	Total Programs	Total Residents	Gender							
			Female		Male		Non-binary/Other		Not Reported	
			#	%	#	%	#	%	#	%
OVERALL	13,066	158,079	75,480	47.7%	82,164	52.0%	11	0.0%	424	0.3%
TOTAL PIPELINE	5,382	127,604	61,370	48.1%	65,882	51.6%	9	0.0%	343	0.3%
Allergy and immunology	87	323	207	64.1%	116	35.9%	0	0.0%	0	0.0%
Anesthesiology	165	7,241	2,532	35.0%	4,692	64.8%	0	0.0%	17	0.2%
- Adult cardiothoracic anesthesiology	75	254	82	32.3%	171	67.3%	1	0.4%	0	0.0%
- Critical care medicine	65	210	71	33.8%	138	65.7%	0	0.0%	1	0.5%
- Regional anesthesiology and acute pain medicine	42	92	34	37.0%	58	63.0%	0	0.0%	0	0.0%
- Pediatric cardiac anesthesiology	15	15	7	46.7%	8	53.3%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	48	32	66.7%	16	33.3%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	115	411	96	23.4%	315	76.6%	0	0.0%	0	0.0%
- Pediatric anesthesiology	62	183	108	59.0%	74	40.4%	0	0.0%	1	0.5%
Colon and rectal surgery	68	110	51	46.4%	59	53.6%	0	0.0%	0	0.0%
Dermatology	144	1,633	1,013	62.0%	620	38.0%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	57	77	41	53.2%	36	46.8%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	81	91	41	45.1%	49	53.8%	0	0.0%	1	1.1%
- Pediatric dermatology	29	19	15	78.9%	3	15.8%	0	0.0%	1	5.3%
Emergency medicine	287	9,346	3,906	41.8%	5,431	58.1%	0	0.0%	9	0.1%
- Emergency medical services	83	95	34	35.8%	61	64.2%	0	0.0%	0	0.0%
- Medical toxicology	30	93	28	30.1%	64	68.8%	0	0.0%	1	1.1%
- Pediatric emergency medicine	29	143	92	64.3%	51	35.7%	0	0.0%	0	0.0%
- Sports medicine	9	18	9	50.0%	9	50.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	11	2	18.2%	9	81.8%	0	0.0%	0	0.0%
Family medicine	756	15,010	8,216	54.7%	6,732	44.9%	2	0.0%	60	0.4%
- Clinical informatics	8	23	10	43.5%	13	56.5%	0	0.0%	0	0.0%
- Geriatric medicine	46	43	33	76.7%	10	23.3%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	191	481	306	63.6%	171	35.6%	0	0.0%	4	0.8%
- Sports medicine	171	294	83	28.2%	211	71.8%	0	0.0%	0	0.0%
Internal medicine	627	31,794	14,175	44.6%	17,482	55.0%	0	0.0%	137	0.4%
- Adult congenital heart disease	27	30	13	43.3%	17	56.7%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	84	97	37	38.1%	59	60.8%	0	0.0%	1	1.0%
- Cardiovascular disease	273	3,456	943	27.3%	2,510	72.6%	0	0.0%	3	0.1%
- Clinical cardiac electrophysiology	116	329	55	16.7%	273	83.0%	0	0.0%	1	0.3%
- Clinical informatics	32	65	18	27.7%	47	72.3%	0	0.0%	0	0.0%
- Critical care medicine	66	358	136	38.0%	222	62.0%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	159	721	504	69.9%	217	30.1%	0	0.0%	0	0.0%
- Gastroenterology	229	1,975	792	40.1%	1,181	59.8%	0	0.0%	2	0.1%
- Geriatric medicine	119	270	172	63.7%	97	35.9%	0	0.0%	1	0.4%
- Hematology and medical oncology	184	2,098	940	44.8%	1,157	55.1%	0	0.0%	1	0.0%
- Infectious disease	167	817	413	50.6%	401	49.1%	0	0.0%	3	0.4%
- Interventional cardiology	180	373	58	15.5%	313	83.9%	0	0.0%	2	0.5%
- Nephrology	152	872	336	38.5%	532	61.0%	0	0.0%	4	0.5%
- Medical oncology	3	10	7	70.0%	3	30.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	65	21	32.3%	44	67.7%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	202	2,268	864	38.1%	1,399	61.7%	0	0.0%	5	0.2%
- Rheumatology	129	551	329	59.7%	222	40.3%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	96	214	94	43.9%	119	55.6%	0	0.0%	1	0.5%
- Transplant hepatology	66	48	29	60.4%	19	39.6%	0	0.0%	0	0.0%
Medical genetics and genomics	47	64	43	67.2%	21	32.8%	0	0.0%	0	0.0%
- Medical biochemical genetics	22	15	10	66.7%	5	33.3%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	59	29	49.2%	29	49.2%	0	0.0%	1	1.7%
Neurological surgery	117	1,593	378	23.7%	1,215	76.3%	0	0.0%	0	0.0%
- Neuroendovascular intervention	3	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%

TABLE C.21 <i>Continued</i>										
Number of Active Residents by Specialty and Subspecialty and Gender										
Specialty	Total Programs	Total Residents	Gender							
			Female		Male		Non-binary/Other		Not Reported	
			#	%	#	%	#	%	#	%
Neurology	180	3,530	1,703	48.2%	1,821	51.6%	0	0.0%	6	0.2%
- Clinical neurophysiology	95	153	67	43.8%	84	54.9%	0	0.0%	2	1.3%
- Epilepsy	95	158	80	50.6%	78	49.4%	0	0.0%	0	0.0%
- Neurocritical care (multidisciplinary)	35	120	45	37.5%	73	60.8%	0	0.0%	2	1.7%
- Neuroendovascular intervention	2	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	31	20	64.5%	11	35.5%	0	0.0%	0	0.0%
- Neuromuscular medicine	55	77	41	53.2%	36	46.8%	0	0.0%	0	0.0%
- Vascular neurology	112	189	80	42.3%	109	57.7%	0	0.0%	0	0.0%
Child neurology	80	479	331	69.1%	148	30.9%	0	0.0%	0	0.0%
Nuclear medicine	36	77	25	32.5%	50	64.9%	0	0.0%	2	2.6%
Obstetrics and gynecology	302	5,962	5,192	87.1%	760	12.7%	2	0.0%	8	0.1%
- Female pelvic medicine and reconstructive surgery	57	155	120	77.4%	33	21.3%	0	0.0%	2	1.3%
- Gynecologic oncology	71	240	187	77.9%	52	21.7%	0	0.0%	1	0.4%
- Maternal-fetal medicine	104	416	323	77.6%	93	22.4%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	173	141	81.5%	31	17.9%	1	0.6%	0	0.0%
- Complex family planning	32	55	54	98.2%	1	1.8%	0	0.0%	0	0.0%
Ophthalmology	125	1,738	698	40.2%	1,036	59.6%	0	0.0%	4	0.2%
- Ophthalmic plastic and reconstructive surgery	4	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%
Orthopaedic surgery	208	4,481	910	20.3%	3,570	79.7%	0	0.0%	1	0.0%
- Adult reconstructive orthopaedics	25	52	8	15.4%	44	84.6%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	16	3	18.8%	13	81.3%	0	0.0%	0	0.0%
- Hand surgery	74	159	56	35.2%	103	64.8%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	14	4	28.6%	9	64.3%	0	0.0%	1	7.1%
- Orthopaedic sports medicine	93	223	27	12.1%	195	87.4%	0	0.0%	1	0.4%
- Orthopaedic surgery of the spine	15	24	2	8.3%	22	91.7%	0	0.0%	0	0.0%
- Orthopaedic trauma	12	20	5	25.0%	15	75.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	25	39	15	38.5%	23	59.0%	0	0.0%	1	2.6%
Osteopathic neuromusculoskeletal medicine	26	83	41	49.4%	40	48.2%	0	0.0%	2	2.4%
Otolaryngology - head and neck surgery	131	1,795	764	42.6%	1,030	57.4%	1	0.1%	0	0.0%
- Neurotology	29	37	12	32.4%	25	67.6%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	40	16	40.0%	22	55.0%	0	0.0%	2	5.0%
Pathology-anatomic and clinical	146	2,342	1,242	53.0%	1,085	46.3%	0	0.0%	15	0.6%
- Blood banking/transfusion medicine	54	44	22	50.0%	22	50.0%	0	0.0%	0	0.0%
- Clinical informatics	10	23	5	21.7%	18	78.3%	0	0.0%	0	0.0%
- Chemical pathology	4	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	93	116	66	56.9%	49	42.2%	0	0.0%	1	0.9%
- Forensic pathology	49	60	24	40.0%	36	60.0%	0	0.0%	0	0.0%
- Hematopathology	87	139	64	46.0%	75	54.0%	0	0.0%	0	0.0%
- Medical microbiology	16	14	4	28.6%	10	71.4%	0	0.0%	0	0.0%
- Neuropathology	40	56	32	57.1%	24	42.9%	0	0.0%	0	0.0%
- Pediatric pathology	27	21	11	52.4%	10	47.6%	0	0.0%	0	0.0%
- Selective pathology	124	176	92	52.3%	83	47.2%	0	0.0%	1	0.6%
Pediatrics	213	9,539	6,996	73.3%	2,510	26.3%	0	0.0%	33	0.3%
- Adolescent medicine	34	91	74	81.3%	17	18.7%	0	0.0%	0	0.0%
- Child abuse pediatrics	32	58	43	74.1%	14	24.1%	0	0.0%	1	1.7%
- Clinical informatics	9	28	10	35.7%	18	64.3%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	103	92	89.3%	11	10.7%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	110	830	600	72.3%	228	27.5%	0	0.0%	2	0.2%
- Pediatric cardiology	64	480	256	53.3%	224	46.7%	0	0.0%	0	0.0%
- Pediatric critical care medicine	76	618	406	65.7%	212	34.3%	0	0.0%	0	0.0%
- Pediatric emergency medicine	58	454	310	68.3%	144	31.7%	0	0.0%	0	0.0%
- Pediatric endocrinology	73	249	194	77.9%	51	20.5%	0	0.0%	4	1.6%
- Pediatric gastroenterology	67	340	235	69.1%	105	30.9%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	78	463	316	68.3%	147	31.7%	0	0.0%	0	0.0%
- Pediatric infectious diseases	64	193	131	67.9%	61	31.6%	0	0.0%	1	0.5%

TABLE C.21 *Continued*

## Number of Active Residents by Specialty and Subspecialty and Gender

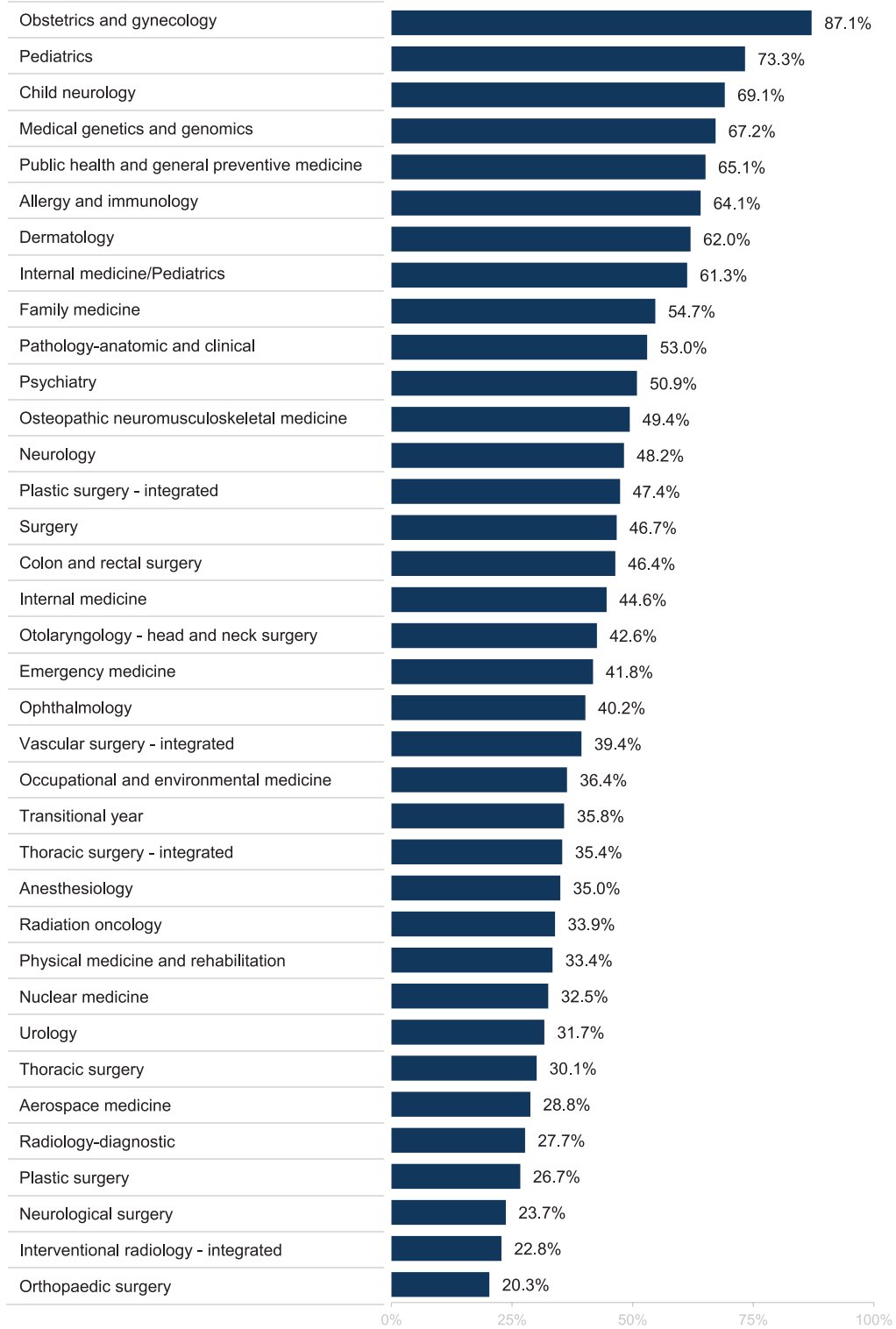
Specialty	Total Programs	Total Residents	Gender							
			Female		Male		Non-binary/Other		Not Reported	
			#	%	#	%	#	%	#	%
- Pediatric nephrology	48	144	100	69.4%	43	29.9%	0	0.0%	1	0.7%
- Pediatric pulmonology	57	194	125	64.4%	65	33.5%	0	0.0%	4	2.1%
- Pediatric rheumatology	37	109	85	78.0%	24	22.0%	0	0.0%	0	0.0%
- Sports medicine	17	27	8	29.6%	19	70.4%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	17	12	8	66.7%	4	33.3%	0	0.0%	0	0.0%
- Pediatric hospital medicine	68	191	141	73.8%	49	25.7%	0	0.0%	1	0.5%
Physical medicine and rehabilitation	101	1,640	548	33.4%	1,091	66.5%	0	0.0%	1	0.1%
- Brain injury medicine	27	22	10	45.5%	12	54.5%	0	0.0%	0	0.0%
- Neuromuscular medicine	1	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	26	24	13	54.2%	11	45.8%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	22	42	28	66.7%	14	33.3%	0	0.0%	0	0.0%
- Sports medicine	22	41	20	48.8%	21	51.2%	0	0.0%	0	0.0%
Plastic surgery	49	202	54	26.7%	148	73.3%	0	0.0%	0	0.0%
Plastic Surgery - integrated	89	1,107	525	47.4%	580	52.4%	0	0.0%	2	0.2%
- Craniofacial surgery	9	5	2	40.0%	3	60.0%	0	0.0%	0	0.0%
- Hand surgery	19	27	8	29.6%	19	70.4%	0	0.0%	0	0.0%
Public health and general preventive medicine	43	195	127	65.1%	68	34.9%	0	0.0%	0	0.0%
Aerospace medicine	5	52	15	28.8%	37	71.2%	0	0.0%	0	0.0%
Occupational and environmental medicine	23	118	43	36.4%	75	63.6%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Psychiatry	304	7,739	3,942	50.9%	3,774	48.8%	2	0.0%	21	0.3%
- Addiction medicine (multidisciplinary)	96	159	91	57.2%	68	42.8%	0	0.0%	0	0.0%
- Addiction psychiatry	55	92	33	35.9%	59	64.1%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	153	966	559	57.9%	407	42.1%	0	0.0%	0	0.0%
- Forensic psychiatry	49	75	37	49.3%	37	49.3%	0	0.0%	1	1.3%
- Geriatric psychiatry	63	58	36	62.1%	22	37.9%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	67	92	54	58.7%	38	41.3%	0	0.0%	0	0.0%
Radiation oncology	90	758	257	33.9%	500	66.0%	0	0.0%	1	0.1%
Radiology-diagnostic	199	4,614	1,280	27.7%	3,331	72.2%	0	0.0%	3	0.1%
- Abdominal radiology	13	50	14	28.0%	34	68.0%	0	0.0%	2	4.0%
- Neuroendovascular intervention	3	5	0	0.0%	5	100.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	21	38	9	23.7%	28	73.7%	0	0.0%	1	2.6%
- Neuroradiology	91	300	66	22.0%	227	75.7%	0	0.0%	7	2.3%
- Nuclear radiology	19	10	2	20.0%	8	80.0%	0	0.0%	0	0.0%
- Pediatric radiology	46	54	21	38.9%	31	57.4%	0	0.0%	2	3.7%
Interventional radiology - independent	94	177	24	13.6%	153	86.4%	0	0.0%	0	0.0%
Interventional radiology - integrated	95	750	171	22.8%	579	77.2%	0	0.0%	0	0.0%
Surgery	363	9,554	4,460	46.7%	5,077	53.1%	2	0.0%	15	0.2%
- Complex general surgical oncology	34	127	59	46.5%	68	53.5%	0	0.0%	0	0.0%
- Hand surgery	2	8	2	25.0%	5	62.5%	0	0.0%	1	12.5%
- Pediatric surgery	51	88	42	47.7%	46	52.3%	0	0.0%	0	0.0%
- Surgical critical care	162	341	155	45.5%	185	54.3%	0	0.0%	1	0.3%
- Vascular surgery	119	270	101	37.4%	169	62.6%	0	0.0%	0	0.0%
Vascular surgery - integrated	76	381	150	39.4%	231	60.6%	0	0.0%	0	0.0%
Thoracic surgery	75	256	77	30.1%	179	69.9%	0	0.0%	0	0.0%
- Congenital cardiac surgery	17	8	1	12.5%	7	87.5%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	237	84	35.4%	153	64.6%	0	0.0%	0	0.0%
Urology	150	1,834	582	31.7%	1,251	68.2%	0	0.0%	1	0.1%
- Female pelvic medicine and reconstructive surgery	17	42	33	78.6%	9	21.4%	0	0.0%	0	0.0%
- Pediatric urology	26	32	17	53.1%	15	46.9%	0	0.0%	0	0.0%
Transitional year	188	1,884	674	35.8%	1,206	64.0%	0	0.0%	4	0.2%
Internal medicine/Pediatrics	77	1,539	943	61.3%	591	38.4%	0	0.0%	5	0.3%
Health care administration, leadership, and management	2	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Note: Pipeline specialties are highlighted.

Source: The gender and race/ethnicity reported since 2020-2021 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges ("AAMC").

FIGURE C.22

Specialties Organized by Largest Percentages of Active Female Residents



Source: The gender and race/ethnicity reported since 2020-2021 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges (“AAMC”).

TABLE C.23

## Number of Active Residents by Specialty and Subspecialty and Race/Ethnicity

Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
OVERALL	75,393	42,493	15,056	9,966	172	66	6,757	5,136	3,040
TOTAL PIPELINE	61,368	33,130	12,401	8,334	153	53	5,670	4,102	2,393
Allergy and immunology	144	104	33	13	0	0	15	12	2
Anesthesiology	3,681	1,845	583	495	11	2	324	196	104
- Adult cardiothoracic anesthesiology	141	70	16	7	0	1	8	4	7
- Critical care medicine	117	41	18	9	0	0	9	12	4
- Regional anesthesiology and acute pain medicine	37	34	7	4	0	0	2	4	4
- Pediatric cardiac anesthesiology	10	4	0	1	0	0	0	0	0
- Obstetric anesthesiology	18	15	3	4	0	0	2	3	3
- Pain medicine (multidisciplinary)	193	130	26	18	1	0	17	16	10
- Pediatric anesthesiology	92	41	24	12	0	0	4	6	4
Colon and rectal surgery	61	25	12	4	0	1	5	0	2
Dermatology	851	389	142	93	5	0	81	62	10
- Dermatopathology (multidisciplinary)	37	17	8	6	0	0	5	2	2
- Micrographic surgery and dermatologic oncology	60	14	4	5	0	0	5	1	2
- Pediatric dermatology	15	2	0	0	0	0	0	1	1
Emergency medicine	5,756	1,401	925	520	12	3	449	234	46
- Emergency medical services	68	9	10	3	0	0	2	3	0
- Medical toxicology	59	17	7	3	0	0	4	2	1
- Pediatric emergency medicine	67	36	18	12	1	0	4	3	2
- Sports medicine	11	4	1	1	0	0	0	1	0
- Undersea and hyperbaric medicine	9	0	1	0	0	0	1	0	0
Family medicine	7,055	3,677	1,655	1,236	40	12	721	391	223
- Clinical informatics	7	10	0	3	0	1	0	2	0
- Geriatric medicine	16	14	5	3	0	0	2	1	2
- Hospice and palliative medicine (multidisciplinary)	264	120	38	19	0	0	18	14	8
- Sports medicine	189	45	25	17	2	0	10	6	0
Internal medicine	11,204	11,674	3,062	2,064	24	7	1,260	1,354	1,145
- Adult congenital heart disease	18	8	2	2	0	0	0	0	0
- Advanced heart failure and transplant cardiology	32	36	16	5	0	0	2	4	2
- Cardiovascular disease	1,328	1,295	264	221	2	1	123	154	68
- Clinical cardiac electrophysiology	146	114	22	14	0	0	11	17	5
- Clinical informatics	19	33	3	3	0	1	5	1	0
- Critical care medicine	157	117	35	22	0	0	14	10	3
- Endocrinology, diabetes, and metabolism	210	309	86	40	0	0	21	26	29
- Gastroenterology	725	776	184	123	1	2	51	89	24
- Geriatric medicine	84	104	28	23	0	0	8	11	12
- Hematology and medical oncology	845	873	115	92	1	0	67	66	39
- Infectious disease	350	252	104	33	0	0	24	31	23
- Interventional cardiology	121	166	20	28	0	0	10	24	4
- Nephrology	224	393	90	69	0	0	20	38	38
- Medical oncology	2	6	2	0	0	0	0	0	0
- Pulmonary disease	13	30	11	6	0	0	2	3	0
- Pulmonary disease and critical care medicine	1,064	724	178	95	1	0	69	96	41
- Rheumatology	223	206	44	28	1	0	17	16	16
- Sleep medicine (multidisciplinary)	74	94	20	10	0	0	8	5	3
- Transplant hepatology	18	16	4	4	0	0	4	1	1
Medical genetics and genomics	32	17	9	1	0	0	2	1	2
- Medical biochemical genetics	8	1	4	0	0	0	1	1	0
- Molecular genetic pathology (multidisciplinary)	28	23	5	1	0	0	1	1	0
Neurological surgery	835	374	141	90	2	0	78	59	14
- Neuroendovascular intervention	2	0	0	0	0	0	0	0	1



Number of Active Residents by Specialty and Subspecialty and Race/Ethnicity									
Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
Neurology	1,476	1,109	380	151	2	5	149	165	93
- Clinical neurophysiology	54	62	15	4	1	0	5	5	7
- Epilepsy	76	49	10	6	0	0	6	4	7
- Neurocritical care (multidisciplinary)	43	51	9	7	0	0	4	3	3
- Neuroendovascular intervention	0	1	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	19	5	2	1	0	0	3	1	0
- Neuromuscular medicine	42	25	2	3	0	0	3	1	1
- Vascular neurology	89	61	13	11	0	0	4	9	2
Child neurology	248	112	55	16	0	1	21	19	7
Nuclear medicine	24	23	7	4	0	0	2	5	12
Obstetrics and gynecology	3,405	891	642	572	8	2	275	128	39
- Female pelvic medicine and reconstructive surgery	88	29	13	12	0	0	8	3	2
- Gynecologic oncology	147	43	22	7	0	0	15	4	2
- Maternal-fetal medicine	259	63	34	28	0	0	16	13	3
- Reproductive endocrinology and infertility	102	38	8	13	0	0	6	6	0
- Complex family planning	29	11	6	5	0	0	2	2	0
Ophthalmology	838	579	125	69	0	0	62	47	18
- Ophthalmic plastic and reconstructive surgery	1	2	0	0	0	0	0	0	0
Orthopaedic surgery	3,032	597	331	232	3	1	162	86	37
- Adult reconstructive orthopaedics	39	7	2	3	0	0	0	0	1
- Foot and ankle orthopaedics	11	2	0	0	0	0	0	1	2
- Hand surgery	117	22	7	5	0	1	6	0	1
- Musculoskeletal oncology	9	3	1	0	0	0	0	0	1
- Orthopaedic sports medicine	168	22	10	9	0	0	8	3	3
- Orthopaedic surgery of the spine	15	6	2	0	0	0	0	0	1
- Orthopaedic trauma	11	2	1	2	0	0	1	0	3
- Pediatric orthopaedics	22	4	5	1	0	0	0	3	4
Osteopathic neuromusculoskeletal medicine	45	20	5	5	0	0	4	3	1
Otolaryngology - head and neck surgery	1,048	394	132	73	1	0	84	55	8
- Neurotology	20	10	4	0	0	0	2	0	1
- Pediatric otolaryngology	21	10	2	0	0	0	2	1	4
Pathology-anatomic and clinical	1,032	651	215	145	2	1	101	99	96
- Blood banking/transfusion medicine	18	15	5	1	0	0	2	2	1
- Clinical informatics	8	11	1	0	0	0	1	1	1
- Chemical pathology	0	1	0	0	0	0	0	0	0
- Cytopathology	47	35	17	5	0	0	3	4	5
- Forensic pathology	40	4	9	4	0	0	2	0	1
- Hematopathology	69	43	7	4	1	0	7	2	6
- Medical microbiology	10	3	0	0	0	0	0	0	1
- Neuropathology	31	10	7	2	0	0	2	3	1
- Pediatric pathology	13	2	4	0	0	0	1	0	1
- Selective pathology	53	74	15	8	0	0	3	11	12
Pediatrics	4,786	2,186	1,088	663	10	4	377	266	159
- Adolescent medicine	49	14	6	16	0	0	6	0	0
- Child abuse pediatrics	28	15	7	3	1	0	0	3	1
- Clinical informatics	14	9	0	1	0	0	1	3	0
- Developmental-behavioral pediatrics	51	28	16	4	0	0	1	3	0
- Neonatal-perinatal medicine	417	196	97	61	0	0	30	15	14
- Pediatric cardiology	283	113	37	17	0	0	10	14	6
- Pediatric critical care medicine	375	126	52	24	1	0	23	12	5
- Pediatric emergency medicine	252	90	43	32	1	0	25	9	2
- Pediatric endocrinology	121	64	33	4	0	0	3	12	12
- Pediatric gastroenterology	158	92	42	19	0	0	11	10	8
- Pediatric hematology/oncology	255	109	39	21	0	0	19	16	4
- Pediatric infectious diseases	100	40	24	5	0	0	12	4	8

TABLE C.23 *Continued*

## Number of Active Residents by Specialty and Subspecialty and Race/Ethnicity

Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
- Pediatric nephrology	68	41	16	7	0	0	4	4	4
- Pediatric pulmonology	98	46	23	6	1	0	4	8	8
- Pediatric rheumatology	62	19	15	3	0	1	5	3	1
- Sports medicine	18	2	2	1	0	0	3	1	0
- Pediatric transplant hepatology	9	2	0	1	0	0	0	0	0
- Pediatric hospital medicine	115	34	15	14	0	0	8	4	1
Physical medicine and rehabilitation	803	461	147	103	1	0	75	35	15
- Brain injury medicine	11	1	5	1	0	0	1	2	1
- Neuromuscular medicine	0	0	0	0	0	0	0	0	0
- Spinal cord injury medicine	8	9	3	1	0	0	2	0	1
- Pediatric rehabilitation medicine	23	7	7	2	0	0	2	1	0
- Sports medicine	22	6	4	4	0	0	3	1	1
Plastic surgery	110	40	24	9	0	1	13	5	0
Plastic Surgery - integrated	637	226	99	39	0	0	62	36	8
- Craniofacial surgery	4	0	1	0	0	0	0	0	0
- Hand surgery	17	3	0	2	0	0	3	1	1
Public health and general preventive medicine	79	48	16	24	0	1	13	7	7
Aerospace medicine	40	3	4	1	0	0	2	0	2
Occupational and environmental medicine	61	28	8	11	0	0	5	4	1
- Undersea and hyperbaric medicine	2	0	0	0	0	0	0	0	0
Psychiatry	3,603	1,960	813	626	10	1	421	232	73
- Addiction medicine (multidisciplinary)	88	38	9	15	0	0	5	3	1
- Addiction psychiatry	35	29	12	8	0	1	4	2	1
- Child and adolescent psychiatry	400	293	106	58	2	1	56	31	19
- Forensic psychiatry	38	18	5	4	0	0	6	3	1
- Geriatric psychiatry	19	23	7	5	0	0	2	0	2
- Consultation-liaison psychiatry	42	29	7	5	0	0	2	4	3
Radiation oncology	371	230	40	47	0	1	30	30	9
Radiology-diagnostic	2,402	1,263	327	187	4	2	218	145	66
- Abdominal radiology	20	12	1	4	0	0	1	2	10
- Neuroendovascular intervention	2	1	1	0	0	0	0	0	1
- Musculoskeletal radiology	20	9	2	0	0	0	2	0	5
- Neuroradiology	164	68	24	6	0	0	7	10	21
- Nuclear radiology	6	0	1	1	0	0	0	0	2
- Pediatric radiology	22	12	5	3	0	0	1	0	11
Interventional radiology - independent	79	44	20	12	0	1	8	7	6
Interventional radiology - integrated	396	202	52	31	2	0	33	26	8
Surgery	5,204	1,835	1,020	550	12	7	468	310	148
- Complex general surgical oncology	70	27	11	6	0	1	7	5	0
- Hand surgery	4	3	0	0	0	0	0	0	1
- Pediatric surgery	65	14	4	1	0	0	2	1	1
- Surgical critical care	217	58	24	12	0	0	20	6	4
- Vascular surgery	150	63	18	17	1	0	12	9	0
Vascular surgery - integrated	193	103	36	24	1	0	11	12	1
Thoracic surgery	143	53	20	15	0	0	8	15	2
- Congenital cardiac surgery	5	3	0	0	0	0	0	0	0
Thoracic surgery - integrated	122	61	14	11	0	0	14	8	7
Urology	1,029	398	158	97	3	1	86	48	14
- Female pelvic medicine and reconstructive surgery	26	8	4	3	0	0	0	0	1
- Pediatric urology	19	7	3	1	0	0	1	0	1
Transitional year	933	475	178	115	0	1	92	48	42
Internal medicine/Pediatrics	891	289	126	133	0	0	59	27	14
Health care administration, leadership, and management	0	0	0	0	0	0	0	0	0

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. Source: The gender and race/ethnicity reported since 2020-2021 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges ("AAMC").

Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
OVERALL	33,850	21,651	7,313	5,781	83	30	3,313	2,153	1,306
TOTAL PIPELINE	27,610	17,079	6,081	4,912	74	24	2,789	1,769	1,032
Allergy and immunology	83	75	20	9	0	0	10	9	1
Anesthesiology	1,067	774	204	256	4	0	123	71	33
- Adult cardiothoracic anesthesiology	41	28	2	3	0	1	3	1	3
- Critical care medicine	36	21	4	4	0	0	2	3	1
- Regional anesthesiology and acute pain medicine	11	14	3	2	0	0	1	2	1
- Pediatric cardiac anesthesiology	5	1	0	1	0	0	0	0	0
- Obstetric anesthesiology	12	12	1	4	0	0	2	0	1
- Pain medicine (multidisciplinary)	36	36	7	7	0	0	5	3	2
- Pediatric anesthesiology	44	30	16	9	0	0	3	3	3
Colon and rectal surgery	28	10	6	2	0	1	3	0	1
Dermatology	498	242	84	81	3	0	55	42	8
- Dermatopathology (multidisciplinary)	23	9	1	4	0	0	2	1	1
- Micrographic surgery and dermatologic oncology	22	8	3	4	0	0	3	0	1
- Pediatric dermatology	11	2	0	0	0	0	0	1	1
Emergency medicine	2,336	588	392	261	6	1	205	94	23
- Emergency medical services	26	0	3	3	0	0	1	1	0
- Medical toxicology	16	7	2	3	0	0	0	0	0
- Pediatric emergency medicine	42	21	11	11	1	0	3	2	1
- Sports medicine	6	1	1	1	0	0	0	0	0
- Undersea and hyperbaric medicine	2	0	0	0	0	0	0	0	0
Family medicine	3,602	2,153	922	831	19	6	380	200	103
- Clinical informatics	5	4	0	1	0	0	0	0	0
- Geriatric medicine	13	10	4	3	0	0	1	0	2
- Hospice and palliative medicine (multidisciplinary)	167	76	24	15	0	0	11	11	2
- Sports medicine	56	7	5	9	1	0	4	1	0
Internal medicine	4,543	5,728	1,310	1,041	9	2	540	526	476
- Adult congenital heart disease	6	5	1	1	0	0	0	0	0
- Advanced heart failure and transplant cardiology	13	14	5	3	0	0	0	2	0
- Cardiovascular disease	311	409	68	69	0	0	38	24	24
- Clinical cardiac electrophysiology	18	30	2	2	0	0	1	1	1
- Clinical informatics	3	13	1	0	0	0	1	0	0
- Critical care medicine	59	45	15	6	0	0	5	4	2
- Endocrinology, diabetes, and metabolism	138	228	57	31	0	0	12	16	22
- Gastroenterology	257	351	76	45	1	1	20	32	9
- Geriatric medicine	62	64	18	15	0	0	5	4	4
- Hematology and medical oncology	309	458	48	50	0	0	25	31	19
- Infectious disease	171	137	46	20	0	0	12	16	11
- Interventional cardiology	17	28	3	9	0	0	0	1	0
- Nephrology	80	162	38	26	0	0	5	13	12
- Medical oncology	2	3	2	0	0	0	0	0	0
- Pulmonary disease	2	14	3	1	0	0	0	1	0
- Pulmonary disease and critical care medicine	388	302	65	39	1	0	24	33	12
- Rheumatology	121	138	26	17	1	0	7	10	9
- Sleep medicine (multidisciplinary)	29	45	7	8	0	0	3	1	1
- Transplant hepatology	14	8	1	3	0	0	3	0	0
Medical genetics and genomics	23	11	4	1	0	0	1	1	2
- Medical biochemical genetics	7	1	2	0	0	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	13	14	2	0	0	0	0	0	0
Neurological surgery	201	89	23	21	0	0	28	13	3
- Neuroendovascular intervention	0	0	0	0	0	0	0	0	0

TABLE C.24 *Continued*

## Number of Active Female Residents by Specialty and Subspecialty and Race/Ethnicity

Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
Neurology	660	592	193	78	1	2	67	67	43
- Clinical neurophysiology	24	34	3	2	0	0	2	0	2
- Epilepsy	41	22	5	4	0	0	3	4	1
- Neurocritical care (multidisciplinary)	18	16	1	6	0	0	3	1	0
- Neuroendovascular intervention	0	0	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	11	5	1	1	0	0	1	1	0
- Neuromuscular medicine	20	16	2	1	0	0	1	1	0
- Vascular neurology	39	25	8	6	0	0	1	0	1
Child neurology	163	85	42	12	0	1	16	11	1
Nuclear medicine	8	10	2	1	0	0	0	2	2
Obstetrics and gynecology	2,947	797	536	530	7	1	248	97	29
- Female pelvic medicine and reconstructive surgery	71	24	7	10	0	0	8	0	0
- Gynecologic oncology	115	32	18	4	0	0	14	3	1
- Maternal-fetal medicine	203	49	24	25	0	0	12	8	2
- Reproductive endocrinology and infertility	82	34	7	11	0	0	4	3	0
- Complex family planning	29	11	5	5	0	0	2	2	0
Ophthalmology	266	292	49	30	0	0	27	27	7
- Ophthalmic plastic and reconstructive surgery	1	1	0	0	0	0	0	0	0
Orthopaedic surgery	591	131	67	55	1	0	44	14	7
- Adult reconstructive orthopaedics	6	1	1	0	0	0	0	0	0
- Foot and ankle orthopaedics	1	1	0	0	0	0	0	0	1
- Hand surgery	43	6	2	4	0	0	0	0	1
- Musculoskeletal oncology	4	0	0	0	0	0	0	0	0
- Orthopaedic sports medicine	19	1	4	0	0	0	2	0	1
- Orthopaedic surgery of the spine	1	0	1	0	0	0	0	0	0
- Orthopaedic trauma	3	0	0	1	0	0	1	0	0
- Pediatric orthopaedics	11	2	1	0	0	0	0	0	1
Osteopathic neuromusculoskeletal medicine	18	15	2	3	0	0	1	1	1
Otolaryngology - head and neck surgery	417	191	53	36	0	0	42	21	4
- Neurotology	4	4	3	0	0	0	1	0	0
- Pediatric otolaryngology	8	7	0	0	0	0	0	0	1
Pathology-anatomic and clinical	514	377	117	81	2	0	54	42	55
- Blood banking/transfusion medicine	5	10	3	1	0	0	2	0	1
- Clinical informatics	2	2	0	0	0	0	1	0	0
- Chemical pathology	0	1	0	0	0	0	0	0	0
- Cytopathology	25	22	9	4	0	0	2	1	3
- Forensic pathology	17	2	3	1	0	0	1	0	0
- Hematopathology	26	28	2	0	0	0	4	2	2
- Medical microbiology	2	2	0	0	0	0	0	0	0
- Neuropathology	15	8	5	0	0	0	1	2	1
- Pediatric pathology	8	0	1	0	0	0	1	0	1
- Selective pathology	24	47	5	5	0	0	2	6	3
Pediatrics	3,399	1,688	802	539	8	4	275	190	91
- Adolescent medicine	38	14	4	13	0	0	5	0	0
- Child abuse pediatrics	23	8	5	3	1	0	0	3	0
- Clinical informatics	6	4	0	0	0	0	0	0	0
- Developmental-behavioral pediatrics	44	25	15	4	0	0	1	3	0
- Neonatal-perinatal medicine	297	143	69	48	0	0	22	9	12
- Pediatric cardiology	145	75	14	12	0	0	6	3	1
- Pediatric critical care medicine	250	85	31	16	1	0	14	6	3
- Pediatric emergency medicine	169	61	28	24	0	0	18	8	2
- Pediatric endocrinology	97	54	23	4	0	0	2	8	6
- Pediatric gastroenterology	102	63	30	17	0	0	8	8	7
- Pediatric hematology/oncology	171	75	27	18	0	0	12	10	3
- Pediatric infectious diseases	64	28	18	4	0	0	10	1	6

TABLE C.24 <i>Continued</i>									
Number of Active Female Residents by Specialty and Subspecialty and Race/Ethnicity									
Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
- Pediatric nephrology	46	30	13	4	0	0	2	1	4
- Pediatric pulmonology	60	34	15	3	1	0	3	5	4
- Pediatric rheumatology	48	16	10	3	0	1	4	2	1
- Sports medicine	6	0	1	0	0	0	1	0	0
- Pediatric transplant hepatology	7	1	0	0	0	0	0	0	0
- Pediatric hospital medicine	82	26	12	11	0	0	6	4	0
Physical medicine and rehabilitation	255	148	55	43	0	0	26	14	7
- Brain injury medicine	5	0	2	1	0	0	0	1	1
- Neuromuscular medicine	0	0	0	0	0	0	0	0	0
- Spinal cord injury medicine	4	6	2	0	0	0	0	0	1
- Pediatric rehabilitation medicine	15	5	4	2	0	0	1	1	0
- Sports medicine	15	2	1	2	0	0	0	0	0
Plastic surgery	30	13	4	3	0	0	3	1	0
Plastic Surgery - integrated	286	120	46	27	0	0	31	13	2
- Craniofacial surgery	2	0	0	0	0	0	0	0	0
- Hand surgery	5	1	0	1	0	0	1	0	0
Public health and general preventive medicine	46	38	14	19	0	1	4	1	4
Aerospace medicine	11	1	2	0	0	0	0	0	1
Occupational and environmental medicine	22	9	2	7	0	0	3	0	0
- Undersea and hyperbaric medicine	1	0	0	0	0	0	0	0	0
Psychiatry	1,640	1,102	442	396	6	0	215	107	34
- Addiction medicine (multidisciplinary)	50	19	6	11	0	0	3	1	1
- Addiction psychiatry	13	9	3	3	0	1	3	0	1
- Child and adolescent psychiatry	209	184	60	45	0	1	34	14	12
- Forensic psychiatry	19	7	2	1	0	0	5	3	0
- Geriatric psychiatry	11	15	7	1	0	0	1	0	1
- Consultation-liaison psychiatry	24	17	5	3	0	0	1	2	2
Radiation oncology	119	85	15	17	0	0	9	10	2
Radiology-diagnostic	563	409	97	70	1	0	68	48	24
- Abdominal radiology	3	2	1	2	0	0	0	1	5
- Neuroendovascular intervention	0	0	0	0	0	0	0	0	0
- Musculoskeletal radiology	4	2	0	0	0	0	2	0	1
- Neuroradiology	28	16	7	1	0	0	3	4	7
- Nuclear radiology	0	0	0	0	0	0	0	0	2
- Pediatric radiology	9	8	2	0	0	0	0	0	2
Interventional radiology - independent	9	5	4	3	0	1	1	1	0
Interventional radiology - integrated	86	54	8	5	0	0	10	7	1
Surgery	2,347	969	443	295	5	4	232	111	54
- Complex general surgical oncology	32	15	3	4	0	0	3	2	0
- Hand surgery	0	2	0	0	0	0	0	0	0
- Pediatric surgery	32	7	2	0	0	0	1	0	0
- Surgical critical care	101	24	10	5	0	0	12	2	1
- Vascular surgery	53	24	7	4	1	0	7	5	0
Vascular surgery - integrated	73	36	20	10	1	0	5	5	0
Thoracic surgery	43	18	4	4	0	0	2	5	1
- Congenital cardiac surgery	1	0	0	0	0	0	0	0	0
Thoracic surgery - integrated	39	21	4	5	0	0	6	5	4
Urology	300	129	52	50	1	1	32	11	6
- Female pelvic medicine and reconstructive surgery	21	6	3	2	0	0	0	0	1
- Pediatric urology	9	4	1	1	0	0	1	0	1
Transitional year	293	183	65	61	0	0	46	11	15
Internal medicine/Pediatrics	531	177	71	105	0	0	38	16	5
Health care administration, leadership, and management	0	0	0	0	0	0	0	0	0

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. Source: The gender and race/ethnicity reported since 2020-2021 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges ("AAMC").

