

ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION

# DATA RESOURCE BOOK

ACADEMIC YEAR 2021-2022



# Data Resource Book Academic Year 2021-2022

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 2020-2021 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 2021-2022 academic year, and not necessarily changes to ACGME definitions or data collection terms relative to revised requirements. Additional terms, and in some cases more comprehensive and current definitions of terms included here, are included in the ACGME Glossary of Terms, found on the ACGME website (<http://www.acgme.org/About-Us/Policies-and-Related-Materials>).*

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

**Core Faculty:** In specialty programs, core faculty 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 three categories based on patient care focus: surgical; medical; and hospital-based. See Appendix B.

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

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

**Withdrawal of Accreditation:** The conclusion, whether voluntary or administrative, of accreditation status and services. See the *ACGME Manual of Policies and Procedures* for more details and specification. 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, 2022 will be excluded from the count of accredited programs for Academic Year 2021-2022 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 2012-2013 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 12,740 total accredited programs, 11,066 (4,877 specialty programs and 6,189 subspecialty programs) had a status of Continued Accreditation, accounting for 86.9% of programs. Only 136 programs (1.1%) had a status of Continued Accreditation with Warning, and an even smaller number, 25 (0.2%), had a status of Probationary Accreditation. Remaining programs had a status of either Initial Accreditation (11.6%) or Withdrawal of Accreditation (0.3%). Among specialty programs, the specialties with the highest percentage of programs with a Continued Accreditation with Warning status are:

- Neurology (6.3%)
- Colon and rectal surgery (6.0%)
- Surgery (5.4%)
- Urology (4.7%)

Family medicine had four programs issued Probationary Accreditation. Specialties and subspecialties with two programs on probation include obstetrics and gynecology, orthopaedic surgery, neonatal-perinatal medicine, pediatric hematology/oncology, psychiatry, and surgery. Specialties with one program on probation include colon and rectal surgery, dermatology, emergency medicine, internal medicine, neurological surgery, plastic surgery, radiation oncology, radiology-diagnostic, and thoracic surgery.

## Trends in Accredited Programs

Since the 2017-2018 academic year, there has been a 13.6% 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:

- Family medicine (102)
- Interventional radiology – independent (93)
- Internal medicine (72)
- Surgery (52)
- Emergency medicine (48)

## Newly Accredited Programs

A total of 384 programs were newly accredited during the 2021-2022 academic year. Of the newly-accredited programs, 251 (65.4%) are in medical specialties and subspecialties, 50 (13.0%) are in hospital-based specialties and subspecialties, and 83 (21.6%) are in surgical specialties and subspecialties. The specialties with the highest number of newly accredited programs are:

- Internal medicine (18)
- Family medicine (17)
- Surgery (13)
- Psychiatry (9)

Pediatric dermatology, cardiovascular disease, surgical critical care, gastroenterology, and pediatric hospital medicine had the highest number of new programs among all subspecialties, with 17, 14, 12, 11, and 11 programs, respectively, accounting for 16.9% of all newly accredited programs added this year. There are five subspecialties newly accredited by the ACGME in the past five years. New programs in these five subspecialties account for 17.9% of all new subspecialty programs.

## Withdrawn Programs

Withdrawn programs are reported in three categories: those withdrawn prior to the end of the 2021-2022 academic year (which are not included in the population of accredited programs); those withdrawn at the end of the 2021-2022 academic year; and those with a future-effective withdrawal date. At the time of this report, family medicine, internal medicine, and osteopathic neuromusculoskeletal medicine had three, two, and two withdrawn programs, respectively; followed by anesthesiology, dermatology, neurological surgery, nuclear medicine, obstetrics and gynecology, radiology-diagnostic, interventional radiology – independent, and surgery —each with one withdrawn program during the academic year. The subspecialty of gastroenterology and reproductive endocrinology and infertility had two withdrawn programs during the academic year.

## Length of Accredited Education and Training

The majority of core 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.

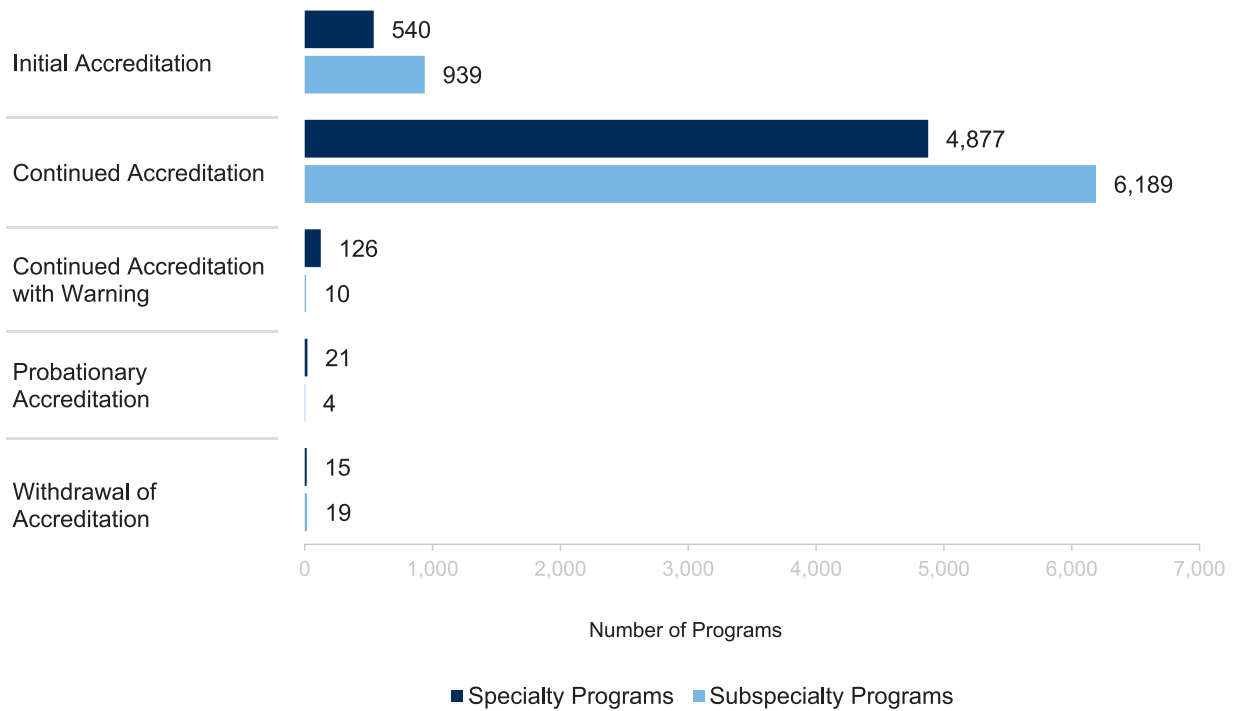
### **Osteopathic Recognition**

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The 2021-2022 academic year is the sixth year that the ACGME has recognized education and training in Osteopathic Principles and Practice in ACGME-accredited programs. Of the 258 programs with Osteopathic Recognition, 165 (64.0%) are family medicine programs and 27 (10.5%) are internal medicine programs. <sup>16</sup>

**FIGURE A.1**

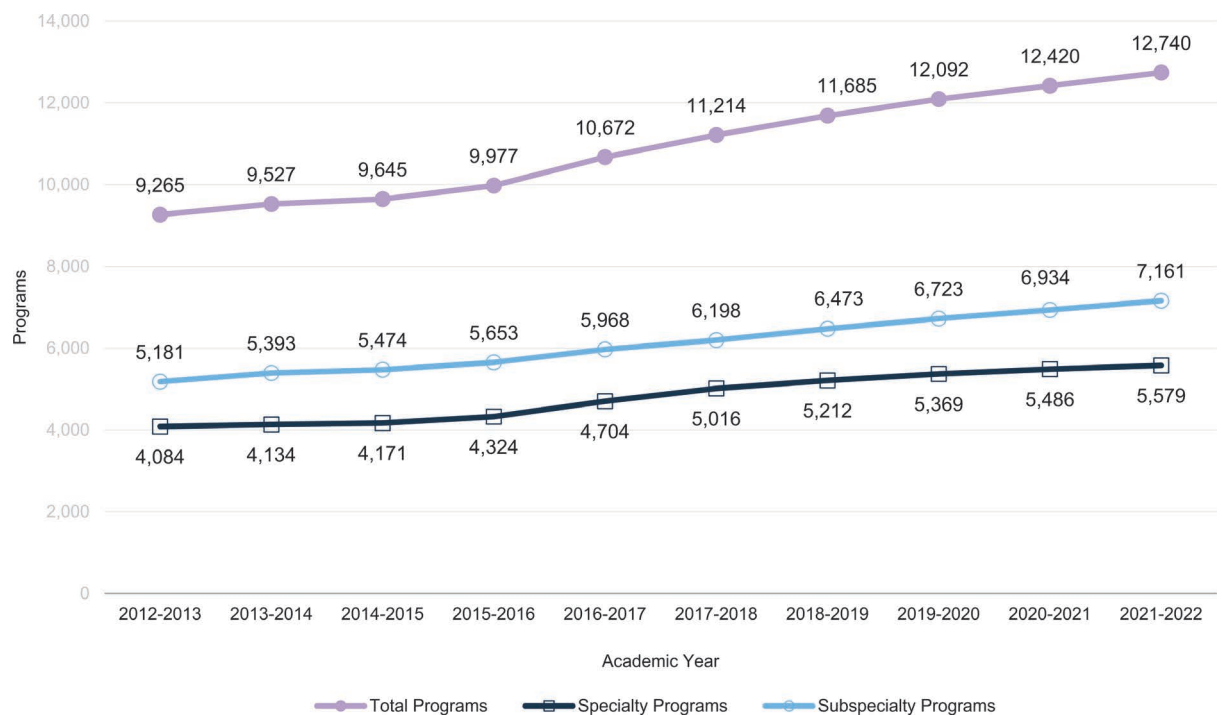
**Accreditation Statuses of Currently Accredited Programs**



Notes: Total number of accredited programs = 12,740. Excluding programs withdrawn prior to the end of the academic year (n=8).

**FIGURE A.2**

**Number of Accredited Programs by Academic Year, 2012-2013 to 2021-2022**



**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	12,740	1,479	11.6%	11,066	86.9%	136	1.1%	25	0.2%	34	0.3%
TOTAL PIPELINE	5,270	589	11.2%	4,526	85.9%	120	2.3%	19	0.4%	16	0.3%
Allergy and immunology	84	5	6.0%	79	94.0%	0	0.0%	0	0.0%	0	0.0%
Anesthesiology	166	14	8.4%	146	88.0%	5	3.0%	0	0.0%	1	0.6%
- Adult cardiothoracic anesthesiology	74	4	5.4%	70	94.6%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	64	4	6.3%	60	93.8%	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	40	10	25.0%	30	75.0%	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	5	12.2%	36	87.8%	0	0.0%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	114	8	7%	105	92.1%	0	0.0%	0	0.0%	1	0.9%
- Pediatric anesthesiology	61	2	3%	58	95.1%	1	1.6%	0	0.0%	0	0.0%
Colon and rectal surgery	67	6	9%	56	83.6%	4	6.0%	1	1.5%	0	0.0%
Dermatology	143	3	2%	134	93.7%	4	2.8%	1	0.7%	1	0.7%
- Dermatopathology (multidisciplinary)	57	6	10.5%	51	89.5%	0	0.0%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	10	13.0%	67	87.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric dermatology	17	17	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	279	42	15.1%	230	82.4%	6	2.2%	1	0.4%	0	0.0%
- Clinical informatics	5	1	20.0%	4	80.0%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	79	14	17.7%	64	81.0%	1	1.3%	0	0.0%	0	0.0%
- Medical toxicology	28	2	7.1%	26	92.9%	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	10	2	20.0%	8	80.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	1	12.5%	7	87.5%	0	0.0%	0	0.0%	0	0.0%
Family medicine	722	67	9.3%	642	88.9%	6	0.8%	4	0.6%	3	0.4%
- Clinical informatics	7	3	42.9%	4	57.1%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	46	6	13.0%	40	87.0%	0	0.0%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	187	41	21.9%	144	77.0%	1	0.5%	0	0.0%	1	0.5%
- Sports medicine	161	16	9.9%	145	90.1%	0	0.0%	0	0.0%	0	0.0%
Internal medicine	601	71	11.8%	517	86.0%	9	1.5%	1	0.2%	3	0.5%
- Adult congenital heart disease	26	7	26.9%	19	73.1%	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	86	12	14.0%	74	86.0%	0	0.0%	0	0.0%	0	0.0%
- Cardiovascular disease	268	27	10.1%	240	89.6%	0	0.0%	0	0.0%	1	0.4%
- Clinical cardiac electrophysiology	115	8	7.0%	107	93.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	23	9	39.1%	14	60.9%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	62	19	30.6%	43	69.4%	0	0.0%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	157	11	7.0%	145	92.4%	0	0.0%	0	0.0%	1	0.6%
- Gastroenterology	222	23	10.4%	197	88.7%	0	0.0%	0	0.0%	2	0.9%
- Geriatric medicine	117	12	10.3%	104	88.9%	0	0.0%	0	0.0%	1	0.9%
- Hematology	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	180	23	12.8%	156	86.7%	0	0.0%	0	0.0%	1	0.6%
- Infectious disease	163	16	9.8%	147	90.2%	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	177	15	8.5%	161	91.0%	0	0.0%	0	0.0%	1	0.6%
- Nephrology	151	5	3.3%	145	96.0%	0	0.0%	0	0.0%	1	0.7%
- Medical oncology	5	0	0.0%	5	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	4	18.2%	16	72.7%	0	0.0%	0	0.0%	2	9.1%
- Pulmonary disease and critical care medicine	196	22	11.2%	174	88.8%	0	0.0%	0	0.0%	0	0.0%
- Rheumatology	128	8	6.3%	120	93.8%	0	0.0%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	92	8	8.7%	84	91.3%	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	62	12	19.4%	50	80.6%	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	45	2	4.4%	43	95.6%	0	0.0%	0	0.0%	0	0.0%
- Medical biochemical genetics	20	3	15.0%	17	85.0%	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	3	7.1%	39	92.9%	0	0.0%	0	0.0%	0	0.0%
Neurological surgery	118	5	4.2%	108	91.5%	3	2.5%	1	0.8%	1	0.8%
- Endovascular surgical neuroradiology	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	175	18	10.3%	146	83.4%	11	6.3%	0	0.0%	0	0.0%
- Brain injury medicine	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	94	7	7.4%	87	92.6%	0	0.0%	0	0.0%	0	0.0%
- Epilepsy	93	18	19.4%	75	80.6%	0	0.0%	0	0.0%	0	0.0%
- Neurocritical care (multidisciplinary)	7	7	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	55	7	12.7%	48	87.3%	0	0.0%	0	0.0%	0	0.0%
- Vascular neurology	112	16	14.3%	96	85.7%	0	0.0%	0	0.0%	0	0.0%
Child neurology	79	5	6.3%	73	92.4%	1	1.3%	0	0.0%	0	0.0%
Nuclear medicine	37	0	0.0%	35	94.6%	1	2.7%	0	0.0%	1	2.7%
Obstetrics and gynecology	299	25	8.4%	261	87.3%	10	3.3%	2	0.7%	1	0.3%
- Female pelvic medicine and reconstructive surgery	55	5	9.1%	50	90.9%	0	0.0%	0	0.0%	0	0.0%
- Gynecologic oncology	67	9	13.4%	58	86.6%	0	0.0%	0	0.0%	0	0.0%
- Maternal-fetal medicine	101	7	6.9%	94	93.1%	0	0.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	2	4.1%	45	91.8%	0	0.0%	0	0.0%	2	4.1%
- Complex family planning	29	29	100%	0	0.0%	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	203	14	6.9%	179	88.2%	8	3.9%	2	1.0%	0	0.0%
- Adult reconstructive orthopaedics	24	1	4.2%	23	95.8%	0	0.0%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	2	25.0%	6	75.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	73	3	4.1%	69	94.5%	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	4	4.3%	89	95.7%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	15	1	6.7%	14	93.3%	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	24	2	8.3%	22	91.7%	0	0.0%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	28	15	53.6%	11	39.3%	0	0.0%	0	0.0%	2	7.1%
Otolaryngology - head and neck surgery	129	7	5.4%	121	93.8%	1	0.8%	0	0.0%	0	0.0%
- Neurotology	28	4	14.3%	24	85.7%	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	6	17.6%	28	82.4%	0	0.0%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	145	4	2.8%	137	94.5%	4	2.8%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	53	2	3.8%	51	96.2%	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	10	3	30.0%	7	70.0%	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	92	1	1.1%	91	98.9%	0	0.0%	0	0.0%	0	0.0%
- Forensic pathology	45	4	8.9%	39	86.7%	2	4.4%	0	0.0%	0	0.0%
- Hematopathology	86	0	0.0%	86	100.0%	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	39	4	10.3%	35	89.7%	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	116	29	25.0%	87	75.0%	0	0.0%	0	0.0%	0	0.0%
Pediatrics	212	4	1.9%	206	97.2%	2	0.9%	0	0.0%	0	0.0%
- Adolescent medicine	32	2	6.3%	30	93.8%	0	0.0%	0	0.0%	0	0.0%
- Child abuse pediatrics	31	0	0.0%	31	100.0%	0	0.0%	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	9	8.2%	99	90.0%	0	0.0%	2	1.8%	0	0.0%
- Pediatric cardiology	64	3	4.7%	61	95.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric critical care medicine	77	6	7.8%	71	92.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	56	3	5.4%	52	92.9%	1	1.8%	0	0.0%	0	0.0%
- Pediatric endocrinology	72	0	0.0%	72	100.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric gastroenterology	67	3	4.5%	64	95.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	77	4	5.2%	71	92.2%	0	0.0%	2	2.6%	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	47	1	2.1%	46	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	38	3	7.9%	35	92.1%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	17	2	11.8%	15	88.2%	0	0.0%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	17	3	17.6%	14	82.4%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	65	65	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	100	9	9.0%	90	90.0%	1	1.0%	0	0.0%	0	0.0%
- Brain injury medicine	25	4	16.0%	21	84.0%	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	24	3	12.5%	21	87.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	22	2	9.1%	20	90.9%	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	22	2	9.1%	20	90.9%	0	0.0%	0	0.0%	0	0.0%
Plastic surgery	50	1	2.0%	46	92.0%	2	4.0%	1	2.0%	0	0.0%
Plastic surgery - integrated	88	9	10.2%	76	86.4%	3	3.4%	0	0.0%	0	0.0%
- Craniofacial surgery	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	18	2	11.1%	16	88.9%	0	0.0%	0	0.0%	0	0.0%
Preventive medicine	72	3	4.2%	69	95.8%	0	0.0%	0	0.0%	0	0.0%
- Medical toxicology	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	294	35	11.9%	250	85.0%	7	2.4%	2	0.7%	0	0.0%
- Addiction medicine (multidisciplinary)	91	37	40.7%	53	58.2%	0	0.0%	0	0.0%	1	1.1%
- Addiction psychiatry	55	7	12.7%	48	87.3%	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	152	14	9.2%	138	90.8%	0	0.0%	0	0.0%	0	0.0%
- Forensic psychiatry	49	4	8.2%	44	89.8%	0	0.0%	0	0.0%	1	2.0%
- Geriatric psychiatry	64	5	7.8%	58	90.6%	0	0.0%	0	0.0%	1	1.6%
- Consultation-liaison psychiatry	66	6	9.1%	60	90.9%	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	90	1	1.1%	84	93.3%	4	4.4%	1	1.1%	0	0.0%
Radiology-diagnostic	197	6	3.0%	185	93.9%	4	2.0%	1	0.5%	1	0.5%
- Abdominal radiology	13	1	7.7%	12	92.3%	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	20	3	15.0%	16	80.0%	0	0.0%	0	0.0%	1	5.0%
- Neuroradiology	91	7	7.7%	83	91.2%	1	1.1%	0	0.0%	0	0.0%
- Nuclear radiology	18	2	11.1%	16	88.9%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	47	2	4.3%	45	95.7%	0	0.0%	0	0.0%	0	0.0%
Interventional radiology - independent	95	93	97.9%	1	1.1%	0	0.0%	0	0.0%	1	1.1%
Interventional radiology - integrated	92	64	69.6%	28	30.4%	0	0.0%	0	0.0%	0	0.0%
Surgery	353	41	11.6%	290	82.2%	19	5.4%	2	0.6%	1	0.3%
- Complex general surgical oncology	33	5	15.2%	28	84.8%	0	0.0%	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%	49	96.1%	0	0.0%	0	0.0%	0	0.0%
- Surgical critical care	156	25	16.0%	130	83.3%	1	0.6%	0	0.0%	0	0.0%
- Vascular surgery	118	11	9.3%	106	89.8%	1	0.8%	0	0.0%	0	0.0%
Vascular surgery - integrated	73	14	19.2%	59	80.8%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	75	3	4.0%	71	94.7%	0	0.0%	1	1.3%	0	0.0%
- Congenital cardiac surgery	16	4	25.0%	12	75.0%	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	7	20.6%	27	79.4%	0	0.0%	0	0.0%	0	0.0%
Urology	148	5	3.4%	136	91.9%	7	4.7%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	16	4	25.0%	12	75.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric urology	26	0	0.0%	26	100.0%	0	0.0%	0	0.0%	0	0.0%
Transitional year	178	30	16.9%	146	82.0%	2	1.1%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	78	0	0.0%	77	98.7%	1	1.3%	0	0.0%	0	0.0%

Notes: Pipeline specialties are highlighted. Program counts exclude programs withdrawn prior to the end of the academic year (n=8).

TABLE A.4

## Number of Programs by Specialty and Subspecialty and Academic Year, 2017-2018 to 2021-2022

Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022		
	#	#	#	#	#	#	%
OVERALL	11,214	11,685	12,092	12,420	12,740	1,526	13.6%
TOTAL PIPELINE	4,668	4,842	4,985	5,187	5,270	602	12.9%
Allergy and immunology	79	78	81	82	84	5	6.3%
Anesthesiology	153	155	160	161	166	13	8.5%
- Adult cardiothoracic anesthesiology	66	69	71	73	74	8	12.1%
- Clinical informatics	1	1	1	1	1	0	0.0%
- Critical care medicine	62	64	63	64	64	2	3.2%
- Regional anesthesiology and acute pain medicine	18	29	35	38	40	22	122.2%
- Obstetric anesthesiology	34	37	41	41	41	7	20.6%
- Pain medicine (multidisciplinary)	102	104	108	111	114	12	11.8%
- Pediatric anesthesiology	60	61	60	60	61	1	1.7%
Colon and rectal surgery	62	63	65	66	67	5	8.1%
Dermatology	138	142	144	144	143	5	3.6%
- Dermatopathology (multidisciplinary)	56	55	56	58	57	1	1.8%
- Micrographic surgery and dermatologic oncology	77	77	78	78	77	0	0.0%
- Pediatric dermatology*					17	N/A	N/A
Emergency medicine	231	247	265	276	279	48	20.8%
- Clinical informatics	4	4	5	5	5	1	25.0%
- Emergency medical services	61	65	71	75	79	18	29.5%
- Medical toxicology	27	27	26	27	28	1	3.7%
- Pediatric emergency medicine	26	26	26	27	29	3	11.5%
- Sports medicine	8	9	8	9	10	2	25.0%
- Undersea and hyperbaric medicine	7	7	8	8	8	1	14.3%
Family medicine	620	671	701	710	722	102	16.5%
- Clinical informatics	2	3	6	6	7	5	250.0%
- Geriatric medicine	45	48	50	49	46	1	2.2%
- Hospice and palliative medicine (multidisciplinary)	140	149	167	180	187	47	33.6%
- Sports medicine	135	143	151	156	161	26	19.3%
Internal medicine	529	545	569	586	601	72	13.6%
- Adult congenital heart disease	14	21	24	24	26	12	85.7%
- Advanced heart failure and transplant cardiology	75	76	80	82	86	11	14.7%
- Cardiovascular disease	235	245	250	255	268	33	14.0%
- Clinical cardiac electrophysiology	108	110	110	112	115	7	6.5%
- Clinical informatics	13	16	17	19	23	10	76.9%
- Critical care medicine	36	43	45	55	62	26	72.2%
- Endocrinology, diabetes, and metabolism	142	149	151	153	157	15	10.6%
- Gastroenterology	189	202	207	211	222	33	17.5%
- Geriatric medicine	107	108	111	114	117	10	9.3%
- Hematology	2	2	2	2	2	0	0.0%
- Hematology and medical oncology	149	157	167	172	180	31	20.8%
- Infectious disease	148	149	154	158	163	15	10.1%
- Interventional cardiology	155	164	166	170	177	22	14.2%
- Nephrology	150	149	151	152	151	1	0.7%
- Medical oncology	7	8	7	6	5	-2	-28.6%
- Pulmonary disease	22	23	22	20	22	0	0.0%
- Pulmonary disease and critical care medicine	170	178	181	188	196	26	15.3%
- Rheumatology	120	122	125	125	128	8	6.7%
- Sleep medicine (multidisciplinary)	84	86	88	89	92	8	9.5%
- Transplant hepatology	51	52	57	59	62	11	21.6%
Medical genetics and genomics	46	46	47	46	45	-1	-2.2%
- Medical biochemical genetics	17	19	19	20	20	3	17.6%
- Molecular genetic pathology (multidisciplinary)	41	42	42	42	42	1	2.4%
Neurological surgery	112	115	118	116	118	6	5.4%
- Endovascular surgical neuroradiology	2	2	2	2	3	1	50.0%

**TABLE A.4 Continued**  
**Number of Programs by Specialty and Subspecialty and Academic Year, 2017-2018 to 2021-2022**

Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	#	%
	#	#	#	#	#	#	%
Neurology	153	159	160	170	175	22	14.4%
- Brain injury medicine	1	1	1	1	1	0	0.0%
- Clinical neurophysiology	91	91	92	93	94	3	3.3%
- Epilepsy	71	77	81	85	93	22	31.0%
- Neurocritical care (multidisciplinary) *					7	N/A	N/A
- Endovascular surgical neuroradiology	1	2	2	2	2	1	100.0%
- Neurodevelopmental disabilities	8	8	8	8	8	0	0.0%
- Neuromuscular medicine	49	49	52	53	55	6	12.2%
- Vascular neurology	92	99	106	109	112	20	21.7%
Child neurology	74	74	76	77	79	5	6.8%
Nuclear medicine	41	39	38	37	37	-4	-9.8%
Obstetrics and gynecology	278	282	285	294	299	21	7.6%
- Female pelvic medicine and reconstructive surgery	51	53	54	54	55	4	7.8%
- Gynecologic oncology	56	59	63	63	67	11	19.6%
- Maternal-fetal medicine	88	93	97	100	101	13	14.8%
- Reproductive endocrinology and infertility	50	50	51	49	49	-1	-2.0%
- Complex family planning *				26	29	3	11.5%
Ophthalmology	119	123	124	125	125	6	5.0%
- Ophthalmic plastic and reconstructive surgery	4	4	4	4	4	0	0.0%
Orthopaedic surgery	175	185	197	201	203	28	16.0%
- Adult reconstructive orthopaedics	24	24	24	25	24	0	0.0%
- Foot and ankle orthopaedics	6	7	7	7	8	2	33.3%
- Hand surgery	68	72	74	73	73	5	7.4%
- Musculoskeletal oncology	12	12	12	12	12	0	0.0%
- Orthopaedic sports medicine	96	92	90	93	93	-3	-3.1%
- Orthopaedic surgery of the spine	17	17	18	16	15	-2	-11.8%
- Orthopaedic trauma	11	11	11	12	12	1	9.1%
- Pediatric orthopaedics	25	26	25	25	24	-1	-4.0%
Osteopathic neuromusculoskeletal medicine	13	19	27	28	28	15	115.4%
Otolaryngology - Head and Neck Surgery	117	122	124	125	129	12	10.3%
- Neurotology	23	24	24	26	28	5	21.7%
- Pediatric otolaryngology	25	29	30	31	34	9	36.0%
Pathology-anatomic and clinical	143	143	142	144	145	2	1.4%
- Blood banking/transfusion medicine	50	51	51	52	53	3	6.0%
- Clinical informatics	7	8	10	11	10	3	42.9%
- Chemical pathology	4	4	4	4	4	0	0.0%
- Cytopathology	94	94	93	93	92	-2	-2.1%
- Forensic pathology	39	43	45	45	45	6	15.4%
- Hematopathology	85	87	86	86	86	1	1.2%
- Medical microbiology	15	15	15	15	16	1	6.7%
- Neuropathology	34	36	37	38	39	5	14.7%
- Pediatric pathology	27	27	28	28	27	0	0.0%
- Selective pathology	83	91	101	109	116	33	39.8%
Pediatrics	210	212	211	210	212	2	1.0%
- Adolescent medicine	29	30	32	32	32	3	10.3%
- Child abuse pediatrics	32	31	31	31	31	-1	-3.1%
- Clinical informatics	5	5	7	8	9	4	80.0%
- Developmental-behavioral pediatrics	41	43	43	44	44	3	7.3%
- Neonatal-perinatal medicine	100	102	103	107	110	10	10.0%
- Pediatric cardiology	60	62	63	64	64	4	6.7%
- Pediatric critical care medicine	67	72	72	75	77	10	14.9%
- Pediatric emergency medicine	52	52	53	55	56	4	7.7%
- Pediatric endocrinology	72	73	72	72	72	0	0.0%
- Pediatric gastroenterology	64	65	65	67	67	3	4.7%
- Pediatric hematology/oncology	74	74	75	76	77	3	4.1%
- Pediatric infectious diseases	65	65	64	64	64	-1	-1.5%

TABLE A.4 Continued

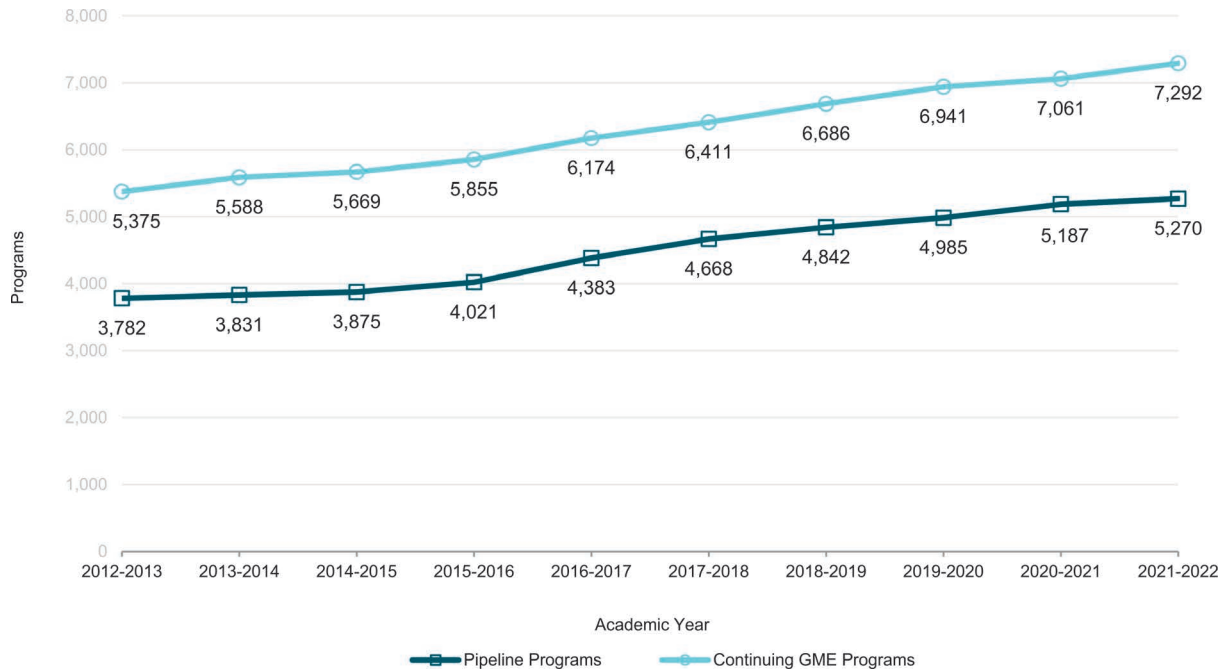
## Number of Programs by Specialty and Subspecialty and Academic Year, 2017-2018 to 2021-2022

Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022		
	#	#	#	#	#	#	%
- Pediatric nephrology	45	46	47	47	47	2	4.4%
- Pediatric pulmonology	54	54	56	56	57	3	5.6%
- Pediatric rheumatology	37	35	36	37	38	1	2.7%
- Sports medicine	17	17	17	17	17	0	0.0%
- Pediatric transplant hepatology	14	15	16	17	17	3	21.4%
- Pediatric hospital medicine *			33	54	65	32	97.0%
Physical medicine and rehabilitation	88	91	94	98	100	12	13.6%
- Brain injury medicine	18	20	23	25	25	7	38.9%
- Neuromuscular medicine	1	1	1	1	1	0	0.0%
- Spinal cord injury medicine	22	24	24	24	24	2	9.1%
- Pediatric rehabilitation medicine	20	20	22	22	22	2	10.0%
- Sports medicine	19	19	20	21	22	3	15.8%
Plastic surgery	61	55	53	52	50	-11	-18.0%
Plastic Surgery - Integrated	79	81	82	86	88	9	11.4%
- Craniofacial surgery	8	8	8	8	8	0	0.0%
- Hand surgery	16	17	17	17	18	2	12.5%
Preventive medicine	76	75	72	72	72	-4	-5.3%
- Medical toxicology	1	1	1	1	1	0	0.0%
- Undersea and hyperbaric medicine	1	1	1	1	1	0	0.0%
Psychiatry	248	257	269	287	294	46	18.5%
- Addiction medicine (multidisciplinary) *		52	78	85	91	39	75.0%
- Addiction psychiatry	49	50	53	53	55	6	12.2%
- Child and adolescent psychiatry	138	140	141	146	152	14	10.1%
- Forensic psychiatry	47	48	48	49	49	2	4.3%
- Geriatric psychiatry	60	61	62	64	64	4	6.7%
- Consultation-liaison psychiatry	61	62	63	64	66	5	8.2%
Radiation oncology	94	94	91	91	90	-4	-4.3%
Radiology-diagnostic	194	195	197	196	197	3	1.5%
- Abdominal radiology	12	13	14	13	13	1	8.3%
- Endovascular surgical neuroradiology	3	3	3	3	3	0	0.0%
- Musculoskeletal radiology	16	16	20	20	20	4	25.0%
- Neuroradiology	85	87	87	89	91	6	7.1%
- Nuclear radiology	17	17	17	18	18	1	5.9%
- Pediatric radiology	46	47	47	48	47	1	2.2%
- Vascular and interventional radiology	93	93	92			N/A	N/A
Interventional radiology - independent *			2	95	95	93	4650.0%
Interventional radiology - integrated	78	84	89	92	92	14	17.9%
Surgery	301	323	330	344	353	52	17.3%
- Complex general surgical oncology	25	27	29	31	33	8	32.0%
- Hand surgery	1	1	1	2	2	1	100.0%
- Pediatric surgery	50	50	49	51	51	1	2.0%
- Surgical critical care	128	136	139	145	156	28	21.9%
- Vascular surgery	106	109	116	115	118	12	11.3%
Vascular surgery - integrated	55	60	64	67	73	18	32.7%
Thoracic surgery	72	72	74	74	75	3	4.2%
- Congenital cardiac surgery	13	12	14	15	16	3	23.1%
Thoracic surgery - integrated	26	27	30	33	34	8	30.8%
Urology	138	142	145	145	148	10	7.2%
- Female pelvic medicine and reconstructive surgery	13	14	15	15	16	3	23.1%
- Pediatric urology	26	26	26	26	26	0	0.0%
Transitional year	135	157	166	172	178	43	31.9%
Internal medicine/Pediatrics	78	79	79	79	78	0	0.0%

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

**FIGURE A.5**

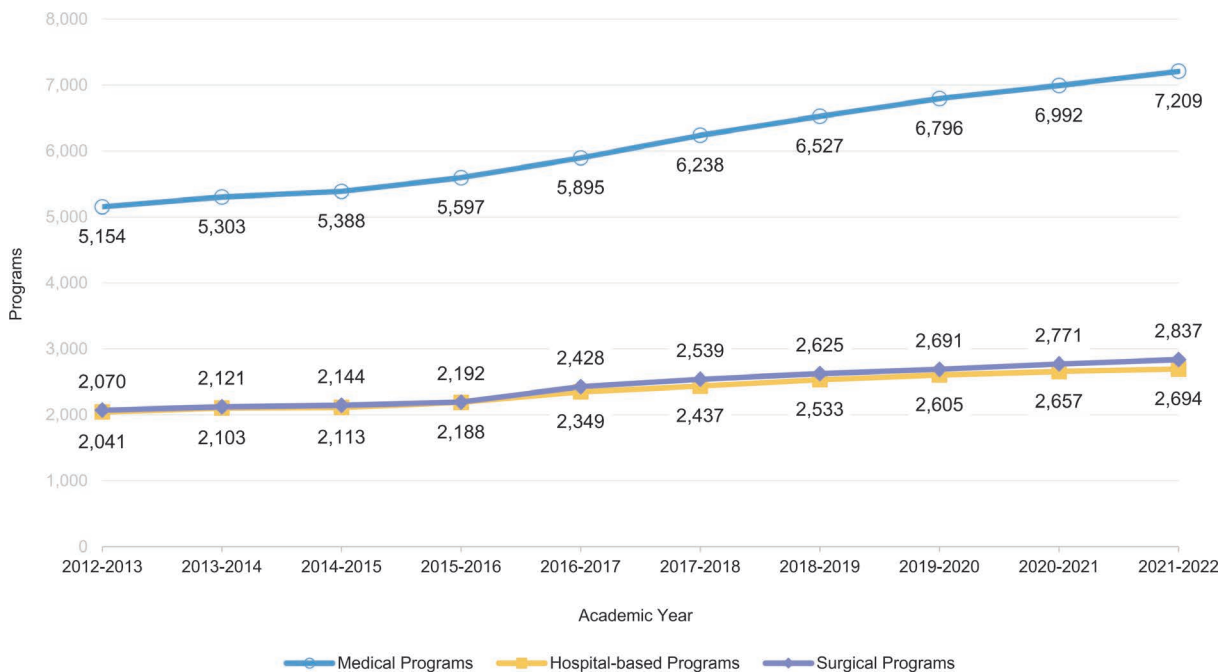
**Number of Pipeline and Continuing GME Programs by Academic Year, 2012-2013 to 2021-2022**



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

**FIGURE A.6**

**Number of Programs by Specialty Group and Academic Year, 2012-2013 to 2021-2022**



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

FIGURE A.7

Number of Newly Accredited Programs by Specialty Group

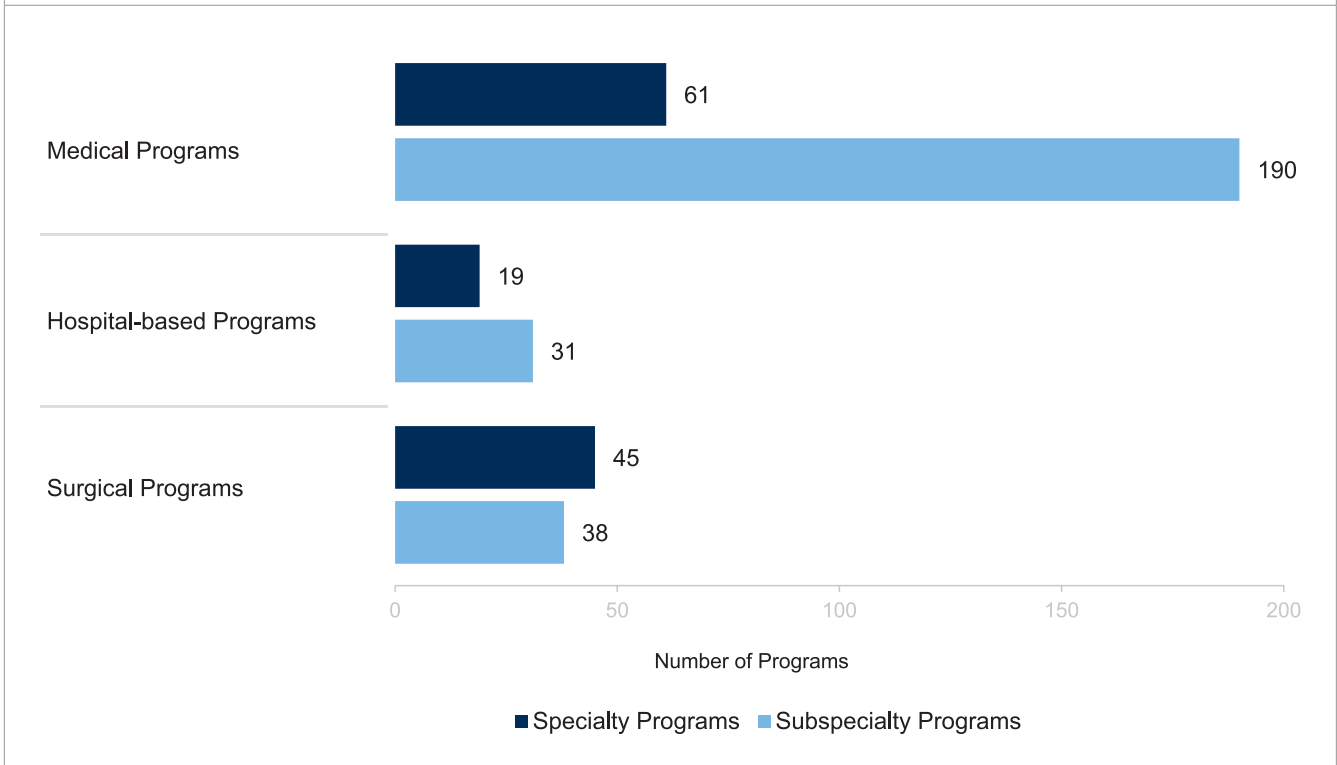
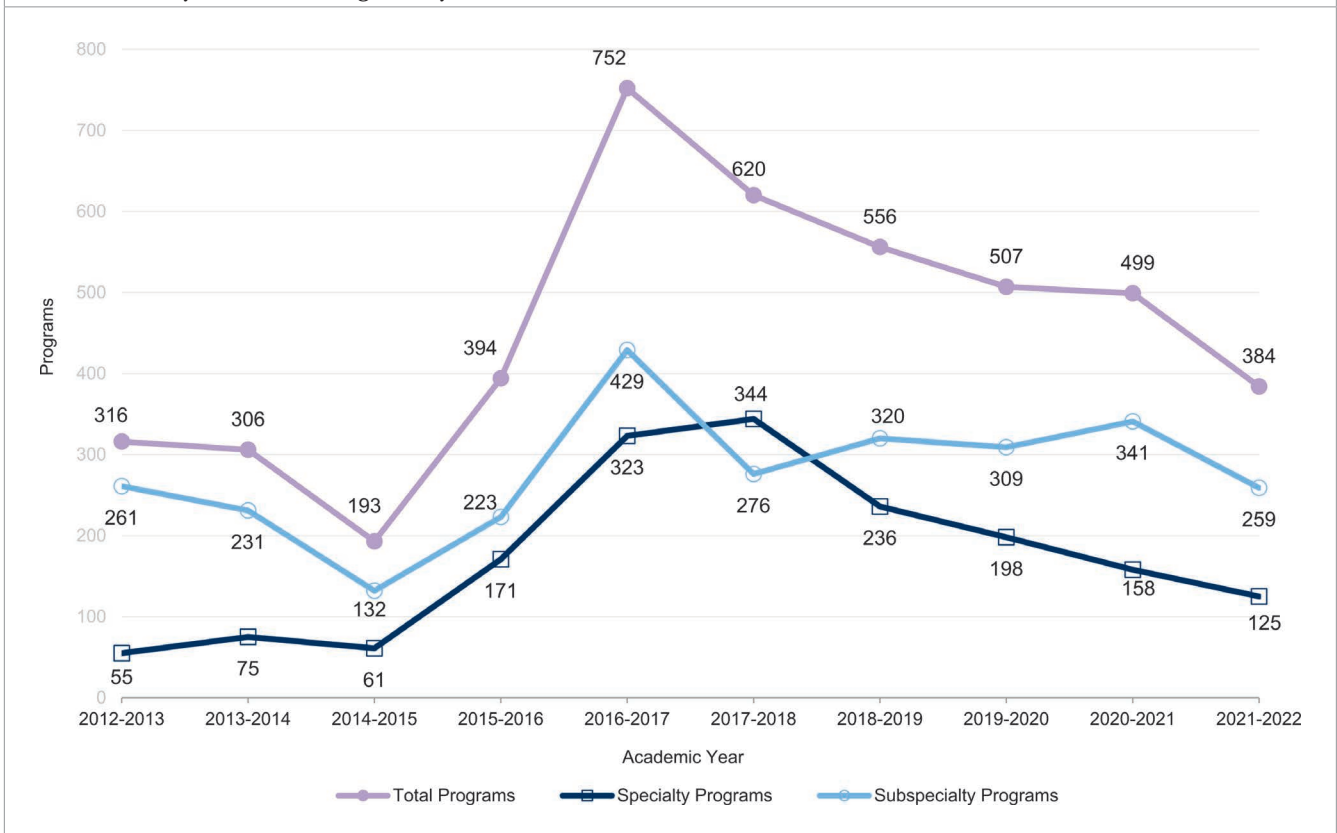


FIGURE A.8

Number of Newly Accredited Programs by Academic Year, 2012-2013 to 2020-2021



<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	12,740	384	3.0%	100.0%
TOTAL PIPELINE	5,270	112	2.1%	29.2%
Allergy and immunology	84	2	2.4%	0.5%
Anesthesiology	166	5	3.0%	1.3%
- Adult cardiothoracic anesthesiology	74	1	1.4%	0.3%
- Clinical informatics	1	0	0.0%	0.0%
- Critical care medicine	64	2	3.1%	0.5%
- Regional anesthesiology and acute pain medicine	40	2	5.0%	0.5%
- Obstetric anesthesiology	41	0	0.0%	0.0%
- Pain medicine (multidisciplinary)	114	3	2.6%	0.8%
- Pediatric anesthesiology	61	1	1.6%	0.3%
Colon and rectal surgery	67	2	3.0%	0.5%
Dermatology	143	1	0.7%	0.3%
- Dermatopathology (multidisciplinary)	57	0	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	77	2	2.6%	0.5%
- Pediatric dermatology *	17	17	100.0%	4.4%
Emergency medicine	279	4	1.4%	1.0%
- Clinical informatics	5	0	0.0%	0.0%
- Emergency medical services	79	4	5.1%	1.0%
- Medical toxicology	28	1	3.6%	0.3%
- Pediatric emergency medicine	29	2	6.9%	0.5%
- Sports medicine	10	1	10.0%	0.3%
- Undersea and hyperbaric medicine	8	0	0.0%	0.0%
Family medicine	722	17	2.4%	4.4%
- Clinical informatics	7	1	14.3%	0.3%
- Geriatric medicine	46	0	0.0%	0.0%
- Hospice and palliative medicine (multidisciplinary)	187	8	4.3%	2.1%
- Sports medicine	161	6	3.7%	1.6%
Internal medicine	601	18	3.0%	4.7%
- Adult congenital heart disease	26	2	7.7%	0.5%
- Advanced heart failure and transplant cardiology	86	4	4.7%	1.0%
- Cardiovascular disease	268	14	5.2%	3.6%
- Clinical cardiac electrophysiology	115	5	4.3%	1.3%
- Clinical informatics	23	3	13.0%	0.8%
- Critical care medicine	62	7	11.3%	1.8%
- Endocrinology, diabetes, and metabolism	157	4	2.5%	1.0%
- Gastroenterology	222	11	5.0%	2.9%
- Geriatric medicine	117	5	4.3%	1.3%
- Hematology	2	0	0.0%	0.0%
- Hematology and medical oncology	180	8	4.4%	2.1%
- Infectious disease	163	5	3.1%	1.3%
- Interventional cardiology	177	7	4.0%	1.8%
- Nephrology	151	1	0.7%	0.3%
- Medical oncology	5	0	0.0%	0.0%
- Pulmonary disease	22	3	13.6%	0.8%
- Pulmonary disease and critical care medicine	196	8	4.1%	2.1%
- Rheumatology	128	3	2.3%	0.8%
- Sleep medicine (multidisciplinary)	92	3	3.3%	0.8%
- Transplant hepatology	62	3	4.8%	0.8%
Medical genetics and genomics	45	0	0.0%	0.0%
- Medical biochemical genetics	20	0	0.0%	0.0%
- Molecular genetic pathology (multidisciplinary)	42	0	0.0%	0.0%
Neurological surgery	118	2	1.7%	0.5%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%

TABLE A.9 *Continued*

<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>
Neurology	175	6	3.4%	1.6%
- Brain injury medicine	1	0	0.0%	0.0%
- Clinical neurophysiology	94	1	1.1%	0.3%
- Epilepsy	93	8	8.6%	2.1%
- Neurocritical care (multidisciplinary) *	7	7	100.0%	1.8%
- Endovascular surgical neuroradiology	2	0	0.0%	0.0%
- Neurodevelopmental disabilities	8	0	0.0%	0.0%
- Neuromuscular medicine	55	2	3.6%	0.5%
- Vascular neurology	112	3	2.7%	0.8%
Child neurology	79	2	2.5%	0.5%
Nuclear medicine	37	0	0.0%	0.0%
Obstetrics and gynecology	299	6	2.0%	1.6%
- Female pelvic medicine and reconstructive surgery	55	2	3.6%	0.5%
- Gynecologic oncology	67	4	6.0%	1.0%
- Maternal-fetal medicine	101	1	1.0%	0.3%
- Reproductive endocrinology and infertility	49	1	2.0%	0.3%
- Complex family planning *	29	3	10.3%	0.8%
Ophthalmology	125	1	0.8%	0.3%
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0.0%
Orthopaedic surgery	203	2	1.0%	0.5%
- Adult reconstructive orthopaedics	24	0	0.0%	0.0%
- Foot and ankle orthopaedics	8	1	12.5%	0.3%
- Hand surgery	73	0	0.0%	0.0%
- Musculoskeletal oncology	12	0	0.0%	0.0%
- Orthopaedic sports medicine	93	1	1.1%	0.3%
- Orthopaedic surgery of the spine	15	0	0.0%	0.0%
- Orthopaedic trauma	12	0	0.0%	0.0%
- Pediatric orthopaedics	24	0	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine	28	1	3.6%	0.3%
Otolaryngology - Head and Neck Surgery	129	4	3.1%	1.0%
- Neurotology	28	2	7.1%	0.5%
- Pediatric otolaryngology	34	3	8.8%	0.8%
Pathology-anatomic and clinical	145	1	0.7%	0.3%
- Blood banking/transfusion medicine	53	1	1.9%	0.3%
- Clinical informatics	10	0	0.0%	0.0%
- Chemical pathology	4	0	0.0%	0.0%
- Cytopathology	92	0	0.0%	0.0%
- Forensic pathology	45	1	2.2%	0.3%
- Hematopathology	86	0	0.0%	0.0%
- Medical microbiology	16	1	6.3%	0.3%
- Neuropathology	39	1	2.6%	0.3%
- Pediatric pathology	27	0	0.0%	0.0%
- Selective pathology	116	7	6.0%	1.8%
Pediatrics	212	3	1.4%	0.8%
- Adolescent medicine	32	0	0.0%	0.0%
- Child abuse pediatrics	31	0	0.0%	0.0%
- Clinical informatics	9	1	11.1%	0.3%
- Developmental-behavioral pediatrics	44	0	0.0%	0.0%
- Neonatal-perinatal medicine	110	3	2.7%	0.8%
- Pediatric cardiology	64	0	0.0%	0.0%
- Pediatric critical care medicine	77	2	2.6%	0.5%
- Pediatric emergency medicine	56	1	1.8%	0.3%
- Pediatric endocrinology	72	0	0.0%	0.0%
- Pediatric gastroenterology	67	0	0.0%	0.0%
- Pediatric hematology/oncology	77	1	1.3%	0.3%
- Pediatric infectious diseases	64	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
- Pediatric nephrology	47	0	0.0%	0.0%
- Pediatric pulmonology	57	1	1.8%	0.3%
- Pediatric rheumatology	38	1	2.6%	0.3%
- Sports medicine	17	0	0.0%	0.0%
- Pediatric transplant hepatology	17	0	0.0%	0.0%
- Pediatric hospital medicine *	65	11	16.9%	2.9%
Physical medicine and rehabilitation	100	2	2.0%	0.5%
- Brain injury medicine	25	0	0.0%	0.0%
- Neuromuscular medicine	1	0	0.0%	0.0%
- Spinal cord injury medicine	24	0	0.0%	0.0%
- Pediatric rehabilitation medicine	22	0	0.0%	0.0%
- Sports medicine	22	0	0.0%	0.0%
Plastic surgery	50	0	0.0%	0.0%
Plastic Surgery - Integrated	88	4	4.5%	1.0%
- Craniofacial surgery	8	0	0.0%	0.0%
- Hand surgery	18	1	5.6%	0.3%
Preventive medicine	72	0	0.0%	0.0%
- Medical toxicology	1	0	0.0%	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0.0%
Psychiatry	294	9	3.1%	2.3%
- Addiction medicine (multidisciplinary) *	91	7	7.7%	1.8%
- Addiction psychiatry	55	2	3.6%	0.5%
- Child and adolescent psychiatry	152	6	3.9%	1.6%
- Forensic psychiatry	49	1	2.0%	0.3%
- Geriatric psychiatry	64	0	0.0%	0.0%
- Consultation-liaison psychiatry	66	2	3.0%	0.5%
Radiation oncology	90	0	0.0%	0.0%
Radiology-diagnostic	197	1	0.5%	0.3%
- Abdominal radiology	13	0	0.0%	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%
- Musculoskeletal radiology	20	0	0.0%	0.0%
- Neuroradiology	91	2	2.2%	0.5%
- Nuclear radiology	18	1	5.6%	0.3%
- Pediatric radiology	47	0	0.0%	0.0%
Interventional radiology - independent *	95	0	0.0%	0.0%
Interventional radiology - integrated	92	0	0.0%	0.0%
Surgery	353	13	3.7%	3.4%
- Complex general surgical oncology	33	2	6.1%	0.5%
- Hand surgery	2	0	0.0%	0.0%
- Pediatric surgery	51	0	0.0%	0.0%
- Surgical critical care	156	12	7.7%	3.1%
- Vascular surgery	118	3	2.5%	0.8%
Vascular surgery - integrated	73	6	8.2%	1.6%
Thoracic surgery	75	1	1.3%	0.3%
- Congenital cardiac surgery	16	1	6.3%	0.3%
Thoracic surgery - integrated	34	1	2.9%	0.3%
Urology	148	3	2.0%	0.8%
- Female pelvic medicine and reconstructive surgery	16	1	6.3%	0.3%
- Pediatric urology	26	0	0.0%	0.0%
Transitional year	178	8	4.5%	2.1%
Internal medicine/Pediatrics	78	0	0.0%	0.0%

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

TABLE A.10

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

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
OVERALL	12,740	8	0.1%	31	0.2%	3	0.0%
TOTAL PIPELINE	5,270	3	0.1%	15	0.3%	1	0.0%
Allergy and immunology	84	0	0.0%	0	0.0%	0	0.0%
Anesthesiology	166	0	0.0%	1	0.6%	0	0.0%
- Adult cardiothoracic anesthesiology	74	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	1	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	64	0	0.0%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	40	0	0.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	0	0.0%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	114	0	0.0%	0	0.0%	1	0.9%
- Pediatric anesthesiology	61	0	0.0%	0	0.0%	0	0.0%
Colon and rectal surgery	67	0	0.0%	0	0.0%	0	0.0%
Dermatology	143	0	0.0%	1	0.7%	0	0.0%
- Dermatopathology (multidisciplinary)	57	1	1.8%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	0	0.0%	0	0.0%	0	0.0%
- Pediatric Dermatology	17	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	279	1	0.4%	0	0.0%	0	0.0%
- Clinical informatics	5	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	79	0	0.0%	0	0.0%	0	0.0%
- Medical toxicology	28	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	29	0	0.0%	0	0.0%	0	0.0%
- Sports medicine	10	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	722	2	0.3%	3	0.4%	0	0.0%
- Clinical informatics	7	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	46	0	0.0%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	187	0	0.0%	1	0.5%	0	0.0%
- Sports medicine	161	0	0.0%	0	0.0%	0	0.0%
Internal medicine	601	0	0.0%	2	0.3%	1	0.2%
- Adult congenital heart disease	26	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	86	0	0.0%	0	0.0%	0	0.0%
- Cardiovascular disease	268	0	0.0%	1	0.4%	0	0.0%
- Clinical cardiac electrophysiology	115	0	0.0%	0	0.0%	0	0.0%
- Clinical informatics	23	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	62	0	0.0%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	157	0	0.0%	1	0.6%	0	0.0%
- Gastroenterology	222	0	0.0%	2	0.9%	0	0.0%
- Geriatric medicine	117	0	0.0%	1	0.9%	0	0.0%
- Hematology	2	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	180	0	0.0%	1	0.6%	0	0.0%
- Infectious disease	163	0	0.0%	0	0.0%	0	0.0%
- Interventional cardiology	177	0	0.0%	1	0.6%	0	0.0%
- Nephrology	151	0	0.0%	1	0.7%	0	0.0%
- Medical oncology	5	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	22	0	0.0%	1	4.5%	1	4.5%
- Pulmonary disease and critical care medicine	196	0	0.0%	0	0.0%	0	0.0%
- Rheumatology	128	0	0.0%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	92	0	0.0%	0	0.0%	0	0.0%
- Transplant hepatology	62	0	0.0%	0	0.0%	0	0.0%
Medical genetics and genomics	45	0	0.0%	0	0.0%	0	0.0%
- Medical biochemical genetics	20	0	0.0%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	0	0.0%	0	0.0%	0	0.0%
Neurological surgery	118	0	0.0%	1	0.8%	0	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0	0.0%	0	0.0%

**TABLE A.10 Continued**

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

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
Neurology	175	0	0.0%	0	0.0%	0	0.0%
- Brain injury medicine	1	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	94	0	0.0%	0	0.0%	0	0.0%
- Epilepsy	93	0	0.0%	0	0.0%	0	0.0%
- Neurocritical care (multidisciplinary)	7	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	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%
Child neurology	79	0	0.0%	0	0.0%	0	0.0%
Nuclear medicine	37	0	0.0%	1	2.7%	0	0.0%
Obstetrics and gynecology	299	0	0.0%	1	0.3%	0	0.0%
- Female pelvic medicine and reconstructive surgery	55	0	0.0%	0	0.0%	0	0.0%
- Gynecologic oncology	67	0	0.0%	0	0.0%	0	0.0%
- Maternal-fetal medicine	101	0	0.0%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	0	0.0%	2	4.1%	0	0.0%
- Complex family planning	29	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	203	0	0.0%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	24	1	4.2%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	73	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal oncology	12	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	93	1	1.1%	0	0.0%	0	0.0%
- Orthopaedic surgery of the spine	15	1	6.7%	0	0.0%	0	0.0%
- Orthopaedic trauma	12	0	0.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	24	1	4.2%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	28	0	0.0%	2	7.1%	0	0.0%
Otolaryngology - head and neck surgery	129	0	0.0%	0	0.0%	0	0.0%
- Neurotology	28	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	145	0	0.0%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	53	0	0.0%	0	0.0%	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	92	0	0.0%	0	0.0%	0	0.0%
- Forensic pathology	45	0	0.0%	0	0.0%	0	0.0%
- Hematopathology	86	0	0.0%	0	0.0%	0	0.0%
- Medical microbiology	16	0	0.0%	0	0.0%	0	0.0%
- Neuropathology	39	0	0.0%	0	0.0%	0	0.0%
- Pediatric pathology	27	0	0.0%	0	0.0%	0	0.0%
- Selective pathology	116	0	0.0%	0	0.0%	0	0.0%
Pediatrics	212	0	0.0%	0	0.0%	0	0.0%
- Adolescent medicine	32	0	0.0%	0	0.0%	0	0.0%
- Child abuse pediatrics	31	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%	0	0.0%	0	0.0%
- Pediatric critical care medicine	77	0	0.0%	0	0.0%	0	0.0%
- Pediatric emergency medicine	56	0	0.0%	0	0.0%	0	0.0%
- Pediatric endocrinology	72	0	0.0%	0	0.0%	0	0.0%
- Pediatric gastroenterology	67	0	0.0%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	77	0	0.0%	0	0.0%	0	0.0%
- Pediatric infectious diseases	64	0	0.0%	0	0.0%	0	0.0%

TABLE A.10 *Continued***Number of Programs with a Withdrawn Accreditation Status during the Academic Year by Specialty and Subspecialty**

Specialty	Total Programs	Accreditation Withdrawn Prior to Academic Year End		Accreditation Withdrawn at Academic Year End		Future Withdrawal of Accreditation	
		#	%	#	%	#	%
- Pediatric nephrology	47	0	0.0%	0	0.0%	0	0.0%
- Pediatric pulmonology	57	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	38	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	65	0	0.0%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	100	0	0.0%	0	0.0%	0	0.0%
- Brain injury medicine	25	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	24	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%
Plastic surgery	50	0	0.0%	0	0.0%	0	0.0%
Plastic surgery - integrated	88	0	0.0%	0	0.0%	0	0.0%
- Craniofacial surgery	8	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	18	0	0.0%	0	0.0%	0	0.0%
Preventive medicine	72	0	0.0%	0	0.0%	0	0.0%
- Medical toxicology	1	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0	0.0%	0	0.0%
Psychiatry	294	0	0.0%	0	0.0%	0	0.0%
- Addiction medicine (multidisciplinary)	91	0	0.0%	1	1.1%	0	0.0%
- Addiction psychiatry	55	0	0.0%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	152	0	0.0%	0	0.0%	0	0.0%
- Forensic psychiatry	49	0	0.0%	1	2.0%	0	0.0%
- Geriatric psychiatry	64	0	0.0%	1	1.6%	0	0.0%
- Consultation-liaison psychiatry	66	0	0.0%	0	0.0%	0	0.0%
Radiation oncology	90	0	0.0%	0	0.0%	0	0.0%
Radiology-diagnostic	197	0	0.0%	1	0.5%	0	0.0%
- Abdominal radiology	13	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	20	0	0.0%	1	5.0%	0	0.0%
- Neuroradiology	91	0	0.0%	0	0.0%	0	0.0%
- Nuclear radiology	18	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	47	0	0.0%	0	0.0%	0	0.0%
Interventional radiology - independent	95	0	0.0%	1	1.1%	0	0.0%
Interventional radiology - integrated	92	0	0.0%	0	0.0%	0	0.0%
Surgery	353	0	0.0%	1	0.3%	0	0.0%
- Complex general surgical oncology	33	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	156	0	0.0%	0	0.0%	0	0.0%
- Vascular surgery	118	0	0.0%	0	0.0%	0	0.0%
Vascular surgery - integrated	73	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery	75	0	0.0%	0	0.0%	0	0.0%
- Congenital cardiac surgery	16	0	0.0%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	0	0.0%	0	0.0%	0	0.0%
Urology	148	0	0.0%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	16	0	0.0%	0	0.0%	0	0.0%
- Pediatric urology	26	0	0.0%	0	0.0%	0	0.0%
Transitional year	178	0	0.0%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	78	0	0.0%	0	0.0%	0	0.0%

Notes: Pipeline specialties are highlighted. Total program counts exclude programs withdrawn prior to the end of the academic year (n=8).