TABLE C.25

## Number of Active Male Residents by Specialty and Subspecialty and Race/Ethnicity

Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
OVERALL	41,483	20,818	7,733	4,178	89	36	3,438	2,977	1,412
TOTAL PIPELINE	33,710	16,031	6,310	3,417	79	29	2,876	2,330	1,100
Allergy and immunology	61	29	13	4	0	0	5	3	1
Anesthesiology	2,612	1,070	378	239	7	2	201	125	58
- Adult cardiothoracic anesthesiology	99	42	14	4	0	0	5	3	4
- Critical care medicine	80	20	14	5	0	0	7	9	3
- Regional anesthesiology and acute pain medicine	26	20	4	2	0	0	1	2	3
- Pediatric cardiac anesthesiology	5	3	0	0	0	0	0	0	0
- Obstetric anesthesiology	6	3	2	0	0	0	0	3	2
- Pain medicine (multidisciplinary)	157	94	19	11	1	0	12	13	8
- Pediatric anesthesiology	48	11	8	3	0	0	1	3	0
Colon and rectal surgery	33	15	6	2	0	0	2	0	1
Dermatology	353	147	58	12	2	0	26	20	2
- Dermatopathology (multidisciplinary)	14	8	7	2	0	0	3	1	1
- Micrographic surgery and dermatologic oncology	38	6	1	1	0	0	2	1	0
- Pediatric dermatology	3	0	0	0	0	0	0	0	0
Emergency medicine	3,414	812	533	259	6	2	244	140	21
- Emergency medical services	42	9	7	0	0	0	1	2	0
- Medical toxicology	43	10	5	0	0	0	4	1	1
- Pediatric emergency medicine	25	15	7	1	0	0	1	1	1
- Sports medicine	5	3	0	0	0	0	0	1	0
- Undersea and hyperbaric medicine	7	0	1	0	0	0	1	0	0
Family medicine	3,442	1,520	730	401	21	6	340	191	81
- Clinical informatics	2	6	0	2	0	1	0	2	0
- Geriatric medicine	3	4	1	0	0	0	1	1	0
- Hospice and palliative medicine (multidisciplinary)	97	44	14	4	0	0	7	3	2
- Sports medicine	133	38	20	8	1	0	6	5	0
Internal medicine	6,656	5,939	1,749	1,023	15	5	719	827	549
- Adult congenital heart disease	12	3	1	1	0	0	0	0	0
- Advanced heart failure and transplant cardiology	19	22	11	2	0	0	2	2	1
- Cardiovascular disease	1,017	886	196	152	2	1	85	129	42
- Clinical cardiac electrophysiology	128	84	20	12	0	0	10	16	3
- Clinical informatics	16	20	2	3	0	1	4	1	0
- Critical care medicine	98	72	20	16	0	0	9	6	1
- Endocrinology, diabetes, and metabolism	72	81	29	9	0	0	9	10	7
- Gastroenterology	467	425	108	78	0	1	31	57	14
- Geriatric medicine	22	40	10	8	0	0	3	7	7
- Hematology and medical oncology	536	415	67	42	1	0	42	35	19
- Infectious disease	178	115	58	13	0	0	12	15	10
- Interventional cardiology	103	138	17	19	0	0	10	23	3
- Nephrology	143	231	52	43	0	0	15	25	23
- Medical oncology	0	3	0	0	0	0	0	0	0
- Pulmonary disease	11	16	8	5	0	0	2	2	0
- Pulmonary disease and critical care medicine	676	422	113	55	0	0	45	63	25
- Rheumatology	102	68	18	11	0	0	10	6	7
- Sleep medicine (multidisciplinary)	44	49	13	2	0	0	5	4	2
- Transplant hepatology	4	8	3	1	0	0	1	1	1
Medical genetics and genomics	9	6	5	0	0	0	1	0	0
- Medical biochemical genetics	1	0	2	0	0	0	1	1	0
- Molecular genetic pathology (multidisciplinary)	14	9	3	1	0	0	1	1	0
Neurological surgery	634	285	118	69	2	0	50	46	11
- Neuroendovascular intervention	2	0	0	0	0	0	0	0	1

TABLE C.25 <i>Continued</i>									
Number of Active Male Residents by Specialty and Subspecialty and Race/Ethnicity									
Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
Neurology	816	517	187	73	1	3	82	98	44
- Clinical neurophysiology	30	28	12	2	1	0	3	5	3
- Epilepsy	35	27	5	2	0	0	3	0	6
- Neurocritical care (multidisciplinary)	25	35	8	1	0	0	1	2	1
- Neuroendovascular intervention	0	1	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	8	0	1	0	0	0	2	0	0
- Neuromuscular medicine	22	9	0	2	0	0	2	0	1
- Vascular neurology	50	36	5	5	0	0	3	9	1
Child neurology	85	27	13	4	0	0	5	8	6
Nuclear medicine	16	13	5	3	0	0	2	3	8
Obstetrics and gynecology	455	94	106	42	1	1	27	31	3
- Female pelvic medicine and reconstructive surgery	17	5	6	2	0	0	0	3	0
- Gynecologic oncology	32	11	4	3	0	0	1	1	0
- Maternal-fetal medicine	56	14	10	3	0	0	4	5	1
- Reproductive endocrinology and infertility	20	4	1	2	0	0	1	3	0
- Complex family planning	0	0	1	0	0	0	0	0	0
Ophthalmology	572	287	76	39	0	0	35	19	8
- Ophthalmic plastic and reconstructive surgery	0	1	0	0	0	0	0	0	0
Orthopaedic surgery	2,441	466	264	177	2	1	118	72	29
- Adult reconstructive orthopaedics	33	6	1	3	0	0	0	0	1
- Foot and ankle orthopaedics	10	1	0	0	0	0	0	1	1
- Hand surgery	74	16	5	1	0	1	6	0	0
- Musculoskeletal oncology	5	2	1	0	0	0	0	0	1
- Orthopaedic sports medicine	149	21	6	9	0	0	6	3	1
- Orthopaedic surgery of the spine	14	6	1	0	0	0	0	0	1
- Orthopaedic trauma	8	2	1	1	0	0	0	0	3
- Pediatric orthopaedics	11	2	4	1	0	0	0	3	2
Osteopathic neuromusculoskeletal medicine	25	5	3	2	0	0	3	2	0
Otolaryngology - head and neck surgery	630	203	79	37	1	0	42	34	4
- Neurotology	16	6	1	0	0	0	1	0	1
- Pediatric otolaryngology	13	3	2	0	0	0	2	1	1
Pathology-anatomic and clinical	516	273	97	64	0	1	47	57	30
- Blood banking/transfusion medicine	13	5	2	0	0	0	0	2	0
- Clinical informatics	6	9	1	0	0	0	0	1	1
- Chemical pathology	0	0	0	0	0	0	0	0	0
- Cytopathology	22	13	8	1	0	0	1	3	1
- Forensic pathology	23	2	6	3	0	0	1	0	1
- Hematopathology	43	15	5	4	1	0	3	0	4
- Medical microbiology	8	1	0	0	0	0	0	0	1
- Neuropathology	16	2	2	2	0	0	1	1	0
- Pediatric pathology	5	2	3	0	0	0	0	0	0
- Selective pathology	29	27	10	3	0	0	1	5	8
Pediatrics	1,383	495	285	124	2	0	102	76	43
- Adolescent medicine	11	0	2	3	0	0	1	0	0
- Child abuse pediatrics	5	7	2	0	0	0	0	0	0
- Clinical informatics	8	5	0	1	0	0	1	3	0
- Developmental-behavioral pediatrics	7	3	1	0	0	0	0	0	0
- Neonatal-perinatal medicine	120	51	28	13	0	0	8	6	2
- Pediatric cardiology	138	38	23	5	0	0	4	11	5
- Pediatric critical care medicine	125	41	21	8	0	0	9	6	2
- Pediatric emergency medicine	83	29	15	8	1	0	7	1	0
- Pediatric endocrinology	23	10	10	0	0	0	1	4	3
- Pediatric gastroenterology	56	29	12	2	0	0	3	2	1
- Pediatric hematology/oncology	84	34	12	3	0	0	7	6	1
- Pediatric infectious diseases	36	12	6	1	0	0	2	3	1

TABLE C.25 Continued

Number of Active Male Residents by Specialty and Subspecialty and Race/Ethnicity									
Specialty	Race/Ethnicity								
	White	Asian	Hispanic, Latino or of Spanish origin	Black or African American	American Indian or Alaskan Native	Native Hawaiian or Pacific Islander	Multiple Race/Ethnicity	Other	Unknown
- Pediatric nephrology	21	11	3	3	0	0	2	3	0
- Pediatric pulmonology	38	12	8	3	0	0	1	2	1
- Pediatric rheumatology	14	3	5	0	0	0	1	1	0
- Sports medicine	12	2	1	1	0	0	2	1	0
- Pediatric transplant hepatology	2	1	0	1	0	0	0	0	0
- Pediatric hospital medicine	33	8	3	3	0	0	2	0	0
Physical medicine and rehabilitation	548	313	92	60	1	0	49	21	7
- Brain injury medicine	6	1	3	0	0	0	1	1	0
- Neuromuscular medicine	0	0	0	0	0	0	0	0	0
- Spinal cord injury medicine	4	3	1	1	0	0	2	0	0
- Pediatric rehabilitation medicine	8	2	3	0	0	0	1	0	0
- Sports medicine	7	4	3	2	0	0	3	1	1
Plastic surgery	80	27	20	6	0	1	10	4	0
Plastic Surgery - integrated	351	105	53	12	0	0	31	23	5
- Craniofacial surgery	2	0	1	0	0	0	0	0	0
- Hand surgery	12	2	0	1	0	0	2	1	1
Public health and general preventive medicine	33	10	2	5	0	0	9	6	3
Aerospace medicine	29	2	2	1	0	0	2	0	1
Occupational and environmental medicine	39	19	6	4	0	0	2	4	1
- Undersea and hyperbaric medicine	1	0	0	0	0	0	0	0	0
Psychiatry	1,955	856	371	230	4	1	203	125	29
- Addiction medicine (multidisciplinary)	38	19	3	4	0	0	2	2	0
- Addiction psychiatry	22	20	9	5	0	0	1	2	0
- Child and adolescent psychiatry	191	109	46	13	2	0	22	17	7
- Forensic psychiatry	18	11	3	3	0	0	1	0	1
- Geriatric psychiatry	8	8	0	4	0	0	1	0	1
- Consultation-liaison psychiatry	18	12	2	2	0	0	1	2	1
Radiation oncology	252	145	25	30	0	1	21	20	6
Radiology-diagnostic	1,839	854	230	117	3	2	150	97	39
- Abdominal radiology	17	10	0	2	0	0	1	1	3
- Neuroendovascular intervention	2	1	1	0	0	0	0	0	1
- Musculoskeletal radiology	16	7	2	0	0	0	0	0	3
- Neuroradiology	136	52	17	5	0	0	4	6	7
- Nuclear radiology	6	0	1	1	0	0	0	0	0
- Pediatric radiology	13	4	3	3	0	0	1	0	7
Interventional radiology - independent	70	39	16	9	0	0	7	6	6
Interventional radiology - integrated	310	148	44	26	2	0	23	19	7
Surgery	2,855	866	576	255	7	3	236	198	81
- Complex general surgical oncology	38	12	8	2	0	1	4	3	0
- Hand surgery	4	1	0	0	0	0	0	0	0
- Pediatric surgery	33	7	2	1	0	0	1	1	1
- Surgical critical care	116	34	14	7	0	0	8	4	2
- Vascular surgery	97	39	11	13	0	0	5	4	0
Vascular surgery - integrated	120	67	16	14	0	0	6	7	1
Thoracic surgery	100	35	16	11	0	0	6	10	1
- Congenital cardiac surgery	4	3	0	0	0	0	0	0	0
Thoracic surgery - integrated	83	40	10	6	0	0	8	3	3
Urology	729	269	106	47	2	0	54	37	7
- Female pelvic medicine and reconstructive surgery	5	2	1	1	0	0	0	0	0
- Pediatric urology	10	3	2	0	0	0	0	0	0
Transitional year	640	291	113	53	0	1	46	37	25
Internal medicine/Pediatrics	358	112	55	27	0	0	21	11	7
Health care administration, leadership, and management	0	0	0	0	0	0	0	0	0

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. Source: The gender and race/ethnicity reported since 2020-2021 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges ("AAMC").

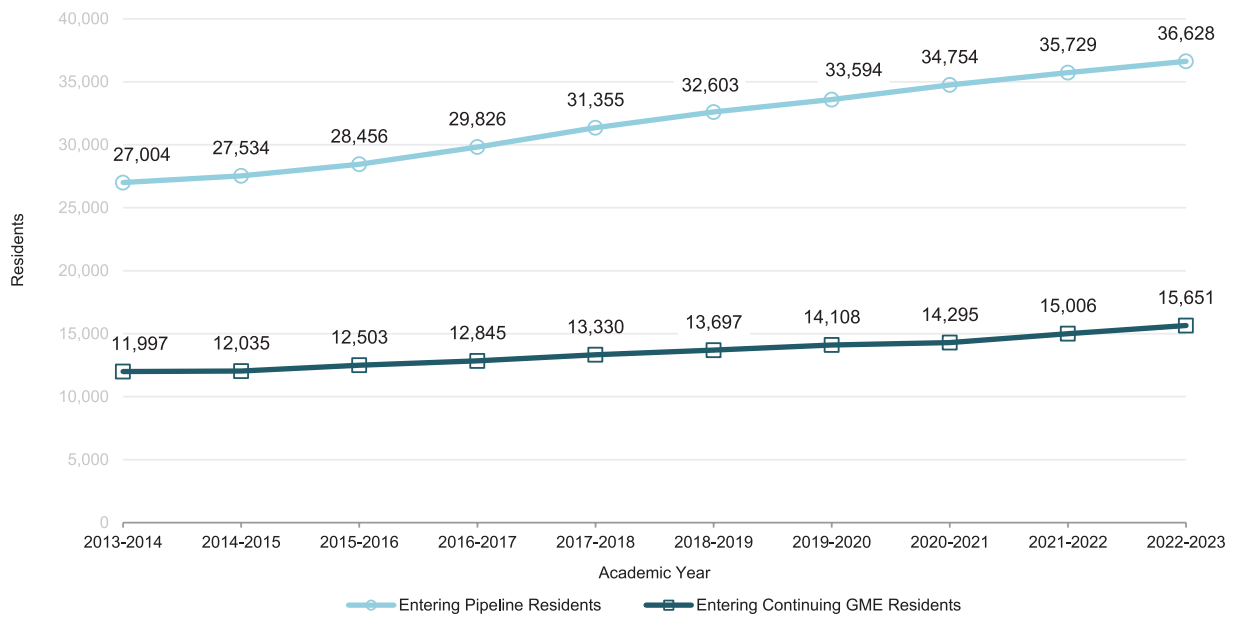


TABLE C.26		
Race/Ethnicity (Alone and In Combination) of Active Residents		
Active Residents Race/Ethnicity		2022-2023
American Indian or Alaskan Native	Alone	172
	In Combination	779
	Total (Alone or In Combination)	951
Asian	Alone	42,493
	In Combination	4,274
	Total (Alone or In Combination)	46,767
Black or African American	Alone	9,966
	In Combination	1,467
	Total (Alone or In Combination)	11,433
Hispanic, Latino, or of Spanish Origin	Alone	9,590
	In Combination	5,466
	Total (Alone or In Combination)	15,056
Native Hawaiian or Other Pacific Islander	Alone	66
	In Combination	299
	Total (Alone or In Combination)	365
White	Alone	75,393
	In Combination	10,122
	Total (Alone or In Combination)	85,515
Other	Alone	5,136
	In Combination	2,841
	Total (Alone or In Combination)	7,977
Unknown Race/Ethnicity		3,040
Unduplicated Total Residents		158,079

“Alone” indicates those who selected only one race/ethnicity response. “In Combination” indicates those who selected more than one race/ethnicity response. Source: The gender and race/ethnicity reported since 2021-2022 academic year and forward are based upon self-reported data provided by the Association of American Medical Colleges (“AAMC”).

FIGURE C.27

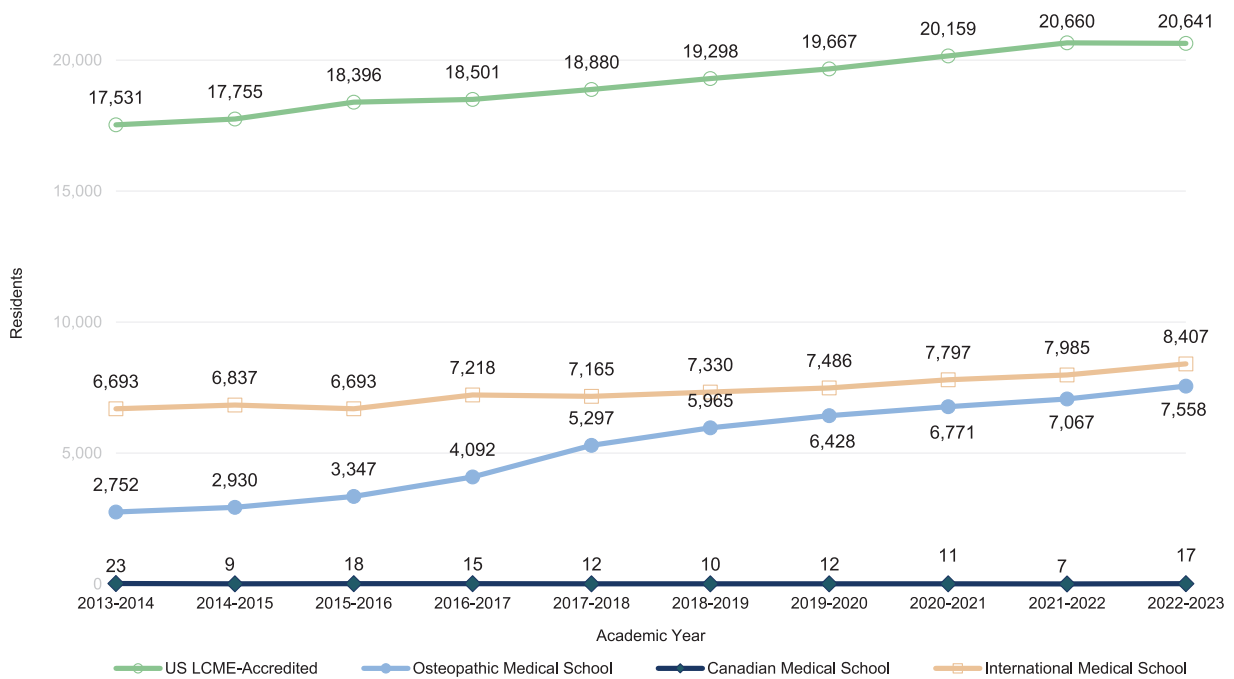
Number of Residents Entering Pipeline and Continuing GME Programs by Academic Year, 2013-2014 to 2022-2023



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

FIGURE C.28

Number of Residents Entering the Pipeline by Medical School Type and Academic Year, 2013-2014 to 2022-2023



Notes: Not shown are those graduates for which the specific U.S. medical school is unknown.  
Abbreviations: LCME, Liaison Committee on Medical Education.

TABLE C.29											
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	36,628	20,641	56.4%	8,407	23.0%	7,558	20.6%	17	0.0%	5	0.0%
Anesthesiology	1,695	1,230	72.6%	133	7.8%	332	19.6%	0	0.0%	0	0.0%
Dermatology	549	471	85.8%	18	3.3%	60	10.9%	0	0.0%	0	0.0%
Emergency medicine	3,010	1,843	61.2%	247	8.2%	917	30.5%	1	0.0%	2	0.1%
Family medicine	5,121	1,888	36.9%	1,431	27.9%	1,800	35.1%	1	0.0%	1	0.0%
Internal medicine	10,260	4,176	40.7%	4,179	40.7%	1,898	18.5%	6	0.1%	1	0.0%
Medical genetics and genomics	34	15	44.1%	16	47.1%	3	8.8%	0	0.0%	0	0.0%
Neurological surgery	242	216	89.3%	18	7.4%	8	3.3%	0	0.0%	0	0.0%
Neurology	1,025	546	53.3%	312	30.4%	165	16.1%	1	0.1%	1	0.1%
Child neurology	169	119	70.4%	26	15.4%	23	13.6%	1	0.6%	0	0.0%
Nuclear medicine	37	7	18.9%	27	73.0%	3	8.1%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,543	1,200	77.8%	86	5.6%	256	16.6%	1	0.1%	0	0.0%
Ophthalmology	524	482	92.0%	9	1.7%	32	6.1%	1	0.2%	0	0.0%
Orthopaedic surgery	897	759	84.6%	19	2.1%	119	13.3%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	15	0	0.0%	0	0.0%	15	100.0%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	380	354	93.2%	4	1.1%	22	5.8%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	644	270	41.9%	286	44.4%	88	13.7%	0	0.0%	0	0.0%
Pediatrics	3,214	1,870	58.2%	690	21.5%	653	20.3%	1	0.0%	0	0.0%
Physical medicine and rehabilitation	456	260	57.0%	39	8.6%	157	34.4%	0	0.0%	0	0.0%
Plastic surgery	68	45	66.2%	17	25.0%	6	8.8%	0	0.0%	0	0.0%
Plastic surgery - integrated	196	185	94.4%	10	5.1%	1	0.5%	0	0.0%	0	0.0%
Public health and general preventive medicine	95	63	66.3%	18	18.9%	13	13.7%	1	1.1%	0	0.0%
Aerospace medicine	21	16	76.2%	0	0.0%	4	19.0%	1	4.8%	0	0.0%
Occupational and environmental medicine	66	39	59.1%	18	27.3%	9	13.6%	0	0.0%	0	0.0%
Psychiatry	2,146	1,328	61.9%	385	17.9%	432	20.1%	1	0.0%	0	0.0%
Radiation oncology	186	134	72.0%	36	19.4%	16	8.6%	0	0.0%	0	0.0%
Radiology-diagnostic	1,153	834	72.3%	134	11.6%	185	16.0%	0	0.0%	0	0.0%
Interventional radiology - independent	130	91	70.0%	30	23.1%	9	6.9%	0	0.0%	0	0.0%
Interventional radiology - integrated	160	138	86.3%	8	5.0%	14	8.7%	0	0.0%	0	0.0%
Surgery	1,681	1,259	74.9%	170	10.1%	251	14.9%	1	0.1%	0	0.0%
Vascular surgery - integrated	86	75	87.2%	8	9.3%	3	3.5%	0	0.0%	0	0.0%
Thoracic surgery - integrated	46	40	87.0%	5	10.9%	1	2.2%	0	0.0%	0	0.0%
Urology	385	351	91.2%	9	2.3%	25	6.5%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	394	337	85.5%	19	4.8%	38	9.6%	0	0.0%	0	0.0%

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

TABLE C.30

## 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	IRInd	Total
OVERALL	-	1,695	3,010	34	37	644	95	186	1,153	160	7,231	130
Alabama	AL	21	17	1	0	12	0	2	17	2	75	0
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	4	49	0	0	4	0	3	21	1	85	3
Arkansas	AR	13	17	0	0	5	0	1	7	0	43	0
California	CA	184	285	5	2	61	14	25	107	16	717	9
Colorado	CO	4	17	2	0	8	2	1	9	2	46	0
Connecticut	CT	27	37	0	0	15	1	5	32	3	124	0
Delaware	DE	0	12	0	0	0	0	0	4	1	18	1
District of Columbia	DC	16	21	0	0	10	0	2	8	3	63	3
Florida	FL	96	221	0	3	24	0	8	62	7	446	15
Georgia	GA	21	66	1	0	11	8	4	23	5	145	6
Hawaii	HI	0	0	0	0	3	0	0	5	0	8	0
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	87	145	0	1	30	3	9	49	10	343	6
Indiana	IN	27	21	1	0	3	0	2	11	2	69	2
Iowa	IA	15	10	0	1	6	0	2	4	1	40	1
Kansas	KS	16	10	0	0	4	0	1	10	1	43	1
Kentucky	KY	24	24	0	0	7	1	0	13	0	70	1
Louisiana	LA	32	39	0	0	10	1	0	20	3	105	0
Maine	ME	8	10	0	0	0	2	0	3	1	24	0
Maryland	MD	46	22	8	4	25	14	8	21	5	163	0
Massachusetts	MA	102	72	2	5	44	4	6	61	8	318	9
Michigan	MI	72	241	1	1	19	4	9	50	8	410	5
Minnesota	MN	9	32	1	0	12	1	5	22	3	89	1
Mississippi	MS	8	28	0	0	4	0	1	8	1	50	0
Missouri	MO	39	48	0	6	20	0	4	33	3	157	4
Montana	MT	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	8	12	0	0	7	0	1	8	1	37	0
Nevada	NV	8	29	0	0	0	0	0	5	0	42	0
New Hampshire	NH	7	6	0	0	4	5	1	3	3	29	0
New Jersey	NJ	25	121	0	0	8	3	3	29	1	192	0
New Mexico	NM	6	12	0	0	4	3	0	8	0	33	0
New York	NY	220	372	3	7	77	11	23	135	19	879	11
North Carolina	NC	41	82	2	0	18	5	8	28	5	194	4
North Dakota	ND	0	0	0	0	0	0	0	0	0	0	0
Ohio	OH	76	166	0	0	28	2	9	49	5	351	6
Oklahoma	OK	15	35	1	0	3	0	1	14	0	71	2
Oregon	OR	13	11	0	1	3	0	2	5	1	40	4
Pennsylvania	PA	98	231	2	0	38	0	10	63	14	473	12
Puerto Rico	PR	3	16	0	0	2	0	0	4	0	25	0
Rhode Island	RI	20	22	0	0	4	0	0	6	1	54	1
South Carolina	SC	21	55	0	0	5	0	1	11	2	96	1
South Dakota	SD	0	0	0	0	1	0	0	0	0	1	0
Tennessee	TN	31	35	0	1	13	1	4	21	3	111	0
Texas	TX	120	205	2	1	53	3	12	84	7	509	13
Utah	UT	5	12	1	0	5	0	2	8	1	39	0
Vermont	VT	6	5	0	0	3	0	0	6	0	21	1
Virginia	VA	26	73	0	0	10	0	4	24	4	144	3
Washington	WA	34	25	1	4	7	3	2	17	3	102	3
West Virginia	WV	9	16	0	0	3	2	1	6	0	38	0
Wisconsin	WI	32	25	0	0	11	2	4	19	4	99	2
Wyoming	WY	0	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; IRInd for Interventional radiology - independent.

**TABLE C.31**  
**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	-	549	5,121	10,260	1,025	169	15	3,214	456	2,146	394	23,349
Alabama	AL	5	94	137	13	2	0	37	0	15	6	309
Alaska	AK	0	12	0	0	0	0	0	0	0	0	12
Arizona	AZ	6	70	139	19	3	0	53	2	25	6	323
Arkansas	AR	3	83	103	4	1	0	25	4	17	5	245
California	CA	51	579	874	88	18	0	314	29	210	18	2,181
Colorado	CO	6	82	87	15	4	0	31	6	23	4	258
Connecticut	CT	8	25	234	16	2	0	41	4	31	4	365
Delaware	DE	0	21	27	0	1	0	22	0	8	5	84
District of Columbia	DC	9	6	111	14	4	0	47	6	28	4	229
Florida	FL	41	235	677	67	3	0	180	37	135	10	1,385
Georgia	GA	12	135	294	15	5	0	62	6	47	0	576
Hawaii	HI	0	21	37	0	0	0	15	0	13	0	86
Idaho	ID	0	45	20	0	0	0	0	0	8	0	73
Illinois	IL	24	261	474	44	5	0	139	19	62	25	1,053
Indiana	IN	0	105	95	8	2	0	35	4	23	14	286
Iowa	IA	5	57	49	7	0	0	22	0	17	0	157
Kansas	KS	5	43	46	5	0	0	5	4	12	3	123
Kentucky	KY	2	53	65	11	5	0	36	9	15	11	207
Louisiana	LA	10	65	153	16	1	0	43	6	33	17	344
Maine	ME	0	34	14	3	0	0	6	0	7	4	68
Maryland	MD	14	32	248	21	3	0	60	17	41	8	444
Massachusetts	MA	20	55	397	53	10	0	77	11	91	24	738
Michigan	MI	27	238	487	47	7	4	120	22	92	27	1,071
Minnesota	MN	16	79	115	15	2	0	42	12	25	10	316
Mississippi	MS	3	51	76	4	2	0	17	0	15	5	173
Missouri	MO	16	79	160	26	9	2	89	6	41	10	438
Montana	MT	0	18	8	0	0	0	0	0	0	0	26
Nebraska	NE	3	46	51	8	0	0	15	4	11	4	142
Nevada	NV	0	50	76	5	0	0	10	6	20	0	167
New Hampshire	NH	3	16	32	5	0	0	6	0	15	0	77
New Jersey	NJ	6	135	432	21	1	0	85	13	65	4	762
New Mexico	NM	3	36	39	6	1	0	21	5	16	0	127
New York	NY	61	281	1,498	127	15	4	450	84	301	23	2,844
North Carolina	NC	16	150	222	19	7	0	75	14	51	18	572
North Dakota	ND	0	28	8	3	0	0	0	0	6	0	45
Ohio	OH	19	208	479	59	13	0	184	17	80	27	1,086
Oklahoma	OK	4	80	54	6	0	0	42	0	23	3	212
Oregon	OR	7	48	86	6	1	0	19	0	12	0	179
Pennsylvania	PA	37	366	628	71	11	0	155	42	113	19	1,442
Puerto Rico	PR	2	26	80	3	1	0	32	3	13	2	162
Rhode Island	RI	4	15	72	6	0	0	16	0	10	4	127
South Carolina	SC	4	118	77	20	1	0	41	0	35	9	305
South Dakota	SD	0	17	7	0	0	0	6	0	9	0	39
Tennessee	TN	9	82	139	14	5	0	66	4	38	20	377
Texas	TX	50	357	654	69	14	0	241	31	158	21	1,595
Utah	UT	4	29	34	9	1	0	26	7	14	3	127
Vermont	VT	3	6	14	5	0	0	7	0	4	0	39
Virginia	VA	13	115	176	17	2	2	84	11	52	4	476
Washington	WA	4	160	121	10	3	0	49	3	23	0	373
West Virginia	WV	2	48	61	14	0	3	19	0	20	6	173
Wisconsin	WI	12	111	93	11	4	0	47	8	23	7	316
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.32

## 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	-	242	1,543	524	897	380	68	196	1,681	86	46	385	6,048
Alabama	AL	3	12	5	12	4	1	1	19	1	0	3	61
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	6	21	4	10	4	0	1	35	1	0	5	87
Arkansas	AR	2	5	4	5	3	0	0	5	1	0	2	27
California	CA	20	128	46	73	36	3	21	129	10	8	34	508
Colorado	CO	2	14	6	7	4	1	2	23	1	0	3	63
Connecticut	CT	3	35	5	10	7	0	3	26	1	2	5	97
Delaware	DE	0	7	0	0	0	0	0	9	0	0	0	16
District of Columbia	DC	3	22	13	12	5	0	4	20	2	0	5	86
Florida	FL	9	66	27	39	10	5	10	98	3	1	16	284
Georgia	GA	3	30	9	16	7	2	2	39	2	1	7	118
Hawaii	HI	0	11	0	5	2	0	0	9	0	0	1	28
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	14	67	24	28	17	2	10	63	4	1	20	250
Indiana	IN	3	15	6	6	4	3	2	17	1	1	4	62
Iowa	IA	2	6	5	6	5	1	1	15	1	1	3	46
Kansas	KS	2	15	4	9	4	0	2	17	0	0	4	57
Kentucky	KY	4	14	8	10	7	2	4	19	0	0	5	73
Louisiana	LA	5	29	16	15	10	2	2	30	2	0	10	121
Maine	ME	0	4	0	0	0	0	0	4	1	0	2	11
Maryland	MD	8	29	15	23	10	1	4	29	0	1	7	127
Massachusetts	MA	9	38	18	26	13	5	7	63	5	2	15	201
Michigan	MI	9	99	27	64	21	5	7	102	2	2	21	359
Minnesota	MN	6	14	9	20	9	1	6	23	2	0	8	98
Mississippi	MS	2	6	4	4	3	0	2	10	0	0	2	33
Missouri	MO	7	33	17	26	11	0	7	25	2	0	7	135
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	4	35
Nevada	NV	0	10	0	6	1	0	1	13	0	0	0	31
New Hampshire	NH	1	4	2	4	1	0	1	4	1	0	2	20
New Jersey	NJ	4	63	5	27	5	1	3	55	4	0	10	177
New Mexico	NM	0	7	0	5	2	0	1	7	0	0	3	25
New York	NY	25	179	69	91	35	3	19	180	11	8	41	661
North Carolina	NC	8	50	14	23	11	0	8	46	2	2	12	176
North Dakota	ND	0	0	0	3	0	0	0	5	0	0	0	8
Ohio	OH	9	89	23	64	21	4	11	87	7	5	18	338
Oklahoma	OK	2	19	5	8	4	2	0	12	0	0	4	56
Oregon	OR	3	7	5	8	3	0	3	14	0	0	3	46
Pennsylvania	PA	18	94	29	71	29	9	10	116	6	4	26	412
Puerto Rico	PR	0	13	4	4	2	0	0	8	0	0	3	34
Rhode Island	RI	2	8	3	6	0	0	2	7	0	0	2	30
South Carolina	SC	2	19	7	12	4	1	1	28	2	2	3	81
South Dakota	SD	0	0	0	0	0	0	0	4	0	0	0	4
Tennessee	TN	5	34	10	18	9	4	1	39	0	0	11	131
Texas	TX	18	130	42	66	24	8	16	123	6	2	27	462
Utah	UT	3	7	4	6	3	1	3	6	0	1	3	37
Vermont	VT	1	3	0	3	1	0	0	3	0	0	1	12
Virginia	VA	8	34	10	12	11	0	7	28	1	1	7	119
Washington	WA	3	17	7	11	6	0	5	23	2	1	6	81
West Virginia	WV	2	9	4	7	3	0	1	13	1	0	4	44
Wisconsin	WI	4	19	7	11	6	0	5	21	1	0	6	80
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 - head and neck surgery; PS, Plastic surgery; PSI, Plastic surgery - integrated; GS, Surgery; VSI, Vascular surgery - integrated; TSI, Thoracic surgery - integrated; U, Urology.

**TABLE C.33**

**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	38,121	100.0%	36,515	100.0%	36,628	100.0%
Anesthesiology	1,497	3.9%	1,400	3.8%	1,695	4.6%
Dermatology	21	0.1%	0	0.0%	549	1.5%
Emergency medicine	3,002	7.9%	2,795	7.7%	3,010	8.2%
Family medicine	5,121	13.4%	4,941	13.5%	5,121	14.0%
Internal medicine	12,267	32.2%	11,861	32.5%	10,260	28.0%
Medical genetics and genomics	2	0.0%	0	0.0%	34	0.1%
Neurological surgery	242	0.6%	228	0.6%	242	0.7%
Neurology	687	1.8%	648	1.8%	1,025	2.8%
Child neurology	0	0.0%	0	0.0%	169	0.5%
Nuclear medicine	0	0.0%	0	0.0%	37	0.1%
Obstetrics and gynecology	1,560	4.1%	1,486	4.1%	1,543	4.2%
Ophthalmology	205	0.5%	196	0.5%	524	1.4%
Orthopaedic surgery	897	2.4%	870	2.4%	897	2.4%
Osteopathic neuromusculoskeletal medicine	15	0.0%	13	0.0%	15	0.0%
Otolaryngology - head and neck surgery	380	1.0%	365	1.0%	380	1.0%
Pathology-anatomic and clinical	644	1.7%	598	1.6%	644	1.8%
Pediatrics	3,307	8.7%	3,249	8.9%	3,214	8.8%
Physical medicine and rehabilitation	188	0.5%	162	0.4%	456	1.2%
Plastic surgery	0	0.0%	0	0.0%	68	0.2%
Plastic Surgery - integrated	196	0.5%	183	0.5%	196	0.5%
Public health and general preventive medicine	6	0.0%	0	0.0%	95	0.3%
Aerospace medicine	0	0.0%	0	0.0%	21	0.1%
Occupational and environmental medicine	2	0.0%	0	0.0%	66	0.2%
Psychiatry	2,146	5.6%	2,073	5.7%	2,146	5.9%
Radiation oncology	0	0.0%	0	0.0%	186	0.5%
Radiology-diagnostic	0	0.0%	0	0.0%	1,153	3.1%
Interventional radiology - independent	0	0.0%	0	0.0%	130	0.4%
Interventional radiology - integrated	0	0.0%	0	0.0%	160	0.4%
Surgery	2,941	7.7%	2,747	7.5%	1,681	4.6%
Vascular surgery - integrated	86	0.2%	77	0.2%	86	0.2%
Thoracic surgery - integrated	46	0.1%	45	0.1%	46	0.1%
Urology	385	1.0%	363	1.0%	385	1.1%
Transitional year	1,884	4.9%	1,823	5.0%	0	0.0%
Internal medicine/Pediatrics	394	1.0%	392	1.1%	394	1.1%

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

TABLE C.34

## 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	38,121	100.0%	36,515	100.0%	36,628	100.0%
Alabama	466	1.2%	451	1.2%	445	1.2%
Alaska	12	0.0%	12	0.0%	12	0.0%
Arizona	547	1.4%	525	1.4%	495	1.4%
Arkansas	343	0.9%	323	0.9%	315	0.9%
California	3,527	9.3%	3,414	9.3%	3,406	9.3%
Colorado	374	1.0%	361	1.0%	367	1.0%
Connecticut	598	1.6%	582	1.6%	586	1.6%
Delaware	117	0.3%	111	0.3%	118	0.3%
District of Columbia	391	1.0%	380	1.0%	378	1.0%
Florida	2,284	6.0%	2,168	5.9%	2,115	5.8%
Georgia	888	2.3%	841	2.3%	839	2.3%
Hawaii	137	0.4%	129	0.4%	122	0.3%
Idaho	77	0.2%	76	0.2%	73	0.2%
Illinois	1,711	4.5%	1,659	4.5%	1,646	4.5%
Indiana	428	1.1%	420	1.2%	417	1.1%
Iowa	250	0.7%	238	0.7%	243	0.7%
Kansas	222	0.6%	213	0.6%	223	0.6%
Kentucky	370	1.0%	355	1.0%	350	1.0%
Louisiana	579	1.5%	544	1.5%	570	1.6%
Maine	102	0.3%	99	0.3%	103	0.3%
Maryland	735	1.9%	708	1.9%	734	2.0%
Massachusetts	1,271	3.3%	1,232	3.4%	1,257	3.4%
Michigan	1,900	5.0%	1,793	4.9%	1,840	5.0%
Minnesota	487	1.3%	471	1.3%	503	1.4%
Mississippi	286	0.8%	268	0.7%	256	0.7%
Missouri	707	1.9%	684	1.9%	730	2.0%
Montana	30	0.1%	29	0.1%	26	0.1%
Nebraska	213	0.6%	205	0.6%	214	0.6%
Nevada	284	0.7%	273	0.7%	240	0.7%
New Hampshire	121	0.3%	113	0.3%	126	0.3%
New Jersey	1,213	3.2%	1,151	3.2%	1,131	3.1%
New Mexico	194	0.5%	183	0.5%	185	0.5%
New York	4,645	12.2%	4,425	12.1%	4,384	12.0%
North Carolina	975	2.6%	932	2.6%	942	2.6%
North Dakota	61	0.2%	58	0.2%	53	0.1%
Ohio	1,832	4.8%	1,757	4.8%	1,775	4.8%
Oklahoma	341	0.9%	330	0.9%	339	0.9%
Oregon	273	0.7%	267	0.7%	265	0.7%
Pennsylvania	2,389	6.3%	2,263	6.2%	2,327	6.4%
Puerto Rico	278	0.7%	254	0.7%	221	0.6%
Rhode Island	199	0.5%	196	0.5%	211	0.6%
South Carolina	521	1.4%	498	1.4%	482	1.3%
South Dakota	52	0.1%	49	0.1%	44	0.1%
Tennessee	626	1.6%	599	1.6%	619	1.7%
Texas	2,629	6.9%	2,528	6.9%	2,566	7.0%
Utah	197	0.5%	192	0.5%	203	0.6%
Vermont	66	0.2%	63	0.2%	72	0.2%
Virginia	786	2.1%	752	2.1%	739	2.0%
Washington	586	1.5%	566	1.6%	556	1.5%
West Virginia	274	0.7%	260	0.7%	255	0.7%
Wisconsin	512	1.3%	501	1.4%	495	1.4%
Wyoming	15	0.0%	14	0.0%	15	0.0%

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



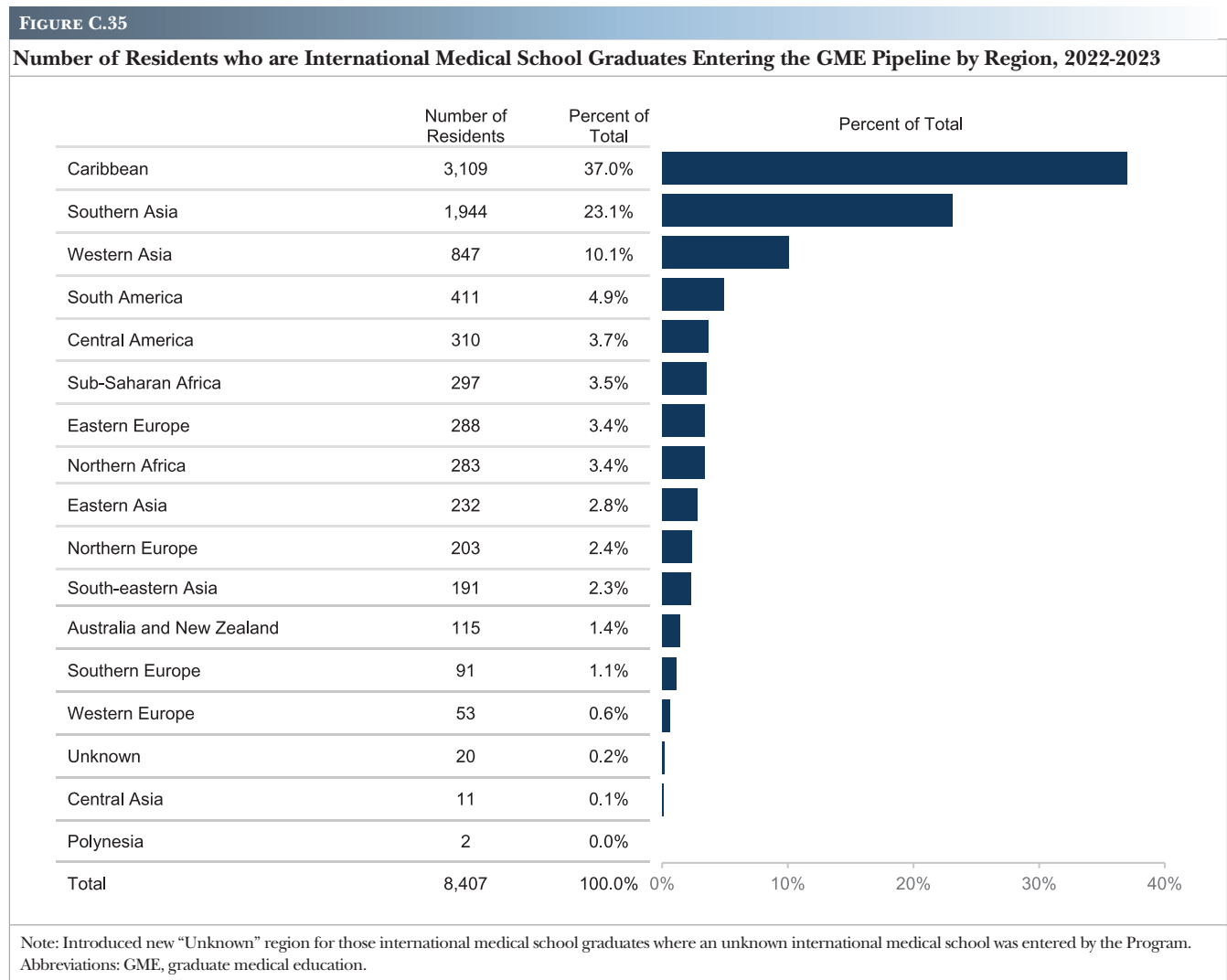


TABLE C.36

**Number of Residents in Medically Related Specialty Programs**

Specialty	Total Programs	Number of Residents
OVERALL	57	88
Clinical biochemical genetics	17	12
Laboratory genetics and genomics	40	76





# Graduating Residents and Residents Leaving Prior to Completion

This section summarizes the characteristics of both graduating residents who successfully completed all accredited education, and residents who left their program prior to successful completion. Resident completion status for the 2021-2022 academic year was reported during the fall of the 2022-2023 academic year, therefore, the following data includes only those residents who graduated or left their programs between September 1, 2021 and August 31, 2022.

## Graduating Residents

Of the 49,681 residents graduating from ACGME-accredited programs in the 2020-2021 academic year, 62.7% graduated from a program in a medical specialty or subspecialty, 22.7% graduated from a program in a hospital-based specialty or subspecialty, and 14.7% graduated from a program in a surgical specialty or subspecialty. From the 2012-2013 academic year to the 2021-2022 academic year, there was a 29.8% increase in graduating residents (a 29.8% increase in specialty program graduates and a 29.7% increase in subspecialty program graduates). The specialties with the highest number of graduating residents in the 2021-2022 academic year include:

- Internal medicine (9,322)
- Family medicine (4,659)
- Pediatrics (3,085)
- Emergency medicine (2,632)

International medical school graduates account for 12,344 (24.8%) of all graduating residents.

## Residents Completing Preliminary Education and Training and Transitional Year Graduates

There were 3,211 residents who completed preliminary education and training and 1,769 residents graduating from transitional year programs during the 2021-2022 academic year, for a total of 4,980 residents completing the necessary prerequisite education and training for specialty programs that require a clinical base year. Of the 3,211 preliminary education and training graduates, 1,978 (61.6%) were in internal medicine, 1,127 (35.1%) were in surgery, 99 (3.1%) were in pediatrics, and 7

(0.2%) were in obstetrics and gynecology. Over the last 10 years, the total number of preliminary graduates has fluctuated, with a high of 3,579 in the 2017-2018 academic year, and a low of 3,211 in 2021-2022. Since 2012-2013, there has been a 51.5% increase in the number of residents completing transitional year programs.

## Geographic Distribution of Graduates

There were approximately 14.8 graduating residents per 100,000 population, including Puerto Rico, during the 2020-2021 academic year (10.5 specialty graduates and 4.3 subspecialty graduates). The following states have the highest total number of graduating residents:

- New York (6,153)
- California (4,677)
- Texas (3,235)
- Pennsylvania (3,175)

The concentration of specialty graduates ranges from 1.6 per 100,000 population in Alaska to 54.5 per 100,000 population in the District of Columbia.

## Residents Leaving Prior to Completion

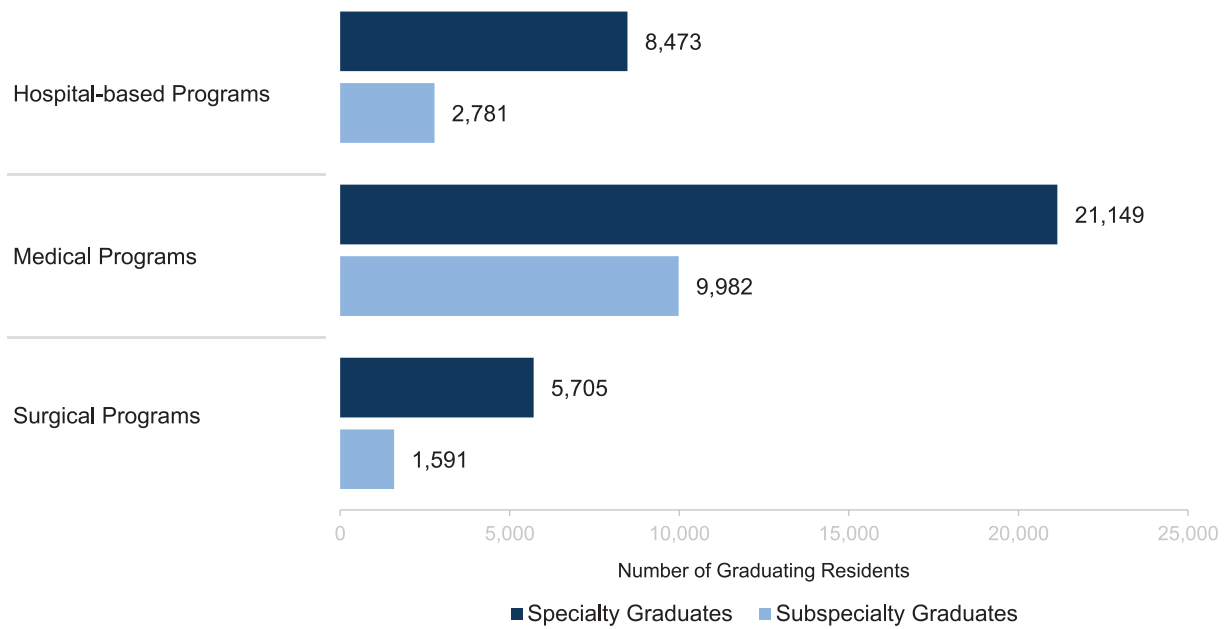
In the 2021-2022 academic year, 2,366 left their programs prior to successful completion with statuses of either transferred (51.5%), withdrawn (35.6%), dismissed (11.3%), deceased (1.4%), or unsuccessfully completed program (0.3%). The following specialties have the highest number of transferring residents:

- Psychiatry (395)
- Internal medicine (134)
- Surgery (127)
- Family medicine (114)

Overall, of the 1,153 transfers that occurred among residents in specialty programs during the 2021-2022 academic year, 445 (38.6%) occurred during the first year of the program, 232 (20.1%) occurred during the second year of the program, 409 (35.5%) occurred during the third year of the program, and 67 (5.8%) occurred in the fourth, or fifth year of the program. 8

**FIGURE D.1**

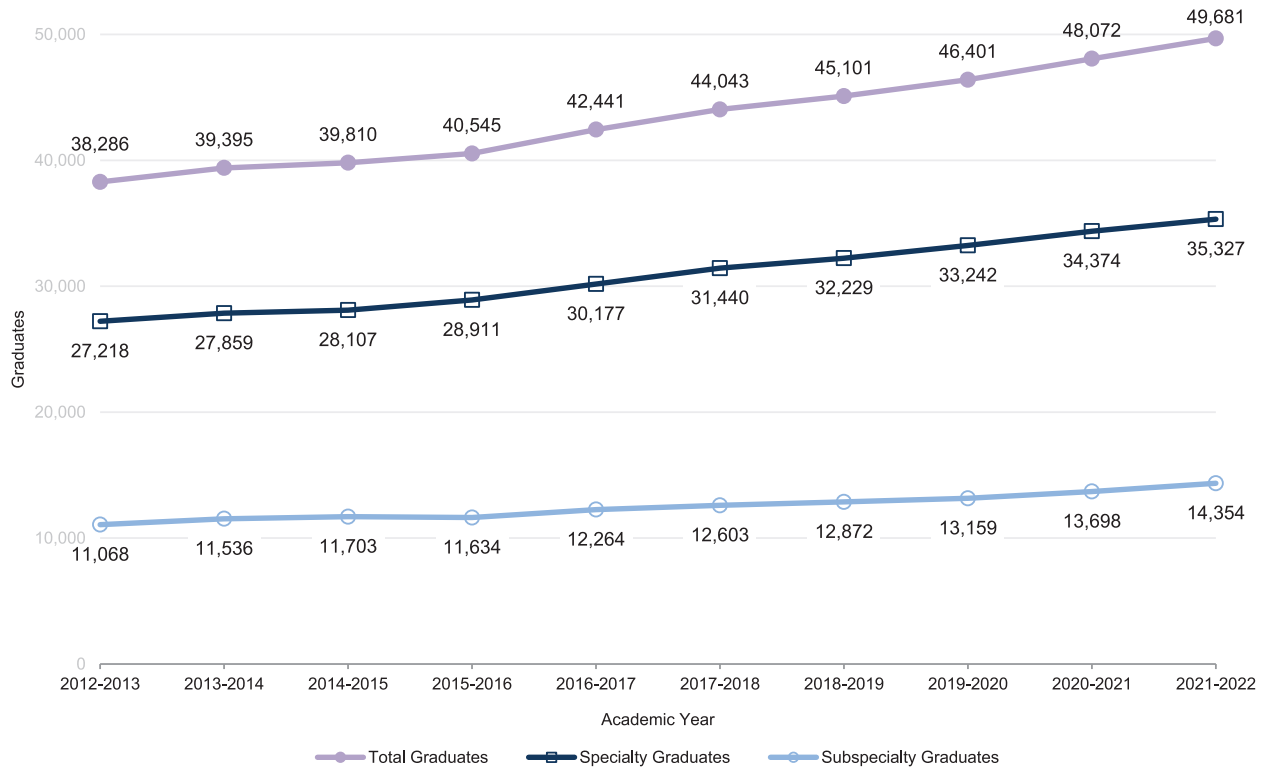
**Number of Graduating Residents by Specialty Group, 2021-2022 AY**



Note: Total number of graduating residents = 49,681.  
Abbreviations: AY, academic year.

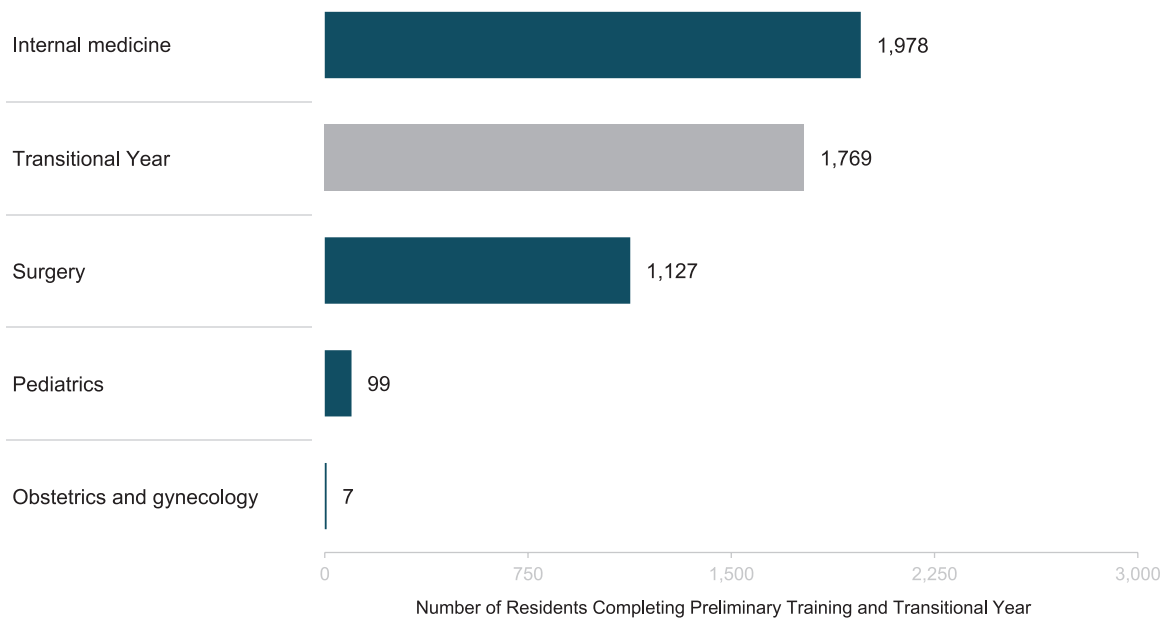
**FIGURE D.2**

**Number of Graduating Residents by Academic Year, 2012-2013 to 2021-2022**



**FIGURE D.3**

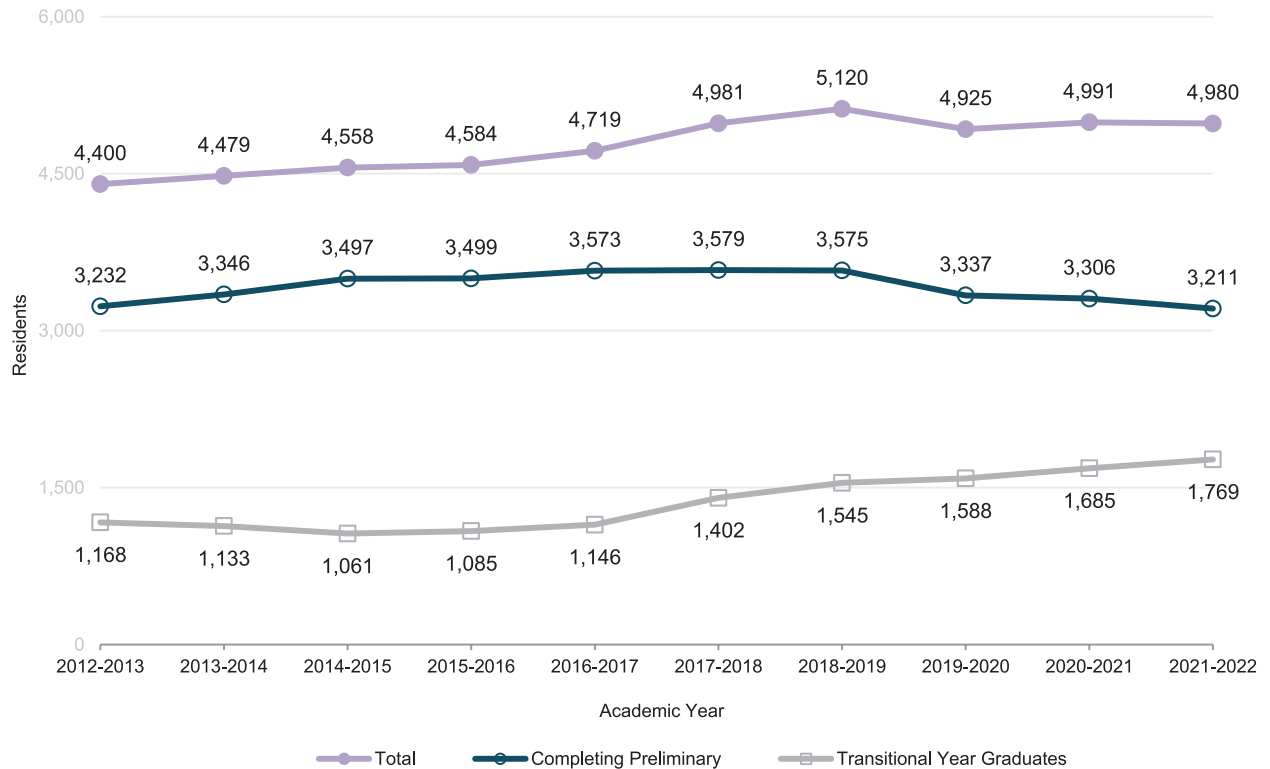
**Number of Residents Completing Preliminary Training and Transitional Year by Specialty, 2021-2022 AY**



Notes: Total number of residents completing preliminary training = 3,211. Total number of residents completing transitional year programs = 1,769.  
Abbreviations: AY, academic year.

**FIGURE D.4**

**Number of Residents Completing Preliminary Training and Transitional Year by Academic Year, 2012-2013 to 2021-2022**



**TABLE D.5**  
**Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2021-2022 AY**

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
OVERALL	49,681	100.0%	3,211	100.0%
TOTAL PIPELINE	33,371	67.2%	3,211	100.0%
Allergy and immunology	157	0.3%	0	0.0%
Anesthesiology	1,818	3.7%	0	0.0%
- Adult cardiothoracic anesthesiology	245	0.5%	0	0.0%
- Critical care medicine	206	0.4%	0	0.0%
- Regional anesthesiology and acute pain medicine	92	0.2%	0	0.0%
- Pediatric cardiac anesthesiology	11	0.0%	0	0.0%
- Obstetric anesthesiology	56	0.1%	0	0.0%
- Pain medicine (multidisciplinary)	416	0.8%	0	0.0%
- Pediatric anesthesiology	204	0.4%	0	0.0%
Colon and rectal surgery	107	0.2%	0	0.0%
Dermatology	526	1.1%	0	0.0%
- Dermatopathology (multidisciplinary)	71	0.1%	0	0.0%
- Micrographic surgery and dermatologic oncology	87	0.2%	0	0.0%
- Pediatric dermatology	9	0.0%	0	0.0%
Emergency medicine	2,632	5.3%	0	0.0%
- Emergency medical services	104	0.2%	0	0.0%
- Medical toxicology	44	0.1%	0	0.0%
- Pediatric emergency medicine	46	0.1%	0	0.0%
- Sports medicine	17	0.0%	0	0.0%
- Undersea and hyperbaric medicine	12	0.0%	0	0.0%
Family medicine	4,659	9.4%	0	0.0%
- Clinical informatics	8	0.0%	0	0.0%
- Geriatric medicine	50	0.1%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	430	0.9%	0	0.0%
- Sports medicine	283	0.6%	0	0.0%
Internal medicine	9,322	18.8%	1,978	61.6%
- Adult congenital heart disease	18	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	103	0.2%	0	0.0%
- Cardiovascular disease	1,075	2.2%	0	0.0%
- Clinical cardiac electrophysiology	149	0.3%	0	0.0%
- Clinical informatics	24	0.0%	0	0.0%
- Critical care medicine	182	0.4%	0	0.0%
- Endocrinology, diabetes, and metabolism	340	0.7%	0	0.0%
- Gastroenterology	607	1.2%	0	0.0%
- Geriatric medicine	295	0.6%	0	0.0%
- Hematology and medical oncology	626	1.3%	0	0.0%
- Infectious disease	385	0.8%	0	0.0%
- Interventional cardiology	362	0.7%	0	0.0%
- Nephrology	413	0.8%	0	0.0%
- Medical oncology	7	0.0%	0	0.0%
- Pulmonary disease	31	0.1%	0	0.0%
- Pulmonary disease and critical care medicine	738	1.5%	0	0.0%
- Rheumatology	274	0.6%	0	0.0%
- Sleep medicine (multidisciplinary)	198	0.4%	0	0.0%
- Transplant hepatology	49	0.1%	0	0.0%
Medical genetics and genomics	34	0.1%	0	0.0%
- Medical biochemical genetics	17	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	58	0.1%	0	0.0%
Neurological surgery	220	0.4%	0	0.0%
- Neuroendovascular intervention	2	0.0%	0	0.0%

TABLE D.5 *Continued*

<b>Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2021-2022 AY</b>				
<b>Specialty</b>	<b>Total Graduates</b>	<b>Percent of Total Graduates</b>	<b>Number of Residents Completing Preliminary Training</b>	<b>Percent of Total Residents Completing Preliminary Training</b>
Neurology	882	1.8%	0	0.0%
- Clinical neurophysiology	154	0.3%	0	0.0%
- Epilepsy	157	0.3%	0	0.0%
- Neurocritical care (multidisciplinary)	13	0.0%	0	0.0%
- Neuroendovascular intervention	2	0.0%	0	0.0%
- Neurodevelopmental disabilities	4	0.0%	0	0.0%
- Neuromuscular medicine	76	0.2%	0	0.0%
- Vascular neurology	156	0.3%	0	0.0%
Child neurology	142	0.3%	0	0.0%
Nuclear medicine	38	0.1%	0	0.0%
Obstetrics and gynecology	1,427	2.9%	7	0.2%
- Female pelvic medicine and reconstructive surgery	51	0.1%	0	0.0%
- Gynecologic oncology	73	0.1%	0	0.0%
- Maternal-fetal medicine	137	0.3%	0	0.0%
- Reproductive endocrinology and infertility	56	0.1%	0	0.0%
- Complex family planning	24	0.0%	0	0.0%
Ophthalmology	509	1.0%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	3	0.0%	0	0.0%
Orthopaedic surgery	875	1.8%	0	0.0%
- Adult reconstructive orthopaedics	53	0.1%	0	0.0%
- Foot and ankle orthopaedics	16	0.0%	0	0.0%
- Hand surgery	155	0.3%	0	0.0%
- Musculoskeletal oncology	16	0.0%	0	0.0%
- Orthopaedic sports medicine	215	0.4%	0	0.0%
- Orthopaedic surgery of the spine	25	0.1%	0	0.0%
- Orthopaedic trauma	20	0.0%	0	0.0%
- Pediatric orthopaedics	37	0.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	48	0.1%	0	0.0%
Otolaryngology - head and neck surgery	334	0.7%	0	0.0%
- Neurotology	17	0.0%	0	0.0%
- Pediatric otolaryngology	43	0.1%	0	0.0%
Pathology-anatomic and clinical	625	1.3%	0	0.0%
- Blood banking/transfusion medicine	46	0.1%	0	0.0%
- Clinical informatics	11	0.0%	0	0.0%
- Chemical pathology	0	0.0%	0	0.0%
- Cytopathology	124	0.2%	0	0.0%
- Forensic pathology	58	0.1%	0	0.0%
- Hematopathology	129	0.3%	0	0.0%
- Medical microbiology	13	0.0%	0	0.0%
- Neuropathology	25	0.1%	0	0.0%
- Pediatric pathology	24	0.0%	0	0.0%
- Selective pathology	185	0.4%	0	0.0%
Pediatrics	3,085	6.2%	99	3.1%
- Adolescent medicine	34	0.1%	0	0.0%
- Child abuse pediatrics	19	0.0%	0	0.0%
- Clinical informatics	18	0.0%	0	0.0%
- Developmental-behavioral pediatrics	41	0.1%	0	0.0%
- Neonatal-perinatal medicine	257	0.5%	0	0.0%
- Pediatric cardiology	161	0.3%	0	0.0%
- Pediatric critical care medicine	188	0.4%	0	0.0%
- Pediatric emergency medicine	158	0.3%	0	0.0%
- Pediatric endocrinology	69	0.1%	0	0.0%
- Pediatric gastroenterology	113	0.2%	0	0.0%
- Pediatric hematology/oncology	170	0.3%	0	0.0%
- Pediatric infectious diseases	53	0.1%	0	0.0%



**TABLE D.5 Continued**

**Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2021-2022 AY**

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
- Pediatric nephrology	33	0.1%	0	0.0%
- Pediatric pulmonology	64	0.1%	0	0.0%
- Pediatric rheumatology	32	0.1%	0	0.0%
- Sports medicine	29	0.1%	0	0.0%
- Pediatric transplant hepatology	16	0.0%	0	0.0%
- Pediatric hospital medicine	74	0.1%	0	0.0%
Physical medicine and rehabilitation	457	0.9%	0	0.0%
- Brain injury medicine	27	0.1%	0	0.0%
- Neuromuscular medicine	1	0.0%	0	0.0%
- Spinal cord injury medicine	23	0.0%	0	0.0%
- Pediatric rehabilitation medicine	14	0.0%	0	0.0%
- Sports medicine	40	0.1%	0	0.0%
Plastic surgery	66	0.1%	0	0.0%
Plastic surgery - integrated	159	0.3%	0	0.0%
- Craniofacial surgery	5	0.0%	0	0.0%
- Hand surgery	25	0.1%	0	0.0%
Public health and general preventive medicine	91	0.2%	0	0.0%
Aerospace medicine	22	0.0%	0	0.0%
Occupational and environmental medicine	62	0.1%	0	0.0%
- Undersea and hyperbaric medicine	1	0.0%	0	0.0%
Psychiatry	1,494	3.0%	0	0.0%
- Addiction medicine (multidisciplinary)	174	0.4%	0	0.0%
- Addiction psychiatry	89	0.2%	0	0.0%
- Child and adolescent psychiatry	469	0.9%	0	0.0%
- Forensic psychiatry	90	0.2%	0	0.0%
- Geriatric psychiatry	58	0.1%	0	0.0%
- Consultation-liaison psychiatry	92	0.2%	0	0.0%
Radiation oncology	189	0.4%	0	0.0%
Radiology-diagnostic	1,103	2.2%	0	0.0%
- Abdominal radiology	50	0.1%	0	0.0%
- Neuroendovascular intervention	3	0.0%	0	0.0%
- Musculoskeletal radiology	36	0.1%	0	0.0%
- Neuroradiology	297	0.6%	0	0.0%
- Nuclear radiology	15	0.0%	0	0.0%
- Pediatric radiology	52	0.1%	0	0.0%
Interventional radiology - independent	184	0.4%	0	0.0%
Interventional radiology - integrated	90	0.2%	0	0.0%
Surgery	1,467	3.0%	1,127	35.1%
- Complex general surgical oncology	61	0.1%	0	0.0%
- Hand surgery	8	0.0%	0	0.0%
- Pediatric surgery	41	0.1%	0	0.0%
- Surgical critical care	339	0.7%	0	0.0%
- Vascular surgery	129	0.3%	0	0.0%
Vascular surgery - integrated	63	0.1%	0	0.0%
Thoracic surgery	107	0.2%	0	0.0%
- Congenital cardiac surgery	13	0.0%	0	0.0%
Thoracic surgery - integrated	29	0.1%	0	0.0%
Urology	342	0.7%	0	0.0%
- Female pelvic medicine and reconstructive surgery	15	0.0%	0	0.0%
- Pediatric urology	12	0.0%	0	0.0%
Transitional year	1,769	3.6%	0	0.0%
Internal medicine/Pediatrics	377	0.8%	0	0.0%
Health care administration, leadership, and management	0	0.0%	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, 2021-2022 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	49,681	28,719	57.8%	12,344	24.8%	8,528	17.2%	89	0.2%	1	0.0%
TOTAL PIPELINE	33,371	19,382	58.1%	7,673	23.0%	6,305	18.9%	11	0.0%	0	0.0%
Allergy and immunology	157	109	69.4%	28	17.8%	20	12.7%	0	0.0%	0	0.0%
Anesthesiology	1,818	1,247	68.6%	250	13.8%	320	17.6%	1	0.1%	0	0.0%
- Adult cardiothoracic anesthesiology	245	164	66.9%	50	20.4%	28	11.4%	3	1.2%	0	0.0%
- Critical care medicine	206	149	72.3%	38	18.4%	19	9.2%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	92	61	66.3%	25	27.2%	6	6.5%	0	0.0%	0	0.0%
- Pediatric cardiac anesthesiology	11	4	36.4%	7	63.6%	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	56	40	71.4%	12	21.4%	4	7.1%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	416	259	62.3%	73	17.5%	84	20.2%	0	0.0%	0	0.0%
- Pediatric anesthesiology	204	130	63.7%	52	25.5%	21	10.3%	1	0.5%	0	0.0%
Colon and rectal surgery	107	80	74.8%	16	15.0%	8	7.5%	3	2.8%	0	0.0%
Dermatology	526	456	86.7%	19	3.6%	49	9.3%	2	0.4%	0	0.0%
- Dermatopathology (multidisciplinary)	71	47	66.2%	15	21.1%	7	9.9%	2	2.8%	0	0.0%
- Micrographic surgery and dermatologic oncology	87	78	89.7%	2	2.3%	6	6.9%	1	1.1%	0	0.0%
- Pediatric dermatology	9	7	77.8%	2	22.2%	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	2,632	1,757	66.8%	142	5.4%	732	27.8%	1	0.0%	0	0.0%
- Emergency medical services	104	83	79.8%	4	3.8%	17	16.3%	0	0.0%	0	0.0%
- Medical toxicology	44	32	72.7%	4	9.1%	8	18.2%	0	0.0%	0	0.0%
- Pediatric emergency medicine	46	24	52.2%	15	32.6%	7	15.2%	0	0.0%	0	0.0%
- Sports medicine	17	11	64.7%	2	11.8%	4	23.5%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	12	6	50.0%	4	33.3%	1	8.3%	1	8.3%	0	0.0%
Family medicine	4,659	1,918	41.2%	1,212	26.0%	1,529	32.8%	0	0.0%	0	0.0%
- Clinical informatics	8	6	75.0%	2	25.0%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	50	20	40.0%	16	32.0%	14	28.0%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	430	262	60.9%	103	24.0%	62	14.4%	2	0.5%	1	0.2%
- Sports medicine	283	135	47.7%	42	14.8%	106	37.5%	0	0.0%	0	0.0%
Internal medicine	9,322	3,932	42.2%	3,773	40.5%	1,614	17.3%	3	0.0%	0	0.0%
- Adult congenital heart disease	18	11	61.1%	4	22.2%	3	16.7%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	103	61	59.2%	34	33.0%	7	6.8%	1	1.0%	0	0.0%
- Cardiovascular disease	1,075	546	50.8%	421	39.2%	104	9.7%	4	0.4%	0	0.0%
- Clinical cardiac electrophysiology	149	77	51.7%	55	36.9%	16	10.7%	1	0.7%	0	0.0%
- Clinical informatics	24	15	62.5%	6	25.0%	3	12.5%	0	0.0%	0	0.0%
- Critical care medicine	182	56	30.8%	90	49.5%	34	18.7%	2	1.1%	0	0.0%
- Endocrinology, diabetes, and metabolism	340	127	37.4%	185	54.4%	28	8.2%	0	0.0%	0	0.0%
- Gastroenterology	607	367	60.5%	170	28.0%	69	11.4%	1	0.2%	0	0.0%
- Geriatric medicine	295	104	35.3%	162	54.9%	29	9.8%	0	0.0%	0	0.0%
- Hematology and medical oncology	626	375	59.9%	211	33.7%	39	6.2%	1	0.2%	0	0.0%
- Infectious disease	385	166	43.1%	169	43.9%	48	12.5%	2	0.5%	0	0.0%
- Interventional cardiology	362	145	40.1%	185	51.1%	32	8.8%	0	0.0%	0	0.0%
- Nephrology	413	90	21.8%	266	64.4%	56	13.6%	1	0.2%	0	0.0%
- Medical oncology	7	0	0.0%	7	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	31	1	3.2%	23	74.2%	7	22.6%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	738	367	49.7%	282	38.2%	89	12.1%	0	0.0%	0	0.0%
- Rheumatology	274	126	46.0%	105	38.3%	43	15.7%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	198	83	41.9%	86	43.4%	28	14.1%	1	0.5%	0	0.0%
- Transplant hepatology	49	35	71.4%	11	22.4%	1	2.0%	2	4.1%	0	0.0%
Medical genetics and genomics	34	19	55.9%	13	38.2%	2	5.9%	0	0.0%	0	0.0%
- Medical biochemical genetics	17	8	47.1%	7	41.2%	2	11.8%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	58	30	51.7%	27	46.6%	1	1.7%	0	0.0%	0	0.0%
Neurological surgery	220	189	85.9%	19	8.6%	11	5.0%	1	0.5%	0	0.0%
- Neuroendovascular intervention	2	2	100.0%	0	0.0%	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, 2021-2022 AY**

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
Neurology	882	499	56.6%	272	30.8%	110	12.5%	1	0.1%	0	0.0%
- Clinical neurophysiology	154	67	43.5%	64	41.6%	18	11.7%	5	3.2%	0	0.0%
- Epilepsy	157	85	54.1%	56	35.7%	13	8.3%	3	1.9%	0	0.0%
- Neurocritical care (multidisciplinary)	13	3	23.1%	8	61.5%	2	15.4%	0	0.0%	0	0.0%
- Neuroendovascular intervention	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	4	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	76	45	59.2%	25	32.9%	5	6.6%	1	1.3%	0	0.0%
- Vascular neurology	156	67	42.9%	69	44.2%	20	12.8%	0	0.0%	0	0.0%
Child neurology	142	101	71.1%	27	19.0%	14	9.9%	0	0.0%	0	0.0%
Nuclear medicine	38	6	15.8%	31	81.6%	1	2.6%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,427	1,089	76.3%	113	7.9%	225	15.8%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	51	44	86.3%	3	5.9%	4	7.8%	0	0.0%	0	0.0%
- Gynecologic oncology	73	66	90.4%	0	0.0%	6	8.2%	1	1.4%	0	0.0%
- Maternal-fetal medicine	137	113	82.5%	15	10.9%	9	6.6%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	56	51	91.1%	4	7.1%	1	1.8%	0	0.0%	0	0.0%
- Complex family planning	24	21	87.5%	1	4.2%	2	8.3%	0	0.0%	0	0.0%
Ophthalmology	509	457	89.8%	24	4.7%	27	5.3%	1	0.2%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	875	738	84.3%	14	1.6%	123	14.1%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	53	43	81.1%	4	7.5%	6	11.3%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	16	13	81.3%	3	18.8%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	155	138	89.0%	8	5.2%	8	5.2%	1	0.6%	0	0.0%
- Musculoskeletal oncology	16	10	62.5%	4	25.0%	1	6.3%	1	6.3%	0	0.0%
- Orthopaedic sports medicine	215	157	73.0%	18	8.4%	37	17.2%	3	1.4%	0	0.0%
- Orthopaedic surgery of the spine	25	17	68.0%	5	20.0%	3	12.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	20	18	90.0%	1	5.0%	0	0.0%	1	5.0%	0	0.0%
- Pediatric orthopaedics	37	23	62.2%	12	32.4%	1	2.7%	1	2.7%	0	0.0%
Osteopathic neuromusculoskeletal medicine	48	3	6.3%	0	0.0%	45	93.8%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	334	311	93.1%	2	0.6%	21	6.3%	0	0.0%	0	0.0%
- Neurotology	17	16	94.1%	0	0.0%	0	0.0%	1	5.9%	0	0.0%
- Pediatric otolaryngology	43	30	69.8%	5	11.6%	6	14.0%	2	4.7%	0	0.0%
Pathology-anatomic and clinical	625	279	44.6%	278	44.5%	68	10.9%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	46	32	69.6%	10	21.7%	3	6.5%	1	2.2%	0	0.0%
- Clinical informatics	11	9	81.8%	1	9.1%	1	9.1%	0	0.0%	0	0.0%
- Chemical pathology	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	124	40	32.3%	72	58.1%	11	8.9%	1	0.8%	0	0.0%
- Forensic pathology	58	32	55.2%	16	27.6%	10	17.2%	0	0.0%	0	0.0%
- Hematopathology	129	44	34.1%	79	61.2%	5	3.9%	1	0.8%	0	0.0%
- Medical microbiology	13	8	61.5%	4	30.8%	1	7.7%	0	0.0%	0	0.0%
- Neuropathology	25	15	60.0%	8	32.0%	2	8.0%	0	0.0%	0	0.0%
- Pediatric pathology	24	11	45.8%	6	25.0%	4	16.7%	3	12.5%	0	0.0%
- Selective pathology	185	57	30.8%	117	63.2%	9	4.9%	2	1.1%	0	0.0%
Pediatrics	3,085	1,904	61.7%	653	21.2%	528	17.1%	0	0.0%	0	0.0%
- Adolescent medicine	34	26	76.5%	4	11.8%	4	11.8%	0	0.0%	0	0.0%
- Child abuse pediatrics	19	12	63.2%	4	21.1%	3	15.8%	0	0.0%	0	0.0%
- Clinical informatics	18	16	88.9%	2	11.1%	0	0.0%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	41	27	65.9%	9	22.0%	5	12.2%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	257	149	58.0%	70	27.2%	37	14.4%	1	0.4%	0	0.0%
- Pediatric cardiology	161	113	70.2%	37	23.0%	11	6.8%	0	0.0%	0	0.0%
- Pediatric critical care medicine	188	127	67.6%	44	23.4%	17	9.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	158	121	76.6%	17	10.8%	20	12.7%	0	0.0%	0	0.0%
- Pediatric endocrinology	69	39	56.5%	20	29.0%	10	14.5%	0	0.0%	0	0.0%
- Pediatric gastroenterology	113	72	63.7%	31	27.4%	10	8.8%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	170	110	64.7%	39	22.9%	21	12.4%	0	0.0%	0	0.0%
- Pediatric infectious diseases	53	33	62.3%	12	22.6%	8	15.1%	0	0.0%	0	0.0%

TABLE D.6 Continued

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2021-2022 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	33	20	60.6%	11	33.3%	2	6.1%	0	0.0%	0	0.0%
- Pediatric pulmonology	64	33	51.6%	21	32.8%	10	15.6%	0	0.0%	0	0.0%
- Pediatric rheumatology	32	22	68.8%	7	21.9%	3	9.4%	0	0.0%	0	0.0%
- Sports medicine	29	15	51.7%	6	20.7%	6	20.7%	2	6.9%	0	0.0%
- Pediatric transplant hepatology	16	13	81.3%	3	18.8%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	74	64	86.5%	2	2.7%	8	10.8%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	457	265	58.0%	43	9.4%	149	32.6%	0	0.0%	0	0.0%
- Brain injury medicine	27	18	66.7%	3	11.1%	6	22.2%	0	0.0%	0	0.0%
- Neuromuscular medicine	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	23	17	73.9%	4	17.4%	2	8.7%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	14	8	57.1%	3	21.4%	3	21.4%	0	0.0%	0	0.0%
- Sports medicine	40	23	57.5%	4	10.0%	12	30.0%	1	2.5%	0	0.0%
Plastic surgery	66	43	65.2%	18	27.3%	5	7.6%	0	0.0%	0	0.0%
Plastic surgery - integrated	159	145	91.2%	12	7.5%	2	1.3%	0	0.0%	0	0.0%
- Craniofacial surgery	5	4	80.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	25	17	68.0%	3	12.0%	1	4.0%	4	16.0%	0	0.0%
Public health and general preventive medicine	91	60	65.9%	22	24.2%	9	9.9%	0	0.0%	0	0.0%
Aerospace medicine	22	16	72.7%	0	0.0%	6	27.3%	0	0.0%	0	0.0%
Occupational and environmental medicine	62	42	67.7%	4	6.5%	16	25.8%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	1,494	949	63.5%	293	19.6%	252	16.9%	0	0.0%	0	0.0%
- Addiction medicine (multidisciplinary)	174	101	58.0%	42	24.1%	30	17.2%	1	0.6%	0	0.0%
- Addiction psychiatry	89	59	66.3%	25	28.1%	5	5.6%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	469	255	54.4%	136	29.0%	78	16.6%	0	0.0%	0	0.0%
- Forensic psychiatry	90	63	70.0%	13	14.4%	14	15.6%	0	0.0%	0	0.0%
- Geriatric psychiatry	58	29	50.0%	20	34.5%	9	15.5%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	92	52	56.5%	28	30.4%	10	10.9%	2	2.2%	0	0.0%
Radiation oncology	189	182	96.3%	6	3.2%	1	0.5%	0	0.0%	0	0.0%
Radiology-diagnostic	1,103	816	74.0%	146	13.2%	141	12.8%	0	0.0%	0	0.0%
- Abdominal radiology	50	23	46.0%	21	42.0%	4	8.0%	2	4.0%	0	0.0%
- Neuroendovascular intervention	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	36	17	47.2%	11	30.6%	6	16.7%	2	5.6%	0	0.0%
- Neuroradiology	297	183	61.6%	87	29.3%	26	8.8%	1	0.3%	0	0.0%
- Nuclear radiology	15	6	40.0%	8	53.3%	1	6.7%	0	0.0%	0	0.0%
- Pediatric radiology	52	24	46.2%	26	50.0%	2	3.8%	0	0.0%	0	0.0%
Interventional radiology - independent	184	130	70.7%	37	20.1%	16	8.7%	1	0.5%	0	0.0%
Interventional radiology - integrated	90	82	91.1%	0	0.0%	8	8.9%	0	0.0%	0	0.0%
Surgery	1,467	1,051	71.6%	201	13.7%	215	14.7%	0	0.0%	0	0.0%
- Complex general surgical oncology	61	55	90.2%	3	4.9%	2	3.3%	1	1.6%	0	0.0%
- Hand surgery	8	3	37.5%	3	37.5%	2	25.0%	0	0.0%	0	0.0%
- Pediatric surgery	41	33	80.5%	7	17.1%	1	2.4%	0	0.0%	0	0.0%
- Surgical critical care	339	246	72.6%	37	10.9%	53	15.6%	3	0.9%	0	0.0%
- Vascular surgery	129	90	69.8%	19	14.7%	20	15.5%	0	0.0%	0	0.0%
Vascular surgery - integrated	63	56	88.9%	6	9.5%	1	1.6%	0	0.0%	0	0.0%
Thoracic surgery	107	80	74.8%	19	17.8%	7	6.5%	1	0.9%	0	0.0%
- Congenital cardiac surgery	13	9	69.2%	3	23.1%	1	7.7%	0	0.0%	0	0.0%
Thoracic surgery - integrated	29	26	89.7%	1	3.4%	2	6.9%	0	0.0%	0	0.0%
Urology	342	308	90.1%	14	4.1%	20	5.8%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	15	12	80.0%	2	13.3%	1	6.7%	0	0.0%	0	0.0%
- Pediatric urology	12	11	91.7%	0	0.0%	1	8.3%	0	0.0%	0	0.0%
Transitional year	1,769	1,101	62.2%	166	9.4%	502	28.4%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	377	306	81.2%	28	7.4%	43	11.4%	0	0.0%	0	0.0%
Health care administration, leadership, and management	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

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

<b>TABLE D.7</b>					
<b>Number of Graduating Residents and Graduate Concentration per 100,000 Population by State, 2021-2022 AY</b>					
State Name	State Abbreviation	State Population - Census Estimate 2022	Total Graduates	Percent of All Graduates	Graduates per 100,000 Pop
OVERALL	-	336,509,346	49,681	100.0%	14.76
Alabama	AL	5,074,296	574	1.2%	11.31
Alaska	AK	733,583	13	0.0%	1.77
Arizona	AZ	7,359,197	685	1.4%	9.31
Arkansas	AR	3,045,637	357	0.7%	11.72
California	CA	39,029,342	4,677	9.4%	11.98
Colorado	CO	5,839,926	569	1.1%	9.74
Connecticut	CT	3,626,205	845	1.7%	23.30
Delaware	DE	1,018,396	133	0.3%	13.06
District of Columbia	DC	671,803	549	1.1%	81.72
Florida	FL	22,244,823	2,623	5.3%	11.79
Georgia	GA	10,912,876	1,071	2.2%	9.81
Hawaii	HI	1,440,196	149	0.3%	10.35
Idaho	ID	1,939,033	59	0.1%	3.04
Illinois	IL	12,582,032	2,290	4.6%	18.20
Indiana	IN	6,833,037	535	1.1%	7.83
Iowa	IA	3,200,517	339	0.7%	10.59
Kansas	KS	2,937,150	278	0.6%	9.46
Kentucky	KY	4,512,310	483	1.0%	10.70
Louisiana	LA	4,590,241	704	1.4%	15.34
Maine	ME	1,385,340	117	0.2%	8.45
Maryland	MD	6,164,660	1,147	2.3%	18.61
Massachusetts	MA	6,981,974	2,173	4.4%	31.12
Michigan	MI	10,034,113	2,432	4.9%	24.24
Minnesota	MN	5,717,184	857	1.7%	14.99
Mississippi	MS	2,940,057	267	0.5%	9.08
Missouri	MO	6,177,957	1,051	2.1%	17.01
Montana	MT	1,122,867	26	0.1%	2.32
Nebraska	NE	1,967,923	267	0.5%	13.57
Nevada	NV	3,177,772	286	0.6%	9.00
New Hampshire	NH	1,395,231	143	0.3%	10.25
New Jersey	NJ	9,261,699	1,262	2.5%	13.63
New Mexico	NM	2,113,344	238	0.5%	11.26
New York	NY	19,677,151	6,153	12.4%	31.27
North Carolina	NC	10,698,973	1,376	2.8%	12.86
North Dakota	ND	779,261	55	0.1%	7.06
Ohio	OH	11,756,058	2,457	4.9%	20.90
Oklahoma	OK	4,019,800	376	0.8%	9.35
Oregon	OR	4,240,137	344	0.7%	8.11
Pennsylvania	PA	12,972,008	3,175	6.4%	24.48
Puerto Rico	PR	3,221,789	318	0.6%	9.87
Rhode Island	RI	1,093,734	288	0.6%	26.33
South Carolina	SC	5,282,634	548	1.1%	10.37
South Dakota	SD	909,824	50	0.1%	5.50
Tennessee	TN	7,051,339	873	1.8%	12.38
Texas	TX	30,029,572	3,235	6.5%	10.77
Utah	UT	3,380,800	319	0.6%	9.44
Vermont	VT	647,064	107	0.2%	16.54
Virginia	VA	8,683,619	989	2.0%	11.39
Washington	WA	7,785,786	785	1.6%	10.08
West Virginia	WV	1,775,156	314	0.6%	17.69
Wisconsin	WI	5,892,539	707	1.4%	12.00
Wyoming	WY	581,381	13	0.0%	2.24

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

Abbreviations: AY, academic year.