**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	84		84					
Anesthesiology	1/0	166			21	145			
- Adult cardiothoracic anesthesiology	4	74	74						
- Clinical informatics	4	1		1					
- Critical care medicine	4	64	64						
- Regional anesthesiology and acute pain medicine	4	40	40						
- Obstetric anesthesiology	3/4	41	41						
- Pain medicine (multidisciplinary)	3/4	114	114						
- Pediatric anesthesiology	4	61	61						
Colon and rectal surgery	5	67	67						
Dermatology	1/0	143			138	5			
- Dermatopathology (multidisciplinary)	4	57	57						
- Micrographic surgery and dermatologic oncology	4	77	77						
- Pediatric Dermatology	4	17	17						
Emergency medicine	0	279			219	60			
- Clinical informatics	3	5		5					
- Emergency medical services	3	79	79						
- Medical toxicology	3	28		28					
- Pediatric emergency medicine	3	29			29				
- Sports medicine	3	10	10						
- Undersea and hyperbaric medicine	3	8	8						
Family medicine	0	722			713	9			
- Clinical informatics	3	7		7					
- Geriatric medicine	3	46	46						
- Hospice and palliative medicine (multidisciplinary)	3	187	187						
- Sports medicine	3	161	161						
Internal medicine	0	601			601				
- Adult congenital heart disease	3	26		26					
- Advanced heart failure and transplant cardiology	6	86	86						
- Cardiovascular disease	3	268			268				
- Clinical cardiac electrophysiology	6	115		115					
- Clinical informatics	3	23		23					
- Critical care medicine	3	62		62					
- Endocrinology, diabetes, and metabolism	3	157		157					
- Gastroenterology	3	222			222				
- Geriatric medicine	3	117	117						
- Hematology	3	2		2					
- Hematology and medical oncology	3	180			180				
- Infectious disease	3	163		163					
- Interventional cardiology	6	177	177						
- Nephrology	3	151		151					
- Medical oncology	3	5		5					
- Pulmonary disease	3	22		22					
- Pulmonary disease and critical care medicine	3	196			196				
- Rheumatology	3	128		128					
- Sleep medicine (multidisciplinary)	3/4/5	92	92						
- Transplant hepatology	6	62	62						
Medical genetics and genomics	2/0	45		45					
- Medical biochemical genetics	4	20	20						
- Molecular genetic pathology (multidisciplinary)	4	42	42						
Neurological surgery	0	118							118
- Endovascular surgical neuroradiology	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	175			49	126			
- Brain injury medicine	3/4	1	1						
- Clinical neurophysiology	4	94	94						
- Epilepsy	3	93	93						
- Neurocritical care (multidisciplinary)	3/4	7	1	6					
- Endovascular surgical neuroradiology	5	2	2						
- Neurodevelopmental disabilities	2	8				8			
- Neuromuscular medicine	4	55	55						
- Vascular neurology	4	112	112						
Child neurology	2	79			79				
Nuclear medicine	1	37			37				
Obstetrics and gynecology	0	299				299			
- Female pelvic medicine and reconstructive surgery	4	55			55				
- Gynecologic oncology	4	67			67				
- Maternal-fetal medicine	4	101			101				
- Reproductive endocrinology and infertility	4	49			49				
- Complex family planning	4	29		29					
Ophthalmology	1	125			85	40			
- Ophthalmic plastic and reconstructive surgery	4	4		4					
Orthopaedic surgery	0	203					203		
- Adult reconstructive orthopaedics	5	24	24						
- Foot and ankle orthopaedics	5	8	8						
- Hand surgery	5	73	73						
- 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	24	24						
Osteopathic neuromusculoskeletal medicine	0	28			28				
Otolaryngology - head and neck surgery	0	129					129		
- Neurotology	5	28		28					
- Pediatric otolaryngology	5	34	34						
Pathology-anatomic and clinical	0	145			1	144			
- Blood banking/transfusion medicine	2	53	53						
- Clinical informatics	2	10		10					
- Chemical pathology	2	4	4						
- Cytopathology	2	92	92						
- Forensic pathology	2	45	45						
- Hematopathology	2	86	86						
- Medical microbiology	4	16	16						
- Neuropathology	2	39		39					
- Pediatric pathology	2	27	27						
- Selective pathology	2	116	116						
Pediatrics	0	212			212				
- Adolescent medicine	3	32			32				
- Child abuse pediatrics	3	31			31				
- 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	77			77				
- Pediatric emergency medicine	3	56			56				
- Pediatric endocrinology	3	72			72				
- Pediatric gastroenterology	3	67			67				
- Pediatric hematology/oncology	3	77			77				
- Pediatric infectious diseases	3	64			64				

**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 nephrology	3	47			47				
- Pediatric pulmonology	3	57			57				
- Pediatric rheumatology	3	38			38				
- Sports medicine	3	17	17						
- Pediatric transplant hepatology	6	17	17						
- Pediatric hospital medicine	3	65		65					
Physical medicine and rehabilitation	1/0	100			56	44			
- Brain injury medicine	3/4	25	25						
- Neuromuscular medicine	3/4	1	1						
- Spinal cord injury medicine	3/4	24	24						
- Pediatric rehabilitation medicine	4	22		22					
- Sports medicine	3/4	22	22						
Plastic surgery	3	50			50				
Plastic surgery - integrated	0	88						88	
- Craniofacial surgery	6	8	8						
- Hand surgery	5	18	18						
Preventive medicine	1/0	72		70	2				
- Medical toxicology	3	1		1					
- Undersea and hyperbaric medicine	3	1	1						
Psychiatry	0	294	1			293			
- Addiction medicine (multidisciplinary)	1/2/3/4	91	91						
- Addiction psychiatry	4	55	54	1					
- Child and adolescent psychiatry	3	152		152					
- Forensic psychiatry	4	49	49						
- Geriatric psychiatry	4	64	63	1					
- Consultation-liaison psychiatry	4	66	66						
Radiation oncology	1	90				90			
Radiology-diagnostic	1	197				191	6		
- Abdominal radiology	5	13	13						
- Endovascular surgical neuroradiology	5	3	3						
- Musculoskeletal radiology	5	20	20						
- Neuroradiology	5	91	91						
- Nuclear radiology	5	18	18						
- Pediatric radiology	5	47	47						
Interventional radiology - independent	4	95		95					
Interventional radiology - integrated	1	92					89	3	
Surgery	0	353					353		
- Complex general surgical oncology	5	33		33					
- Hand surgery	5	2	2						
- Pediatric surgery	5	51		51					
- Surgical critical care	3	156	156						
- Vascular surgery	5	118		118					
Vascular surgery - integrated	0	73					73		
Thoracic surgery	5	75		53	22				
- Congenital cardiac surgery	7	16	16						
Thoracic surgery - integrated	0	34						34	
Urology	0/1	148					148		
- Female pelvic medicine and reconstructive surgery	3/4	16			16				
- Pediatric urology	5	26		26					
Transitional year	0	178	178						
Internal medicine/Pediatrics	0	78				78			

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

TABLE A.12

## Number of Programs with Osteopathic Recognition by Specialty and Subspecialty

Specialty	Total Programs	Programs with Osteopathic Recognition	Percent of Specialty	Percent of All Programs with Osteopathic Recognition
OVERALL	12,740	258	2.0%	100.0%
TOTAL PIPELINE	5,270	239	4.5%	92.6%
Allergy and immunology	84	1	1.2%	0.4%
Anesthesiology	166	4	2.4%	1.6%
Dermatology	143	4	2.8%	1.6%
Emergency medicine	279	6	2.2%	2.3%
Family medicine	722	165	22.9%	64.0%
- Hospice and palliative medicine (multidisciplinary)	187	2	1.1%	0.8%
- Sports medicine	161	4	2.5%	1.6%
Internal medicine	601	27	4.5%	10.5%
- Cardiovascular disease	268	2	0.7%	0.8%
- Geriatric medicine	117	1	0.9%	0.4%
- Interventional cardiology	177	1	0.6%	0.4%
- Pulmonary disease and critical care medicine	196	1	0.5%	0.4%
Neurological surgery	118	1	0.8%	0.4%
Neurology	175	1	0.6%	0.4%
Obstetrics and gynecology	299	7	2.3%	2.7%
Orthopaedic surgery	203	5	2.5%	1.9%
Osteopathic neuromusculoskeletal medicine	28	2	7.1%	0.8%
Otolaryngology - Head and Neck Surgery	129	3	2.3%	1.2%
Pediatrics	212	3	1.4%	1.2%
- Sports medicine	17	1	5.9%	0.4%
Physical medicine and rehabilitation	100	1	1.0%	0.4%
Plastic surgery	50	1	2.0%	0.4%
Psychiatry	294	2	0.7%	0.8%
Radiology-diagnostic	197	1	0.5%	0.4%
Surgery	353	4	1.1%	1.6%
Urology	148	1	0.7%	0.4%
Transitional year	178	6	3.4%	2.3%
Internal medicine/Pediatrics	78	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	54
Clinical biochemical genetics	17
Laboratory genetics and genomics	37

# 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 2021, there are approximately 3.80 total programs (1.66 specialty, 2.14 subspecialty) per 100,000 population, including Puerto Rico. The following states have the highest total number of programs:

- New York (1,397)
- California (1,142)
- Texas (840)
- Pennsylvania (818)

States with the lowest number of programs include Montana (4), 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 (12.9%)
- Internal medicine (10.8%)
- Surgery (6.3%)
- Obstetrics and gynecology (5.4%)

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

- Internal medicine (24.4%)
- Family medicine (11.6%)
- Pediatrics (7.5%)
- 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 52 residents per program, with at least one program having 218 active residents during the 2021-2022 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 22.5 in the 2021-2022 academic year. The average size of subspecialty programs has remained fairly constant over the last 10 years. In the 2021-2022 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, 45.1% of programs are in medical specialties, 31.6% are in surgical specialties, and 23.3% are in hospital-based specialties. Among subspecialty programs, 65.5% of programs are in medical subspecialties, 15.0% are in surgical subspecialties, and 19.5% 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. ♪

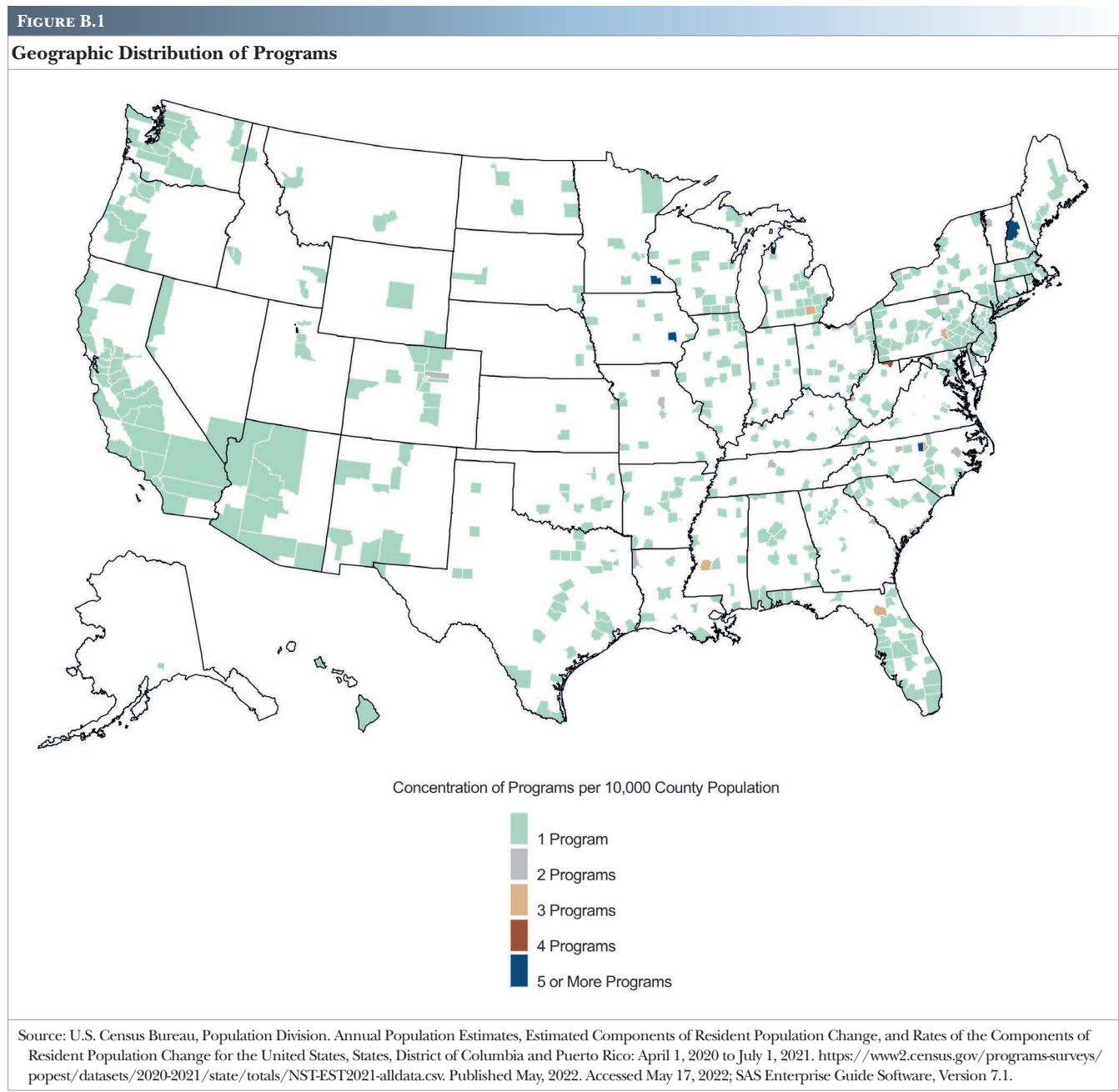


TABLE B.2

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

State Name	State Abbreviation	State Population – Census Estimate 2021	Total Programs	Percent of All Programs	Programs per 100,000 Pop
OVERALL	-	335,157,329	12,740	100.0%	3.80
Alabama	AL	5,039,877	146	1.1%	2.90
Alaska	AK	732,673	3	0.0%	0.41
Arizona	AZ	7,276,316	205	1.6%	2.82
Arkansas	AR	3,025,891	91	0.7%	3.01
California	CA	39,237,836	1,142	9.0%	2.91
Colorado	CO	5,812,069	146	1.1%	2.51
Connecticut	CT	3,605,597	205	1.6%	5.69
Delaware	DE	1,003,384	41	0.3%	4.09
District of Columbia	DC	670,050	148	1.2%	22.09
Florida	FL	21,781,128	690	5.4%	3.17
Georgia	GA	10,799,566	251	2.0%	2.32
Hawaii	HI	1,441,553	33	0.3%	2.29
Idaho	ID	1,900,923	17	0.1%	0.89
Illinois	IL	12,671,469	557	4.4%	4.40
Indiana	IN	6,805,985	139	1.1%	2.04
Iowa	IA	3,193,079	107	0.8%	3.35
Kansas	KS	2,934,582	78	0.6%	2.66
Kentucky	KY	4,509,394	154	1.2%	3.42
Louisiana	LA	4,624,047	189	1.5%	4.09
Maine	ME	1,372,247	38	0.3%	2.77
Maryland	MD	6,165,129	270	2.1%	4.38
Massachusetts	MA	6,984,723	484	3.8%	6.93
Michigan	MI	10,050,811	594	4.7%	5.91
Minnesota	MN	5,707,390	237	1.9%	4.15
Mississippi	MS	2,949,965	84	0.7%	2.85
Missouri	MO	6,168,187	299	2.3%	4.85
Montana	MT	1,104,271	4	0.0%	0.36
Nebraska	NE	1,963,692	91	0.7%	4.63
Nevada	NV	3,143,991	57	0.4%	1.81
New Hampshire	NH	1,388,992	56	0.4%	4.03
New Jersey	NJ	9,267,130	328	2.6%	3.54
New Mexico	NM	2,115,877	75	0.6%	3.54
New York	NY	19,835,913	1,397	11.0%	7.04
North Carolina	NC	10,551,162	370	2.9%	3.51
North Dakota	ND	774,948	15	0.1%	1.94
Ohio	OH	11,780,017	650	5.1%	5.52
Oklahoma	OK	3,986,639	106	0.8%	2.66
Oregon	OR	4,246,155	105	0.8%	2.47
Pennsylvania	PA	12,964,056	818	6.4%	6.31
Puerto Rico	PR	3,263,584	75	0.6%	2.30
Rhode Island	RI	1,095,610	75	0.6%	6.85
South Carolina	SC	5,190,705	158	1.2%	3.04
South Dakota	SD	895,376	13	0.1%	1.45
Tennessee	TN	6,975,218	239	1.9%	3.43
Texas	TX	29,527,941	840	6.6%	2.84
Utah	UT	3,337,975	99	0.8%	2.97
Vermont	VT	645,570	40	0.3%	6.20
Virginia	VA	8,642,274	273	2.1%	3.16
Washington	WA	7,738,692	188	1.5%	2.43
West Virginia	WV	1,782,959	96	0.8%	5.38
Wisconsin	WI	5,895,908	220	1.7%	3.73
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Specialty Programs	Percent of All Specialty Programs	Specialty Programs per 100,000 Pop
OVERALL	-	335,157,329	5,579	100.0%	1.66
Alabama	AL	5,039,877	66	1.2%	1.31
Alaska	AK	732,673	1	0.0%	0.14
Arizona	AZ	7,276,316	86	1.5%	1.18
Arkansas	AR	3,025,891	52	0.9%	1.72
California	CA	39,237,836	487	8.7%	1.24
Colorado	CO	5,812,069	58	1.0%	1.00
Connecticut	CT	3,605,597	77	1.4%	2.14
Delaware	DE	1,003,384	19	0.3%	1.89
District of Columbia	DC	670,050	54	1.0%	8.06
Florida	FL	21,781,128	330	5.9%	1.52
Georgia	GA	10,799,566	121	2.2%	1.12
Hawaii	HI	1,441,553	21	0.4%	1.46
Idaho	ID	1,900,923	13	0.2%	0.68
Illinois	IL	12,671,469	244	4.4%	1.93
Indiana	IN	6,805,985	59	1.1%	0.87
Iowa	IA	3,193,079	45	0.8%	1.41
Kansas	KS	2,934,582	38	0.7%	1.29
Kentucky	KY	4,509,394	66	1.2%	1.46
Louisiana	LA	4,624,047	94	1.7%	2.03
Maine	ME	1,372,247	22	0.4%	1.60
Maryland	MD	6,165,129	108	1.9%	1.75
Massachusetts	MA	6,984,723	169	3.0%	2.42
Michigan	MI	10,050,811	318	5.7%	3.16
Minnesota	MN	5,707,390	72	1.3%	1.26
Mississippi	MS	2,949,965	43	0.8%	1.46
Missouri	MO	6,168,187	112	2.0%	1.82
Montana	MT	1,104,271	3	0.1%	0.27
Nebraska	NE	1,963,692	38	0.7%	1.94
Nevada	NV	3,143,991	35	0.6%	1.11
New Hampshire	NH	1,388,992	26	0.5%	1.87
New Jersey	NJ	9,267,130	179	3.2%	1.93
New Mexico	NM	2,115,877	29	0.5%	1.37
New York	NY	19,835,913	580	10.4%	2.92
North Carolina	NC	10,551,162	149	2.7%	1.41
North Dakota	ND	774,948	12	0.2%	1.55
Ohio	OH	11,780,017	286	5.1%	2.43
Oklahoma	OK	3,986,639	62	1.1%	1.56
Oregon	OR	4,246,155	43	0.8%	1.01
Pennsylvania	PA	12,964,056	360	6.5%	2.78
Puerto Rico	PR	3,263,584	45	0.8%	1.38
Rhode Island	RI	1,095,610	25	0.4%	2.28
South Carolina	SC	5,190,705	76	1.4%	1.46
South Dakota	SD	895,376	9	0.2%	1.01
Tennessee	TN	6,975,218	101	1.8%	1.45
Texas	TX	29,527,941	347	6.2%	1.18
Utah	UT	3,337,975	33	0.6%	0.99
Vermont	VT	645,570	16	0.3%	2.48
Virginia	VA	8,642,274	122	2.2%	1.41
Washington	WA	7,738,692	88	1.6%	1.14
West Virginia	WV	1,782,959	50	0.9%	2.80
Wisconsin	WI	5,895,908	87	1.6%	1.48
Wyoming	WY	578,803	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, 2010 to July 1, 2020. <https://www2.census.gov/programs-surveys/popest/datasets/2010-2020/counties/totals/co-est2020-alldata.csv>. Published May, 2021. Accessed June 24, 2021; 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 2021	Total Subspecialty Programs	Percent of All Subspecialty Programs	Subspecialty Programs per 100,000 Pop
OVERALL	-	335,157,329	7,161	100.0%	2.14
Alabama	AL	5,039,877	80	1.1%	1.59
Alaska	AK	732,673	2	0.0%	0.27
Arizona	AZ	7,276,316	119	1.7%	1.64
Arkansas	AR	3,025,891	39	0.5%	1.29
California	CA	39,237,836	655	9.1%	1.67
Colorado	CO	5,812,069	88	1.2%	1.51
Connecticut	CT	3,605,597	128	1.8%	3.55
Delaware	DE	1,003,384	22	0.3%	2.19
District of Columbia	DC	670,050	94	1.3%	14.03
Florida	FL	21,781,128	360	5.0%	1.65
Georgia	GA	10,799,566	130	1.8%	1.20
Hawaii	HI	1,441,553	12	0.2%	0.83
Idaho	ID	1,900,923	4	0.1%	0.21
Illinois	IL	12,671,469	313	4.4%	2.47
Indiana	IN	6,805,985	80	1.1%	1.18
Iowa	IA	3,193,079	62	0.9%	1.94
Kansas	KS	2,934,582	40	0.6%	1.36
Kentucky	KY	4,509,394	88	1.2%	1.95
Louisiana	LA	4,624,047	95	1.3%	2.05
Maine	ME	1,372,247	16	0.2%	1.17
Maryland	MD	6,165,129	162	2.3%	2.63
Massachusetts	MA	6,984,723	315	4.4%	4.51
Michigan	MI	10,050,811	276	3.9%	2.75
Minnesota	MN	5,707,390	165	2.3%	2.89
Mississippi	MS	2,949,965	41	0.6%	1.39
Missouri	MO	6,168,187	187	2.6%	3.03
Montana	MT	1,104,271	1	0.0%	0.09
Nebraska	NE	1,963,692	53	0.7%	2.70
Nevada	NV	3,143,991	22	0.3%	0.70
New Hampshire	NH	1,388,992	30	0.4%	2.16
New Jersey	NJ	9,267,130	149	2.1%	1.61
New Mexico	NM	2,115,877	46	0.6%	2.17
New York	NY	19,835,913	817	11.4%	4.12
North Carolina	NC	10,551,162	221	3.1%	2.09
North Dakota	ND	774,948	3	0.0%	0.39
Ohio	OH	11,780,017	364	5.1%	3.09
Oklahoma	OK	3,986,639	44	0.6%	1.10
Oregon	OR	4,246,155	62	0.9%	1.46
Pennsylvania	PA	12,964,056	458	6.4%	3.53
Puerto Rico	PR	3,263,584	30	0.4%	0.92
Rhode Island	RI	1,095,610	50	0.7%	4.56
South Carolina	SC	5,190,705	82	1.1%	1.58
South Dakota	SD	895,376	4	0.1%	0.45
Tennessee	TN	6,975,218	138	1.9%	1.98
Texas	TX	29,527,941	493	6.9%	1.67
Utah	UT	3,337,975	66	0.9%	1.98
Vermont	VT	645,570	24	0.3%	3.72
Virginia	VA	8,642,274	151	2.1%	1.75
Washington	WA	7,738,692	100	1.4%	1.29
West Virginia	WV	1,782,959	46	0.6%	2.58
Wisconsin	WI	5,895,908	133	1.9%	2.26
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

**TABLE B.5**  
**Number of Pipeline Programs and Pipeline Program Concentration per 100,000 Population by State**

State Name	State Abbreviation	State Population - Census Estimate 2021	Total Pipeline Programs	Percent of All Pipeline Programs	Pipeline Programs per 100,000 Pop
OVERALL	-	335,157,329	5,270	100.0%	1.57
Alabama	AL	5,039,877	62	1.2%	1.23
Alaska	AK	732,673	1	0.0%	0.14
Arizona	AZ	7,276,316	82	1.6%	1.13
Arkansas	AR	3,025,891	49	0.9%	1.62
California	CA	39,237,836	464	8.8%	1.18
Colorado	CO	5,812,069	54	1.0%	0.93
Connecticut	CT	3,605,597	74	1.4%	2.05
Delaware	DE	1,003,384	18	0.3%	1.79
District of Columbia	DC	670,050	55	1.0%	8.21
Florida	FL	21,781,128	304	5.8%	1.40
Georgia	GA	10,799,566	110	2.1%	1.02
Hawaii	HI	1,441,553	20	0.4%	1.39
Idaho	ID	1,900,923	13	0.2%	0.68
Illinois	IL	12,671,469	233	4.4%	1.84
Indiana	IN	6,805,985	53	1.0%	0.78
Iowa	IA	3,193,079	42	0.8%	1.32
Kansas	KS	2,934,582	37	0.7%	1.26
Kentucky	KY	4,509,394	63	1.2%	1.40
Louisiana	LA	4,624,047	88	1.7%	1.90
Maine	ME	1,372,247	22	0.4%	1.60
Maryland	MD	6,165,129	101	1.9%	1.64
Massachusetts	MA	6,984,723	156	3.0%	2.23
Michigan	MI	10,050,811	296	5.6%	2.95
Minnesota	MN	5,707,390	68	1.3%	1.19
Mississippi	MS	2,949,965	40	0.8%	1.36
Missouri	MO	6,168,187	109	2.1%	1.77
Montana	MT	1,104,271	3	0.1%	0.27
Nebraska	NE	1,963,692	36	0.7%	1.83
Nevada	NV	3,143,991	33	0.6%	1.05
New Hampshire	NH	1,388,992	27	0.5%	1.94
New Jersey	NJ	9,267,130	169	3.2%	1.82
New Mexico	NM	2,115,877	29	0.6%	1.37
New York	NY	19,835,913	551	10.5%	2.78
North Carolina	NC	10,551,162	140	2.7%	1.33
North Dakota	ND	774,948	11	0.2%	1.42
Ohio	OH	11,780,017	267	5.1%	2.27
Oklahoma	OK	3,986,639	62	1.2%	1.56
Oregon	OR	4,246,155	41	0.8%	0.97
Pennsylvania	PA	12,964,056	338	6.4%	2.61
Puerto Rico	PR	3,263,584	40	0.8%	1.23
Rhode Island	RI	1,095,610	24	0.5%	2.19
South Carolina	SC	5,190,705	72	1.4%	1.39
South Dakota	SD	895,376	8	0.2%	0.89
Tennessee	TN	6,975,218	95	1.8%	1.36
Texas	TX	29,527,941	331	6.3%	1.12
Utah	UT	3,337,975	31	0.6%	0.93
Vermont	VT	645,570	17	0.3%	2.63
Virginia	VA	8,642,274	115	2.2%	1.33
Washington	WA	7,738,692	83	1.6%	1.07
West Virginia	WV	1,782,959	48	0.9%	2.69
Wisconsin	WI	5,895,908	82	1.6%	1.39
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popopest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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	-	166	279	45	37	145	72	90	197	92	178	1,301
Alabama	AL	1	2	1	1	3	2	1	3	1	2	17
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	2	5	0	0	1	0	2	3	3	3	19
Arkansas	AR	1	2	0	1	1	0	1	1	1	3	11
California	CA	16	25	6	6	11	8	11	19	9	11	122
Colorado	CO	1	1	1	0	2	2	1	1	1	1	11
Connecticut	CT	2	2	1	0	3	2	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	21	1	1	8	3	4	10	4	19	83
Georgia	GA	2	5	1	1	2	3	1	3	2	7	27
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	0	1	6	2	4	11	4	7	54
Indiana	IN	1	1	1	1	1	0	1	1	1	4	12
Iowa	IA	1	1	1	1	1	0	1	1	1	2	10
Kansas	KS	2	1	0	0	1	0	1	2	1	0	8
Kentucky	KY	2	2	0	0	2	2	2	2	0	1	13
Louisiana	LA	4	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	3	4	5	3	3	2	2	29
Massachusetts	MA	9	5	1	1	7	3	2	10	5	6	49
Michigan	MI	8	26	2	1	5	2	4	10	4	15	77
Minnesota	MN	2	3	1	0	2	3	2	2	2	1	18
Mississippi	MS	1	3	0	0	1	1	1	1	1	2	11
Missouri	MO	5	5	1	3	4	0	1	4	2	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	6	12	0	0	3	2	1	7	1	8	40
New Mexico	NM	1	1	0	0	1	1	0	1	0	1	6
New York	NY	18	30	4	5	17	7	12	25	10	14	142
North Carolina	NC	3	7	2	1	4	2	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	3	4	8	3	9	63
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	23	2	1	8	1	5	11	7	14	83
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	4	18
South Dakota	SD	0	0	0	0	1	0	0	0	0	1	2
Tennessee	TN	3	5	1	1	4	2	2	4	1	2	25
Texas	TX	10	16	3	2	11	5	6	11	4	9	77
Utah	UT	1	1	1	0	1	1	1	1	1	1	9
Vermont	VT	1	1	0	0	1	0	0	1	0	0	4
Virginia	VA	3	7	1	0	2	0	2	4	2	4	25
Washington	WA	2	2	1	1	2	2	1	4	1	3	19
West Virginia	WV	1	2	0	0	1	2	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.



State Name	State Abbreviation	AI	D	FM	IM	N	CHN	ONM	PD	PM	P	IP	Total
OVERALL	-	84	143	722	601	175	79	28	212	100	294	78	2,516
Alabama	AL	1	1	11	9	2	1	0	2	1	2	2	32
Alaska	AK	0	0	1	0	0	0	0	0	0	0	0	1
Arizona	AZ	2	4	10	12	4	1	1	3	1	3	1	42
Arkansas	AR	1	1	13	10	1	1	0	1	1	3	1	33
California	CA	10	12	72	50	16	8	0	17	6	27	4	222
Colorado	CO	3	1	14	4	2	1	1	1	1	2	1	31
Connecticut	CT	1	2	4	14	2	1	1	2	1	3	1	32
Delaware	DE	1	0	3	2	0	1	0	1	0	2	1	11
District of Columbia	DC	0	3	1	4	3	1	0	2	1	4	1	20
Florida	FL	5	12	31	45	14	2	2	14	7	23	2	157
Georgia	GA	2	3	18	19	3	2	0	5	1	7	0	60
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	2	7	35	25	8	2	0	10	4	12	5	110
Indiana	IN	1	1	14	5	1	1	0	2	1	4	1	31
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	10	5	2	2	1	2	2	2	2	29
Louisiana	LA	3	2	10	9	4	1	0	4	1	4	3	41
Maine	ME	0	0	4	1	1	0	2	1	0	2	1	12
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	6	39	34	9	3	3	10	6	12	6	131
Minnesota	MN	1	3	11	4	2	1	0	2	2	3	1	30
Mississippi	MS	1	1	7	7	1	1	0	1	0	2	1	22
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	7	4	2	0	0	1	1	3	0	18
New Hampshire	NH	0	1	2	2	1	0	0	1	0	2	0	9
New Jersey	NJ	1	3	21	29	4	2	2	9	2	11	1	85
New Mexico	NM	0	1	7	2	1	1	1	1	1	1	0	16
New York	NY	9	13	37	63	18	10	2	32	16	38	5	243
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	36	33	8	4	2	9	6	11	4	125
Oklahoma	OK	0	1	13	5	1	0	1	4	0	4	2	31
Oregon	OR	0	2	8	6	1	1	0	1	0	2	0	21
Pennsylvania	PA	4	8	53	36	12	4	1	7	9	16	4	154
Puerto Rico	PR	1	1	4	8	1	1	0	4	2	2	1	25
Rhode Island	RI	1	1	1	4	1	0	0	1	0	1	1	11
South Carolina	SC	0	1	15	5	3	1	0	3	0	4	2	34
South Dakota	SD	0	0	3	1	0	0	0	1	0	1	0	6
Tennessee	TN	2	2	11	9	3	2	0	4	1	5	2	41
Texas	TX	4	12	39	36	13	4	2	13	6	18	3	150
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	15	11	3	2	2	6	3	6	1	56
Washington	WA	1	1	27	8	2	1	0	2	2	2	0	46
West Virginia	WV	0	1	8	4	2	0	1	3	0	3	2	24
Wisconsin	WI	1	3	19	5	2	2	0	3	2	4	2	43
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.

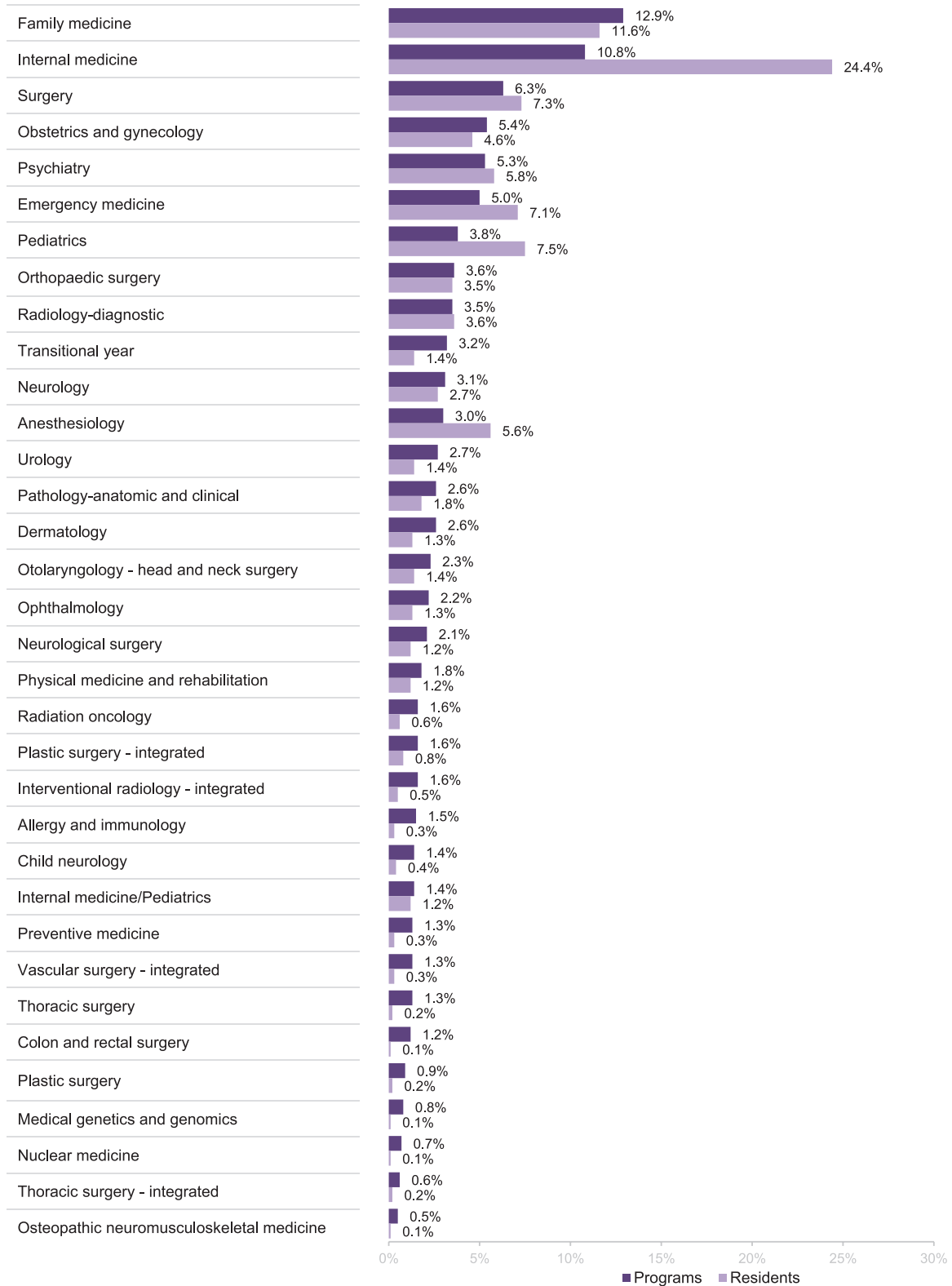
TABLE B.8

## 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	-	67	118	299	125	203	129	50	88	353	73	75	34	148	1,762
Alabama	AL	1	1	2	1	3	1	1	1	3	1	1	0	1	17
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	0	3	3	1	3	2	0	1	8	1	1	0	2	25
Arkansas	AR	0	1	1	1	1	1	0	0	1	1	0	0	1	8
California	CA	3	10	23	10	16	11	4	8	25	8	8	5	12	143
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	1	1	1	2	26
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	15	7	9	4	3	5	25	2	2	1	7	90
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	2	1	1	1	1	1	3	1	1	1	1	16
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	2	1	5	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	7	0	2	1	3	37
Massachusetts	MA	4	5	6	4	4	4	3	4	10	3	4	1	6	58
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	0	2	0	1	0	2	13
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	1	1	1	1	0	0	1	10
New Jersey	NJ	1	1	15	1	8	2	2	2	13	3	1	0	5	54
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	2	8	41	9	8	6	16	195
North Carolina	NC	0	4	9	3	5	3	1	3	9	2	3	2	4	48
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	8	18	8	16	10	5	5	25	6	5	2	9	123
Puerto Rico	PR	0	1	3	1	1	1	0	0	2	0	0	0	1	10
Rhode Island	RI	1	1	1	1	1	0	0	1	1	0	0	0	1	8
South Carolina	SC	1	1	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	13	9	4	5	23	5	6	2	10	120
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	1	4	6	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.

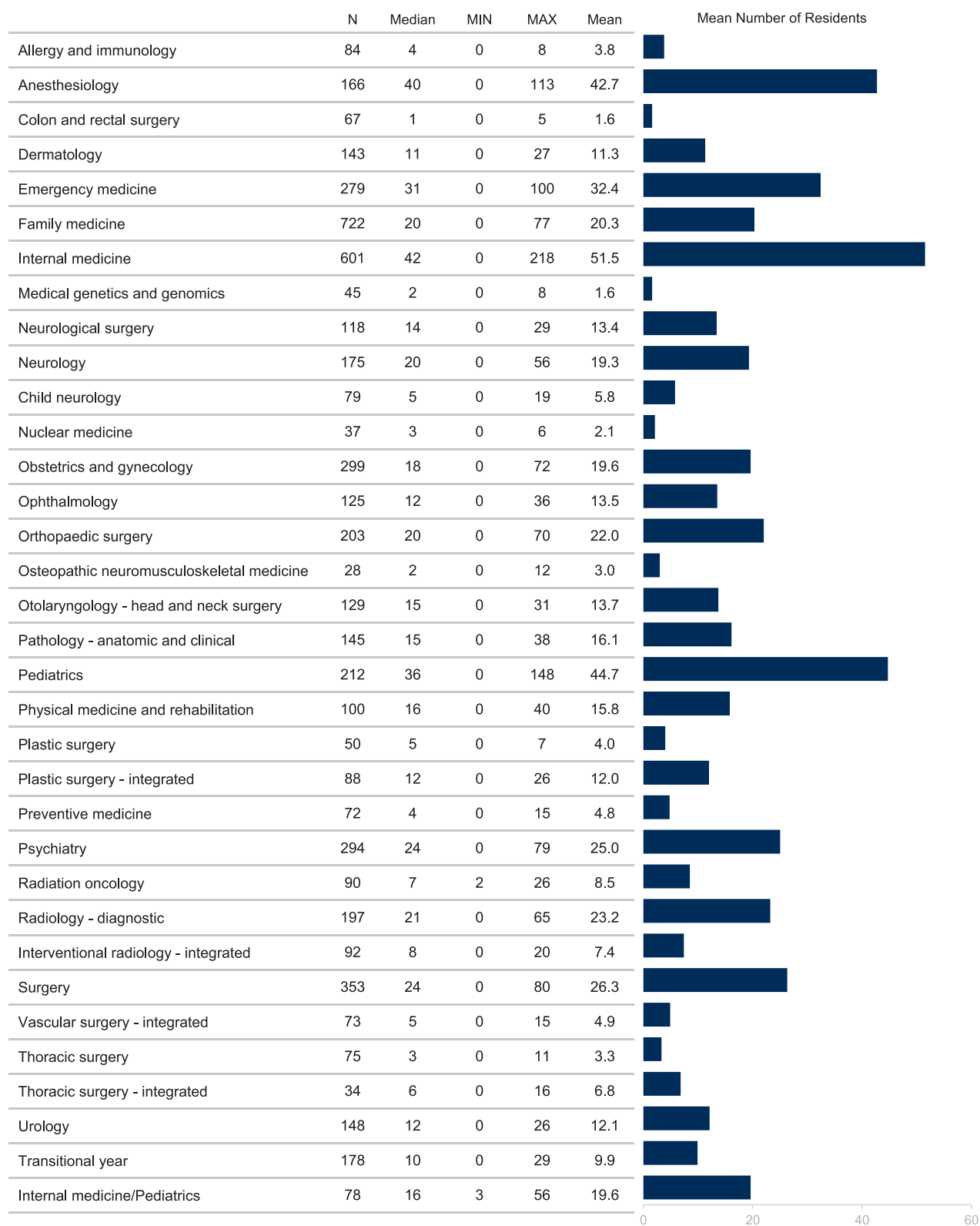
**FIGURE B.9**  
**Percentage of Programs and Residents in Each Specialty**

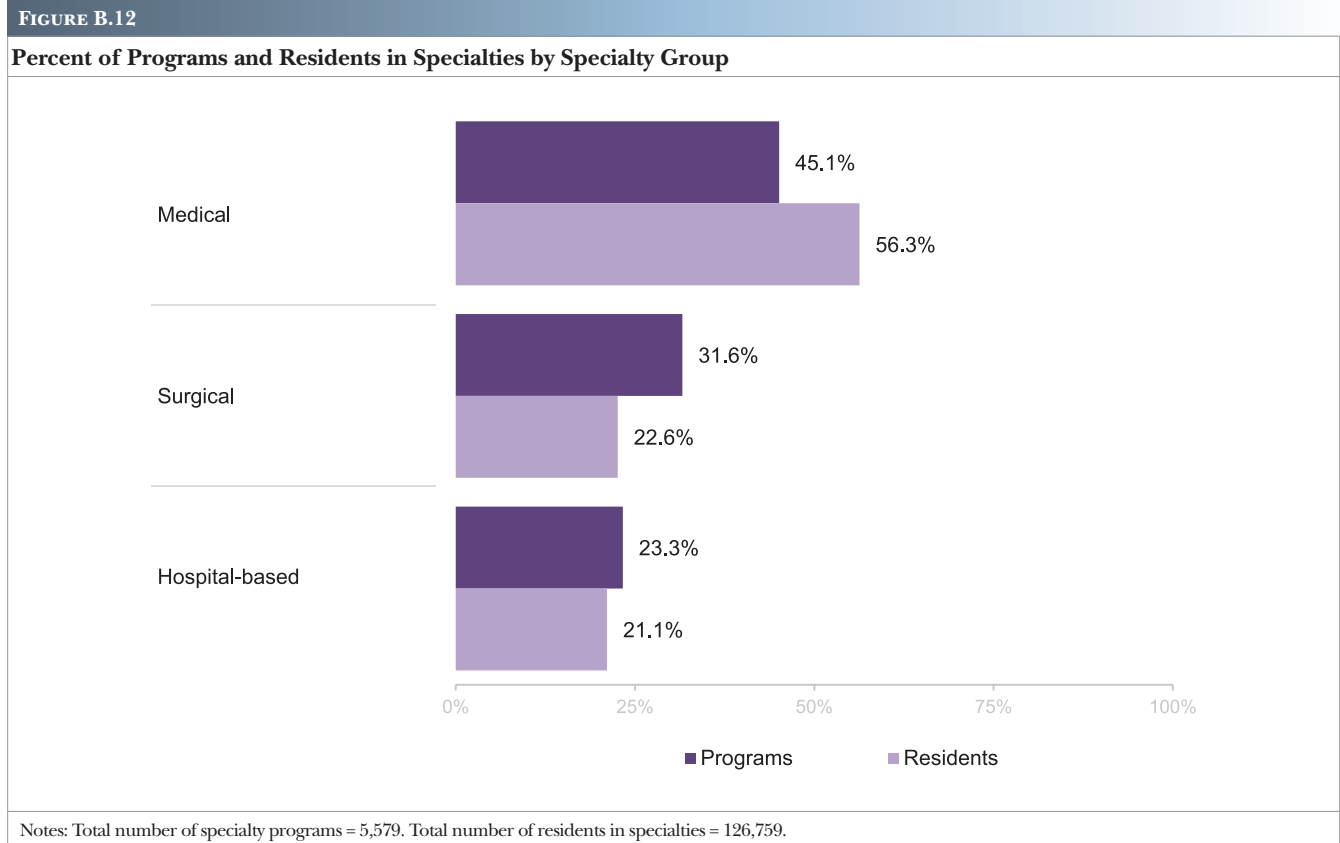
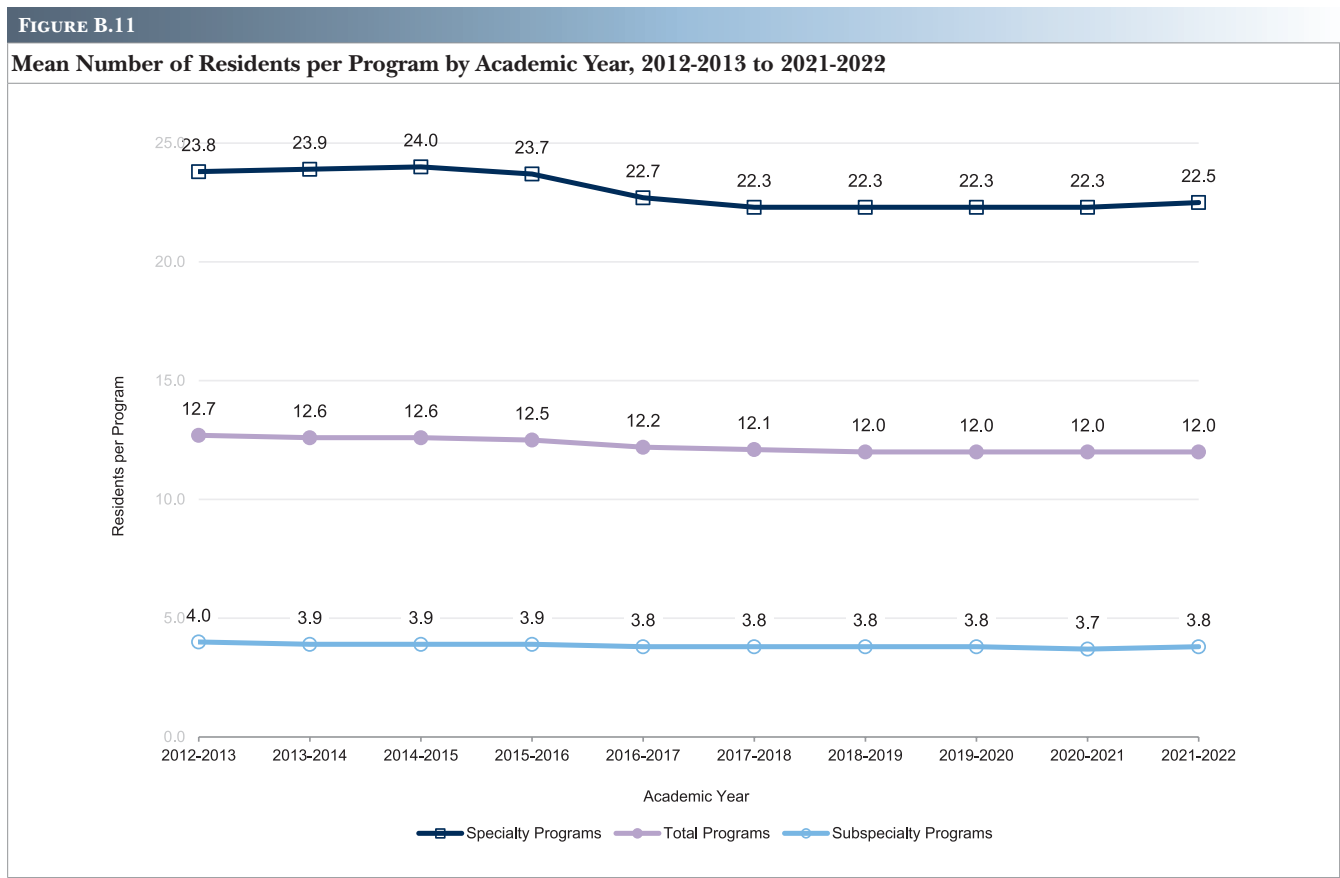


Notes: The percentages represent the number of programs/on duty residents in each specialty divided by all programs/on duty residents in specialty programs. Total number of specialty programs = 5,579. Total number of residents in specialties = 126,759.

**FIGURE B.10**

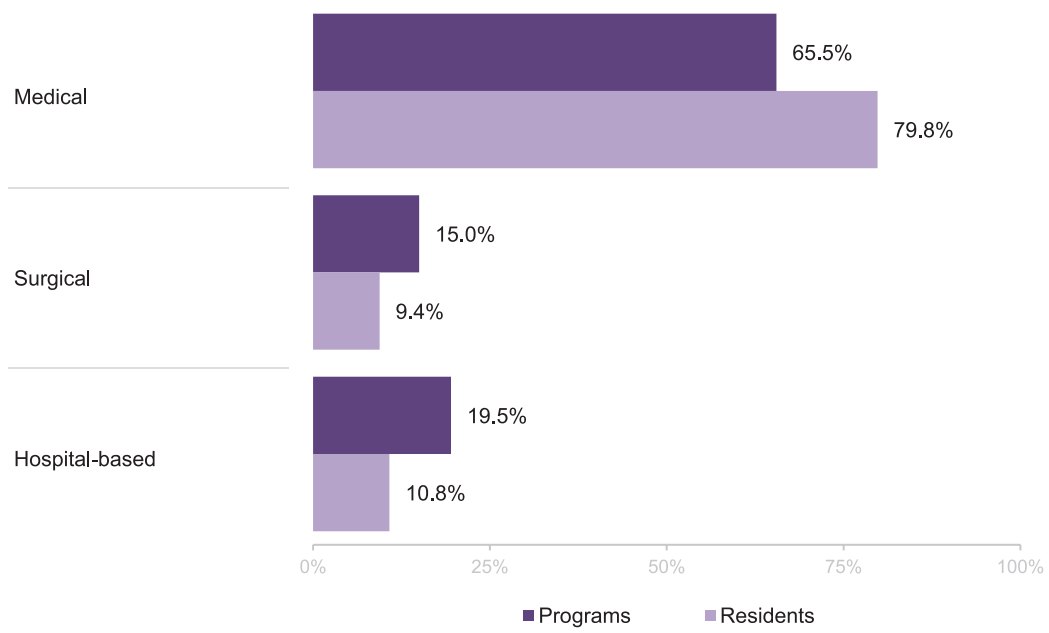
**Mean Number of Residents per Program by Specialty**





**FIGURE B.13**

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



Notes: Total number of subspecialty programs = 7,161. Total number of residents in subspecialties = 27,084.





# 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 2012-2013 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 (153,843), 126,759 (82.4%) are in specialty programs and 27,084 (17.6%) are in subspecialty programs. Only 0.1% (175) of the total number of active residents are part-time. In terms of trends, there has been a 30.7% increase in total active residents since 2012-2013, with growth in the number of specialty residents at 30.5%, and growth in the number of subspecialty residents at 31.7% over the last 10 years. Among residents in specialty programs, 56.3% (71,366) are in medical specialties, 21.1% (26,732) are in hospital-based specialties, and 22.6% (28,661) are in surgical specialties. The specialties with the highest percentage of total active residents are:

- Internal medicine (20.1%)
- Family medicine (9.5%)
- Pediatrics (6.2%)
- Surgery (6.0%)

## Geographic Distribution

Based on the most recent US Census estimate for 2021, there are approximately 45.90 active residents (37.82 specialty, 8.08 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 (19,215)
- California (14,230)
- Texas (10,332)
- Pennsylvania (9,742)

## Active Residents by Medical School Type

Of the 126,759 total active residents in specialty programs, 60.4% (76,574) are US allopathic medical school graduates, 21.0% (26,661) are international medical school graduates (IMGs), and 18.5% (23,469) are osteopathic medical school graduates. There are also 41 Canadian medical school graduates, and 14 residents for whom med-

ical school type was unknown. The distribution by medical school type is slightly different in subspecialty programs (27,084 active residents), with 55.9% of active residents being graduates of US allopathic medical schools, 31.8% being graduates of international medical schools, 12.0% 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 19.8% increase in US allopathic medical school graduates, a 178.4% increase in osteopathic medical school graduates, and a 12.4% increase in IMGs. The specialties with the highest percentage of IMGs include:

- Nuclear medicine (81.6%)
- Pathology – anatomic and clinical (48.5%)
- Internal medicine (38.8%)
- Medical genetics and genomics (37.5%)

While internal medicine has the third-highest percentage of IMGs, this specialty accounts for the highest number of IMGs (12,006) among all specialty programs.

## Active Residents by Gender and Race/Ethnicity

The gender and race/ethnicity reported for the 2021-2022 academic year are based upon self-reported data provided by the Association of American Medical Colleges (“AAMC”). Of the 153,843 active residents, 53.0% are male, 46.8% are female, and 0.2% are not reported. The specialties with the highest percentage of female residents include:

- Obstetrics and gynecology (86.2%)
- Pediatrics (72.8%)
- Child neurology (69.0%)
- Allergy and immunology (64.4%)

The specialties with the lowest percentage of female residents include:

- Orthopaedic surgery (18.3%)
- Nuclear medicine (21.1%)
- Neurological surgery (21.8%)

Overall, 48.9% of all active residents are White; 26.6% are Asian; 9.2% are Hispanic, Latino, or of Spanish origin; 6.0% 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, 4.0% were reported as having Multiple Race/Ethnicity. Of active residents, 3.1% were reported as “Other,” and 2.1% were reported as “Unknown.”