**TABLE D.8**

**Number of Specialty Graduates and Specialty Graduate Concentration per 100,000 Population by State, 2021-2022 AY**

State Name	State Abbreviation	State Population - Census Estimate 2022	Total Specialty Graduates	Percent of All Specialty Graduates	Specialty Graduates per 100,000 Pop
OVERALL	-	336,509,346	35,327	100.0%	10.50
Alabama	AL	5,074,296	428	1.2%	8.43
Alaska	AK	733,583	12	0.0%	1.64
Arizona	AZ	7,359,197	506	1.4%	6.88
Arkansas	AR	3,045,637	289	0.8%	9.49
California	CA	39,029,342	3,213	9.1%	8.23
Colorado	CO	5,839,926	382	1.1%	6.54
Connecticut	CT	3,626,205	574	1.6%	15.83
Delaware	DE	1,018,396	102	0.3%	10.02
District of Columbia	DC	671,803	366	1.0%	54.48
Florida	FL	22,244,823	2,002	5.7%	9.00
Georgia	GA	10,912,876	796	2.3%	7.29
Hawaii	HI	1,440,196	130	0.4%	9.03
Idaho	ID	1,939,033	55	0.2%	2.84
Illinois	IL	12,582,032	1,714	4.9%	13.62
Indiana	IN	6,833,037	411	1.2%	6.01
Iowa	IA	3,200,517	243	0.7%	7.59
Kansas	KS	2,937,150	210	0.6%	7.15
Kentucky	KY	4,512,310	337	1.0%	7.47
Louisiana	LA	4,590,241	529	1.5%	11.52
Maine	ME	1,385,340	94	0.3%	6.79
Maryland	MD	6,164,660	731	2.1%	11.86
Massachusetts	MA	6,981,974	1,328	3.8%	19.02
Michigan	MI	10,034,113	1,884	5.3%	18.78
Minnesota	MN	5,717,184	538	1.5%	9.41
Mississippi	MS	2,940,057	209	0.6%	7.11
Missouri	MO	6,177,957	701	2.0%	11.35
Montana	MT	1,122,867	25	0.1%	2.23
Nebraska	NE	1,967,923	186	0.5%	9.45
Nevada	NV	3,177,772	244	0.7%	7.68
New Hampshire	NH	1,395,231	93	0.3%	6.67
New Jersey	NJ	9,261,699	1,036	2.9%	11.19
New Mexico	NM	2,113,344	161	0.5%	7.62
New York	NY	19,677,151	4,364	12.4%	22.18
North Carolina	NC	10,698,973	905	2.6%	8.46
North Dakota	ND	779,261	52	0.1%	6.67
Ohio	OH	11,756,058	1,704	4.8%	14.49
Oklahoma	OK	4,019,800	308	0.9%	7.66
Oregon	OR	4,240,137	240	0.7%	5.66
Pennsylvania	PA	12,972,008	2,173	6.2%	16.75
Puerto Rico	PR	3,221,789	258	0.7%	8.01
Rhode Island	RI	1,093,734	197	0.6%	18.01
South Carolina	SC	5,282,634	400	1.1%	7.57
South Dakota	SD	909,824	45	0.1%	4.95
Tennessee	TN	7,051,339	587	1.7%	8.32
Texas	TX	30,029,572	2,204	6.2%	7.34
Utah	UT	3,380,800	200	0.6%	5.92
Vermont	VT	647,064	74	0.2%	11.44
Virginia	VA	8,683,619	746	2.1%	8.59
Washington	WA	7,785,786	560	1.6%	7.19
West Virginia	WV	1,775,156	255	0.7%	14.36
Wisconsin	WI	5,892,539	513	1.5%	8.71
Wyoming	WY	581,381	13	0.0%	2.24

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

Abbreviations: AY, academic year.

TABLE D.9					
Number of Subspecialty Graduates and Subspecialty Graduate Concentration per 100,000 Population by State, 2021-2022 AY					
State Name	State Abbreviation	State Population - Census Estimate 2022	Total Subspecialty Graduates	Percent of All Subspecialty Graduates	Subspecialty Graduates per 100,000 Pop
OVERALL	-	336,509,346	14,354	100.0%	4.27
Alabama	AL	5,074,296	146	1.0%	2.88
Alaska	AK	733,583	1	0.0%	0.14
Arizona	AZ	7,359,197	179	1.2%	2.43
Arkansas	AR	3,045,637	68	0.5%	2.23
California	CA	39,029,342	1,464	10.2%	3.75
Colorado	CO	5,839,926	187	1.3%	3.20
Connecticut	CT	3,626,205	271	1.9%	7.47
Delaware	DE	1,018,396	31	0.2%	3.04
District of Columbia	DC	671,803	183	1.3%	27.24
Florida	FL	22,244,823	621	4.3%	2.79
Georgia	GA	10,912,876	275	1.9%	2.52
Hawaii	HI	1,440,196	19	0.1%	1.32
Idaho	ID	1,939,033	4	0.0%	0.21
Illinois	IL	12,582,032	576	4.0%	4.58
Indiana	IN	6,833,037	124	0.9%	1.81
Iowa	IA	3,200,517	96	0.7%	3.00
Kansas	KS	2,937,150	68	0.5%	2.32
Kentucky	KY	4,512,310	146	1.0%	3.24
Louisiana	LA	4,590,241	175	1.2%	3.81
Maine	ME	1,385,340	23	0.2%	1.66
Maryland	MD	6,164,660	416	2.9%	6.75
Massachusetts	MA	6,981,974	845	5.9%	12.10
Michigan	MI	10,034,113	548	3.8%	5.46
Minnesota	MN	5,717,184	319	2.2%	5.58
Mississippi	MS	2,940,057	58	0.4%	1.97
Missouri	MO	6,177,957	350	2.4%	5.67
Montana	MT	1,122,867	1	0.0%	0.09
Nebraska	NE	1,967,923	81	0.6%	4.12
Nevada	NV	3,177,772	42	0.3%	1.32
New Hampshire	NH	1,395,231	50	0.3%	3.58
New Jersey	NJ	9,261,699	226	1.6%	2.44
New Mexico	NM	2,113,344	77	0.5%	3.64
New York	NY	19,677,151	1,789	12.5%	9.09
North Carolina	NC	10,698,973	471	3.3%	4.40
North Dakota	ND	779,261	3	0.0%	0.38
Ohio	OH	11,756,058	753	5.2%	6.41
Oklahoma	OK	4,019,800	68	0.5%	1.69
Oregon	OR	4,240,137	104	0.7%	2.45
Pennsylvania	PA	12,972,008	1,002	7.0%	7.72
Puerto Rico	PR	3,221,789	60	0.4%	1.86
Rhode Island	RI	1,093,734	91	0.6%	8.32
South Carolina	SC	5,282,634	148	1.0%	2.80
South Dakota	SD	909,824	5	0.0%	0.55
Tennessee	TN	7,051,339	286	2.0%	4.06
Texas	TX	30,029,572	1,031	7.2%	3.43
Utah	UT	3,380,800	119	0.8%	3.52
Vermont	VT	647,064	33	0.2%	5.10
Virginia	VA	8,683,619	243	1.7%	2.80
Washington	WA	7,785,786	225	1.6%	2.89
West Virginia	WV	1,775,156	59	0.4%	3.32
Wisconsin	WI	5,892,539	194	1.4%	3.29
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

Abbreviations: AY, academic year.

TABLE D.10

Number of Pipeline Graduates and Pipeline Graduate Concentration per 100,000 Population by State, 2021-2022 AY

State Name	State Abbreviation	State Population - Census Estimate 2022	Total Pipeline Graduates	Percent of All Pipeline Graduates	Pipeline Graduates per 100,000 Pop
OVERALL	-	336,509,346	33,371	100.0%	9.92
Alabama	AL	5,074,296	409	1.2%	8.06
Alaska	AK	733,583	12	0.0%	1.64
Arizona	AZ	7,359,197	469	1.4%	6.37
Arkansas	AR	3,045,637	264	0.8%	8.67
California	CA	39,029,342	3,044	9.1%	7.80
Colorado	CO	5,839,926	367	1.1%	6.28
Connecticut	CT	3,626,205	565	1.7%	15.58
Delaware	DE	1,018,396	98	0.3%	9.62
District of Columbia	DC	671,803	368	1.1%	54.78
Florida	FL	22,244,823	1,815	5.4%	8.16
Georgia	GA	10,912,876	693	2.1%	6.35
Hawaii	HI	1,440,196	116	0.3%	8.05
Idaho	ID	1,939,033	55	0.2%	2.84
Illinois	IL	12,582,032	1,630	4.9%	12.95
Indiana	IN	6,833,037	367	1.1%	5.37
Iowa	IA	3,200,517	234	0.7%	7.31
Kansas	KS	2,937,150	209	0.6%	7.12
Kentucky	KY	4,512,310	325	1.0%	7.20
Louisiana	LA	4,590,241	518	1.6%	11.28
Maine	ME	1,385,340	94	0.3%	6.79
Maryland	MD	6,164,660	689	2.1%	11.18
Massachusetts	MA	6,981,974	1,263	3.8%	18.09
Michigan	MI	10,034,113	1,722	5.2%	17.16
Minnesota	MN	5,717,184	510	1.5%	8.92
Mississippi	MS	2,940,057	195	0.6%	6.63
Missouri	MO	6,177,957	684	2.0%	11.07
Montana	MT	1,122,867	25	0.1%	2.23
Nebraska	NE	1,967,923	184	0.6%	9.35
Nevada	NV	3,177,772	218	0.7%	6.86
New Hampshire	NH	1,395,231	93	0.3%	6.67
New Jersey	NJ	9,261,699	961	2.9%	10.38
New Mexico	NM	2,113,344	156	0.5%	7.38
New York	NY	19,677,151	4,188	12.5%	21.28
North Carolina	NC	10,698,973	856	2.6%	8.00
North Dakota	ND	779,261	47	0.1%	6.03
Ohio	OH	11,756,058	1,616	4.8%	13.75
Oklahoma	OK	4,019,800	304	0.9%	7.56
Oregon	OR	4,240,137	242	0.7%	5.71
Pennsylvania	PA	12,972,008	2,056	6.2%	15.85
Puerto Rico	PR	3,221,789	219	0.7%	6.80
Rhode Island	RI	1,093,734	197	0.6%	18.01
South Carolina	SC	5,282,634	375	1.1%	7.10
South Dakota	SD	909,824	39	0.1%	4.29
Tennessee	TN	7,051,339	572	1.7%	8.11
Texas	TX	30,029,572	2,111	6.3%	7.03
Utah	UT	3,380,800	189	0.6%	5.59
Vermont	VT	647,064	76	0.2%	11.75
Virginia	VA	8,683,619	691	2.1%	7.96
Washington	WA	7,785,786	513	1.5%	6.59
West Virginia	WV	1,775,156	241	0.7%	13.58
Wisconsin	WI	5,892,539	474	1.4%	8.04
Wyoming	WY	581,381	13	0.0%	2.24

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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

Abbreviations: AY, academic year.



**TABLE D.11**

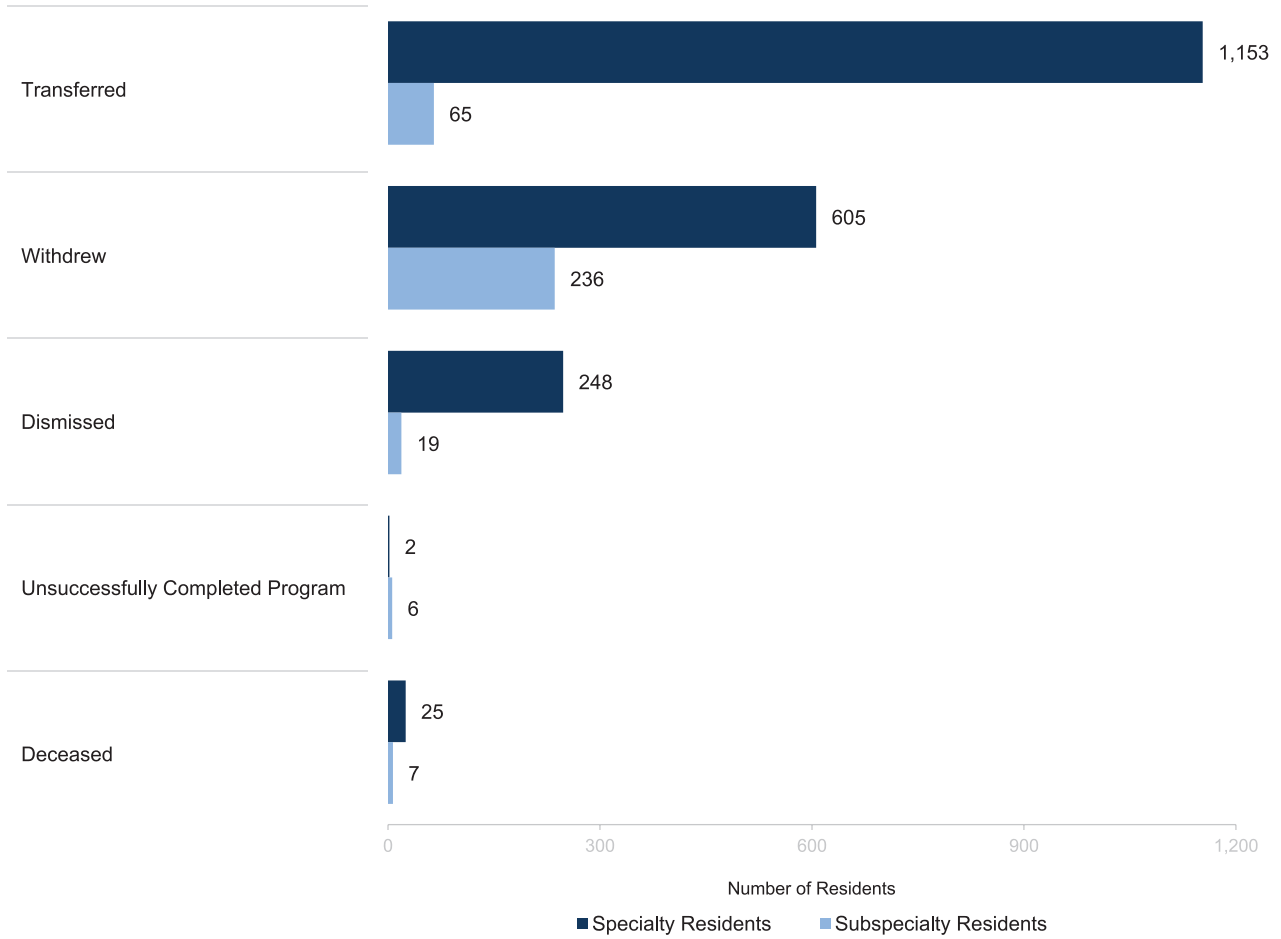
**Number of Graduating Residents by State and Medical School Type, 2021-2022 AY**

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	-	49,681	28,719	12,344	8,528	89	1
Alabama	AL	574	364	136	73	1	0
Alaska	AK	13	7	0	6	0	0
Arizona	AZ	685	380	150	155	0	0
Arkansas	AR	357	177	136	44	0	0
California	CA	4,677	3,448	629	587	13	0
Colorado	CO	569	447	33	88	1	0
Connecticut	CT	845	449	309	85	2	0
Delaware	DE	133	52	26	54	1	0
District of Columbia	DC	549	343	166	39	1	0
Florida	FL	2,623	1,118	882	620	3	0
Georgia	GA	1,071	654	266	149	2	0
Hawaii	HI	149	90	23	36	0	0
Idaho	ID	59	32	10	17	0	0
Illinois	IL	2,290	1,295	612	381	2	0
Indiana	IN	535	333	85	117	0	0
Iowa	IA	339	181	90	67	1	0
Kansas	KS	278	165	43	70	0	0
Kentucky	KY	483	261	101	121	0	0
Louisiana	LA	704	414	229	61	0	0
Maine	ME	117	67	12	38	0	0
Maryland	MD	1,147	784	256	103	4	0
Massachusetts	MA	2,173	1,506	503	152	12	0
Michigan	MI	2,432	995	763	673	1	0
Minnesota	MN	857	604	174	77	2	0
Mississippi	MS	267	138	60	69	0	0
Missouri	MO	1,051	636	235	179	1	0
Montana	MT	26	14	0	11	1	0
Nebraska	NE	267	141	80	46	0	0
Nevada	NV	286	110	77	99	0	0
New Hampshire	NH	143	100	29	13	1	0
New Jersey	NJ	1,262	350	544	368	0	0
New Mexico	NM	238	143	52	43	0	0
New York	NY	6,153	2,928	2,419	785	21	0
North Carolina	NC	1,376	982	152	240	2	0
North Dakota	ND	55	21	29	5	0	0
Ohio	OH	2,457	1,277	556	623	1	0
Oklahoma	OK	376	138	57	180	1	0
Oregon	OR	344	236	48	60	0	0
Pennsylvania	PA	3,175	1,720	774	674	6	1
Puerto Rico	PR	318	199	119	0	0	0
Rhode Island	RI	288	205	54	29	0	0
South Carolina	SC	548	364	61	123	0	0
South Dakota	SD	50	26	11	13	0	0
Tennessee	TN	873	620	156	95	2	0
Texas	TX	3,235	2,062	701	468	4	0
Utah	UT	319	270	18	30	1	0
Vermont	VT	107	85	10	12	0	0
Virginia	VA	989	576	173	240	0	0
Washington	WA	785	606	59	118	2	0
West Virginia	WV	314	137	105	72	0	0
Wisconsin	WI	707	467	127	113	0	0
Wyoming	WY	13	2	4	7	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, 2021-2022 AY**



Abbreviations: AY, academic year.

**TABLE D.13**

**Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2021-2022 AY**

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
OVERALL	2,366	1,218	841	267	8	32
TOTAL PIPELINE	2,006	1,144	592	244	2	24
Allergy and immunology	1	0	0	1	0	0
Anesthesiology	68	20	29	18	1	0
- Adult cardiothoracic anesthesiology	3	0	3	0	0	0
- Critical care medicine	1	0	1	0	0	0
- Regional anesthesiology and acute pain medicine	0	0	0	0	0	0
- Pediatric cardiac anesthesiology	0	0	0	0	0	0
- Obstetric anesthesiology	3	0	2	0	1	0
- Pain medicine (multidisciplinary)	7	0	7	0	0	0
- Pediatric anesthesiology	4	0	3	1	0	0
Colon and rectal surgery	0	0	0	0	0	0
Dermatology	13	4	6	3	0	0
- Dermatopathology (multidisciplinary)	0	0	0	0	0	0
- Micrographic surgery and dermatologic oncology	2	0	2	0	0	0
- Pediatric dermatology	0	0	0	0	0	0
Emergency medicine	96	49	31	14	0	2
- Emergency medical services	4	0	3	1	0	0
- Medical toxicology	0	0	0	0	0	0
- Pediatric emergency medicine	1	0	1	0	0	0
- Sports medicine	0	0	0	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0
Family medicine	268	114	105	46	0	3
- Clinical informatics	3	0	3	0	0	0
- Geriatric medicine	3	0	3	0	0	0
- Hospice and palliative medicine (multidisciplinary)	6	0	6	0	0	0
- Sports medicine	3	0	2	0	1	0
Internal medicine	300	134	106	51	0	9
- Adult congenital heart disease	0	0	0	0	0	0
- Advanced heart failure and transplant cardiology	2	0	2	0	0	0
- Cardiovascular disease	17	5	9	1	0	2
- Clinical cardiac electrophysiology	3	0	3	0	0	0
- Clinical informatics	1	0	1	0	0	0
- Critical care medicine	7	5	2	0	0	0
- Endocrinology, diabetes, and metabolism	3	2	1	0	0	0
- Gastroenterology	3	1	2	0	0	0
- Geriatric medicine	15	4	11	0	0	0
- Hematology and medical oncology	10	0	6	3	0	1
- Infectious disease	12	5	7	0	0	0
- Interventional cardiology	1	0	0	1	0	0
- Nephrology	24	4	20	0	0	0
- Medical oncology	4	4	0	0	0	0
- Pulmonary disease	1	1	0	0	0	0
- Pulmonary disease and critical care medicine	13	2	8	1	0	2
- Rheumatology	7	0	6	0	0	1
- Sleep medicine (multidisciplinary)	3	0	2	0	1	0
- Transplant hepatology	0	0	0	0	0	0
Medical genetics and genomics	1	0	1	0	0	0
- Medical biochemical genetics	0	0	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	2	0	2	0	0	0
Neurological surgery	21	8	10	3	0	0
- Neuroendovascular intervention	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, 2021-2022 AY**

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
Neurology	51	24	15	12	0	0
- Clinical neurophysiology	3	1	1	1	0	0
- Epilepsy	2	0	2	0	0	0
- Neurocritical care (multidisciplinary)	0	0	0	0	0	0
- Neuroendovascular intervention	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	8	1	6	1	0	0
Nuclear medicine	3	3	0	0	0	0
Obstetrics and gynecology	86	55	23	8	0	0
- Female pelvic medicine and reconstructive surgery	1	0	1	0	0	0
- Gynecologic oncology	3	1	2	0	0	0
- Maternal-fetal medicine	2	0	2	0	0	0
- Reproductive endocrinology and infertility	0	0	0	0	0	0
- Complex family planning	2	1	1	0	0	0
Ophthalmology	9	2	7	0	0	0
- Ophthalmic plastic and reconstructive surgery	1	1	0	0	0	0
Orthopaedic surgery	31	10	18	2	0	1
- Adult reconstructive orthopaedics	0	0	0	0	0	0
- Foot and ankle orthopaedics	0	0	0	0	0	0
- Hand surgery	1	0	0	1	0	0
- Musculoskeletal oncology	0	0	0	0	0	0
- Orthopaedic sports medicine	2	0	1	0	1	0
- Orthopaedic surgery of the spine	0	0	0	0	0	0
- Orthopaedic trauma	0	0	0	0	0	0
- Pediatric orthopaedics	1	0	1	0	0	0
Osteopathic neuromusculoskeletal medicine	2	1	1	0	0	0
Otolaryngology - head and neck surgery	19	7	7	5	0	0
- Neurotology	0	0	0	0	0	0
- Pediatric otolaryngology	0	0	0	0	0	0
Pathology-anatomic and clinical	56	28	17	8	1	2
- Blood banking/transfusion medicine	1	0	1	0	0	0
- Clinical informatics	1	1	0	0	0	0
- Chemical pathology	1	0	1	0	0	0
- Cytopathology	1	0	0	1	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	1	1	0	0	0	0
- Pediatric pathology	1	1	0	0	0	0
- Selective pathology	5	0	5	0	0	0
Pediatrics	106	55	37	13	0	1
- Adolescent medicine	4	0	4	0	0	0
- Child abuse pediatrics	1	1	0	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Developmental-behavioral pediatrics	4	0	4	0	0	0
- Neonatal-perinatal medicine	12	3	9	0	0	0
- Pediatric cardiology	2	1	1	0	0	0
- Pediatric critical care medicine	5	0	5	0	0	0
- Pediatric emergency medicine	4	0	3	0	0	1
- Pediatric endocrinology	6	0	5	0	1	0
- Pediatric gastroenterology	2	0	2	0	0	0
- Pediatric hematology/oncology	19	3	14	2	0	0
- Pediatric infectious diseases	6	1	5	0	0	0

TABLE D.13 *Continued*

**Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2021-2022 AY**

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrawn	Dismissed	Unsuccessfully Completed Program	Deceased
- Pediatric nephrology	3	2	1	0	0	0
- Pediatric pulmonology	7	1	5	1	0	0
- Pediatric rheumatology	1	0	1	0	0	0
- Sports medicine	0	0	0	0	0	0
- Pediatric transplant hepatology	0	0	0	0	0	0
- Pediatric hospital medicine	1	0	1	0	0	0
Physical medicine and rehabilitation	10	5	5	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 medicine	0	0	0	0	0	0
- Sports medicine	0	0	0	0	0	0
Plastic surgery	4	1	1	2	0	0
Plastic surgery - integrated	6	1	5	0	0	0
- Craniofacial surgery	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
Public health and general preventive medicine	4	1	2	1	0	0
Aerospace medicine	2	0	1	1	0	0
Occupational and environmental medicine	2	0	2	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0
Psychiatry	447	395	27	24	0	1
- Addiction medicine (multidisciplinary)	6	0	4	2	0	0
- Addiction psychiatry	2	0	2	0	0	0
- Child and adolescent psychiatry	29	11	16	1	1	0
- Forensic psychiatry	1	0	1	0	0	0
- Geriatric psychiatry	2	0	2	0	0	0
- Consultation-liaison psychiatry	1	0	1	0	0	0
Radiation oncology	17	10	4	2	0	1
Radiology-diagnostic	58	42	12	3	0	1
- Abdominal radiology	1	0	0	1	0	0
- Neuroendovascular intervention	1	0	1	0	0	0
- Musculoskeletal radiology	1	1	0	0	0	0
- Neuroradiology	3	0	2	1	0	0
- Nuclear radiology	0	0	0	0	0	0
- Pediatric radiology	1	0	1	0	0	0
Interventional radiology - independent	3	0	3	0	0	0
Interventional radiology - integrated	23	22	1	0	0	0
Surgery	252	127	101	22	0	2
- Complex general surgical oncology	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
- Pediatric surgery	0	0	0	0	0	0
- Surgical critical care	4	0	4	0	0	0
- Vascular surgery	3	1	2	0	0	0
Vascular surgery - integrated	5	3	2	0	0	0
Thoracic surgery	6	0	5	0	0	1
- Congenital cardiac surgery	0	0	0	0	0	0
Thoracic surgery - integrated	3	1	2	0	0	0
Urology	21	13	4	3	0	1
- Female pelvic medicine and reconstructive surgery	0	0	0	0	0	0
- Pediatric urology	0	0	0	0	0	0
Transitional year	23	9	11	3	0	0
Internal medicine/Pediatrics	11	8	1	2	0	0
Health care administration, leadership, and management	0	0	0	0	0	0

Note: Pipeline specialties are highlighted.

Abbreviations: AY, academic year.

TABLE D.14

Number of Transferring Residents by Specialty and Resident Year, 2021-2022 AY

Specialty	Number of Transferring Residents	Resident Year						
		1	2	3	4	5	6	7
OVERALL	1,153	445	232	409	64	3		
Allergy and immunology	0							
Anesthesiology	20	6	11	2	1			
Colon and rectal surgery	0							
Dermatology	4	4						
Emergency medicine	49	31	15	3				
Family medicine	114	84	28	2				
Internal medicine	134	98	31	5				
Medical genetics and genomics	0							
Neurological surgery	8	2	3	1		2		
Neurology	24	12	7	5				
Child neurology	1	1						
Nuclear medicine	3	3						
Obstetrics and gynecology	55	26	21	7	1			
Ophthalmology	2	2						
Orthopaedic surgery	10	4	4	2				
Osteopathic neuromusculoskeletal medicine	1	1						
Otolaryngology - head and neck surgery	7	6	1					
Pathology-anatomic and clinical	28	11	14	3				
Pediatrics	55	29	19	7				
Physical medicine and rehabilitation	5	5						
Plastic surgery	1	1						
Plastic Surgery - integrated	1			1				
Public health and general preventive medicine	1	1						
Aerospace medicine	0							
Occupational and environmental medicine	0							
Psychiatry	395	33	12	318	32			
Radiation oncology	10	8	2					
Radiology-diagnostic	42	12	16	6	8			
Interventional radiology - integrated	22	2	4	11	5			
Surgery	127	45	37	32	13			
Vascular surgery - integrated	3	1		1	1			
Thoracic surgery	0							
Thoracic surgery - integrated	1				1			
Urology	13	4	5	1	2	1		
Transitional year	9	9						
Internal medicine/Pediatrics	8	4	2	2				

Abbreviations: AY, academic year.

**TABLE D.15**

**Number of Pipeline Graduates who Subspecialize, 2021-2022 AY**

Specialty	Total Pipeline Graduates	Subspecialized	
		#	%
Total Pipeline	33,371	10,585	31.7%
Anesthesiology	1,818	870	47.9%
Dermatology	526	106	20.2%
Emergency medicine	2,632	327	12.4%
Family medicine	4,659	431	9.3%
Internal medicine	9,322	3,879	41.6%
Medical genetics and genomics	34	10	29.4%
Neurological surgery	220	2	0.9%
Neurology	882	487	55.2%
Child neurology	142	67	47.2%
Nuclear medicine	38	5	13.2%
Obstetrics and gynecology	1,427	321	22.5%
Ophthalmology	509	2	0.4%
Orthopaedic surgery	875	425	48.6%
Osteopathic neuromusculoskeletal medicine	48	3	6.3%
Otolaryngology - head and neck surgery	334	45	13.5%
Pathology-anatomic and clinical	625	443	70.9%
Pediatrics	3,085	1,262	40.9%
Physical medicine and rehabilitation	457	224	49.0%
Plastic surgery	66	13	19.7%
Plastic Surgery - integrated	159	46	28.9%
Public health and general preventive medicine	91	9	9.9%
Aerospace medicine	22	0	0.0%
Occupational and environmental medicine	62	1	1.6%
Psychiatry	1,494	409	27.4%
Radiation oncology	189	0	0.0%
Radiology-diagnostic	1,103	356	32.3%
Interventional radiology - independent	184	1	0.5%
Interventional radiology - integrated	90	2	2.2%
Surgery	1,467	672	45.8%
Vascular surgery - integrated	63	2	3.2%
Thoracic surgery - integrated	29	3	10.3%
Urology	342	23	6.7%
Internal medicine/Pediatrics	377	139	36.9%

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 occurred throughout the 2022-2023 academic year.

## Accredited Sponsors by Status

Of the 886 total ACGME-accredited Sponsoring Institutions, 116 (13.1%) are in the initial phase of accreditation, 741 (83.6%) have a status of Continued Accreditation, 13 (1.5%) have a status of Continued Accreditation with Warning, seven (0.8%) are on probation, and nine (1.0%) have a status of Withdrawal of Accreditation. Overall, there has been a 23.7% increase in number of sponsors since the 2013-2014 academic year (at that time the total number of Sponsoring Institutions was 716). 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 Sponsoring Institution occurred simultaneously. This change, combined with Sponsoring Institutions seeking accreditation through the transition to a single GME accreditation system, has led to the upward trend in total accredited Sponsoring Institutions.

## Distribution by Sponsor Size

Sponsoring Institutions with one program and those with two to five programs account for the majority of all Sponsoring Institutions (26.7% and 27.2%, respectively). The remaining Sponsoring Institutions with accredited programs all have more than five programs: 22.2% have between six and 25 programs; 11.1% have between 26 and 75 programs; 2.8% have between 76 and 100 programs; and 2.4% have more than 100 programs. There are 66 (7.4%) 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 (108)
- New York (68)
- Texas (59)
- Florida (56)

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

- California (61)
- New York (51)
- Florida (36)
- Texas (36)

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

- California (38)
- Florida (16)
- Texas (14)
- New York (13)

Sponsors that do not yet have ACGME-accredited programs (66) are located in 27 states, with the highest number of these located in California and Texas, with nine recorded in each.

## 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 (348, 42.4%); the next largest group is Academic Medical Centers/Medical Schools, with 133 (16.2%) in this category. Though a much smaller percentage of total Sponsoring Institutions, Academic Medical Centers/Medical Schools account for 48.7% more programs and 33.5% more residents than General/Teaching Hospitals.

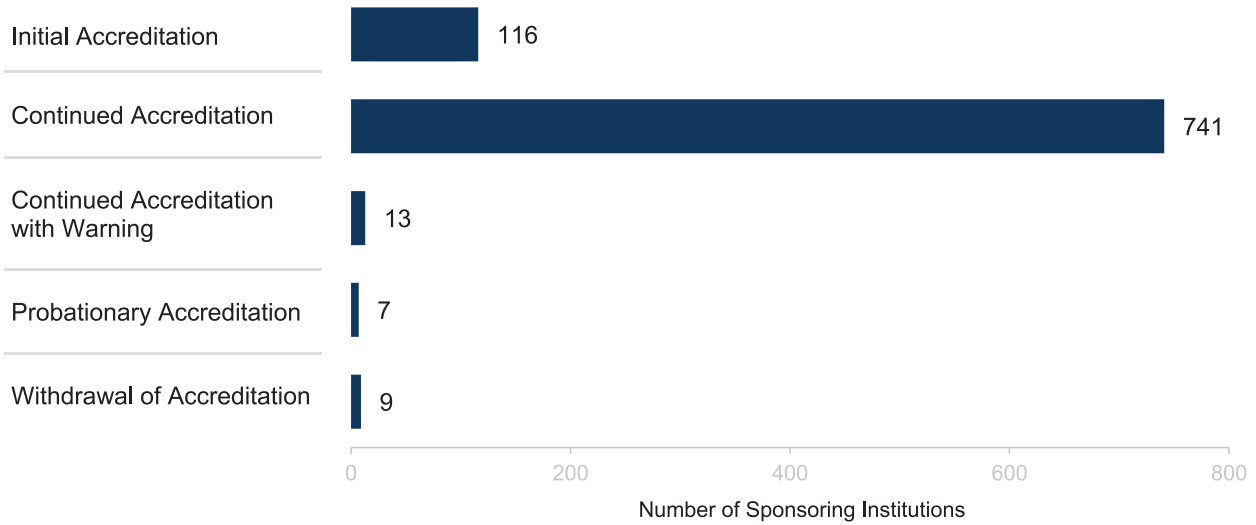
## DIO Changes

Each year between 10% and 16% of Sponsoring Institutions have a change in leadership in the DIO role (excluding Sponsoring Institutions with no accredited programs and any Sponsoring Institutions newly accredited in the academic year). In the 2022-2023 academic year, 118 (14.5%) Sponsoring Institutions had a single DIO change, and 8 (1.0%) had more than one DIO change. <sup>Λ</sup>



**FIGURE E.1**

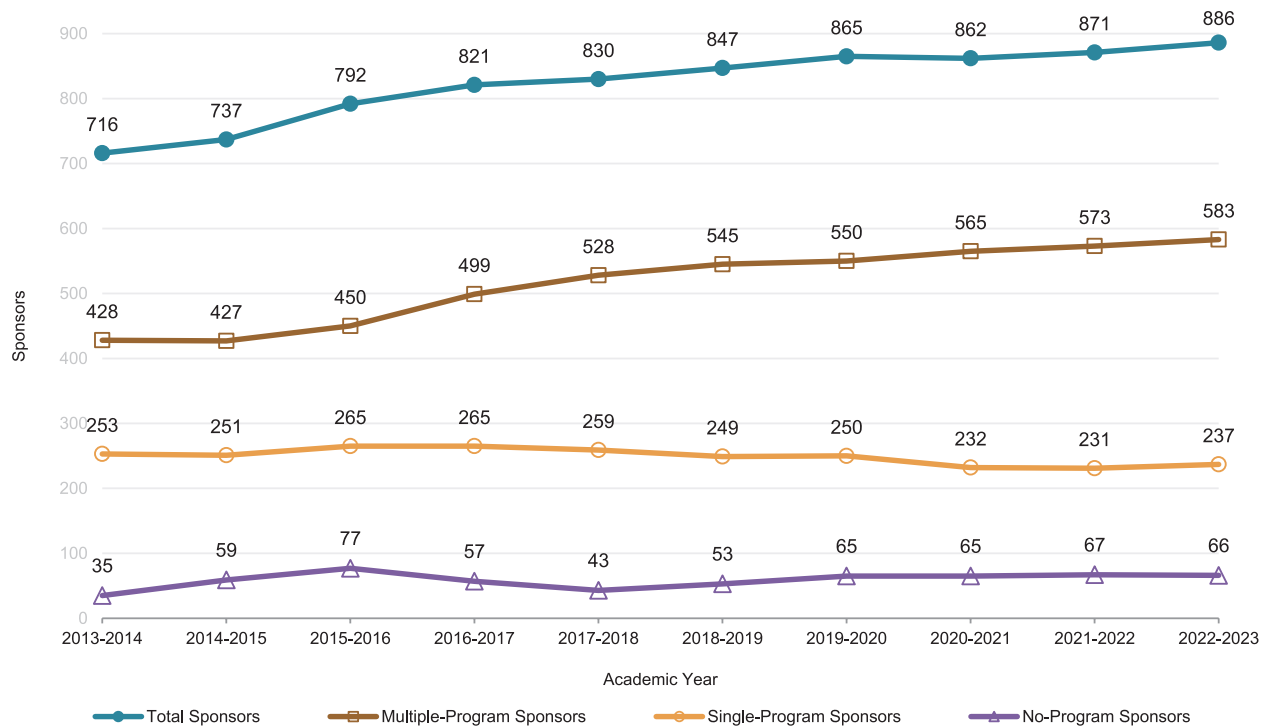
**Accreditation Statuses of Currently Accredited Sponsoring Institutions**



Note: Total number of ACGME-accredited Sponsoring Institutions = 886.

**FIGURE E.2**

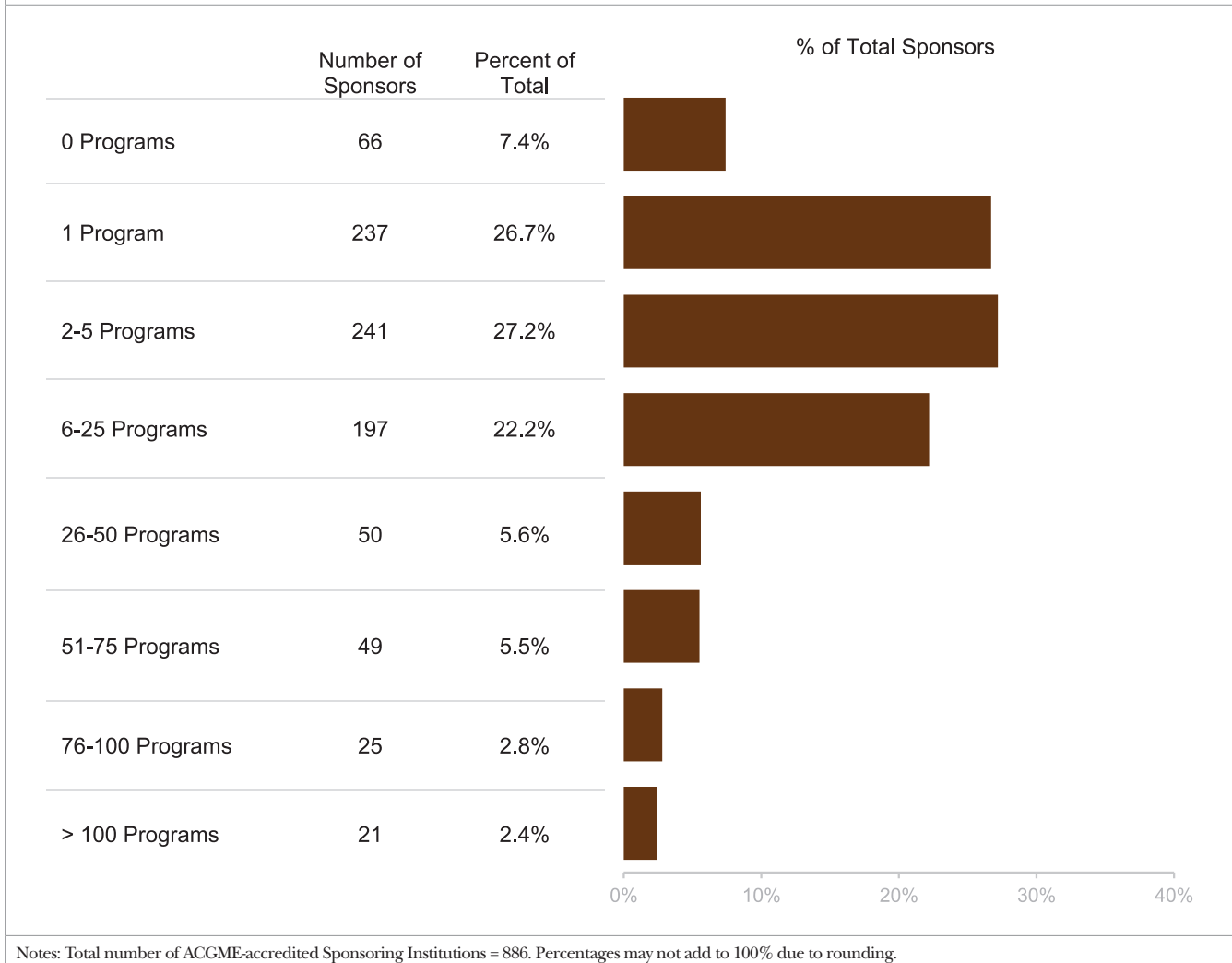
**Number of Sponsoring Institutions by Academic Year, 2013-2014 to 2022-2023**



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



State Name	State Abbreviation	State Population - Census Estimate 2022	Total Sponsors	Percent of All Sponsors	Sponsors per 100,000 Pop
OVERALL	-	336,509,346	886	100.0%	0.26
Alabama	AL	5,074,296	20	2.3%	0.39
Alaska	AK	733,583	1	0.1%	0.14
Arizona	AZ	7,359,197	15	1.7%	0.20
Arkansas	AR	3,045,637	9	1.0%	0.30
California	CA	39,029,342	108	12.2%	0.28
Colorado	CO	5,839,926	11	1.2%	0.19
Connecticut	CT	3,626,205	15	1.7%	0.41
Delaware	DE	1,018,396	5	0.6%	0.49
District of Columbia	DC	671,803	4	0.5%	0.60
Florida	FL	22,244,823	56	6.3%	0.25
Georgia	GA	10,912,876	28	3.2%	0.26
Hawaii	HI	1,440,196	4	0.5%	0.28
Idaho	ID	1,939,033	5	0.6%	0.26
Illinois	IL	12,582,032	33	3.7%	0.26
Indiana	IN	6,833,037	13	1.5%	0.19
Iowa	IA	3,200,517	8	0.9%	0.25
Kansas	KS	2,937,150	2	0.2%	0.07
Kentucky	KY	4,512,310	9	1.0%	0.20
Louisiana	LA	4,590,241	15	1.7%	0.33
Maine	ME	1,385,340	4	0.5%	0.29
Maryland	MD	6,164,660	17	1.9%	0.28
Massachusetts	MA	6,981,974	27	3.0%	0.39
Michigan	MI	10,034,113	37	4.2%	0.37
Minnesota	MN	5,717,184	9	1.0%	0.16
Mississippi	MS	2,940,057	11	1.2%	0.37
Missouri	MO	6,177,957	14	1.6%	0.23
Montana	MT	1,122,867	3	0.3%	0.27
Nebraska	NE	1,967,923	4	0.5%	0.20
Nevada	NV	3,177,772	7	0.8%	0.22
New Hampshire	NH	1,395,231	5	0.6%	0.36
New Jersey	NJ	9,261,699	20	2.3%	0.22
New Mexico	NM	2,113,344	7	0.8%	0.33
New York	NY	19,677,151	68	7.7%	0.35
North Carolina	NC	10,698,973	17	1.9%	0.16
North Dakota	ND	779,261	2	0.2%	0.26
Ohio	OH	11,756,058	45	5.1%	0.38
Oklahoma	OK	4,019,800	8	0.9%	0.20
Oregon	OR	4,240,137	4	0.5%	0.09
Pennsylvania	PA	12,972,008	44	5.0%	0.34
Puerto Rico	PR	3,221,789	13	1.5%	0.40
Rhode Island	RI	1,093,734	5	0.6%	0.46
South Carolina	SC	5,282,634	12	1.4%	0.23
South Dakota	SD	909,824	3	0.3%	0.33
Tennessee	TN	7,051,339	14	1.6%	0.20
Texas	TX	30,029,572	59	6.7%	0.20
Utah	UT	3,380,800	6	0.7%	0.18
Vermont	VT	647,064	1	0.1%	0.15
Virginia	VA	8,683,619	20	2.3%	0.23
Washington	WA	7,785,786	20	2.3%	0.26
West Virginia	WV	1,775,156	8	0.9%	0.45
Wisconsin	WI	5,892,539	10	1.1%	0.17
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Multiple-Program Sponsors	Percent of All Multiple-Program Sponsors	Multiple-Program Sponsors per 100,000 Pop
OVERALL	-	336,509,346	583	100.0%	0.17
Alabama	AL	5,074,296	10	1.7%	0.20
Alaska	AK	733,583	1	0.2%	0.14
Arizona	AZ	7,359,197	11	1.9%	0.15
Arkansas	AR	3,045,637	6	1.0%	0.20
California	CA	39,029,342	61	10.5%	0.16
Colorado	CO	5,839,926	7	1.2%	0.12
Connecticut	CT	3,626,205	12	2.1%	0.33
Delaware	DE	1,018,396	2	0.3%	0.20
District of Columbia	DC	671,803	4	0.7%	0.60
Florida	FL	22,244,823	36	6.2%	0.16
Georgia	GA	10,912,876	17	2.9%	0.16
Hawaii	HI	1,440,196	2	0.3%	0.14
Idaho	ID	1,939,033	3	0.5%	0.15
Illinois	IL	12,582,032	20	3.4%	0.16
Indiana	IN	6,833,037	7	1.2%	0.10
Iowa	IA	3,200,517	5	0.9%	0.16
Kansas	KS	2,937,150	2	0.3%	0.07
Kentucky	KY	4,512,310	4	0.7%	0.09
Louisiana	LA	4,590,241	7	1.2%	0.15
Maine	ME	1,385,340	3	0.5%	0.22
Maryland	MD	6,164,660	13	2.2%	0.21
Massachusetts	MA	6,981,974	18	3.1%	0.26
Michigan	MI	10,034,113	30	5.1%	0.30
Minnesota	MN	5,717,184	5	0.9%	0.09
Mississippi	MS	2,940,057	5	0.9%	0.17
Missouri	MO	6,177,957	9	1.5%	0.15
Montana	MT	1,122,867	1	0.2%	0.09
Nebraska	NE	1,967,923	2	0.3%	0.10
Nevada	NV	3,177,772	5	0.9%	0.16
New Hampshire	NH	1,395,231	2	0.3%	0.14
New Jersey	NJ	9,261,699	16	2.7%	0.17
New Mexico	NM	2,113,344	2	0.3%	0.09
New York	NY	19,677,151	51	8.7%	0.26
North Carolina	NC	10,698,973	15	2.6%	0.14
North Dakota	ND	779,261	2	0.3%	0.26
Ohio	OH	11,756,058	33	5.7%	0.28
Oklahoma	OK	4,019,800	6	1.0%	0.15
Oregon	OR	4,240,137	4	0.7%	0.09
Pennsylvania	PA	12,972,008	32	5.5%	0.25
Puerto Rico	PR	3,221,789	8	1.4%	0.25
Rhode Island	RI	1,093,734	5	0.9%	0.46
South Carolina	SC	5,282,634	8	1.4%	0.15
South Dakota	SD	909,824	2	0.3%	0.22
Tennessee	TN	7,051,339	9	1.5%	0.13
Texas	TX	30,029,572	36	6.2%	0.12
Utah	UT	3,380,800	3	0.5%	0.09
Vermont	VT	647,064	1	0.2%	0.15
Virginia	VA	8,683,619	14	2.4%	0.16
Washington	WA	7,785,786	12	2.1%	0.15
West Virginia	WV	1,775,156	5	0.9%	0.28
Wisconsin	WI	5,892,539	8	1.4%	0.14
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

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 2022	Total Single-Program Sponsors	Percent of All Sponsors	Single-Program Sponsors per 100,000 Pop
OVERALL	-	336,509,346	237	100.0%	0.07
Alabama	AL	5,074,296	6	2.5%	0.12
Alaska	AK	733,583	0	0.0%	0.00
Arizona	AZ	7,359,197	2	0.8%	0.03
Arkansas	AR	3,045,637	3	1.3%	0.10
California	CA	39,029,342	38	16.0%	0.10
Colorado	CO	5,839,926	3	1.3%	0.05
Connecticut	CT	3,626,205	3	1.3%	0.08
Delaware	DE	1,018,396	3	1.3%	0.29
District of Columbia	DC	671,803	0	0.0%	0.00
Florida	FL	22,244,823	16	6.8%	0.07
Georgia	GA	10,912,876	10	4.2%	0.09
Hawaii	HI	1,440,196	2	0.8%	0.14
Idaho	ID	1,939,033	1	0.4%	0.05
Illinois	IL	12,582,032	10	4.2%	0.08
Indiana	IN	6,833,037	4	1.7%	0.06
Iowa	IA	3,200,517	3	1.3%	0.09
Kansas	KS	2,937,150	0	0.0%	0.00
Kentucky	KY	4,512,310	3	1.3%	0.07
Louisiana	LA	4,590,241	5	2.1%	0.11
Maine	ME	1,385,340	1	0.4%	0.07
Maryland	MD	6,164,660	3	1.3%	0.05
Massachusetts	MA	6,981,974	8	3.4%	0.11
Michigan	MI	10,034,113	7	3.0%	0.07
Minnesota	MN	5,717,184	3	1.3%	0.05
Mississippi	MS	2,940,057	6	2.5%	0.20
Missouri	MO	6,177,957	5	2.1%	0.08
Montana	MT	1,122,867	2	0.8%	0.18
Nebraska	NE	1,967,923	2	0.8%	0.10
Nevada	NV	3,177,772	2	0.8%	0.06
New Hampshire	NH	1,395,231	2	0.8%	0.14
New Jersey	NJ	9,261,699	2	0.8%	0.02
New Mexico	NM	2,113,344	2	0.8%	0.09
New York	NY	19,677,151	13	5.5%	0.07
North Carolina	NC	10,698,973	2	0.8%	0.02
North Dakota	ND	779,261	0	0.0%	0.00
Ohio	OH	11,756,058	8	3.4%	0.07
Oklahoma	OK	4,019,800	2	0.8%	0.05
Oregon	OR	4,240,137	0	0.0%	0.00
Pennsylvania	PA	12,972,008	10	4.2%	0.08
Puerto Rico	PR	3,221,789	4	1.7%	0.12
Rhode Island	RI	1,093,734	0	0.0%	0.00
South Carolina	SC	5,282,634	3	1.3%	0.06
South Dakota	SD	909,824	1	0.4%	0.11
Tennessee	TN	7,051,339	4	1.7%	0.06
Texas	TX	30,029,572	14	5.9%	0.05
Utah	UT	3,380,800	2	0.8%	0.06
Vermont	VT	647,064	0	0.0%	0.00
Virginia	VA	8,683,619	5	2.1%	0.06
Washington	WA	7,785,786	8	3.4%	0.10
West Virginia	WV	1,775,156	3	1.3%	0.17
Wisconsin	WI	5,892,539	1	0.4%	0.02
Wyoming	WY	581,381	0	0.0%	0.00

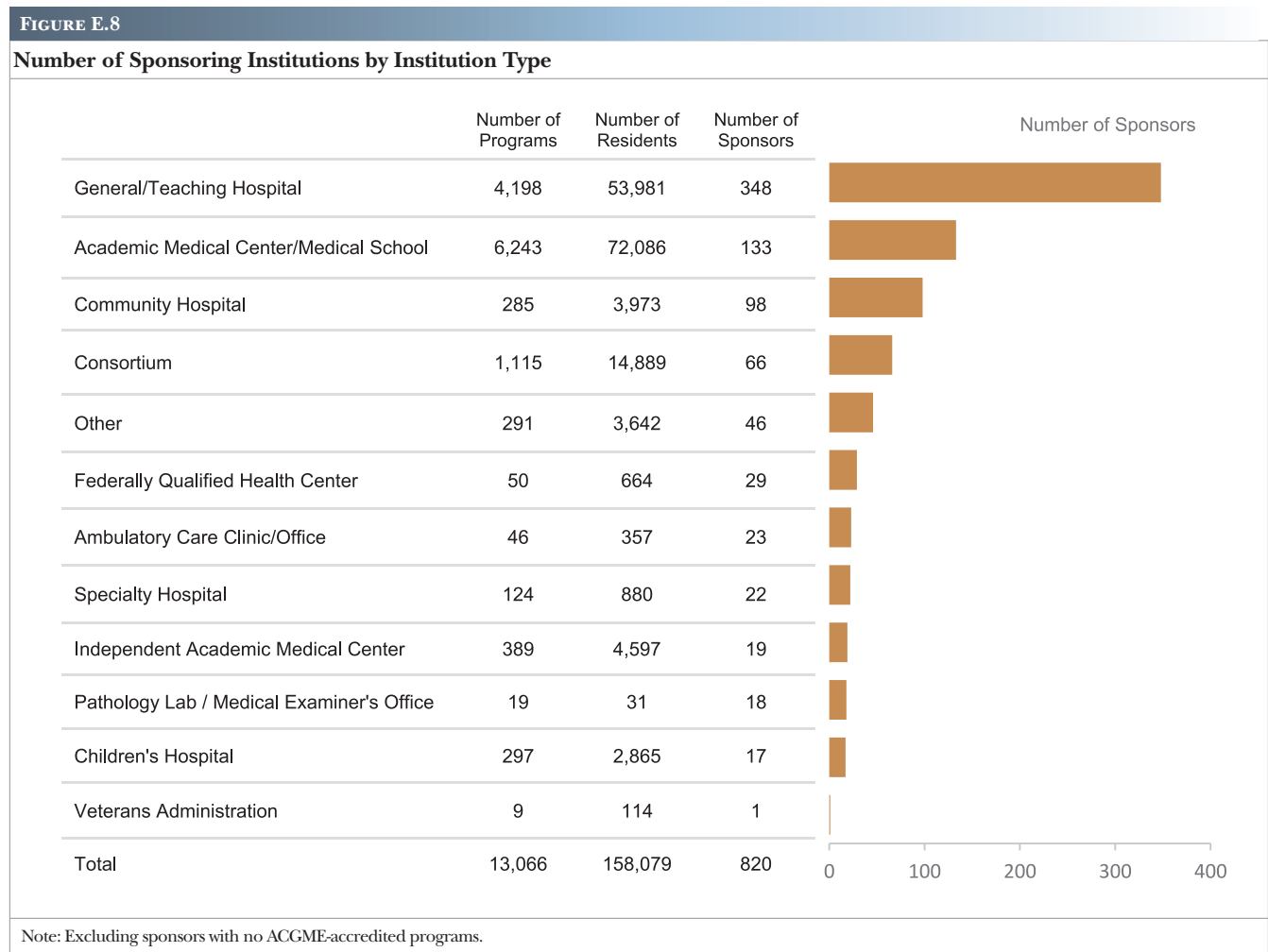
Source: U.S. Census Bureau, Population Division. Annual Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for the United States, States, and Puerto Rico: April 1, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.

TABLE E.7

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

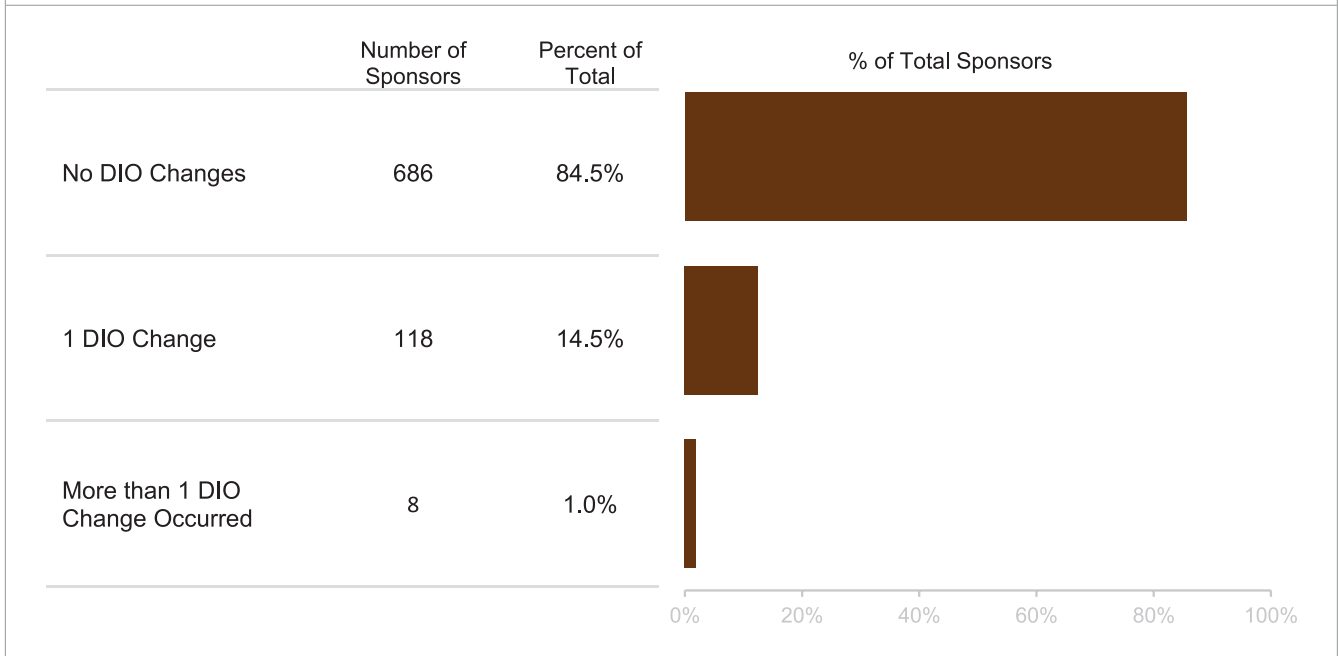
State Name	State Abbreviation	State Population - Census Estimate 2022	No-Program Sponsors	Percent of All No-Program Sponsors	No-Program Sponsors per 100,000 Pop
OVERALL	-	336,509,346	66	100.0%	0.02
Alabama	AL	5,074,296	4	6.1%	0.08
Alaska	AK	733,583	0	0.0%	0.00
Arizona	AZ	7,359,197	2	3.0%	0.03
Arkansas	AR	3,045,637	0	0.0%	0.00
California	CA	39,029,342	9	13.6%	0.02
Colorado	CO	5,839,926	1	1.5%	0.02
Connecticut	CT	3,626,205	0	0.0%	0.00
Delaware	DE	1,018,396	0	0.0%	0.00
District of Columbia	DC	671,803	0	0.0%	0.00
Florida	FL	22,244,823	4	6.1%	0.02
Georgia	GA	10,912,876	1	1.5%	0.01
Hawaii	HI	1,440,196	0	0.0%	0.00
Idaho	ID	1,939,033	1	1.5%	0.05
Illinois	IL	12,582,032	3	4.5%	0.02
Indiana	IN	6,833,037	2	3.0%	0.03
Iowa	IA	3,200,517	0	0.0%	0.00
Kansas	KS	2,937,150	0	0.0%	0.00
Kentucky	KY	4,512,310	2	3.0%	0.04
Louisiana	LA	4,590,241	3	4.5%	0.07
Maine	ME	1,385,340	0	0.0%	0.00
Maryland	MD	6,164,660	1	1.5%	0.02
Massachusetts	MA	6,981,974	1	1.5%	0.01
Michigan	MI	10,034,113	0	0.0%	0.00
Minnesota	MN	5,717,184	1	1.5%	0.02
Mississippi	MS	2,940,057	0	0.0%	0.00
Missouri	MO	6,177,957	0	0.0%	0.00
Montana	MT	1,122,867	0	0.0%	0.00
Nebraska	NE	1,967,923	0	0.0%	0.00
Nevada	NV	3,177,772	0	0.0%	0.00
New Hampshire	NH	1,395,231	1	1.5%	0.07
New Jersey	NJ	9,261,699	2	3.0%	0.02
New Mexico	NM	2,113,344	3	4.5%	0.14
New York	NY	19,677,151	4	6.1%	0.02
North Carolina	NC	10,698,973	0	0.0%	0.00
North Dakota	ND	779,261	0	0.0%	0.00
Ohio	OH	11,756,058	4	6.1%	0.03
Oklahoma	OK	4,019,800	0	0.0%	0.00
Oregon	OR	4,240,137	0	0.0%	0.00
Pennsylvania	PA	12,972,008	2	3.0%	0.02
Puerto Rico	PR	3,221,789	1	1.5%	0.03
Rhode Island	RI	1,093,734	0	0.0%	0.00
South Carolina	SC	5,282,634	1	1.5%	0.02
South Dakota	SD	909,824	0	0.0%	0.00
Tennessee	TN	7,051,339	1	1.5%	0.01
Texas	TX	30,029,572	9	13.6%	0.03
Utah	UT	3,380,800	1	1.5%	0.03
Vermont	VT	647,064	0	0.0%	0.00
Virginia	VA	8,683,619	1	1.5%	0.01
Washington	WA	7,785,786	0	0.0%	0.00
West Virginia	WV	1,775,156	0	0.0%	0.00
Wisconsin	WI	5,892,539	1	1.5%	0.02
Wyoming	WY	581,381	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, 2021 to July 1, 2022. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2022/state/totals/NST-EST2022-ALLDATA.csv>. Published March, 2023. Accessed May 8, 2023; SAS Enterprise Guide Software, Version 7.1.



**FIGURE E.9**

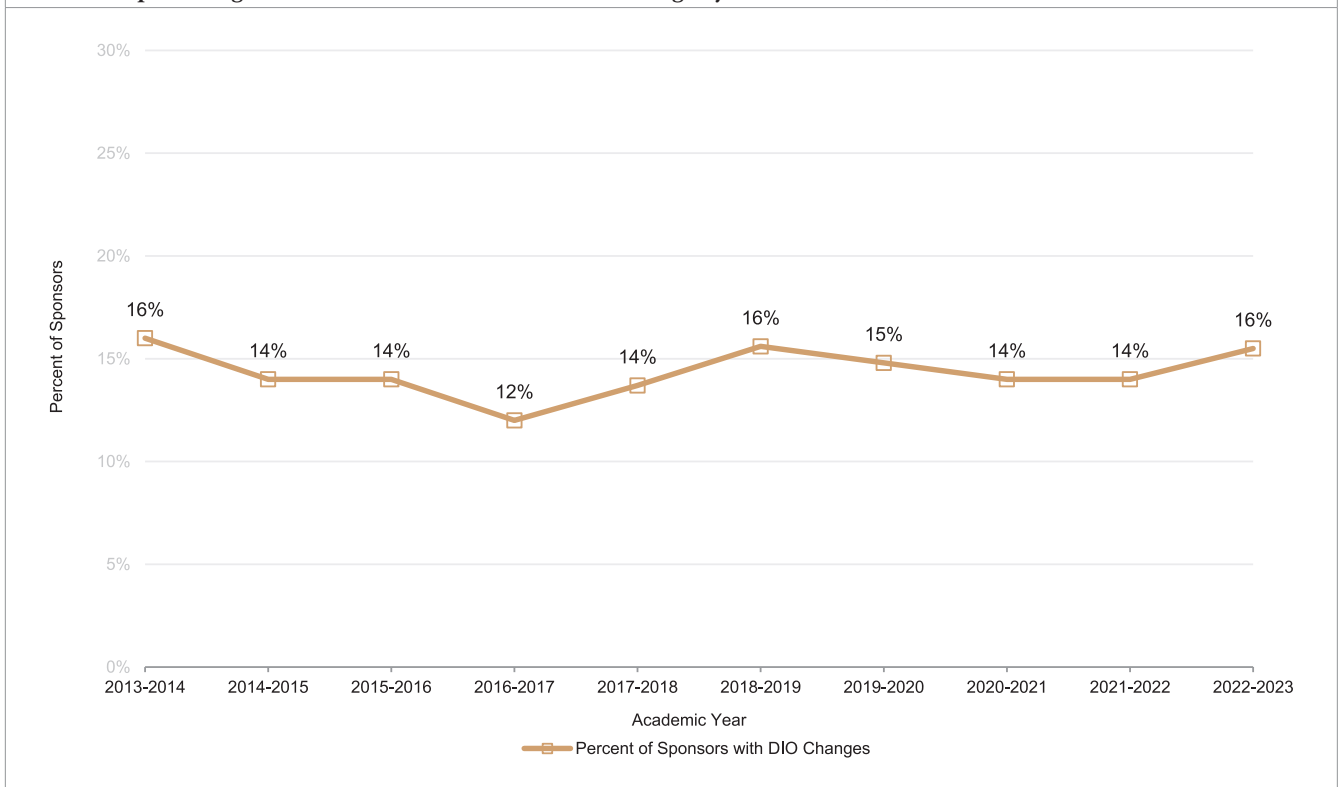
**Number of Sponsoring Institutions with DIO Changes**



Notes: Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the 2022-2023 academic year. Total number of sponsors included = 812. 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, 2013-2014 to 2022-2023**



Note: Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the 2022-2023 academic year. Total number of sponsors included = 812. Abbreviations: DIO, designated institutional official.





# F

# Participating Sites

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

## **Distribution by Institution Type**

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There was a total of 9,242 unique participating sites to which residents rotated during the 2022-2023 academic year. The highest number of sites were in the following categories:

- Ambulatory Care Clinic/Office (3,623)
- General/Teaching Hospital (1,726)
- Other (1,275)

Since the 2013-2014 academic year, there has been a 97.2% 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 (225.0% increase)
- Other (81.0% increase)
- General Teaching/Community Hospital (50.0% increase)

The number of Academic Medical Centers listed as participating sites also increased by 48.2%. With only 209 unique sites in this category in the 2022-2023 academic year, however, this change had a relatively small impact on the overall increase in participating sites.

## **Number of Sites per Program**

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Overall, the average number of participating sites listed per program is 3.2. Among pipeline specialty programs,

the average number of participating sites per program is 4.2. The pipeline specialties with the highest average number of participating sites include:

- Aerospace medicine (7.8)
- Occupational and environmental medicine (6.9)
- Orthopaedic surgery (5.7)
- Physical medicine and rehabilitation (5.7)
- Plastic surgery – integrated (5.7)
- Public health and general preventive medicine (5.7)
- Psychiatry (5.7)

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

- Family medicine (33)
- Occupational and environmental medicine (20)
- Internal medicine (20)

The subspecialty with the highest average number of participating sites per program is the surgical subspecialty of hand surgery at 8.0. The psychiatry subspecialty of child and adolescent psychiatry has the highest maximum number of participating sites per program at 17.

## **Number of Sites by Specialty and Subspecialty**

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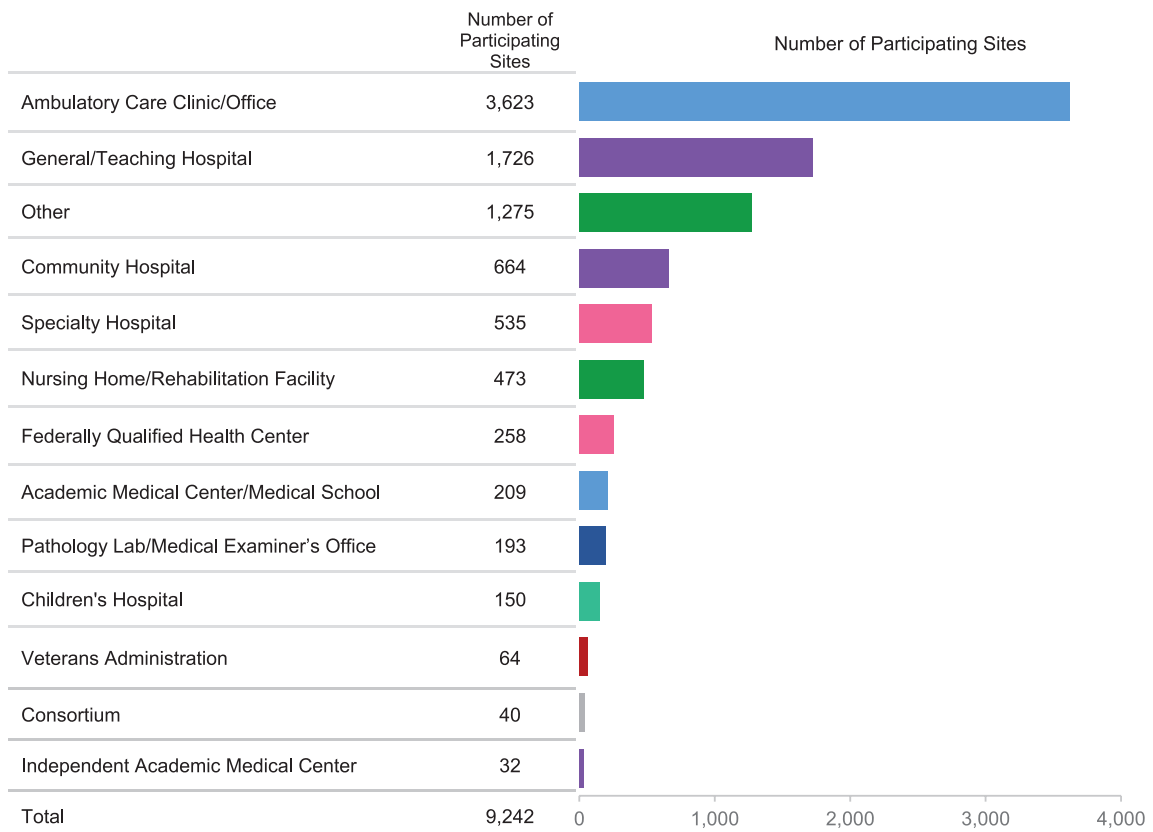
The specialties with the highest number of unique participating sites to which residents rotate include:

- Family medicine (2,742)
- Internal medicine (1,788)
- Psychiatry (1,500)

Sponsoring Institutions account for 6.0% of all participating sites with 552 listed as participating sites to which residents rotate. ^

**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, 2013-2014 to 2022-2023**

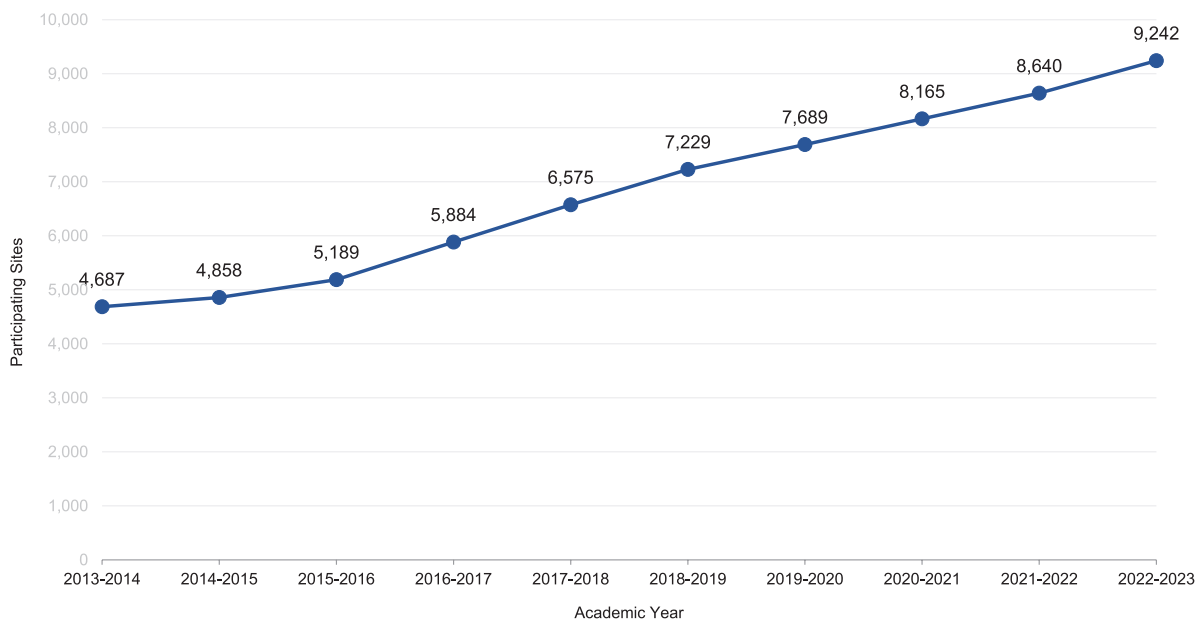
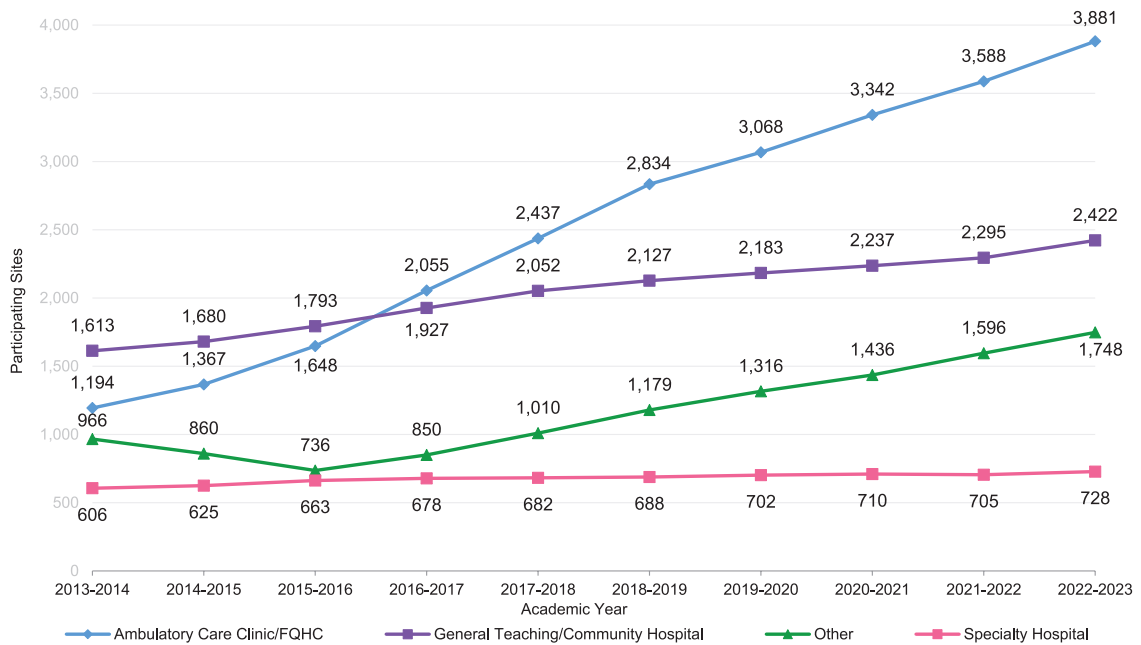


FIGURE F.3

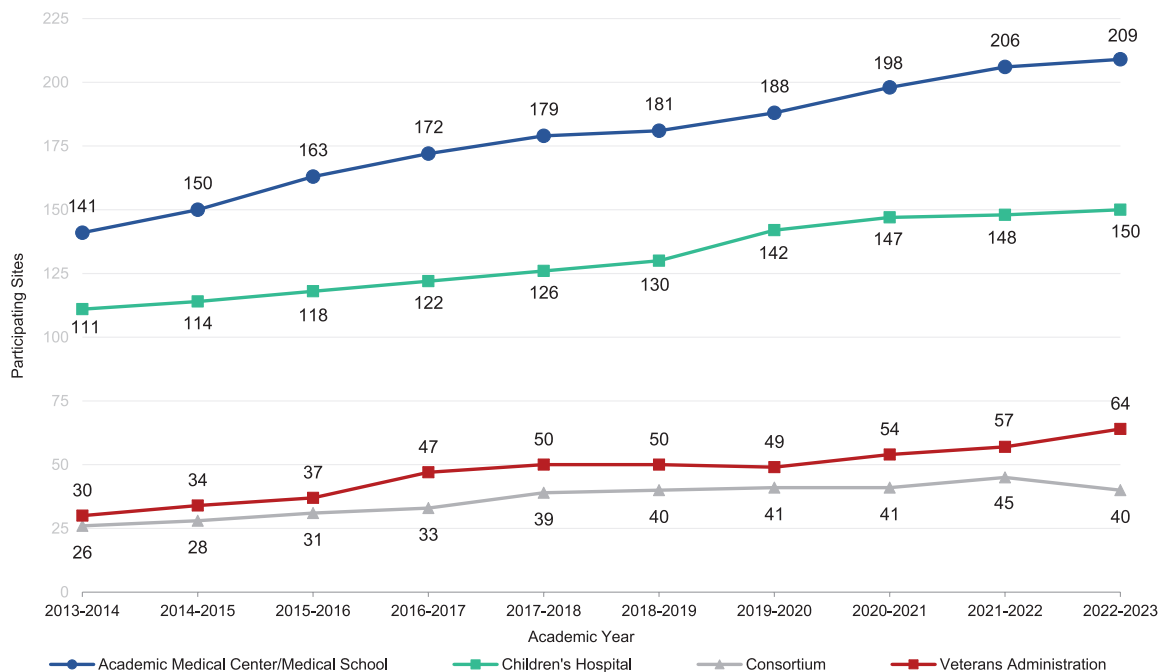
Number of Participating Sites where Residents Rotate by Institution Type Groups (Largest Groups Only) and Academic Year, 2013-2014 to 2022-2023



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, 2013-2014 to 2022-2023



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	13,066	3.2	2.3	1	33
TOTAL PIPELINE	5,382	4.2	2.6	1	33
Allergy and immunology	87	2.7	1.4	1	6
Anesthesiology	165	4.2	2.0	1	11
- Adult cardiothoracic anesthesiology	75	1.8	0.9	1	5
- Critical care medicine	65	1.8	0.9	1	4
- Regional anesthesiology and acute pain medicine	42	2.2	1.4	1	6
- Pediatric cardiac anesthesiology	15	1.1	0.2	1	2
- Obstetric anesthesiology	41	1.3	0.5	1	2
- Pain medicine (multidisciplinary)	115	2.6	1.5	1	7
- Pediatric anesthesiology	62	1.5	0.8	1	4
Colon and rectal surgery	68	2.8	1.6	1	9
Dermatology	144	4.3	2.5	1	12
- Dermatopathology (multidisciplinary)	57	1.9	0.9	1	4
- Micrographic surgery and dermatologic oncology	81	2.2	1.2	1	6
- Pediatric dermatology	29	1.8	1.1	1	5
Emergency medicine	287	4.3	2.0	1	15
- Emergency medical services	83	3.4	2.4	1	12
- Medical toxicology	30	3.0	1.4	1	7
- Pediatric emergency medicine	29	2.6	1.2	1	5
- Sports medicine	9	4.8	3.7	1	11
- Undersea and hyperbaric medicine	8	1.8	0.4	1	2
Family medicine	756	4.6	3.6	1	33
- Clinical informatics	8	3.5	3	1	11
- Geriatric medicine	46	4.4	2.3	1	10
- Hospice and palliative medicine (multidisciplinary)	191	4.3	1.7	1	10
- Sports medicine	171	3.8	2.9	1	13
Internal medicine	627	3.4	2.7	1	20
- Adult congenital heart disease	27	1.9	0.8	1	3
- Advanced heart failure and transplant cardiology	84	1.4	0.5	1	3
- Cardiovascular disease	273	2.7	1.3	1	9
- Clinical cardiac electrophysiology	116	1.8	1.0	1	6
- Clinical informatics	32	2.4	1.6	1	7
- Critical care medicine	66	2.5	1.3	1	7
- Endocrinology, diabetes, and metabolism	159	2.7	1.4	1	8
- Gastroenterology	229	3.0	1.5	1	9
- Geriatric medicine	119	3.9	2.0	1	13
- Hematology and medical oncology	184	2.9	1.4	1	10
- Infectious disease	167	2.8	1.2	1	7
- Interventional cardiology	180	1.7	1.0	1	6
- Nephrology	152	3.0	1.5	1	10
- Medical oncology	3	2.7	1.2	1	4
- Pulmonary disease	22	2.4	1.2	1	5
- Pulmonary disease and critical care medicine	202	3.1	1.4	1	7
- Rheumatology	129	2.6	1.2	1	7
- Sleep medicine (multidisciplinary)	96	2.6	1.2	1	5
- Transplant hepatology	66	1.3	0.5	1	3
Medical genetics and genomics	47	3.3	1.8	1	8
- Medical biochemical genetics	22	2.4	1.1	1	5
- Molecular genetic pathology (multidisciplinary)	42	1.9	1.1	1	5
Neurological surgery	117	3.6	1.5	1	8
- Neuroendovascular intervention	3	1.7	0.9	1	3

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	180	3.5	1.8	1	11
- Clinical neurophysiology	95	2.1	1.2	1	6
- Epilepsy	95	2.1	0.9	1	5
- Neurocritical care (multidisciplinary)	35	1.7	0.8	1	3
- Neuroendovascular intervention	2	2.0	1.0	1	3
- Neurodevelopmental disabilities	8	4.0	0.9	3	5
- Neuromuscular medicine	55	2.2	1.2	1	6
- Vascular neurology	112	1.7	0.9	1	5
Child neurology	80	2.8	1.3	1	7
Nuclear medicine	36	2.5	1.3	1	6
Obstetrics and gynecology	302	4.2	2.3	1	15
- Female pelvic medicine and reconstructive surgery	57	2.7	1.3	1	7
- Gynecologic oncology	71	2.2	1.1	1	5
- Maternal-fetal medicine	104	2.0	1.0	1	5
- Reproductive endocrinology and infertility	49	2.6	1.7	1	7
- Complex family planning	32	2.7	1.0	1	6
Ophthalmology	125	4.2	2.3	1	14
- Ophthalmic plastic and reconstructive surgery	4	4.3	2.9	2	9
Orthopaedic surgery	208	5.7	2.6	1	14
- Adult reconstructive orthopaedics	25	2.4	1.2	1	4
- Foot and ankle orthopaedics	8	2.8	1.5	1	5
- Hand surgery	74	4.0	2.6	1	14
- Musculoskeletal oncology	12	2.0	0.9	1	4
- Orthopaedic sports medicine	93	3.2	2.6	1	16
- Orthopaedic surgery of the spine	15	2.1	1.0	1	5
- Orthopaedic trauma	12	1.7	1.1	1	4
- Pediatric orthopaedics	25	1.4	0.7	1	3
Osteopathic neuromusculoskeletal medicine	26	4.5	2.9	1	12
Otolaryngology - head and neck surgery	131	4.6	2.4	1	15
- Neurotology	29	2.7	1.6	1	6
- Pediatric otolaryngology	34	1.4	0.5	1	3
Pathology-anatomic and clinical	146	4.1	1.9	1	12
- Blood banking/transfusion medicine	54	3.0	1.3	1	6
- Clinical informatics	10	1.8	1.2	1	5
- Chemical pathology	4	1.3	0.4	1	2
- Cytopathology	93	1.5	0.7	1	4
- Forensic pathology	49	1.4	0.8	1	4
- Hematopathology	87	1.8	0.9	1	5
- Medical microbiology	16	1.8	0.9	1	4
- Neuropathology	40	2.1	1.1	1	5
- Pediatric pathology	27	2.1	0.9	1	4
- Selective pathology	124	1.4	0.6	1	3
Pediatrics	213	2.8	1.6	1	10
- Adolescent medicine	34	2.6	2.1	1	10
- Child abuse pediatrics	32	2.7	1.6	1	9
- Clinical informatics	9	2.3	1.2	1	4
- Developmental-behavioral pediatrics	44	1.9	1.1	1	5
- Neonatal-perinatal medicine	110	2.2	1.0	1	5
- Pediatric cardiology	64	1.5	0.7	1	3
- Pediatric critical care medicine	76	1.5	0.7	1	4
- Pediatric emergency medicine	58	3.2	1.2	1	6
- Pediatric endocrinology	73	1.6	0.8	1	5
- Pediatric gastroenterology	67	1.6	0.8	1	5
- Pediatric hematology/oncology	78	1.8	0.9	1	4
- Pediatric infectious diseases	64	2.0	1.2	1	6