### **Residents Entering the Pipeline**

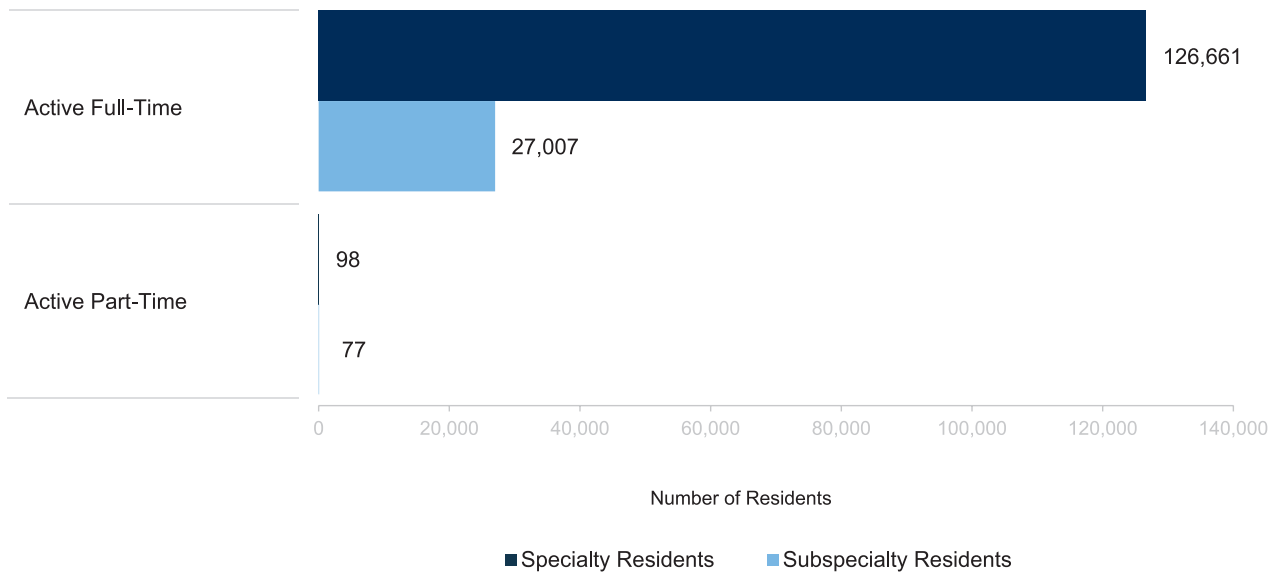
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The total number of residents entering the pipeline reached 35,729 for the 2021-2022 academic year. Since 2012-2013, there has been 32.5% increase in residents entering the pipeline, with varying patterns in growth by medical school type (19.7% increase among US Liaison Committee for Medical Education (LCME)-accredited

medical school graduates, 14.3% increase among international medical graduates (IMGs), and 161.0% increase among osteopathic medical school graduates). Among the 2021-2022 residents entering the pipeline, 57.8% (20,660) are US LCME-accredited graduates, 22.3% (7,985) are IMGs, 19.8% (7,067) are osteopathic medical school graduates, and less than one percent (11) are Canadian medical school graduates. ↗

FIGURE C.1

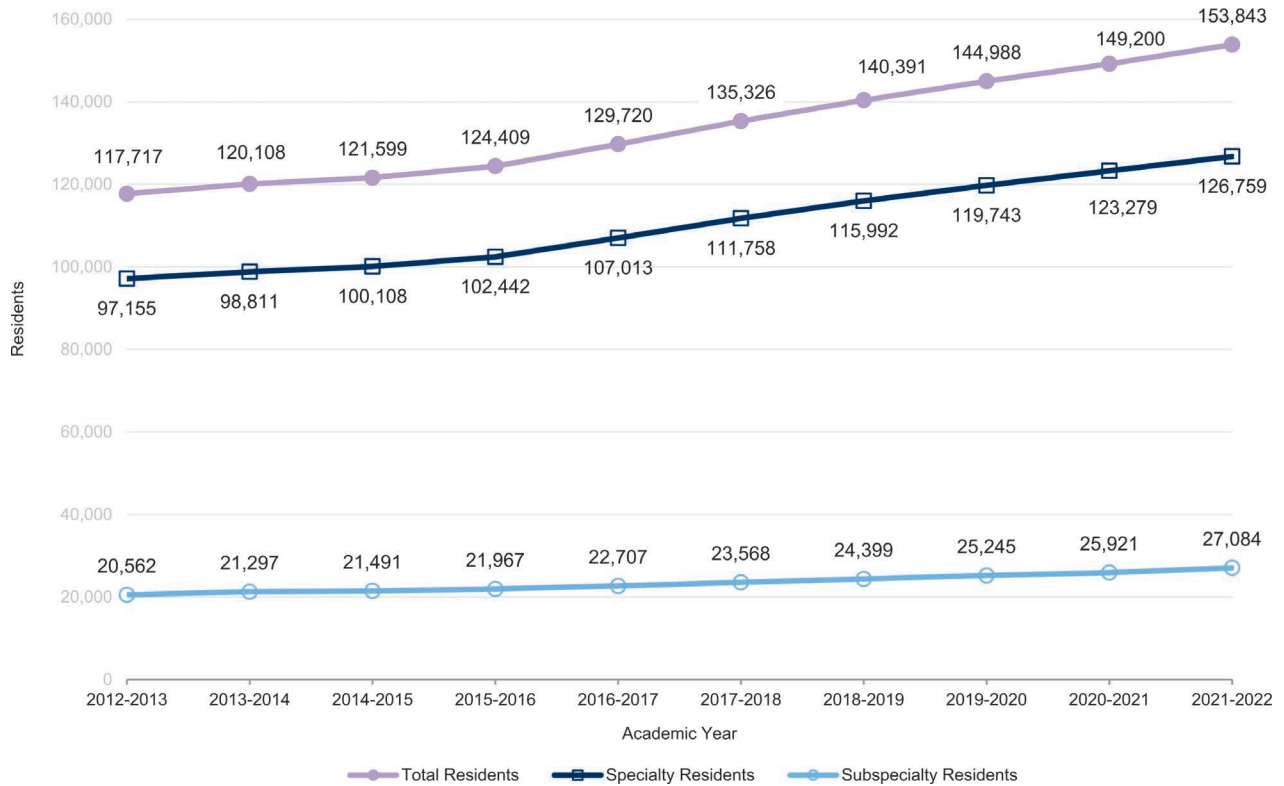
Number of Active Residents by Status



Note: Total number of active residents = 153,843.

FIGURE C.2

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



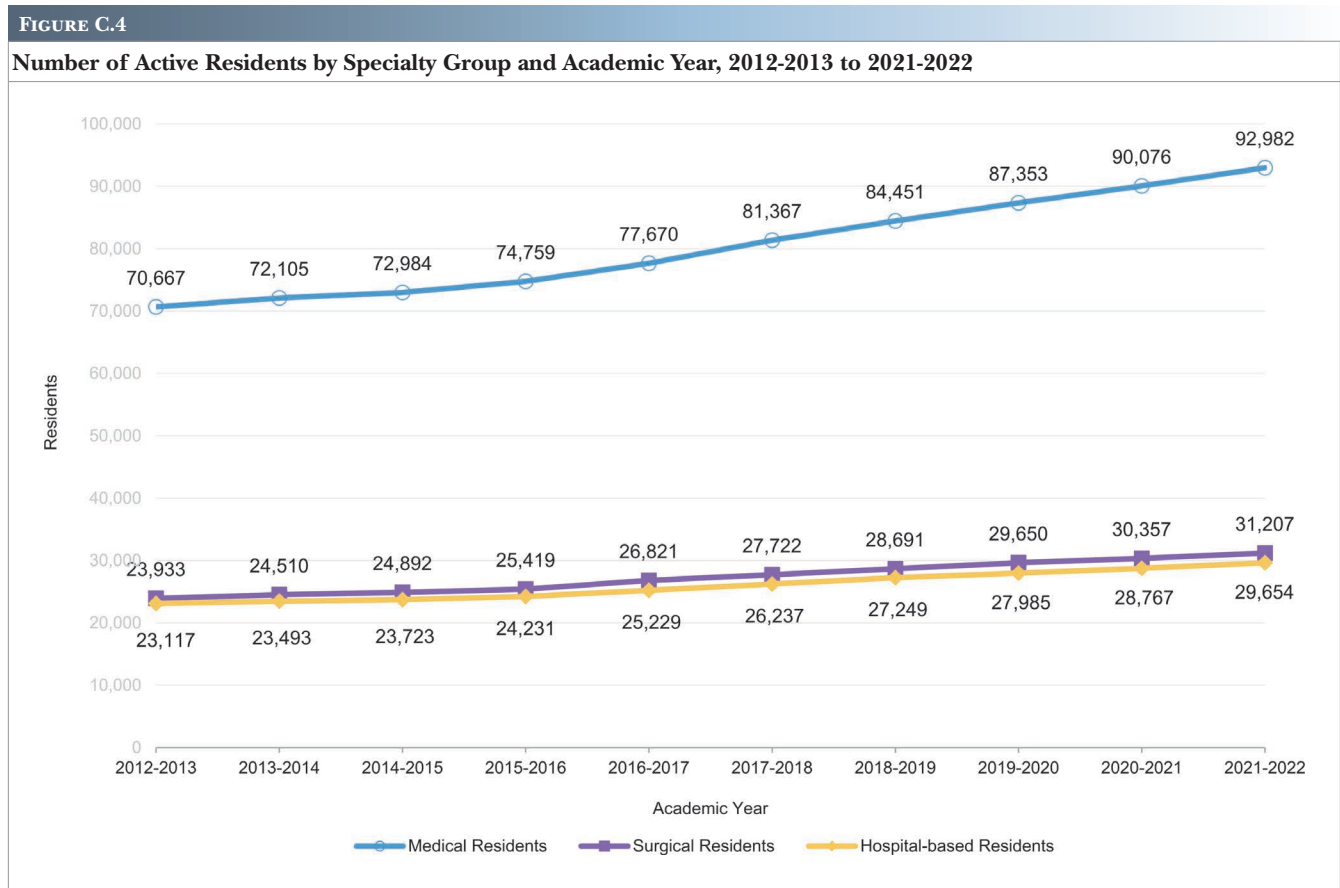
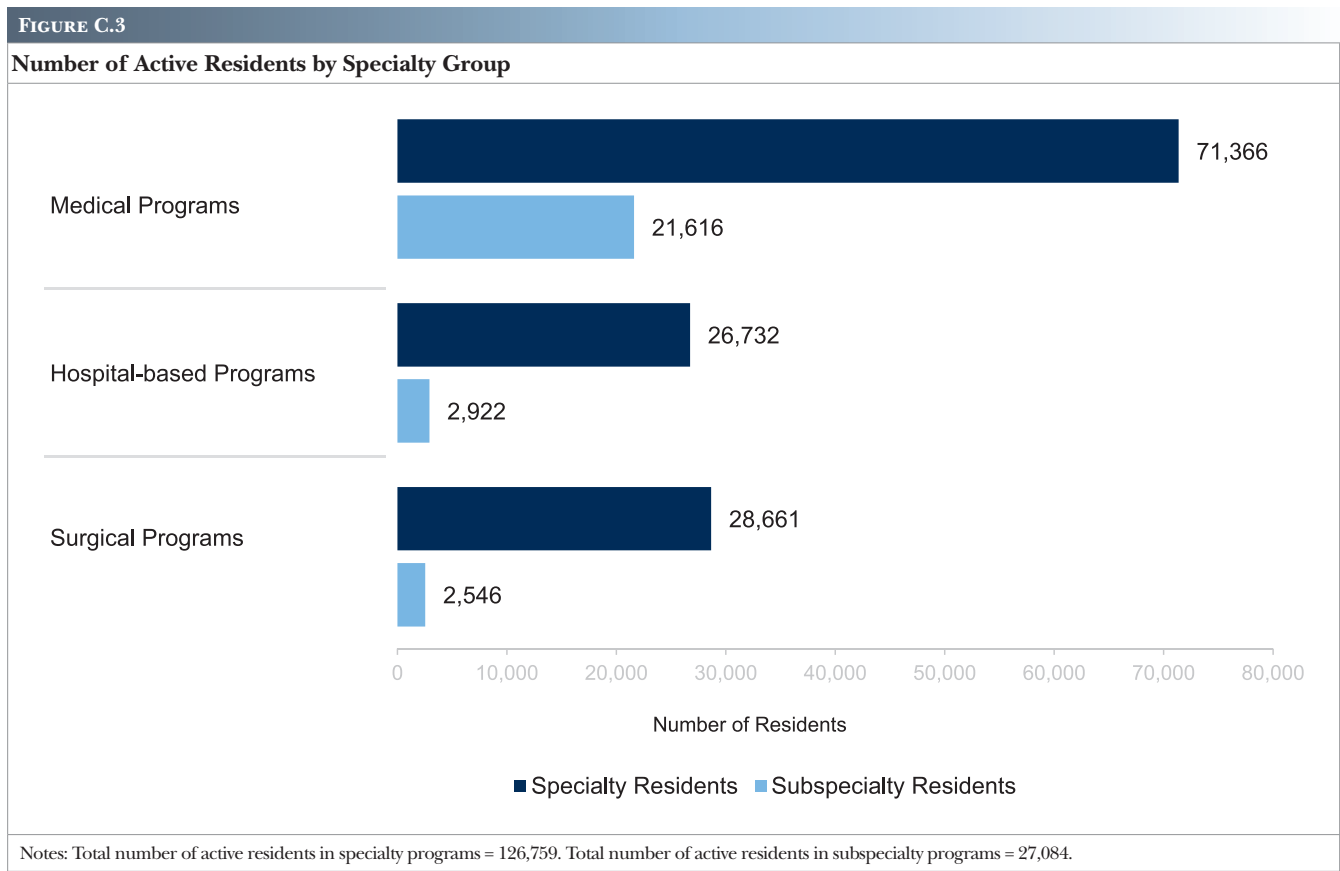


TABLE C.5

## 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	153,843	52,502	3,388	43,112	285	38,378	1	11,911	3,628	416	222
TOTAL PIPELINE	124,521	35,729	3,388	35,250	285	33,696	1	11,906	3,628	416	222
Allergy and immunology	320	156		164							
Anesthesiology	7,086	1,689		1,914		1,885		1,598			
- Adult cardiothoracic anesthesiology	238	238									
- Clinical informatics	2			2							
- Critical care medicine	202	202									
- Regional anesthesiology and acute pain medicine	88	88									
- Obstetric anesthesiology	53	53									
- Pain medicine (multidisciplinary)	409	409									
- Pediatric anesthesiology	193	193									
Colon and rectal surgery	107	107									
Dermatology	1,609	539		532		530		8			
- Dermatopathology (multidisciplinary)	71	71									
- Micrographic surgery and dermatologic oncology	88	88									
- Pediatric dermatology	3	3									
Emergency medicine	9,037	2,936		2,796		2,656		649			
- Clinical informatics	11	6		5							
- Emergency medical services	104	104									
- Medical toxicology	81	37		44							
- Pediatric emergency medicine	140	58		45		37					
- Sports medicine	17	17									
- Undersea and hyperbaric medicine	12	12									
Family medicine	14,657	5,020		4,912		4,686		39			
- Clinical informatics	18	10		8							
- Geriatric medicine	45	45									
- Hospice and palliative medicine (multidisciplinary)	445	445									
- Sports medicine	282	282									
Internal medicine	30,936	9,949	2,044	9,699	3	9,241					
- Adult congenital heart disease	34	17		17							
- Advanced heart failure and transplant cardiology	101	101									
- Cardiovascular disease	3,320	1,146		1,101		1,073					
- Clinical cardiac electrophysiology	310	173		137							
- Clinical informatics	50	31		19							
- Critical care medicine	320	184		136							
- Endocrinology, diabetes, and metabolism	700	370		330							
- Gastroenterology	1,911	662		638		611					
- Geriatric medicine	289	289									
- Hematology	17	11		6							
- Hematology and medical oncology	1,970	683		681		606					
- Infectious disease	798	423		375							
- Interventional cardiology	359	359									
- Nephrology	850	430		420							
- Medical oncology	34	18		16							
- Pulmonary disease	67	33		34							
- Pulmonary disease and critical care medicine	2,175	791		715		669					
- Rheumatology	531	265		266							
- Sleep medicine (multidisciplinary)	202	202									
- Transplant hepatology	48	48									
Medical genetics and genomics	72	40		32							
- Medical biochemical genetics	17	17									
- Molecular genetic pathology (multidisciplinary)	58	58									
Neurological surgery	1,579	236		238		232		212	217	222	222
- Endovascular surgical neuroradiology	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	3,369	968		947		904		550			
- Brain injury medicine	1	1									
- Clinical neurophysiology	149	149									
- Epilepsy	154	154									
- Neurocritical care (multidisciplinary)	12	8		4							
- Endovascular surgical neuroradiology	2	2									
- Neurodevelopmental disabilities	27	7		8		7		5			
- Neuromuscular medicine	73	73									
- Vascular neurology	151	151									
Child neurology	455	168		147		140					
Nuclear medicine	76	38		20		18					
Obstetrics and gynecology	5,861	1,499	18	1,479		1,441		1,424			
- Female pelvic medicine and reconstructive surgery	151	53		47		51					
- Gynecologic oncology	229	80		75		74					
- Maternal-fetal medicine	404	142		130		132					
- Reproductive endocrinology and infertility	171	60		54		57					
- Complex family planning	50	28		22							
Ophthalmology	1,693	523		512		511		147			
- Ophthalmic plastic and reconstructive surgery	5	2		3							
Orthopaedic surgery	4,463	907		902		887		890	877		
- Adult reconstructive orthopaedics	53	53									
- Foot and ankle orthopaedics	16	16									
- Hand surgery	154	154									
- Musculoskeletal oncology	16	16									
- Orthopaedic sports medicine	216	216									
- Orthopaedic surgery of the spine	25	25									
- Orthopaedic trauma	20	20									
- Pediatric orthopaedics	35	35									
Osteopathic neuromusculoskeletal medicine	84	16		22		46					
Otolaryngology - Head and Neck Surgery	1,763	361		367		349		342	344		
- Neurotology	37	20		17							
- Pediatric otolaryngology	42	42									
Pathology-anatomic and clinical	2,340	618		613		595		514			
- Blood banking/transfusion medicine	44	44									
- Clinical informatics	20	12		8							
- Chemical pathology	0										
- Cytopathology	123	123									
- Forensic pathology	58	58									
- Hematopathology	126	126									
- Medical microbiology	12	12									
- Neuropathology	53	31		22							
- Pediatric pathology	22	22									
- Selective pathology	183	183									
Pediatrics	9,476	3,156	103	3,126	78	3,013					
- Adolescent medicine	93	28		32		33					
- Child abuse pediatrics	46	18		14		14					
- Clinical informatics	28	14		14							
- Developmental-behavioral pediatrics	113	45		30		38					
- Neonatal-perinatal medicine	795	290		252		253					
- Pediatric cardiology	482	164		161		157					
- Pediatric critical care medicine	594	207		203		184					
- Pediatric emergency medicine	446	154		150		142					
- Pediatric endocrinology	228	80		85		63					
- Pediatric gastroenterology	330	110		110		110					
- Pediatric hematology/oncology	482	161		158		163					
- Pediatric infectious diseases	180	57		67		56					

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	132	61		41		30					
- Pediatric pulmonology	184	67		59		58					
- Pediatric rheumatology	102	41		35		26					
- Sports medicine	28	28									
- Pediatric transplant hepatology	15	15									
- Pediatric hospital medicine	164	91		73							
Physical medicine and rehabilitation	1,578	450		484		462		182			
- Brain injury medicine	26	26									
- Neuromuscular medicine	1	1									
- Spinal cord injury medicine	22	22									
- Pediatric rehabilitation medicine	31	20		11							
- Sports medicine	40	40									
Plastic surgery	202	67		66		69					
Plastic Surgery - Integrated	1,060	194		181		182		177	169	157	
- Craniofacial surgery	5	5									
- Hand surgery	24	24									
Preventive medicine	346	190		153		3					
- Medical toxicology	3	2		1							
- Undersea and hyperbaric medicine	1	1									
Psychiatry	7,353	2,051		2,020		1,908		1,374			
- Addiction medicine (multidisciplinary)	169	169									
- Addiction psychiatry	89	87		2							
- Child and adolescent psychiatry	953	503		450							
- Forensic psychiatry	89	89									
- Geriatric psychiatry	58	58									
- Consultation-liaison psychiatry	89	89									
Radiation oncology	763	185		198		186		194			
Radiology-diagnostic	4,567	1,158		1,152		1,133		1,104	20		
- Abdominal radiology	49	49									
- Endovascular surgical neuroradiology	3	3									
- Musculoskeletal radiology	38	38									
- Neuroradiology	292	292									
- Nuclear radiology	14	14									
- Pediatric radiology	51	51									
Interventional radiology - independent	205	125		80							
Interventional radiology - integrated	678	148		160		136		138	91	5	
Surgery	9,299	1,611	1,223	1,620	204	1,628	1	1,534	1,478		
- Complex general surgical oncology	123	61		62							
- Hand surgery	7	7									
- Pediatric surgery	86	46		40							
- Surgical critical care	332	332									
- Vascular surgery	264	135		129							
Vascular surgery - integrated	361	80		81		70		66	64		
Thoracic surgery	249	111		107		31					
- Congenital cardiac surgery	12	12									
Thoracic surgery - integrated	230	47		41		43		35	32	32	
Urology	1,794	373		368		367		350	336		
- Female pelvic medicine and reconstructive surgery	38	15		16		7					
- Pediatric urology	28	17		11							
Transitional year	1,767	1,767									
Internal medicine/Pediatrics	1,529	387		388		375		379			

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, 2017-2018 to 2021-2022**

Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	#	%
	#	#	#	#	#		
OVERALL	135,326	140,391	144,988	149,200	153,843	18,517	13.7%
TOTAL PIPELINE	109,822	113,823	117,496	121,110	124,521	14,699	13.4%
Allergy and immunology	296	304	308	312	320	24	8.1%
Anesthesiology	6,346	6,507	6,698	6,895	7,086	740	11.7%
- Adult cardiothoracic anesthesiology	207	215	220	235	238	31	15.0%
- Clinical informatics	2	1	1	1	2	0	0.0%
- Critical care medicine	181	182	191	194	202	21	11.6%
- Regional anesthesiology and acute pain medicine	48	58	72	77	88	40	83.3%
- Obstetric anesthesiology	39	44	38	48	53	14	35.9%
- Pain medicine (multidisciplinary)	361	372	386	400	409	48	13.3%
- Pediatric anesthesiology	205	199	192	185	193	-12	-5.9%
Colon and rectal surgery	97	101	106	105	107	10	10.3%
Dermatology	1,517	1,563	1,594	1,612	1,609	92	6.1%
- Dermatopathology (multidisciplinary)	72	67	69	69	71	-1	-1.4%
- Micrographic surgery and dermatologic oncology	83	82	88	86	88	5	6.0%
- Pediatric dermatology *					3	N/A	N/A
Emergency medicine	7,461	7,940	8,293	8,642	9,037	1,576	21.1%
- Clinical informatics	4	5	10	10	11	7	175.0%
- Emergency medical services	46	62	87	86	104	58	126.1%
- Medical toxicology	63	72	72	79	81	18	28.6%
- Pediatric emergency medicine	119	129	134	134	140	21	17.6%
- Sports medicine	16	16	17	16	17	1	6.3%
- Undersea and hyperbaric medicine	8	9	10	11	12	4	50.0%
Family medicine	12,161	13,116	13,725	14,225	14,657	2,496	20.5%
- Clinical informatics	8	12	10	10	18	10	125.0%
- Geriatric medicine	41	46	38	39	45	4	9.8%
- Hospice and palliative medicine (multidisciplinary)	333	355	374	401	445	112	33.6%
- Sports medicine	229	239	261	278	282	53	23.1%
Internal medicine	27,647	28,420	29,243	30,087	30,936	3,289	11.9%
- Adult congenital heart disease	14	25	25	28	34	20	142.9%
- Advanced heart failure and transplant cardiology	98	105	109	101	101	3	3.1%
- Cardiovascular disease	2,918	3,017	3,105	3,240	3,320	402	13.8%
- Clinical cardiac electrophysiology	185	259	255	276	310	125	67.6%
- Clinical informatics	34	36	36	36	50	16	47.1%
- Critical care medicine	238	253	264	280	320	82	34.5%
- Endocrinology, diabetes, and metabolism	645	660	675	689	700	55	8.5%
- Gastroenterology	1,656	1,741	1,792	1,844	1,911	255	15.4%
- Geriatric medicine	274	258	261	272	289	15	5.5%
- Hematology	16	18	17	18	17	1	6.3%
- Hematology and medical oncology	1,745	1,776	1,843	1,895	1,970	225	12.9%
- Infectious disease	715	760	762	763	798	83	11.6%
- Interventional cardiology	318	339	350	355	359	41	12.9%
- Nephrology	808	805	828	829	850	42	5.2%
- Medical oncology	34	39	35	34	34	0	0.0%
- Pulmonary disease	73	70	73	70	67	-6	-8.2%
- Pulmonary disease and critical care medicine	1,812	1,898	1,999	2,085	2,175	363	20.0%
- Rheumatology	477	503	515	520	531	54	11.3%
- Sleep medicine (multidisciplinary)	164	177	182	190	202	38	23.2%
- Transplant hepatology	46	47	52	47	48	2	4.3%
Medical genetics and genomics	70	69	60	68	72	2	2.9%
- Medical biochemical genetics	12	14	16	14	17	5	41.7%
- Molecular genetic pathology (multidisciplinary)	56	61	56	57	58	2	3.6%
Neurological surgery	1,408	1,462	1,515	1,561	1,579	171	12.1%
- Endovascular surgical neuroradiology	3	1	1	1	3	0	0.0%

TABLE C.6 Continued

## Number of Active Residents by Specialty and Subspecialty and Academic Year, 2017-2018 to 2021-2022

Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022		
	#	#	#	#	#	#	%
Neurology	2,750	2,893	3,062	3,221	3,369	619	22.5%
- Brain injury medicine	1	1	1	1	1	0	0.0%
- Clinical neurophysiology	171	163	163	143	149	-22	-12.9%
- Epilepsy	101	112	126	134	154	53	52.5%
- Neurocritical care (multidisciplinary) *					12	N/A	N/A
- Endovascular surgical neuroradiology	1	1	2	3	2	1	100.0%
- Neurodevelopmental disabilities	28	25	24	26	27	-1	-3.6%
- Neuromuscular medicine	55	67	73	74	73	18	32.7%
- Vascular neurology	115	129	128	162	151	36	31.3%
Child neurology	373	383	401	419	455	82	22.0%
Nuclear medicine	71	75	78	69	76	5	7.0%
Obstetrics and gynecology	5,473	5,571	5,677	5,769	5,861	388	7.1%
- Female pelvic medicine and reconstructive surgery	142	145	149	146	151	9	6.3%
- Gynecologic oncology	187	197	210	221	229	42	22.5%
- Maternal-fetal medicine	322	350	368	391	404	82	25.5%
- Reproductive endocrinology and infertility	160	163	167	166	171	11	6.9%
- Complex family planning *				32	50	18	56.3%
Ophthalmology	1,474	1,473	1,512	1,531	1,693	219	14.9%
- Ophthalmic plastic and reconstructive surgery	5	5	3	3	5	0	0.0%
Orthopaedic surgery	3,941	4,125	4,342	4,415	4,463	522	13.2%
- Adult reconstructive orthopaedics	40	47	46	50	53	13	32.5%
- Foot and ankle orthopaedics	14	15	16	17	16	2	14.3%
- Hand surgery	151	154	154	155	154	3	2.0%
- Musculoskeletal oncology	17	14	17	16	16	-1	-5.9%
- Orthopaedic sports medicine	204	205	215	211	216	12	5.9%
- Orthopaedic surgery of the spine	32	28	34	25	25	-7	-21.9%
- Orthopaedic trauma	18	19	20	20	20	2	11.1%
- Pediatric orthopaedics	39	37	37	34	35	-4	-10.3%
Osteopathic neuromusculoskeletal medicine	21	34	53	68	84	63	300.0%
Otolaryngology - Head and Neck Surgery	1,592	1,651	1,689	1,723	1,763	171	10.7%
- Neurotology	29	32	35	36	37	8	27.6%
- Pediatric otolaryngology	34	35	36	34	42	8	23.5%
Pathology-anatomic and clinical	2,341	2,329	2,324	2,346	2,340	-1	0.0%
- Blood banking/transfusion medicine	49	57	50	52	44	-5	-10.2%
- Clinical informatics	11	9	16	19	20	9	81.8%
- Chemical pathology	1	1	2	0	0	N/A	N/A
- Cytopathology	138	134	125	127	123	-15	-10.9%
- Forensic pathology	43	44	54	49	58	15	34.9%
- Hematopathology	125	131	135	117	126	1	0.8%
- Medical microbiology	10	12	9	16	12	2	20.0%
- Neuropathology	48	50	59	53	53	5	10.4%
- Pediatric pathology	17	23	23	21	22	5	29.4%
- Selective pathology	168	166	167	176	183	15	8.9%
Pediatrics	9,159	9,221	9,323	9,419	9,476	317	3.5%
- Adolescent medicine	88	87	94	97	93	5	5.7%
- Child abuse pediatrics	34	38	47	44	46	12	35.3%
- Clinical informatics	10	12	15	19	28	18	180.0%
- Developmental-behavioral pediatrics	108	102	119	114	113	5	4.6%
- Neonatal-perinatal medicine	759	761	772	783	795	36	4.7%
- Pediatric cardiology	434	444	457	468	482	48	11.1%
- Pediatric critical care medicine	518	534	557	575	594	76	14.7%
- Pediatric emergency medicine	392	408	424	434	446	54	13.8%
- Pediatric endocrinology	241	241	227	230	228	-13	-5.4%
- Pediatric gastroenterology	300	311	322	329	330	30	10.0%
- Pediatric hematology/oncology	501	484	485	475	482	-19	-3.8%
- Pediatric infectious diseases	171	177	169	175	180	9	5.3%



TABLE C.6 <i>Continued</i>							
Number of Active Residents by Specialty and Subspecialty and Academic Year, 2017-2018 to 2021-2022							
Specialty	Academic Year					5-Year Change	
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022		
	#	#	#	#	#	#	%
- Pediatric nephrology	101	116	110	120	132	31	30.7%
- Pediatric pulmonology	158	162	168	176	184	26	16.5%
- Pediatric rheumatology	86	91	90	88	102	16	18.6%
- Sports medicine	26	26	26	26	28	2	7.7%
- Pediatric transplant hepatology	12	9	10	11	15	3	25.0%
- Pediatric hospital medicine *			71	115	164	93	131.0%
Physical medicine and rehabilitation	1,351	1,395	1,453	1,510	1,578	227	16.8%
- Brain injury medicine	13	17	18	17	26	13	100.0%
- Neuromuscular medicine *		1	1	1	1	0	0.0%
- Spinal cord injury medicine	21	20	21	19	22	1	4.8%
- Pediatric rehabilitation medicine	27	38	38	30	31	4	14.8%
- Sports medicine	28	30	32	33	40	12	42.9%
Plastic surgery	266	243	226	214	202	-64	-24.1%
Plastic Surgery - Integrated	829	901	961	1,009	1,060	231	27.9%
- Craniofacial surgery	4	8	5	7	5	1	25.0%
- Hand surgery	23	22	23	23	24	1	4.3%
Preventive medicine	351	357	347	350	346	-5	-1.4%
- Medical toxicology	4	4	4	3	3	-1	-25.0%
- Undersea and hyperbaric medicine	2	2	1	1	1	-1	-50.0%
Psychiatry	5,907	6,247	6,618	6,976	7,353	1,446	24.5%
- Addiction medicine (multidisciplinary) *		39	79	129	169	130	333.3%
- Addiction psychiatry	74	83	78	86	89	15	20.3%
- Child and adolescent psychiatry	865	869	889	919	953	88	10.2%
- Forensic psychiatry	79	66	80	80	89	10	12.7%
- Geriatric psychiatry	53	52	42	44	58	5	9.4%
- Consultation-liaison psychiatry	86	71	86	82	89	3	3.5%
Radiation oncology	767	774	771	773	763	-4	-0.5%
Radiology-diagnostic	4,760	4,671	4,551	4,557	4,567	-193	-4.1%
- Abdominal radiology	44	41	49	46	49	5	11.4%
- Endovascular surgical neuroradiology	6	5	5	2	3	-3	-50.0%
- Musculoskeletal radiology	32	32	35	40	38	6	18.8%
- Neuroradiology	269	259	280	272	292	23	8.6%
- Nuclear radiology	11	11	12	7	14	3	27.3%
- Pediatric radiology	55	55	58	51	51	-4	-7.3%
Interventional radiology - independent *				184	205	21	11.4%
Interventional radiology - integrated	60	246	424	591	678	618	1030.0%
Surgery	8,475	8,844	8,809	9,063	9,299	824	9.7%
- Complex general surgical oncology	107	111	115	120	123	16	15.0%
- Hand surgery	8	8	8	7	7	-1	-12.5%
- Pediatric surgery	80	83	85	86	86	6	7.5%
- Surgical critical care	253	284	290	299	332	79	31.2%
- Vascular surgery	246	248	244	255	264	18	7.3%
Vascular surgery - integrated	272	292	309	332	361	89	32.7%
Thoracic surgery	223	232	236	243	249	26	11.7%
- Congenital cardiac surgery	9	8	8	11	12	3	33.3%
Thoracic surgery - integrated	183	189	193	203	230	47	25.7%
Urology	1,304	1,331	1,734	1,768	1,794	490	37.6%
- Female pelvic medicine and reconstructive surgery	34	37	35	37	38	4	11.8%
- Pediatric urology	24	20	20	18	28	4	16.7%
Transitional year	1,320	1,532	1,597	1,693	1,767	447	33.9%
Internal medicine/Pediatrics	1,492	1,501	1,511	1,510	1,529	37	2.5%

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	153,843	175	0.1%	100.0%
TOTAL PIPELINE	124,521	95	0.1%	54.3%
Allergy and immunology	320	1	0.3%	0.6%
Anesthesiology	7,086	6	0.1%	3.4%
- Adult cardiothoracic anesthesiology	238	1	0.4%	0.6%
- Clinical informatics	2	0	0.0%	0.0%
- Critical care medicine	202	0	0.0%	0.0%
- Regional anesthesiology and acute pain medicine	88	0	0.0%	0.0%
- Obstetric anesthesiology	53	0	0.0%	0.0%
- Pain medicine (multidisciplinary)	409	1	0.2%	0.6%
- Pediatric anesthesiology	193	0	0.0%	0.0%
Colon and rectal surgery	107	0	0.0%	0.0%
Dermatology	1,609	2	0.1%	1.1%
- Dermatopathology (multidisciplinary)	71	0	0.0%	0.0%
- Micrographic surgery and dermatologic oncology	88	0	0.0%	0.0%
- Pediatric dermatology	3	0	0.0%	0.0%
Emergency medicine	9,037	5	0.1%	2.9%
- Clinical informatics	11	0	0.0%	0.0%
- Emergency medical services	104	1	1.0%	0.6%
- Medical toxicology	81	1	1.2%	0.6%
- Pediatric emergency medicine	140	0	0.0%	0.0%
- Sports medicine	17	0	0.0%	0.0%
- Undersea and hyperbaric medicine	12	0	0.0%	0.0%
Family medicine	14,657	9	0.1%	5.1%
- Clinical informatics	18	0	0.0%	0.0%
- Geriatric medicine	45	2	4.4%	1.1%
- Hospice and palliative medicine (multidisciplinary)	445	12	2.7%	6.9%
- Sports medicine	282	1	0.4%	0.6%
Internal medicine	30,936	20	0.1%	11.4%
- Adult congenital heart disease	34	0	0.0%	0.0%
- Advanced heart failure and transplant cardiology	101	0	0.0%	0.0%
- Cardiovascular disease	3,320	6	0.2%	3.4%
- Clinical cardiac electrophysiology	310	0	0.0%	0.0%
- Clinical informatics	50	0	0.0%	0.0%
- Critical care medicine	320	0	0.0%	0.0%
- Endocrinology, diabetes, and metabolism	700	0	0.0%	0.0%
- Gastroenterology	1,911	4	0.2%	2.3%
- Geriatric medicine	289	6	2.1%	3.4%
- Hematology	17	0	0.0%	0.0%
- Hematology and medical oncology	1,970	2	0.1%	1.1%
- Infectious disease	798	0	0.0%	0.0%
- Interventional cardiology	359	0	0.0%	0.0%
- Nephrology	850	1	0.1%	0.6%
- Medical oncology	34	0	0.0%	0.0%
- Pulmonary disease	67	0	0.0%	0.0%
- Pulmonary disease and critical care medicine	2,175	1	0.0%	0.6%
- Rheumatology	531	0	0.0%	0.0%
- Sleep medicine (multidisciplinary)	202	10	5.0%	5.7%
- Transplant hepatology	48	0	0.0%	0.0%
Medical genetics and genomics	72	1	1.4%	0.6%
- Medical biochemical genetics	17	0	0.0%	0.0%
- Molecular genetic pathology (multidisciplinary)	58	0	0.0%	0.0%
Neurological surgery	1,579	0	0.0%	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%

**TABLE C.7 Continued**

**Number of Active Part-Time Residents by Specialty and Subspecialty**

Specialty	Total Residents	Number of Part-Time Residents	Percent of All Residents in Specialty	Percent of All Part-Time Residents
Neurology	3,369	4	0.1%	2.3%
- Brain injury medicine	1	0	0.0%	0.0%
- Clinical neurophysiology	149	1	0.7%	0.6%
- Epilepsy	154	2	1.3%	1.1%
- Neurocritical care (multidisciplinary)	12	1	8.3%	0.6%
- Endovascular surgical neuroradiology	2	0	0.0%	0.0%
- Neurodevelopmental disabilities	27	0	0.0%	0.0%
- Neuromuscular medicine	73	0	0.0%	0.0%
- Vascular neurology	151	1	0.7%	0.6%
Child neurology	455	0	0.0%	0.0%
Nuclear medicine	76	0	0.0%	0.0%
Obstetrics and gynecology	5,861	3	0.1%	1.7%
- Female pelvic medicine and reconstructive surgery	151	0	0.0%	0.0%
- Gynecologic oncology	229	1	0.4%	0.6%
- Maternal-fetal medicine	404	0	0.0%	0.0%
- Reproductive endocrinology and infertility	171	0	0.0%	0.0%
- Complex family planning	50	0	0.0%	0.0%
Ophthalmology	1,693	2	0.1%	1.1%
- Ophthalmic plastic and reconstructive surgery	5	0	0.0%	0.0%
Orthopaedic surgery	4,463	5	0.1%	2.9%
- Adult reconstructive orthopaedics	53	0	0.0%	0.0%
- Foot and ankle orthopaedics	16	0	0.0%	0.0%
- Hand surgery	154	0	0.0%	0.0%
- Musculoskeletal oncology	16	0	0.0%	0.0%
- Orthopaedic sports medicine	216	0	0.0%	0.0%
- Orthopaedic surgery of the spine	25	1	4.0%	0.6%
- Orthopaedic trauma	20	1	5.0%	0.6%
- Pediatric orthopaedics	35	0	0.0%	0.0%
Osteopathic neuromusculoskeletal medicine	84	2	2.4%	1.1%
Otolaryngology - Head and Neck Surgery	1,763	4	0.2%	2.3%
- Neurotology	37	0	0.0%	0.0%
- Pediatric otolaryngology	42	0	0.0%	0.0%
Pathology-anatomic and clinical	2,340	0	0.0%	0.0%
- Blood banking/transfusion medicine	44	1	2.3%	0.6%
- Clinical informatics	20	0	0.0%	0.0%
- Chemical pathology	0	0	0.0%	0.0%
- Cytopathology	123	0	0.0%	0.0%
- Forensic pathology	58	0	0.0%	0.0%
- Hematopathology	126	0	0.0%	0.0%
- Medical microbiology	12	0	0.0%	0.0%
- Neuropathology	53	0	0.0%	0.0%
- Pediatric pathology	22	0	0.0%	0.0%
- Selective pathology	183	0	0.0%	0.0%
Pediatrics	9,476	7	0.1%	4.0%
- Adolescent medicine	93	0	0.0%	0.0%
- Child abuse pediatrics	46	0	0.0%	0.0%
- Clinical informatics	28	0	0.0%	0.0%
- Developmental-behavioral pediatrics	113	1	0.9%	0.6%
- Neonatal-perinatal medicine	795	0	0.0%	0.0%
- Pediatric cardiology	482	0	0.0%	0.0%
- Pediatric critical care medicine	594	0	0.0%	0.0%
- Pediatric emergency medicine	446	0	0.0%	0.0%
- Pediatric endocrinology	228	1	0.4%	0.6%
- Pediatric gastroenterology	330	0	0.0%	0.0%
- Pediatric hematology/oncology	482	2	0.4%	1.1%
- Pediatric infectious diseases	180	0	0.0%	0.0%

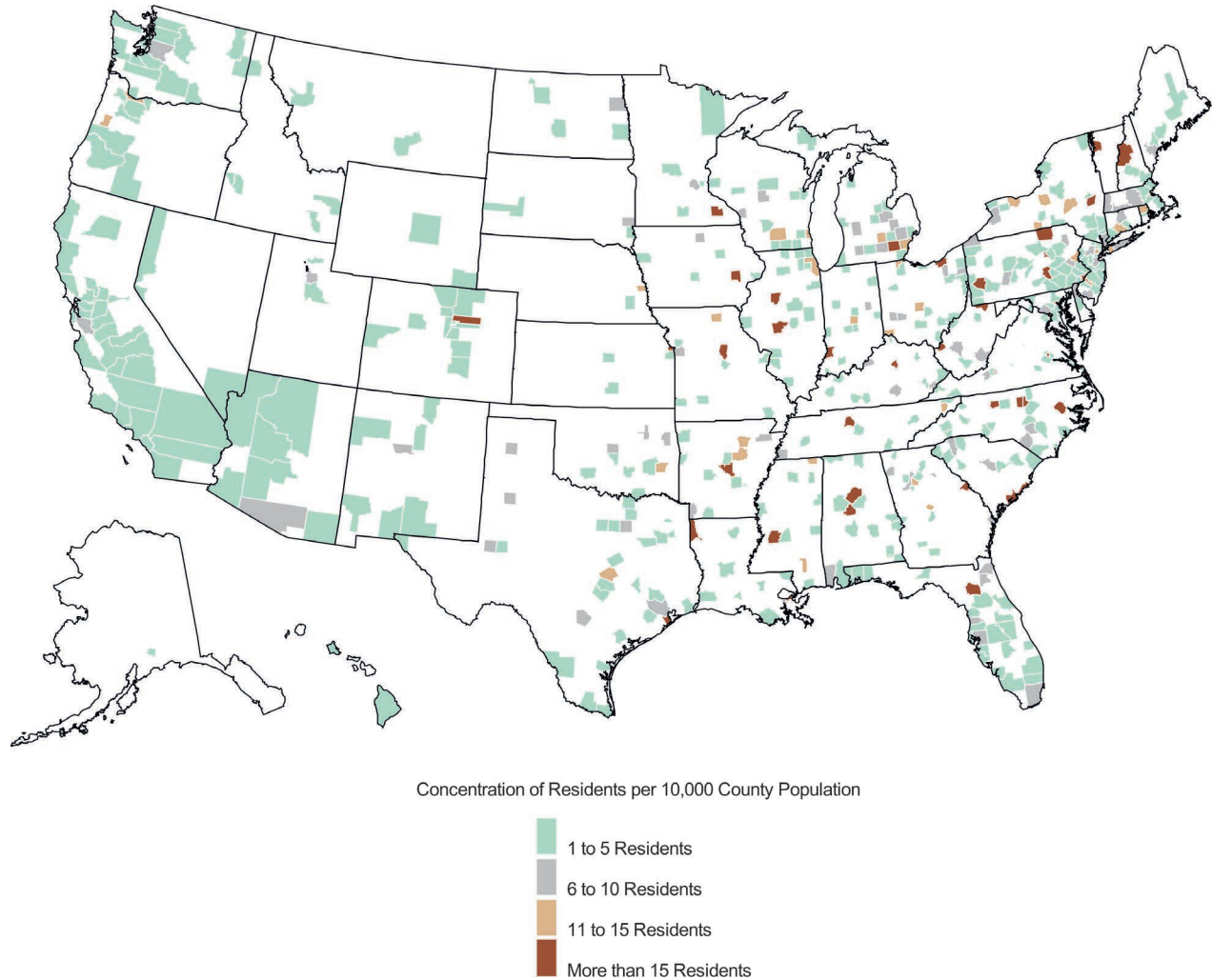
TABLE C.7 Continued

<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>
- Pediatric nephrology	132	0	0.0%	0.0%
- Pediatric pulmonology	184	0	0.0%	0.0%
- Pediatric rheumatology	102	0	0.0%	0.0%
- Sports medicine	28	0	0.0%	0.0%
- Pediatric transplant hepatology	15	0	0.0%	0.0%
- Pediatric hospital medicine	164	0	0.0%	0.0%
Physical medicine and rehabilitation	1,578	1	0.1%	0.6%
- Brain injury medicine	26	0	0.0%	0.0%
- Neuromuscular medicine	1	0	0.0%	0.0%
- Spinal cord injury medicine	22	0	0.0%	0.0%
- Pediatric rehabilitation medicine	31	0	0.0%	0.0%
- Sports medicine	40	0	0.0%	0.0%
Plastic surgery	202	0	0.0%	0.0%
Plastic Surgery - Integrated	1,060	2	0.2%	1.1%
- Craniofacial surgery	5	0	0.0%	0.0%
- Hand surgery	24	0	0.0%	0.0%
Preventive medicine	346	1	0.3%	0.6%
- Medical toxicology	3	0	0.0%	0.0%
- Undersea and hyperbaric medicine	1	0	0.0%	0.0%
Psychiatry	7,353	6	0.1%	3.4%
- Addiction medicine (multidisciplinary)	169	7	4.1%	4.0%
- Addiction psychiatry	89	3	3.4%	1.7%
- Child and adolescent psychiatry	953	3	0.3%	1.7%
- Forensic psychiatry	89	1	1.1%	0.6%
- Geriatric psychiatry	58	0	0.0%	0.0%
- Consultation-liaison psychiatry	89	0	0.0%	0.0%
Radiation oncology	763	1	0.1%	0.6%
Radiology-diagnostic	4,567	2	0.0%	1.1%
- Abdominal radiology	49	0	0.0%	0.0%
- Endovascular surgical neuroradiology	3	0	0.0%	0.0%
- Musculoskeletal radiology	38	0	0.0%	0.0%
- Neuroradiology	292	0	0.0%	0.0%
- Nuclear radiology	14	0	0.0%	0.0%
- Pediatric radiology	51	0	0.0%	0.0%
Interventional radiology - independent	205	0	0.0%	0.0%
Interventional radiology - integrated	678	0	0.0%	0.0%
Surgery	9,299	10	0.1%	5.7%
- Complex general surgical oncology	123	0	0.0%	0.0%
- Hand surgery	7	0	0.0%	0.0%
- Pediatric surgery	86	0	0.0%	0.0%
- Surgical critical care	332	1	0.3%	0.6%
- Vascular surgery	264	0	0.0%	0.0%
Vascular surgery - integrated	361	0	0.0%	0.0%
Thoracic surgery	249	1	0.4%	0.6%
- Congenital cardiac surgery	12	0	0.0%	0.0%
Thoracic surgery - integrated	230	2	0.9%	1.1%
Urology	1,794	0	0.0%	0.0%
- Female pelvic medicine and reconstructive surgery	38	0	0.0%	0.0%
- Pediatric urology	28	0	0.0%	0.0%
Transitional year	1,767	1	0.1%	0.6%
Internal medicine/Pediatrics	1,529	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popost/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Residents	Percent of All Residents	Residents per 100,000 Pop
OVERALL	-	335,157,329	153,843	100.0%	45.90
Alabama	AL	5,039,877	1,744	1.1%	34.60
Alaska	AK	732,673	36	0.0%	4.91
Arizona	AZ	7,276,316	2,153	1.4%	29.59
Arkansas	AR	3,025,891	1,125	0.7%	37.18
California	CA	39,237,836	14,230	9.2%	36.27
Colorado	CO	5,812,069	1,757	1.1%	30.23
Connecticut	CT	3,605,597	2,576	1.7%	71.44
Delaware	DE	1,003,384	409	0.3%	40.76
District of Columbia	DC	670,050	1,798	1.2%	268.34
Florida	FL	21,781,128	8,065	5.2%	37.03
Georgia	GA	10,799,566	3,182	2.1%	29.46
Hawaii	HI	1,441,553	464	0.3%	32.19
Idaho	ID	1,900,923	192	0.1%	10.10
Illinois	IL	12,671,469	7,042	4.6%	55.57
Indiana	IN	6,805,985	1,648	1.1%	24.21
Iowa	IA	3,193,079	1,041	0.7%	32.60
Kansas	KS	2,934,582	925	0.6%	31.52
Kentucky	KY	4,509,394	1,604	1.0%	35.57
Louisiana	LA	4,624,047	2,360	1.5%	51.04
Maine	ME	1,372,247	365	0.2%	26.60
Maryland	MD	6,165,129	3,397	2.2%	55.10
Massachusetts	MA	6,984,723	6,078	4.0%	87.02
Michigan	MI	10,050,811	7,576	4.9%	75.38
Minnesota	MN	5,707,390	2,447	1.6%	42.87
Mississippi	MS	2,949,965	928	0.6%	31.46
Missouri	MO	6,168,187	3,271	2.1%	53.03
Montana	MT	1,104,271	83	0.1%	7.52
Nebraska	NE	1,963,692	899	0.6%	45.78
Nevada	NV	3,143,991	925	0.6%	29.42
New Hampshire	NH	1,388,992	490	0.3%	35.28
New Jersey	NJ	9,267,130	4,183	2.7%	45.14
New Mexico	NM	2,115,877	733	0.5%	34.64
New York	NY	19,835,913	19,215	12.5%	96.87
North Carolina	NC	10,551,162	4,178	2.7%	39.60
North Dakota	ND	774,948	181	0.1%	23.36
Ohio	OH	11,780,017	7,653	5.0%	64.97
Oklahoma	OK	3,986,639	1,271	0.8%	31.88
Oregon	OR	4,246,155	1,127	0.7%	26.54
Pennsylvania	PA	12,964,056	9,742	6.3%	75.15
Puerto Rico	PR	3,263,584	969	0.6%	29.69
Rhode Island	RI	1,095,610	926	0.6%	84.52
South Carolina	SC	5,190,705	1,811	1.2%	34.89
South Dakota	SD	895,376	163	0.1%	18.20
Tennessee	TN	6,975,218	2,734	1.8%	39.20
Texas	TX	29,527,941	10,332	6.7%	34.99
Utah	UT	3,337,975	916	0.6%	27.44
Vermont	VT	645,570	341	0.2%	52.82
Virginia	VA	8,642,274	3,061	2.0%	35.42
Washington	WA	7,738,692	2,306	1.5%	29.80
West Virginia	WV	1,782,959	1,017	0.7%	57.04
Wisconsin	WI	5,895,908	2,131	1.4%	36.14
Wyoming	WY	578,803	43	0.0%	7.43

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Specialty Residents	Percent of All Specialty Residents	Specialty Residents per 100,000 Pop
OVERALL	-	335,157,329	126,759	100.0%	37.82
Alabama	AL	5,039,877	1,466	1.2%	29.09
Alaska	AK	732,673	35	0.0%	4.78
Arizona	AZ	7,276,316	1,811	1.4%	24.89
Arkansas	AR	3,025,891	991	0.8%	32.75
California	CA	39,237,836	11,566	9.1%	29.48
Colorado	CO	5,812,069	1,393	1.1%	23.97
Connecticut	CT	3,605,597	2,089	1.6%	57.94
Delaware	DE	1,003,384	350	0.3%	34.88
District of Columbia	DC	670,050	1,416	1.1%	211.33
Florida	FL	21,781,128	6,834	5.4%	31.38
Georgia	GA	10,799,566	2,690	2.1%	24.91
Hawaii	HI	1,441,553	431	0.3%	29.90
Idaho	ID	1,900,923	187	0.1%	9.84
Illinois	IL	12,671,469	5,926	4.7%	46.77
Indiana	IN	6,805,985	1,398	1.1%	20.54
Iowa	IA	3,193,079	867	0.7%	27.15
Kansas	KS	2,934,582	808	0.6%	27.53
Kentucky	KY	4,509,394	1,329	1.0%	29.47
Louisiana	LA	4,624,047	2,013	1.6%	43.53
Maine	ME	1,372,247	326	0.3%	23.76
Maryland	MD	6,165,129	2,629	2.1%	42.64
Massachusetts	MA	6,984,723	4,604	3.6%	65.92
Michigan	MI	10,050,811	6,498	5.1%	64.65
Minnesota	MN	5,707,390	1,881	1.5%	32.96
Mississippi	MS	2,949,965	806	0.6%	27.32
Missouri	MO	6,168,187	2,585	2.0%	41.91
Montana	MT	1,104,271	82	0.1%	7.43
Nebraska	NE	1,963,692	728	0.6%	37.07
Nevada	NV	3,143,991	838	0.7%	26.65
New Hampshire	NH	1,388,992	403	0.3%	29.01
New Jersey	NJ	9,267,130	3,668	2.9%	39.58
New Mexico	NM	2,115,877	600	0.5%	28.36
New York	NY	19,835,913	15,788	12.5%	79.59
North Carolina	NC	10,551,162	3,332	2.6%	31.58
North Dakota	ND	774,948	178	0.1%	22.97
Ohio	OH	11,780,017	6,239	4.9%	52.96
Oklahoma	OK	3,986,639	1,126	0.9%	28.24
Oregon	OR	4,246,155	935	0.7%	22.02
Pennsylvania	PA	12,964,056	7,901	6.2%	60.95
Puerto Rico	PR	3,263,584	833	0.7%	25.52
Rhode Island	RI	1,095,610	743	0.6%	67.82
South Carolina	SC	5,190,705	1,550	1.2%	29.86
South Dakota	SD	895,376	152	0.1%	16.98
Tennessee	TN	6,975,218	2,181	1.7%	31.27
Texas	TX	29,527,941	8,367	6.6%	28.34
Utah	UT	3,337,975	700	0.6%	20.97
Vermont	VT	645,570	274	0.2%	42.44
Virginia	VA	8,642,274	2,618	2.1%	30.29
Washington	WA	7,738,692	1,918	1.5%	24.78
West Virginia	WV	1,782,959	880	0.7%	49.36
Wisconsin	WI	5,895,908	1,753	1.4%	29.73
Wyoming	WY	578,803	43	0.0%	7.43

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popopest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Subspecialty Residents	Percent of All Subspecialty Residents	Subspecialty Residents per 100,000 Pop
OVERALL	-	335,157,329	27,084	100.0%	8.08
Alabama	AL	5,039,877	278	1.0%	5.52
Alaska	AK	732,673	1	0.0%	0.14
Arizona	AZ	7,276,316	342	1.3%	4.70
Arkansas	AR	3,025,891	134	0.5%	4.43
California	CA	39,237,836	2,664	9.8%	6.79
Colorado	CO	5,812,069	364	1.3%	6.26
Connecticut	CT	3,605,597	487	1.8%	13.51
Delaware	DE	1,003,384	59	0.2%	5.88
District of Columbia	DC	670,050	382	1.4%	57.01
Florida	FL	21,781,128	1,231	4.5%	5.65
Georgia	GA	10,799,566	492	1.8%	4.56
Hawaii	HI	1,441,553	33	0.1%	2.29
Idaho	ID	1,900,923	5	0.0%	0.26
Illinois	IL	12,671,469	1,116	4.1%	8.81
Indiana	IN	6,805,985	250	0.9%	3.67
Iowa	IA	3,193,079	174	0.6%	5.45
Kansas	KS	2,934,582	117	0.4%	3.99
Kentucky	KY	4,509,394	275	1.0%	6.10
Louisiana	LA	4,624,047	347	1.3%	7.50
Maine	ME	1,372,247	39	0.1%	2.84
Maryland	MD	6,165,129	768	2.8%	12.46
Massachusetts	MA	6,984,723	1,474	5.4%	21.10
Michigan	MI	10,050,811	1,078	4.0%	10.73
Minnesota	MN	5,707,390	566	2.1%	9.92
Mississippi	MS	2,949,965	122	0.5%	4.14
Missouri	MO	6,168,187	686	2.5%	11.12
Montana	MT	1,104,271	1	0.0%	0.09
Nebraska	NE	1,963,692	171	0.6%	8.71
Nevada	NV	3,143,991	87	0.3%	2.77
New Hampshire	NH	1,388,992	87	0.3%	6.26
New Jersey	NJ	9,267,130	515	1.9%	5.56
New Mexico	NM	2,115,877	133	0.5%	6.29
New York	NY	19,835,913	3,427	12.7%	17.28
North Carolina	NC	10,551,162	846	3.1%	8.02
North Dakota	ND	774,948	3	0.0%	0.39
Ohio	OH	11,780,017	1,414	5.2%	12.00
Oklahoma	OK	3,986,639	145	0.5%	3.64
Oregon	OR	4,246,155	192	0.7%	4.52
Pennsylvania	PA	12,964,056	1,841	6.8%	14.20
Puerto Rico	PR	3,263,584	136	0.5%	4.17
Rhode Island	RI	1,095,610	183	0.7%	16.70
South Carolina	SC	5,190,705	261	1.0%	5.03
South Dakota	SD	895,376	11	0.0%	1.23
Tennessee	TN	6,975,218	553	2.0%	7.93
Texas	TX	29,527,941	1,965	7.3%	6.65
Utah	UT	3,337,975	216	0.8%	6.47
Vermont	VT	645,570	67	0.2%	10.38
Virginia	VA	8,642,274	443	1.6%	5.13
Washington	WA	7,738,692	388	1.4%	5.01
West Virginia	WV	1,782,959	137	0.5%	7.68
Wisconsin	WI	5,895,908	378	1.4%	6.41
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.