TABLE F.5 <i>Continued</i>					
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	48	1.5	0.8	1	4
- Pediatric pulmonology	57	1.5	0.8	1	5
- Pediatric rheumatology	37	1.6	0.6	1	3
- Sports medicine	17	3.3	1.9	1	7
- Pediatric transplant hepatology	17	1.7	0.6	1	3
- Pediatric hospital medicine	68	2.7	0.7	2	4
Physical medicine and rehabilitation	101	5.7	3.0	2	19
- Brain injury medicine	27	2.7	0.8	1	4
- Neuromuscular medicine	1	3.0	0.0	3	3
- Spinal cord injury medicine	26	2.7	0.8	1	4
- Pediatric rehabilitation medicine	22	2.1	0.8	1	4
- Sports medicine	22	3.4	1.6	1	7
Plastic surgery	49	5.2	2.3	1	13
Plastic Surgery - integrated	89	5.7	2.3	1	14
- Craniofacial surgery	9	1.9	1.2	1	5
- Hand surgery	19	2.8	1.3	1	5
Public health and general preventive medicine	43	5.7	3.6	1	17
Aerospace medicine	5	7.8	3.3	4	13
Occupational and environmental medicine	23	6.9	4.4	2	20
- Undersea and hyperbaric medicine	1	1	0	1	1
Psychiatry	304	5.7	3.1	1	17
- Addiction medicine (multidisciplinary)	96	4.2	2.4	1	11
- Addiction psychiatry	55	3.5	1.7	1	8
- Child and adolescent psychiatry	153	4.7	3.0	1	17
- Forensic psychiatry	49	4.0	1.4	2	8
- Geriatric psychiatry	63	3.7	2.0	1	11
- Consultation-liaison psychiatry	67	2.1	0.9	1	6
Radiation oncology	90	2.8	1.5	1	9
Radiology-diagnostic	199	3.3	1.7	1	12
- Abdominal radiology	13	1.6	0.8	1	4
- Neuroendovascular intervention	3	1.0	0.0	1	1
- Musculoskeletal radiology	21	1.7	0.9	1	4
- Neuroradiology	91	2.0	1.0	1	6
- Nuclear radiology	19	1.8	1.3	1	6
- Pediatric radiology	46	1.4	0.7	1	4
Interventional radiology - independent	94	2.6	1.4	1	8
Interventional radiology - integrated	95	3.5	1.7	1	11
Surgery	363	5.0	2.0	1	15
- Complex general surgical oncology	34	2.4	1.4	1	7
- Hand surgery	2	8.0	3.0	5	11
- Pediatric surgery	51	1.5	0.7	1	3
- Surgical critical care	162	1.7	0.9	1	4
- Vascular surgery	119	2.6	1.4	1	9
Vascular surgery - integrated	76	3.7	1.7	1	9
Thoracic surgery	75	2.8	1.2	1	7
- Congenital cardiac surgery	17	1.4	0.5	1	2
Thoracic surgery - integrated	34	4.1	1.8	1	8
Urology	150	4.1	1.6	1	10
- Female pelvic medicine and reconstructive surgery	17	2.1	1.5	1	6
- Pediatric urology	26	1.3	0.6	1	3
Transitional year	188	2.4	2.0	1	21
Internal medicine/Pediatrics	77	3.7	2.2	1	17
Health care administration, leadership, and management	2	3.0	2.0	1	5

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	9,242	552	6.0%
TOTAL PIPELINE	6,893	496	7.2%
Allergy and immunology	211	40	19.0%
Anesthesiology	556	65	11.7%
- Adult cardiothoracic anesthesiology	127	37	29.1%
- Critical care medicine	118	30	25.4%
- Regional anesthesiology and acute pain medicine	91	21	23.1%
- Pediatric cardiac anesthesiology	16	6	37.5%
- Obstetric anesthesiology	54	20	37.0%
- Pain medicine (multidisciplinary)	276	55	19.9%
- Pediatric anesthesiology	85	22	25.9%
Colon and rectal surgery	184	29	15.8%
Dermatology	562	57	10.1%
- Dermatopathology (multidisciplinary)	105	27	25.7%
- Micrographic surgery and dermatologic oncology	179	39	21.8%
- Pediatric dermatology	53	9	17.0%
Emergency medicine	891	118	13.2%
- Emergency medical services	276	37	13.4%
- Medical toxicology	88	10	11.4%
- Pediatric emergency medicine	68	13	19.1%
- Sports medicine	43	1	2.3%
- Undersea and hyperbaric medicine	14	5	35.7%
Family medicine	2,742	302	11.0%
- Clinical informatics	28	3	10.7%
- Geriatric medicine	202	19	9.4%
- Hospice and palliative medicine (multidisciplinary)	689	82	11.9%
- Sports medicine	631	74	11.7%
Internal medicine	1,788	275	15.4%
- Adult congenital heart disease	50	11	22.0%
- Advanced heart failure and transplant cardiology	113	30	26.5%
- Cardiovascular disease	594	110	18.5%
- Clinical cardiac electrophysiology	204	48	23.5%
- Clinical informatics	77	12	15.6%
- Critical care medicine	153	28	18.3%
- Endocrinology, diabetes, and metabolism	391	68	17.4%
- Gastroenterology	572	98	17.1%
- Geriatric medicine	452	51	11.3%
- Hematology and medical oncology	422	87	20.6%
- Infectious disease	411	72	17.5%
- Interventional cardiology	302	75	24.8%
- Nephrology	405	66	16.3%
- Medical oncology	8	1	12.5%
- Pulmonary disease	52	13	25.0%
- Pulmonary disease and critical care medicine	515	89	17.3%
- Rheumatology	314	53	16.9%
- Sleep medicine (multidisciplinary)	238	41	17.2%
- Transplant hepatology	85	28	32.9%
Medical genetics and genomics	141	24	17.0%
- Medical biochemical genetics	50	10	20.0%
- Molecular genetic pathology (multidisciplinary)	74	20	27.0%
Neurological surgery	352	49	13.9%
- Neuroendovascular intervention	5	1	20.0%



TABLE F.6 <i>Continued</i>			
<b>Total Number of Participating Sites and Number of Sponsoring Institutions where Residents Rotate by Specialty and Subspecialty</b>			
Specialty	Total Participating Sites	Sponsors	
		#	%
Neurology	538	73	13.6%
- Clinical neurophysiology	185	40	21.6%
- Epilepsy	162	39	24.1%
- Neurocritical care (multidisciplinary)	58	16	27.6%
- Neuroendovascular intervention	4	0	0.0%
- Neurodevelopmental disabilities	32	4	12.5%
- Neuromuscular medicine	118	29	24.6%
- Vascular neurology	193	49	25.4%
Child neurology	215	35	16.3%
Nuclear medicine	87	13	14.9%
Obstetrics and gynecology	1,097	139	12.7%
- Female pelvic medicine and reconstructive surgery	154	29	18.8%
- Gynecologic oncology	154	31	20.1%
- Maternal-fetal medicine	204	40	19.6%
- Reproductive endocrinology and infertility	125	22	17.6%
- Complex family planning	84	13	15.5%
Ophthalmology	478	51	10.7%
- Ophthalmic plastic and reconstructive surgery	17	1	5.9%
Orthopaedic surgery	940	83	8.8%
- Adult reconstructive orthopaedics	54	7	13.0%
- Foot and ankle orthopaedics	22	5	22.7%
- Hand surgery	281	32	11.4%
- Musculoskeletal oncology	24	6	25.0%
- Orthopaedic sports medicine	290	44	15.2%
- Orthopaedic surgery of the spine	31	8	25.8%
- Orthopaedic trauma	20	5	25.0%
- Pediatric orthopaedics	35	10	28.6%
Osteopathic neuromusculoskeletal medicine	114	10	8.8%
Otolaryngology - head and neck surgery	507	54	10.7%
- Neurotology	78	14	17.9%
- Pediatric otolaryngology	47	13	27.7%
Pathology-anatomic and clinical	476	61	12.8%
- Blood banking/transfusion medicine	147	27	18.4%
- Clinical informatics	18	3	16.7%
- Chemical pathology	5	3	60.0%
- Cytopathology	128	43	33.6%
- Forensic pathology	67	21	31.3%
- Hematopathology	139	41	29.5%
- Medical microbiology	28	9	32.1%
- Neuropathology	77	20	26.0%
- Pediatric pathology	56	12	21.4%
- Selective pathology	81	22	27.2%
Pediatrics	496	102	20.6%
- Adolescent medicine	87	14	16.1%
- Child abuse pediatrics	85	13	15.3%
- Clinical informatics	21	6	28.6%
- Developmental-behavioral pediatrics	80	19	23.7%
- Neonatal-perinatal medicine	222	45	20.3%
- Pediatric cardiology	94	27	28.7%
- Pediatric critical care medicine	102	30	29.4%
- Pediatric emergency medicine	164	24	14.6%
- Pediatric endocrinology	113	31	27.4%
- Pediatric gastroenterology	103	29	28.2%
- Pediatric hematology/oncology	129	32	24.8%
- Pediatric infectious diseases	121	27	22.3%

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	
		#	%
- Pediatric nephrology	73	19	26.0%
- Pediatric pulmonology	82	23	28.0%
- Pediatric rheumatology	59	13	22.0%
- Sports medicine	56	11	19.6%
- Pediatric transplant hepatology	29	5	17.2%
- Pediatric hospital medicine	183	26	14.2%
Physical medicine and rehabilitation	517	40	7.7%
- Brain injury medicine	71	7	9.9%
- Neuromuscular medicine	3	0	0.0%
- Spinal cord injury medicine	67	7	10.4%
- Pediatric rehabilitation medicine	45	7	15.6%
- Sports medicine	72	4	5.6%
Plastic surgery	235	19	8.1%
Plastic surgery - integrated	462	37	8.0%
- Craniofacial surgery	17	4	23.5%
- Hand surgery	53	7	13.2%
Public health and general preventive medicine	226	23	10.2%
Aerospace medicine	35	2	5.7%
Occupational and environmental medicine	152	10	6.6%
- Undersea and hyperbaric medicine	1	1	100.0%
Psychiatry	1,500	139	9.3%
- Addiction medicine (multidisciplinary)	384	43	11.2%
- Addiction psychiatry	187	19	10.2%
- Child and adolescent psychiatry	675	62	9.2%
- Forensic psychiatry	186	20	10.8%
- Geriatric psychiatry	233	21	9.0%
- Consultation-liaison psychiatry	139	31	22.3%
Radiation oncology	224	39	17.4%
Radiology-diagnostic	517	85	16.4%
- Abdominal radiology	21	6	28.6%
- Neuroendovascular intervention	3	2	66.7%
- Musculoskeletal radiology	36	10	27.8%
- Neuroradiology	173	40	23.1%
- Nuclear radiology	35	10	28.6%
- Pediatric radiology	61	19	31.1%
Interventional radiology - independent	237	39	16.5%
Interventional radiology - integrated	296	39	13.2%
Surgery	1,227	151	12.3%
- Complex general surgical oncology	81	13	16.0%
- Hand surgery	16	1	6.3%
- Pediatric surgery	77	17	22.1%
- Surgical critical care	247	66	26.7%
- Vascular surgery	300	51	17.0%
Vascular surgery - integrated	272	33	12.1%
Thoracic surgery	197	37	18.8%
- Congenital cardiac surgery	23	7	30.4%
Thoracic surgery - integrated	140	17	12.1%
Urology	558	66	11.8%
- Female pelvic medicine and reconstructive surgery	35	9	25.7%
- Pediatric urology	35	9	25.7%
Transitional year	436	81	18.6%
Internal medicine/Pediatrics	279	29	10.4%
Health care administration, leadership, and management	6	1	16.7%

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 845 specialty programs (14.8%) and 942 subspecialty programs (12.8%) had at least one program director change during the academic year. Of these, a small number (38 specialty programs and 29 subspecialty programs) had more than one program director change during the academic year. Overall, 1,856 distinct program director changes occurred in 1,787 programs during the academic year. The specialties with the highest percentage of program director turnover include:

- Aerospace medicine (40.0%)
- Public health and general preventive medicine (25.6%)
- Thoracic surgery - integrated (23.5%)
- Nuclear medicine (22.2%)

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

- Family medicine (114)
- Internal medicine (90)
- Psychiatry (57)
- Obstetrics and gynecology (53)

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

- Health care administration, leadership, and management (0.0%)
- Plastic surgery (6.1%)
- Medical genetics and genomics (8.5%)
- Emergency medicine (8.7%)

Historically, between 12% 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, 2013, allergy and immunology program directors have had the highest average tenure at 9.1 years, while osteopathic neuromusculoskeletal medicine program directors have had the lowest tenure at 3.1 years.

## Program Director Years Teaching in Specialty

In general, new program directors have spent less time teaching in their specialty than program directors who are not new to their role (continuing program directors). The mean length in years that new program directors have taught in their specialty is 12.4 years among medical specialty programs, 9.9 years among hospital-based specialty programs, and 11.5 years among surgical specialty programs. In each group, the mean length in years that subspecialty program directors have taught in their subspecialty is 9.6 years, 9.8 years, and 12.3 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 17.2 years among medical specialty programs, 15.1 years among hospital-based specialty programs, and 17.2 years among surgical specialty programs.

## Physician Faculty Members

A total of 201,433 physician faculty members were listed as active at the time of the Academic Year 2022-2023 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 15.4 overall. The specialties with the highest average number of faculty members per program include:

- Anesthesiology (54.8)
- Pediatrics (37.3)
- Radiology – diagnostic (33.4)
- Neurology (31.4)

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

- Pediatric emergency medicine (19.9)
- Pediatric cardiology (17.4)
- Complex general surgical oncology (17.1)
- Pediatric anesthesiology (15.6)

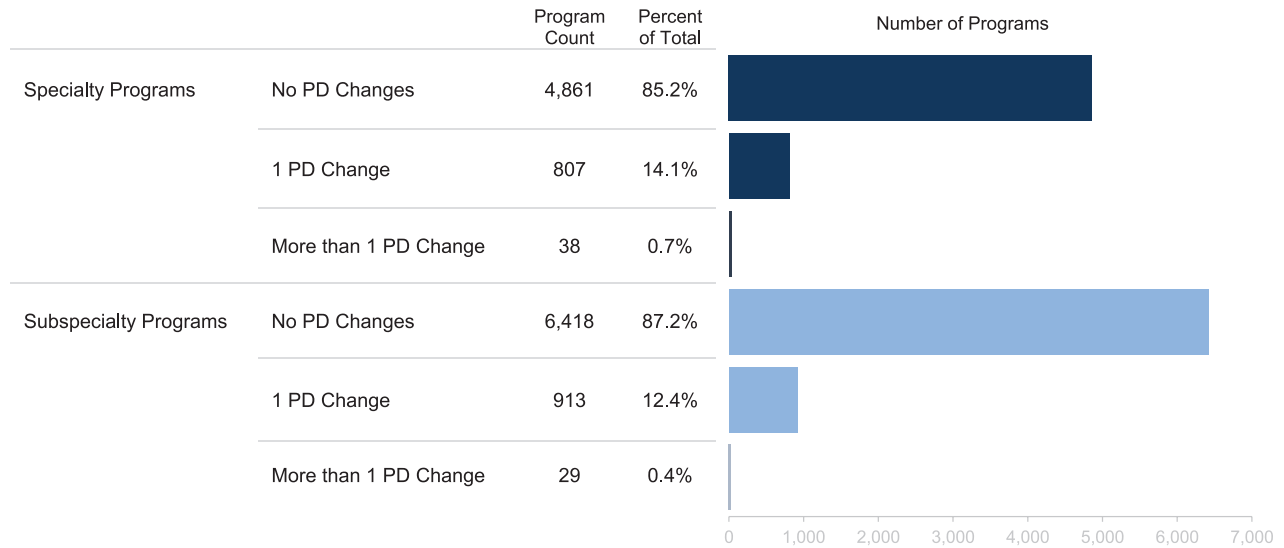
## Core Faculty

A total of 71,997 core faculty members were listed as active in specialty programs at the time of the Academic Year 2022-2023 snapshot. The specialties with the highest average number of core faculty members per program include:

- Anesthesiology (24.2)
- Pediatrics (23.5)
- Radiology – diagnostic (19.8)
- Interventional radiology – integrated (19.0)

**FIGURE G.1**

**Number of Programs with Program Director Changes during the Academic Year**



Notes: Total number of programs = 13,066. Total number of distinct program director changes = 1,856.  
Abbreviations: PD, program director.

**FIGURE G.2**

**Percent of Programs with at Least One Program Director Change by Academic Year, 2013-2014 to 2022-2023**

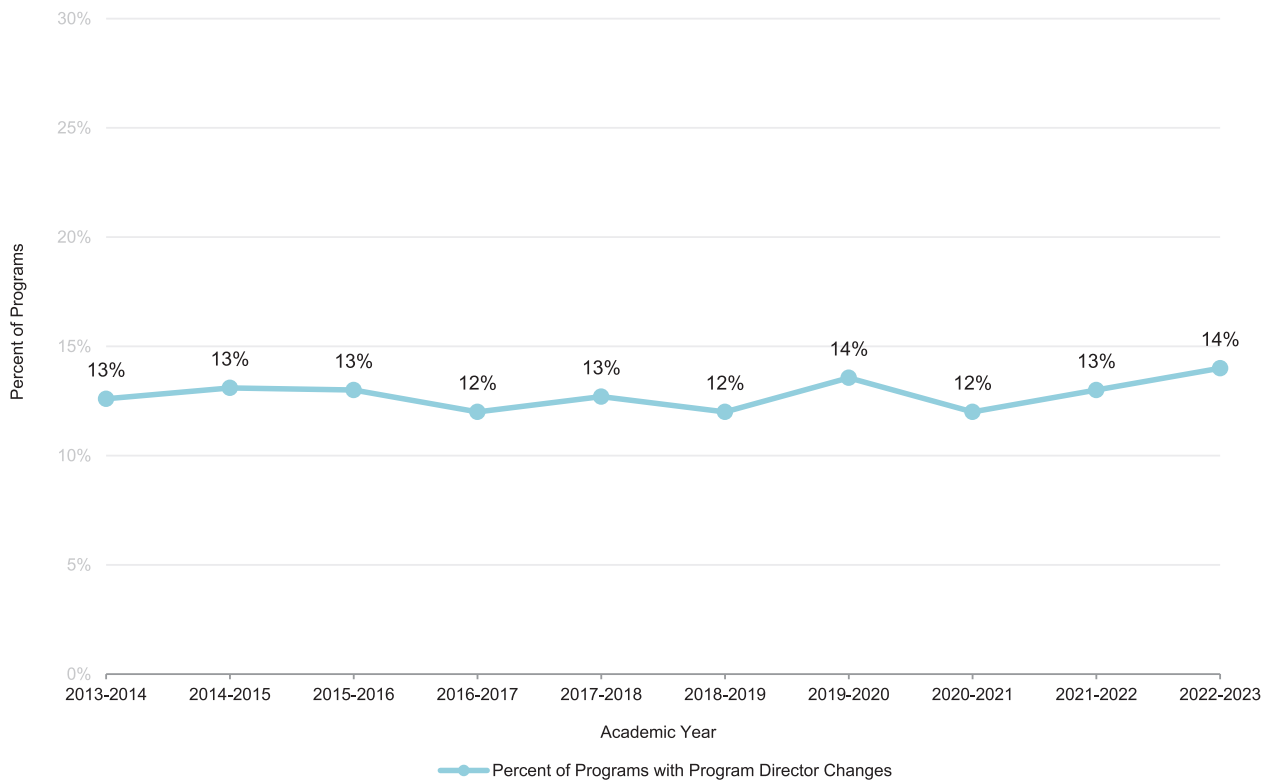


TABLE G.3

**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	13,066	1,787	13.7%	1,856
TOTAL PIPELINE	5,382	807	15.0%	846
Allergy and immunology	87	10	11.5%	10
Anesthesiology	165	31	18.8%	33
- Adult cardiothoracic anesthesiology	75	14	18.7%	14
- Critical care medicine	65	12	18.5%	12
- Regional anesthesiology and acute pain medicine	42	11	26.2%	12
- Pediatric cardiac anesthesiology	15	2	13.3%	2
- Obstetric anesthesiology	41	8	19.5%	8
- Pain medicine (multidisciplinary)	115	17	14.8%	17
- Pediatric anesthesiology	62	9	14.5%	9
Colon and rectal surgery	68	6	8.8%	6
Dermatology	144	30	20.8%	30
- Dermatopathology (multidisciplinary)	57	3	5.3%	3
- Micrographic surgery and dermatologic oncology	81	5	6.2%	5
- Pediatric dermatology	29	4	13.8%	4
Emergency medicine	287	25	8.7%	25
- Emergency medical services	83	9	10.8%	9
- Medical toxicology	30	5	16.7%	5
- Pediatric emergency medicine	29	1	3.4%	1
- Sports medicine	9	0	0.0%	0
- Undersea and hyperbaric medicine	8	2	25.0%	2
Family medicine	756	112	14.8%	114
- Clinical informatics	8	3	37.5%	3
- Geriatric medicine	46	1	2.2%	1
- Hospice and palliative medicine (multidisciplinary)	191	36	18.8%	37
- Sports medicine	171	15	8.8%	15
Internal medicine	627	86	13.7%	90
- Adult congenital heart disease	27	4	14.8%	4
- Advanced heart failure and transplant cardiology	84	9	10.7%	10
- Cardiovascular disease	273	26	9.5%	28
- Clinical cardiac electrophysiology	116	9	7.8%	9
- Clinical informatics	32	2	6.3%	2
- Critical care medicine	66	10	15.2%	10
- Endocrinology, diabetes, and metabolism	159	25	15.7%	26
- Gastroenterology	229	23	10.0%	23
- Geriatric medicine	119	11	9.2%	11
- Hematology and medical oncology	184	31	16.8%	31
- Infectious disease	167	21	12.6%	23
- Interventional cardiology	180	23	12.8%	24
- Nephrology	152	15	9.9%	16
- Medical oncology	3	1	33.3%	1
- Pulmonary disease	22	1	4.5%	1
- Pulmonary disease and critical care medicine	202	14	6.9%	14
- Rheumatology	129	20	15.5%	20
- Sleep medicine (multidisciplinary)	96	18	18.8%	19
- Transplant hepatology	66	10	15.2%	10
Medical genetics and genomics	47	4	8.5%	4
- Medical biochemical genetics	22	5	22.7%	5
- Molecular genetic pathology (multidisciplinary)	42	3	7.1%	3
Neurological surgery	117	16	13.7%	17
- Neuroendovascular intervention	3	1	33.3%	1

**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	180	26	14.4%	28
- Clinical neurophysiology	95	10	10.5%	10
- Epilepsy	95	17	17.9%	17
- Neurocritical care (multidisciplinary)	35	0	0.0%	0
- Neuroendovascular intervention	2	0	0.0%	0
- Neurodevelopmental disabilities	8	1	12.5%	1
- Neuromuscular medicine	55	6	10.9%	6
- Vascular neurology	112	13	11.6%	13
Child neurology	80	14	17.5%	15
Nuclear medicine	36	8	22.2%	8
Obstetrics and gynecology	302	48	15.9%	53
- Female pelvic medicine and reconstructive surgery	57	10	17.5%	10
- Gynecologic oncology	71	10	14.1%	10
- Maternal-fetal medicine	104	17	16.3%	17
- Reproductive endocrinology and infertility	49	12	24.5%	14
- Complex family planning	32	6	18.8%	6
Ophthalmology	125	21	16.8%	21
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0
Orthopaedic surgery	208	27	13.0%	27
- Adult reconstructive orthopaedics	25	3	12.0%	3
- Foot and ankle orthopaedics	8	1	12.5%	1
- Hand surgery	74	3	4.1%	3
- Musculoskeletal oncology	12	1	8.3%	1
- Orthopaedic sports medicine	93	9	9.7%	11
- Orthopaedic surgery of the spine	15	1	6.7%	1
- Orthopaedic trauma	12	1	8.3%	1
- Pediatric orthopaedics	25	0	0.0%	0
Osteopathic neuromusculoskeletal medicine	26	4	15.4%	4
Otolaryngology - head and neck surgery	131	19	14.5%	19
- Neurotology	29	3	10.3%	4
- Pediatric otolaryngology	34	7	20.6%	7
Pathology-anatomic and clinical	146	31	21.2%	32
- Blood banking/transfusion medicine	54	5	9.3%	5
- Clinical informatics	10	0	0.0%	0
- Chemical pathology	4	0	0.0%	0
- Cytopathology	93	19	20.4%	19
- Forensic pathology	49	9	18.4%	9
- Hematopathology	87	13	14.9%	13
- Medical microbiology	16	2	12.5%	2
- Neuropathology	40	5	12.5%	5
- Pediatric pathology	27	5	18.5%	5
- Selective pathology	124	17	13.7%	18
Pediatrics	213	39	18.3%	42
- Adolescent medicine	34	3	8.8%	4
- Child abuse pediatrics	32	1	3.1%	1
- Clinical informatics	9	0	0.0%	0
- Developmental-behavioral pediatrics	44	5	11.4%	5
- Neonatal-perinatal medicine	110	16	14.5%	16
- Pediatric cardiology	64	10	15.6%	10
- Pediatric critical care medicine	76	12	15.8%	12
- Pediatric emergency medicine	58	7	12.1%	7
- Pediatric endocrinology	73	8	11.0%	8
- Pediatric gastroenterology	67	7	10.4%	7
- Pediatric hematology/oncology	78	10	12.8%	10
- Pediatric infectious diseases	64	7	10.9%	7

TABLE G.3 Continued

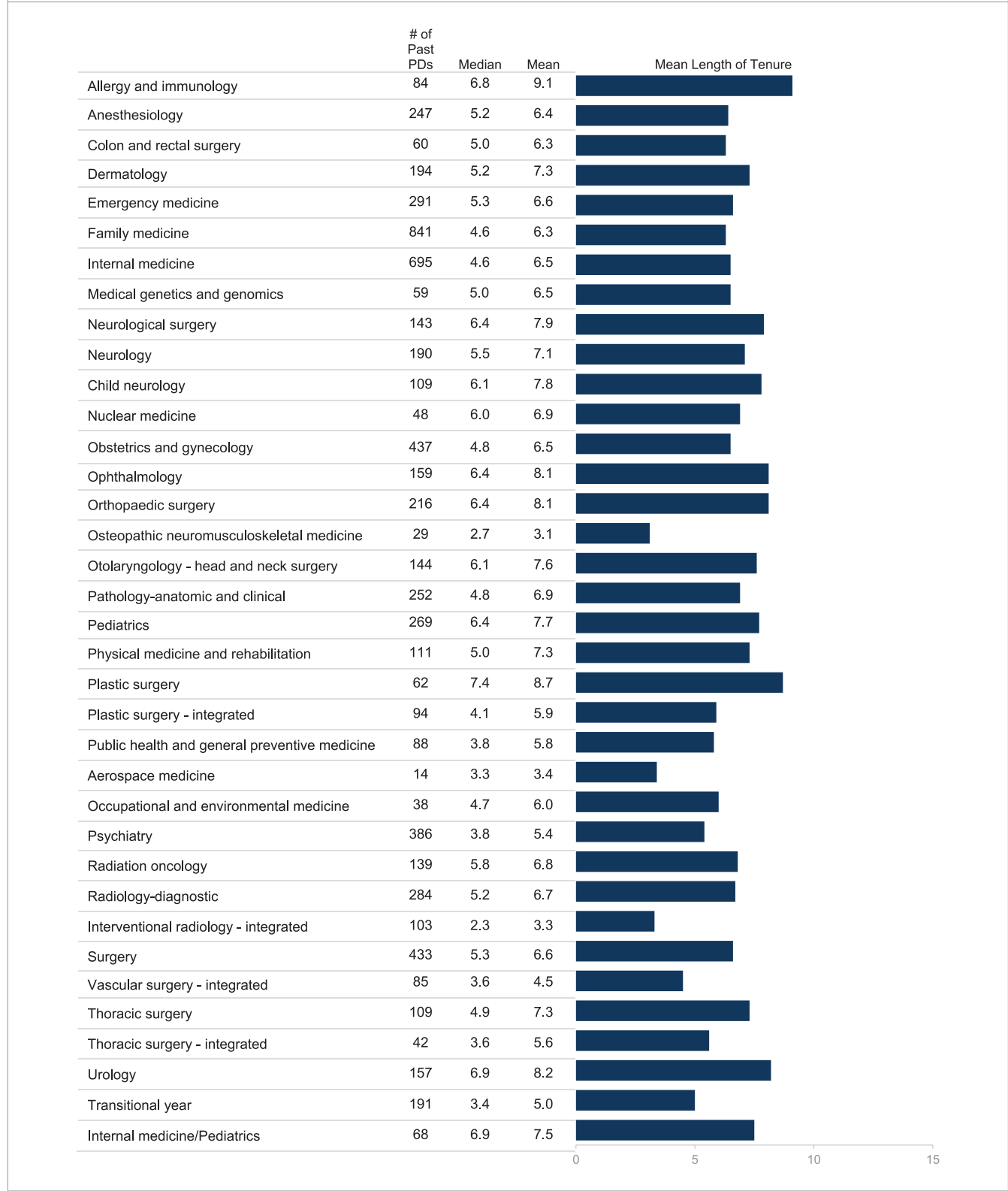
**Number of Programs with New Program Directors and Number of Distinct Program Director Changes during the Academic Year by Specialty and Subspecialty**

Specialty	Total Programs	Programs with New PDs		Number of Distinct PD Changes
		#	%	
- Pediatric nephrology	48	4	8.3%	4
- Pediatric pulmonology	57	3	5.3%	3
- Pediatric rheumatology	37	3	8.1%	3
- Sports medicine	17	1	5.9%	1
- Pediatric transplant hepatology	17	1	5.9%	1
- Pediatric hospital medicine	68	8	11.8%	8
Physical medicine and rehabilitation	101	15	14.9%	17
- Brain injury medicine	27	1	3.7%	1
- Neuromuscular medicine	1	0	0.0%	0
- Spinal cord injury medicine	26	3	11.5%	3
- Pediatric rehabilitation medicine	22	4	18.2%	4
- Sports medicine	22	4	18.2%	4
Plastic surgery	49	3	6.1%	3
Plastic surgery - integrated	89	10	11.2%	11
- Craniofacial surgery	9	3	33.3%	3
- Hand surgery	19	2	10.5%	3
Public health and general preventive medicine	43	11	25.6%	12
Aerospace medicine	5	2	40.0%	3
Occupational and environmental medicine	23	2	8.7%	2
- Undersea and hyperbaric medicine	1	0	0.0%	0
Psychiatry	304	55	18.1%	57
- Addiction medicine (multidisciplinary)	96	10	10.4%	10
- Addiction psychiatry	55	7	12.7%	7
- Child and adolescent psychiatry	153	25	16.3%	26
- Forensic psychiatry	49	9	18.4%	10
- Geriatric psychiatry	63	7	11.1%	7
- Consultation-liaison psychiatry	67	9	13.4%	10
Radiation oncology	90	15	16.7%	15
Radiology-diagnostic	199	30	15.1%	32
- Abdominal radiology	13	3	23.1%	7
- Neuroendovascular intervention	3	1	33.3%	1
- Musculoskeletal radiology	21	1	4.8%	1
- Neuroradiology	91	19	20.9%	20
- Nuclear radiology	19	3	15.8%	3
- Pediatric radiology	46	6	13.0%	6
Interventional radiology - independent	94	15	16.0%	18
Interventional radiology - integrated	95	12	12.6%	13
Surgery	363	50	13.8%	53
- Complex general surgical oncology	34	8	23.5%	8
- Hand surgery	2	0	0.0%	0
- Pediatric surgery	51	7	13.7%	7
- Surgical critical care	162	23	14.2%	23
- Vascular surgery	119	18	15.1%	19
Vascular surgery - integrated	76	15	19.7%	16
Thoracic surgery	75	12	16.0%	14
- Congenital cardiac surgery	17	2	11.8%	2
Thoracic surgery - integrated	34	8	23.5%	9
Urology	150	15	10.0%	15
- Female pelvic medicine and reconstructive surgery	17	0	0.0%	0
- Pediatric urology	26	1	3.8%	1
Transitional year	188	25	13.3%	25
Internal medicine/Pediatrics	77	8	10.4%	8
Health care administration, leadership, and management	2	0	0.0%	0

Notes: Total number of distinct program director changes =1,856 (883 in specialty programs and 973 in subspecialty programs). Pipeline specialties are highlighted. Abbreviations: PD, program director.



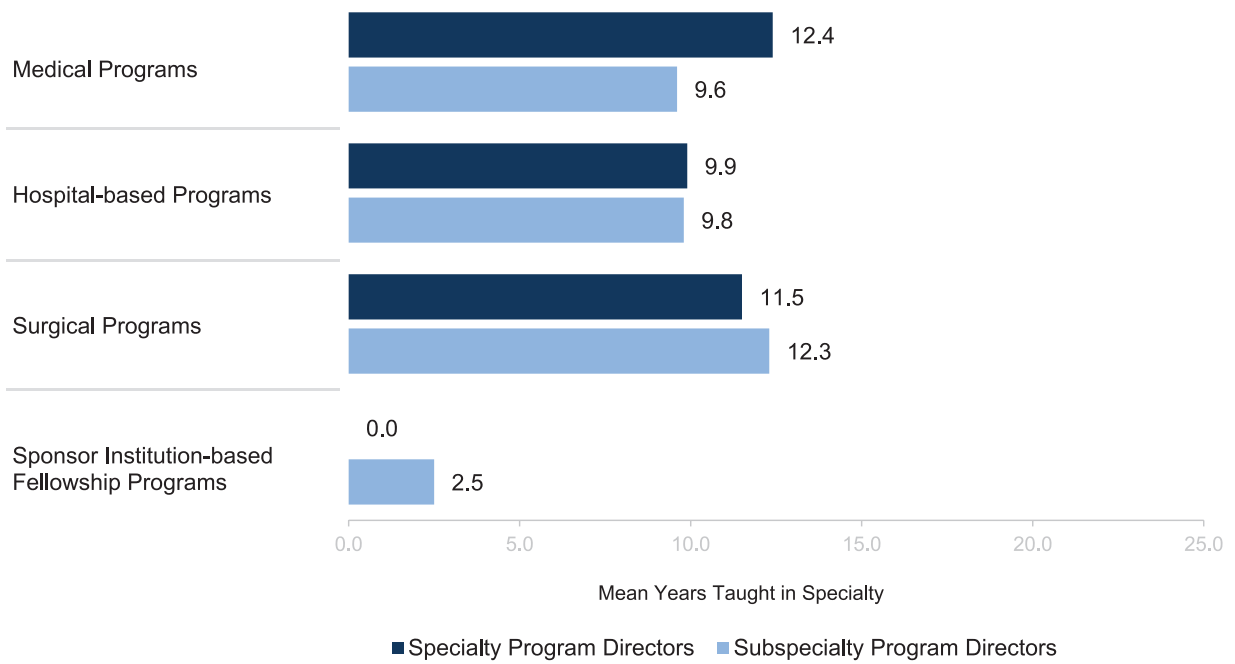
**FIGURE G.4**  
**Mean Length in Years of Past Program Director Tenure by Specialty**



Notes: Data are based on program director changes since 7/1/2013 (n = 6,871). Overall mean length in tenure = 6.6 years.  
 Abbreviations: PD, program director.

**FIGURE G.5**

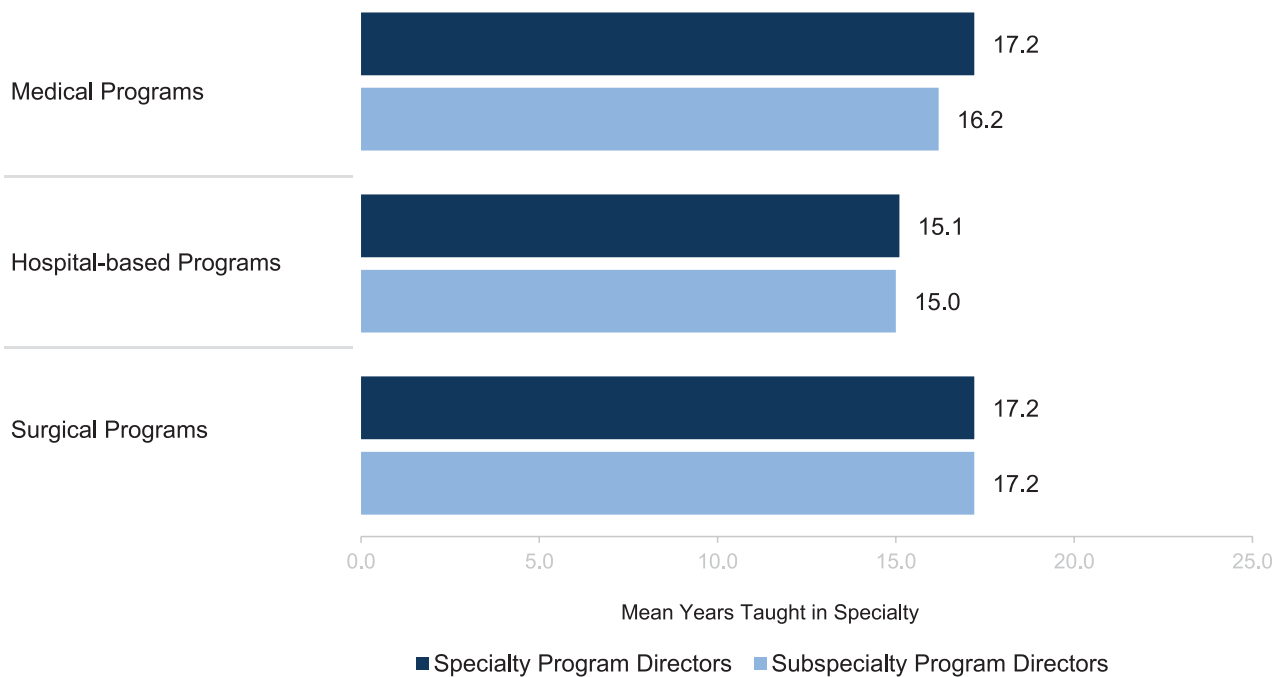
**Mean Length in Years New Program Directors Have Taught in Their Specialty by Specialty Group**



Notes: Total number of new program directors in specialty programs = 984. Total number of new program directors in subspecialty programs = 1,173.

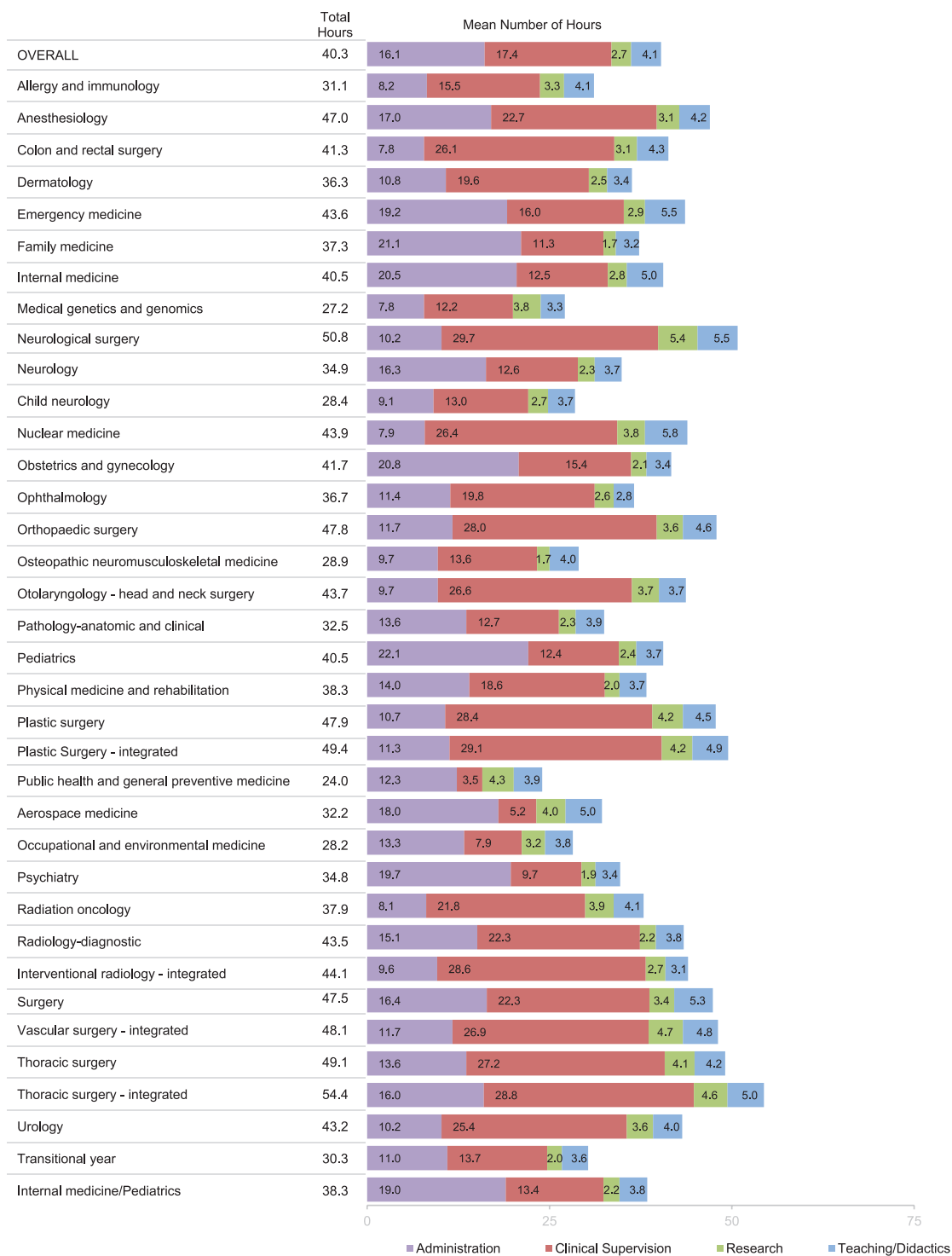
**FIGURE G.6**

**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 = 4,722. Total number of continuing program directors in subspecialty programs = 6,187.