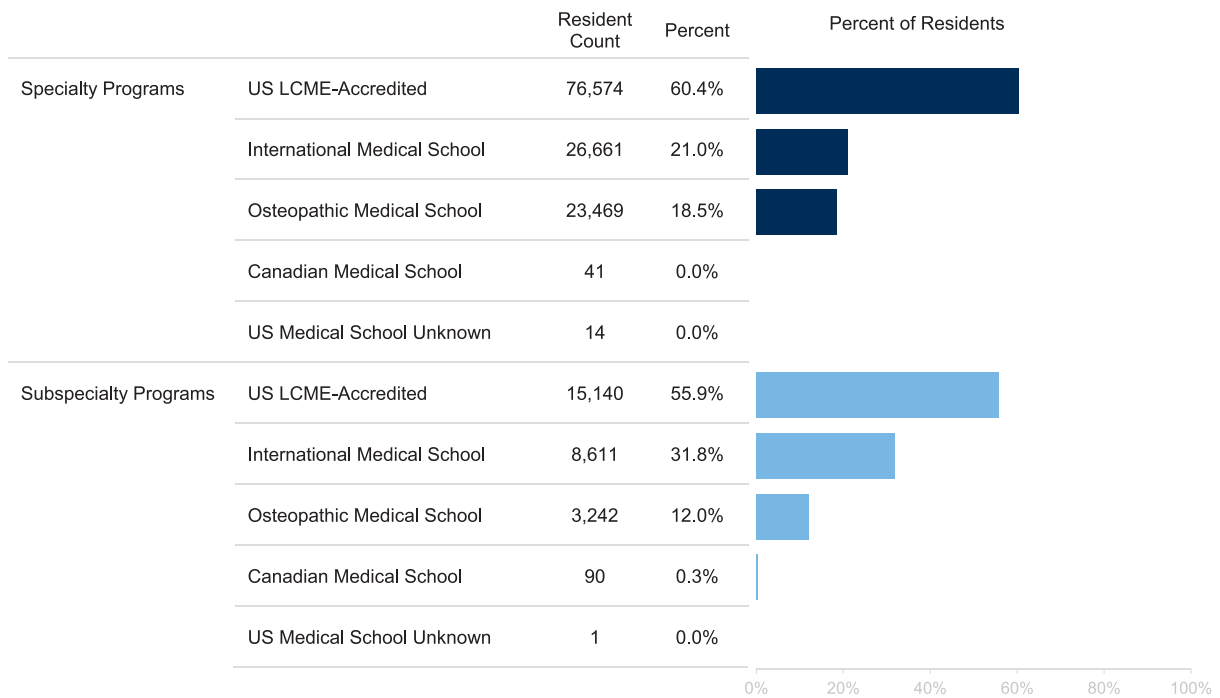
**TABLE C.12**  
**Number of Active Pipeline Residents and Active Pipeline Resident Concentration per 100,000 Population by State**

State Name	State Abbreviation	State Population - Census Estimate 2021	Total Pipeline Residents	Percent of All Pipeline Residents	Pipeline Residents per 100,000 Pop
OVERALL	-	335,157,329	124,521	100.0%	37.15
Alabama	AL	5,039,877	1,445	1.2%	28.67
Alaska	AK	732,673	35	0.0%	4.78
Arizona	AZ	7,276,316	1,774	1.4%	24.38
Arkansas	AR	3,025,891	964	0.8%	31.86
California	CA	39,237,836	11,370	9.1%	28.98
Colorado	CO	5,812,069	1,367	1.1%	23.52
Connecticut	CT	3,605,597	2,077	1.7%	57.60
Delaware	DE	1,003,384	344	0.3%	34.28
District of Columbia	DC	670,050	1,418	1.1%	211.63
Florida	FL	21,781,128	6,637	5.3%	30.47
Georgia	GA	10,799,566	2,582	2.1%	23.91
Hawaii	HI	1,441,553	417	0.3%	28.93
Idaho	ID	1,900,923	187	0.2%	9.84
Illinois	IL	12,671,469	5,829	4.7%	46.00
Indiana	IN	6,805,985	1,349	1.1%	19.82
Iowa	IA	3,193,079	857	0.7%	26.84
Kansas	KS	2,934,582	803	0.6%	27.36
Kentucky	KY	4,509,394	1,316	1.1%	29.18
Louisiana	LA	4,624,047	1,996	1.6%	43.17
Maine	ME	1,372,247	326	0.3%	23.76
Maryland	MD	6,165,129	2,571	2.1%	41.70
Massachusetts	MA	6,984,723	4,520	3.6%	64.71
Michigan	MI	10,050,811	6,330	5.1%	62.98
Minnesota	MN	5,707,390	1,844	1.5%	32.31
Mississippi	MS	2,949,965	789	0.6%	26.75
Missouri	MO	6,168,187	2,558	2.1%	41.47
Montana	MT	1,104,271	82	0.1%	7.43
Nebraska	NE	1,963,692	725	0.6%	36.92
Nevada	NV	3,143,991	812	0.7%	25.83
New Hampshire	NH	1,388,992	403	0.3%	29.01
New Jersey	NJ	9,267,130	3,591	2.9%	38.75
New Mexico	NM	2,115,877	596	0.5%	28.17
New York	NY	19,835,913	15,586	12.5%	78.57
North Carolina	NC	10,551,162	3,274	2.6%	31.03
North Dakota	ND	774,948	173	0.1%	22.32
Ohio	OH	11,780,017	6,138	4.9%	52.11
Oklahoma	OK	3,986,639	1,122	0.9%	28.14
Oregon	OR	4,246,155	935	0.8%	22.02
Pennsylvania	PA	12,964,056	7,760	6.2%	59.86
Puerto Rico	PR	3,263,584	793	0.6%	24.30
Rhode Island	RI	1,095,610	743	0.6%	67.82
South Carolina	SC	5,190,705	1,525	1.2%	29.38
South Dakota	SD	895,376	146	0.1%	16.31
Tennessee	TN	6,975,218	2,159	1.7%	30.95
Texas	TX	29,527,941	8,250	6.6%	27.94
Utah	UT	3,337,975	688	0.6%	20.61
Vermont	VT	645,570	276	0.2%	42.75
Virginia	VA	8,642,274	2,555	2.1%	29.56
Washington	WA	7,738,692	1,867	1.5%	24.13
West Virginia	WV	1,782,959	865	0.7%	48.51
Wisconsin	WI	5,895,908	1,709	1.4%	28.99
Wyoming	WY	578,803	43	0.0%	7.43

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/poppep/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

FIGURE C.13

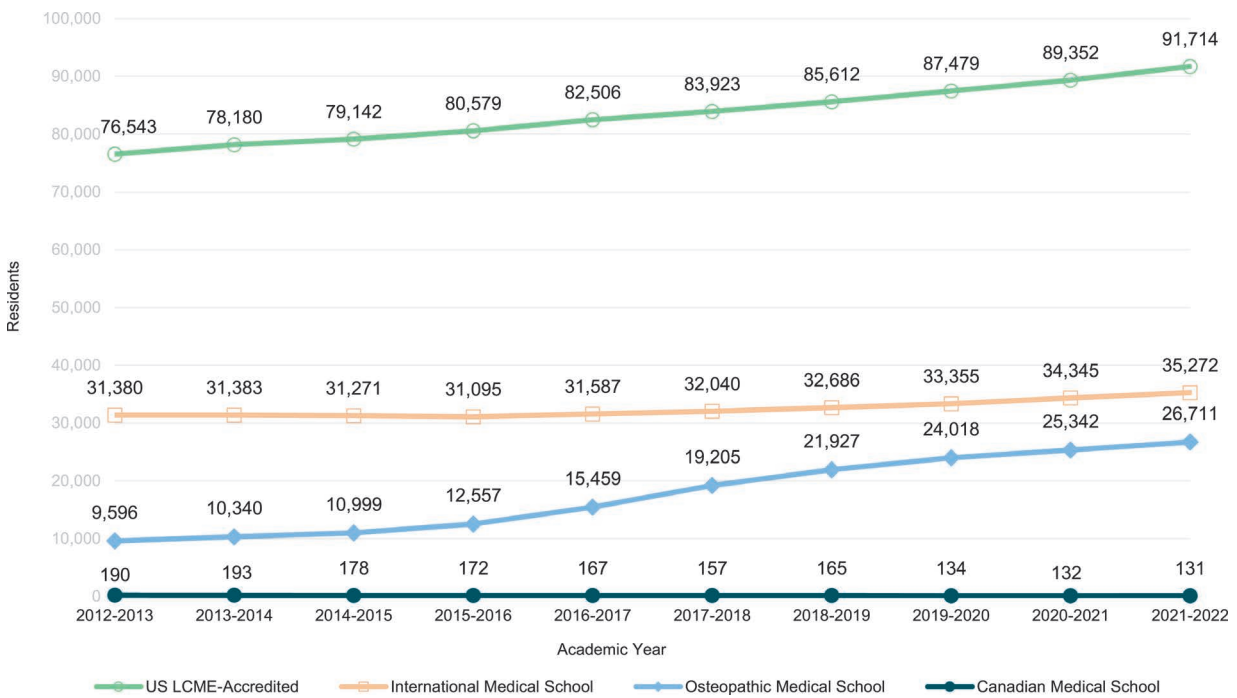
Number of Active Residents by Medical School Type



Notes: Total number of active residents in specialty programs = 126,759. Total number of active residents in subspecialty programs = 27,084.

FIGURE C.14

Number of Active Residents by Medical School Type and Academic Year, 2012-2013 to 2021-2022



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	153,843	91,714	59.6%	35,272	22.9%	26,711	17.4%	131	0.1%	15	0.0%
TOTAL PIPELINE	124,521	75,120	60.3%	26,423	21.2%	22,928	18.4%	37	0.0%	13	0.0%
Allergy and immunology	320	230	71.9%	58	18.1%	32	10.0%	0	0.0%	0	0.0%
Anesthesiology	7,086	4,949	69.8%	789	11.1%	1,343	19.0%	4	0.1%	1	0.0%
- Adult cardiothoracic anesthesiology	238	162	68.1%	49	20.6%	25	10.5%	2	0.8%	0	0.0%
- Clinical informatics	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	202	147	72.8%	36	17.8%	19	9.4%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	88	57	64.8%	24	27.3%	7	8.0%	0	0.0%	0	0.0%
- Obstetric anesthesiology	53	38	71.7%	11	20.8%	4	7.5%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	409	254	62.1%	72	17.6%	83	20.3%	0	0.0%	0	0.0%
- Pediatric anesthesiology	193	123	63.7%	48	24.9%	21	10.9%	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	1,609	1,382	85.9%	57	3.5%	167	10.4%	3	0.2%	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	88	79	89.8%	2	2.3%	6	6.8%	1	1.1%	0	0.0%
- Pediatric dermatology	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	9,037	5,974	66.1%	558	6.2%	2,503	27.7%	1	0.0%	1	0.0%
- Clinical informatics	11	7	63.6%	4	36.4%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	104	84	80.8%	4	3.8%	16	15.4%	0	0.0%	0	0.0%
- Medical toxicology	81	59	72.8%	7	8.6%	15	18.5%	0	0.0%	0	0.0%
- Pediatric emergency medicine	140	79	56.4%	37	26.4%	24	17.1%	0	0.0%	0	0.0%
- Sports medicine	17	10	58.8%	2	11.8%	5	29.4%	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	14,657	5,833	39.8%	3,903	26.6%	4,919	33.6%	1	0.0%	1	0.0%
- Clinical informatics	18	13	72.2%	5	27.8%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	45	20	44.4%	11	24.4%	14	31.1%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	445	273	61.3%	104	23.4%	66	14.8%	2	0.4%	0	0.0%
- Sports medicine	282	132	46.8%	42	14.9%	108	38.3%	0	0.0%	0	0.0%
Internal medicine	30,936	13,586	43.9%	12,006	38.8%	5,330	17.2%	6	0.0%	8	0.0%
- Adult congenital heart disease	34	22	64.7%	8	23.5%	4	11.8%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	101	60	59.4%	33	32.7%	7	6.9%	1	1.0%	0	0.0%
- Cardiovascular disease	3,320	1,679	50.6%	1,276	38.4%	360	10.8%	5	0.2%	0	0.0%
- Clinical cardiac electrophysiology	310	170	54.8%	111	35.8%	27	8.7%	2	0.6%	0	0.0%
- Clinical informatics	50	34	68.0%	12	24.0%	4	8.0%	0	0.0%	0	0.0%
- Critical care medicine	320	105	32.8%	145	45.3%	69	21.6%	1	0.3%	0	0.0%
- Endocrinology, diabetes, and metabolism	700	219	31.3%	415	59.3%	65	9.3%	1	0.1%	0	0.0%
- Gastroenterology	1,911	1,136	59.4%	547	28.6%	227	11.9%	1	0.1%	0	0.0%
- Geriatric medicine	289	104	36.0%	157	54.3%	28	9.7%	0	0.0%	0	0.0%
- Hematology	17	14	82.4%	3	17.6%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	1,970	1,085	55.1%	716	36.3%	166	8.4%	3	0.2%	0	0.0%
- Infectious disease	798	365	45.7%	338	42.4%	92	11.5%	3	0.4%	0	0.0%
- Interventional cardiology	359	145	40.4%	183	51.0%	31	8.6%	0	0.0%	0	0.0%
- Nephrology	850	181	21.3%	561	66.0%	106	12.5%	2	0.2%	0	0.0%
- Medical oncology	34	18	52.9%	13	38.2%	3	8.8%	0	0.0%	0	0.0%
- Pulmonary disease	67	3	4.5%	52	77.6%	12	17.9%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	2,175	1,062	48.8%	818	37.6%	295	13.6%	0	0.0%	0	0.0%
- Rheumatology	531	235	44.3%	200	37.7%	96	18.1%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	202	82	40.6%	89	44.1%	30	14.9%	1	0.5%	0	0.0%
- Transplant hepatology	48	33	68.8%	12	25.0%	1	2.1%	2	4.2%	0	0.0%
Medical genetics and genomics	72	42	58.3%	27	37.5%	3	4.2%	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	1,579	1,398	88.5%	123	7.8%	57	3.6%	1	0.1%	0	0.0%
- Endovascular surgical neuroradiology	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

TABLE C.15 Continued

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

Specialty	Total Residents	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
Neurology	3,369	1,805	53.6%	1,091	32.4%	470	14.0%	3	0.1%	0	0.0%
- Brain injury medicine	1	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	149	66	44.3%	60	40.3%	18	12.1%	5	3.4%	0	0.0%
- Epilepsy	154	84	54.5%	54	35.1%	13	8.4%	3	1.9%	0	0.0%
- Neurocritical care (multidisciplinary)	12	4	33.3%	7	58.3%	1	8.3%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	27	21	77.8%	3	11.1%	2	7.4%	1	3.7%	0	0.0%
- Neuromuscular medicine	73	44	60.3%	23	31.5%	5	6.8%	1	1.4%	0	0.0%
- Vascular neurology	151	65	43.0%	67	44.4%	19	12.6%	0	0.0%	0	0.0%
Child neurology	455	322	70.8%	93	20.4%	40	8.8%	0	0.0%	0	0.0%
Nuclear medicine	76	13	17.1%	62	81.6%	1	1.3%	0	0.0%	0	0.0%
Obstetrics and gynecology	5,861	4,492	76.6%	406	6.9%	963	16.4%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	151	127	84.1%	11	7.3%	13	8.6%	0	0.0%	0	0.0%
- Gynecologic oncology	229	209	91.3%	7	3.1%	11	4.8%	2	0.9%	0	0.0%
- Maternal-fetal medicine	404	319	79.0%	52	12.9%	32	7.9%	1	0.2%	0	0.0%
- Reproductive endocrinology and infertility	171	150	87.7%	12	7.0%	7	4.1%	2	1.2%	0	0.0%
- Complex family planning	50	46	92.0%	1	2.0%	3	6.0%	0	0.0%	0	0.0%
Ophthalmology	1,693	1,524	90.0%	81	4.8%	87	5.1%	1	0.1%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	5	5	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	4,463	3,787	84.9%	58	1.3%	618	13.8%	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	154	138	89.6%	7	4.5%	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	216	159	73.6%	18	8.3%	36	16.7%	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	35	23	65.7%	10	28.6%	1	2.9%	1	2.9%	0	0.0%
Osteopathic neuromusculoskeletal medicine	84	3	3.6%	0	0.0%	81	96.4%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	1,763	1,619	91.8%	32	1.8%	112	6.4%	0	0.0%	0	0.0%
- Neurotology	37	33	89.2%	1	2.7%	0	0.0%	3	8.1%	0	0.0%
- Pediatric otolaryngology	42	30	71.4%	5	11.9%	6	14.3%	1	2.4%	0	0.0%
Pathology-anatomic and clinical	2,340	954	40.8%	1,135	48.5%	249	10.6%	2	0.1%	0	0.0%
- Blood banking/transfusion medicine	44	31	70.5%	9	20.5%	3	6.8%	1	2.3%	0	0.0%
- Clinical informatics	20	11	55.0%	7	35.0%	2	10.0%	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	123	40	32.5%	71	57.7%	11	8.9%	1	0.8%	0	0.0%
- Forensic pathology	58	31	53.4%	17	29.3%	10	17.2%	0	0.0%	0	0.0%
- Hematopathology	126	42	33.3%	77	61.1%	6	4.8%	1	0.8%	0	0.0%
- Medical microbiology	12	8	66.7%	3	25.0%	1	8.3%	0	0.0%	0	0.0%
- Neuropathology	53	29	54.7%	19	35.8%	5	9.4%	0	0.0%	0	0.0%
- Pediatric pathology	22	11	50.0%	5	22.7%	4	18.2%	2	9.1%	0	0.0%
- Selective pathology	183	54	29.5%	119	65.0%	8	4.4%	2	1.1%	0	0.0%
Pediatrics	9,476	5,841	61.6%	1,981	20.9%	1,650	17.4%	3	0.0%	1	0.0%
- Adolescent medicine	93	70	75.3%	12	12.9%	11	11.8%	0	0.0%	0	0.0%
- Child abuse pediatrics	46	30	65.2%	8	17.4%	8	17.4%	0	0.0%	0	0.0%
- Clinical informatics	28	22	78.6%	4	14.3%	1	3.6%	1	3.6%	0	0.0%
- Developmental-behavioral pediatrics	113	62	54.9%	35	31.0%	16	14.2%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	795	460	57.9%	227	28.6%	106	13.3%	2	0.3%	0	0.0%
- Pediatric cardiology	482	334	69.3%	104	21.6%	44	9.1%	0	0.0%	0	0.0%
- Pediatric critical care medicine	594	408	68.7%	117	19.7%	69	11.6%	0	0.0%	0	0.0%
- Pediatric emergency medicine	446	332	74.4%	48	10.8%	66	14.8%	0	0.0%	0	0.0%
- Pediatric endocrinology	228	113	49.6%	89	39.0%	25	11.0%	0	0.0%	1	0.4%
- Pediatric gastroenterology	330	217	65.8%	86	26.1%	27	8.2%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	482	304	63.1%	116	24.1%	61	12.7%	1	0.2%	0	0.0%
- Pediatric infectious diseases	180	109	60.6%	48	26.7%	23	12.8%	0	0.0%	0	0.0%

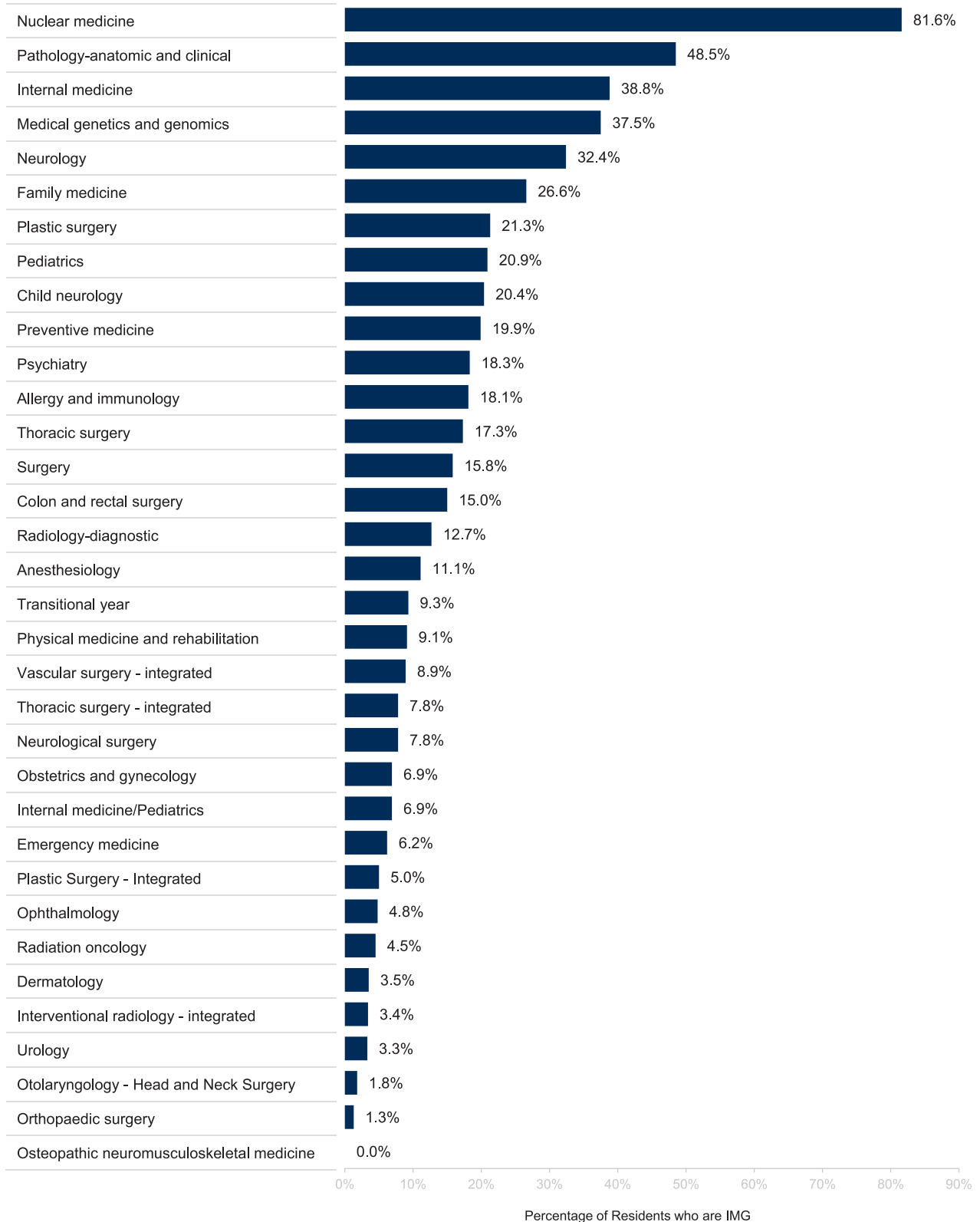
TABLE C.15 <i>Continued</i>											
Number of Active Residents by Specialty and Subspecialty and Medical School Type											
Specialty	Total Residents	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	132	85	64.4%	35	26.5%	12	9.1%	0	0.0%	0	0.0%
- Pediatric pulmonology	184	99	53.8%	58	31.5%	27	14.7%	0	0.0%	0	0.0%
- Pediatric rheumatology	102	75	73.5%	19	18.6%	8	7.8%	0	0.0%	0	0.0%
- Sports medicine	28	14	50.0%	6	21.4%	6	21.4%	2	7.1%	0	0.0%
- Pediatric transplant hepatology	15	13	86.7%	2	13.3%	0	0.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	164	135	82.3%	11	6.7%	17	10.4%	1	0.6%	0	0.0%
Physical medicine and rehabilitation	1,578	863	54.7%	144	9.1%	571	36.2%	0	0.0%	0	0.0%
- Brain injury medicine	26	18	69.2%	3	11.5%	5	19.2%	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	22	17	77.3%	3	13.6%	2	9.1%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	31	19	61.3%	4	12.9%	8	25.8%	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	202	140	69.3%	43	21.3%	19	9.4%	0	0.0%	0	0.0%
Plastic Surgery - Integrated	1,060	996	94.0%	53	5.0%	11	1.0%	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	24	16	66.7%	3	12.5%	1	4.2%	4	16.7%	0	0.0%
Preventive medicine	346	210	60.7%	69	19.9%	66	19.1%	1	0.3%	0	0.0%
- Medical toxicology	3	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Psychiatry	7,353	4,652	63.3%	1,344	18.3%	1,354	18.4%	2	0.0%	1	0.0%
- Addiction medicine (multidisciplinary)	169	96	56.8%	42	24.9%	30	17.8%	1	0.6%	0	0.0%
- Addiction psychiatry	89	60	67.4%	22	24.7%	7	7.9%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	953	535	56.1%	249	26.1%	169	17.7%	0	0.0%	0	0.0%
- Forensic psychiatry	89	63	70.8%	13	14.6%	13	14.6%	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	89	48	53.9%	29	32.6%	10	11.2%	2	2.2%	0	0.0%
Radiation oncology	763	712	93.3%	34	4.5%	17	2.2%	0	0.0%	0	0.0%
Radiology-diagnostic	4,567	3,312	72.5%	582	12.7%	672	14.7%	1	0.0%	0	0.0%
- Abdominal radiology	49	23	46.9%	21	42.9%	3	6.1%	2	4.1%	0	0.0%
- Endovascular surgical neuroradiology	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	38	19	50.0%	11	28.9%	6	15.8%	2	5.3%	0	0.0%
- Neuroradiology	292	182	62.3%	82	28.1%	27	9.2%	1	0.3%	0	0.0%
- Nuclear radiology	14	5	35.7%	8	57.1%	1	7.1%	0	0.0%	0	0.0%
- Pediatric radiology	51	24	47.1%	24	47.1%	3	5.9%	0	0.0%	0	0.0%
Interventional radiology - independent	205	142	69.3%	43	21.0%	19	9.3%	1	0.5%	0	0.0%
Interventional radiology - integrated	678	599	88.3%	23	3.4%	56	8.3%	0	0.0%	0	0.0%
Surgery	9,299	6,564	70.6%	1,470	15.8%	1,259	13.5%	6	0.1%	0	0.0%
- Complex general surgical oncology	123	108	87.8%	11	8.9%	3	2.4%	1	0.8%	0	0.0%
- Hand surgery	7	1	14.3%	4	57.1%	2	28.6%	0	0.0%	0	0.0%
- Pediatric surgery	86	75	87.2%	9	10.5%	2	2.3%	0	0.0%	0	0.0%
- Surgical critical care	332	240	72.3%	39	11.7%	51	15.4%	2	0.6%	0	0.0%
- Vascular surgery	264	172	65.2%	48	18.2%	43	16.3%	1	0.4%	0	0.0%
Vascular surgery - integrated	361	312	86.4%	32	8.9%	16	4.4%	1	0.3%	0	0.0%
Thoracic surgery	249	189	75.9%	43	17.3%	15	6.0%	2	0.8%	0	0.0%
- Congenital cardiac surgery	12	8	66.7%	3	25.0%	1	8.3%	0	0.0%	0	0.0%
Thoracic surgery - integrated	230	206	89.6%	18	7.8%	6	2.6%	0	0.0%	0	0.0%
Urology	1,794	1,623	90.5%	60	3.3%	111	6.2%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	38	28	73.7%	6	15.8%	4	10.5%	0	0.0%	0	0.0%
- Pediatric urology	28	26	92.9%	0	0.0%	1	3.6%	1	3.6%	0	0.0%
Transitional year	1,767	1,097	62.1%	164	9.3%	505	28.6%	0	0.0%	1	0.1%
Internal medicine/Pediatrics	1,529	1,265	82.7%	106	6.9%	158	10.3%	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	-	153,843	91,714	35,272	26,711	131	15
Alabama	AL	1,744	1,114	386	242	2	0
Alaska	AK	36	22	1	13	0	0
Arizona	AZ	2,153	1,245	383	525	0	0
Arkansas	AR	1,125	552	389	184	0	0
California	CA	14,230	10,726	1,729	1,759	15	1
Colorado	CO	1,757	1,361	84	310	2	0
Connecticut	CT	2,576	1,440	869	262	5	0
Delaware	DE	409	199	58	151	1	0
District of Columbia	DC	1,798	1,198	463	136	1	0
Florida	FL	8,065	3,610	2,653	1,798	3	1
Georgia	GA	3,182	1,955	762	462	3	0
Hawaii	HI	464	301	63	100	0	0
Idaho	ID	192	97	27	68	0	0
Illinois	IL	7,042	4,167	1,686	1,184	5	0
Indiana	IN	1,648	988	282	378	0	0
Iowa	IA	1,041	624	192	225	0	0
Kansas	KS	925	572	150	203	0	0
Kentucky	KY	1,604	912	317	374	0	1
Louisiana	LA	2,360	1,482	671	207	0	0
Maine	ME	365	218	44	103	0	0
Maryland	MD	3,397	2,351	737	303	6	0
Massachusetts	MA	6,078	4,452	1,210	395	21	0
Michigan	MI	7,576	3,219	2,164	2,188	5	0
Minnesota	MN	2,447	1,768	454	221	4	0
Mississippi	MS	928	485	208	235	0	0
Missouri	MO	3,271	2,082	633	555	1	0
Montana	MT	83	42	8	33	0	0
Nebraska	NE	899	532	227	140	0	0
Nevada	NV	925	368	181	376	0	0
New Hampshire	NH	490	345	84	60	1	0
New Jersey	NJ	4,183	1,293	1,724	1,160	1	5
New Mexico	NM	733	433	154	146	0	0
New York	NY	19,215	9,712	7,193	2,283	24	3
North Carolina	NC	4,178	3,081	444	651	1	1
North Dakota	ND	181	82	83	16	0	0
Ohio	OH	7,653	4,122	1,557	1,972	2	0
Oklahoma	OK	1,271	515	156	599	1	0
Oregon	OR	1,127	800	115	212	0	0
Pennsylvania	PA	9,742	5,338	2,192	2,201	10	1
Puerto Rico	PR	969	607	360	1	0	1
Rhode Island	RI	926	663	168	93	2	0
South Carolina	SC	1,811	1,192	187	432	0	0
South Dakota	SD	163	85	36	42	0	0
Tennessee	TN	2,734	2,024	394	313	3	0
Texas	TX	10,332	6,672	1,997	1,657	6	0
Utah	UT	916	780	57	78	1	0
Vermont	VT	341	275	35	31	0	0
Virginia	VA	3,061	1,895	452	714	0	0
Washington	WA	2,306	1,799	157	347	3	0
West Virginia	WV	1,017	449	328	240	0	0
Wisconsin	WI	2,131	1,461	350	317	2	1
Wyoming	WY	43	9	18	16	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	32.6	30.4	32.9	31.0
TOTAL PIPELINE	29.8	29.2	31.5	29.8	29.1	30.6
Allergy and immunology	32.0	31.8	32.6	32.5		
Anesthesiology	29.5	29.1	32.2	29.9	24.0	40.0
- Adult cardiothoracic anesthesiology	33.7	33.4	35.1	32.4	35.5	
- Clinical informatics						
- Critical care medicine	34.0	33.9	34.3	33.5		
- Regional anesthesiology and acute pain medicine	33.8	33.6	34.2	33.9		
- Obstetric anesthesiology	33.5	33.3	34.9	32.3		
- Pain medicine (multidisciplinary)	34.1	33.6	36.6	33.6		
- Pediatric anesthesiology	33.6	33.3	34.5	33.4	33.0	
Colon and rectal surgery	34.6	34.6	35.3	34.3	32.7	
Dermatology	30.1	30.0	32.5	30.1	29.0	
- Dermatopathology (multidisciplinary)	34.3	33.1	37.9	34.4	32.5	
- Micrographic surgery and dermatologic oncology	33.4	33.4	30.0	34.8	33.0	
- Pediatric dermatology	31.0	31.0				
Emergency medicine	29.5	29.2	31.2	29.7		27.0
- Clinical informatics	35.0	34.4	38.0			
- Emergency medical services	33.4	33.0	36.3	34.6		
- Medical toxicology	33.0	33.0	32.5	33.3		
- Pediatric emergency medicine	33.3	32.8	33.6	35.0		
- Sports medicine	31.7	30.9	36.0	31.6		
- Undersea and hyperbaric medicine	39.0	38.3	38.3	37.0	48.0	
Family medicine	30.6	29.8	32.6	30.0		
- Clinical informatics	35.9	35.0	39.5			
- Geriatric medicine	35.3	36.9	36.5	32.1		
- Hospice and palliative medicine (multidisciplinary)	35.8	36.5	35.4	33.1	38.5	
- Sports medicine	32.9	33.1	33.5	32.5		
Internal medicine	29.7	28.9	30.9	29.6	26.0	30.3
- Adult congenital heart disease	35.0	35.0	34.8	36.0		
- Advanced heart failure and transplant cardiology	35.3	35.0	35.7	35.4	37.0	
- Cardiovascular disease	32.1	31.5	32.9	31.9	24.0	
- Clinical cardiac electrophysiology	35.0	34.8	35.3	35.5	36.0	
- Clinical informatics	33.6	32.3	36.6	33.0		
- Critical care medicine	33.8	32.9	34.8	33.1	33.0	
- Endocrinology, diabetes, and metabolism	33.2	31.7	34.0	31.9	45.0	
- Gastroenterology	32.0	31.5	32.9	32.3		
- Geriatric medicine	34.6	34.0	35.3	33.1		
- Hematology	31.2	31.6	30.0			
- Hematology and medical oncology	32.9	32.3	33.7	33.1	33.0	
- Infectious disease	32.9	32.4	33.6	32.5	32.0	
- Interventional cardiology	35.3	34.8	35.8	35.5		
- Nephrology	34.1	32.2	34.9	33.4	34.0	
- Medical oncology	32.4	31.4	33.7	33.5		
- Pulmonary disease	35.1	36.5	35.3	33.5		
- Pulmonary disease and critical care medicine	32.7	32.2	33.4	32.6		
- Rheumatology	32.5	32.4	33.1	31.8		
- Sleep medicine (multidisciplinary)	35.0	34.0	35.9	35.0	37.0	
- Transplant hepatology	34.9	34.9	35.3	34.0	32.5	
Medical genetics and genomics	34.1	33.7	34.8	35.0		
- Medical biochemical genetics	34.2	33.0	34.7	37.5		
- Molecular genetic pathology (multidisciplinary)	35.9	35.1	37.0	33.0		
Neurological surgery	29.1	29.0	31.1	29.4		
- Endovascular surgical neuroradiology	39.0	39.0				



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	29.6	31.2	29.8	28.0	
- Brain injury medicine	30.0			30.0		
- Clinical neurophysiology	33.8	33.2	34.5	33.9	32.2	
- Epilepsy	34.3	33.4	36.1	32.5	34.3	
- Neurocritical care (multidisciplinary)	34.9	35.0	34.5	36.0		
- Endovascular surgical neuroradiology	33.5	33.0	34.0			
- Neurodevelopmental disabilities	32.1	32.0	33.0	31.0		
- Neuromuscular medicine	33.5	33.1	34.3	33.2	32.0	
- Vascular neurology	33.9	33.1	34.5	34.6		
Child neurology	31.6	31.3	32.4	32.0		
Nuclear medicine	35.7	31.8	36.8			
Obstetrics and gynecology	28.7	28.5	30.8	28.8		
- Female pelvic medicine and reconstructive surgery	32.0	31.7	35.0	32.0		
- Gynecologic oncology	32.5	32.5	34.0	32.0		
- Maternal-fetal medicine	33.0	32.6	34.2	33.7	41.0	
- Reproductive endocrinology and infertility	33.0	32.8	33.3	33.6	35.0	
- Complex family planning	32.5	32.6		31.0		
Ophthalmology	29.4	29.2	31.8	30.3		
- Ophthalmic plastic and reconstructive surgery	34.0	34.0				
Orthopaedic surgery	28.8	28.6	31.1	29.5		
- Adult reconstructive orthopaedics	34.0	33.7	38.0	33.5		
- Foot and ankle orthopaedics	33.4	32.7	36.7			
- Hand surgery	34.0	33.7	37.1	35.5	33.0	
- Musculoskeletal oncology	33.8	33.2	35.0	34.0	34.0	
- Orthopaedic sports medicine	34.2	33.8	37.6	34.6	31.0	
- Orthopaedic surgery of the spine	35.4	34.8	38.2	34.3		
- Orthopaedic trauma	35.9	35.6	39.0		37.0	
- Pediatric orthopaedics	35.4	33.4	40.9	32.0	31.0	
Osteopathic neuromusculoskeletal medicine	33.9			33.9		
Otolaryngology - Head and Neck Surgery	28.8	28.6	39.5	29.1		
- Neurotology	33.3	33.2	37.0		32.5	
- Pediatric otolaryngology	33.9	33.9	33.8	34.2	31.0	
Pathology-anatomic and clinical	32.2	30.7	33.8	30.8		
- Blood banking/transfusion medicine	36.6	36.6	38.3	32.3	32.0	
- Clinical informatics	35.9	33.8	35.5	41.5		
- Chemical pathology						
- Cytopathology	36.5	34.1	38.5	33.1	33.0	
- Forensic pathology	35.2	34.5	36.4	35.3		
- Hematopathology	37.0	34.4	38.4	37.2	33.0	
- Medical microbiology	34.3	33.0	36.7	37.0		
- Neuropathology	37.3	34.8	41.0	35.3		
- Pediatric pathology	35.2	33.8	40.6	33.5	33.0	
- Selective pathology	36.9	34.6	38.2	33.6	37.0	
Pediatrics	29.0	28.5	30.7	28.7	29.0	
- Adolescent medicine	32.2	32.2	33.0	30.5		
- Child abuse pediatrics	32.6	32.3	34.5	30.5		
- Clinical informatics	32.4	32.4	32.3	33.0	31.0	
- Developmental-behavioral pediatrics	34.0	34.5	33.5	33.5		
- Neonatal-perinatal medicine	32.4	32.0	33.6	31.7		
- Pediatric cardiology	32.2	32.2	32.5	31.6		
- Pediatric critical care medicine	32.0	31.7	33.1	32.1		
- Pediatric emergency medicine	31.9	31.7	32.9	32.1		
- Pediatric endocrinology	32.9	32.0	34.1	32.2		29.0
- Pediatric gastroenterology	32.1	31.6	33.5	31.1		
- Pediatric hematology/oncology	32.1	31.8	32.9	32.4	29.0	
- Pediatric infectious diseases	33.6	33.6	34.6	32.1		

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	32.7	31.8	37.1	30.9		
- Pediatric pulmonology	32.6	31.8	34.3	31.8		
- Pediatric rheumatology	33.0	32.0	35.4	36.0		
- Sports medicine	31.9	30.9	32.7	33.0	33.0	
- Pediatric transplant hepatology	34.9	34.6	36.5			
- Pediatric hospital medicine	32.0	32.1	31.8	31.8	30.0	
Physical medicine and rehabilitation	30.4	30.0	33.6	30.1		
- Brain injury medicine	32.9	32.1	37.0	33.2		
- Neuromuscular medicine	37.0	37.0				
- Spinal cord injury medicine	33.7	34.0	33.3	31.5		
- Pediatric rehabilitation medicine	33.6	32.2	43.0	35.2		
- Sports medicine	34.1	33.2	39.5	34.6	29.0	
Plastic surgery	33.6	33.4	34.2	33.3		
Plastic Surgery - Integrated	28.9	28.5	34.4	34.0		
- Craniofacial surgery	36.6	36.5	37.0			
- Hand surgery	35.7	36.0	39.0	34.0	32.5	
Preventive medicine	37.5	37.7	37.9	36.4	38.0	
- Medical toxicology	33.5	33.5				
- Undersea and hyperbaric medicine	36.0	36.0				
Psychiatry	30.3	29.5	33.0	30.1		27.0
- Addiction medicine (multidisciplinary)	37.4	36.8	39.3	36.6	34.0	
- Addiction psychiatry	34.3	33.8	35.9	33.3		
- Child and adolescent psychiatry	33.1	32.6	34.7	32.8		
- Forensic psychiatry	34.9	34.3	35.8	36.7		
- Geriatric psychiatry	34.8	34.7	36.0	32.4		
- Consultation-liaison psychiatry	34.1	32.9	36.7	33.3	30.0	
Radiation oncology	31.6	31.2	34.5	34.3		
Radiology-diagnostic	30.4	30.0	31.9	31.0		
- Abdominal radiology	35.1	33.7	36.8	36.3	31.0	
- Endovascular surgical neuroradiology	32.7	31.0	36.0			
- Musculoskeletal radiology	35.3	35.5	35.0	37.2	30.5	
- Neuroradiology	34.9	34.3	36.4	35.1	29.0	
- Nuclear radiology	34.8	35.4	34.6	33.0		
- Pediatric radiology	37.1	36.8	37.5	35.0		
Interventional radiology - independent	34.4	34.1	35.2	35.0		
Interventional radiology - integrated	30.0	29.6	31.8	31.3		
Surgery	29.5	29.1	31.0	29.8	32.5	
- Complex general surgical oncology	35.1	35.1	34.6	38.0		
- Hand surgery	34.7	32.0	35.5	34.5		
- Pediatric surgery	35.4	35.4	35.5	36.0		
- Surgical critical care	34.8	34.7	35.5	34.6	35.5	
- Vascular surgery	34.7	34.5	35.1	34.7	32.0	
Vascular surgery - integrated	29.4	29.4	29.9	29.3		
Thoracic surgery	34.3	34.1	35.5	34.0	36.0	
- Congenital cardiac surgery	37.5	37.1	39.7	34.0		
Thoracic surgery - integrated	28.9	28.6	34.0	29.0		
Urology	28.7	28.6	29.3	29.0		
- Female pelvic medicine and reconstructive surgery	33.3	33.5	33.5	32.5		
- Pediatric urology	33.3	33.1		35.0	35.0	
Transitional year	29.6	28.9	33.3	29.8		37.0
Internal medicine/Pediatrics	28.5	28.3	29.9	29.5		

Note: Pipeline specialties are highlighted.

Abbreviations: LCME, Liaison Committee on Medical Education.

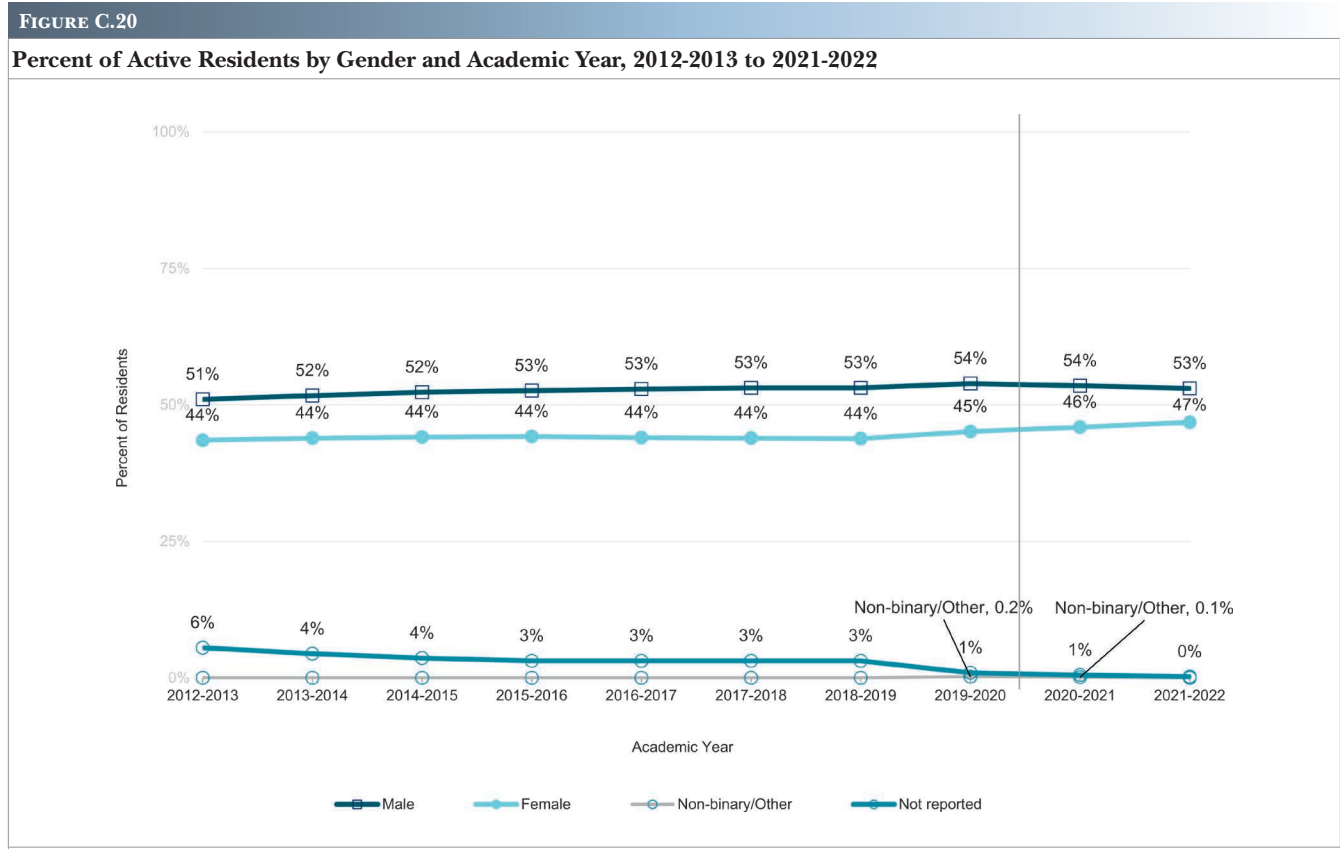


TABLE C.21

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

Specialty	Total Programs	Total Residents	Gender							
			Female		Male		Non-binary/Other		Not Reported	
			#	%	#	%	#	%	#	%
OVERALL	12,740	153,843	71,973	46.8%	81,504	53.0%	6	0.0%	360	0.2%
TOTAL PIPELINE	5,270	124,521	58,749	47.2%	65,457	52.6%	5	0.0%	310	0.2%
Allergy and immunology	84	320	206	64.4%	113	35.3%	0	0.0%	1	0.3%
Anesthesiology	166	7,086	2,398	33.8%	4,678	66.0%	1	0.0%	9	0.1%
- Adult cardiothoracic anesthesiology	74	238	73	30.7%	164	68.9%	0	0.0%	1	0.4%
- Clinical informatics	1	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%
- Critical care medicine	64	202	68	33.7%	134	66.3%	0	0.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	40	88	33	37.5%	55	62.5%	0	0.0%	0	0.0%
- Obstetric anesthesiology	41	53	31	58.5%	22	41.5%	0	0.0%	0	0.0%
- Pain medicine (multidisciplinary)	114	409	83	20.3%	326	79.7%	0	0.0%	0	0.0%
- Pediatric anesthesiology	61	193	107	55.4%	86	44.6%	0	0.0%	0	0.0%
Colon and rectal surgery	67	107	41	38.3%	66	61.7%	0	0.0%	0	0.0%
Dermatology	143	1,609	976	60.7%	633	39.3%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	57	71	32	45.1%	39	54.9%	0	0.0%	0	0.0%
- Micrographic surgery and dermatologic oncology	77	88	42	47.7%	46	52.3%	0	0.0%	0	0.0%
- Pediatric dermatology	17	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%
Emergency medicine	279	9,037	3,560	39.4%	5,473	60.6%	0	0.0%	4	0.0%
- Clinical informatics	5	11	1	9.1%	10	90.9%	0	0.0%	0	0.0%
- Emergency medical services	79	104	39	37.5%	65	62.5%	0	0.0%	0	0.0%
- Medical toxicology	28	81	23	28.4%	58	71.6%	0	0.0%	0	0.0%
- Pediatric emergency medicine	29	140	94	67.1%	46	32.9%	0	0.0%	0	0.0%
- Sports medicine	10	17	4	23.5%	13	76.5%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	8	12	3	25.0%	8	66.7%	0	0.0%	1	8.3%
Family medicine	722	14,657	7,983	54.5%	6,642	45.3%	1	0.0%	31	0.2%
- Clinical informatics	7	18	7	38.9%	11	61.1%	0	0.0%	0	0.0%
- Geriatric medicine	46	45	28	62.2%	17	37.8%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	187	445	301	67.6%	144	32.4%	0	0.0%	0	0.0%
- Sports medicine	161	282	88	31.2%	194	68.8%	0	0.0%	0	0.0%
Internal medicine	601	30,936	13,565	43.8%	17,195	55.6%	0	0.0%	176	0.6%
- Adult congenital heart disease	26	34	14	41.2%	20	58.8%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	86	101	36	35.6%	65	64.4%	0	0.0%	0	0.0%
- Cardiovascular disease	268	3,320	848	25.5%	2,469	74.4%	0	0.0%	3	0.1%
- Clinical cardiac electrophysiology	115	310	45	14.5%	264	85.2%	0	0.0%	1	0.3%
- Clinical informatics	23	50	16	32.0%	34	68.0%	0	0.0%	0	0.0%
- Critical care medicine	62	320	120	37.5%	200	62.5%	0	0.0%	0	0.0%
- Endocrinology, diabetes, and metabolism	157	700	471	67.3%	228	32.6%	0	0.0%	1	0.1%
- Gastroenterology	222	1,911	715	37.4%	1,195	62.5%	0	0.0%	1	0.1%
- Geriatric medicine	117	289	176	60.9%	111	38.4%	0	0.0%	2	0.7%
- Hematology	2	17	7	41.2%	10	58.8%	0	0.0%	0	0.0%
- Hematology and medical oncology	180	1,970	879	44.6%	1,090	55.3%	0	0.0%	1	0.1%
- Infectious disease	163	798	379	47.5%	419	52.5%	0	0.0%	0	0.0%
- Interventional cardiology	177	359	72	20.1%	287	79.9%	0	0.0%	0	0.0%
- Nephrology	151	850	316	37.2%	532	62.6%	0	0.0%	2	0.2%
- Medical oncology	5	34	15	44.1%	19	55.9%	0	0.0%	0	0.0%
- Pulmonary disease	22	67	29	43.3%	38	56.7%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	196	2,175	792	36.4%	1,380	63.4%	0	0.0%	3	0.1%
- Rheumatology	128	531	304	57.3%	227	42.7%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	92	202	87	43.1%	115	56.9%	0	0.0%	0	0.0%
- Transplant hepatology	62	48	25	52.1%	23	47.9%	0	0.0%	0	0.0%
Medical genetics and genomics	45	72	43	59.7%	29	40.3%	0	0.0%	0	0.0%
- Medical biochemical genetics	20	17	7	41.2%	10	58.8%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	42	58	29	50.0%	29	50.0%	0	0.0%	0	0.0%
Neurological surgery	118	1,579	344	21.8%	1,235	78.2%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	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	175	3,369	1,607	47.7%	1,758	52.2%	0	0.0%	4	0.1%
- Brain injury medicine	1	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	94	149	60	40.3%	89	59.7%	0	0.0%	0	0.0%
- Epilepsy	93	154	80	51.9%	73	47.4%	0	0.0%	1	0.6%
- Neurocritical care (multidisciplinary)	7	12	1	8.3%	11	91.7%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	2	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	8	27	17	63.0%	10	37.0%	0	0.0%	0	0.0%
- Neuromuscular medicine	55	73	31	42.5%	41	56.2%	0	0.0%	1	1.4%
- Vascular neurology	112	151	60	39.7%	91	60.3%	0	0.0%	0	0.0%
Child neurology	79	455	314	69.0%	140	30.8%	0	0.0%	1	0.2%
Nuclear medicine	37	76	16	21.1%	57	75.0%	0	0.0%	3	3.9%
Obstetrics and gynecology	299	5,861	5,054	86.2%	797	13.6%	0	0.0%	10	0.2%
- Female pelvic medicine and reconstructive surgery	55	151	118	78.1%	31	20.5%	0	0.0%	2	1.3%
- Gynecologic oncology	67	229	175	76.4%	53	23.1%	0	0.0%	1	0.4%
- Maternal-fetal medicine	101	404	317	78.5%	87	21.5%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	49	171	134	78.4%	36	21.1%	1	0.6%	0	0.0%
- Complex family planning	29	50	47	94.0%	3	6.0%	0	0.0%	0	0.0%
Ophthalmology	125	1,693	707	41.8%	983	58.1%	0	0.0%	3	0.2%
- Ophthalmic plastic and reconstructive surgery	4	5	3	60.0%	2	40.0%	0	0.0%	0	0.0%
Orthopaedic surgery	203	4,463	816	18.3%	3,646	81.7%	0	0.0%	1	0.0%
- Adult reconstructive orthopaedics	24	53	2	3.8%	51	96.2%	0	0.0%	0	0.0%
- Foot and ankle orthopaedics	8	16	4	25.0%	12	75.0%	0	0.0%	0	0.0%
- Hand surgery	73	154	37	24.0%	116	75.3%	0	0.0%	1	0.6%
- Musculoskeletal oncology	12	16	4	25.0%	11	68.8%	0	0.0%	1	6.3%
- Orthopaedic sports medicine	93	216	18	8.3%	195	90.3%	0	0.0%	3	1.4%
- Orthopaedic surgery of the spine	15	25	2	8.0%	23	92.0%	0	0.0%	0	0.0%
- Orthopaedic trauma	12	20	3	15.0%	17	85.0%	0	0.0%	0	0.0%
- Pediatric orthopaedics	24	35	8	22.9%	26	74.3%	0	0.0%	1	2.9%
Osteopathic neuromusculoskeletal medicine	28	84	44	52.4%	39	46.4%	0	0.0%	1	1.2%
Otolaryngology - Head and Neck Surgery	129	1,763	701	39.8%	1,061	60.2%	1	0.1%	0	0.0%
- Neurotology	28	37	11	29.7%	26	70.3%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	42	23	54.8%	19	45.2%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	145	2,340	1,204	51.5%	1,129	48.2%	0	0.0%	7	0.3%
- Blood banking/transfusion medicine	53	44	17	38.6%	27	61.4%	0	0.0%	0	0.0%
- Clinical informatics	10	20	7	35.0%	13	65.0%	0	0.0%	0	0.0%
- Chemical pathology	4	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Cytopathology	92	123	71	57.7%	52	42.3%	0	0.0%	0	0.0%
- Forensic pathology	45	58	37	63.8%	21	36.2%	0	0.0%	0	0.0%
- Hematopathology	86	126	64	50.8%	61	48.4%	0	0.0%	1	0.8%
- Medical microbiology	16	12	4	33.3%	8	66.7%	0	0.0%	0	0.0%
- Neuropathology	39	53	28	52.8%	25	47.2%	0	0.0%	0	0.0%
- Pediatric pathology	27	22	14	63.6%	8	36.4%	0	0.0%	0	0.0%
- Selective pathology	116	183	86	47.0%	96	52.5%	0	0.0%	1	0.5%
Pediatrics	212	9,476	6,894	72.8%	2,555	27.0%	0	0.0%	27	0.3%
- Adolescent medicine	32	93	75	80.6%	18	19.4%	0	0.0%	0	0.0%
- Child abuse pediatrics	31	46	38	82.6%	8	17.4%	0	0.0%	0	0.0%
- Clinical informatics	9	28	9	32.1%	19	67.9%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	113	96	85.0%	17	15.0%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	110	795	577	72.6%	217	27.3%	0	0.0%	1	0.1%
- Pediatric cardiology	64	482	246	51.0%	236	49.0%	0	0.0%	0	0.0%
- Pediatric critical care medicine	77	594	362	60.9%	232	39.1%	0	0.0%	0	0.0%
- Pediatric emergency medicine	56	446	296	66.4%	150	33.6%	0	0.0%	0	0.0%
- Pediatric endocrinology	72	228	186	81.6%	40	17.5%	0	0.0%	2	0.9%
- Pediatric gastroenterology	67	330	225	68.2%	105	31.8%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	77	482	340	70.5%	141	29.3%	0	0.0%	1	0.2%
- Pediatric infectious diseases	64	180	127	70.6%	53	29.4%	0	0.0%	0	0.0%

TABLE C.21 *Continued*

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

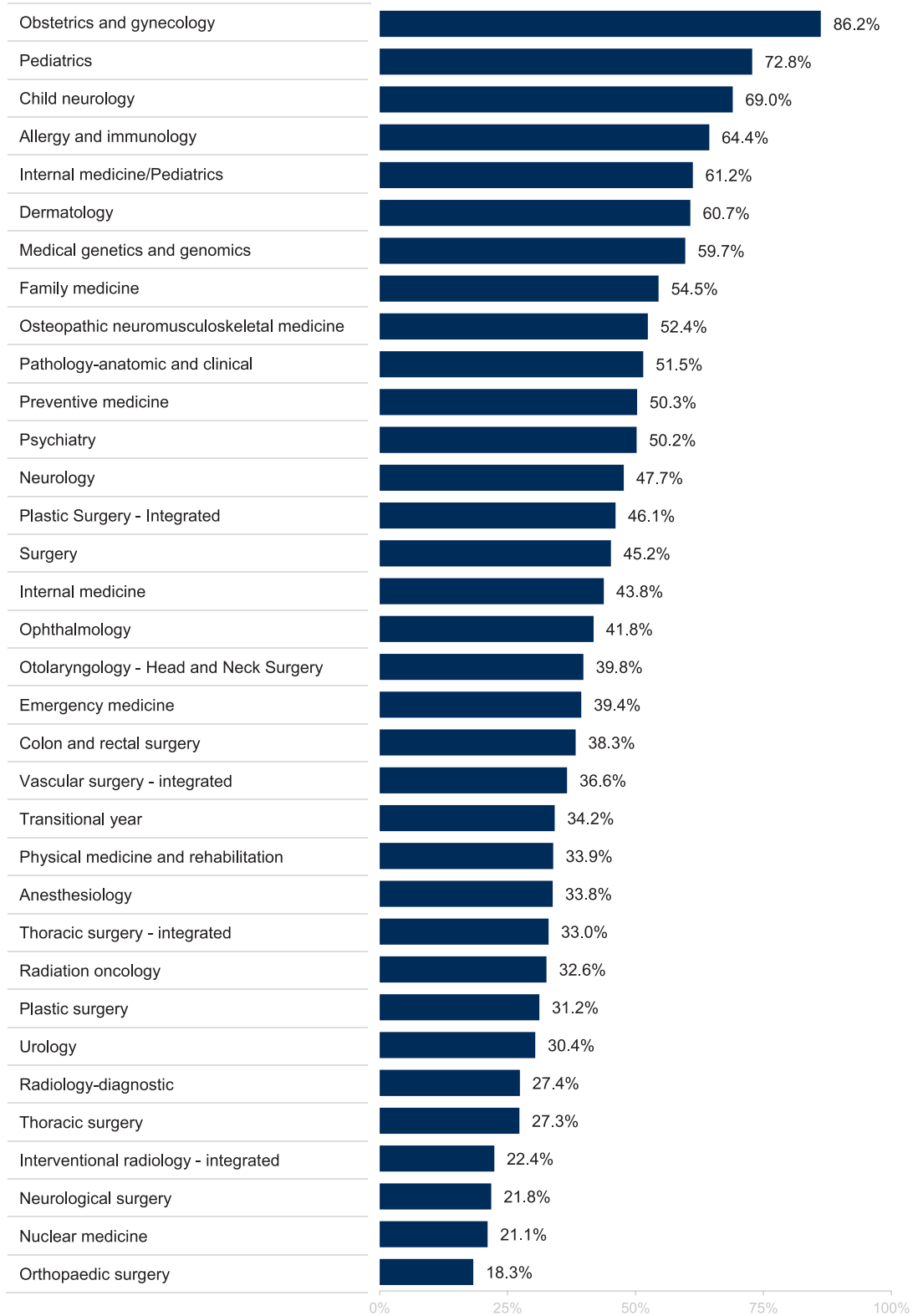
Specialty	Total Programs	Total Residents	Gender							
			Female		Male		Non-binary/Other		Not Reported	
			#	%	#	%	#	%	#	%
- Pediatric nephrology	47	132	97	73.5%	34	25.8%	0	0.0%	1	0.8%
- Pediatric pulmonology	57	184	112	60.9%	72	39.1%	0	0.0%	0	0.0%
- Pediatric rheumatology	38	102	78	76.5%	24	23.5%	0	0.0%	0	0.0%
- Sports medicine	17	28	12	42.9%	16	57.1%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	17	15	12	80.0%	3	20.0%	0	0.0%	0	0.0%
- Pediatric hospital medicine	65	164	131	79.9%	33	20.1%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	100	1,578	535	33.9%	1,040	65.9%	0	0.0%	3	0.2%
- Brain injury medicine	25	26	12	46.2%	14	53.8%	0	0.0%	0	0.0%
- Neuromuscular medicine	1	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%
- Spinal cord injury medicine	24	22	17	77.3%	5	22.7%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	22	31	20	64.5%	11	35.5%	0	0.0%	0	0.0%
- Sports medicine	22	40	13	32.5%	27	67.5%	0	0.0%	0	0.0%
Plastic surgery	50	202	63	31.2%	139	68.8%	0	0.0%	0	0.0%
Plastic Surgery - Integrated	88	1,060	489	46.1%	571	53.9%	0	0.0%	0	0.0%
- Craniofacial surgery	8	5	3	60.0%	2	40.0%	0	0.0%	0	0.0%
- Hand surgery	18	24	4	16.7%	20	83.3%	0	0.0%	0	0.0%
Preventive medicine	72	346	174	50.3%	172	49.7%	0	0.0%	0	0.0%
- Medical toxicology	1	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%
Psychiatry	294	7,353	3,688	50.2%	3,655	49.7%	1	0.0%	9	0.1%
- Addiction medicine (multidisciplinary)	91	169	91	53.8%	78	46.2%	0	0.0%	0	0.0%
- Addiction psychiatry	55	89	37	41.6%	52	58.4%	0	0.0%	0	0.0%
- Child and adolescent psychiatry	152	953	553	58.0%	400	42.0%	0	0.0%	0	0.0%
- Forensic psychiatry	49	89	41	46.1%	48	53.9%	0	0.0%	0	0.0%
- Geriatric psychiatry	64	58	33	56.9%	24	41.4%	0	0.0%	1	1.7%
- Consultation-liaison psychiatry	66	89	52	58.4%	37	41.6%	0	0.0%	0	0.0%
Radiation oncology	90	763	249	32.6%	514	67.4%	0	0.0%	0	0.0%
Radiology-diagnostic	197	4,567	1,253	27.4%	3,311	72.5%	0	0.0%	3	0.1%
- Abdominal radiology	13	49	12	24.5%	34	69.4%	0	0.0%	3	6.1%
- Endovascular surgical neuroradiology	3	3	0	0.0%	3	100.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	20	38	9	23.7%	29	76.3%	0	0.0%	0	0.0%
- Neuroradiology	91	292	57	19.5%	231	79.1%	0	0.0%	4	1.4%
- Nuclear radiology	18	14	5	35.7%	9	64.3%	0	0.0%	0	0.0%
- Pediatric radiology	47	51	22	43.1%	25	49.0%	0	0.0%	4	7.8%
Interventional radiology - independent	95	205	27	13.2%	178	86.8%	0	0.0%	0	0.0%
Interventional radiology - integrated	92	678	152	22.4%	525	77.4%	0	0.0%	1	0.1%
Surgery	353	9,299	4,204	45.2%	5,080	54.6%	0	0.0%	15	0.2%
- Complex general surgical oncology	33	123	53	43.1%	70	56.9%	0	0.0%	0	0.0%
- Hand surgery	2	7	0	0.0%	6	85.7%	0	0.0%	1	14.3%
- Pediatric surgery	51	86	47	54.7%	39	45.3%	0	0.0%	0	0.0%
- Surgical critical care	156	332	146	44.0%	186	56.0%	0	0.0%	0	0.0%
- Vascular surgery	118	264	86	32.6%	178	67.4%	0	0.0%	0	0.0%
Vascular surgery - integrated	73	361	132	36.6%	229	63.4%	0	0.0%	0	0.0%
Thoracic surgery	75	249	68	27.3%	181	72.7%	0	0.0%	0	0.0%
- Congenital cardiac surgery	16	12	1	8.3%	11	91.7%	0	0.0%	0	0.0%
Thoracic surgery - integrated	34	230	76	33.0%	154	67.0%	0	0.0%	0	0.0%
Urology	148	1,794	545	30.4%	1,248	69.6%	1	0.1%	0	0.0%
- Female pelvic medicine and reconstructive surgery	16	38	33	86.8%	5	13.2%	0	0.0%	0	0.0%
- Pediatric urology	26	28	12	42.9%	16	57.1%	0	0.0%	0	0.0%
Transitional year	178	1,767	604	34.2%	1,161	65.7%	0	0.0%	2	0.1%
Internal medicine/Pediatrics	78	1,529	936	61.2%	591	38.7%	0	0.0%	2	0.1%

Note: Pipeline specialties are highlighted.