**FIGURE G.7**  
**Mean Number of Hours per Week Spent by Program Directors in Key Areas by Specialty**



Notes: Sum of individual means may not add to overall mean due to rounding.

TABLE G.8

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

Specialty	Total Programs	Total Number of Physician Faculty	Mean	MIN	MAX
OVERALL	13,066	201,433	15.4	0	168
TOTAL PIPELINE	5,382	130,786	24.3	1	168
Allergy and immunology	87	815	9.4	2	32
Anesthesiology	165	9,048	54.8	9	168
- Adult cardiothoracic anesthesiology	75	1,091	14.5	5	33
- Critical care medicine	65	880	13.5	4	39
- Regional anesthesiology and acute pain medicine	42	473	11.3	3	24
- Pediatric cardiac anesthesiology	15	169	11.3	7	18
- Obstetric anesthesiology	41	424	10.3	3	21
- Pain medicine (multidisciplinary)	115	1,037	9.0	3	31
- Pediatric anesthesiology	62	965	15.6	4	55
Colon and rectal surgery	68	487	7.2	2	21
Dermatology	144	2,290	15.9	2	45
- Dermatopathology (multidisciplinary)	57	334	5.9	2	15
- Micrographic surgery and dermatologic oncology	81	332	4.1	1	13
- Pediatric dermatology	29	111	3.8	2	8
Emergency medicine	287	6,071	21.2	5	73
- Emergency medical services	83	381	4.6	2	10
- Medical toxicology	30	170	5.7	1	13
- Pediatric emergency medicine	29	327	11.3	3	24
- Sports medicine	9	54	6.0	3	9
- Undersea and hyperbaric medicine	8	28	3.5	2	7
Family medicine	756	17,567	23.2	2	94
- Clinical informatics	8	59	7.4	1	13
- Geriatric medicine	46	292	6.3	1	19
- Hospice and palliative medicine (multidisciplinary)	191	1,589	8.3	2	22
- Sports medicine	171	1,170	6.8	1	24
Internal medicine	627	13,146	21.0	3	147
- Adult congenital heart disease	27	156	5.8	2	12
- Advanced heart failure and transplant cardiology	84	492	5.9	0	19
- Cardiovascular disease	273	4,001	14.7	3	66
- Clinical cardiac electrophysiology	116	612	5.3	1	17
- Clinical informatics	32	252	7.9	1	13
- Critical care medicine	66	671	10.2	3	27
- Endocrinology, diabetes, and metabolism	159	1,267	8.0	2	27
- Gastroenterology	229	2,709	11.8	2	52
- Geriatric medicine	119	845	7.1	1	18
- Hematology and medical oncology	184	2,650	14.4	3	56
- Infectious disease	167	1,673	10.0	1	39
- Interventional cardiology	180	932	5.2	1	14
- Nephrology	152	1,542	10.1	2	40
- Medical oncology	3	15	5.0	3	7
- Pulmonary disease	22	127	5.8	2	11
- Pulmonary disease and critical care medicine	202	2,786	13.8	4	49
- Rheumatology	129	985	7.6	1	23
- Sleep medicine (multidisciplinary)	96	591	6.2	2	18
- Transplant hepatology	66	385	5.8	1	11
Medical genetics and genomics	47	505	10.7	1	46
- Medical biochemical genetics	22	128	5.8	2	15
- Molecular genetic pathology (multidisciplinary)	42	240	5.7	1	17
Neurological surgery	117	2,121	18.1	4	36
- Neuroendovascular intervention	3	15	5.0	3	8

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

Specialty	Total Programs	Total Number of Physician Faculty	Mean	MIN	MAX
Neurology	180	5,661	31.4	8	101
- Clinical neurophysiology	95	917	9.7	3	23
- Epilepsy	95	815	8.6	2	22
- Neurocritical care (multidisciplinary)	35	354	10.1	2	25
- Neuroendovascular intervention	2	6	3.0	2	4
- Neurodevelopmental disabilities	8	115	14.4	3	30
- Neuromuscular medicine	55	393	7.1	0	16
- Vascular neurology	112	835	7.5	2	24
Child neurology	80	1,392	17.4	3	49
Nuclear medicine	36	209	5.8	2	16
Obstetrics and gynecology	302	8,518	28.2	8	92
- Female pelvic medicine and reconstructive surgery	57	377	6.6	3	11
- Gynecologic oncology	71	596	8.4	3	20
- Maternal-fetal medicine	104	1,202	11.6	2	27
- Reproductive endocrinology and infertility	49	412	8.4	2	25
- Complex family planning	32	153	4.8	1	10
Ophthalmology	125	3,192	25.5	5	67
- Ophthalmic plastic and reconstructive surgery	4	9	2.3	1	4
Orthopaedic surgery	208	6,118	29.4	10	91
- Adult reconstructive orthopaedics	25	157	6.3	2	17
- Foot and ankle orthopaedics	8	35	4.4	2	10
- Hand surgery	74	530	7.2	3	17
- Musculoskeletal oncology	12	45	3.8	1	8
- Orthopaedic sports medicine	93	620	6.7	1	24
- Orthopaedic surgery of the spine	15	82	5.5	2	13
- Orthopaedic trauma	12	61	5.1	2	15
- Pediatric orthopaedics	25	226	9.0	3	21
Osteopathic neuromusculoskeletal medicine	26	320	12.3	6	28
Otolaryngology - head and neck surgery	131	2,880	22.0	6	50
- Neurotology	29	140	4.8	1	12
- Pediatric otolaryngology	34	313	9.2	4	21
Pathology-anatomic and clinical	146	3,963	27.1	8	66
- Blood banking/transfusion medicine	54	288	5.3	1	12
- Clinical informatics	10	59	5.9	3	9
- Chemical pathology	4	9	2.3	0	4
- Cytopathology	93	538	5.8	1	15
- Forensic pathology	49	303	6.2	2	15
- Hematopathology	87	566	6.5	0	26
- Medical microbiology	16	41	2.6	0	7
- Neuropathology	40	183	4.6	1	10
- Pediatric pathology	27	211	7.8	2	18
- Selective pathology	124	862	7.0	1	27
Pediatrics	213	7,952	37.3	15	152
- Adolescent medicine	34	226	6.6	1	22
- Child abuse pediatrics	32	128	4.0	1	12
- Clinical informatics	9	88	9.8	2	22
- Developmental-behavioral pediatrics	44	268	6.1	0	14
- Neonatal-perinatal medicine	110	1695	15.4	5	46
- Pediatric cardiology	64	1,115	17.4	3	57
- Pediatric critical care medicine	76	1,182	15.6	4	39
- Pediatric emergency medicine	58	1,157	19.9	5	66
- Pediatric endocrinology	73	591	8.1	2	28
- Pediatric gastroenterology	67	703	10.5	3	31
- Pediatric hematology/oncology	78	1,217	15.6	4	50
- Pediatric infectious diseases	64	548	8.6	1	27

TABLE G.8 Continued

<b>Number of Physician Faculty Members and Mean Number of Physician Faculty Members per Program by Specialty and Subspecialty</b>					
<b>Specialty</b>	<b>Total Programs</b>	<b>Total Number of Physician Faculty</b>	<b>Mean</b>	<b>MIN</b>	<b>MAX</b>
- Pediatric nephrology	48	313	6.5	1	16
- Pediatric pulmonology	57	511	9.0	2	26
- Pediatric rheumatology	37	194	5.2	2	13
- Sports medicine	17	125	7.4	3	15
- Pediatric transplant hepatology	17	94	5.5	3	11
- Pediatric hospital medicine	68	963	14.2	4	28
Physical medicine and rehabilitation	101	2,225	22.0	5	55
- Brain injury medicine	27	162	6.0	2	12
- Neuromuscular medicine	1	5	5.0	5	5
- Spinal cord injury medicine	26	167	6.4	3	13
- Pediatric rehabilitation medicine	22	144	6.5	2	14
- Sports medicine	22	169	7.7	2	17
Plastic surgery	49	766	15.6	4	33
Plastic Surgery - integrated	89	1,806	20.3	5	54
- Craniofacial surgery	9	31	3.4	1	6
- Hand surgery	19	120	6.3	3	13
Public health and general preventive medicine	43	462	10.7	1	30
Aerospace medicine	5	43	8.6	5	11
Occupational and environmental medicine	23	216	9.4	2	30
- Undersea and hyperbaric medicine	1	4	4	4	4
Psychiatry	304	6,672	21.9	4	75
- Addiction medicine (multidisciplinary)	96	782	8.1	2	20
- Addiction psychiatry	55	399	7.3	1	15
- Child and adolescent psychiatry	153	1,505	9.8	1	28
- Forensic psychiatry	49	291	5.9	1	16
- Geriatric psychiatry	63	420	6.7	1	15
- Consultation-liaison psychiatry	67	478	7.1	2	31
Radiation oncology	90	1,263	14.0	4	57
Radiology-diagnostic	199	6,655	33.4	8	103
- Abdominal radiology	13	137	10.5	5	18
- Neuroendovascular intervention	3	11	3.7	3	4
- Musculoskeletal radiology	21	144	6.9	1	23
- Neuroradiology	91	905	9.9	2	34
- Nuclear radiology	19	106	5.6	1	19
- Pediatric radiology	46	551	12.0	1	43
Interventional radiology - independent	94	846	9.0	2	29
Interventional radiology - integrated	95	2,429	25.6	10	76
Surgery	363	11,229	30.9	4	134
- Complex general surgical oncology	34	580	17.1	9	33
- Hand surgery	2	19	9.5	6	13
- Pediatric surgery	51	509	10.0	2	20
- Surgical critical care	162	1,672	10.3	2	31
- Vascular surgery	119	917	7.7	2	18
Vascular surgery - integrated	76	1,018	13.4	2	61
Thoracic surgery	75	1,050	14.0	3	36
- Congenital cardiac surgery	17	68	4.0	1	10
Thoracic surgery - integrated	34	806	23.7	6	76
Urology	150	2,674	17.8	5	40
- Female pelvic medicine and reconstructive surgery	17	131	7.7	3	14
- Pediatric urology	26	139	5.3	2	15
Transitional year	188	2,182	11.6	3	60
Internal medicine/Pediatrics	77	723	9.4	2	26
Health care administration, leadership, and management	2	16	8.0	3	13

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 = 159,992. Pipeline specialties are highlighted.

**TABLE G.9**

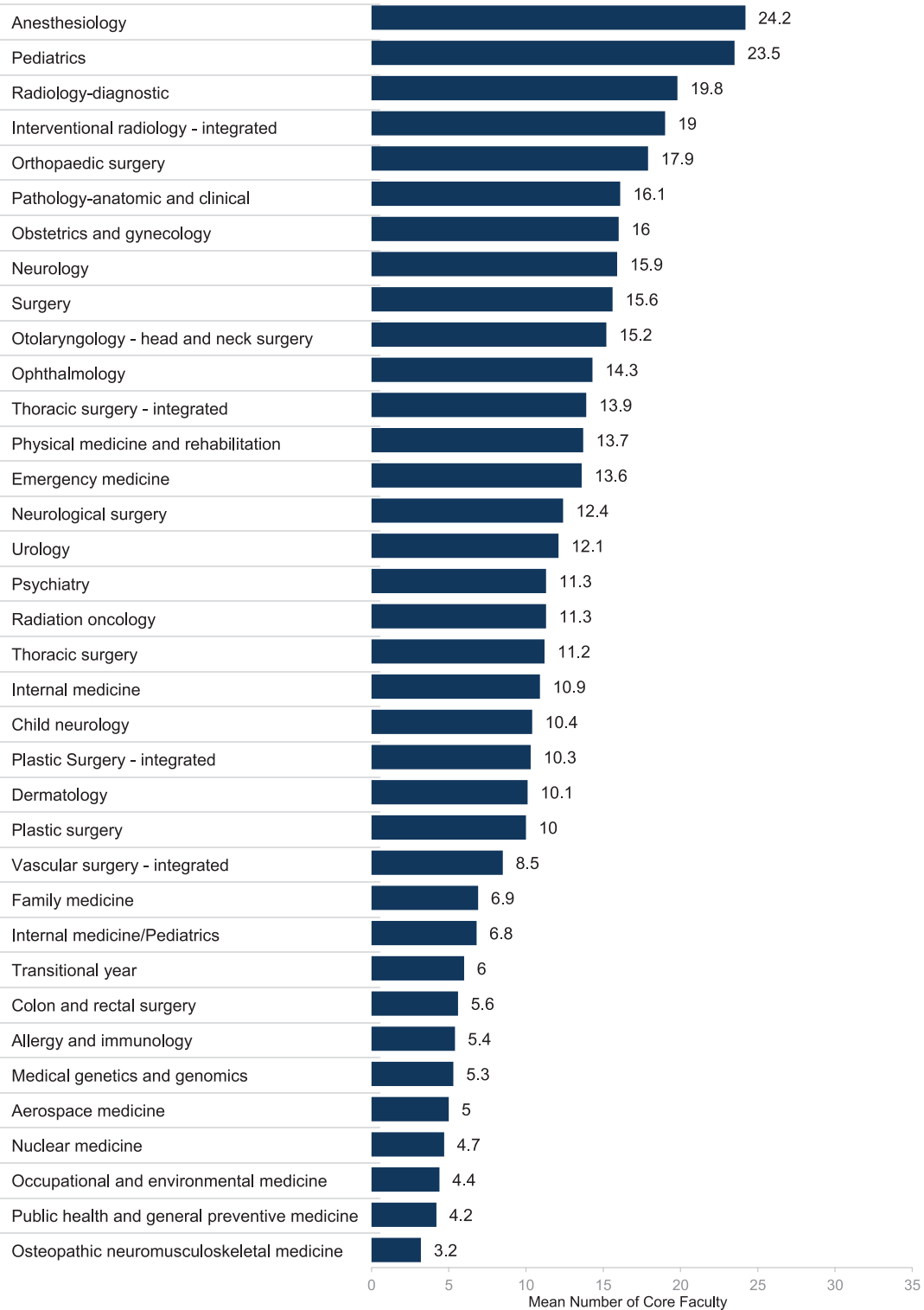
**Total Number of Core Faculty Members and Core Faculty Members per Program by Specialty**

Specialty	Total Programs	Total Number of Core Faculty	Mean	MIN	MAX
OVERALL	5,706	71,997	12.6	0	86
Allergy and immunology	87	473	5.4	1	15
Anesthesiology	165	3,985	24.2	5	86
Colon and rectal surgery	68	378	5.6	2	17
Dermatology	144	1,456	10.1	1	26
Emergency medicine	287	3,899	13.6	4	50
Family medicine	756	5,251	6.9	1	33
Internal medicine	627	6,817	10.9	2	52
Medical genetics and genomics	47	249	5.3	1	19
Neurological surgery	117	1,449	12.4	4	28
Neurology	180	2,870	15.9	3	67
Child neurology	80	831	10.4	3	30
Nuclear medicine	36	169	4.7	1	9
Obstetrics and gynecology	302	4,825	16.0	1	59
Ophthalmology	125	1,785	14.3	2	36
Orthopaedic surgery	208	3,721	17.9	3	55
Osteopathic neuromusculoskeletal medicine	26	83	3.2	1	6
Otolaryngology - head and neck surgery	131	1,989	15.2	3	39
Pathology-anatomic and clinical	146	2,348	16.1	3	59
Pediatrics	213	4,995	23.5	4	53
Physical medicine and rehabilitation	101	1,387	13.7	3	51
Plastic surgery	49	488	10.0	3	33
Plastic Surgery - integrated	89	916	10.3	2	33
Public health and general preventive medicine	43	181	4.2	0	11
Aerospace medicine	5	25	5.0	2	6
Occupational and environmental medicine	23	101	4.4	2	8
Psychiatry	304	3,449	11.3	2	44
Radiation oncology	90	1,016	11.3	3	41
Radiology-diagnostic	199	3,948	19.8	5	77
Interventional radiology - integrated	95	1,809	19.0	4	49
Surgery	363	5,661	15.6	1	80
Vascular surgery - integrated	76	644	8.5	2	29
Thoracic surgery	75	841	11.2	2	27
Thoracic surgery - integrated	34	474	13.9	4	29
Urology	150	1,821	12.1	3	37
Transitional year	188	1,137	6.0	2	20
Internal medicine/Pediatrics	77	526	6.8	1	17

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 = 67,826.

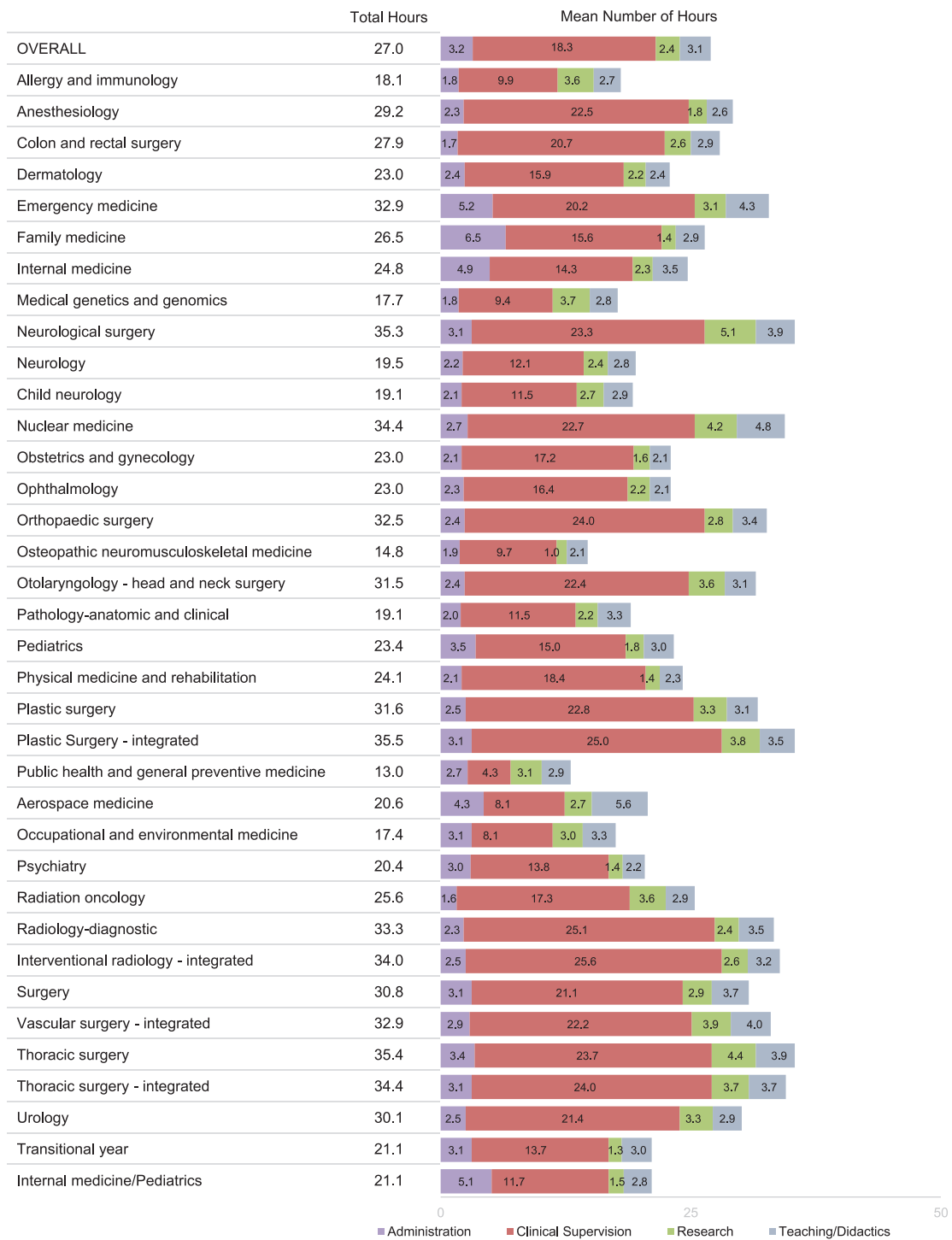
FIGURE G.10

Specialties Organized by Largest Mean Number of Core Faculty Members per Program





**FIGURE G.11**  
**Mean Number of Hours per Week Core Faculty Members Spent in Key Areas by Specialty**



Notes: Sum of individual means may not add to overall mean due to rounding.

TABLE G.12

## Number and Percent of Program Coordinator Changes

Specialty	Total Programs	Number of Programs with Multiple Program Coordinators				Number of Programs with Program Coordinator Changes		Number of New Program Coordinators
		No		Yes		N	%	
		N	%	N	%			
OVERALL	13,066	7,386	56.5%	5,680	43.5%	1,988	15.2%	2,454
TOTAL PIPELINE	5,382	3,065	56.9%	2,317	43.1%	840	15.6%	1,030
Allergy and immunology	87	49	56.3%	38	43.7%	11	12.6%	15
Anesthesiology	165	71	43.0%	94	57.0%	30	18.2%	35
- Adult cardiothoracic anesthesiology	75	28	37.3%	47	62.7%	8	10.7%	16
- Critical care medicine	65	25	38.5%	40	61.5%	9	13.8%	18
- Regional anesthesiology and acute pain medicine	42	17	40.5%	25	59.5%	6	14.3%	10
- Pediatric cardiac anesthesiology	15	6	40.0%	9	60.0%	1	6.7%	1
- Obstetric anesthesiology	41	17	41.5%	24	58.5%	5	12.2%	7
- Pain medicine (multidisciplinary)	115	65	56.5%	50	43.5%	16	13.9%	21
- Pediatric anesthesiology	62	27	43.5%	35	56.5%	4	6.5%	9
Colon and rectal surgery	68	37	54.4%	31	45.6%	9	13.2%	11
Dermatology	144	96	66.7%	48	33.3%	26	18.1%	31
- Dermatopathology (multidisciplinary)	57	37	64.9%	20	35.1%	8	14.0%	8
- Micrographic surgery and dermatologic oncology	81	64	79.0%	17	21.0%	6	7.4%	8
- Pediatric dermatology	29	19	65.5%	10	34.5%	3	10.3%	3
Emergency medicine	287	138	48.1%	149	51.9%	51	17.8%	72
- Emergency medical services	83	51	61.4%	32	38.6%	16	19.3%	18
- Medical toxicology	30	14	46.7%	16	53.3%	2	6.7%	2
- Pediatric emergency medicine	29	17	58.6%	12	41.4%	2	6.9%	3
- Sports medicine	9	6	66.7%	3	33.3%	1	11.1%	1
- Undersea and hyperbaric medicine	8	4	50.0%	4	50.0%	0	0.0%	0
Family medicine	756	519	68.7%	237	31.3%	123	16.3%	140
- Clinical informatics	8	4	50.0%	4	50.0%	0	0.0%	0
- Geriatric medicine	46	38	82.6%	8	17.4%	6	13.0%	7
- Hospice and palliative medicine (multidisciplinary)	191	131	68.6%	60	31.4%	30	15.7%	35
- Sports medicine	171	137	80.1%	34	19.9%	19	11.1%	26
Internal medicine	627	326	52.0%	301	48.0%	99	15.8%	121
- Adult congenital heart disease	27	8	29.6%	19	70.4%	6	22.2%	6
- Advanced heart failure and transplant cardiology	84	35	41.7%	49	58.3%	14	16.7%	17
- Cardiovascular disease	273	161	59.0%	112	41.0%	44	16.1%	56
- Clinical cardiac electrophysiology	116	58	50.0%	58	50.0%	18	15.5%	23
- Clinical informatics	32	15	46.9%	17	53.1%	1	3.1%	1
- Critical care medicine	66	41	62.1%	25	37.9%	12	18.2%	15
- Endocrinology, diabetes, and metabolism	159	100	62.9%	59	37.1%	33	20.8%	36
- Gastroenterology	229	158	69.0%	71	31.0%	31	13.5%	39
- Geriatric medicine	119	87	73.1%	32	26.9%	18	15.1%	22
- Hematology and medical oncology	184	121	65.8%	63	34.2%	27	14.7%	34
- Infectious disease	167	103	61.7%	64	38.3%	26	15.6%	30
- Interventional cardiology	180	98	54.4%	82	45.6%	26	14.4%	32
- Nephrology	152	107	70.4%	45	29.6%	29	19.1%	34
- Medical oncology	3	2	66.7%	1	33.3%	0	0.0%	0
- Pulmonary disease	22	14	63.6%	8	36.4%	3	13.6%	4
- Pulmonary disease and critical care medicine	202	127	62.9%	75	37.1%	22	10.9%	30
- Rheumatology	129	81	62.8%	48	37.2%	21	16.3%	28
- Sleep medicine (multidisciplinary)	96	60	62.5%	36	37.5%	14	14.6%	16
- Transplant hepatology	66	42	63.6%	24	36.4%	7	10.6%	10
Medical genetics and genomics	47	26	55.3%	21	44.7%	7	14.9%	9
- Medical biochemical genetics	22	12	54.5%	10	45.5%	2	9.1%	2
- Molecular genetic pathology (multidisciplinary)	42	16	38.1%	26	61.9%	7	16.7%	8
Neurological surgery	117	79	67.5%	38	32.5%	13	11.1%	14
- Neuroendovascular intervention	3	2	66.7%	1	33.3%	0	0.0%	0

**TABLE G.12 Continued**

**Number and Percent of Program Coordinator Changes**

Specialty	Total Programs	Number of Programs with Multiple Program Coordinators				Number of Programs with Program Coordinator Changes		Number of New Program Coordinators
		No		Yes		N	%	
		N	%	N	%			
Neurology	180	100	55.6%	80	44.4%	26	14.4%	34
- Clinical neurophysiology	95	43	45.3%	52	54.7%	17	17.9%	22
- Epilepsy	95	41	43.2%	54	56.8%	14	14.7%	19
- Neurocritical care (multidisciplinary)	35	15	42.9%	20	57.1%	1	2.9%	1
- Neuroendovascular intervention	2	1	50.0%	1	50.0%	1	50.0%	1
- Neurodevelopmental disabilities	8	4	50.0%	4	50.0%	2	25.0%	5
- Neuromuscular medicine	55	24	43.6%	31	56.4%	6	10.9%	8
- Vascular neurology	112	52	46.4%	60	53.6%	18	16.1%	20
Child neurology	80	38	47.5%	42	52.5%	16	20.0%	23
Nuclear medicine	36	20	55.6%	16	44.4%	5	13.9%	6
Obstetrics and gynecology	302	187	61.9%	115	38.1%	50	16.6%	63
- Female pelvic medicine and reconstructive surgery	57	29	50.9%	28	49.1%	13	22.8%	15
- Gynecologic oncology	71	41	57.7%	30	42.3%	12	16.9%	16
- Maternal-fetal medicine	104	58	55.8%	46	44.2%	22	21.2%	28
- Reproductive endocrinology and infertility	49	25	51.0%	24	49.0%	8	16.3%	13
- Complex family planning	32	13	40.6%	19	59.4%	11	34.4%	14
Ophthalmology	125	80	64.0%	45	36.0%	22	17.6%	27
- Ophthalmic plastic and reconstructive surgery	4	3	75.0%	1	25.0%	1	25.0%	1
Orthopaedic surgery	208	109	52.4%	99	47.6%	38	18.3%	43
- Adult reconstructive orthopaedics	25	10	40.0%	15	60.0%	4	16.0%	4
- Foot and ankle orthopaedics	8	3	37.5%	5	62.5%	3	37.5%	3
- Hand surgery	74	44	59.5%	30	40.5%	8	10.8%	9
- Musculoskeletal oncology	12	6	50.0%	6	50.0%	1	8.3%	1
- Orthopaedic sports medicine	93	55	59.1%	38	40.9%	13	14.0%	15
- Orthopaedic surgery of the spine	15	7	46.7%	8	53.3%	2	13.3%	2
- Orthopaedic trauma	12	4	33.3%	8	66.7%	3	25.0%	3
- Pediatric orthopaedics	25	12	48.0%	13	52.0%	5	20.0%	6
Osteopathic neuromusculoskeletal medicine	26	18	69.2%	8	30.8%	6	23.1%	10
Otolaryngology - head and neck surgery	131	88	67.2%	43	32.8%	16	12.2%	19
- Neurotology	29	19	65.5%	10	34.5%	2	6.9%	2
- Pediatric otolaryngology	34	17	50.0%	17	50.0%	3	8.8%	3
Pathology-anatomic and clinical	146	87	59.6%	59	40.4%	18	12.3%	21
- Blood banking/transfusion medicine	54	32	59.3%	22	40.7%	6	11.1%	9
- Clinical informatics	10	6	60.0%	4	40.0%	3	30.0%	4
- Chemical pathology	4	3	75.0%	1	25.0%	0	0.0%	0
- Cytopathology	93	54	58.1%	39	41.9%	13	14.0%	15
- Forensic pathology	49	29	59.2%	20	40.8%	4	8.2%	4
- Hematopathology	87	48	55.2%	39	44.8%	14	16.1%	17
- Medical microbiology	16	5	31.3%	11	68.8%	5	31.3%	6
- Neuropathology	40	15	37.5%	25	62.5%	8	20.0%	10
- Pediatric pathology	27	11	40.7%	16	59.3%	7	25.9%	9
- Selective pathology	124	58	46.8%	66	53.2%	16	12.9%	20
Pediatrics	213	110	51.6%	103	48.4%	29	13.6%	35
- Adolescent medicine	34	18	52.9%	16	47.1%	7	20.6%	9
- Child abuse pediatrics	32	20	62.5%	12	37.5%	2	6.3%	2
- Clinical informatics	9	3	33.3%	6	66.7%	2	22.2%	2
- Developmental-behavioral pediatrics	44	30	68.2%	14	31.8%	9	20.5%	12
- Neonatal-perinatal medicine	110	65	59.1%	45	40.9%	16	14.5%	20
- Pediatric cardiology	64	20	31.3%	44	68.8%	10	15.6%	12
- Pediatric critical care medicine	76	33	43.4%	43	56.6%	11	14.5%	12
- Pediatric emergency medicine	58	32	55.2%	26	44.8%	7	12.1%	11
- Pediatric endocrinology	73	38	52.1%	35	47.9%	10	13.7%	12
- Pediatric gastroenterology	67	30	44.8%	37	55.2%	15	22.4%	17
- Pediatric hematology/oncology	78	37	47.4%	41	52.6%	15	19.2%	17
- Pediatric infectious diseases	64	34	53.1%	30	46.9%	15	23.4%	19

TABLE G.12 *Continued*

## Number and Percent of Program Coordinator Changes

Specialty	Total Programs	Number of Programs with Multiple Program Coordinators				Number of Programs with Program Coordinator Changes		Number of New Program Coordinators
		No		Yes		N	%	
		N	%	N	%			
- Pediatric nephrology	48	22	45.8%	26	54.2%	5	10.4%	6
- Pediatric pulmonology	57	30	52.6%	27	47.4%	17	29.8%	19
- Pediatric rheumatology	37	14	37.8%	23	62.2%	5	13.5%	8
- Sports medicine	17	11	64.7%	6	35.3%	2	11.8%	2
- Pediatric transplant hepatology	17	10	58.8%	7	41.2%	3	17.6%	3
- Pediatric hospital medicine	68	31	45.6%	37	54.4%	11	16.2%	14
Physical medicine and rehabilitation	101	66	65.3%	35	34.7%	16	15.8%	18
- Brain injury medicine	27	16	59.3%	11	40.7%	7	25.9%	7
- Neuromuscular medicine	1	0	0.0%	1	100.0%	0	0.0%	0
- Spinal cord injury medicine	26	15	57.7%	11	42.3%	5	19.2%	6
- Pediatric rehabilitation medicine	22	5	22.7%	17	77.3%	3	13.6%	3
- Sports medicine	22	9	40.9%	13	59.1%	3	13.6%	3
Plastic surgery	49	29	59.2%	20	40.8%	7	14.3%	8
Plastic Surgery - integrated	89	48	53.9%	41	46.1%	13	14.6%	15
- Craniofacial surgery	9	4	44.4%	5	55.6%	1	11.1%	2
- Hand surgery	19	12	63.2%	7	36.8%	0	0.0%	0
Public health and general preventive medicine	43	35	81.4%	8	18.6%	2	4.7%	2
Aerospace medicine	5	3	60.0%	2	40.0%	0	0.0%	0
Occupational and environmental medicine	23	16	69.6%	7	30.4%	3	13.0%	3
- Undersea and hyperbaric medicine	1	0	0.0%	1	100.0%	0	0.0%	0
Psychiatry	304	193	63.5%	111	36.5%	46	15.1%	57
- Addiction medicine (multidisciplinary)	96	59	61.5%	37	38.5%	11	11.5%	13
- Addiction psychiatry	55	25	45.5%	30	54.5%	4	7.3%	5
- Child and adolescent psychiatry	153	96	62.7%	57	37.3%	18	11.8%	21
- Forensic psychiatry	49	30	61.2%	19	38.8%	5	10.2%	6
- Geriatric psychiatry	63	35	55.6%	28	44.4%	5	7.9%	5
- Consultation-liaison psychiatry	67	40	59.7%	27	40.3%	7	10.4%	7
Radiation oncology	90	63	70.0%	27	30.0%	7	7.8%	8
Radiology-diagnostic	199	95	47.7%	104	52.3%	29	14.6%	36
- Abdominal radiology	13	3	23.1%	10	76.9%	1	7.7%	2
- Neuroendovascular intervention	3	1	33.3%	2	66.7%	0	0.0%	0
- Musculoskeletal radiology	21	9	42.9%	12	57.1%	2	9.5%	2
- Neuroradiology	91	36	39.6%	55	60.4%	12	13.2%	17
- Nuclear radiology	19	4	21.1%	15	78.9%	4	21.1%	6
- Pediatric radiology	46	27	58.7%	19	41.3%	9	19.6%	11
Interventional radiology - independent	94	33	35.1%	61	64.9%	15	16.0%	20
Interventional radiology - integrated	95	29	30.5%	66	69.5%	17	17.9%	25
Surgery	363	164	45.2%	199	54.8%	60	16.5%	72
- Complex general surgical oncology	34	18	52.9%	16	47.1%	9	26.5%	11
- Hand surgery	2	1	50.0%	1	50.0%	0	0.0%	0
- Pediatric surgery	51	27	52.9%	24	47.1%	9	17.6%	11
- Surgical critical care	162	84	51.9%	78	48.1%	26	16.0%	33
- Vascular surgery	119	65	54.6%	54	45.4%	20	16.8%	24
Vascular surgery - integrated	76	32	42.1%	44	57.9%	15	19.7%	16
Thoracic surgery	75	32	42.7%	43	57.3%	14	18.7%	17
- Congenital cardiac surgery	17	8	47.1%	9	52.9%	3	17.6%	3
Thoracic surgery - integrated	34	9	26.5%	25	73.5%	6	17.6%	7
Urology	150	106	70.7%	44	29.3%	19	12.7%	26
- Female pelvic medicine and reconstructive surgery	17	11	64.7%	6	35.3%	3	17.6%	3
- Pediatric urology	26	16	61.5%	10	38.5%	4	15.4%	5
Transitional year	188	126	67.0%	62	33.0%	32	17.0%	37
Internal medicine/Pediatrics	77	52	67.5%	25	32.5%	10	13.0%	14
Health care administration, leadership, and management	2	1	50.0%	1	50.0%	0	0.0%	0

Note: Pipeline specialties are highlighted.





# Program Activities

This section summarizes what residents are taught about pain management, including the recognition of the signs of addiction, by specialty and subspecialty programs during the 2022-2023 academic year.

## **Pain Management and Recognition of Substance-Use Disorder**

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The following education types were offered to manage pain and recognize addiction by the highest percentage of specialty programs:

- Recognition of dependence and substance-use disorder (91.9%)
- Pharmacologic pain management (91.7%)
- Opioid prescribing and management, including opioid selection, dosage and duration (91.0%)
- Non-pharmacologic pain management (87.0%)

A similar trend can be seen in subspecialty programs. ↘

**TABLE H.1**  
**Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Substance-Use Disorder by Type of Education and by Specialty and Subspecialty**

Specialty	Number of Programs	Non-Pharmacologic Pain Management		Pharmacologic Pain Management		Opioid Prescribing		Recognition of Dependence and Substance-Use Disorder		Referral for Dependence and Substance-Use Disorder Treatment		Treatment of Dependence and Substance-Use Disorder	
		#	%	#	%	#	%	#	%	#	%	#	%
OVERALL	13,066	10,593	81.1%	11,152	85.4%	10,739	82.2%	11,221	85.9%	9,684	74.1%	6,386	48.9%
TOTAL PIPELINE	5,382	4,695	87.2%	4,950	92.0%	4,910	91.2%	4,957	92.1%	4,498	83.6%	3,254	60.5%
Allergy and immunology	87	51	58.6%	53	60.9%	49	56.3%	57	65.5%	47	54.0%	17	19.5%
Anesthesiology	165	161	97.6%	165	100.0%	163	98.8%	165	100.0%	149	90.3%	138	83.6%
- Adult cardiothoracic anesthesiology	75	59	78.7%	70	93.3%	52	69.3%	67	89.3%	43	57.3%	32	42.7%
- Critical care medicine	65	58	89.2%	65	100.0%	56	86.2%	60	92.3%	50	76.9%	42	64.6%
- Regional anesthesiology and acute pain medicine	42	41	97.6%	41	97.6%	41	97.6%	41	97.6%	38	90.5%	32	76.2%
- Pediatric cardiac anesthesiology	15	14	93.3%	15	100.0%	12	80.0%	12	80.0%	10	66.7%	7	46.7%
- Obstetric anesthesiology	41	36	87.8%	41	100.0%	35	85.4%	39	95.1%	28	68.3%	26	63.4%
- Pain medicine (multidisciplinary)	115	115	100.0%	115	100.0%	115	100.0%	115	100.0%	115	100.0%	103	89.6%
- Pediatric anesthesiology	62	60	96.8%	61	98.4%	53	85.5%	57	91.9%	41	66.1%	36	58.1%
Colon and rectal surgery	68	51	75.0%	63	92.6%	66	97.1%	58	85.3%	48	70.6%	25	36.8%
Dermatology	144	113	78.5%	125	86.8%	107	74.3%	116	80.6%	94	65.3%	21	14.6%
- Dermatopathology (multidisciplinary)	57	15	26.3%	16	28.1%	20	35.1%	25	43.9%	16	28.1%	7	12.3%
- Micrographic surgery and dermatologic oncology	81	65	80.2%	67	82.7%	68	84.0%	66	81.5%	46	56.8%	14	17.3%
- Pediatric dermatology	29	22	75.9%	24	82.8%	17	58.6%	17	58.6%	17	58.6%	4	13.8%
Emergency medicine	287	272	94.8%	284	99.0%	287	100.0%	285	99.3%	282	98.3%	268	93.4%
- Emergency medical services	83	77	92.8%	81	97.6%	72	86.7%	74	89.2%	64	77.1%	57	68.7%
- Medical toxicology	30	28	93.3%	30	100.0%	29	96.7%	30	100.0%	29	96.7%	29	96.7%
- Pediatric emergency medicine	29	29	100.0%	29	100.0%	27	93.1%	28	96.6%	21	72.4%	15	51.7%
- Sports medicine	9	7	77.8%	7	77.8%	8	88.9%	9	100.0%	8	88.9%	3	33.3%
- Undersea and hyperbaric medicine	8	7	87.5%	6	75.0%	5	62.5%	6	75.0%	7	87.5%	0	0.0%
Family medicine	756	750	99.2%	753	99.6%	750	99.2%	751	99.3%	738	97.6%	666	88.1%
- Clinical informatics	8	5	62.5%	5	62.5%	5	62.5%	4	50.0%	5	62.5%	5	62.5%
- Geriatric medicine	46	44	95.7%	45	97.8%	43	93.5%	46	100.0%	44	95.7%	29	63.0%
- Hospice and palliative medicine (multidisciplinary)	191	189	99.0%	189	99.0%	189	99.0%	188	98.4%	179	93.7%	132	69.1%
- Sports medicine	171	167	97.7%	164	95.9%	147	86.0%	149	87.1%	130	76.0%	60	35.1%
Internal medicine	627	600	95.7%	618	98.6%	614	97.9%	614	97.9%	595	94.9%	499	79.6%
- Adult congenital heart disease	27	16	59.3%	17	63.0%	11	40.7%	19	70.4%	17	63.0%	6	22.2%
- Advanced heart failure and transplant cardiology	84	60	71.4%	68	81.0%	57	67.9%	68	81.0%	52	61.9%	22	26.2%
- Cardiovascular disease	273	187	68.5%	212	77.7%	206	75.5%	226	82.8%	177	64.8%	91	33.3%
- Clinical cardiac electrophysiology	116	80	69.0%	88	75.9%	92	79.3%	84	72.4%	60	51.7%	27	23.3%
- Clinical informatics	32	17	53.1%	20	62.5%	19	59.4%	18	56.3%	16	50.0%	9	28.1%
- Critical care medicine	66	57	86.4%	64	97.0%	56	84.8%	62	93.9%	48	72.7%	41	62.1%
- Endocrinology, diabetes, and metabolism	159	89	56.0%	96	60.4%	79	49.7%	105	66.0%	88	55.3%	32	20.1%
- Gastroenterology	229	195	85.2%	204	89.1%	182	79.5%	197	86.0%	182	79.5%	84	36.7%
- Geriatric medicine	119	118	99.2%	118	99.2%	118	99.2%	113	95.0%	102	85.7%	66	55.5%
- Hematology and medical oncology	184	166	90.2%	182	98.9%	177	96.2%	161	87.5%	135	73.4%	60	32.6%
- Infectious disease	167	101	60.5%	102	61.1%	104	62.3%	147	88.0%	138	82.6%	67	40.1%
- Interventional cardiology	180	127	70.6%	141	78.3%	127	70.6%	145	80.6%	113	62.8%	55	30.6%
- Nephrology	152	107	70.4%	125	82.2%	112	73.7%	111	73.0%	106	69.7%	45	29.6%
- Medical oncology	3	2	66.7%	3	100.0%	3	100.0%	3	100.0%	2	66.7%	1	33.3%
- Pulmonary disease	22	16	72.7%	19	86.4%	20	90.9%	20	90.9%	17	77.3%	13	59.1%
- Pulmonary disease and critical care medicine	202	162	80.2%	187	92.6%	177	87.6%	176	87.1%	152	75.2%	88	43.6%
- Rheumatology	129	127	98.4%	125	96.9%	106	82.2%	105	81.4%	90	69.8%	25	19.4%
- Sleep medicine (multidisciplinary)	96	57	59.4%	54	56.3%	65	67.7%	75	78.1%	59	61.5%	24	25.0%
- Transplant hepatology	66	50	75.8%	52	78.8%	48	72.7%	59	89.4%	53	80.3%	31	47.0%
Medical genetics and genomics	47	27	57.4%	25	53.2%	22	46.8%	33	70.2%	26	55.3%	13	27.7%
- Medical biochemical genetics	22	12	54.5%	12	54.5%	10	45.5%	15	68.2%	8	36.4%	4	18.2%
- Molecular genetic pathology (multidisciplinary)	42	11	26.2%	10	23.8%	8	19.0%	17	40.5%	14	33.3%	7	16.7%
Neurological surgery	117	106	90.6%	111	94.9%	114	97.4%	112	95.7%	92	78.6%	54	46.2%
- Neuroendovascular intervention	3	2	66.7%	2	66.7%	3	100.0%	2	66.7%	2	66.7%	2	66.7%

TABLE H.1 Extended

Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		Opioid tapering		Identifying and eliminating stigma, stereotypes and bias around patients with substance-use disorder		Communicating with patients about a pain treatment plan		None of the above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
3,536	27.1%	918	7.0%	186	1.4%	310	2.4%	2,720	20.8%	3,152	24.1%	3,690	28.2%	248	1.9%
2,084	38.7%	440	8.2%	77	1.4%	71	1.3%	1,499	27.9%	1,868	34.7%	2,082	38.7%	35	0.7%
5	5.7%	3	3.4%	3	3.4%	3	3.4%	5	5.7%	5	5.7%	4	4.6%	3	3.4%
79	47.9%	13	7.9%	1	0.6%	0	0.0%	68	41.2%	70	42.4%	88	53.3%	0	0.0%
9	12.0%	2	2.7%	0	0.0%	0	0.0%	7	9.3%	9	12.0%	18	24.0%	1	1.3%
14	21.5%	5	7.7%	0	0.0%	0	0.0%	21	32.3%	19	29.2%	25	38.5%	0	0.0%
14	33.3%	4	9.5%	0	0.0%	0	0.0%	11	26.2%	10	23.8%	14	33.3%	0	0.0%
5	33.3%	3	20.0%	0	0.0%	0	0.0%	2	13.3%	2	13.3%	4	26.7%	0	0.0%
14	34.1%	4	9.8%	1	2.4%	0	0.0%	7	17.1%	16	39.0%	17	41.5%	0	0.0%
77	67.0%	25	21.7%	3	2.6%	0	0.0%	62	53.9%	55	47.8%	63	54.8%	0	0.0%
9	14.5%	2	3.2%	0	0.0%	0	0.0%	18	29.0%	11	17.7%	24	38.7%	0	0.0%
8	11.8%	2	2.9%	0	0.0%	0	0.0%	11	16.2%	9	13.2%	18	26.5%	0	0.0%
8	5.6%	4	2.8%	0	0.0%	0	0.0%	14	9.7%	22	15.3%	27	18.8%	3	2.1%
3	5.3%	1	1.8%	0	0.0%	13	22.8%	3	5.3%	5	8.8%	1	1.8%	12	21.1%
5	6.2%	6	7.4%	1	1.2%	0	0.0%	4	4.9%	2	2.5%	12	14.8%	3	3.7%
1	3.4%	0	0.0%	1	3.4%	2	6.9%	4	13.8%	3	10.3%	5	17.2%	0	0.0%
229	79.8%	18	6.3%	9	3.1%	0	0.0%	57	19.9%	203	70.7%	164	57.1%	0	0.0%
47	56.6%	17	20.5%	1	1.2%	0	0.0%	5	6.0%	18	21.7%	16	19.3%	0	0.0%
28	93.3%	17	56.7%	0	0.0%	0	0.0%	5	16.7%	9	30.0%	4	13.3%	0	0.0%
8	27.6%	1	3.4%	0	0.0%	0	0.0%	1	3.4%	5	17.2%	7	24.1%	0	0.0%
2	22.2%	1	11.1%	0	0.0%	0	0.0%	1	11.1%	1	11.1%	3	33.3%	0	0.0%
0	0.0%	1	12.5%	0	0.0%	1	12.5%	0	0.0%	1	12.5%	2	25.0%	0	0.0%
534	70.6%	114	15.1%	10	1.3%	0	0.0%	408	54.0%	418	55.3%	445	58.9%	0	0.0%
3	37.5%	1	12.5%	1	12.5%	3	37.5%	2	25.0%	1	12.5%	1	12.5%	0	0.0%
26	56.5%	2	4.3%	1	2.2%	0	0.0%	28	60.9%	26	56.5%	27	58.7%	0	0.0%
92	48.2%	10	5.2%	8	4.2%	0	0.0%	97	50.8%	96	50.3%	112	58.6%	0	0.0%
28	16.4%	10	5.8%	2	1.2%	0	0.0%	25	14.6%	31	18.1%	44	25.7%	1	0.6%
326	52.0%	38	6.1%	10	1.6%	0	0.0%	239	38.1%	306	48.8%	326	52.0%	1	0.2%
1	3.7%	0	0.0%	0	0.0%	1	3.7%	2	7.4%	1	3.7%	4	14.8%	3	11.1%
7	8.3%	4	4.8%	1	1.2%	1	1.2%	8	9.5%	7	8.3%	16	19.0%	2	2.4%
37	13.6%	12	4.4%	2	0.7%	3	1.1%	17	6.2%	35	12.8%	36	13.2%	5	1.8%
6	5.2%	2	1.7%	3	2.6%	0	0.0%	6	5.2%	7	6.0%	12	10.3%	4	3.4%
5	15.6%	1	3.1%	2	6.3%	6	18.8%	1	3.1%	0	0.0%	1	3.1%	2	6.3%
19	28.8%	3	4.5%	0	0.0%	0	0.0%	13	19.7%	16	24.2%	16	24.2%	0	0.0%
12	7.5%	5	3.1%	0	0.0%	9	5.7%	7	4.4%	9	5.7%	9	5.7%	8	5.0%
23	10.0%	10	4.4%	1	0.4%	0	0.0%	23	10.0%	38	16.6%	43	18.8%	1	0.4%
36	30.3%	13	10.9%	2	1.7%	0	0.0%	45	37.8%	30	25.2%	56	47.1%	0	0.0%
26	14.1%	6	3.3%	1	0.5%	0	0.0%	54	29.3%	31	16.8%	69	37.5%	0	0.0%
41	24.6%	10	6.0%	4	2.4%	3	1.8%	18	10.8%	42	25.1%	26	15.6%	3	1.8%
18	10.0%	11	6.1%	1	0.6%	0	0.0%	10	5.6%	16	8.9%	19	10.6%	4	2.2%
15	9.9%	5	3.3%	3	2.0%	0	0.0%	18	11.8%	19	12.5%	22	14.5%	2	1.3%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	1	33.3%	0	0.0%
6	27.3%	3	13.6%	0	0.0%	0	0.0%	2	9.1%	3	13.6%	4	18.2%	1	4.5%
35	17.3%	7	3.5%	0	0.0%	0	0.0%	35	17.3%	36	17.8%	31	15.3%	1	0.5%
7	5.4%	2	1.6%	3	2.3%	0	0.0%	14	10.9%	15	11.6%	37	28.7%	0	0.0%
9	9.4%	3	3.1%	1	1.0%	0	0.0%	9	9.4%	9	9.4%	11	11.5%	2	2.1%
4	6.1%	3	4.5%	0	0.0%	0	0.0%	8	12.1%	8	12.1%	6	9.1%	0	0.0%
4	8.5%	5	10.6%	2	4.3%	2	4.3%	3	6.4%	4	8.5%	4	8.5%	4	8.5%
3	13.6%	1	4.5%	0	0.0%	2	9.1%	1	4.5%	2	9.1%	1	4.5%	3	13.6%
2	4.8%	0	0.0%	0	0.0%	14	33.3%	2	4.8%	1	2.4%	1	2.4%	7	16.7%
24	20.5%	7	6.0%	3	2.6%	0	0.0%	36	30.8%	26	22.2%	45	38.5%	0	0.0%
2	66.7%	1	33.3%	0	0.0%	0	0.0%	1	33.3%	1	33.3%	1	33.3%	0	0.0%



TABLE H.1 *Continued*

**Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Substance-Use Disorder by Type of Education and by Specialty and Subspecialty**

Specialty	Number of Programs	Non-Pharmacologic Pain Management		Pharmacologic Pain Management		Opioid Prescribing		Recognition of Dependence and Substance-Use Disorder		Referral for Dependence and Substance-Use Disorder Treatment		Treatment of Dependence and Substance-Use Disorder	
		#	%	#	%	#	%	#	%	#	%	#	%
Neurology	180	167	92.8%	178	98.9%	154	85.6%	165	91.7%	152	84.4%	83	46.1%
- Clinical neurophysiology	95	71	74.7%	77	81.1%	62	65.3%	70	73.7%	59	62.1%	27	28.4%
- Epilepsy	95	55	57.9%	60	63.2%	55	57.9%	71	74.7%	50	52.6%	18	18.9%
- Neurocritical care (multidisciplinary)	35	33	94.3%	33	94.3%	30	85.7%	33	94.3%	27	77.1%	19	54.3%
- Neuroendovascular intervention	2	2	100.0%	2	100.0%	1	50.0%	2	100.0%	1	50.0%	1	50.0%
- Neurodevelopmental disabilities	8	8	100.0%	7	87.5%	4	50.0%	6	75.0%	3	37.5%	1	12.5%
- Neuromuscular medicine	55	50	90.9%	52	94.5%	36	65.5%	42	76.4%	39	70.9%	12	21.8%
- Vascular neurology	112	91	81.3%	91	81.3%	77	68.8%	92	82.1%	71	63.4%	29	25.9%
Child neurology	80	79	98.8%	79	98.8%	55	68.8%	64	80.0%	54	67.5%	24	30.0%
Nuclear medicine	36	26	72.2%	23	63.9%	22	61.1%	26	72.2%	21	58.3%	14	38.9%
Obstetrics and gynecology	302	284	94.0%	297	98.3%	294	97.4%	296	98.0%	287	95.0%	209	69.2%
- Female pelvic medicine and reconstructive surgery	57	55	96.5%	56	98.2%	55	96.5%	47	82.5%	38	66.7%	16	28.1%
- Gynecologic oncology	71	64	90.1%	71	100.0%	70	98.6%	66	93.0%	58	81.7%	22	31.0%
- Maternal-fetal medicine	104	100	96.2%	102	98.1%	100	96.2%	104	100.0%	100	96.2%	82	78.8%
- Reproductive endocrinology and infertility	49	45	91.8%	48	98.0%	44	89.8%	38	77.6%	29	59.2%	10	20.4%
- Complex family planning	32	32	100.0%	32	100.0%	30	93.8%	31	96.9%	27	84.4%	11	34.4%
Ophthalmology	125	89	71.2%	99	79.2%	98	78.4%	94	75.2%	81	64.8%	30	24.0%
- Ophthalmic plastic and reconstructive surgery	4	3	75.0%	4	100.0%	3	75.0%	3	75.0%	3	75.0%	0	0.0%
Orthopaedic surgery	208	193	92.8%	200	96.2%	206	99.0%	192	92.3%	173	83.2%	88	42.3%
- Adult reconstructive orthopaedics	25	22	88.0%	23	92.0%	24	96.0%	23	92.0%	18	72.0%	8	32.0%
- Foot and ankle orthopaedics	8	7	87.5%	8	100.0%	8	100.0%	8	100.0%	7	87.5%	3	37.5%
- Hand surgery	74	66	89.2%	68	91.9%	70	94.6%	64	86.5%	52	70.3%	25	33.8%
- Musculoskeletal oncology	12	9	75.0%	11	91.7%	12	100.0%	8	66.7%	7	58.3%	4	33.3%
- Orthopaedic sports medicine	93	89	95.7%	86	92.5%	91	97.8%	83	89.2%	70	75.3%	32	34.4%
- Orthopaedic surgery of the spine	15	13	86.7%	15	100.0%	15	100.0%	14	93.3%	11	73.3%	4	26.7%
- Orthopaedic trauma	12	11	91.7%	12	100.0%	12	100.0%	12	100.0%	8	66.7%	4	33.3%
- Pediatric orthopaedics	25	24	96.0%	24	96.0%	25	100.0%	22	88.0%	13	52.0%	4	16.0%
Osteopathic neuromusculoskeletal medicine	26	26	100.0%	26	100.0%	25	96.2%	26	100.0%	23	88.5%	13	50.0%
Otolaryngology - head and neck surgery	131	111	84.7%	126	96.2%	129	98.5%	124	94.7%	106	80.9%	47	35.9%
- Neurotology	29	25	86.2%	26	89.7%	27	93.1%	25	86.2%	17	58.6%	6	20.7%
- Pediatric otolaryngology	34	25	73.5%	31	91.2%	31	91.2%	24	70.6%	17	50.0%	5	14.7%
Pathology-anatomic and clinical	146	34	23.3%	36	24.7%	45	30.8%	72	49.3%	49	33.6%	26	17.8%
- Blood banking/transfusion medicine	54	10	18.5%	12	22.2%	16	29.6%	19	35.2%	14	25.9%	5	9.3%
- Clinical informatics	10	5	50.0%	4	40.0%	4	40.0%	4	40.0%	2	20.0%	2	20.0%
- Chemical pathology	4	1	25.0%	1	25.0%	0	0.0%	0	0.0%	2	50.0%	0	0.0%
- Cytopathology	93	22	23.7%	24	25.8%	25	26.9%	40	43.0%	27	29.0%	14	15.1%
- Forensic pathology	49	3	6.1%	6	12.2%	7	14.3%	25	51.0%	6	12.2%	4	8.2%
- Hematopathology	87	19	21.8%	21	24.1%	24	27.6%	41	47.1%	28	32.2%	16	18.4%
- Medical microbiology	16	4	25.0%	4	25.0%	4	25.0%	5	31.3%	3	18.8%	3	18.8%
- Neuropathology	40	9	22.5%	9	22.5%	6	15.0%	15	37.5%	7	17.5%	4	10.0%
- Pediatric pathology	27	3	11.1%	4	14.8%	6	22.2%	12	44.4%	9	33.3%	1	3.7%
- Selective pathology	124	35	28.2%	35	28.2%	35	28.2%	50	40.3%	50	40.3%	36	29.0%
Pediatrics	213	205	96.2%	210	98.6%	202	94.8%	203	95.3%	177	83.1%	110	51.6%
- Adolescent medicine	34	32	94.1%	28	82.4%	19	55.9%	33	97.1%	34	100.0%	25	73.5%
- Child abuse pediatrics	32	16	50.0%	13	40.6%	12	37.5%	26	81.3%	18	56.3%	6	18.8%
- Clinical informatics	9	2	22.2%	4	44.4%	6	66.7%	3	33.3%	2	22.2%	1	11.1%
- Developmental-behavioral pediatrics	44	33	75.0%	24	54.5%	22	50.0%	39	88.6%	32	72.7%	13	29.5%
- Neonatal-perinatal medicine	110	105	95.5%	107	97.3%	96	87.3%	88	80.0%	45	40.9%	71	64.5%
- Pediatric cardiology	64	50	78.1%	57	89.1%	52	81.3%	47	73.4%	26	40.6%	20	31.3%
- Pediatric critical care medicine	76	72	94.7%	75	98.7%	67	88.2%	66	86.8%	43	56.6%	44	57.9%
- Pediatric emergency medicine	58	52	89.7%	58	100.0%	57	98.3%	49	84.5%	39	67.2%	29	50.0%
- Pediatric endocrinology	73	39	53.4%	36	49.3%	37	50.7%	49	67.1%	37	50.7%	13	17.8%
- Pediatric gastroenterology	67	58	86.6%	57	85.1%	52	77.6%	54	80.6%	38	56.7%	19	28.4%
- Pediatric hematology/oncology	78	77	98.7%	78	100.0%	77	98.7%	69	88.5%	46	59.0%	26	33.3%
- Pediatric infectious diseases	64	41	64.1%	42	65.6%	41	64.1%	50	78.1%	38	59.4%	11	17.2%

TABLE H.1 Continued Extended

Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		Opioid tapering		Identifying and eliminating stigma, stereotypes and bias around patients with substance-use disorder		Communicating with patients about a pain treatment plan		None of the above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
30	16.7%	7	3.9%	2	1.1%	0	0.0%	27	15.0%	46	25.6%	59	32.8%	0	0.0%
1	1.1%	1	1.1%	2	2.1%	3	3.2%	8	8.4%	3	3.2%	10	10.5%	2	2.1%
4	4.2%	2	2.1%	2	2.1%	0	0.0%	8	8.4%	6	6.3%	8	8.4%	5	5.3%
11	31.4%	2	5.7%	0	0.0%	1	2.9%	18	51.4%	14	40.0%	19	54.3%	0	0.0%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
0	0.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%
3	5.5%	1	1.8%	0	0.0%	0	0.0%	4	7.3%	5	9.1%	8	14.5%	0	0.0%
8	7.1%	3	2.7%	0	0.0%	1	0.9%	11	9.8%	13	11.6%	13	11.6%	0	0.0%
5	6.3%	1	1.3%	0	0.0%	0	0.0%	7	8.7%	8	10.0%	20	25.0%	0	0.0%
6	16.7%	4	11.1%	0	0.0%	2	5.6%	2	5.6%	2	5.6%	2	5.6%	2	5.6%
150	49.7%	21	7.0%	1	0.3%	0	0.0%	55	18.2%	143	47.4%	127	42.1%	0	0.0%
9	15.8%	2	3.5%	0	0.0%	0	0.0%	8	14.0%	7	12.3%	11	19.3%	0	0.0%
11	15.5%	1	1.4%	3	4.2%	0	0.0%	14	19.7%	10	14.1%	24	33.8%	0	0.0%
61	58.7%	15	14.4%	2	1.9%	0	0.0%	23	22.1%	40	38.5%	35	33.7%	0	0.0%
4	8.2%	2	4.1%	0	0.0%	0	0.0%	4	8.2%	6	12.2%	7	14.3%	0	0.0%
6	18.8%	1	3.1%	0	0.0%	0	0.0%	1	3.1%	11	34.4%	6	18.8%	0	0.0%
12	9.6%	3	2.4%	4	3.2%	1	0.8%	10	8.0%	14	11.2%	16	12.8%	2	1.6%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%
42	20.2%	16	7.7%	1	0.5%	0	0.0%	43	20.7%	44	21.2%	73	35.1%	0	0.0%
4	16.0%	1	4.0%	0	0.0%	0	0.0%	4	16.0%	2	8.0%	7	28.0%	1	4.0%
1	12.5%	1	12.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
7	9.5%	2	2.7%	2	2.7%	0	0.0%	6	8.1%	6	8.1%	13	17.6%	1	1.4%
1	8.3%	0	0.0%	0	0.0%	0	0.0%	2	16.7%	1	8.3%	2	16.7%	0	0.0%
10	10.8%	6	6.5%	3	3.2%	0	0.0%	8	8.6%	10	10.8%	23	24.7%	0	0.0%
1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	6.7%	1	6.7%	3	20.0%	0	0.0%
2	16.7%	2	16.7%	0	0.0%	0	0.0%	1	8.3%	0	0.0%	2	16.7%	0	0.0%
1	4.0%	0	0.0%	0	0.0%	0	0.0%	2	8.0%	2	8.0%	5	20.0%	0	0.0%
7	26.9%	3	11.5%	0	0.0%	0	0.0%	5	19.2%	7	26.9%	8	30.8%	0	0.0%
17	13.0%	4	3.1%	0	0.0%	0	0.0%	19	14.5%	17	13.0%	33	25.2%	0	0.0%
4	13.8%	2	6.9%	0	0.0%	0	0.0%	1	3.4%	2	6.9%	6	20.7%	0	0.0%
2	5.9%	3	8.8%	0	0.0%	0	0.0%	1	2.9%	0	0.0%	5	14.7%	0	0.0%
4	2.7%	4	2.7%	1	0.7%	48	32.9%	5	3.4%	5	3.4%	5	3.4%	15	10.3%
0	0.0%	0	0.0%	1	1.9%	15	27.8%	2	3.7%	0	0.0%	1	1.9%	12	22.2%
0	0.0%	1	10.0%	0	0.0%	2	20.0%	1	10.0%	0	0.0%	1	10.0%	2	20.0%
0	0.0%	0	0.0%	1	25.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
1	1.1%	1	1.1%	0	0.0%	26	28.0%	3	3.2%	1	1.1%	3	3.2%	15	16.1%
0	0.0%	0	0.0%	5	10.2%	10	20.4%	1	2.0%	5	10.2%	0	0.0%	12	24.5%
2	2.3%	0	0.0%	1	1.1%	16	18.4%	4	4.6%	3	3.4%	2	2.3%	21	24.1%
0	0.0%	0	0.0%	0	0.0%	5	31.3%	0	0.0%	0	0.0%	0	0.0%	5	31.3%
0	0.0%	0	0.0%	1	2.5%	16	40.0%	1	2.5%	0	0.0%	0	0.0%	7	17.5%
1	3.7%	0	0.0%	0	0.0%	9	33.3%	0	0.0%	0	0.0%	0	0.0%	5	18.5%
6	4.8%	3	2.4%	2	1.6%	44	35.5%	22	17.7%	9	7.3%	8	6.5%	18	14.5%
44	20.7%	9	4.2%	2	0.9%	1	0.5%	72	33.8%	72	33.8%	88	41.3%	0	0.0%
17	50.0%	4	11.8%	0	0.0%	0	0.0%	3	8.8%	15	44.1%	9	26.5%	0	0.0%
3	9.4%	0	0.0%	0	0.0%	4	12.5%	0	0.0%	5	15.6%	1	3.1%	1	3.1%
0	0.0%	0	0.0%	2	22.2%	1	11.1%	1	11.1%	0	0.0%	0	0.0%	1	11.1%
4	9.1%	1	2.3%	1	2.3%	0	0.0%	2	4.5%	8	18.2%	2	4.5%	1	2.3%
21	19.1%	5	4.5%	1	0.9%	0	0.0%	37	33.6%	24	21.8%	23	20.9%	0	0.0%
7	10.9%	4	6.3%	2	3.1%	0	0.0%	15	23.4%	5	7.8%	15	23.4%	1	1.6%
5	6.6%	2	2.6%	1	1.3%	0	0.0%	26	34.2%	8	10.5%	18	23.7%	1	1.3%
9	15.5%	1	1.7%	2	3.4%	0	0.0%	3	5.2%	6	10.3%	13	22.4%	0	0.0%
4	5.5%	0	0.0%	0	0.0%	5	6.8%	4	5.5%	8	11.0%	7	9.6%	8	11.0%
8	11.9%	4	6.0%	0	0.0%	0	0.0%	8	11.9%	5	7.5%	13	19.4%	0	0.0%
10	12.8%	3	3.8%	0	0.0%	0	0.0%	39	50.0%	17	21.8%	42	53.8%	0	0.0%
6	9.4%	0	0.0%	1	1.6%	1	1.6%	6	9.4%	9	14.1%	7	10.9%	2	3.1%

TABLE H.1 *Continued*

**Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Substance-Use Disorder by Type of Education and by Specialty and Subspecialty**

Specialty	Number of Programs	Non-Pharmacologic Pain Management		Pharmacologic Pain Management		Opioid Prescribing		Recognition of Dependence and Substance-Use Disorder		Referral for Dependence and Substance-Use Disorder Treatment		Treatment of Dependence and Substance-Use Disorder	
		#	%	#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	48	34	70.8%	39	81.3%	32	66.7%	33	68.8%	22	45.8%	13	27.1%
- Pediatric pulmonology	57	41	71.9%	40	70.2%	30	52.6%	44	77.2%	31	54.4%	12	21.1%
- Pediatric rheumatology	37	36	97.3%	34	91.9%	23	62.2%	25	67.6%	20	54.1%	5	13.5%
- Sports medicine	17	17	100.0%	17	100.0%	14	82.4%	15	88.2%	14	82.4%	7	41.2%
- Pediatric transplant hepatology	17	14	82.4%	15	88.2%	14	82.4%	14	82.4%	9	52.9%	7	41.2%
- Pediatric hospital medicine	68	68	100.0%	68	100.0%	65	95.6%	66	97.1%	59	86.8%	30	44.1%
Physical medicine and rehabilitation	101	100	99.0%	100	99.0%	98	97.0%	101	100.0%	92	91.1%	74	73.3%
- Brain injury medicine	27	27	100.0%	27	100.0%	27	100.0%	24	88.9%	20	74.1%	11	40.7%
- Neuromuscular medicine	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	26	25	96.2%	26	100.0%	24	92.3%	22	84.6%	20	76.9%	11	42.3%
- Pediatric rehabilitation medicine	22	21	95.5%	22	100.0%	21	95.5%	18	81.8%	13	59.1%	6	27.3%
- Sports medicine	22	20	90.9%	21	95.5%	22	100.0%	21	95.5%	14	63.6%	10	45.5%
Plastic surgery	49	39	79.6%	46	93.9%	49	100.0%	44	89.8%	31	63.3%	21	42.9%
Plastic Surgery - integrated	89	73	82.0%	86	96.6%	89	100.0%	84	94.4%	66	74.2%	38	42.7%
- Craniofacial surgery	9	6	66.7%	9	100.0%	9	100.0%	6	66.7%	4	44.4%	2	22.2%
- Hand surgery	19	13	68.4%	18	94.7%	19	100.0%	17	89.5%	13	68.4%	4	21.1%
Public health and general preventive medicine	43	31	72.1%	30	69.8%	32	74.4%	39	90.7%	33	76.7%	27	62.8%
Aerospace medicine	5	2	40.0%	3	60.0%	3	60.0%	5	100.0%	5	100.0%	4	80.0%
Occupational and environmental medicine	23	20	87.0%	20	87.0%	21	91.3%	23	100.0%	20	87.0%	12	52.2%
- Undersea and hyperbaric medicine	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	100.0%	0	0.0%
Psychiatry	304	252	82.9%	265	87.2%	252	82.9%	301	99.0%	299	98.4%	302	99.3%
- Addiction medicine (multidisciplinary)	96	95	99.0%	96	100.0%	95	99.0%	95	99.0%	95	99.0%	95	99.0%
- Addiction psychiatry	55	53	96.4%	53	96.4%	51	92.7%	55	100.0%	52	94.5%	55	100.0%
- Child and adolescent psychiatry	153	113	73.9%	95	62.1%	73	47.7%	152	99.3%	149	97.4%	139	90.8%
- Forensic psychiatry	49	20	40.8%	24	49.0%	21	42.9%	42	85.7%	31	63.3%	26	53.1%
- Geriatric psychiatry	63	55	87.3%	52	82.5%	37	58.7%	63	100.0%	60	95.2%	59	93.7%
- Consultation-liaison psychiatry	67	59	88.1%	64	95.5%	49	73.1%	67	100.0%	67	100.0%	58	86.6%
Radiation oncology	90	76	84.4%	84	93.3%	88	97.8%	82	91.1%	70	77.8%	30	33.3%
Radiology-diagnostic	199	109	54.8%	131	65.8%	131	65.8%	146	73.4%	99	49.7%	59	29.6%
- Abdominal radiology	13	9	69.2%	10	76.9%	7	53.8%	9	69.2%	6	46.2%	4	30.8%
- Neuroendovascular intervention	3	3	100.0%	3	100.0%	2	66.7%	2	66.7%	2	66.7%	1	33.3%
- Musculoskeletal radiology	21	12	57.1%	14	66.7%	13	61.9%	14	66.7%	11	52.4%	8	38.1%
- Neuroradiology	91	45	49.5%	51	56.0%	50	54.9%	63	69.2%	43	47.3%	26	28.6%
- Nuclear radiology	19	10	52.6%	11	57.9%	11	57.9%	11	57.9%	10	52.6%	8	42.1%
- Pediatric radiology	46	18	39.1%	16	34.8%	21	45.7%	28	60.9%	19	41.3%	9	19.6%
Interventional radiology - independent	94	68	72.3%	83	88.3%	86	91.5%	79	84.0%	54	57.4%	23	24.5%
Interventional radiology - integrated	95	70	73.7%	79	83.2%	86	90.5%	80	84.2%	62	65.3%	35	36.8%
Surgery	363	328	90.4%	351	96.7%	357	98.3%	328	90.4%	302	83.2%	155	42.7%
- Complex general surgical oncology	34	30	88.2%	32	94.1%	33	97.1%	27	79.4%	27	79.4%	11	32.4%
- Hand surgery	2	2	100.0%	2	100.0%	2	100.0%	1	50.0%	1	50.0%	0	0.0%
- Pediatric surgery	51	46	90.2%	50	98.0%	50	98.0%	40	78.4%	31	60.8%	20	39.2%
- Surgical critical care	162	144	88.9%	157	96.9%	153	94.4%	145	89.5%	121	74.7%	81	50.0%
- Vascular surgery	119	91	76.5%	105	88.2%	115	96.6%	100	84.0%	87	73.1%	48	40.3%
Vascular surgery - integrated	76	56	73.7%	70	92.1%	74	97.4%	65	85.5%	52	68.4%	27	35.5%
Thoracic surgery	75	55	73.3%	65	86.7%	71	94.7%	64	85.3%	51	68.0%	35	46.7%
- Congenital cardiac surgery	17	12	70.6%	14	82.4%	15	88.2%	12	70.6%	7	41.2%	8	47.1%
Thoracic surgery - integrated	34	24	70.6%	30	88.2%	32	94.1%	28	82.4%	21	61.8%	14	41.2%
Urology	150	132	88.0%	142	94.7%	148	98.7%	138	92.0%	118	78.7%	68	45.3%
- Female pelvic medicine and reconstructive surgery	17	17	100.0%	16	94.1%	16	94.1%	14	82.4%	12	70.6%	3	17.6%
- Pediatric urology	26	19	73.1%	23	88.5%	25	96.2%	21	80.8%	12	46.2%	6	23.1%
Transitional year	188	179	95.2%	185	98.4%	181	96.3%	184	97.9%	164	87.2%	133	70.7%
Internal medicine/Pediatrics	77	72	93.5%	75	97.4%	77	100.0%	76	98.7%	75	97.4%	62	80.5%
Health care administration, leadership, and management	2	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

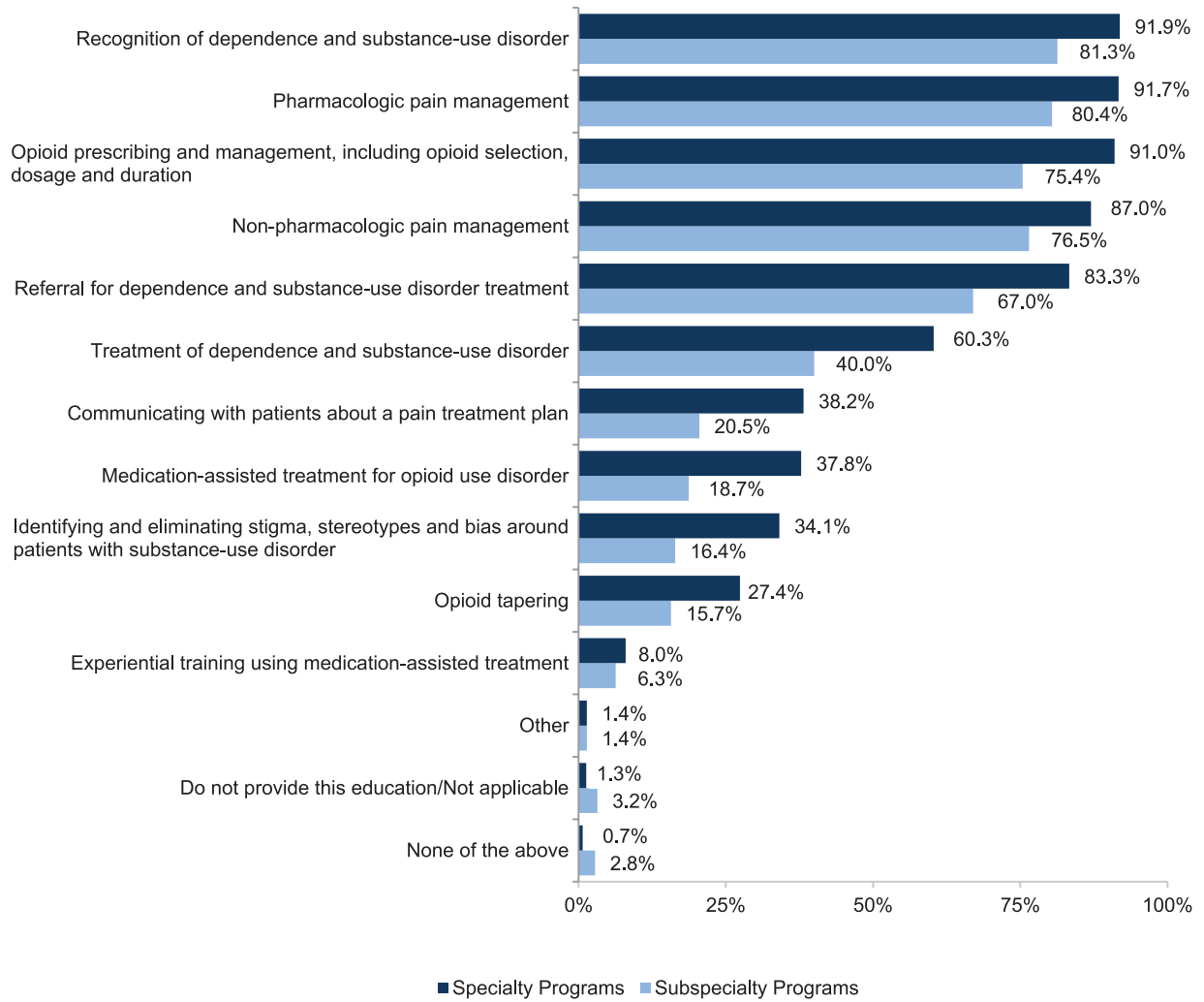
Notes: Not all accredited programs completed these data. Total number of specialty programs = 5,706. Total number of subspecialty programs = 7,360. Programs can select more than one education type.

TABLE H.1 Continued Extended

Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		Opioid tapering		Identifying and eliminating stigma, stereotypes and bias around patients with substance-use disorder		Communicating with patients about a pain treatment plan		None of the above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
5	10.4%	3	6.3%	0	0.0%	0	0.0%	5	10.4%	2	4.2%	2	4.2%	1	2.1%
4	7.0%	2	3.5%	1	1.8%	1	1.8%	5	8.8%	5	8.8%	5	8.8%	3	5.3%
1	2.7%	0	0.0%	0	0.0%	1	2.7%	2	5.4%	2	5.4%	12	32.4%	0	0.0%
3	17.6%	1	5.9%	0	0.0%	0	0.0%	2	11.8%	1	5.9%	7	41.2%	0	0.0%
1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	5.9%	1	5.9%	0	0.0%
5	7.4%	3	4.4%	0	0.0%	0	0.0%	19	27.9%	14	20.6%	22	32.4%	0	0.0%
41	40.6%	6	5.9%	4	4.0%	0	0.0%	56	55.4%	47	46.5%	68	67.3%	0	0.0%
4	14.8%	2	7.4%	1	3.7%	0	0.0%	4	14.8%	8	29.6%	10	37.0%	0	0.0%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
5	19.2%	1	3.8%	0	0.0%	0	0.0%	10	38.5%	5	19.2%	10	38.5%	0	0.0%
2	9.1%	0	0.0%	0	0.0%	0	0.0%	4	18.2%	3	13.6%	5	22.7%	0	0.0%
3	13.6%	0	0.0%	0	0.0%	0	0.0%	4	18.2%	2	9.1%	3	13.6%	0	0.0%
8	16.3%	1	2.0%	1	2.0%	0	0.0%	7	14.3%	8	16.3%	14	28.6%	0	0.0%
19	21.3%	8	9.0%	0	0.0%	0	0.0%	14	15.7%	12	13.5%	18	20.2%	0	0.0%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	11.1%	0	0.0%
1	5.3%	2	10.5%	0	0.0%	0	0.0%	1	5.3%	1	5.3%	5	26.3%	0	0.0%
22	51.2%	6	14.0%	1	2.3%	2	4.7%	6	14.0%	13	30.2%	9	20.9%	1	2.3%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%
3	13.0%	1	4.3%	0	0.0%	0	0.0%	4	17.4%	5	21.7%	5	21.7%	0	0.0%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
262	86.2%	81	26.6%	9	3.0%	0	0.0%	110	36.2%	153	50.3%	100	32.9%	0	0.0%
94	97.9%	39	40.6%	6	6.3%	0	0.0%	45	46.9%	52	54.2%	45	46.9%	0	0.0%
53	96.4%	30	54.5%	1	1.8%	0	0.0%	18	32.7%	19	34.5%	14	25.5%	0	0.0%
66	43.1%	18	11.8%	5	3.3%	0	0.0%	19	12.4%	61	39.9%	29	19.0%	0	0.0%
15	30.6%	5	10.2%	0	0.0%	1	2.0%	4	8.2%	12	24.5%	5	10.2%	1	2.0%
25	39.7%	7	11.1%	0	0.0%	0	0.0%	15	23.8%	19	30.2%	17	27.0%	0	0.0%
45	67.2%	18	26.9%	1	1.5%	0	0.0%	20	29.9%	25	37.3%	16	23.9%	0	0.0%
11	12.2%	3	3.3%	2	2.2%	0	0.0%	28	31.1%	14	15.6%	32	35.6%	0	0.0%
21	10.6%	5	2.5%	5	2.5%	14	7.0%	21	10.6%	25	12.6%	28	14.1%	7	3.5%
1	7.7%	0	0.0%	0	0.0%	1	7.7%	2	15.4%	1	7.7%	1	7.7%	0	0.0%
0	0.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%
2	9.5%	0	0.0%	0	0.0%	0	0.0%	2	9.5%	2	9.5%	2	9.5%	1	4.8%
10	11.0%	7	7.7%	3	3.3%	6	6.6%	4	4.4%	4	4.4%	5	5.5%	7	7.7%
3	15.8%	1	5.3%	0	0.0%	2	10.5%	3	15.8%	1	5.3%	1	5.3%	2	10.5%
2	4.3%	2	4.3%	0	0.0%	5	10.9%	1	2.2%	0	0.0%	1	2.2%	7	15.2%
8	8.5%	5	5.3%	2	2.1%	0	0.0%	6	6.4%	4	4.3%	11	11.7%	0	0.0%
11	11.6%	6	6.3%	1	1.1%	1	1.1%	10	10.5%	8	8.4%	18	18.9%	0	0.0%
72	19.8%	22	6.1%	2	0.6%	0	0.0%	91	25.1%	83	22.9%	123	33.9%	0	0.0%
6	17.6%	2	5.9%	0	0.0%	0	0.0%	7	20.6%	4	11.8%	9	26.5%	0	0.0%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
3	5.9%	1	2.0%	1	2.0%	0	0.0%	6	11.8%	3	5.9%	10	19.6%	0	0.0%
35	21.6%	14	8.6%	3	1.9%	0	0.0%	31	19.1%	21	13.0%	37	22.8%	0	0.0%
17	14.3%	7	5.9%	3	2.5%	0	0.0%	12	10.1%	15	12.6%	22	18.5%	0	0.0%
11	14.5%	6	7.9%	0	0.0%	0	0.0%	10	13.2%	10	13.2%	18	23.7%	0	0.0%
11	14.7%	2	2.7%	0	0.0%	0	0.0%	12	16.0%	11	14.7%	20	26.7%	1	1.3%
1	5.9%	1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	11.8%	0	0.0%
5	14.7%	2	5.9%	0	0.0%	0	0.0%	3	8.8%	4	11.8%	9	26.5%	0	0.0%
24	16.0%	11	7.3%	3	2.0%	0	0.0%	24	16.0%	33	22.0%	52	34.7%	0	0.0%
2	11.8%	0	0.0%	0	0.0%	0	0.0%	1	5.9%	2	11.8%	3	17.6%	0	0.0%
2	7.7%	0	0.0%	0	0.0%	0	0.0%	1	3.8%	2	7.7%	4	15.4%	0	0.0%
58	30.9%	13	6.9%	2	1.1%	0	0.0%	45	23.9%	57	30.3%	65	34.6%	1	0.5%
45	58.4%	6	7.8%	1	1.3%	0	0.0%	38	49.4%	42	54.5%	47	61.0%	0	0.0%
0	0.0%	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

**FIGURE H.2**

**Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Substance-Use Disorder by Type of Education**



Notes: Not all accredited programs completed these data. Total number of specialty programs = 5,706. Total number of subspecialty programs = 7,360. Programs can select more than one education type.

# Appendix A

## ACGME-Accredited Pipeline Specialties

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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 – head and neck surgery  
Pathology – anatomic and clinical  
Pediatrics  
Physical medicine and rehabilitation  
Plastic surgery  
Plastic surgery – integrated  
Public health and general preventive medicine  
Aerospace medicine  
Occupational and environmental medicine  
Psychiatry  
Radiation oncology  
Radiology-diagnostic  
Interventional radiology – independent  
Interventional radiology – integrated  
Surgery  
Vascular surgery – integrated  
Thoracic surgery – integrated  
Urology  
Internal medicine/Pediatrics

## Appendix B

### Specialties and Subspecialties by Specialty Group

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#### Hospital-based Specialties and Subspecialties

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Anesthesiology

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

Emergency medicine

- 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

Public health and general preventive medicine

Aerospace medicine

Occupational and environmental medicine

- Undersea and hyperbaric medicine

Radiation oncology

Radiology-diagnostic

- Abdominal radiology
- Neuroendovascular intervention
- Musculoskeletal radiology
- Neuroradiology
- Nuclear radiology
- Pediatric radiology

Interventional radiology – independent

Interventional radiology – integrated

Transitional year

#### Medical Specialties and Subspecialties

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Allergy and immunology

Dermatology

- Dermatopathology (multidisciplinary)
- Micrographic surgery and dermatologic oncology
- Pediatric dermatology

## 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 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

- Clinical neurophysiology
- Epilepsy
- Neurocritical care (multidisciplinary)
- Neuroendovascular intervention
- 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
- Sports medicine
- Pediatric transplant hepatology
- Pediatric hospital medicine

## Physical medicine and rehabilitation

- Brain injury medicine



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

Psychiatry

- Addiction medicine (multidisciplinary)
- Addiction psychiatry
- Child and adolescent psychiatry
- Forensic psychiatry
- Geriatric psychiatry
- Consultation-liaison psychiatry

Internal medicine/Pediatrics

Surgical Specialties and Subspecialties

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Colon and rectal surgery

Neurological surgery

- Neuroendovascular intervention

Obstetrics and gynecology

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

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 – head and neck surgery

- 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

Sponsor Institution-Based Fellowship

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# Appendix C

## Institution Type Groups

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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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**SUITE 2000**  
401 NORTH MICHIGAN AVENUE  
CHICAGO, ILLINOIS 60611

**TELEPHONE:** 312.755.5000

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