Source: The gender and race/ethnicity reported above for the 2021-2022 academic year 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 above for the 2021-2022 academic year 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	75,193	40,960	14,103	9,229	175	65	6,204	4,748	3,166
TOTAL PIPELINE	61,443	31,969	11,676	7,699	156	51	5,167	3,779	2,581
Allergy and immunology	142	117	27	10	0	0	11	9	4
Anesthesiology	3,662	1,812	573	418	11	4	303	193	110
- Adult cardiothoracic anesthesiology	127	64	19	13	0	1	6	3	5
- Clinical informatics	0	0	0	1	0	0	1	0	0
- Critical care medicine	115	45	14	9	0	0	5	9	5
- Regional anesthesiology and acute pain medicine	45	26	8	2	0	0	3	4	0
- Obstetric anesthesiology	33	8	2	6	0	0	2	0	2
- Pain medicine (multidisciplinary)	206	122	27	19	0	1	12	17	5
- Pediatric anesthesiology	103	41	21	11	0	0	8	4	5
Colon and rectal surgery	67	18	5	6	0	0	2	6	3
Dermatology	890	364	121	82	3	0	80	51	18
- Dermatopathology (multidisciplinary)	39	16	5	5	0	0	3	1	2
- Micrographic surgery and dermatologic oncology	45	22	9	2	0	0	7	1	2
- Pediatric dermatology	3	0	0	0	0	0	0	0	0
Emergency medicine	5,670	1,376	842	462	12	5	392	225	53
- Clinical informatics	3	5	1	0	0	0	2	0	0
- Emergency medical services	80	9	6	5	0	0	3	1	0
- Medical toxicology	62	11	6	0	0	0	0	1	1
- Pediatric emergency medicine	73	33	14	8	1	0	3	5	3
- Sports medicine	12	2	0	0	0	0	2	1	0
- Undersea and hyperbaric medicine	8	2	1	0	0	0	0	0	1
Family medicine	7,151	3,502	1,554	1,181	44	8	639	369	209
- Clinical informatics	6	8	0	2	0	1	0	1	0
- Geriatric medicine	22	10	5	3	0	0	2	0	3
- Hospice and palliative medicine (multidisciplinary)	243	112	40	24	1	1	14	6	4
- Sports medicine	180	42	23	17	0	0	14	3	3
Internal medicine	11,241	11,232	2,865	1,964	28	7	1,130	1,225	1,244
- Adult congenital heart disease	17	9	4	0	0	0	2	1	1
- Advanced heart failure and transplant cardiology	43	39	5	4	0	0	4	5	1
- Cardiovascular disease	1,278	1,270	251	208	0	1	105	143	64
- Clinical cardiac electrophysiology	144	107	16	11	0	0	9	20	3
- Clinical informatics	16	26	0	3	0	0	1	2	2
- Critical care medicine	150	98	26	18	0	0	14	10	4
- Endocrinology, diabetes, and metabolism	207	310	76	29	1	1	20	30	26
- Gastroenterology	718	769	145	105	0	3	57	86	28
- Geriatric medicine	98	103	27	14	1	0	9	16	21
- Hematology	4	10	2	1	0	0	0	0	0
- Hematology and medical oncology	844	762	120	84	1	0	61	54	44
- Infectious disease	343	244	96	30	0	0	27	30	28
- Interventional cardiology	141	132	25	23	0	0	14	22	2
- Nephrology	240	388	85	63	0	0	15	31	28
- Medical oncology	11	18	3	0	0	0	1	1	0
- Pulmonary disease	14	34	9	5	0	0	1	4	0
- Pulmonary disease and critical care medicine	1,028	686	168	93	1	1	75	87	36
- Rheumatology	224	200	44	16	1	0	15	19	12
- Sleep medicine (multidisciplinary)	74	89	17	4	1	0	7	5	5
- Transplant hepatology	16	26	3	2	0	0	0	1	0
Medical genetics and genomics	35	13	17	5	0	0	0	1	1
- Medical biochemical genetics	11	3	2	0	0	0	0	0	1
- Molecular genetic pathology (multidisciplinary)	36	16	3	0	0	0	0	3	0
Neurological surgery	866	368	131	68	2	0	76	53	15
- Endovascular surgical neuroradiology	1	1	0	0	0	0	1	0	0



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
Neurology	1,413	1,065	347	155	2	2	113	152	120
- Brain injury medicine	0	1	0	0	0	0	0	0	0
- Clinical neurophysiology	61	56	9	6	0	0	4	7	6
- Epilepsy	65	54	14	7	0	0	7	6	1
- Neurocritical care (multidisciplinary)	3	8	1	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	2	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	16	4	2	2	0	0	2	1	0
- Neuromuscular medicine	43	15	4	5	0	0	2	2	2
- Vascular neurology	50	59	18	9	0	1	5	6	3
Child neurology	243	111	46	14	1	0	17	17	6
Nuclear medicine	25	19	11	3	0	0	2	6	10
Obstetrics and gynecology	3,401	889	607	514	9	1	275	123	42
- Female pelvic medicine and reconstructive surgery	76	34	15	13	0	0	5	6	2
- Gynecologic oncology	144	32	23	11	0	0	14	4	1
- Maternal-fetal medicine	241	62	37	37	0	0	14	12	1
- Reproductive endocrinology and infertility	104	38	11	11	0	0	3	4	0
- Complex family planning	27	12	4	5	0	0	1	1	0
Ophthalmology	842	552	127	51	0	0	52	40	29
- Ophthalmic plastic and reconstructive surgery	2	3	0	0	0	0	0	0	0
Orthopaedic surgery	3,105	569	314	217	2	2	154	75	25
- Adult reconstructive orthopaedics	36	5	1	4	0	0	3	2	2
- Foot and ankle orthopaedics	11	4	0	0	0	0	0	0	1
- Hand surgery	95	31	13	2	1	0	5	4	3
- Musculoskeletal oncology	5	4	1	2	0	0	0	3	1
- Orthopaedic sports medicine	159	28	4	4	0	0	6	6	9
- Orthopaedic surgery of the spine	13	6	4	0	0	0	1	0	1
- Orthopaedic trauma	17	1	0	0	0	0	1	0	1
- Pediatric orthopaedics	20	6	3	3	0	0	0	0	3
Osteopathic neuromusculoskeletal medicine	49	18	6	5	0	0	4	2	0
Otolaryngology - Head and Neck Surgery	1,044	389	119	65	1	0	82	53	10
- Neurotology	24	7	2	0	0	0	2	0	2
- Pediatric otolaryngology	24	8	2	3	0	0	1	0	4
Pathology-anatomic and clinical	1,069	655	200	125	3	2	99	89	98
- Blood banking/transfusion medicine	25	9	2	3	0	0	3	0	2
- Clinical informatics	5	10	2	1	0	0	0	1	1
- Chemical pathology	0	0	0	0	0	0	0	0	0
- Cytopathology	51	45	12	7	0	0	3	5	0
- Forensic pathology	36	6	8	3	0	0	4	1	0
- Hematopathology	57	36	6	6	0	0	4	10	7
- Medical microbiology	6	4	1	0	0	0	1	0	0
- Neuropathology	24	13	6	4	0	0	3	2	1
- Pediatric pathology	13	4	3	0	0	0	1	0	1
- Selective pathology	65	74	18	9	0	0	4	7	6
Pediatrics	4,820	2,109	1,085	647	9	6	350	262	188
- Adolescent medicine	50	15	7	15	0	0	5	1	0
- Child abuse pediatrics	26	8	7	2	1	0	1	0	1
- Clinical informatics	13	10	0	2	0	0	2	1	0
- Developmental-behavioral pediatrics	60	28	14	4	0	0	4	2	1
- Neonatal-perinatal medicine	405	200	80	52	0	0	30	12	16
- Pediatric cardiology	289	108	37	19	0	0	12	11	6
- Pediatric critical care medicine	352	116	64	22	1	0	21	15	3
- Pediatric emergency medicine	257	84	37	31	0	0	25	10	2
- Pediatric endocrinology	109	61	29	8	0	0	5	6	10
- Pediatric gastroenterology	156	94	40	20	0	0	5	7	8
- Pediatric hematology/oncology	272	108	42	20	0	0	19	14	7
- Pediatric infectious diseases	104	38	14	5	0	0	8	6	5

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	66	38	11	5	0	0	5	4	3
- Pediatric pulmonology	105	37	16	5	1	0	9	6	5
- Pediatric rheumatology	63	12	13	3	0	1	4	3	3
- Sports medicine	17	4	3	1	0	0	2	1	0
- Pediatric transplant hepatology	9	4	1	1	0	0	0	0	0
- Pediatric hospital medicine	101	32	12	8	0	0	8	3	0
Physical medicine and rehabilitation	808	427	131	81	1	0	67	43	20
- Brain injury medicine	11	10	1	2	0	0	1	1	0
- Neuromuscular medicine	0	0	0	1	0	0	0	0	0
- Spinal cord injury medicine	11	6	2	0	0	0	1	2	0
- Pediatric rehabilitation medicine	22	3	2	2	0	0	2	0	0
- Sports medicine	21	9	2	2	0	0	4	2	0
Plastic surgery	120	38	20	6	0	1	10	7	0
Plastic Surgery - Integrated	625	216	83	35	0	0	59	35	7
- Craniofacial surgery	3	2	0	0	0	0	0	0	0
- Hand surgery	15	4	0	2	0	0	0	1	2
Preventive medicine	162	79	34	46	0	0	14	7	4
- Medical toxicology	3	0	0	0	0	0	0	0	0
- Undersea and hyperbaric medicine	1	0	0	0	0	0	0	0	0
Psychiatry	3,531	1,877	747	541	10	2	369	188	88
- Addiction medicine (multidisciplinary)	87	36	9	18	0	0	10	5	4
- Addiction psychiatry	38	24	11	6	0	0	4	5	1
- Child and adolescent psychiatry	387	307	103	66	2	0	50	27	11
- Forensic psychiatry	54	19	6	6	0	0	3	1	0
- Geriatric psychiatry	23	18	7	5	0	0	2	2	1
- Consultation-liaison psychiatry	42	20	10	5	0	0	6	1	5
Radiation oncology	389	233	39	37	0	0	30	26	9
Radiology-diagnostic	2,414	1,224	321	186	2	3	201	141	75
- Abdominal radiology	21	13	2	0	0	0	2	3	8
- Endovascular surgical neuroradiology	1	2	0	0	0	0	0	0	0
- Musculoskeletal radiology	19	9	3	2	0	0	2	1	2
- Neuroradiology	132	89	15	12	0	0	17	9	18
- Nuclear radiology	8	2	0	1	0	0	0	0	3
- Pediatric radiology	23	11	3	2	1	0	1	2	8
Interventional radiology - independent	105	61	12	9	0	1	8	7	2
Interventional radiology - integrated	356	197	45	20	1	0	31	21	7
Surgery	5,173	1,728	964	531	11	7	451	283	151
- Complex general surgical oncology	71	28	9	5	1	0	6	3	0
- Hand surgery	2	2	0	0	0	0	0	3	0
- Pediatric surgery	59	14	8	4	0	0	0	0	1
- Surgical critical care	227	45	24	18	1	1	7	7	2
- Vascular surgery	147	62	20	11	1	0	14	9	0
Vascular surgery - integrated	187	92	34	23	2	0	12	8	3
Thoracic surgery	154	50	17	16	0	0	3	9	0
- Congenital cardiac surgery	8	4	0	0	0	0	0	0	0
Thoracic surgery - integrated	123	61	10	10	0	0	13	9	4
Urology	1,019	398	161	84	2	0	74	43	13
- Female pelvic medicine and reconstructive surgery	23	8	3	1	0	0	1	0	2
- Pediatric urology	15	9	2	0	0	0	2	0	0
Transitional year	878	454	155	107	1	1	97	42	32
Internal medicine/Pediatrics	905	295	110	114	0	0	60	25	20

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 above for the 2021-2022 academic year 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	33,039	20,483	6,760	5,330	85	30	2,985	1,932	1,329
TOTAL PIPELINE	27,069	16,240	5,632	4,531	72	23	2,507	1,592	1,083
Allergy and immunology	80	83	19	8	0	0	10	5	1
Anesthesiology	1,046	739	196	215	3	2	101	63	33
- Adult cardiothoracic anesthesiology	31	24	6	7	0	1	3	0	1
- Clinical informatics	0	0	0	1	0	0	0	0	0
- Critical care medicine	33	16	6	4	0	0	2	4	3
- Regional anesthesiology and acute pain medicine	14	15	1	0	0	0	2	1	0
- Obstetric anesthesiology	20	3	1	5	0	0	1	0	1
- Pain medicine (multidisciplinary)	36	27	9	6	0	0	3	2	0
- Pediatric anesthesiology	52	27	12	8	0	0	4	1	3
Colon and rectal surgery	26	6	3	4	0	0	0	1	1
Dermatology	527	216	71	67	1	0	49	32	13
- Dermatopathology (multidisciplinary)	21	8	0	3	0	0	0	0	0
- Micrographic surgery and dermatologic oncology	21	13	3	2	0	0	2	0	1
- Pediatric dermatology	2	0	0	0	0	0	0	0	0
Emergency medicine	2,142	554	325	240	5	2	174	94	24
- Clinical informatics	0	1	0	0	0	0	0	0	0
- Emergency medical services	31	2	3	2	0	0	1	0	0
- Medical toxicology	18	4	0	0	0	0	0	1	0
- Pediatric emergency medicine	50	20	11	7	1	0	1	2	2
- Sports medicine	2	1	0	0	0	0	1	0	0
- Undersea and hyperbaric medicine	1	2	0	0	0	0	0	0	0
Family medicine	3,594	2,076	837	807	20	2	345	189	113
- Clinical informatics	4	3	0	0	0	0	0	0	0
- Geriatric medicine	14	6	3	3	0	0	1	0	1
- Hospice and palliative medicine (multidisciplinary)	162	80	25	17	0	1	9	3	4
- Sports medicine	56	13	6	7	0	0	6	0	0
Internal medicine	4,473	5,424	1,243	996	15	2	459	475	478
- Adult congenital heart disease	6	5	2	0	0	0	1	0	0
- Advanced heart failure and transplant cardiology	15	14	2	3	0	0	1	0	1
- Cardiovascular disease	269	373	60	72	0	1	31	20	22
- Clinical cardiac electrophysiology	16	23	0	3	0	0	1	2	0
- Clinical informatics	3	10	0	1	0	0	0	1	1
- Critical care medicine	61	31	12	7	0	0	5	2	2
- Endocrinology, diabetes, and metabolism	123	228	46	19	1	1	13	20	20
- Gastroenterology	225	332	60	37	0	1	25	28	7
- Geriatric medicine	69	60	17	10	1	0	6	5	8
- Hematology	0	5	1	1	0	0	0	0	0
- Hematology and medical oncology	315	398	54	46	0	0	22	21	23
- Infectious disease	154	139	34	13	0	0	13	12	14
- Interventional cardiology	25	27	6	4	0	0	5	5	0
- Nephrology	83	143	31	26	0	0	6	13	14
- Medical oncology	5	8	2	0	0	0	0	0	0
- Pulmonary disease	3	18	5	0	0	0	0	3	0
- Pulmonary disease and critical care medicine	373	257	53	42	1	0	23	28	15
- Rheumatology	117	124	29	8	1	0	9	11	5
- Sleep medicine (multidisciplinary)	30	37	10	2	1	0	2	2	3
- Transplant hepatology	9	13	3	0	0	0	0	0	0
Medical genetics and genomics	22	9	9	3	0	0	0	0	0
- Medical biochemical genetics	6	1	0	0	0	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	16	11	1	0	0	0	0	1	0
Neurological surgery	187	84	22	13	0	0	25	10	3
- Endovascular surgical neuroradiology	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	636	559	178	81	0	1	44	57	51
- Brain injury medicine	0	1	0	0	0	0	0	0	0
- Clinical neurophysiology	18	27	2	3	0	0	2	5	3
- Epilepsy	36	29	8	2	0	0	1	4	0
- Neurocritical care (multidisciplinary)	0	1	0	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	1	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	8	4	1	2	0	0	1	1	0
- Neuromuscular medicine	18	9	1	2	0	0	0	0	1
- Vascular neurology	21	17	2	7	0	1	5	5	2
Child neurology	163	80	36	10	1	0	13	9	2
Nuclear medicine	5	4	2	1	0	0	1	1	2
Obstetrics and gynecology	2,924	788	505	469	7	0	241	91	29
- Female pelvic medicine and reconstructive surgery	63	27	9	11	0	0	5	3	0
- Gynecologic oncology	108	26	19	8	0	0	11	3	0
- Maternal-fetal medicine	187	52	28	31	0	0	12	7	0
- Reproductive endocrinology and infertility	82	33	6	8	0	0	2	3	0
- Complex family planning	26	11	3	5	0	0	1	1	0
Ophthalmology	276	290	52	24	0	0	30	23	12
- Ophthalmic plastic and reconstructive surgery	1	2	0	0	0	0	0	0	0
Orthopaedic surgery	552	102	61	46	1	0	40	8	6
- Adult reconstructive orthopaedics	1	0	0	0	0	0	1	0	0
- Foot and ankle orthopaedics	2	2	0	0	0	0	0	0	0
- Hand surgery	24	9	3	0	0	0	1	0	0
- Musculoskeletal oncology	1	1	1	1	0	0	0	0	0
- Orthopaedic sports medicine	15	1	1	0	0	0	1	0	0
- Orthopaedic surgery of the spine	1	1	0	0	0	0	0	0	0
- Orthopaedic trauma	3	0	0	0	0	0	0	0	0
- Pediatric orthopaedics	3	4	1	0	0	0	0	0	0
Osteopathic neuromusculoskeletal medicine	26	8	3	4	0	0	2	1	0
Otolaryngology - head and neck surgery	384	183	43	34	0	0	35	19	3
- Neurotology	7	1	1	0	0	0	1	0	1
- Pediatric otolaryngology	12	5	2	2	0	0	0	0	2
Pathology-anatomic and clinical	512	387	110	66	2	0	52	33	42
- Blood banking/transfusion medicine	10	3	0	2	0	0	2	0	0
- Clinical informatics	1	3	1	1	0	0	0	1	0
- Chemical pathology	0	0	0	0	0	0	0	0	0
- Cytopathology	28	28	5	5	0	0	3	2	0
- Forensic pathology	23	4	5	2	0	0	3	0	0
- Hematopathology	28	23	2	3	0	0	2	4	2
- Medical microbiology	2	1	0	0	0	0	1	0	0
- Neuropathology	14	7	3	1	0	0	1	1	1
- Pediatric pathology	10	2	2	0	0	0	0	0	0
- Selective pathology	22	42	10	3	0	0	3	3	3
Pediatrics	3,415	1,609	770	531	7	6	253	189	114
- Adolescent medicine	39	14	4	13	0	0	4	1	0
- Child abuse pediatrics	22	5	6	2	1	0	1	0	1
- Clinical informatics	4	4	0	0	0	0	1	0	0
- Developmental-behavioral pediatrics	51	23	11	4	0	0	4	2	1
- Neonatal-perinatal medicine	287	146	67	38	0	0	22	4	13
- Pediatric cardiology	144	62	17	12	0	0	7	1	3
- Pediatric critical care medicine	219	69	39	13	1	0	12	8	1
- Pediatric emergency medicine	162	61	23	24	0	0	18	7	1
- Pediatric endocrinology	89	53	23	7	0	0	4	4	6
- Pediatric gastroenterology	107	60	28	16	0	0	3	4	7
- Pediatric hematology/oncology	187	80	30	15	0	0	13	11	4
- Pediatric infectious diseases	72	26	11	4	0	0	6	4	4

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	44	31	9	4	0	0	4	2	3
- Pediatric pulmonology	58	25	10	4	1	0	8	3	3
- Pediatric rheumatology	46	11	9	3	0	1	3	3	2
- Sports medicine	9	2	1	0	0	0	0	0	0
- Pediatric transplant hepatology	7	3	1	1	0	0	0	0	0
- Pediatric hospital medicine	76	29	11	7	0	0	5	3	0
Physical medicine and rehabilitation	261	144	48	31	0	0	28	16	7
- Brain injury medicine	4	6	0	1	0	0	1	0	0
- Neuromuscular medicine	0	0	0	0	0	0	0	0	0
- Spinal cord injury medicine	9	4	1	0	0	0	1	2	0
- Pediatric rehabilitation medicine	15	2	1	2	0	0	0	0	0
- Sports medicine	6	3	1	0	0	0	1	2	0
Plastic surgery	41	10	7	2	0	0	1	2	0
Plastic surgery - integrated	268	115	37	24	0	0	32	10	3
- Craniofacial surgery	2	1	0	0	0	0	0	0	0
- Hand surgery	4	0	0	0	0	0	0	0	0
Preventive medicine	73	44	18	31	0	0	8	0	0
- Medical toxicology	0	0	0	0	0	0	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0	0	0	0
Psychiatry	1,604	1,036	400	331	3	2	188	82	42
- Addiction medicine (multidisciplinary)	44	23	5	11	0	0	6	0	2
- Addiction psychiatry	15	9	6	3	0	0	3	0	1
- Child and adolescent psychiatry	215	182	57	50	1	0	29	15	4
- Forensic psychiatry	24	10	4	2	0	0	1	0	0
- Geriatric psychiatry	14	8	4	4	0	0	2	0	1
- Consultation-liaison psychiatry	25	17	4	3	0	0	2	0	1
Radiation oncology	108	91	14	13	0	0	12	10	1
Radiology-diagnostic	542	397	98	72	0	2	69	44	29
- Abdominal radiology	4	2	1	0	0	0	2	1	2
- Endovascular surgical neuroradiology	0	0	0	0	0	0	0	0	0
- Musculoskeletal radiology	5	3	0	0	0	0	0	0	1
- Neuroradiology	18	23	3	3	0	0	4	3	3
- Nuclear radiology	2	1	0	0	0	0	0	0	2
- Pediatric radiology	11	2	2	1	1	0	1	1	3
Interventional radiology - independent	14	8	2	1	0	0	0	1	1
Interventional radiology - integrated	78	52	6	4	0	0	7	5	0
Surgery	2,273	876	399	268	5	4	225	100	54
- Complex general surgical oncology	26	17	3	4	1	0	2	0	0
- Hand surgery	0	0	0	0	0	0	0	0	0
- Pediatric surgery	34	8	2	3	0	0	0	0	0
- Surgical critical care	106	19	10	7	0	0	2	1	1
- Vascular surgery	47	20	5	2	1	0	7	4	0
Vascular surgery - integrated	68	31	15	8	2	0	4	2	2
Thoracic surgery	47	13	1	4	0	0	1	2	0
- Congenital cardiac surgery	1	0	0	0	0	0	0	0	0
Thoracic surgery - integrated	33	22	3	4	0	0	6	5	3
Urology	286	121	55	46	0	0	24	7	6
- Female pelvic medicine and reconstructive surgery	21	7	2	1	0	0	1	0	1
- Pediatric urology	6	4	0	0	0	0	2	0	0
Transitional year	270	167	64	54	0	0	27	15	7
Internal medicine/Pediatrics	536	181	67	89	0	0	39	14	10

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 above for the 2021-2022 academic year 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	42,128	20,462	7,336	3,897	90	35	3,217	2,813	1,526
TOTAL PIPELINE	34,353	15,718	6,038	3,167	84	28	2,659	2,185	1,225
Allergy and immunology	62	34	8	2	0	0	1	4	2
Anesthesiology	2,614	1,072	377	203	8	2	202	130	70
- Adult cardiothoracic anesthesiology	96	40	13	6	0	0	3	3	3
- Clinical informatics	0	0	0	0	0	0	1	0	0
- Critical care medicine	82	29	8	5	0	0	3	5	2
- Regional anesthesiology and acute pain medicine	31	11	7	2	0	0	1	3	0
- Obstetric anesthesiology	13	5	1	1	0	0	1	0	1
- Pain medicine (multidisciplinary)	170	95	18	13	0	1	9	15	5
- Pediatric anesthesiology	51	14	9	3	0	0	4	3	2
Colon and rectal surgery	41	12	2	2	0	0	2	5	2
Dermatology	363	148	50	15	2	0	31	19	5
- Dermatopathology (multidisciplinary)	18	8	5	2	0	0	3	1	2
- Micrographic surgery and dermatologic oncology	24	9	6	0	0	0	5	1	1
- Pediatric dermatology	1	0	0	0	0	0	0	0	0
Emergency medicine	3,527	821	517	222	7	3	218	131	27
- Clinical informatics	3	4	1	0	0	0	2	0	0
- Emergency medical services	49	7	3	3	0	0	2	1	0
- Medical toxicology	44	7	6	0	0	0	0	0	1
- Pediatric emergency medicine	23	13	3	1	0	0	2	3	1
- Sports medicine	10	1	0	0	0	0	1	1	0
- Undersea and hyperbaric medicine	6	0	1	0	0	0	0	0	1
Family medicine	3,553	1,425	714	373	24	6	294	179	74
- Clinical informatics	2	5	0	2	0	1	0	1	0
- Geriatric medicine	8	4	2	0	0	0	1	0	2
- Hospice and palliative medicine (multidisciplinary)	81	32	15	7	1	0	5	3	0
- Sports medicine	124	29	17	10	0	0	8	3	3
Internal medicine	6,765	5,803	1,620	968	13	5	671	749	601
- Adult congenital heart disease	11	4	2	0	0	0	1	1	1
- Advanced heart failure and transplant cardiology	28	25	3	1	0	0	3	5	0
- Cardiovascular disease	1,009	897	191	136	0	0	74	122	40
- Clinical cardiac electrophysiology	128	84	16	8	0	0	8	18	2
- Clinical informatics	13	16	0	2	0	0	1	1	1
- Critical care medicine	89	67	14	11	0	0	9	8	2
- Endocrinology, diabetes, and metabolism	84	82	30	10	0	0	7	10	5
- Gastroenterology	493	437	85	68	0	2	32	58	20
- Geriatric medicine	29	42	10	4	0	0	3	11	12
- Hematology	4	5	1	0	0	0	0	0	0
- Hematology and medical oncology	529	364	66	38	1	0	39	33	20
- Infectious disease	189	105	62	17	0	0	14	18	14
- Interventional cardiology	116	105	19	19	0	0	9	17	2
- Nephrology	157	245	54	37	0	0	9	18	12
- Medical oncology	6	10	1	0	0	0	1	1	0
- Pulmonary disease	11	16	4	5	0	0	1	1	0
- Pulmonary disease and critical care medicine	655	429	115	50	0	1	52	59	19
- Rheumatology	107	76	15	8	0	0	6	8	7
- Sleep medicine (multidisciplinary)	44	52	7	2	0	0	5	3	2
- Transplant hepatology	7	13	0	2	0	0	0	1	0
Medical genetics and genomics	13	4	8	2	0	0	0	1	1
- Medical biochemical genetics	5	2	2	0	0	0	0	0	1
- Molecular genetic pathology (multidisciplinary)	20	5	2	0	0	0	0	2	0
Neurological surgery	679	284	109	55	2	0	51	43	12
- Endovascular surgical neuroradiology	1	1	0	0	0	0	1	0	0

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
Neurology	777	506	169	74	2	1	69	95	65
- Brain injury medicine	0	0	0	0	0	0	0	0	0
- Clinical neurophysiology	43	29	7	3	0	0	2	2	3
- Epilepsy	28	25	6	5	0	0	6	2	1
- Neurocritical care (multidisciplinary)	3	7	1	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	1	0	0	0	0	0	0	0
- Neurodevelopmental disabilities	8	0	1	0	0	0	1	0	0
- Neuromuscular medicine	24	6	3	3	0	0	2	2	1
- Vascular neurology	29	42	16	2	0	0	0	1	1
Child neurology	80	31	10	4	0	0	4	8	3
Nuclear medicine	20	14	9	2	0	0	1	5	6
Obstetrics and gynecology	476	101	102	45	2	1	34	32	4
- Female pelvic medicine and reconstructive surgery	13	7	6	2	0	0	0	3	0
- Gynecologic oncology	36	6	4	3	0	0	3	1	0
- Maternal-fetal medicine	54	10	9	6	0	0	2	5	1
- Reproductive endocrinology and infertility	22	5	5	3	0	0	0	1	0
- Complex family planning	1	1	1	0	0	0	0	0	0
Ophthalmology	566	262	75	27	0	0	22	17	14
- Ophthalmic plastic and reconstructive surgery	1	1	0	0	0	0	0	0	0
Orthopaedic surgery	2,553	467	253	171	1	2	114	67	18
- Adult reconstructive orthopaedics	35	5	1	4	0	0	2	2	2
- Foot and ankle orthopaedics	9	2	0	0	0	0	0	0	1
- Hand surgery	71	22	10	2	1	0	4	4	2
- Musculoskeletal oncology	4	3	0	1	0	0	0	3	0
- Orthopaedic sports medicine	144	27	3	4	0	0	5	6	6
- Orthopaedic surgery of the spine	12	5	4	0	0	0	1	0	1
- Orthopaedic trauma	14	1	0	0	0	0	1	0	1
- Pediatric orthopaedics	17	2	2	3	0	0	0	0	2
Osteopathic neuromusculoskeletal medicine	22	10	3	1	0	0	2	1	0
Otolaryngology - head and neck surgery	659	206	76	31	1	0	47	34	7
- Neurotology	17	6	1	0	0	0	1	0	1
- Pediatric otolaryngology	12	3	0	1	0	0	1	0	2
Pathology-anatomic and clinical	557	268	90	59	1	2	47	56	49
- Blood banking/transfusion medicine	15	6	2	1	0	0	1	0	2
- Clinical informatics	4	7	1	0	0	0	0	0	1
- Chemical pathology	0	0	0	0	0	0	0	0	0
- Cytopathology	23	17	7	2	0	0	0	3	0
- Forensic pathology	13	2	3	1	0	0	1	1	0
- Hematopathology	29	13	4	3	0	0	2	6	4
- Medical microbiology	4	3	1	0	0	0	0	0	0
- Neuropathology	10	6	3	3	0	0	2	1	0
- Pediatric pathology	3	2	1	0	0	0	1	0	1
- Selective pathology	43	31	8	6	0	0	1	4	3
Pediatrics	1,403	498	315	116	2	0	97	73	51
- Adolescent medicine	11	1	3	2	0	0	1	0	0
- Child abuse pediatrics	4	3	1	0	0	0	0	0	0
- Clinical informatics	9	6	0	2	0	0	1	1	0
- Developmental-behavioral pediatrics	9	5	3	0	0	0	0	0	0
- Neonatal-perinatal medicine	118	53	13	14	0	0	8	8	3
- Pediatric cardiology	145	46	20	7	0	0	5	10	3
- Pediatric critical care medicine	133	47	25	9	0	0	9	7	2
- Pediatric emergency medicine	95	23	14	7	0	0	7	3	1
- Pediatric endocrinology	20	8	6	1	0	0	1	2	2
- Pediatric gastroenterology	49	34	12	4	0	0	2	3	1
- Pediatric hematology/oncology	85	28	12	5	0	0	6	3	2
- Pediatric infectious diseases	32	12	3	1	0	0	2	2	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	7	2	1	0	0	1	2	0
- Pediatric pulmonology	47	12	6	1	0	0	1	3	2
- Pediatric rheumatology	17	1	4	0	0	0	1	0	1
- Sports medicine	8	2	2	1	0	0	2	1	0
- Pediatric transplant hepatology	2	1	0	0	0	0	0	0	0
- Pediatric hospital medicine	25	3	1	1	0	0	3	0	0
Physical medicine and rehabilitation	547	283	83	50	1	0	39	27	10
- Brain injury medicine	7	4	1	1	0	0	0	1	0
- Neuromuscular medicine	0	0	0	1	0	0	0	0	0
- Spinal cord injury medicine	2	2	1	0	0	0	0	0	0
- Pediatric rehabilitation medicine	7	1	1	0	0	0	2	0	0
- Sports medicine	15	6	1	2	0	0	3	0	0
Plastic surgery	79	28	13	4	0	1	9	5	0
Plastic surgery - integrated	357	101	46	11	0	0	27	25	4
- Craniofacial surgery	1	1	0	0	0	0	0	0	0
- Hand surgery	11	4	0	2	0	0	0	1	2
Preventive medicine	89	35	16	15	0	0	6	7	4
- Medical toxicology	3	0	0	0	0	0	0	0	0
- Undersea and hyperbaric medicine	1	0	0	0	0	0	0	0	0
Psychiatry	1,923	841	347	210	7	0	180	106	41
- Addiction medicine (multidisciplinary)	43	13	4	7	0	0	4	5	2
- Addiction psychiatry	23	15	5	3	0	0	1	5	0
- Child and adolescent psychiatry	172	125	46	16	1	0	21	12	7
- Forensic psychiatry	30	9	2	4	0	0	2	1	0
- Geriatric psychiatry	9	10	2	1	0	0	0	2	0
- Consultation-liaison psychiatry	17	3	6	2	0	0	4	1	4
Radiation oncology	281	142	25	24	0	0	18	16	8
Radiology-diagnostic	1,872	827	223	114	2	1	132	97	43
- Abdominal radiology	17	11	1	0	0	0	0	2	3
- Endovascular surgical neuroradiology	1	2	0	0	0	0	0	0	0
- Musculoskeletal radiology	14	6	3	2	0	0	2	1	1
- Neuroradiology	114	66	12	9	0	0	13	6	11
- Nuclear radiology	6	1	0	1	0	0	0	0	1
- Pediatric radiology	12	9	1	1	0	0	0	1	1
Interventional radiology - independent	91	53	10	8	0	1	8	6	1
Interventional radiology - integrated	278	145	39	16	1	0	24	16	6
Surgery	2,900	852	564	263	6	3	226	183	83
- Complex general surgical oncology	45	11	6	1	0	0	4	3	0
- Hand surgery	2	1	0	0	0	0	0	3	0
- Pediatric surgery	25	6	6	1	0	0	0	0	1
- Surgical critical care	121	26	14	11	1	1	5	6	1
- Vascular surgery	100	42	15	9	0	0	7	5	0
Vascular surgery - integrated	119	61	19	15	0	0	8	6	1
Thoracic surgery	107	37	16	12	0	0	2	7	0
- Congenital cardiac surgery	7	4	0	0	0	0	0	0	0
Thoracic surgery - integrated	90	39	7	6	0	0	7	4	1
Urology	732	277	106	38	2	0	50	36	7
- Female pelvic medicine and reconstructive surgery	2	1	1	0	0	0	0	0	1
- Pediatric urology	9	5	2	0	0	0	0	0	0
Transitional year	607	287	91	53	1	1	70	27	24
Internal medicine/Pediatrics	368	114	43	25	0	0	21	11	9

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 above for the 2021-2022 academic year are based upon self-reported data provided by the Association of American Medical Colleges ("AAMC").

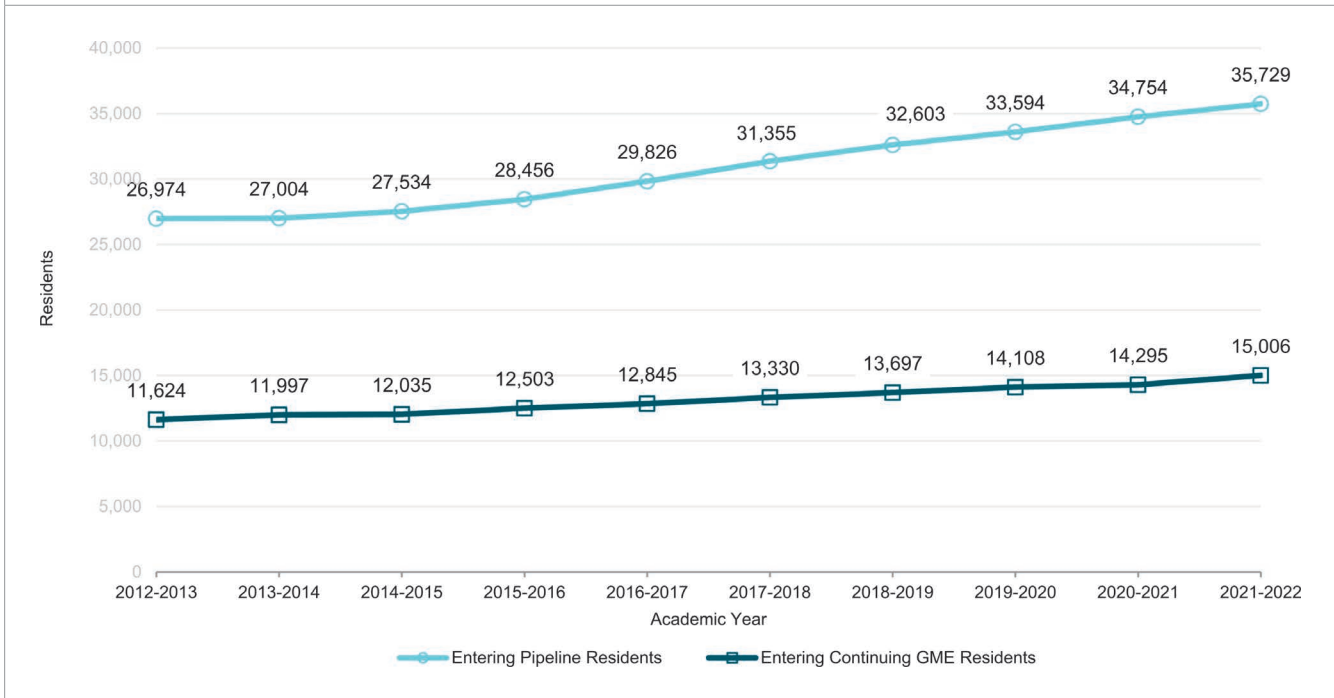


<b>TABLE C.26</b>		
<b>Race/Ethnicity (Alone and In Combination ) of Active Residents</b>		
<b>Active Residents Race/Ethnicity</b>		<b>2021-2022</b>
American Indian or Alaskan Native	Alone	175
	In Combination	706
	Total(Alone or In Combination)	881
Asian	Alone	40,960
	In Combination	3,998
	Total(Alone or In Combination)	44,958
Black or African American	Alone	9,229
	In Combination	1,310
	Total(Alone or In Combination)	10,539
Hispanic, Latino, or of Spanish Origin	Alone	9,093
	In Combination	5,010
	Total(Alone or In Combination)	14,103
Native Hawaiian or Other Pacific Islander	Alone	65
	In Combination	281
	Total(Alone or In Combination)	346
White	Alone	75,193
	In Combination	9,322
	Total(Alone or In Combination)	84,515
Other	Alone	4,748
	In Combination	2,532
	Total(Alone or In Combination)	7,280
Unknown Race/Ethnicity		3,166
Unduplicated Total Residents		153,843

The table displays self-report race/ethnicity data provided by the Association of American Medical Colleges (“AAMC”). “Alone” indicates those who selected only one race/ethnicity response. “In Combination “ indicates those who selected more than one race/ethnicity response.

FIGURE C.27

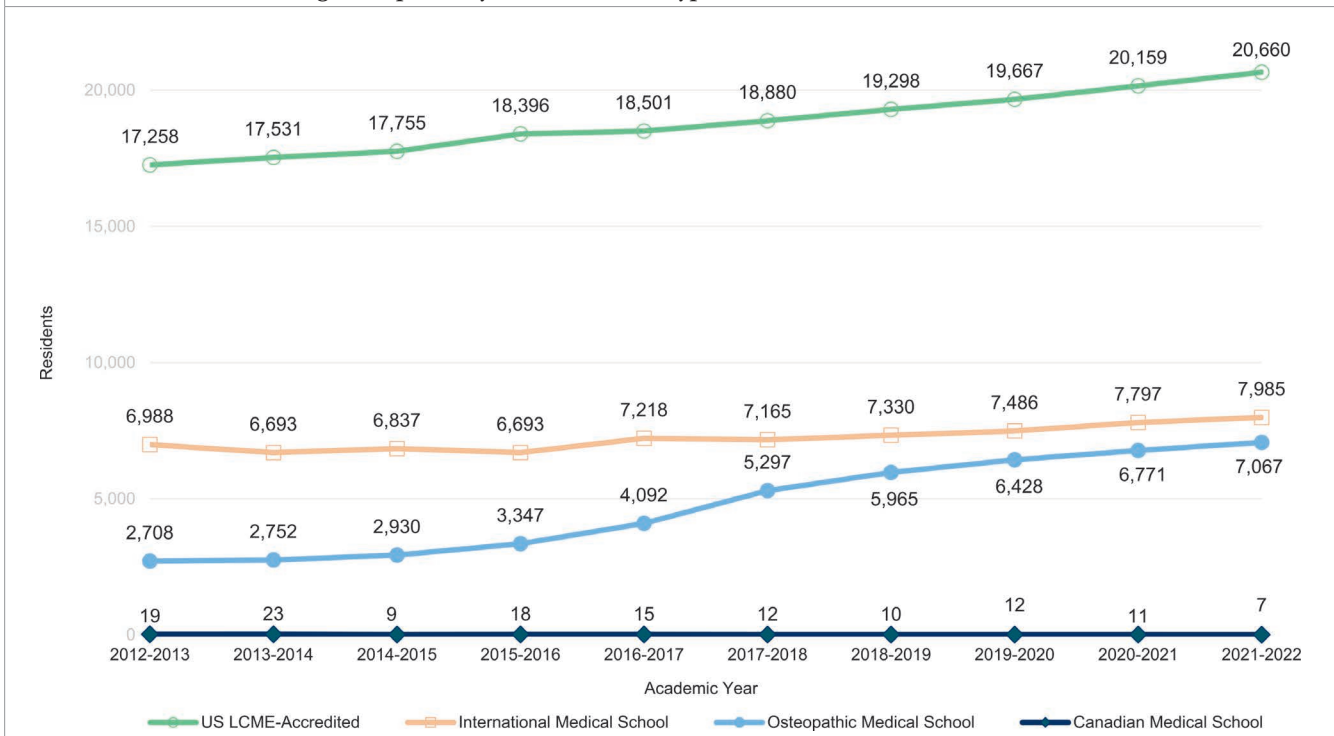
Number of Residents Entering Pipeline and Continuing GME Programs by Academic Year, 2012-2013 to 2021-2022



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, 2012-2013 to 2021-2022



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

Specialty	Total Residents	Medical School Type									
		US LCME-Accredited		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	35,729	20,660	57.8%	7,985	22.3%	7,067	19.8%	7	0.0%	10	0.0%
Anesthesiology	1,689	1,215	71.9%	141	8.3%	331	19.6%	1	0.1%	1	0.1%
Dermatology	539	463	85.9%	20	3.7%	55	10.2%	1	0.2%	0	0.0%
Emergency medicine	2,936	1,906	64.9%	185	6.3%	844	28.7%	0	0.0%	1	0.0%
Family medicine	5,020	1,979	39.4%	1,315	26.2%	1,726	34.4%	0	0.0%	0	0.0%
Internal medicine	9,949	4,204	42.3%	3,955	39.8%	1,781	17.9%	2	0.0%	7	0.1%
Medical genetics and genomics	40	26	65.0%	13	32.5%	1	2.5%	0	0.0%	0	0.0%
Neurological surgery	236	212	89.8%	16	6.8%	8	3.4%	0	0.0%	0	0.0%
Neurology	968	537	55.5%	304	31.4%	126	13.0%	1	0.1%	0	0.0%
Child neurology	168	114	67.9%	40	23.8%	14	8.3%	0	0.0%	0	0.0%
Nuclear medicine	38	8	21.1%	30	78.9%	0	0.0%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,499	1,157	77.2%	95	6.3%	247	16.5%	0	0.0%	0	0.0%
Ophthalmology	523	472	90.2%	25	4.8%	26	5.0%	0	0.0%	0	0.0%
Orthopaedic surgery	907	775	85.4%	8	0.9%	124	13.7%	0	0.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	16	0	0.0%	0	0.0%	16	100.0%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	361	338	93.6%	6	1.7%	17	4.7%	0	0.0%	0	0.0%
Pathology-anatomic and clinical	618	254	41.1%	304	49.2%	60	9.7%	0	0.0%	0	0.0%
Pediatrics	3,156	1,942	61.5%	645	20.4%	568	18.0%	1	0.0%	0	0.0%
Physical medicine and rehabilitation	450	239	53.1%	44	9.8%	167	37.1%	0	0.0%	0	0.0%
Plastic surgery	67	46	68.7%	13	19.4%	8	11.9%	0	0.0%	0	0.0%
Plastic Surgery - Integrated	194	181	93.3%	11	5.7%	2	1.0%	0	0.0%	0	0.0%
Preventive medicine	190	112	58.9%	39	20.5%	38	20.0%	1	0.5%	0	0.0%
Psychiatry	2,051	1,312	64.0%	363	17.7%	375	18.3%	0	0.0%	1	0.0%
Radiation oncology	185	160	86.5%	16	8.6%	9	4.9%	0	0.0%	0	0.0%
Radiology-diagnostic	1,158	812	70.1%	163	14.1%	183	15.8%	0	0.0%	0	0.0%
Interventional radiology - independent	125	88	70.4%	23	18.4%	14	11.2%	0	0.0%	0	0.0%
Interventional radiology - integrated	148	122	82.4%	9	6.1%	17	11.5%	0	0.0%	0	0.0%
Surgery	1,611	1,213	75.3%	161	10.0%	237	14.7%	0	0.0%	0	0.0%
Vascular surgery - integrated	80	68	85.0%	9	11.3%	3	3.7%	0	0.0%	0	0.0%
Thoracic surgery - integrated	47	44	93.6%	2	4.3%	1	2.1%	0	0.0%	0	0.0%
Urology	373	343	92.0%	7	1.9%	23	6.2%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	387	318	82.2%	23	5.9%	46	11.9%	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	-	1,689	2,936	40	38	618	190	185	1,158	148	7,127	125
Alabama	AL	21	17	0	1	14	8	3	17	2	84	1
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	17	50	0	0	3	0	2	21	1	97	3
Arkansas	AR	13	15	0	0	4	0	1	8	2	43	0
California	CA	170	275	7	3	53	29	22	100	16	684	9
Colorado	CO	0	17	2	0	9	4	2	8	2	45	1
Connecticut	CT	27	37	1	0	13	6	3	29	0	119	3
Delaware	DE	0	12	0	0	0	0	0	4	1	18	1
District of Columbia	DC	17	20	2	0	8	0	2	10	2	63	2
Florida	FL	96	207	1	3	22	7	7	63	7	423	10
Georgia	GA	21	57	1	0	11	7	4	24	5	135	5
Hawaii	HI	0	0	0	0	3	0	0	3	0	6	0
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	86	142	0	2	29	7	9	54	10	345	6
Indiana	IN	26	21	0	0	4	0	2	13	1	69	2
Iowa	IA	16	9	0	0	6	0	0	4	1	38	2
Kansas	KS	14	10	0	0	4	0	2	10	1	43	2
Kentucky	KY	25	24	0	0	9	2	6	13	0	82	3
Louisiana	LA	32	39	0	0	11	2	0	19	3	106	0
Maine	ME	5	10	0	0	0	1	0	3	1	20	0
Maryland	MD	44	22	5	4	18	19	7	23	3	145	0
Massachusetts	MA	99	69	1	4	38	8	8	58	8	303	10
Michigan	MI	70	242	1	0	20	6	8	51	5	405	2
Minnesota	MN	28	32	1	0	10	4	4	21	3	104	1
Mississippi	MS	8	28	0	0	4	0	0	7	1	48	0
Missouri	MO	40	50	1	3	19	0	4	34	3	158	4
Montana	MT	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	8	12	1	0	5	0	1	9	1	37	0
Nevada	NV	8	29	0	0	0	0	0	5	0	42	0
New Hampshire	NH	7	6	0	0	4	9	1	3	2	32	0
New Jersey	NJ	23	105	0	0	10	4	1	27	1	172	1
New Mexico	NM	6	12	0	0	4	4	0	8	0	36	2
New York	NY	230	374	5	6	79	11	26	143	18	906	14
North Carolina	NC	39	70	2	0	17	6	8	28	6	182	6
North Dakota	ND	0	0	0	0	0	0	0	0	0	0	0
Ohio	OH	74	168	1	0	26	9	8	48	4	342	4
Oklahoma	OK	14	37	1	1	3	0	1	14	0	72	1
Oregon	OR	13	11	0	1	3	0	0	7	2	41	4
Pennsylvania	PA	96	227	2	0	33	6	14	64	14	468	12
Puerto Rico	PR	3	17	0	1	2	0	0	4	0	27	0
Rhode Island	RI	16	22	0	0	4	0	0	7	2	52	1
South Carolina	SC	21	55	0	1	5	2	1	11	2	98	0
South Dakota	SD	0	0	0	0	2	0	0	0	0	2	0
Tennessee	TN	29	36	0	2	19	5	3	23	3	120	0
Texas	TX	113	195	2	2	51	11	12	80	8	482	8
Utah	UT	5	9	1	0	5	3	2	6	1	33	1
Vermont	VT	6	6	0	0	4	0	0	7	0	23	0
Virginia	VA	26	74	0	0	8	0	4	24	0	136	0
Washington	WA	35	24	2	4	9	5	3	18	3	103	0
West Virginia	WV	8	17	0	0	3	3	0	6	0	37	0
Wisconsin	WI	34	25	0	0	10	2	4	19	3	101	4
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	-	539	5,020	9,949	968	168	16	3,156	450	2,051	387	22,704
Alabama	AL	6	74	131	12	2	0	36	4	12	6	283
Alaska	AK	0	12	0	0	0	0	0	0	0	0	12
Arizona	AZ	10	74	137	16	3	0	52	2	24	6	324
Arkansas	AR	3	85	93	4	1	0	24	4	13	5	232
California	CA	52	578	827	75	17	0	301	29	205	18	2,102
Colorado	CO	6	78	90	15	4	0	32	6	21	4	256
Connecticut	CT	8	19	229	17	2	0	42	0	31	4	352
Delaware	DE	0	25	24	0	3	0	22	0	8	5	87
District of Columbia	DC	8	6	110	14	4	0	47	6	28	4	227
Florida	FL	36	230	656	56	3	0	170	33	120	9	1,313
Georgia	GA	11	135	258	15	4	0	63	6	32	0	524
Hawaii	HI	0	17	38	0	0	0	14	0	14	0	83
Idaho	ID	0	42	19	0	0	0	0	0	4	0	65
Illinois	IL	24	240	483	44	5	0	142	19	70	24	1,051
Indiana	IN	0	111	77	8	1	0	35	4	19	14	269
Iowa	IA	5	56	50	8	1	0	22	0	17	0	159
Kansas	KS	5	41	47	12	0	0	5	4	12	3	129
Kentucky	KY	2	56	70	12	4	0	40	8	15	11	218
Louisiana	LA	9	65	140	16	1	0	47	6	35	16	335
Maine	ME	0	33	13	3	0	0	6	0	9	4	68
Maryland	MD	14	25	232	20	3	0	56	16	43	8	417
Massachusetts	MA	21	46	395	49	11	0	80	11	84	20	717
Michigan	MI	28	252	469	42	6	3	120	27	79	27	1,053
Minnesota	MN	14	82	115	15	2	0	37	12	27	10	314
Mississippi	MS	4	47	80	5	2	0	17	0	14	5	174
Missouri	MO	15	71	160	25	8	3	82	6	40	10	420
Montana	MT	0	18	8	0	0	0	0	0	0	0	26
Nebraska	NE	3	44	49	8	0	0	15	4	11	4	138
Nevada	NV	0	45	83	5	0	0	10	6	20	0	169
New Hampshire	NH	3	17	29	4	0	0	7	0	15	0	75
New Jersey	NJ	5	121	416	19	1	1	86	8	55	4	716
New Mexico	NM	3	36	38	4	1	0	19	4	13	0	118
New York	NY	60	295	1,444	114	16	4	447	81	289	24	2,774
North Carolina	NC	16	153	231	20	6	0	74	14	64	18	596
North Dakota	ND	0	29	8	3	0	0	0	0	6	0	46
Ohio	OH	22	215	474	52	13	0	185	17	77	27	1,082
Oklahoma	OK	4	82	43	6	0	0	38	0	23	3	199
Oregon	OR	8	54	89	4	2	0	19	0	13	0	189
Pennsylvania	PA	33	324	610	73	11	0	151	36	98	18	1,354
Puerto Rico	PR	3	26	86	4	2	0	31	6	12	2	172
Rhode Island	RI	5	16	71	6	0	0	16	0	9	4	127
South Carolina	SC	5	114	73	26	1	0	42	0	35	10	306
South Dakota	SD	0	17	8	0	0	0	6	0	7	0	38
Tennessee	TN	9	80	143	13	5	0	65	4	35	18	372
Texas	TX	45	351	626	66	15	0	230	31	157	21	1,542
Utah	UT	4	29	30	8	2	0	23	7	14	3	120
Vermont	VT	2	6	18	4	0	0	7	0	5	0	42
Virginia	VA	10	115	178	15	1	2	80	11	49	4	465
Washington	WA	5	164	107	10	3	0	50	9	24	0	372
West Virginia	WV	2	47	56	11	0	3	19	0	20	6	164
Wisconsin	WI	11	107	88	10	2	0	44	9	24	8	303
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	-	236	1,499	523	907	361	67	194	1,611	80	47	373	5,898
Alabama	AL	3	12	5	12	4	2	2	19	1	0	3	63
Alaska	AK	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	AZ	5	22	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	23	122	47	77	36	4	21	118	9	8	32	497
Colorado	CO	2	15	6	7	4	1	2	24	1	0	3	65
Connecticut	CT	3	34	5	10	5	0	3	25	1	2	6	94
Delaware	DE	0	7	0	0	0	0	0	6	0	0	0	13
District of Columbia	DC	4	22	13	12	4	0	4	20	2	0	5	86
Florida	FL	10	61	23	35	10	5	14	94	2	1	15	270
Georgia	GA	4	30	9	17	6	2	2	40	1	1	7	119
Hawaii	HI	0	10	0	5	2	0	0	8	0	0	1	26
Idaho	ID	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	IL	12	64	27	35	16	2	9	53	2	1	19	240
Indiana	IN	3	15	6	6	4	2	2	13	1	1	4	57
Iowa	IA	2	5	5	6	5	1	0	14	1	1	3	43
Kansas	KS	2	14	3	8	4	0	2	17	0	0	4	54
Kentucky	KY	4	14	8	10	7	2	4	19	0	1	5	74
Louisiana	LA	5	28	16	15	10	2	2	27	2	0	10	117
Maine	ME	0	4	0	0	0	0	0	4	1	0	1	10
Maryland	MD	8	28	14	22	10	1	3	28	0	1	6	121
Massachusetts	MA	10	38	18	26	13	5	7	61	5	2	14	199
Michigan	MI	8	102	27	66	19	5	6	102	2	2	21	360
Minnesota	MN	6	14	9	20	9	0	6	23	2	0	8	97
Mississippi	MS	2	4	4	3	3	0	2	10	0	0	2	30
Missouri	MO	5	33	17	26	9	0	7	24	3	0	7	131
Montana	MT	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	NE	2	8	2	5	3	1	0	11	0	0	4	36
Nevada	NV	0	10	0	6	2	0	1	13	0	0	0	32
New Hampshire	NH	1	4	2	4	1	0	1	4	1	0	2	20
New Jersey	NJ	2	63	5	28	4	1	4	51	3	0	8	169
New Mexico	NM	0	6	0	5	2	0	1	6	0	0	2	22
New York	NY	24	178	64	101	30	3	19	180	11	8	46	664
North Carolina	NC	8	47	17	23	11	0	7	41	2	2	12	170
North Dakota	ND	0	0	0	3	0	0	0	5	0	0	0	8
Ohio	OH	11	88	22	61	21	4	12	84	7	6	17	333
Oklahoma	OK	1	17	5	8	4	1	0	13	0	0	4	53
Oregon	OR	3	7	5	8	3	0	3	15	0	0	3	47
Pennsylvania	PA	19	94	30	67	27	9	10	112	6	4	24	402
Puerto Rico	PR	0	13	8	4	2	0	0	8	0	0	2	37
Rhode Island	RI	2	8	3	6	0	0	2	7	0	0	2	30
South Carolina	SC	2	16	8	12	4	1	2	21	2	1	3	72
South Dakota	SD	0	0	0	0	0	0	0	3	0	0	0	3
Tennessee	TN	5	34	10	18	9	3	1	36	0	0	10	126
Texas	TX	16	122	40	63	22	8	13	116	5	2	26	433
Utah	UT	2	6	4	6	3	2	2	6	0	1	3	35
Vermont	VT	1	3	0	3	1	0	0	4	0	0	1	13
Virginia	VA	7	34	10	14	10	0	7	29	1	1	6	119
Washington	WA	3	11	7	11	6	0	4	23	2	1	5	73
West Virginia	WV	1	9	4	7	3	0	1	13	1	0	4	43
Wisconsin	WI	3	18	7	11	6	0	5	21	1	0	6	78
Wyoming	WY	0	0	0	0	0	0	0	0	0	0	0	0

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

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	37,058	100.0%	35,587	100.0%	35,729	100.0%
Anesthesiology	1,443	3.9%	1,361	3.8%	1,689	4.7%
Dermatology	26	0.1%	0	0.0%	539	1.5%
Emergency medicine	2,922	7.9%	2,792	7.8%	2,936	8.2%
Family medicine	5,020	13.5%	4,832	13.6%	5,020	14.1%
Internal medicine	11,993	32.4%	11,612	32.6%	9,949	27.8%
Medical genetics and genomics	2	0.0%	1	0.0%	40	0.1%
Neurological surgery	236	0.6%	223	0.6%	236	0.7%
Neurology	653	1.8%	599	1.7%	968	2.7%
Child neurology	0	0.0%	0	0.0%	168	0.5%
Nuclear medicine	0	0.0%	0	0.0%	38	0.1%
Obstetrics and gynecology	1,517	4.1%	1,450	4.1%	1,499	4.2%
Ophthalmology	172	0.5%	155	0.4%	523	1.5%
Orthopaedic surgery	907	2.4%	868	2.4%	907	2.5%
Osteopathic neuromusculoskeletal medicine	16	0.0%	15	0.0%	16	0.0%
Otolaryngology - Head and Neck Surgery	361	1.0%	346	1.0%	361	1.0%
Pathology-anatomic and clinical	618	1.7%	554	1.6%	618	1.7%
Pediatrics	3,259	8.8%	3,206	9.0%	3,156	8.8%
Physical medicine and rehabilitation	170	0.5%	151	0.4%	450	1.3%
Plastic surgery	0	0.0%	0	0.0%	67	0.2%
Plastic Surgery - Integrated	194	0.5%	183	0.5%	194	0.5%
Preventive medicine	10	0.0%	0	0.0%	190	0.5%
Psychiatry	2,051	5.5%	2,001	5.6%	2,051	5.7%
Radiation oncology	0	0.0%	0	0.0%	185	0.5%
Radiology-diagnostic	0	0.0%	0	0.0%	1,158	3.2%
Interventional radiology - independent	0	0.0%	0	0.0%	125	0.3%
Interventional radiology - integrated	0	0.0%	0	0.0%	148	0.4%
Surgery	2,834	7.6%	2,655	7.5%	1,611	4.5%
Vascular surgery - integrated	80	0.2%	75	0.2%	80	0.2%
Thoracic surgery - integrated	47	0.1%	46	0.1%	47	0.1%
Urology	373	1.0%	361	1.0%	373	1.0%
Transitional year	1,767	4.8%	1,717	4.8%	0	0.0%
Internal medicine/Pediatrics	387	1.0%	384	1.1%	387	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	37,058	100.0%	35,587	100.0%	35,729	100.0%
Alabama	425	1.1%	412	1.2%	430	1.2%
Alaska	12	0.0%	12	0.0%	12	0.0%
Arizona	544	1.5%	515	1.4%	508	1.4%
Arkansas	324	0.9%	310	0.9%	302	0.8%
California	3,401	9.2%	3,282	9.2%	3,283	9.2%
Colorado	372	1.0%	356	1.0%	366	1.0%
Connecticut	590	1.6%	573	1.6%	565	1.6%
Delaware	115	0.3%	112	0.3%	118	0.3%
District of Columbia	389	1.0%	375	1.1%	376	1.1%
Florida	2,134	5.8%	2,039	5.7%	2,006	5.6%
Georgia	833	2.2%	786	2.2%	778	2.2%
Hawaii	130	0.4%	120	0.3%	115	0.3%
Idaho	69	0.2%	68	0.2%	65	0.2%
Illinois	1,694	4.6%	1,639	4.6%	1,636	4.6%
Indiana	416	1.1%	406	1.1%	395	1.1%
Iowa	244	0.7%	233	0.7%	240	0.7%
Kansas	221	0.6%	212	0.6%	226	0.6%
Kentucky	388	1.0%	373	1.0%	374	1.0%
Louisiana	571	1.5%	540	1.5%	558	1.6%
Maine	98	0.3%	98	0.3%	98	0.3%
Maryland	692	1.9%	674	1.9%	683	1.9%
Massachusetts	1,235	3.3%	1,179	3.3%	1,219	3.4%
Michigan	1,893	5.1%	1,802	5.1%	1,818	5.1%
Minnesota	485	1.3%	474	1.3%	515	1.4%
Mississippi	274	0.7%	259	0.7%	252	0.7%
Missouri	698	1.9%	674	1.9%	709	2.0%
Montana	30	0.1%	30	0.1%	26	0.1%
Nebraska	210	0.6%	199	0.6%	211	0.6%
Nevada	279	0.8%	262	0.7%	243	0.7%
New Hampshire	120	0.3%	114	0.3%	127	0.4%
New Jersey	1,146	3.1%	1,098	3.1%	1,057	3.0%
New Mexico	176	0.5%	165	0.5%	176	0.5%
New York	4,595	12.4%	4,412	12.4%	4,344	12.2%
North Carolina	963	2.6%	933	2.6%	948	2.7%
North Dakota	63	0.2%	61	0.2%	54	0.2%
Ohio	1,814	4.9%	1,732	4.9%	1,757	4.9%
Oklahoma	316	0.9%	298	0.8%	324	0.9%
Oregon	278	0.8%	272	0.8%	277	0.8%
Pennsylvania	2,282	6.2%	2,188	6.1%	2,224	6.2%
Puerto Rico	293	0.8%	262	0.7%	236	0.7%
Rhode Island	198	0.5%	194	0.5%	209	0.6%
South Carolina	503	1.4%	486	1.4%	476	1.3%
South Dakota	51	0.1%	51	0.1%	43	0.1%
Tennessee	617	1.7%	596	1.7%	618	1.7%
Texas	2,504	6.8%	2,427	6.8%	2,457	6.9%
Utah	183	0.5%	180	0.5%	188	0.5%
Vermont	70	0.2%	66	0.2%	78	0.2%
Virginia	770	2.1%	735	2.1%	720	2.0%
Washington	574	1.5%	547	1.5%	548	1.5%
West Virginia	265	0.7%	257	0.7%	244	0.7%
Wisconsin	496	1.3%	484	1.4%	482	1.3%
Wyoming	15	0.0%	15	0.0%	15	0.0%

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



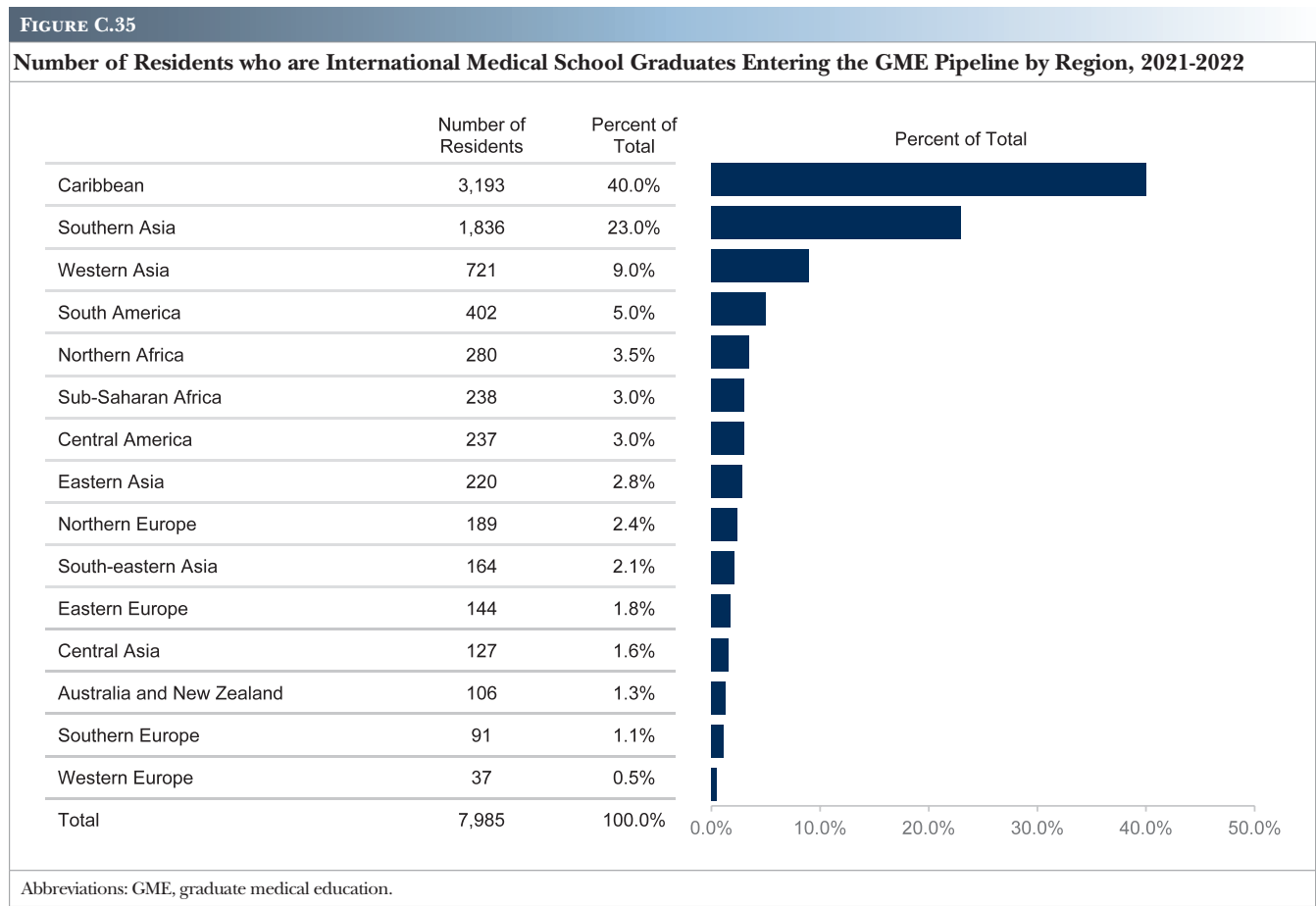


TABLE C.36

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

Specialty	Total Programs	Number of Residents
OVERALL	54	79
Clinical biochemical genetics	17	13
Laboratory genetics and genomics	37	66





# 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 2020-2021 academic year was reported during the fall of the 2021-2022 academic year, therefore, the following data includes only those residents who graduated or left their programs between September 1, 2020 and August 31, 2021.

## Graduating Residents

Of the 48,072 residents graduating from ACGME-accredited programs in the 2020-2021 academic year, 62.5% graduated from a program in a medical specialty or subspecialty, 22.8% 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 2011-2012 academic year to the 2020-2021 academic year, there was a 28.8% increase in graduating residents (a 28.3% increase in specialty program graduates and a 30.2% increase in subspecialty program graduates). The specialties with the highest number of graduating residents in the 2020-2021 academic year include:

- Internal medicine (9,006)
- Family medicine (4,542)
- Pediatrics (3,083)
- Emergency medicine (2,272)

International medical school graduates account for 12,106 (25.2%) of all graduating residents.

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

There were 3,306 residents who completed preliminary education and training and 1,685 residents graduating from transitional year programs during the 2020-2021 academic year, for a total of 4,991 residents completing the necessary prerequisite education and training for specialty programs that require a clinical base year. Of the 3,306 preliminary education and training graduates, 2,103 (63.6%) were in internal medicine, 1,101 (33.3%) were in surgery, 91 (2.8%) were in pediatrics, and 11 (0.3%) 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 3,118 in 2011-2012. Since 2011-2012, there has been a 34.6% increase in the number of residents completing transitional year programs.

## Geographic Distribution of Graduates

There were approximately 14.34 graduating residents per 100,000 population, including Puerto Rico, during the 2020-2021 academic year (10.26 specialty graduates and 4.09 subspecialty graduates). The following states have the highest total number of graduating residents:

- New York (6,025)
- California (4,438)
- Texas (3,195)
- Pennsylvania (3,097)

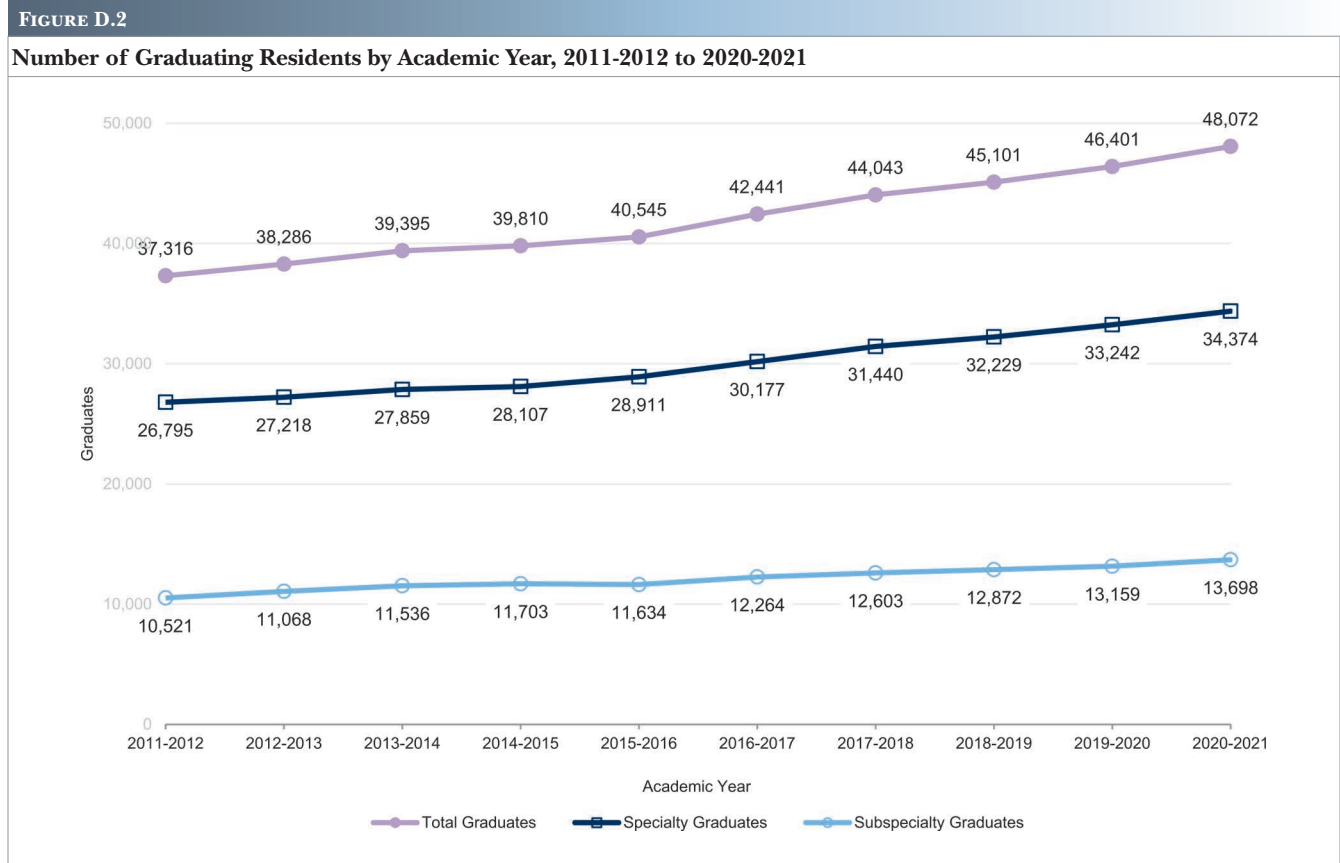
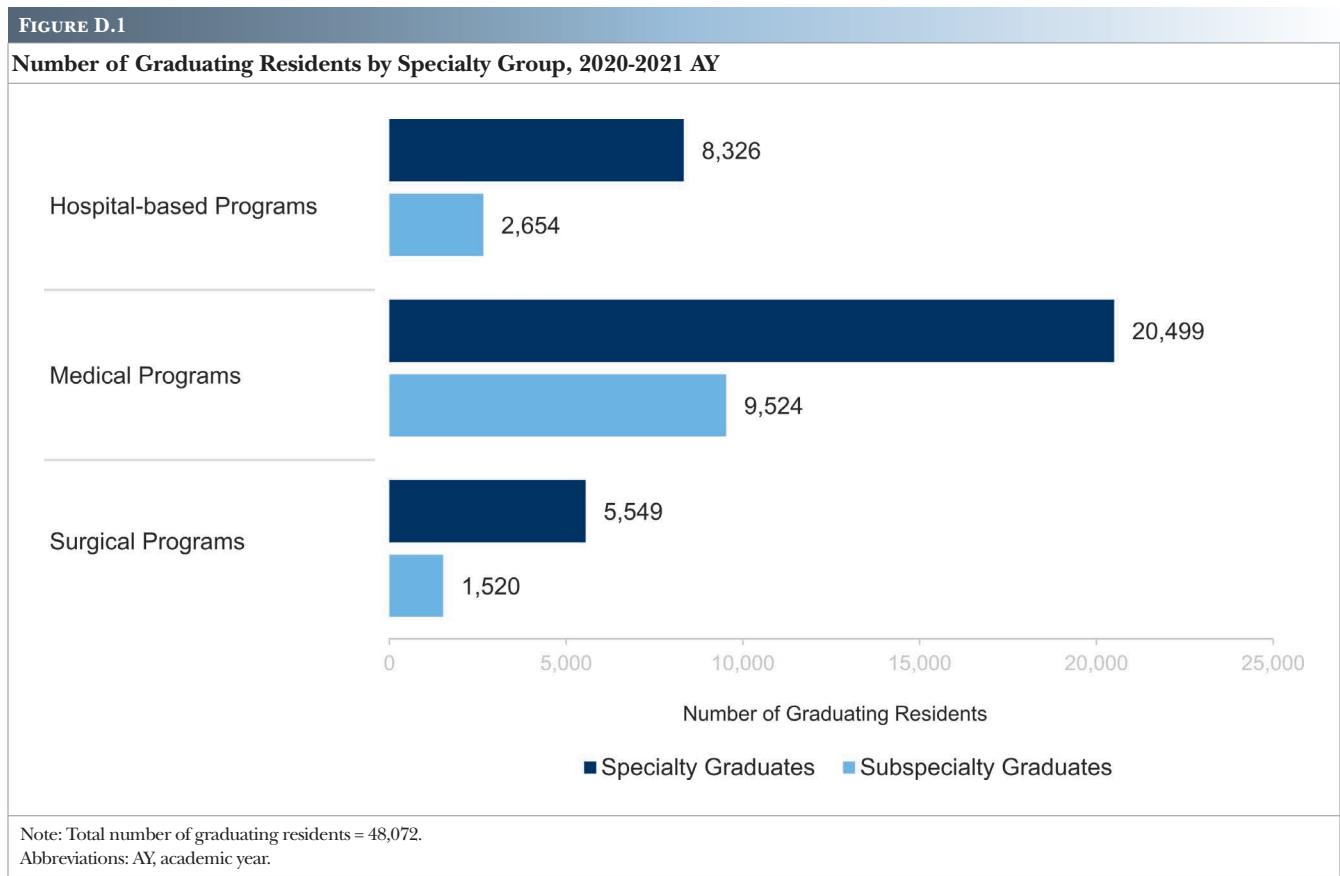
The concentration of specialty graduates ranges from 1.91 per 100,000 population in Alaska to 81.49 per 100,000 population in the District of Columbia.

## Residents Leaving Prior to Completion

In the 2020-2021 academic year, 2,128 left their programs prior to successful completion with statuses of either transferred (50.3%), withdrawn (37.2%), dismissed (10.9%), unsuccessfully completed program (0.7%), or deceased (1.0%). The following specialties have the highest number of transferring residents:

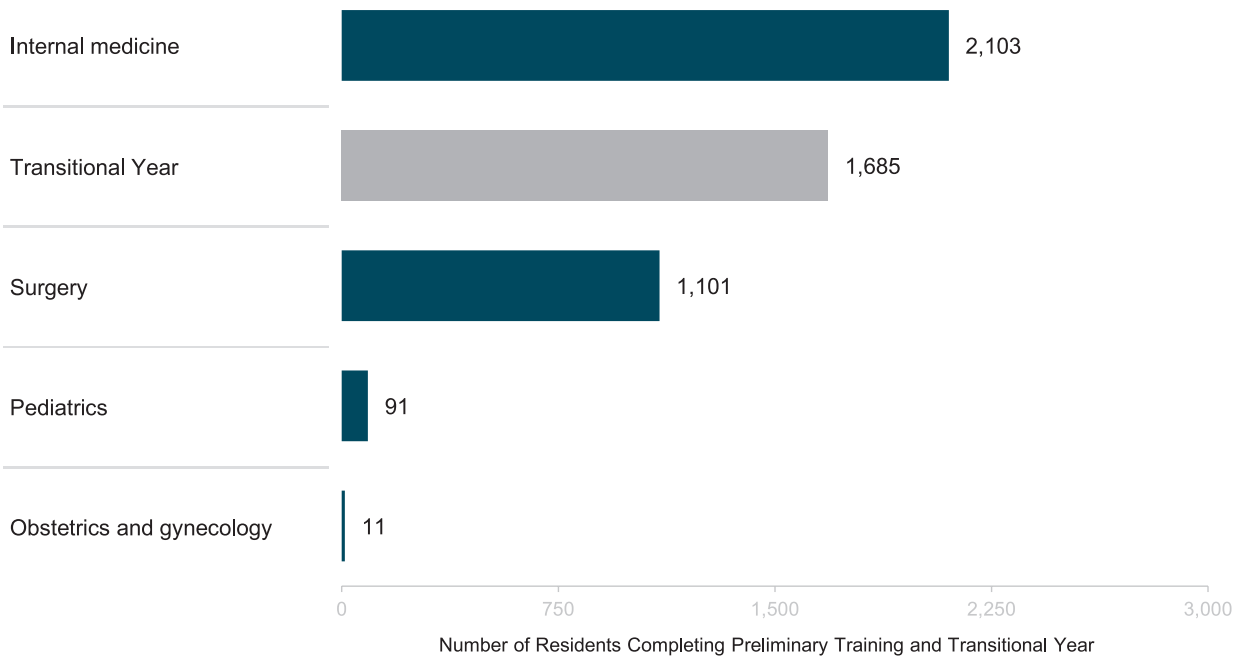
- Psychiatry (374)
- Surgery (136)
- Internal medicine (106)
- Family medicine (94)

Overall, of the 1,020 transfers that occurred among residents in specialty programs during the 2020-2021 academic year, 354 (34.7%) occurred during the first year of the program, 228 (22.4%) occurred during the second year of the program, 389 (38.1%) occurred during the third year of the program, and 49 (4.8%) occurred in the fourth, fifth, or sixth year of the program. ↘



**FIGURE D.3**

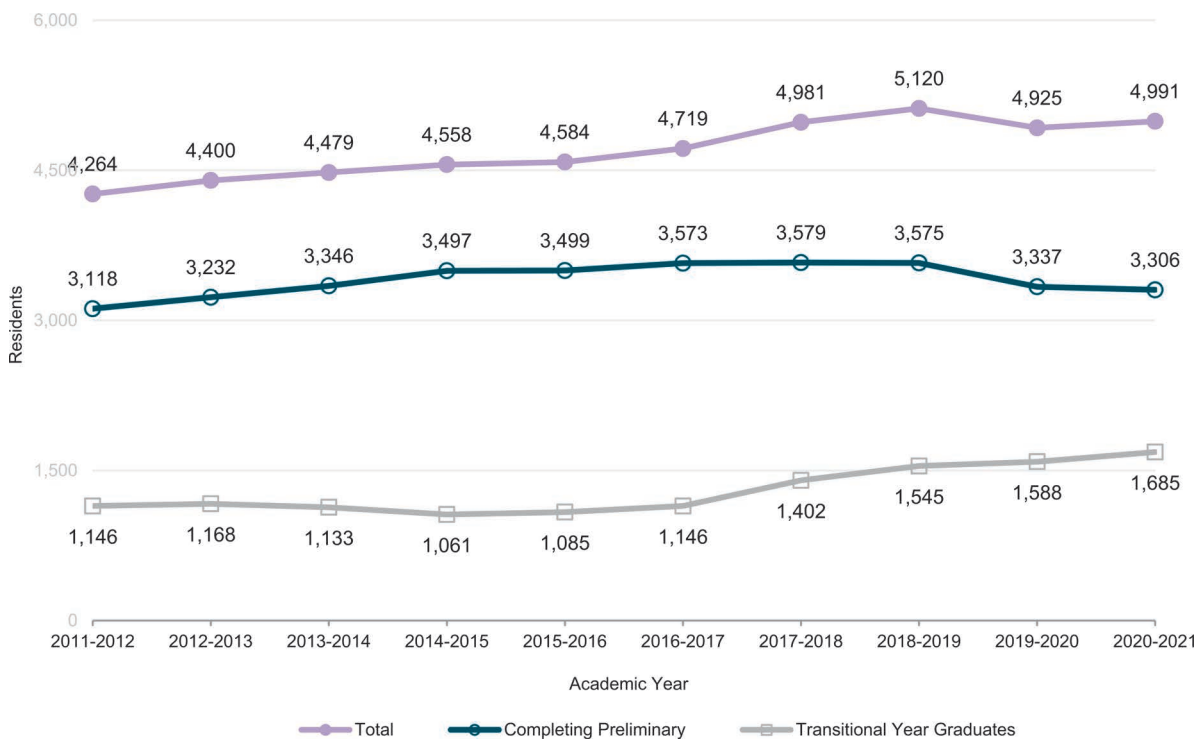
**Number of Residents Completing Preliminary Training and Transitional Year by Specialty, 2020-2021 AY**



Notes: Total number of residents completing preliminary training = 3,306. Total number of residents completing transitional year programs = 1,685. Abbreviations: AY, academic year

**FIGURE D.4**

**Number of Residents Completing Preliminary Training and Transitional Year by Academic Year, 2011-2012 to 2020-2021**



<b>TABLE D.5</b>				
<b>Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2020-2021 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>
OVERALL	48,072	100.0%	3,306	100.0%
TOTAL PIPELINE	32,461	67.5%	3,306	100.0%
Allergy and immunology	151	0.3%	0	0.0%
Anesthesiology	1,810	3.8%	0	0.0%
- Adult cardiothoracic anesthesiology	241	0.5%	0	0.0%
- Clinical informatics	1	0.0%	0	0.0%
- Critical care medicine	191	0.4%	0	0.0%
- Regional anesthesiology and acute pain medicine	79	0.2%	0	0.0%
- Obstetric anesthesiology	52	0.1%	0	0.0%
- Pain medicine (multidisciplinary)	421	0.9%	0	0.0%
- Pediatric anesthesiology	206	0.4%	0	0.0%
Colon and rectal surgery	105	0.2%	0	0.0%
Dermatology	532	1.1%	0	0.0%
- Dermatopathology (multidisciplinary)	69	0.1%	0	0.0%
- Micrographic surgery and dermatologic oncology	82	0.2%	0	0.0%
- Pediatric dermatology	2	0.0%	0	0.0%
Emergency medicine	2,534	5.3%	0	0.0%
- Clinical informatics	5	0.0%	0	0.0%
- Emergency medical services	88	0.2%	0	0.0%
- Medical toxicology	35	0.1%	0	0.0%
- Pediatric emergency medicine	51	0.1%	0	0.0%
- Sports medicine	16	0.0%	0	0.0%
- Undersea and hyperbaric medicine	11	0.0%	0	0.0%
Family medicine	4,542	9.4%	0	0.0%
- Clinical informatics	4	0.0%	0	0.0%
- Geriatric medicine	39	0.1%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	394	0.8%	0	0.0%
- Sports medicine	272	0.6%	0	0.0%
Internal medicine	9,006	18.7%	2,103	63.6%
- Adult congenital heart disease	10	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	105	0.2%	0	0.0%
- Cardiovascular disease	1,043	2.2%	0	0.0%
- Clinical cardiac electrophysiology	127	0.3%	0	0.0%
- Clinical informatics	17	0.0%	0	0.0%
- Critical care medicine	149	0.3%	0	0.0%
- Endocrinology, diabetes, and metabolism	348	0.7%	0	0.0%
- Gastroenterology	604	1.3%	0	0.0%
- Geriatric medicine	278	0.6%	0	0.0%
- Hematology	11	0.0%	0	0.0%
- Hematology and medical oncology	619	1.3%	0	0.0%
- Infectious disease	372	0.8%	0	0.0%
- Interventional cardiology	361	0.8%	0	0.0%
- Nephrology	423	0.9%	0	0.0%
- Medical oncology	16	0.0%	0	0.0%
- Pulmonary disease	29	0.1%	0	0.0%
- Pulmonary disease and critical care medicine	717	1.5%	0	0.0%
- Rheumatology	244	0.5%	0	0.0%
- Sleep medicine (multidisciplinary)	190	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	15	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	59	0.1%	0	0.0%
Neurological surgery	210	0.4%	0	0.0%
- Endovascular surgical neuroradiology	2	0.0%	0	0.0%

TABLE D.5 Continued

**Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2020-2021 AY**

Specialty	Total Graduates	Percent of Total Graduates	Number of Residents Completing Preliminary Training	Percent of Total Residents Completing Preliminary Training
Neurology	828	1.7%	0	0.0%
- Brain injury medicine	1	0.0%	0	0.0%
- Clinical neurophysiology	147	0.3%	0	0.0%
- Epilepsy	135	0.3%	0	0.0%
- Neurocritical care (multidisciplinary)	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	0.0%	0	0.0%
- Neurodevelopmental disabilities	6	0.0%	0	0.0%
- Neuromuscular medicine	74	0.2%	0	0.0%
- Vascular neurology	166	0.3%	0	0.0%
Child neurology	130	0.3%	0	0.0%
Nuclear medicine	36	0.1%	0	0.0%
Obstetrics and gynecology	1,398	2.9%	11	0.3%
- Female pelvic medicine and reconstructive surgery	45	0.1%	0	0.0%
- Gynecologic oncology	70	0.1%	0	0.0%
- Maternal-fetal medicine	126	0.3%	0	0.0%
- Reproductive endocrinology and infertility	51	0.1%	0	0.0%
- Complex family planning	17	0.0%	0	0.0%
Ophthalmology	502	1.0%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	0	0.0%	0	0.0%
Orthopaedic surgery	861	1.8%	0	0.0%
- Adult reconstructive orthopaedics	50	0.1%	0	0.0%
- Foot and ankle orthopaedics	18	0.0%	0	0.0%
- Hand surgery	157	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	26	0.1%	0	0.0%
- Orthopaedic trauma	20	0.0%	0	0.0%
- Pediatric orthopaedics	33	0.1%	0	0.0%
Osteopathic neuromusculoskeletal medicine	41	0.1%	0	0.0%
Otolaryngology - head and neck surgery	327	0.7%	0	0.0%
- Neurotology	19	0.0%	0	0.0%
- Pediatric otolaryngology	34	0.1%	0	0.0%
Pathology-anatomic and clinical	625	1.3%	0	0.0%
- Blood banking/transfusion medicine	50	0.1%	0	0.0%
- Clinical informatics	10	0.0%	0	0.0%
- Chemical pathology	0	0.0%	0	0.0%
- Cytopathology	128	0.3%	0	0.0%
- Forensic pathology	50	0.1%	0	0.0%
- Hematopathology	119	0.2%	0	0.0%
- Medical microbiology	16	0.0%	0	0.0%
- Neuropathology	33	0.1%	0	0.0%
- Pediatric pathology	23	0.0%	0	0.0%
- Selective pathology	178	0.4%	0	0.0%
Pediatrics	3,083	6.4%	91	2.8%
- Adolescent medicine	30	0.1%	0	0.0%
- Child abuse pediatrics	15	0.0%	0	0.0%
- Clinical informatics	9	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	0.1%	0	0.0%
- Neonatal-perinatal medicine	267	0.6%	0	0.0%
- Pediatric cardiology	154	0.3%	0	0.0%
- Pediatric critical care medicine	180	0.4%	0	0.0%
- Pediatric emergency medicine	135	0.3%	0	0.0%
- Pediatric endocrinology	79	0.2%	0	0.0%
- Pediatric gastroenterology	106	0.2%	0	0.0%
- Pediatric hematology/oncology	151	0.3%	0	0.0%
- Pediatric infectious diseases	55	0.1%	0	0.0%



<b>TABLE D.5 Continued</b>				
<b>Number of Graduating Residents and Residents Completing Preliminary Training by Specialty and Subspecialty, 2020-2021 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>
- Pediatric nephrology	42	0.1%	0	0.0%
- Pediatric pulmonology	59	0.1%	0	0.0%
- Pediatric rheumatology	29	0.1%	0	0.0%
- Sports medicine	26	0.1%	0	0.0%
- Pediatric transplant hepatology	11	0.0%	0	0.0%
- Pediatric hospital medicine	49	0.1%	0	0.0%
Physical medicine and rehabilitation	436	0.9%	0	0.0%
- Brain injury medicine	18	0.0%	0	0.0%
- Neuromuscular medicine	1	0.0%	0	0.0%
- Spinal cord injury medicine	19	0.0%	0	0.0%
- Pediatric rehabilitation medicine	19	0.0%	0	0.0%
- Sports medicine	37	0.1%	0	0.0%
Plastic surgery	76	0.2%	0	0.0%
Plastic surgery - integrated	145	0.3%	0	0.0%
- Craniofacial surgery	7	0.0%	0	0.0%
- Hand surgery	23	0.0%	0	0.0%
Preventive medicine	189	0.4%	0	0.0%
- Medical toxicology	2	0.0%	0	0.0%
- Undersea and hyperbaric medicine	1	0.0%	0	0.0%
Psychiatry	1,387	2.9%	0	0.0%
- Addiction medicine (multidisciplinary)	136	0.3%	0	0.0%
- Addiction psychiatry	88	0.2%	0	0.0%
- Child and adolescent psychiatry	449	0.9%	0	0.0%
- Forensic psychiatry	78	0.2%	0	0.0%
- Geriatric psychiatry	47	0.1%	0	0.0%
- Consultation-liaison psychiatry	85	0.2%	0	0.0%
Radiation oncology	190	0.4%	0	0.0%
Radiology-diagnostic	1,140	2.4%	0	0.0%
- Abdominal radiology	46	0.1%	0	0.0%
- Endovascular surgical neuroradiology	2	0.0%	0	0.0%
- Musculoskeletal radiology	41	0.1%	0	0.0%
- Neuroradiology	281	0.6%	0	0.0%
- Nuclear radiology	8	0.0%	0	0.0%
- Pediatric radiology	58	0.1%	0	0.0%
Interventional radiology - independent	137	0.3%	0	0.0%
Interventional radiology - integrated	83	0.2%	0	0.0%
Surgery	1,394	2.9%	1,101	33.3%
- Complex general surgical oncology	59	0.1%	0	0.0%
- Hand surgery	7	0.0%	0	0.0%
- Pediatric surgery	46	0.1%	0	0.0%
- Surgical critical care	312	0.6%	0	0.0%
- Vascular surgery	122	0.3%	0	0.0%
Vascular surgery - integrated	57	0.1%	0	0.0%
Thoracic surgery	109	0.2%	0	0.0%
- Congenital cardiac surgery	11	0.0%	0	0.0%
Thoracic surgery - integrated	29	0.1%	0	0.0%
Urology	336	0.7%	0	0.0%
- Female pelvic medicine and reconstructive surgery	16	0.0%	0	0.0%
- Pediatric urology	18	0.0%	0	0.0%
Transitional year	1,685	3.5%	0	0.0%
Internal medicine/Pediatrics	363	0.8%	0	0.0%

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

TABLE D.6

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2020-2021 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
OVERALL	48,072	27,806	57.8%	12,106	25.2%	8,073	16.8%	82	0.2%	5	0.0%
TOTAL PIPELINE	32,461	18,846	58.1%	7,592	23.4%	6,014	18.5%	6	0.0%	3	0.0%
Allergy and immunology	151	106	70.2%	28	18.5%	17	11.3%	0	0.0%	0	0.0%
Anesthesiology	1,810	1,243	68.7%	283	15.6%	284	15.7%	0	0.0%	0	0.0%
- Adult cardiothoracic anesthesiology	241	166	68.9%	40	16.6%	32	13.3%	3	1.2%	0	0.0%
- Clinical informatics	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Critical care medicine	191	127	66.5%	39	20.4%	23	12.0%	2	1.0%	0	0.0%
- Regional anesthesiology and acute pain medicine	79	59	74.7%	13	16.5%	7	8.9%	0	0.0%	0	0.0%
- Obstetric anesthesiology	52	36	69.2%	8	15.4%	7	13.5%	1	1.9%	0	0.0%
- Pain medicine (multidisciplinary)	421	279	66.3%	67	15.9%	72	17.1%	3	0.7%	0	0.0%
- Pediatric anesthesiology	206	139	67.5%	44	21.4%	23	11.2%	0	0.0%	0	0.0%
Colon and rectal surgery	105	83	79.0%	15	14.3%	4	3.8%	3	2.9%	0	0.0%
Dermatology	532	457	85.9%	18	3.4%	57	10.7%	0	0.0%	0	0.0%
- Dermatopathology (multidisciplinary)	69	48	69.6%	15	21.7%	5	7.2%	1	1.4%	0	0.0%
- Micrographic surgery and dermatologic oncology	82	72	87.8%	3	3.7%	7	8.5%	0	0.0%	0	0.0%
- Pediatric dermatology	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Emergency medicine	2,534	1,726	68.1%	113	4.5%	694	27.4%	1	0.0%	0	0.0%
- Clinical informatics	5	5	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Emergency medical services	88	62	70.5%	10	11.4%	16	18.2%	0	0.0%	0	0.0%
- Medical toxicology	35	30	85.7%	1	2.9%	4	11.4%	0	0.0%	0	0.0%
- Pediatric emergency medicine	51	29	56.9%	15	29.4%	7	13.7%	0	0.0%	0	0.0%
- Sports medicine	16	9	56.3%	3	18.8%	4	25.0%	0	0.0%	0	0.0%
- Undersea and hyperbaric medicine	11	7	63.6%	2	18.2%	2	18.2%	0	0.0%	0	0.0%
Family medicine	4,542	1,920	42.3%	1,134	25.0%	1,488	32.8%	0	0.0%	0	0.0%
- Clinical informatics	4	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Geriatric medicine	39	17	43.6%	16	41.0%	6	15.4%	0	0.0%	0	0.0%
- Hospice and palliative medicine (multidisciplinary)	394	219	55.6%	101	25.6%	74	18.8%	0	0.0%	0	0.0%
- Sports medicine	272	119	43.8%	30	11.0%	123	45.2%	0	0.0%	0	0.0%
Internal medicine	9,006	3,749	41.6%	3,698	41.1%	1,558	17.3%	1	0.0%	0	0.0%
- Adult congenital heart disease	10	8	80.0%	2	20.0%	0	0.0%	0	0.0%	0	0.0%
- Advanced heart failure and transplant cardiology	105	47	44.8%	44	41.9%	12	11.4%	2	1.9%	0	0.0%
- Cardiovascular disease	1,043	556	53.3%	383	36.7%	104	10.0%	0	0.0%	0	0.0%
- Clinical cardiac electrophysiology	127	65	51.2%	56	44.1%	5	3.9%	1	0.8%	0	0.0%
- Clinical informatics	17	10	58.8%	5	29.4%	2	11.8%	0	0.0%	0	0.0%
- Critical care medicine	149	50	33.6%	72	48.3%	26	17.4%	1	0.7%	0	0.0%
- Endocrinology, diabetes, and metabolism	348	134	38.5%	180	51.7%	33	9.5%	1	0.3%	0	0.0%
- Gastroenterology	604	334	55.3%	201	33.3%	67	11.1%	2	0.3%	0	0.0%
- Geriatric medicine	278	80	28.8%	163	58.6%	35	12.6%	0	0.0%	0	0.0%
- Hematology	11	9	81.8%	2	18.2%	0	0.0%	0	0.0%	0	0.0%
- Hematology and medical oncology	619	374	60.4%	203	32.8%	42	6.8%	0	0.0%	0	0.0%
- Infectious disease	372	177	47.6%	143	38.4%	51	13.7%	1	0.3%	0	0.0%
- Interventional cardiology	361	148	41.0%	178	49.3%	33	9.1%	1	0.3%	1	0.3%
- Nephrology	423	88	20.8%	282	66.7%	53	12.5%	0	0.0%	0	0.0%
- Medical oncology	16	9	56.3%	7	43.8%	0	0.0%	0	0.0%	0	0.0%
- Pulmonary disease	29	0	0.0%	26	89.7%	3	10.3%	0	0.0%	0	0.0%
- Pulmonary disease and critical care medicine	717	324	45.2%	300	41.8%	93	13.0%	0	0.0%	0	0.0%
- Rheumatology	244	122	50.0%	90	36.9%	32	13.1%	0	0.0%	0	0.0%
- Sleep medicine (multidisciplinary)	190	79	41.6%	90	47.4%	20	10.5%	1	0.5%	0	0.0%
- Transplant hepatology	49	33	67.3%	14	28.6%	2	4.1%	0	0.0%	0	0.0%
Medical genetics and genomics	34	18	52.9%	14	41.2%	2	5.9%	0	0.0%	0	0.0%
- Medical biochemical genetics	15	7	46.7%	7	46.7%	1	6.7%	0	0.0%	0	0.0%
- Molecular genetic pathology (multidisciplinary)	59	28	47.5%	28	47.5%	3	5.1%	0	0.0%	0	0.0%
Neurological surgery	210	182	86.7%	12	5.7%	15	7.1%	1	0.5%	0	0.0%
- Endovascular surgical neuroradiology	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, 2020-2021 AY**

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
		Neurology	828	450	54.3%	267	32.2%	110	13.3%	0	0.0%
- Brain injury medicine	1	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Clinical neurophysiology	147	83	56.5%	47	32.0%	17	11.6%	0	0.0%	0	0.0%
- Epilepsy	135	73	54.1%	53	39.3%	8	5.9%	1	0.7%	0	0.0%
- Neurocritical care (multidisciplinary)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
- Endovascular surgical neuroradiology	3	1	33.3%	2	66.7%	0	0.0%	0	0.0%	0	0.0%
- Neurodevelopmental disabilities	6	4	66.7%	1	16.7%	1	16.7%	0	0.0%	0	0.0%
- Neuromuscular medicine	74	51	68.9%	13	17.6%	8	10.8%	2	2.7%	0	0.0%
- Vascular neurology	166	72	43.4%	74	44.6%	18	10.8%	2	1.2%	0	0.0%
Child neurology	130	99	76.2%	22	16.9%	9	6.9%	0	0.0%	0	0.0%
Nuclear medicine	36	11	30.6%	23	63.9%	2	5.6%	0	0.0%	0	0.0%
Obstetrics and gynecology	1,398	1,056	75.5%	117	8.4%	223	16.0%	0	0.0%	2	0.1%
- Female pelvic medicine and reconstructive surgery	45	39	86.7%	4	8.9%	2	4.4%	0	0.0%	0	0.0%
- Gynecologic oncology	70	57	81.4%	4	5.7%	8	11.4%	1	1.4%	0	0.0%
- Maternal-fetal medicine	126	95	75.4%	18	14.3%	13	10.3%	0	0.0%	0	0.0%
- Reproductive endocrinology and infertility	51	41	80.4%	7	13.7%	3	5.9%	0	0.0%	0	0.0%
- Complex family planning	17	16	94.1%	1	5.9%	0	0.0%	0	0.0%	0	0.0%
Ophthalmology	502	454	90.4%	24	4.8%	23	4.6%	1	0.2%	0	0.0%
- Ophthalmic plastic and reconstructive surgery	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Orthopaedic surgery	861	725	84.2%	15	1.7%	121	14.1%	0	0.0%	0	0.0%
- Adult reconstructive orthopaedics	50	39	78.0%	1	2.0%	9	18.0%	1	2.0%	0	0.0%
- Foot and ankle orthopaedics	18	15	83.3%	2	11.1%	0	0.0%	1	5.6%	0	0.0%
- Hand surgery	157	141	89.8%	0	0.0%	13	8.3%	3	1.9%	0	0.0%
- Musculoskeletal oncology	16	13	81.3%	3	18.8%	0	0.0%	0	0.0%	0	0.0%
- Orthopaedic sports medicine	215	169	78.6%	12	5.6%	31	14.4%	3	1.4%	0	0.0%
- Orthopaedic surgery of the spine	26	17	65.4%	4	15.4%	5	19.2%	0	0.0%	0	0.0%
- Orthopaedic trauma	20	15	75.0%	1	5.0%	3	15.0%	1	5.0%	0	0.0%
- Pediatric orthopaedics	33	25	75.8%	5	15.2%	2	6.1%	1	3.0%	0	0.0%
Osteopathic neuromusculoskeletal medicine	41	1	2.4%	0	0.0%	40	97.6%	0	0.0%	0	0.0%
Otolaryngology - head and neck surgery	327	296	90.5%	11	3.4%	20	6.1%	0	0.0%	0	0.0%
- Neurotology	19	17	89.5%	2	10.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric otolaryngology	34	28	82.4%	4	11.8%	1	2.9%	1	2.9%	0	0.0%
Pathology-anatomic and clinical	625	274	43.8%	310	49.6%	41	6.6%	0	0.0%	0	0.0%
- Blood banking/transfusion medicine	50	31	62.0%	15	30.0%	4	8.0%	0	0.0%	0	0.0%
- Clinical informatics	10	3	30.0%	7	70.0%	0	0.0%	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	128	52	40.6%	63	49.2%	12	9.4%	1	0.8%	0	0.0%
- Forensic pathology	50	29	58.0%	12	24.0%	7	14.0%	2	4.0%	0	0.0%
- Hematopathology	119	49	41.2%	57	47.9%	11	9.2%	2	1.7%	0	0.0%
- Medical microbiology	16	9	56.3%	6	37.5%	1	6.3%	0	0.0%	0	0.0%
- Neuropathology	33	19	57.6%	8	24.2%	5	15.2%	1	3.0%	0	0.0%
- Pediatric pathology	23	15	65.2%	7	30.4%	1	4.3%	0	0.0%	0	0.0%
- Selective pathology	178	56	31.5%	105	59.0%	11	6.2%	6	3.4%	0	0.0%
Pediatrics	3,083	1,956	63.4%	660	21.4%	467	15.1%	0	0.0%	0	0.0%
- Adolescent medicine	30	21	70.0%	3	10.0%	6	20.0%	0	0.0%	0	0.0%
- Child abuse pediatrics	15	11	73.3%	1	6.7%	3	20.0%	0	0.0%	0	0.0%
- Clinical informatics	9	8	88.9%	0	0.0%	1	11.1%	0	0.0%	0	0.0%
- Developmental-behavioral pediatrics	44	23	52.3%	15	34.1%	6	13.6%	0	0.0%	0	0.0%
- Neonatal-perinatal medicine	267	167	62.5%	79	29.6%	21	7.9%	0	0.0%	0	0.0%
- Pediatric cardiology	154	110	71.4%	32	20.8%	11	7.1%	1	0.6%	0	0.0%
- Pediatric critical care medicine	180	119	66.1%	49	27.2%	12	6.7%	0	0.0%	0	0.0%
- Pediatric emergency medicine	135	98	72.6%	20	14.8%	17	12.6%	0	0.0%	0	0.0%
- Pediatric endocrinology	79	42	53.2%	33	41.8%	4	5.1%	0	0.0%	0	0.0%
- Pediatric gastroenterology	106	73	68.9%	25	23.6%	8	7.5%	0	0.0%	0	0.0%
- Pediatric hematology/oncology	151	105	69.5%	33	21.9%	12	7.9%	1	0.7%	0	0.0%
- Pediatric infectious diseases	55	32	58.2%	18	32.7%	5	9.1%	0	0.0%	0	0.0%

TABLE D.6 Continued

Number of Graduating Residents by Specialty and Subspecialty and Medical School Type, 2020-2021 AY

Specialty	Total Graduates	US LCME - Accredited Medical School		International Medical School		Osteopathic Medical School		Canadian Medical School		US Medical School Unknown	
		#	%	#	%	#	%	#	%	#	%
- Pediatric nephrology	42	28	66.7%	11	26.2%	3	7.1%	0	0.0%	0	0.0%
- Pediatric pulmonology	59	31	52.5%	28	47.5%	0	0.0%	0	0.0%	0	0.0%
- Pediatric rheumatology	29	20	69.0%	5	17.2%	4	13.8%	0	0.0%	0	0.0%
- Sports medicine	26	14	53.8%	4	15.4%	8	30.8%	0	0.0%	0	0.0%
- Pediatric transplant hepatology	11	8	72.7%	1	9.1%	2	18.2%	0	0.0%	0	0.0%
- Pediatric hospital medicine	49	44	89.8%	1	2.0%	4	8.2%	0	0.0%	0	0.0%
Physical medicine and rehabilitation	436	261	59.9%	37	8.5%	138	31.7%	0	0.0%	0	0.0%
- Brain injury medicine	18	9	50.0%	5	27.8%	4	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	19	13	68.4%	5	26.3%	1	5.3%	0	0.0%	0	0.0%
- Pediatric rehabilitation medicine	19	14	73.7%	0	0.0%	5	26.3%	0	0.0%	0	0.0%
- Sports medicine	37	24	64.9%	5	13.5%	8	21.6%	0	0.0%	0	0.0%
Plastic surgery	76	50	65.8%	15	19.7%	11	14.5%	0	0.0%	0	0.0%
Plastic surgery - integrated	145	135	93.1%	9	6.2%	1	0.7%	0	0.0%	0	0.0%
- Craniofacial surgery	7	5	71.4%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
- Hand surgery	23	17	73.9%	3	13.0%	0	0.0%	2	8.7%	1	4.3%
Preventive medicine	189	122	64.6%	30	15.9%	36	19.0%	1	0.5%	0	0.0%
- Medical toxicology	2	2	100.0%	0	0.0%	0	0.0%	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	1,387	862	62.1%	276	19.9%	249	18.0%	0	0.0%	0	0.0%
- Addiction medicine (multidisciplinary)	136	77	56.6%	30	22.1%	28	20.6%	1	0.7%	0	0.0%
- Addiction psychiatry	88	44	50.0%	30	34.1%	13	14.8%	1	1.1%	0	0.0%
- Child and adolescent psychiatry	449	253	56.3%	123	27.4%	72	16.0%	1	0.2%	0	0.0%
- Forensic psychiatry	78	54	69.2%	16	20.5%	8	10.3%	0	0.0%	0	0.0%
- Geriatric psychiatry	47	23	48.9%	19	40.4%	5	10.6%	0	0.0%	0	0.0%
- Consultation-liaison psychiatry	85	51	60.0%	23	27.1%	10	11.8%	1	1.2%	0	0.0%
Radiation oncology	190	179	94.2%	7	3.7%	4	2.1%	0	0.0%	0	0.0%
Radiology-diagnostic	1,140	803	70.4%	207	18.2%	130	11.4%	0	0.0%	0	0.0%
- Abdominal radiology	46	19	41.3%	17	37.0%	1	2.2%	9	19.6%	0	0.0%
- Endovascular surgical neuroradiology	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
- Musculoskeletal radiology	41	27	65.9%	10	24.4%	3	7.3%	1	2.4%	0	0.0%
- Neuroradiology	281	175	62.3%	81	28.8%	21	7.5%	4	1.4%	0	0.0%
- Nuclear radiology	8	4	50.0%	4	50.0%	0	0.0%	0	0.0%	0	0.0%
- Pediatric radiology	58	33	56.9%	14	24.1%	11	19.0%	0	0.0%	0	0.0%
Interventional radiology - independent	137	96	70.1%	26	19.0%	15	10.9%	0	0.0%	0	0.0%
Interventional radiology - integrated	83	62	74.7%	13	15.7%	8	9.6%	0	0.0%	0	0.0%
Surgery	1,394	984	70.6%	197	14.1%	212	15.2%	1	0.1%	0	0.0%
- Complex general surgical oncology	59	46	78.0%	11	18.6%	2	3.4%	0	0.0%	0	0.0%
- Hand surgery	7	3	42.9%	3	42.9%	1	14.3%	0	0.0%	0	0.0%
- Pediatric surgery	46	41	89.1%	3	6.5%	2	4.3%	0	0.0%	0	0.0%
- Surgical critical care	312	222	71.2%	44	14.1%	45	14.4%	1	0.3%	0	0.0%
- Vascular surgery	122	83	68.0%	25	20.5%	14	11.5%	0	0.0%	0	0.0%
Vascular surgery - integrated	57	52	91.2%	3	5.3%	2	3.5%	0	0.0%	0	0.0%
Thoracic surgery	109	72	66.1%	30	27.5%	7	6.4%	0	0.0%	0	0.0%
- Congenital cardiac surgery	11	10	90.9%	0	0.0%	1	9.1%	0	0.0%	0	0.0%
Thoracic surgery - integrated	29	25	86.2%	3	10.3%	1	3.4%	0	0.0%	0	0.0%
Urology	336	302	89.9%	10	3.0%	24	7.1%	0	0.0%	0	0.0%
- Female pelvic medicine and reconstructive surgery	16	14	87.5%	1	6.3%	1	6.3%	0	0.0%	0	0.0%
- Pediatric urology	18	15	83.3%	1	5.6%	1	5.6%	1	5.6%	0	0.0%
Transitional year	1,685	1,075	63.8%	186	11.0%	424	25.2%	0	0.0%	0	0.0%
Internal medicine/Pediatrics	363	296	81.5%	38	10.5%	29	8.0%	0	0.0%	0	0.0%

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

**TABLE D.7**  
**Number of Graduating Residents and Graduate Concentration per 100,000 Population by State, 2020-2021 AY**

State Name	State Abbreviation	State Population - Census Estimate 2021	Total Graduates	Percent of All Graduates	Graduates per 100,000 Pop
OVERALL	-	335,157,329	48,072	100.0%	14.34
Alabama	AL	5,039,877	535	1.1%	10.62
Alaska	AK	732,673	14	0.0%	1.91
Arizona	AZ	7,276,316	661	1.4%	9.08
Arkansas	AR	3,025,891	311	0.6%	10.28
California	CA	39,237,836	4,438	9.2%	11.31
Colorado	CO	5,812,069	565	1.2%	9.72
Connecticut	CT	3,605,597	824	1.7%	22.85
Delaware	DE	1,003,384	118	0.2%	11.76
District of Columbia	DC	670,050	546	1.1%	81.49
Florida	FL	21,781,128	2,400	5.0%	11.02
Georgia	GA	10,799,566	1,040	2.2%	9.63
Hawaii	HI	1,441,553	138	0.3%	9.57
Idaho	ID	1,900,923	50	0.1%	2.63
Illinois	IL	12,671,469	2,182	4.5%	17.22
Indiana	IN	6,805,985	532	1.1%	7.82
Iowa	IA	3,193,079	323	0.7%	10.12
Kansas	KS	2,934,582	253	0.5%	8.62
Kentucky	KY	4,509,394	482	1.0%	10.69
Louisiana	LA	4,624,047	679	1.4%	14.68
Maine	ME	1,372,247	113	0.2%	8.23
Maryland	MD	6,165,129	1,149	2.4%	18.64
Massachusetts	MA	6,984,723	2,071	4.3%	29.65
Michigan	MI	10,050,811	2,440	5.1%	24.28
Minnesota	MN	5,707,390	852	1.8%	14.93
Mississippi	MS	2,949,965	266	0.6%	9.02
Missouri	MO	6,168,187	1,028	2.1%	16.67
Montana	MT	1,104,271	29	0.1%	2.63
Nebraska	NE	1,963,692	264	0.5%	13.44
Nevada	NV	3,143,991	278	0.6%	8.84
New Hampshire	NH	1,388,992	147	0.3%	10.58
New Jersey	NJ	9,267,130	1,208	2.5%	13.04
New Mexico	NM	2,115,877	237	0.5%	11.20
New York	NY	19,835,913	6,025	12.5%	30.37
North Carolina	NC	10,551,162	1,310	2.7%	12.42
North Dakota	ND	774,948	56	0.1%	7.23
Ohio	OH	11,780,017	2,401	5.0%	20.38
Oklahoma	OK	3,986,639	353	0.7%	8.85
Oregon	OR	4,246,155	330	0.7%	7.77
Pennsylvania	PA	12,964,056	3,097	6.4%	23.89
Puerto Rico	PR	3,263,584	319	0.7%	9.77
Rhode Island	RI	1,095,610	285	0.6%	26.01
South Carolina	SC	5,190,705	505	1.1%	9.73
South Dakota	SD	895,376	55	0.1%	6.14
Tennessee	TN	6,975,218	845	1.8%	12.11
Texas	TX	29,527,941	3,195	6.6%	10.82
Utah	UT	3,337,975	310	0.6%	9.29
Vermont	VT	645,570	100	0.2%	15.49
Virginia	VA	8,642,274	955	2.0%	11.05
Washington	WA	7,738,692	778	1.6%	10.05
West Virginia	WV	1,782,959	288	0.6%	16.15
Wisconsin	WI	5,895,908	677	1.4%	11.48
Wyoming	WY	578,803	15	0.0%	2.59

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/poppep/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

TABLE D.8

Number of Specialty Graduates and Specialty Graduate Concentration per 100,000 Population by State, 2020-2021 AY

State Name	State Abbreviation	State Population - Census Estimate 2021	Total Specialty Graduates	Percent of All Specialty Graduates	Specialty Graduates per 100,000 Pop
OVERALL	-	335,157,329	34,374	100.0%	10.26
Alabama	AL	5,039,877	391	1.1%	7.76
Alaska	AK	732,673	13	0.0%	1.77
Arizona	AZ	7,276,316	492	1.4%	6.76
Arkansas	AR	3,025,891	249	0.7%	8.23
California	CA	39,237,836	3,048	8.9%	7.77
Colorado	CO	5,812,069	389	1.1%	6.69
Connecticut	CT	3,605,597	562	1.6%	15.59
Delaware	DE	1,003,384	89	0.3%	8.87
District of Columbia	DC	670,050	362	1.1%	54.03
Florida	FL	21,781,128	1,817	5.3%	8.34
Georgia	GA	10,799,566	777	2.3%	7.19
Hawaii	HI	1,441,553	118	0.3%	8.19
Idaho	ID	1,900,923	48	0.1%	2.53
Illinois	IL	12,671,469	1,633	4.8%	12.89
Indiana	IN	6,805,985	403	1.2%	5.92
Iowa	IA	3,193,079	236	0.7%	7.39
Kansas	KS	2,934,582	202	0.6%	6.88
Kentucky	KY	4,509,394	353	1.0%	7.83
Louisiana	LA	4,624,047	519	1.5%	11.22
Maine	ME	1,372,247	92	0.3%	6.70
Maryland	MD	6,165,129	732	2.1%	11.87
Massachusetts	MA	6,984,723	1,271	3.7%	18.20
Michigan	MI	10,050,811	1,920	5.6%	19.10
Minnesota	MN	5,707,390	533	1.6%	9.34
Mississippi	MS	2,949,965	209	0.6%	7.08
Missouri	MO	6,168,187	693	2.0%	11.24
Montana	MT	1,104,271	28	0.1%	2.54
Nebraska	NE	1,963,692	195	0.6%	9.93
Nevada	NV	3,143,991	232	0.7%	7.38
New Hampshire	NH	1,388,992	94	0.3%	6.77
New Jersey	NJ	9,267,130	974	2.8%	10.51
New Mexico	NM	2,115,877	161	0.5%	7.61
New York	NY	19,835,913	4,289	12.5%	21.62
North Carolina	NC	10,551,162	869	2.5%	8.24
North Dakota	ND	774,948	52	0.2%	6.71
Ohio	OH	11,780,017	1,684	4.9%	14.30
Oklahoma	OK	3,986,639	297	0.9%	7.45
Oregon	OR	4,246,155	229	0.7%	5.39
Pennsylvania	PA	12,964,056	2,159	6.3%	16.65
Puerto Rico	PR	3,263,584	261	0.8%	8.00
Rhode Island	RI	1,095,610	204	0.6%	18.62
South Carolina	SC	5,190,705	384	1.1%	7.40
South Dakota	SD	895,376	50	0.1%	5.58
Tennessee	TN	6,975,218	582	1.7%	8.34
Texas	TX	29,527,941	2,205	6.4%	7.47
Utah	UT	3,337,975	190	0.6%	5.69
Vermont	VT	645,570	67	0.2%	10.38
Virginia	VA	8,642,274	718	2.1%	8.31
Washington	WA	7,738,692	561	1.6%	7.25
West Virginia	WV	1,782,959	232	0.7%	13.01
Wisconsin	WI	5,895,908	492	1.4%	8.34
Wyoming	WY	578,803	14	0.0%	2.42

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

TABLE D.9					
Number of Subspecialty Graduates and Subspecialty Graduate Concentration per 100,000 Population by State, 2020-2021 AY					
State Name	State Abbreviation	State Population - Census Estimate 2021	Total Subspecialty Graduates	Percent of All Subspecialty Graduates	Subspecialty Graduates per 100,000 Pop
OVERALL	-	335,157,329	13,698	100.0%	4.09
Alabama	AL	5,039,877	144	1.1%	2.86
Alaska	AK	732,673	1	0.0%	0.14
Arizona	AZ	7,276,316	169	1.2%	2.32
Arkansas	AR	3,025,891	62	0.5%	2.05
California	CA	39,237,836	1,390	10.1%	3.54
Colorado	CO	5,812,069	176	1.3%	3.03
Connecticut	CT	3,605,597	262	1.9%	7.27
Delaware	DE	1,003,384	29	0.2%	2.89
District of Columbia	DC	670,050	184	1.3%	27.46
Florida	FL	21,781,128	583	4.3%	2.68
Georgia	GA	10,799,566	263	1.9%	2.44
Hawaii	HI	1,441,553	20	0.1%	1.39
Idaho	ID	1,900,923	2	0.0%	0.11
Illinois	IL	12,671,469	549	4.0%	4.33
Indiana	IN	6,805,985	129	0.9%	1.90
Iowa	IA	3,193,079	87	0.6%	2.72
Kansas	KS	2,934,582	51	0.4%	1.74
Kentucky	KY	4,509,394	129	0.9%	2.86
Louisiana	LA	4,624,047	160	1.2%	3.46
Maine	ME	1,372,247	21	0.2%	1.53
Maryland	MD	6,165,129	417	3.0%	6.76
Massachusetts	MA	6,984,723	800	5.8%	11.45
Michigan	MI	10,050,811	520	3.8%	5.17
Minnesota	MN	5,707,390	319	2.3%	5.59
Mississippi	MS	2,949,965	57	0.4%	1.93
Missouri	MO	6,168,187	335	2.4%	5.43
Montana	MT	1,104,271	1	0.0%	0.09
Nebraska	NE	1,963,692	69	0.5%	3.51
Nevada	NV	3,143,991	46	0.3%	1.46
New Hampshire	NH	1,388,992	53	0.4%	3.82
New Jersey	NJ	9,267,130	234	1.7%	2.53
New Mexico	NM	2,115,877	76	0.6%	3.59
New York	NY	19,835,913	1,736	12.7%	8.75
North Carolina	NC	10,551,162	441	3.2%	4.18
North Dakota	ND	774,948	4	0.0%	0.52
Ohio	OH	11,780,017	717	5.2%	6.09
Oklahoma	OK	3,986,639	56	0.4%	1.40
Oregon	OR	4,246,155	101	0.7%	2.38
Pennsylvania	PA	12,964,056	938	6.8%	7.24
Puerto Rico	PR	3,263,584	58	0.4%	1.78
Rhode Island	RI	1,095,610	81	0.6%	7.39
South Carolina	SC	5,190,705	121	0.9%	2.33
South Dakota	SD	895,376	5	0.0%	0.56
Tennessee	TN	6,975,218	263	1.9%	3.77
Texas	TX	29,527,941	990	7.2%	3.35
Utah	UT	3,337,975	120	0.9%	3.59
Vermont	VT	645,570	33	0.2%	5.11
Virginia	VA	8,642,274	237	1.7%	2.74
Washington	WA	7,738,692	217	1.6%	2.80
West Virginia	WV	1,782,959	56	0.4%	3.14
Wisconsin	WI	5,895,908	185	1.4%	3.14
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popopest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

TABLE D.10

Number of Pipeline Graduates and Pipeline Graduate Concentration per 100,000 Population by State, 2020-2021 AY

State Name	State Abbreviation	State Population - Census Estimate 2021	Total Pipeline Graduates	Percent of All Pipeline Graduates	Pipeline Graduates per 100,000 Pop
OVERALL	-	335,157,329	32,461	100.0%	9.69
Alabama	AL	5,039,877	373	1.1%	7.40
Alaska	AK	732,673	13	0.0%	1.77
Arizona	AZ	7,276,316	454	1.4%	6.24
Arkansas	AR	3,025,891	234	0.7%	7.73
California	CA	39,237,836	2,899	8.9%	7.39
Colorado	CO	5,812,069	373	1.1%	6.42
Connecticut	CT	3,605,597	553	1.7%	15.34
Delaware	DE	1,003,384	84	0.3%	8.37
District of Columbia	DC	670,050	363	1.1%	54.18
Florida	FL	21,781,128	1,636	5.0%	7.51
Georgia	GA	10,799,566	673	2.1%	6.23
Hawaii	HI	1,441,553	110	0.3%	7.63
Idaho	ID	1,900,923	48	0.1%	2.53
Illinois	IL	12,671,469	1,558	4.8%	12.30
Indiana	IN	6,805,985	358	1.1%	5.26
Iowa	IA	3,193,079	225	0.7%	7.05
Kansas	KS	2,934,582	200	0.6%	6.82
Kentucky	KY	4,509,394	340	1.0%	7.54
Louisiana	LA	4,624,047	509	1.6%	11.01
Maine	ME	1,372,247	92	0.3%	6.70
Maryland	MD	6,165,129	684	2.1%	11.09
Massachusetts	MA	6,984,723	1,207	3.7%	17.28
Michigan	MI	10,050,811	1,754	5.4%	17.45
Minnesota	MN	5,707,390	505	1.6%	8.85
Mississippi	MS	2,949,965	193	0.6%	6.54
Missouri	MO	6,168,187	677	2.1%	10.98
Montana	MT	1,104,271	28	0.1%	2.54
Nebraska	NE	1,963,692	193	0.6%	9.83
Nevada	NV	3,143,991	202	0.6%	6.42
New Hampshire	NH	1,388,992	95	0.3%	6.84
New Jersey	NJ	9,267,130	924	2.8%	9.97
New Mexico	NM	2,115,877	154	0.5%	7.28
New York	NY	19,835,913	4,106	12.6%	20.70
North Carolina	NC	10,551,162	832	2.6%	7.89
North Dakota	ND	774,948	44	0.1%	5.68
Ohio	OH	11,780,017	1,601	4.9%	13.59
Oklahoma	OK	3,986,639	291	0.9%	7.30
Oregon	OR	4,246,155	230	0.7%	5.42
Pennsylvania	PA	12,964,056	2,035	6.3%	15.70
Puerto Rico	PR	3,263,584	221	0.7%	6.77
Rhode Island	RI	1,095,610	203	0.6%	18.53
South Carolina	SC	5,190,705	361	1.1%	6.95
South Dakota	SD	895,376	44	0.1%	4.91
Tennessee	TN	6,975,218	570	1.8%	8.17
Texas	TX	29,527,941	2,091	6.4%	7.08
Utah	UT	3,337,975	177	0.5%	5.30
Vermont	VT	645,570	69	0.2%	10.69
Virginia	VA	8,642,274	678	2.1%	7.85
Washington	WA	7,738,692	512	1.6%	6.62
West Virginia	WV	1,782,959	219	0.7%	12.28
Wisconsin	WI	5,895,908	452	1.4%	7.67
Wyoming	WY	578,803	14	0.0%	2.42

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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.



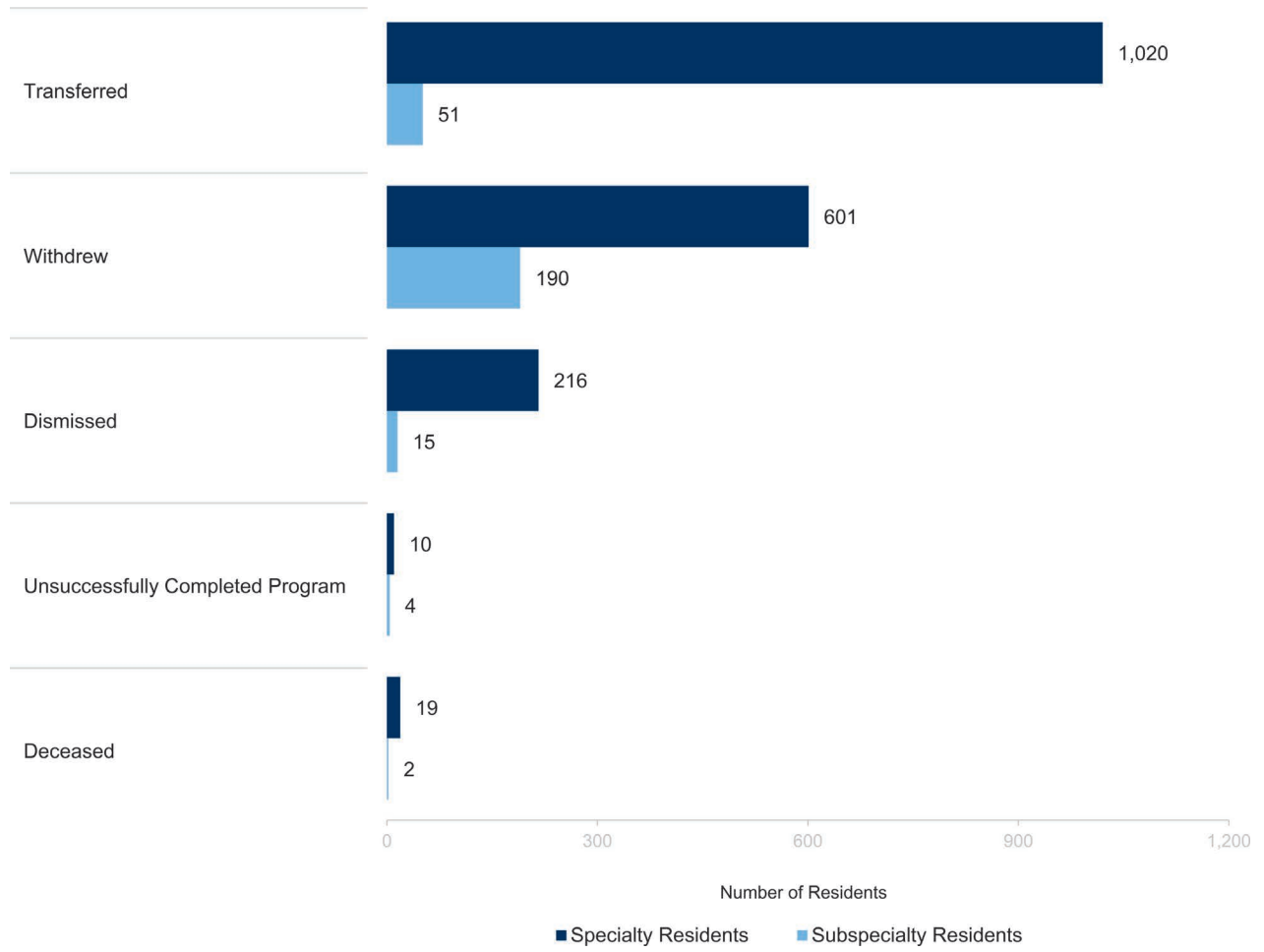
**TABLE D.11**  
**Number of Graduating Residents by State and Medical School Type, 2020-2021 AY**

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	-	48,072	27,806	12,106	8,073	82	5
Alabama	AL	535	352	120	63	0	0
Alaska	AK	14	8	1	5	0	0
Arizona	AZ	661	377	126	157	1	0
Arkansas	AR	311	165	106	40	0	0
California	CA	4,438	3,326	569	526	17	0
Colorado	CO	565	431	27	107	0	0
Connecticut	CT	824	426	318	79	1	0
Delaware	DE	118	61	18	39	0	0
District of Columbia	DC	546	318	189	39	0	0
Florida	FL	2,400	1,041	798	560	0	1
Georgia	GA	1,040	636	281	122	1	0
Hawaii	HI	138	88	30	20	0	0
Idaho	ID	50	27	8	15	0	0
Illinois	IL	2,182	1,265	576	339	2	0
Indiana	IN	532	329	82	121	0	0
Iowa	IA	323	185	73	65	0	0
Kansas	KS	253	149	54	50	0	0
Kentucky	KY	482	266	101	115	0	0
Louisiana	LA	679	391	233	53	2	0
Maine	ME	113	66	14	33	0	0
Maryland	MD	1,149	786	252	106	5	0
Massachusetts	MA	2,071	1,422	490	132	26	1
Michigan	MI	2,440	1,008	700	732	0	0
Minnesota	MN	852	601	173	73	5	0
Mississippi	MS	266	141	56	69	0	0
Missouri	MO	1,028	631	226	167	3	1
Montana	MT	29	13	6	10	0	0
Nebraska	NE	264	123	88	53	0	0
Nevada	NV	278	108	61	109	0	0
New Hampshire	NH	147	100	31	16	0	0
New Jersey	NJ	1,208	317	571	320	0	0
New Mexico	NM	237	135	50	52	0	0
New York	NY	6,025	2,849	2,423	744	7	2
North Carolina	NC	1,310	937	152	218	3	0
North Dakota	ND	56	28	24	4	0	0
Ohio	OH	2,401	1,214	619	567	1	0
Oklahoma	OK	353	135	56	162	0	0
Oregon	OR	330	237	28	65	0	0
Pennsylvania	PA	3,097	1,653	726	716	2	0
Puerto Rico	PR	319	188	131	0	0	0
Rhode Island	RI	285	201	59	25	0	0
South Carolina	SC	505	341	51	113	0	0
South Dakota	SD	55	27	17	11	0	0
Tennessee	TN	845	604	156	85	0	0
Texas	TX	3,195	2,001	738	453	3	0
Utah	UT	310	260	26	22	2	0
Vermont	VT	100	74	16	10	0	0
Virginia	VA	955	570	180	205	0	0
Washington	WA	778	611	50	116	1	0
West Virginia	WV	288	133	97	58	0	0
Wisconsin	WI	677	450	124	103	0	0
Wyoming	WY	15	1	5	9	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, 2020-2021 AY**



Abbreviations: AY, academic year.

TABLE D.13						
Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2020-2021 AY						
Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
OVERALL	2,128	1,071	791	231	14	21
TOTAL PIPELINE	1,849	1,014	593	213	10	19
Allergy and immunology	0	0	0	0	0	0
Anesthesiology	88	29	42	17	0	0
- Adult cardiothoracic anesthesiology	0	0	0	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Critical care medicine	4	0	3	0	1	0
- Regional anesthesiology and acute pain medicine	0	0	0	0	0	0
- Obstetric anesthesiology	2	0	2	0	0	0
- Pain medicine (multidisciplinary)	2	0	2	0	0	0
- Pediatric anesthesiology	2	0	2	0	0	0
Colon and rectal surgery	0	0	0	0	0	0
Dermatology	11	6	3	2	0	0
- Dermatopathology (multidisciplinary)	0	0	0	0	0	0
- Micrographic surgery and dermatologic oncology	0	0	0	0	0	0
- Pediatric dermatology	0	0	0	0	0	0
Emergency medicine	38	19	12	6	0	1
- Clinical informatics	0	0	0	0	0	0
- Emergency medical services	1	0	1	0	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	240	94	99	43	2	2
- Clinical informatics	0	0	0	0	0	0
- Geriatric medicine	0	0	0	0	0	0
- Hospice and palliative medicine (multidisciplinary)	9	0	9	0	0	0
- Sports medicine	1	0	1	0	0	0
Internal medicine	257	106	91	50	4	6
- Adult congenital heart disease	0	0	0	0	0	0
- Advanced heart failure and transplant cardiology	0	0	0	0	0	0
- Cardiovascular disease	11	1	6	4	0	0
- Clinical cardiac electrophysiology	2	1	1	0	0	0
- Clinical informatics	1	0	1	0	0	0
- Critical care medicine	8	6	2	0	0	0
- Endocrinology, diabetes, and metabolism	6	0	6	0	0	0
- Gastroenterology	5	1	4	0	0	0
- Geriatric medicine	5	0	5	0	0	0
- Hematology	0	0	0	0	0	0
- Hematology and medical oncology	15	4	11	0	0	0
- Infectious disease	9	3	3	3	0	0
- Interventional cardiology	0	0	0	0	0	0
- Nephrology	15	5	10	0	0	0
- Medical oncology	0	0	0	0	0	0
- Pulmonary disease	2	1	1	0	0	0
- Pulmonary disease and critical care medicine	14	3	10	1	0	0
- Rheumatology	2	1	1	0	0	0
- Sleep medicine (multidisciplinary)	0	0	0	0	0	0
- Transplant hepatology	0	0	0	0	0	0
Medical genetics and genomics	3	0	3	0	0	0
- Medical biochemical genetics	0	0	0	0	0	0
- Molecular genetic pathology (multidisciplinary)	1	0	1	0	0	0
Neurological surgery	25	13	10	2	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0

TABLE D.13 Continued

Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2020-2021 AY

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
Neurology	46	17	23	4	1	1
- Brain injury medicine	0	0	0	0	0	0
- Clinical neurophysiology	3	1	2	0	0	0
- Epilepsy	1	0	1	0	0	0
- Neurocritical care (multidisciplinary)	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0
- Neurodevelopmental disabilities	0	0	0	0	0	0
- Neuromuscular medicine	0	0	0	0	0	0
- Vascular neurology	0	0	0	0	0	0
Child neurology	1	0	1	0	0	0
Nuclear medicine	3	3	0	0	0	0
Obstetrics and gynecology	68	32	27	8	0	1
- Female pelvic medicine and reconstructive surgery	2	0	2	0	0	0
- Gynecologic oncology	0	0	0	0	0	0
- Maternal-fetal medicine	2	0	2	0	0	0
- Reproductive endocrinology and infertility	2	2	0	0	0	0
- Complex family planning	0	0	0	0	0	0
Ophthalmology	5	1	3	0	0	1
- Ophthalmic plastic and reconstructive surgery	0	0	0	0	0	0
Orthopaedic surgery	24	4	17	3	0	0
- Adult reconstructive orthopaedics	0	0	0	0	0	0
- Foot and ankle orthopaedics	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
- Musculoskeletal oncology	0	0	0	0	0	0
- Orthopaedic sports medicine	4	1	3	0	0	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	0	1	0	0
Otolaryngology - head and neck surgery	6	1	3	2	0	0
- Neurotology	0	0	0	0	0	0
- Pediatric otolaryngology	2	0	1	0	1	0
Pathology-anatomic and clinical	52	27	16	9	0	0
- Blood banking/transfusion medicine	2	0	2	0	0	0
- Clinical informatics	2	2	0	0	0	0
- Chemical pathology	0	0	0	0	0	0
- Cytopathology	2	0	2	0	0	0
- Forensic pathology	2	0	1	0	1	0
- Hematopathology	3	0	2	0	0	1
- Medical microbiology	0	0	0	0	0	0
- Neuropathology	3	2	1	0	0	0
- Pediatric pathology	2	0	2	0	0	0
- Selective pathology	2	1	1	0	0	0
Pediatrics	88	50	27	11	0	0
- Adolescent medicine	4	2	2	0	0	0
- Child abuse pediatrics	1	0	1	0	0	0
- Clinical informatics	0	0	0	0	0	0
- Developmental-behavioral pediatrics	2	1	1	0	0	0
- Neonatal-perinatal medicine	9	0	8	1	0	0
- Pediatric cardiology	2	0	1	0	1	0
- Pediatric critical care medicine	8	0	8	0	0	0
- Pediatric emergency medicine	5	0	5	0	0	0
- Pediatric endocrinology	6	1	5	0	0	0
- Pediatric gastroenterology	2	0	2	0	0	0
- Pediatric hematology/oncology	7	2	5	0	0	0
- Pediatric infectious diseases	2	0	2	0	0	0

**TABLE D.13 Continued**

**Number of Residents Leaving Prior to Completion of a Program by Specialty and Subspecialty and Status, 2020-2021 AY**

Specialty	Number of Residents Not Graduating	Resident Status				
		Transferred	Withdrew	Dismissed	Unsuccessfully Completed Program	Deceased
- Pediatric nephrology	5	1	3	1	0	0
- Pediatric pulmonology	2	0	2	0	0	0
- Pediatric rheumatology	2	1	1	0	0	0
- Sports medicine	0	0	0	0	0	0
- Pediatric transplant hepatology	0	0	0	0	0	0
- Pediatric hospital medicine	3	0	3	0	0	0
Physical medicine and rehabilitation	8	6	2	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	2	0	2	0	0	0
Plastic surgery - integrated	9	2	6	1	0	0
- Craniofacial surgery	0	0	0	0	0	0
- Hand surgery	0	0	0	0	0	0
Preventive medicine	8	0	5	3	0	0
- Medical toxicology	0	0	0	0	0	0
- Undersea and hyperbaric medicine	0	0	0	0	0	0
Psychiatry	420	374	27	16	3	0
- Addiction medicine (multidisciplinary)	6	0	5	1	0	0
- Addiction psychiatry	2	0	2	0	0	0
- Child and adolescent psychiatry	22	6	15	1	0	0
- Forensic psychiatry	0	0	0	0	0	0
- Geriatric psychiatry	3	1	2	0	0	0
- Consultation-liaison psychiatry	0	0	0	0	0	0
Radiation oncology	13	6	6	0	0	1
Radiology-diagnostic	78	51	20	6	0	1
- Abdominal radiology	0	0	0	0	0	0
- Endovascular surgical neuroradiology	0	0	0	0	0	0
- Musculoskeletal radiology	0	0	0	0	0	0
- Neuroradiology	5	0	4	1	0	0
- Nuclear radiology	0	0	0	0	0	0
- Pediatric radiology	2	0	2	0	0	0
Interventional radiology - independent	4	1	3	0	0	0
Interventional radiology - integrated	15	15	0	0	0	0
Surgery	291	136	126	25	0	4
- 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	3	0	1	1	0	1
- Vascular surgery	2	0	1	1	0	0
Vascular surgery - integrated	5	1	4	0	0	0
Thoracic surgery	3	0	3	0	0	0
- Congenital cardiac surgery	0	0	0	0	0	0
Thoracic surgery - integrated	9	2	7	0	0	0
Urology	16	5	7	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	18	7	8	3	0	0
Internal medicine/Pediatrics	14	12	1	1	0	0

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

**TABLE D.14**
**Number of Transferring Residents by Specialty and Resident Year, 2020-2021 AY**

Specialty	Number of Transferring Residents	Resident Year						
		1	2	3	4	5	6	7
OVERALL	1,020	354	228	389	47	2		
Allergy and immunology	0							
Anesthesiology	29	9	10	7	3			
Colon and rectal surgery	0							
Dermatology	6	3	3					
Emergency medicine	19	16	2	1				
Family medicine	94	67	26	1				
Internal medicine	106	80	24	2				
Medical genetics and genomics	0							
Neurological surgery	13	2	4	3	2	2		
Neurology	17	11	6					
Child neurology	0							
Nuclear medicine	3	1	2					
Obstetrics and gynecology	32	16	10	5	1			
Ophthalmology	1	1						
Orthopaedic surgery	4	1	2	1				
Osteopathic neuromusculoskeletal medicine	1	1						
Otolaryngology - head and neck surgery	1	1						
Pathology-anatomic and clinical	27	11	11	4	1			
Pediatrics	50	22	22	6				
Physical medicine and rehabilitation	6	3	3					
Plastic surgery	0							
Plastic Surgery - integrated	2	1		1				
Preventive medicine	0							
Psychiatry	374	19	20	304	31			
Radiation oncology	6	3	3					
Radiology-diagnostic	51	15	15	18	3			
Interventional radiology - integrated	15	2	6	6	1			
Surgery	136	54	52	26	4			
Vascular surgery - integrated	1			1				
Thoracic surgery	0							
Thoracic surgery - integrated	2	1		1				
Urology	5		2	2	1			
Transitional year	7	7						
Internal medicine/Pediatrics	12	7	5					

Abbreviations: AY, academic year.

**TABLE D.15**  
**Number of Pipeline Graduates who Subspecialize, 2020-2021 AY**

Specialty	Total Pipeline Graduates	Subspecialized	
		#	%
Total Pipeline	32,461	10,124	31.2%
Anesthesiology	1,810	875	48.3%
Dermatology	532	86	16.2%
Emergency medicine	2,534	290	11.4%
Family medicine	4,542	430	9.5%
Internal medicine	9,006	3,656	40.6%
Medical genetics and genomics	34	14	41.2%
Neurological surgery	210	2	100.0%
Neurology	828	404	48.8%
Child neurology	130	55	42.3%
Nuclear medicine	36	1	2.8%
Obstetrics and gynecology	1,398	313	22.4%
Ophthalmology	502	1	0.2%
Orthopaedic surgery	861	434	50.4%
Osteopathic neuromusculoskeletal medicine	41	1	2.4%
Otolaryngology - head and neck surgery	327	50	15.3%
Pathology-anatomic and clinical	625	432	69.1%
Pediatrics	3,083	1,205	39.1%
Physical medicine and rehabilitation	436	226	51.8%
Plastic surgery	76	7	9.2%
Plastic Surgery - integrated	145	32	22.1%
Preventive medicine	189	17	9.0%
Psychiatry	1,387	423	30.5%
Radiation oncology	190	0	0.0%
Radiology-diagnostic	1,140	363	31.8%
Interventional radiology - independent	137	2	1.5%
Interventional radiology - integrated	83	0	0.0%
Surgery	1,394	656	47.1%
Vascular surgery - integrated	57	2	3.5%
Thoracic surgery - integrated	29	2	6.9%
Urology	336	25	7.4%
Internal medicine/Pediatrics	363	120	33.1%

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 2021-2022 academic year.

## Accredited Sponsors by Status

Of the 871 total ACGME-accredited Sponsoring Institutions, 113 (13.0%) are in the initial phase of accreditation, 726 (83.4%) have a status of Continued Accreditation, 16 (1.8%) have a status of Continued Accreditation with Warning, eight (0.9%) are on probation, and eight (0.9%) have a status of Withdrawal of Accreditation. Overall, there has been a 26.8% increase in number of sponsors since the 2012-2013 academic year (at that time the total number of Sponsoring Institutions was 687). Effective July 1, 2013, new policies required Sponsoring Institutions to become accredited prior to applying for program accreditation. Prior to that, the accreditation of the program and its 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 (26.5% and 27.7%, respectively). The remaining Sponsoring Institutions with accredited programs all have more than five programs: 21.6% have between six and 25 programs; 11.2% have between 26 and 75 programs; 3.2% have between 76 and 100 programs; and 2.1% have more than 100 programs. There are 67 (7.7%) 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 (104)
- New York (67)
- Florida (56)
- Texas (55)

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

- California (57)
- New York (50)
- Florida (35)
- Ohio (34)

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

- California (38)
- Florida (17)
- New York (14)
- Texas (14)

Sponsors that do not yet have ACGME-accredited programs (67) are located in 27 states, with the highest number of these located in California, 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 (346, 43.0%); the next largest group is Academic Medical Centers/Medical Schools, with 130 (16.2%) in this category. Though a much smaller percentage of total Sponsoring Institutions, Academic Medical Centers/Medical Schools account for 46.5% more programs and 31.9% 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 2021-2022 academic year, 100 (12.5%) Sponsoring Institutions had a single DIO change, and 15 (1.9%) had more than one DIO change. <sup>Λ</sup>



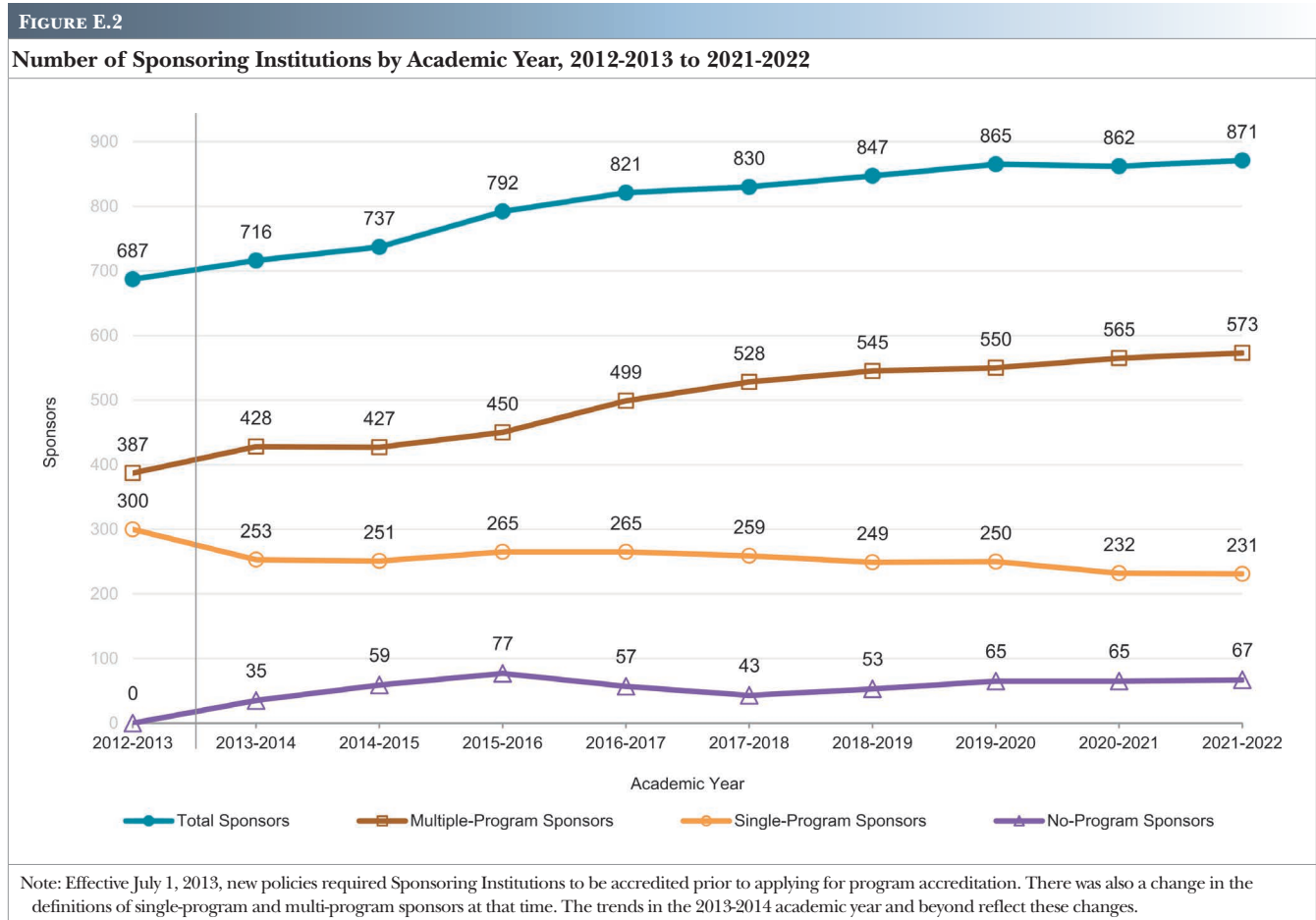
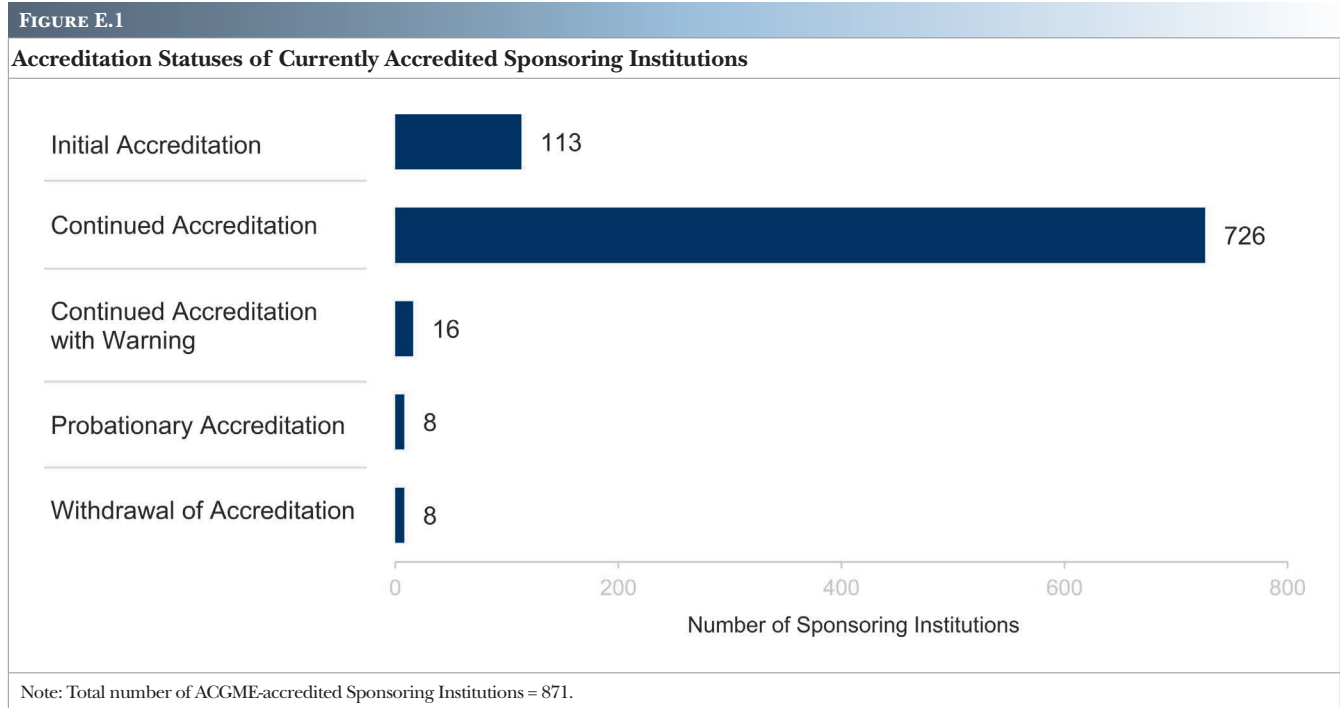
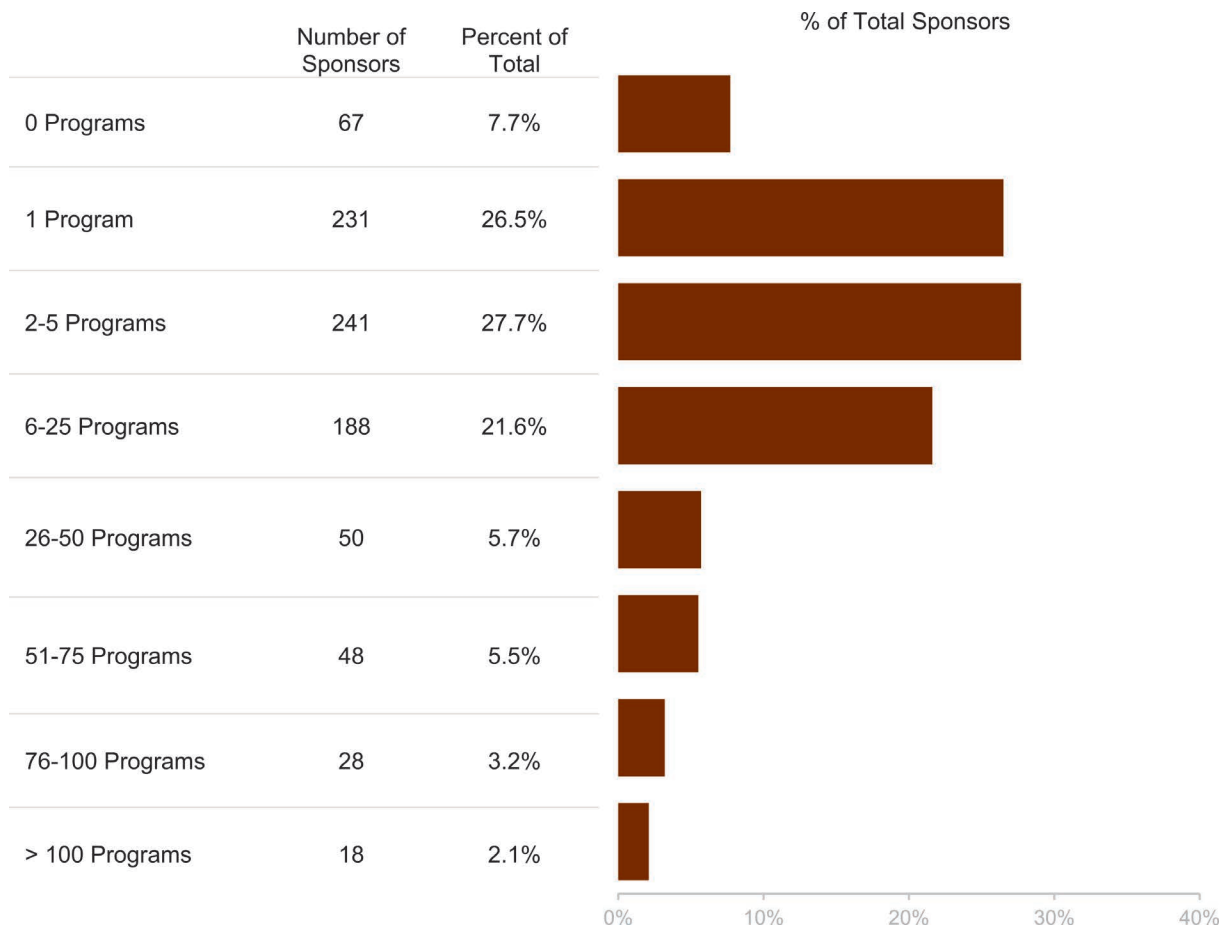


FIGURE E.3

## Number of Sponsoring Institutions by Size of Sponsor



Notes: Total number of ACGME-accredited Sponsoring Institutions = 871. Percentages may not add to 100% due to rounding.

TABLE E.4					
Number of Sponsoring Institutions and Sponsoring Institution Concentration per 100,000 Population by State					
State Name	State Abbreviation	State Population - Census Estimate 2021	Total Sponsors	Percent of All Sponsors	Sponsors per 100,000 Pop
OVERALL	-	335,157,329	871	100.0%	0.26
Alabama	AL	5,039,877	20	2.3%	0.40
Alaska	AK	732,673	1	0.1%	0.14
Arizona	AZ	7,276,316	14	1.6%	0.19
Arkansas	AR	3,025,891	9	1.0%	0.30
California	CA	39,237,836	104	11.9%	0.27
Colorado	CO	5,812,069	13	1.5%	0.22
Connecticut	CT	3,605,597	15	1.7%	0.42
Delaware	DE	1,003,384	5	0.6%	0.50
District of Columbia	DC	670,050	5	0.6%	0.75
Florida	FL	21,781,128	56	6.4%	0.26
Georgia	GA	10,799,566	29	3.3%	0.27
Hawaii	HI	1,441,553	4	0.5%	0.28
Idaho	ID	1,900,923	5	0.6%	0.26
Illinois	IL	12,671,469	32	3.7%	0.25
Indiana	IN	6,805,985	13	1.5%	0.19
Iowa	IA	3,193,079	8	0.9%	0.25
Kansas	KS	2,934,582	2	0.2%	0.07
Kentucky	KY	4,509,394	7	0.8%	0.16
Louisiana	LA	4,624,047	12	1.4%	0.26
Maine	ME	1,372,247	4	0.5%	0.29
Maryland	MD	6,165,129	16	1.8%	0.26
Massachusetts	MA	6,984,723	26	3.0%	0.37
Michigan	MI	10,050,811	41	4.7%	0.41
Minnesota	MN	5,707,390	10	1.1%	0.18
Mississippi	MS	2,949,965	13	1.5%	0.44
Missouri	MO	6,168,187	14	1.6%	0.23
Montana	MT	1,104,271	3	0.3%	0.27
Nebraska	NE	1,963,692	4	0.5%	0.20
Nevada	NV	3,143,991	7	0.8%	0.22
New Hampshire	NH	1,388,992	4	0.5%	0.29
New Jersey	NJ	9,267,130	24	2.8%	0.26
New Mexico	NM	2,115,877	7	0.8%	0.33
New York	NY	19,835,913	67	7.7%	0.34
North Carolina	NC	10,551,162	17	2.0%	0.16
North Dakota	ND	774,948	2	0.2%	0.26
Ohio	OH	11,780,017	42	4.8%	0.36
Oklahoma	OK	3,986,639	8	0.9%	0.20
Oregon	OR	4,246,155	4	0.5%	0.09
Pennsylvania	PA	12,964,056	41	4.7%	0.32
Puerto Rico	PR	3,263,584	12	1.4%	0.37
Rhode Island	RI	1,095,610	5	0.6%	0.46
South Carolina	SC	5,190,705	11	1.3%	0.21
South Dakota	SD	895,376	3	0.3%	0.34
Tennessee	TN	6,975,218	12	1.4%	0.17
Texas	TX	29,527,941	55	6.3%	0.19
Utah	UT	3,337,975	6	0.7%	0.18
Vermont	VT	645,570	1	0.1%	0.15
Virginia	VA	8,642,274	19	2.2%	0.22
Washington	WA	7,738,692	20	2.3%	0.26
West Virginia	WV	1,782,959	9	1.0%	0.50
Wisconsin	WI	5,895,908	9	1.0%	0.15
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popopest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Multiple-Program Sponsors	Percent of All Multiple-Program Sponsors	Multiple-Program Sponsors per 100,000 Pop
OVERALL	-	335,157,329	573	100.0%	0.17
Alabama	AL	5,039,877	8	1.4%	0.16
Alaska	AK	732,673	1	0.2%	0.14
Arizona	AZ	7,276,316	10	1.7%	0.14
Arkansas	AR	3,025,891	6	1.0%	0.20
California	CA	39,237,836	57	9.9%	0.15
Colorado	CO	5,812,069	7	1.2%	0.12
Connecticut	CT	3,605,597	12	2.1%	0.33
Delaware	DE	1,003,384	2	0.3%	0.20
District of Columbia	DC	670,050	4	0.7%	0.60
Florida	FL	21,781,128	35	6.1%	0.16
Georgia	GA	10,799,566	17	3.0%	0.16
Hawaii	HI	1,441,553	2	0.3%	0.14
Idaho	ID	1,900,923	3	0.5%	0.16
Illinois	IL	12,671,469	21	3.7%	0.17
Indiana	IN	6,805,985	8	1.4%	0.12
Iowa	IA	3,193,079	5	0.9%	0.16
Kansas	KS	2,934,582	2	0.3%	0.07
Kentucky	KY	4,509,394	4	0.7%	0.09
Louisiana	LA	4,624,047	7	1.2%	0.15
Maine	ME	1,372,247	3	0.5%	0.22
Maryland	MD	6,165,129	12	2.1%	0.19
Massachusetts	MA	6,984,723	18	3.1%	0.26
Michigan	MI	10,050,811	33	5.8%	0.33
Minnesota	MN	5,707,390	5	0.9%	0.09
Mississippi	MS	2,949,965	4	0.7%	0.14
Missouri	MO	6,168,187	9	1.6%	0.15
Montana	MT	1,104,271	1	0.2%	0.09
Nebraska	NE	1,963,692	2	0.3%	0.10
Nevada	NV	3,143,991	4	0.7%	0.13
New Hampshire	NH	1,388,992	2	0.3%	0.14
New Jersey	NJ	9,267,130	17	3.0%	0.18
New Mexico	NM	2,115,877	3	0.5%	0.14
New York	NY	19,835,913	50	8.7%	0.25
North Carolina	NC	10,551,162	14	2.4%	0.13
North Dakota	ND	774,948	2	0.3%	0.26
Ohio	OH	11,780,017	34	5.9%	0.29
Oklahoma	OK	3,986,639	6	1.0%	0.15
Oregon	OR	4,246,155	4	0.7%	0.09
Pennsylvania	PA	12,964,056	32	5.6%	0.25
Puerto Rico	PR	3,263,584	8	1.4%	0.25
Rhode Island	RI	1,095,610	5	0.9%	0.46
South Carolina	SC	5,190,705	6	1.0%	0.12
South Dakota	SD	895,376	2	0.3%	0.22
Tennessee	TN	6,975,218	9	1.6%	0.13
Texas	TX	29,527,941	33	5.8%	0.11
Utah	UT	3,337,975	3	0.5%	0.09
Vermont	VT	645,570	1	0.2%	0.15
Virginia	VA	8,642,274	13	2.3%	0.15
Washington	WA	7,738,692	12	2.1%	0.16
West Virginia	WV	1,782,959	6	1.0%	0.34
Wisconsin	WI	5,895,908	8	1.4%	0.14
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; 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 2021	Total Single-Program Sponsors	Percent of All Sponsors	Single-Program Sponsors per 100,000 Pop
OVERALL	-	335,157,329	231	100.0%	0.07
Alabama	AL	5,039,877	9	3.9%	0.18
Alaska	AK	732,673	0	0.0%	0.00
Arizona	AZ	7,276,316	1	0.4%	0.01
Arkansas	AR	3,025,891	3	1.3%	0.10
California	CA	39,237,836	38	16.5%	0.10
Colorado	CO	5,812,069	3	1.3%	0.05
Connecticut	CT	3,605,597	3	1.3%	0.08
Delaware	DE	1,003,384	2	0.9%	0.20
District of Columbia	DC	670,050	0	0.0%	0.00
Florida	FL	21,781,128	17	7.4%	0.08
Georgia	GA	10,799,566	12	5.2%	0.11
Hawaii	HI	1,441,553	2	0.9%	0.14
Idaho	ID	1,900,923	1	0.4%	0.05
Illinois	IL	12,671,469	7	3.0%	0.06
Indiana	IN	6,805,985	4	1.7%	0.06
Iowa	IA	3,193,079	3	1.3%	0.09
Kansas	KS	2,934,582	0	0.0%	0.00
Kentucky	KY	4,509,394	2	0.9%	0.04
Louisiana	LA	4,624,047	3	1.3%	0.06
Maine	ME	1,372,247	1	0.4%	0.07
Maryland	MD	6,165,129	4	1.7%	0.06
Massachusetts	MA	6,984,723	8	3.5%	0.11
Michigan	MI	10,050,811	6	2.6%	0.06
Minnesota	MN	5,707,390	3	1.3%	0.05
Mississippi	MS	2,949,965	6	2.6%	0.20
Missouri	MO	6,168,187	5	2.2%	0.08
Montana	MT	1,104,271	2	0.9%	0.18
Nebraska	NE	1,963,692	2	0.9%	0.10
Nevada	NV	3,143,991	2	0.9%	0.06
New Hampshire	NH	1,388,992	1	0.4%	0.07
New Jersey	NJ	9,267,130	2	0.9%	0.02
New Mexico	NM	2,115,877	3	1.3%	0.14
New York	NY	19,835,913	14	6.1%	0.07
North Carolina	NC	10,551,162	3	1.3%	0.03
North Dakota	ND	774,948	0	0.0%	0.00
Ohio	OH	11,780,017	7	3.0%	0.06
Oklahoma	OK	3,986,639	2	0.9%	0.05
Oregon	OR	4,246,155	0	0.0%	0.00
Pennsylvania	PA	12,964,056	8	3.5%	0.06
Puerto Rico	PR	3,263,584	4	1.7%	0.12
Rhode Island	RI	1,095,610	0	0.0%	0.00
South Carolina	SC	5,190,705	3	1.3%	0.06
South Dakota	SD	895,376	1	0.4%	0.11
Tennessee	TN	6,975,218	2	0.9%	0.03
Texas	TX	29,527,941	14	6.1%	0.05
Utah	UT	3,337,975	2	0.9%	0.06
Vermont	VT	645,570	0	0.0%	0.00
Virginia	VA	8,642,274	4	1.7%	0.05
Washington	WA	7,738,692	8	3.5%	0.10
West Virginia	WV	1,782,959	3	1.3%	0.17
Wisconsin	WI	5,895,908	1	0.4%	0.02
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

TABLE E.7

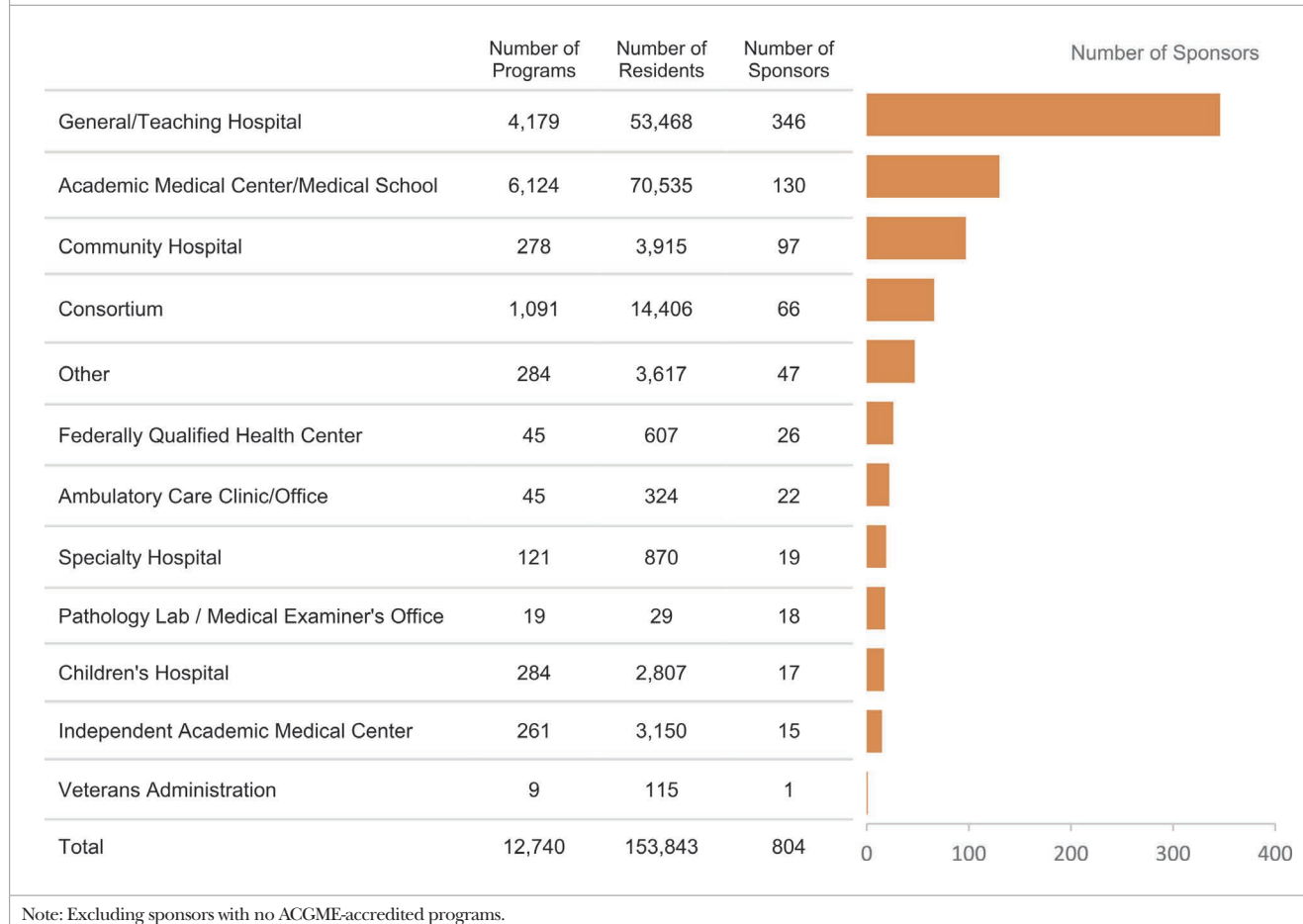
**Number of No-Program Sponsoring Institutions and No-Program Sponsoring Institution Concentration per 100,000 Population by State**

State Name	State Abbreviation	State Population - Census Estimate 2021	No-Program Sponsors	Percent of All No-Program Sponsors	No-Program Sponsors per 100,000 Pop
OVERALL	-	335,157,329	67	100.0%	0.02
Alabama	AL	5,039,877	3	4.5%	0.06
Alaska	AK	732,673	0	0.0%	0.00
Arizona	AZ	7,276,316	3	4.5%	0.04
Arkansas	AR	3,025,891	0	0.0%	0.00
California	CA	39,237,836	9	13.4%	0.02
Colorado	CO	5,812,069	3	4.5%	0.05
Connecticut	CT	3,605,597	0	0.0%	0.00
Delaware	DE	1,003,384	1	1.5%	0.10
District of Columbia	DC	670,050	1	1.5%	0.15
Florida	FL	21,781,128	4	6.0%	0.02
Georgia	GA	10,799,566	0	0.0%	0.00
Hawaii	HI	1,441,553	0	0.0%	0.00
Idaho	ID	1,900,923	1	1.5%	0.05
Illinois	IL	12,671,469	4	6.0%	0.03
Indiana	IN	6,805,985	1	1.5%	0.01
Iowa	IA	3,193,079	0	0.0%	0.00
Kansas	KS	2,934,582	0	0.0%	0.00
Kentucky	KY	4,509,394	1	1.5%	0.02
Louisiana	LA	4,624,047	2	3.0%	0.04
Maine	ME	1,372,247	0	0.0%	0.00
Maryland	MD	6,165,129	0	0.0%	0.00
Massachusetts	MA	6,984,723	0	0.0%	0.00
Michigan	MI	10,050,811	2	3.0%	0.02
Minnesota	MN	5,707,390	2	3.0%	0.04
Mississippi	MS	2,949,965	3	4.5%	0.10
Missouri	MO	6,168,187	0	0.0%	0.00
Montana	MT	1,104,271	0	0.0%	0.00
Nebraska	NE	1,963,692	0	0.0%	0.00
Nevada	NV	3,143,991	1	1.5%	0.03
New Hampshire	NH	1,388,992	1	1.5%	0.07
New Jersey	NJ	9,267,130	5	7.5%	0.05
New Mexico	NM	2,115,877	1	1.5%	0.05
New York	NY	19,835,913	3	4.5%	0.02
North Carolina	NC	10,551,162	0	0.0%	0.00
North Dakota	ND	774,948	0	0.0%	0.00
Ohio	OH	11,780,017	1	1.5%	0.01
Oklahoma	OK	3,986,639	0	0.0%	0.00
Oregon	OR	4,246,155	0	0.0%	0.00
Pennsylvania	PA	12,964,056	1	1.5%	0.01
Puerto Rico	PR	3,263,584	0	0.0%	0.00
Rhode Island	RI	1,095,610	0	0.0%	0.00
South Carolina	SC	5,190,705	2	3.0%	0.04
South Dakota	SD	895,376	0	0.0%	0.00
Tennessee	TN	6,975,218	1	1.5%	0.01
Texas	TX	29,527,941	8	11.9%	0.03
Utah	UT	3,337,975	1	1.5%	0.03
Vermont	VT	645,570	0	0.0%	0.00
Virginia	VA	8,642,274	2	3.0%	0.02
Washington	WA	7,738,692	0	0.0%	0.00
West Virginia	WV	1,782,959	0	0.0%	0.00
Wisconsin	WI	5,895,908	0	0.0%	0.00
Wyoming	WY	578,803	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, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021. <https://www2.census.gov/programs-surveys/popest/datasets/2020-2021/state/totals/NST-EST2021-alldata.csv>. Published May, 2022. Accessed May 17, 2022; SAS Enterprise Guide Software, Version 7.1.

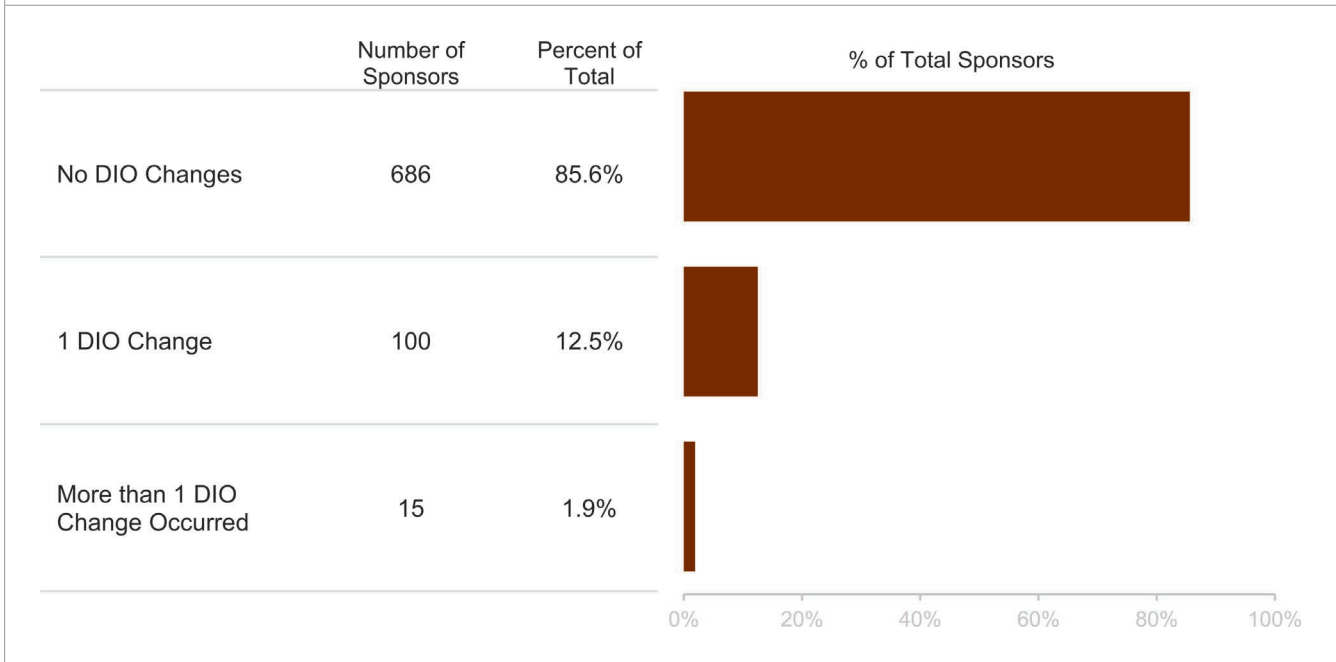
FIGURE E.8

## Number of Sponsoring Institutions by Institution Type



**FIGURE E.9**

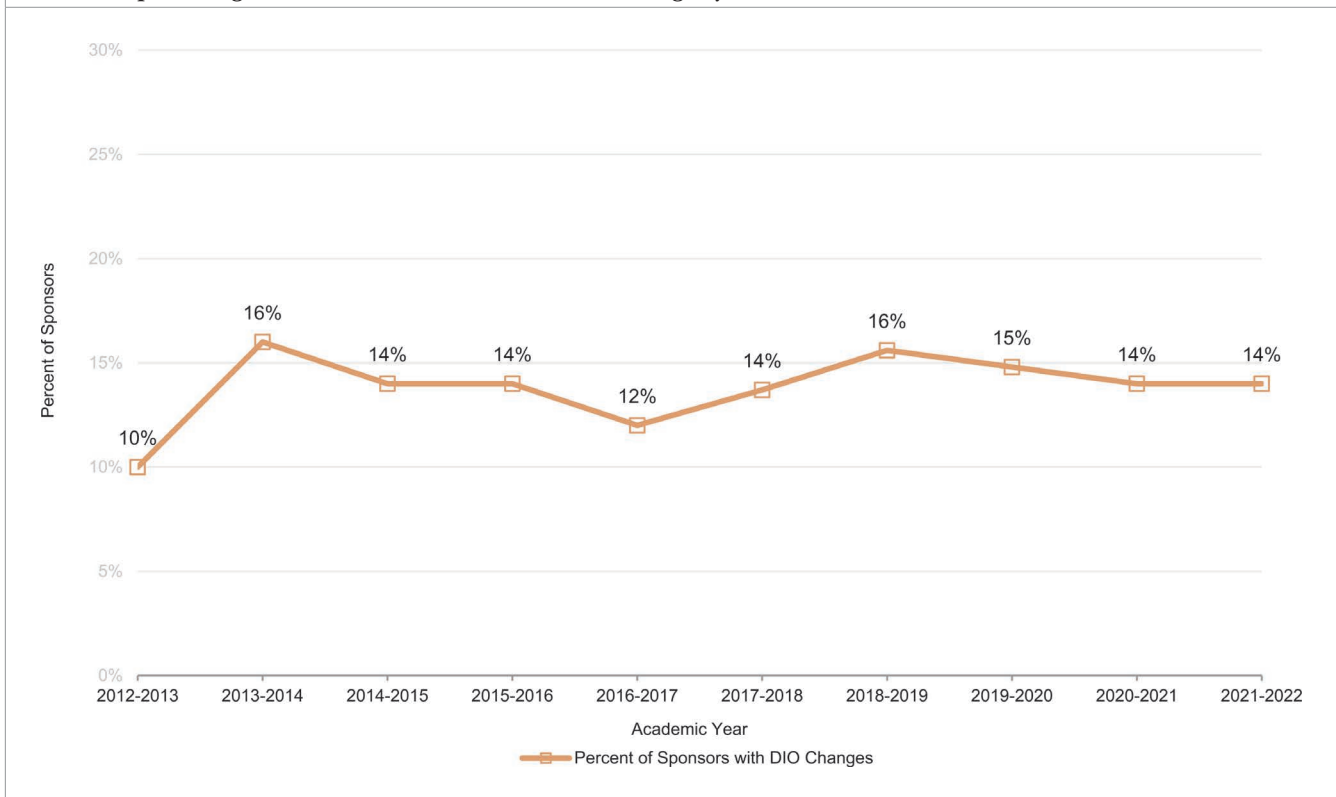
**Number of Sponsoring Institutions with DIO Changes**



Notes: Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the 2020-2021 academic year. Total number of sponsors included = 801. 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, 2012-2013 to 2021-2022**



Note: Excluding sponsors with no ACGME-accredited programs and any sponsors newly accredited in the academic year. Total number of sponsors included = 801.  
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 8,640 unique participating sites to which residents rotated during the 2021-2022 academic year. The highest number of sites were in the following categories:

- Ambulatory Care Clinic/Office (3,378)
- General/Teaching Hospital (1,673)
- Other (1,148)

Since the 2012-2013 academic year, there has been a 94.5% 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 (238.5% increase)
- General Teaching/Community Hospital (49.1% increase)
- Other (62.5% increase)

The number of Academic Medical Centers listed as participating sites also increased by 59.7%. With only 206 unique sites in this category in the 2021-2022 academic year, however, this change had a relatively small impact on the overall increase in participating sites.

## **Number of Sites per Program**

---

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

the average number of participating sites per program is 4.1. The pipeline specialties with the highest average number of participating sites include:

- Preventive medicine (6.3)
- Orthopaedic surgery (5.7)
- Physical medicine and rehabilitation (5.6)
- Plastic surgery – integrated (5.6)

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

- Family medicine (40)
- Physical medicine and rehabilitation (23)
- Preventive medicine (22)

The subspecialty with the highest average number of participating sites per program is the surgical subspecialty of hand surgery at 8. 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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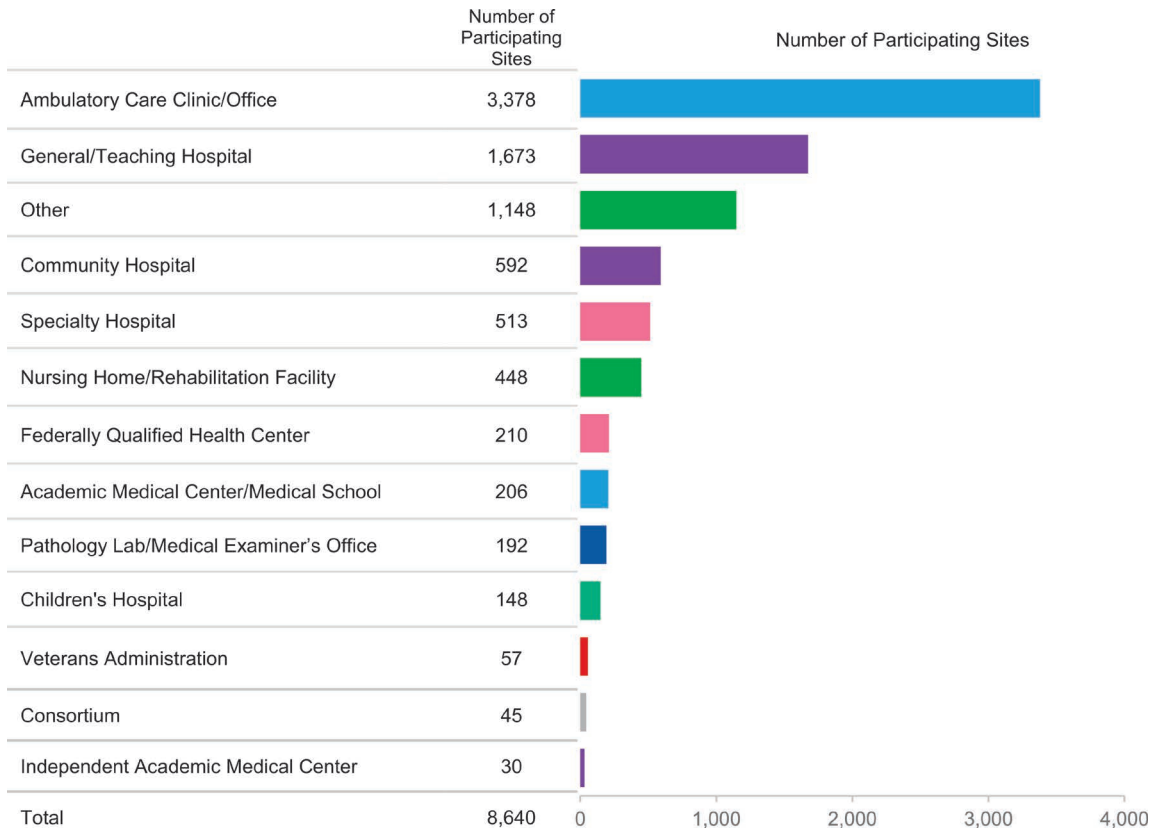
The specialties with the highest number of unique participating sites to which residents rotate include:

- Family medicine (2,507)
- Internal medicine (1,646)
- Psychiatry (1,413)

Sponsoring Institutions account for 6.5% of all participating sites with 558 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, 2012-2013 to 2021-2022**

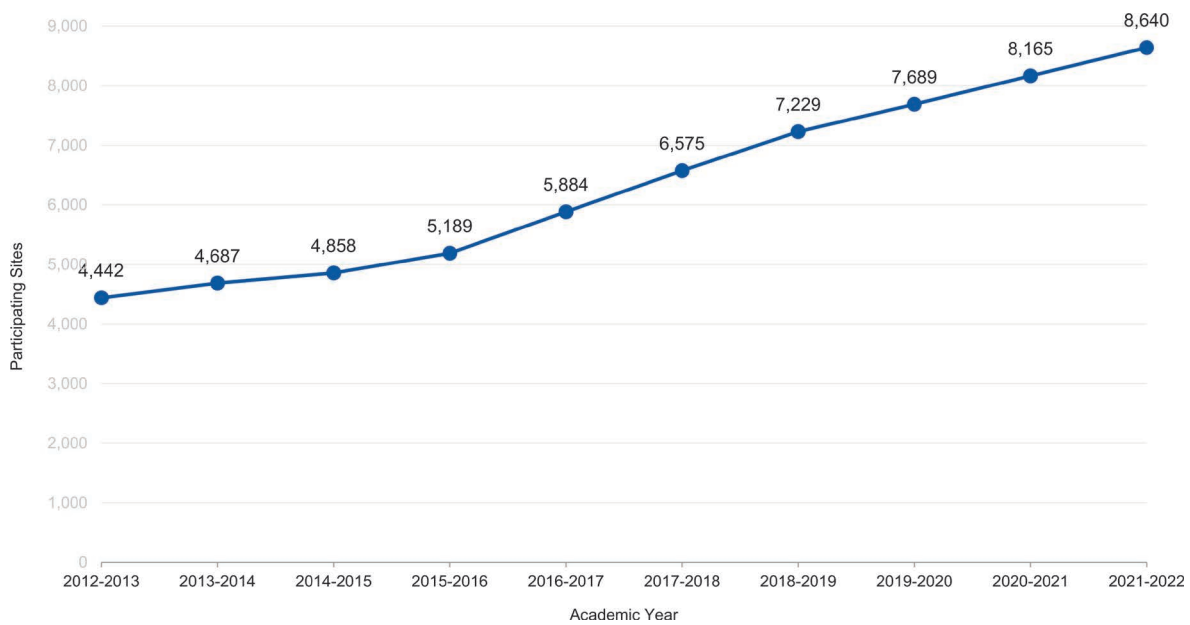
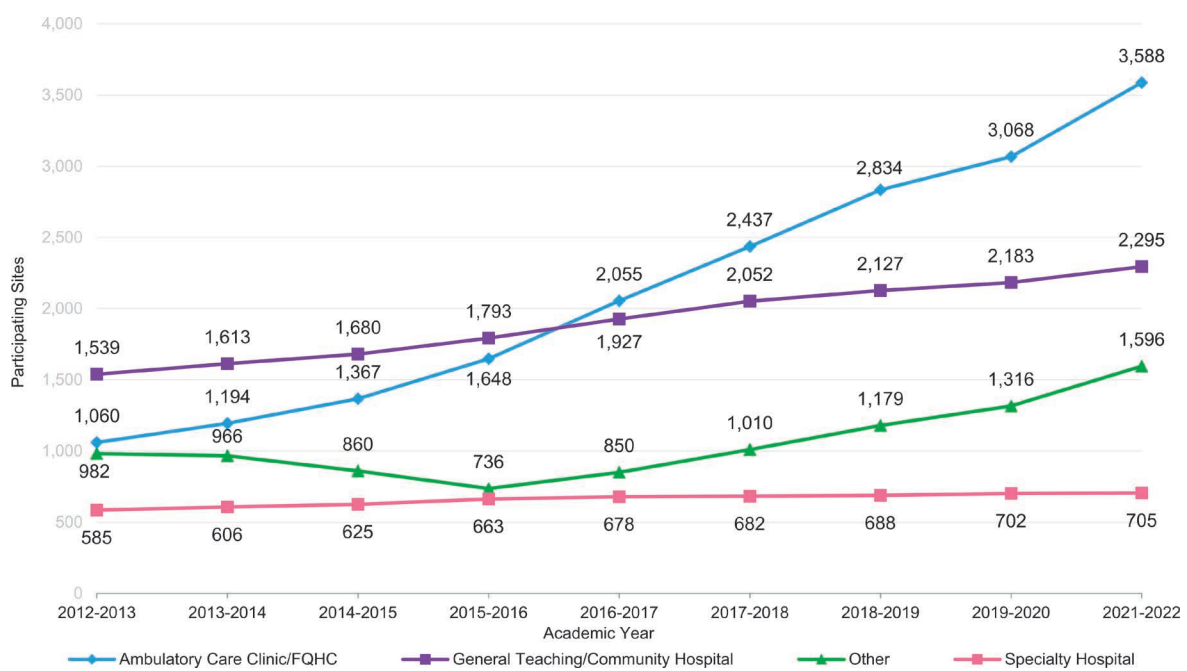


FIGURE F.3

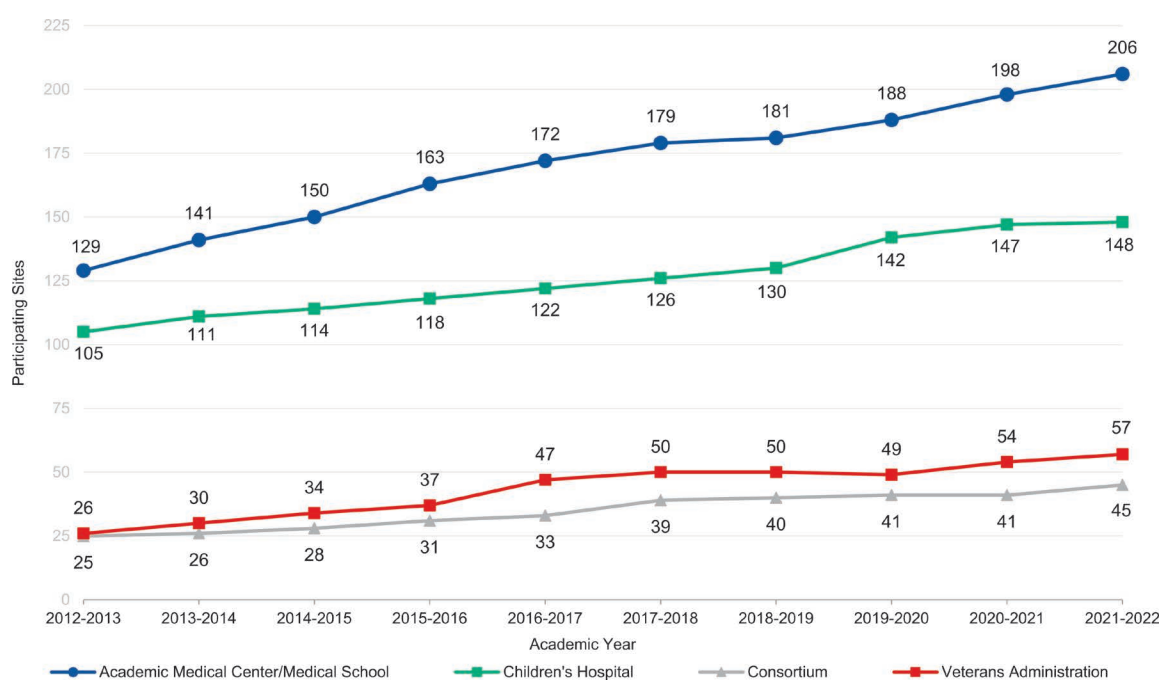
Number of Participating Sites where Residents Rotate by Institution Type Groups (Largest Groups Only) and Academic Year, 2012-2013 to 2021-2022



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, 2012-2013 to 2021-2022



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	12,740	3.2	2.3	0	40
TOTAL PIPELINE	5,270	4.1	2.6	1	40
Allergy and immunology	84	2.8	1.3	1	6
Anesthesiology	166	4.1	2.0	1	13
- Adult cardiothoracic anesthesiology	74	1.8	0.9	1	5
- Clinical informatics	1	1.0	0.0	1	1
- Critical care medicine	64	1.8	0.9	1	4
- Regional anesthesiology and acute pain medicine	40	2.2	1.5	1	7
- Obstetric anesthesiology	41	1.3	0.5	1	3
- Pain medicine (multidisciplinary)	114	2.6	1.6	1	9
- Pediatric anesthesiology	61	1.5	0.9	1	4
Colon and rectal surgery	67	2.8	1.6	1	8
Dermatology	143	4.4	2.7	1	13
- Dermatopathology (multidisciplinary)	57	1.9	0.9	1	4
- Micrographic surgery and dermatologic oncology	77	2.2	1.2	1	8
- Pediatric dermatology	17	1.8	1.1	1	5
Emergency medicine	279	4.2	2.0	1	15
- Clinical informatics	5	3.6	2.1	2	7
- Emergency medical services	79	3.4	2.6	1	12
- Medical toxicology	28	3.0	1.3	1	7
- Pediatric emergency medicine	29	2.6	1.3	1	6
- Sports medicine	10	5.0	3.5	1	11
- Undersea and hyperbaric medicine	8	1.8	0.4	1	2
Family medicine	722	4.4	3.7	1	40
- Clinical informatics	7	3.7	3.1	1	11
- Geriatric medicine	46	4.3	2.5	1	10
- Hospice and palliative medicine (multidisciplinary)	187	4.2	1.7	1	9
- Sports medicine	161	3.8	2.8	1	13
Internal medicine	601	3.3	2.6	1	18
- Adult congenital heart disease	26	1.8	0.7	1	3
- Advanced heart failure and transplant cardiology	86	1.4	0.6	1	3
- Cardiovascular disease	268	2.6	1.4	1	9
- Clinical cardiac electrophysiology	115	1.8	1.0	1	6
- Clinical informatics	23	2.1	1.6	1	6
- Critical care medicine	62	2.4	1.3	1	7
- Endocrinology, diabetes, and metabolism	157	2.7	1.4	1	8
- Gastroenterology	222	2.9	1.4	1	9
- Geriatric medicine	117	3.8	1.9	1	12
- Hematology	2	2.5	0.5	2	3
- Hematology and medical oncology	180	2.8	1.4	1	10
- Infectious disease	163	2.8	1.2	1	7
- Interventional cardiology	177	1.7	0.9	1	6
- Nephrology	151	2.9	1.4	1	10
- Medical oncology	5	2.6	1.0	1	4
- Pulmonary disease	22	2.4	1.1	1	4
- Pulmonary disease and critical care medicine	196	3.1	1.4	1	7
- Rheumatology	128	2.6	1.1	1	6
- Sleep medicine (multidisciplinary)	92	2.6	1.2	1	6
- Transplant hepatology	62	1.3	0.5	1	3
Medical genetics and genomics	45	3.2	1.8	1	8
- Medical biochemical genetics	20	2.3	1.2	1	5
- Molecular genetic pathology (multidisciplinary)	42	1.9	1.1	1	5
Neurological surgery	118	3.6	1.6	1	9
- Endovascular surgical neuroradiology	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	175	3.5	1.9	1	12
- Brain injury medicine	1	1.0	0.0	1	1
- Clinical neurophysiology	94	2.1	1.1	1	6
- Epilepsy	93	2.1	0.9	1	5
- Neurocritical care (multidisciplinary)	7	1.6	0.7	1	3
- Endovascular surgical neuroradiology	2	2.0	1.0	1	3
- Neurodevelopmental disabilities	8	4.1	0.9	3	5
- Neuromuscular medicine	55	2.2	1.1	1	6
- Vascular neurology	112	1.7	1.0	1	5
Child neurology	79	2.8	1.3	1	7
Nuclear medicine	37	2.5	1.3	1	6
Obstetrics and gynecology	299	4.2	2.4	1	18
- Female pelvic medicine and reconstructive surgery	55	2.7	1.4	1	8
- Gynecologic oncology	67	2.2	1.1	1	5
- Maternal-fetal medicine	101	2.0	1.0	1	5
- Reproductive endocrinology and infertility	49	2.7	1.8	1	8
- Complex family planning	29	2.8	1.0	1	6
Ophthalmology	125	4.2	2.3	2	15
- Ophthalmic plastic and reconstructive surgery	4	4.3	2.9	2	9
Orthopaedic surgery	203	5.7	2.5	1	14
- Adult reconstructive orthopaedics	24	2.4	1.2	1	4
- Foot and ankle orthopaedics	8	2.8	1.5	1	5
- Hand surgery	73	3.9	2.4	1	14
- Musculoskeletal oncology	12	2.0	0.9	1	4
- Orthopaedic sports medicine	93	3.2	2.7	1	15
- Orthopaedic surgery of the spine	15	2.1	1.0	1	5
- Orthopaedic trauma	12	1.7	1.1	1	4
- Pediatric orthopaedics	24	1.5	0.7	1	3
Osteopathic neuromusculoskeletal medicine	28	4.0	3.0	1	15
Otolaryngology - head and neck surgery	129	4.5	2.4	1	15
- Neurotology	28	2.8	1.5	1	6
- Pediatric otolaryngology	34	1.4	0.5	1	3
Pathology-anatomic and clinical	145	4.1	2.0	1	12
- Blood banking/transfusion medicine	53	2.9	1.3	1	6
- Clinical informatics	10	1.8	1.2	1	5
- Chemical pathology	4	1.3	0.4	1	2
- Cytopathology	92	1.5	0.7	1	3
- Forensic pathology	45	1.4	0.8	1	4
- Hematopathology	86	1.8	0.9	1	5
- Medical microbiology	16	1.8	0.9	1	4
- Neuropathology	39	2.1	1.2	1	5
- Pediatric pathology	27	2.1	0.9	1	4
- Selective pathology	116	1.4	0.6	1	3
Pediatrics	212	2.9	1.6	1	10
- Adolescent medicine	32	2.7	2.2	1	10
- Child abuse pediatrics	31	2.8	1.7	1	9
- Clinical informatics	9	2.3	1.2	1	4
- Developmental-behavioral pediatrics	44	1.9	1.2	1	5
- Neonatal-perinatal medicine	110	2.2	1.0	1	6
- Pediatric cardiology	64	1.6	0.8	1	4
- Pediatric critical care medicine	77	1.5	0.8	1	5
- Pediatric emergency medicine	56	3.1	1.2	1	6
- Pediatric endocrinology	72	1.6	0.8	1	5
- Pediatric gastroenterology	67	1.6	0.8	1	5
- Pediatric hematology/oncology	77	1.8	0.9	1	4
- Pediatric infectious diseases	64	2.1	1.1	1	6

<b>TABLE F.5 Continued</b>					
<b>Mean Number of Participating Sites per Program where Residents Rotate by Specialty and Subspecialty</b>					
<b>Specialty</b>	<b>Total Programs</b>	<b>Number of Participating Sites per Program</b>			
		<b>AVG</b>	<b>STD</b>	<b>MIN</b>	<b>MAX</b>
- Pediatric nephrology	47	1.6	0.9	1	5
- Pediatric pulmonology	57	1.5	0.8	1	5
- Pediatric rheumatology	38	1.5	0.7	0	3
- Sports medicine	17	3.2	1.9	1	7
- Pediatric transplant hepatology	17	1.7	0.6	1	3
- Pediatric hospital medicine	65	2.7	0.7	1	4
Physical medicine and rehabilitation	100	5.6	3.1	2	23
- Brain injury medicine	25	2.7	0.6	2	4
- Neuromuscular medicine	1	4.0	0.0	4	4
- Spinal cord injury medicine	24	2.7	0.8	1	4
- Pediatric rehabilitation medicine	22	2.2	0.9	1	4
- Sports medicine	22	3.4	1.6	1	7
Plastic surgery	50	5.1	2.3	1	13
Plastic surgery - integrated	88	5.6	2.3	1	12
- Craniofacial surgery	8	1.9	1.3	1	5
- Hand surgery	18	2.7	1.2	1	5
Preventive medicine	72	6.3	3.9	1	22
- Medical toxicology	1	4.0	0.0	4	4
- Undersea and hyperbaric medicine	1	1.0	0.0	1	1
Psychiatry	294	5.5	2.9	1	17
- Addiction medicine (multidisciplinary)	91	4.3	2.5	1	11
- Addiction psychiatry	55	3.4	1.4	1	7
- Child and adolescent psychiatry	152	4.7	2.9	1	17
- Forensic psychiatry	49	3.9	1.3	2	7
- Geriatric psychiatry	64	3.6	1.9	1	11
- Consultation-liaison psychiatry	66	2.1	1.0	1	6
Radiation oncology	90	2.7	1.5	1	9
Radiology-diagnostic	197	3.3	1.7	1	13
- Abdominal radiology	13	1.8	1.0	1	4
- Endovascular surgical neuroradiology	3	1.0	0.0	1	1
- Musculoskeletal radiology	20	1.7	0.9	1	4
- Neuroradiology	91	2.1	1.1	1	6
- Nuclear radiology	18	1.8	1.3	1	6
- Pediatric radiology	47	1.3	0.7	1	4
Interventional radiology - independent	95	2.6	1.3	1	8
Interventional radiology - integrated	92	3.4	1.7	1	11
Surgery	353	5.0	2.0	1	16
- Complex general surgical oncology	33	2.4	1.5	1	7
- Hand surgery	2	8.0	3.0	5	11
- Pediatric surgery	51	1.6	0.7	1	3
- Surgical critical care	156	1.7	0.9	1	4
- Vascular surgery	118	2.5	1.3	1	7
Vascular surgery - integrated	73	3.7	1.6	1	8
Thoracic surgery	75	2.7	1.2	1	7
- Congenital cardiac surgery	16	1.4	0.5	1	2
Thoracic surgery - integrated	34	4.0	1.8	1	8
Urology	148	4.0	1.6	1	9
- Female pelvic medicine and reconstructive surgery	16	2.1	1.7	1	6
- Pediatric urology	26	1.3	0.6	1	3
Transitional year	178	2.4	1.9	1	19
Internal medicine/Pediatrics	78	3.8	2.3	1	18

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	8,640	558	6.5%
TOTAL PIPELINE	6,409	499	7.8%
Allergy and immunology	208	39	18.8%
Anesthesiology	544	69	12.7%
- Adult cardiothoracic anesthesiology	123	39	31.7%
- Clinical informatics	1	1	100.0%
- Critical care medicine	115	32	27.8%
- Regional anesthesiology and acute pain medicine	84	19	22.6%
- Obstetric anesthesiology	54	21	38.9%
- Pain medicine (multidisciplinary)	273	56	20.5%
- Pediatric anesthesiology	86	22	25.6%
Colon and rectal surgery	182	31	17.0%
Dermatology	570	58	10.2%
- Dermatopathology (multidisciplinary)	105	28	26.7%
- Micrographic surgery and dermatologic oncology	164	39	23.8%
- Pediatric dermatology	30	1	3.3%
Emergency medicine	850	122	14.4%
- Clinical informatics	17	2	11.8%
- Emergency medical services	261	34	13.0%
- Medical toxicology	83	8	9.6%
- Pediatric emergency medicine	69	13	18.8%
- Sports medicine	49	1	2.0%
- Undersea and hyperbaric medicine	14	5	35.7%
Family medicine	2,507	312	12.4%
- Clinical informatics	26	2	7.7%
- Geriatric medicine	195	24	12.3%
- Hospice and palliative medicine (multidisciplinary)	666	88	13.2%
- Sports medicine	586	75	12.8%
Internal medicine	1,646	276	16.8%
- Adult congenital heart disease	47	11	23.4%
- Advanced heart failure and transplant cardiology	117	34	29.1%
- Cardiovascular disease	578	111	19.2%
- Clinical cardiac electrophysiology	201	51	25.4%
- Clinical informatics	49	10	20.4%
- Critical care medicine	140	28	20.0%
- Endocrinology, diabetes, and metabolism	383	70	18.3%
- Gastroenterology	529	100	18.9%
- Geriatric medicine	431	49	11.4%
- Hematology	5	1	20.0%
- Hematology and medical oncology	415	86	20.7%
- Infectious disease	392	72	18.4%
- Interventional cardiology	295	76	25.8%
- Nephrology	395	71	18.0%
- Medical oncology	13	2	15.4%
- Pulmonary disease	51	13	25.5%
- Pulmonary disease and critical care medicine	499	91	18.2%
- Rheumatology	308	56	18.2%
- Sleep medicine (multidisciplinary)	229	41	17.9%
- Transplant hepatology	81	30	37.0%
Medical genetics and genomics	129	24	18.6%
- Medical biochemical genetics	44	11	25.0%
- Molecular genetic pathology (multidisciplinary)	75	20	26.7%
Neurological surgery	360	51	14.2%
- Endovascular surgical neuroradiology	5	1	20.0%



<b>TABLE F.6 Continued</b>			
<b>Total Number of Participating Sites and Number of Sponsoring Institutions where Residents Rotate by Specialty and Subspecialty</b>			
<b>Specialty</b>	<b>Total Participating Sites</b>	<b>Sponsors</b>	
		<b>#</b>	<b>%</b>
Neurology	533	74	13.9%
- Brain injury medicine	1	0	0.0%
- Clinical neurophysiology	186	42	22.6%
- Epilepsy	158	39	24.7%
- Neurocritical care (multidisciplinary)	11	3	27.3%
- Endovascular surgical neuroradiology	4	0	0.0%
- Neurodevelopmental disabilities	33	4	12.1%
- Neuromuscular medicine	118	30	25.4%
- Vascular neurology	194	51	26.3%
Child neurology	213	34	16.0%
Nuclear medicine	89	15	16.9%
Obstetrics and gynecology	1,058	145	13.7%
- Female pelvic medicine and reconstructive surgery	147	28	19.0%
- Gynecologic oncology	148	31	20.9%
- Maternal-fetal medicine	200	42	21.0%
- Reproductive endocrinology and infertility	129	22	17.1%
- Complex family planning	79	11	13.9%
Ophthalmology	481	51	10.6%
- Ophthalmic plastic and reconstructive surgery	17	1	5.9%
Orthopaedic surgery	898	87	9.7%
- Adult reconstructive orthopaedics	53	7	13.2%
- Foot and ankle orthopaedics	22	5	22.7%
- Hand surgery	263	33	12.5%
- Musculoskeletal oncology	24	7	29.2%
- Orthopaedic sports medicine	281	46	16.4%
- Orthopaedic surgery of the spine	31	9	29.0%
- Orthopaedic trauma	20	6	30.0%
- Pediatric orthopaedics	35	10	28.6%
Osteopathic neuromusculoskeletal medicine	109	13	11.9%
Otolaryngology - head and neck surgery	489	56	11.5%
- Neurotology	77	14	18.2%
- Pediatric otolaryngology	47	12	25.5%
Pathology-anatomic and clinical	482	63	13.1%
- Blood banking/transfusion medicine	143	28	19.6%
- Clinical informatics	18	3	16.7%
- Chemical pathology	5	3	60.0%
- Cytopathology	125	44	35.2%
- Forensic pathology	61	21	34.4%
- Hematopathology	138	42	30.4%
- Medical microbiology	29	9	31.0%
- Neuropathology	75	20	26.7%
- Pediatric pathology	58	13	22.4%
- Selective pathology	78	23	29.5%
Pediatrics	497	104	20.9%
- Adolescent medicine	85	13	15.3%
- Child abuse pediatrics	84	13	15.5%
- Clinical informatics	21	6	28.6%
- Developmental-behavioral pediatrics	81	20	24.7%
- Neonatal-perinatal medicine	224	47	21.0%
- Pediatric cardiology	97	28	28.9%
- Pediatric critical care medicine	102	32	31.4%
- Pediatric emergency medicine	157	23	14.6%
- Pediatric endocrinology	112	32	28.6%
- Pediatric gastroenterology	100	30	30.0%
- Pediatric hematology/oncology	127	33	26.0%
- Pediatric infectious diseases	123	29	23.6%

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	72	20	27.8%
- Pediatric pulmonology	81	24	29.6%
- Pediatric rheumatology	58	14	24.1%
- Sports medicine	55	11	20.0%
- Pediatric transplant hepatology	29	5	17.2%
- Pediatric hospital medicine	171	26	15.2%
Physical medicine and rehabilitation	507	43	8.5%
- Brain injury medicine	65	9	13.8%
- Neuromuscular medicine	4	0	0.0%
- Spinal cord injury medicine	62	8	12.9%
- Pediatric rehabilitation medicine	48	7	14.6%
- Sports medicine	72	4	5.6%
Plastic surgery	233	23	9.9%
Plastic surgery - integrated	456	38	8.3%
- Craniofacial surgery	15	3	20.0%
- Hand surgery	48	8	16.7%
Preventive medicine	369	31	8.4%
- Medical toxicology	4	1	25.0%
- Undersea and hyperbaric medicine	1	1	100.0%
Psychiatry	1,413	139	9.8%
- Addiction medicine (multidisciplinary)	368	41	11.1%
- Addiction psychiatry	178	19	10.7%
- Child and adolescent psychiatry	675	65	9.6%
- Forensic psychiatry	184	20	10.9%
- Geriatric psychiatry	232	22	9.5%
- Consultation-liaison psychiatry	138	32	23.2%
Radiation oncology	222	40	18.0%
Radiology-diagnostic	510	87	17.1%
- Abdominal radiology	23	6	26.1%
- Endovascular surgical neuroradiology	3	2	66.7%
- Musculoskeletal radiology	34	10	29.4%
- Neuroradiology	176	43	24.4%
- Nuclear radiology	33	10	30.3%
- Pediatric radiology	61	19	31.1%
Interventional radiology - independent	233	42	18.0%
Interventional radiology - integrated	280	39	13.9%
Surgery	1,184	156	13.2%
- Complex general surgical oncology	77	14	18.2%
- Hand surgery	16	1	6.3%
- Pediatric surgery	79	17	21.5%
- Surgical critical care	236	69	29.2%
- Vascular surgery	288	54	18.8%
Vascular surgery - integrated	261	32	12.3%
Thoracic surgery	190	39	20.5%
- Congenital cardiac surgery	22	7	31.8%
Thoracic surgery - integrated	135	17	12.6%
Urology	537	67	12.5%
- Female pelvic medicine and reconstructive surgery	34	9	26.5%
- Pediatric urology	35	9	25.7%
Transitional year	401	83	20.7%
Internal medicine/Pediatrics	289	32	11.1%

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 747 specialty programs (13.4%) and 890 subspecialty programs (12.4%) had at least one program director change during the academic year. Of these, a small number (44 specialty programs and 25 subspecialty programs) had more than one program director change during the academic year. Overall, 1,708 distinct program director changes occurred in 1,637 programs during the academic year. The specialties with the highest percentage of program director turnover include:

- Interventional radiology – independent (24.2%)
- Interventional radiology – integrated (22.8%)
- Thoracic surgery - integrated (17.6%)
- Psychiatry (17.3%)

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

- Internal medicine (105)
- Family medicine (94)
- Surgery (55)
- Obstetrics and gynecology (54)

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

- Nuclear medicine (2.7%)
- Internal medicine/Pediatrics (3.8%)
- Plastic surgery (4.0%)
- Allergy and immunology (7.1%)
- Osteopathic neuromusculoskeletal medicine (7.1%)

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, 2012, allergy and immunology program directors have had the highest average tenure at 10 years, while interventional radiology – integrated program directors have had the lowest tenure at 1.2 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 11.7 years among medical specialty programs, 8.7 years among hospital-based specialty programs, and 12.2 years among surgical specialty programs. In each group, the mean length in years that subspecialty program directors have taught in their subspecialty is 10.0 years, 10.0 years, and 11.7 years in medical, hospital-based, and surgical subspecialty programs, respectively. The mean length in years that continuing program directors have taught in their specialty is 17.5 years among medical specialty programs, 15.2 years among hospital-based specialty programs, and 17.3 years among surgical specialty programs.

## Physician Faculty Members

A total of 197,089 physician faculty members were listed as active at the time of the Academic Year 2021-2022 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 15.5 overall. The specialties with the highest average number of faculty members per program include:

- Anesthesiology (54)
- Pediatrics (38.9)
- Radiology – diagnostic (34.1)
- Neurology (31.5)

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

- Pediatric emergency medicine (19.9)
- Pediatric cardiology (16.8)
- Complex general surgical oncology (16.6)
- Neurodevelopmental disabilities (16.3)

## Core Faculty

A total of 71,233 core faculty members were listed as active in specialty programs at the time of the Academic Year 2021-2022 snapshot. The specialties with the highest average number of core faculty members per program include:

- Anesthesiology (24.1)
- Pediatrics (23.8)
- Radiology – diagnostic (20.4)
- Interventional radiology – integrated (18.7)

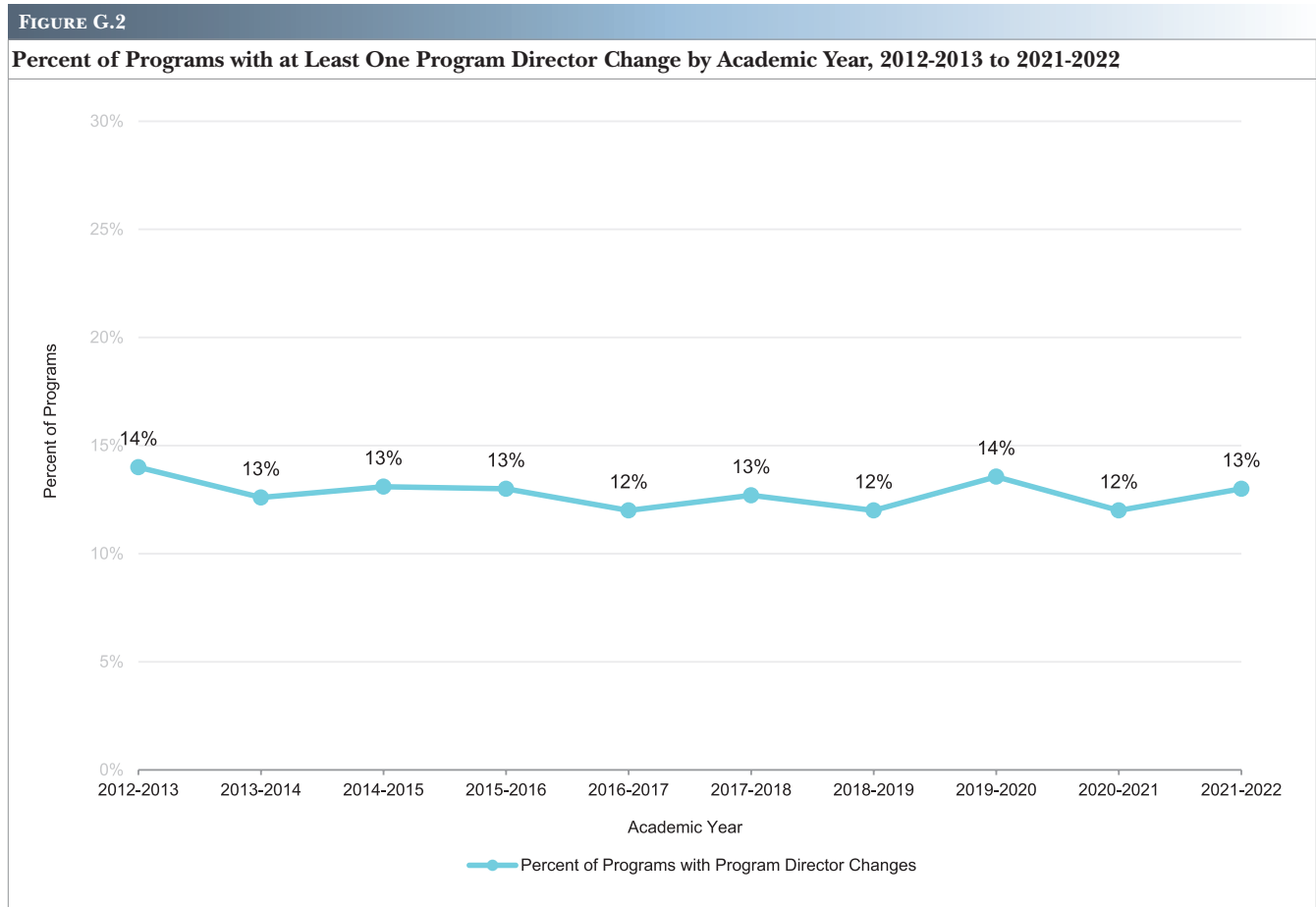
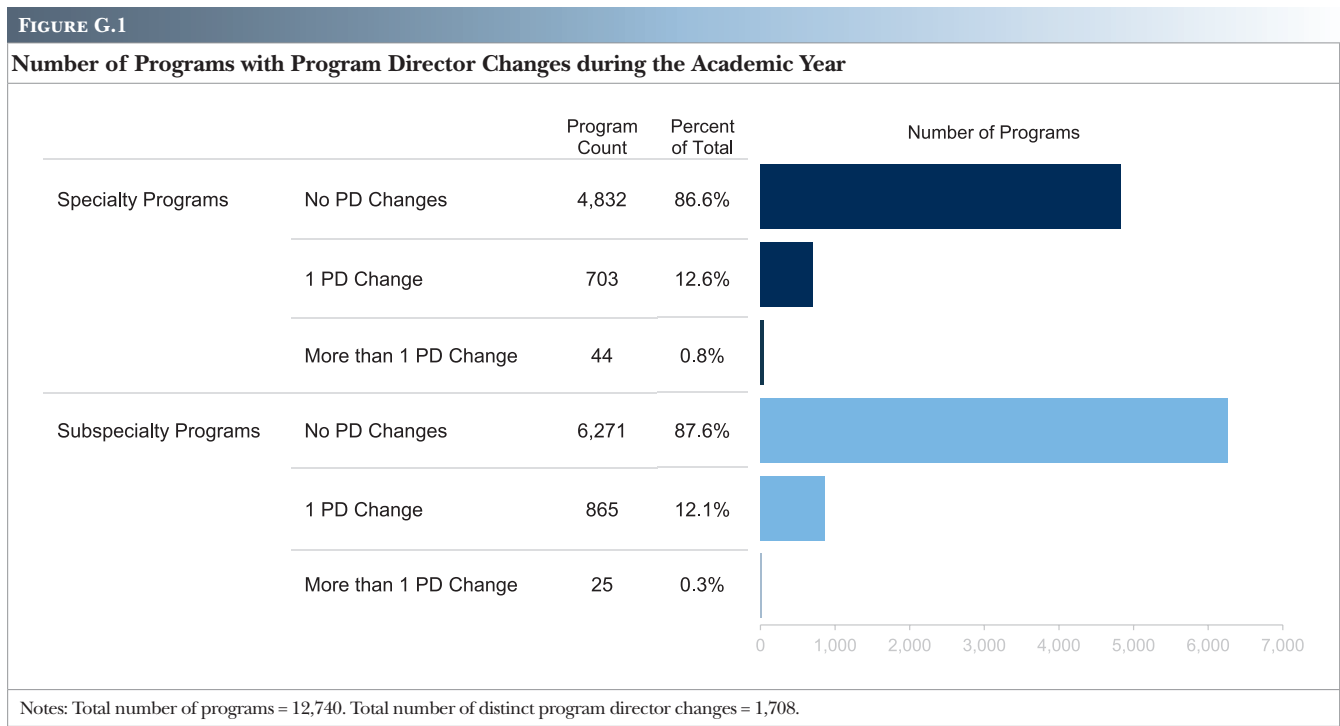


TABLE G.3

**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	12,740	1,637	12.8%	1,708
TOTAL PIPELINE	5,270	720	13.7%	761
Allergy and immunology	84	6	7.1%	6
Anesthesiology	166	28	16.9%	28
- Adult cardiothoracic anesthesiology	74	9	12.2%	10
- Clinical informatics	1	0	0.0%	0
- Critical care medicine	64	11	17.2%	11
- Regional anesthesiology and acute pain medicine	40	7	17.5%	8
- Obstetric anesthesiology	41	7	17.1%	7
- Pain medicine (multidisciplinary)	114	15	13.2%	15
- Pediatric anesthesiology	61	6	9.8%	7
Colon and rectal surgery	67	7	10.4%	7
Dermatology	143	21	14.7%	21
- Dermatopathology (multidisciplinary)	57	1	1.8%	1
- Micrographic surgery and dermatologic oncology	77	4	5.2%	4
- Pediatric dermatology	17	0	0.0%	0
Emergency medicine	279	25	9.0%	27
- Clinical informatics	5	2	40.0%	2
- Emergency medical services	79	6	7.6%	6
- Medical toxicology	28	7	25.0%	8
- Pediatric emergency medicine	29	2	6.9%	2
- Sports medicine	10	0	0.0%	0
- Undersea and hyperbaric medicine	8	2	25.0%	2
Family medicine	722	87	12.0%	94
- Clinical informatics	7	0	0.0%	0
- Geriatric medicine	46	4	8.7%	4
- Hospice and palliative medicine (multidisciplinary)	187	26	13.9%	26
- Sports medicine	161	16	9.9%	16
Internal medicine	601	95	15.8%	105
- Adult congenital heart disease	26	1	3.8%	1
- Advanced heart failure and transplant cardiology	86	11	12.8%	11
- Cardiovascular disease	268	27	10.1%	28
- Clinical cardiac electrophysiology	115	12	10.4%	12
- Clinical informatics	23	2	8.7%	2
- Critical care medicine	62	10	16.1%	10
- Endocrinology, diabetes, and metabolism	157	20	12.7%	20
- Gastroenterology	222	26	11.7%	26
- Geriatric medicine	117	17	14.5%	18
- Hematology	2	0	0.0%	0
- Hematology and medical oncology	180	23	12.8%	25
- Infectious disease	163	23	14.1%	23
- Interventional cardiology	177	19	10.7%	20
- Nephrology	151	23	15.2%	24
- Medical oncology	5	0	0.0%	0
- Pulmonary disease	22	2	9.1%	2
- Pulmonary disease and critical care medicine	196	24	12.2%	24
- Rheumatology	128	13	10.2%	13
- Sleep medicine (multidisciplinary)	92	8	8.7%	8
- Transplant hepatology	62	7	11.3%	7
Medical genetics and genomics	45	7	15.6%	8
- Medical biochemical genetics	20	2	10.0%	2
- Molecular genetic pathology (multidisciplinary)	42	5	11.9%	5
Neurological surgery	118	19	16.1%	20
- Endovascular surgical neuroradiology	3	0	0.0%	0

**TABLE G.3 Continued**

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

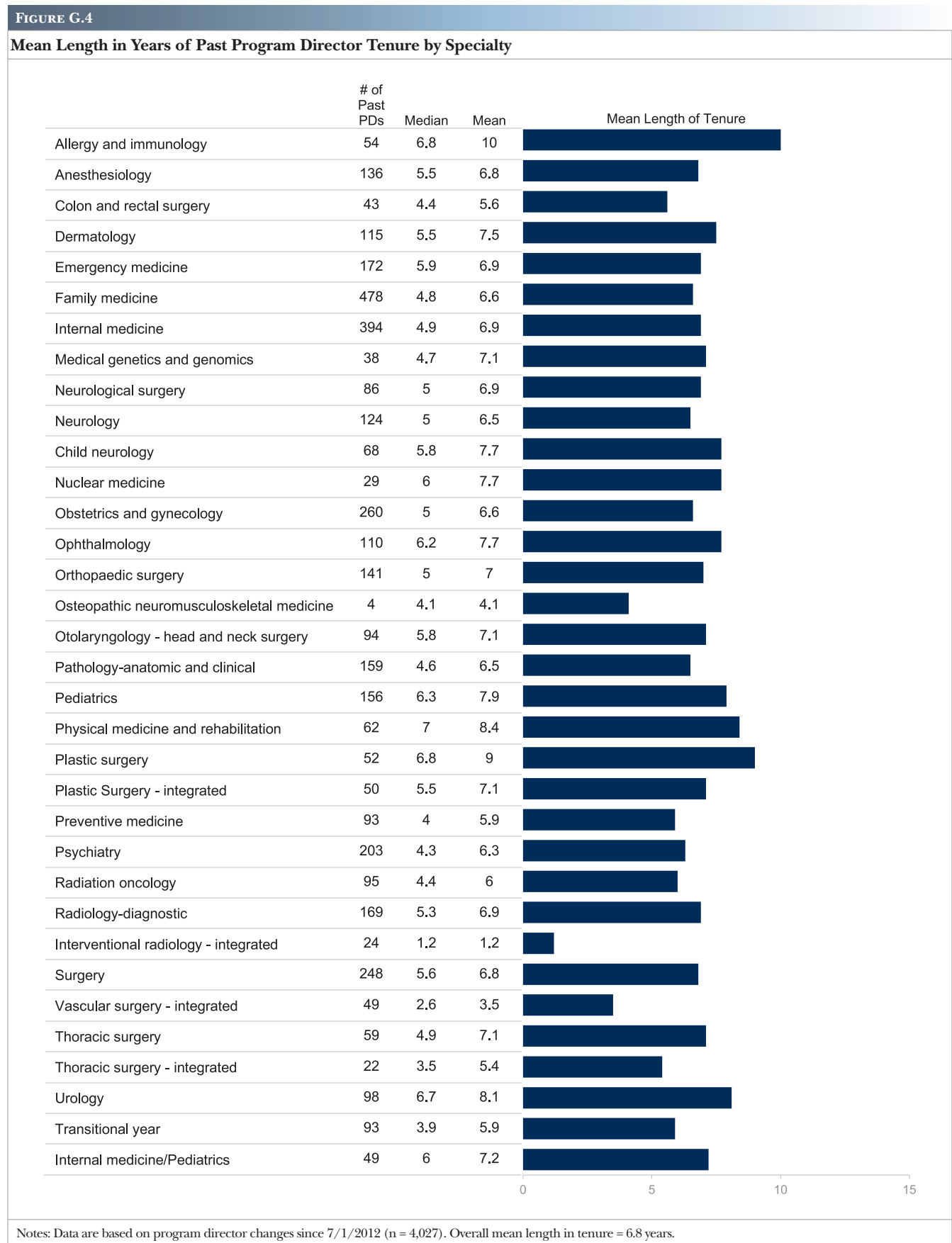
Specialty	Total Programs	Programs with New PDs		Number of Distinct PD Changes
		#	%	
Neurology	175	19	10.9%	19
- Brain injury medicine	1	0	0.0%	0
- Clinical neurophysiology	94	12	12.8%	13
- Epilepsy	93	10	10.8%	10
- Neurocritical care (multidisciplinary)	7	0	0.0%	0
- Endovascular surgical neuroradiology	2	0	0.0%	0
- Neurodevelopmental disabilities	8	3	37.5%	3
- Neuromuscular medicine	55	7	12.7%	7
- Vascular neurology	112	13	11.6%	13
Child neurology	79	9	11.4%	9
Nuclear medicine	37	1	2.7%	1
Obstetrics and gynecology	299	50	16.7%	54
- Female pelvic medicine and reconstructive surgery	55	5	9.1%	5
- Gynecologic oncology	67	12	17.9%	13
- Maternal-fetal medicine	101	17	16.8%	19
- Reproductive endocrinology and infertility	49	10	20.4%	10
- Complex family planning	29	5	17.2%	5
Ophthalmology	125	13	10.4%	13
- Ophthalmic plastic and reconstructive surgery	4	0	0.0%	0
Orthopaedic surgery	203	25	12.3%	25
- Adult reconstructive orthopaedics	24	3	12.5%	4
- Foot and ankle orthopaedics	8	2	25.0%	2
- Hand surgery	73	9	12.3%	9
- Musculoskeletal oncology	12	0	0.0%	0
- Orthopaedic sports medicine	93	7	7.5%	8
- Orthopaedic surgery of the spine	15	2	13.3%	2
- Orthopaedic trauma	12	0	0.0%	0
- Pediatric orthopaedics	24	5	20.8%	5
Osteopathic neuromusculoskeletal medicine	28	2	7.1%	2
Otolaryngology - head and neck surgery	129	11	8.5%	11
- Neurotology	28	1	3.6%	1
- Pediatric otolaryngology	34	3	8.8%	3
Pathology-anatomic and clinical	145	25	17.2%	26
- Blood banking/transfusion medicine	53	6	11.3%	6
- Clinical informatics	10	0	0.0%	0
- Chemical pathology	4	1	25.0%	1
- Cytopathology	92	13	14.1%	14
- Forensic pathology	45	9	20.0%	13
- Hematopathology	86	14	16.3%	14
- Medical microbiology	16	2	12.5%	2
- Neuropathology	39	3	7.7%	3
- Pediatric pathology	27	4	14.8%	4
- Selective pathology	116	14	12.1%	14
Pediatrics	212	26	12.3%	29
- Adolescent medicine	32	4	12.5%	4
- Child abuse pediatrics	31	4	12.9%	4
- Clinical informatics	9	0	0.0%	0
- Developmental-behavioral pediatrics	44	3	6.8%	3
- Neonatal-perinatal medicine	110	12	10.9%	12
- Pediatric cardiology	64	7	10.9%	7
- Pediatric critical care medicine	77	14	18.2%	14
- Pediatric emergency medicine	56	7	12.5%	7
- Pediatric endocrinology	72	9	12.5%	9
- Pediatric gastroenterology	67	12	17.9%	12
- Pediatric hematology/oncology	77	9	11.7%	10
- Pediatric infectious diseases	64	8	12.5%	8

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	47	4	8.5%	4
- Pediatric pulmonology	57	9	15.8%	9
- Pediatric rheumatology	38	4	10.5%	4
- Sports medicine	17	3	17.6%	3
- Pediatric transplant hepatology	17	4	23.5%	4
- Pediatric hospital medicine	65	4	6.2%	4
Physical medicine and rehabilitation	100	11	11.0%	11
- Brain injury medicine	25	4	16.0%	4
- Neuromuscular medicine	1	0	0.0%	0
- Spinal cord injury medicine	24	1	4.2%	1
- Pediatric rehabilitation medicine	22	5	22.7%	5
- Sports medicine	22	3	13.6%	3
Plastic surgery	50	2	4.0%	2
Plastic surgery - integrated	88	7	8.0%	7
- Craniofacial surgery	8	0	0.0%	0
- Hand surgery	18	1	5.6%	1
Preventive medicine	72	11	15.3%	12
- Medical toxicology	1	1	100.0%	1
- Undersea and hyperbaric medicine	1	0	0.0%	0
Psychiatry	294	51	17.3%	53
- Addiction medicine (multidisciplinary)	91	10	11.0%	10
- Addiction psychiatry	55	9	16.4%	9
- Child and adolescent psychiatry	152	21	13.8%	21
- Forensic psychiatry	49	2	4.1%	2
- Geriatric psychiatry	64	7	10.9%	8
- Consultation-liaison psychiatry	66	5	7.6%	5
Radiation oncology	90	10	11.1%	10
Radiology-diagnostic	197	33	16.8%	35
- Abdominal radiology	13	4	30.8%	4
- Endovascular surgical neuroradiology	3	0	0.0%	0
- Musculoskeletal radiology	20	5	25.0%	5
- Neuroradiology	91	18	19.8%	18
- Nuclear radiology	18	2	11.1%	2
- Pediatric radiology	47	7	14.9%	8
Interventional radiology - independent	95	23	24.2%	24
Interventional radiology - integrated	92	21	22.8%	21
Surgery	353	51	14.4%	55
- Complex general surgical oncology	33	5	15.2%	5
- Hand surgery	2	0	0.0%	0
- Pediatric surgery	51	5	9.8%	5
- Surgical critical care	156	25	16.0%	25
- Vascular surgery	118	10	8.5%	12
Vascular surgery - integrated	73	7	9.6%	7
Thoracic surgery	75	10	13.3%	11
- Congenital cardiac surgery	16	2	12.5%	2
Thoracic surgery - integrated	34	6	17.6%	7
Urology	148	21	14.2%	22
- Female pelvic medicine and reconstructive surgery	16	4	25.0%	4
- Pediatric urology	26	2	7.7%	2
Transitional year	178	27	15.2%	30
Internal medicine/Pediatrics	78	3	3.8%	3

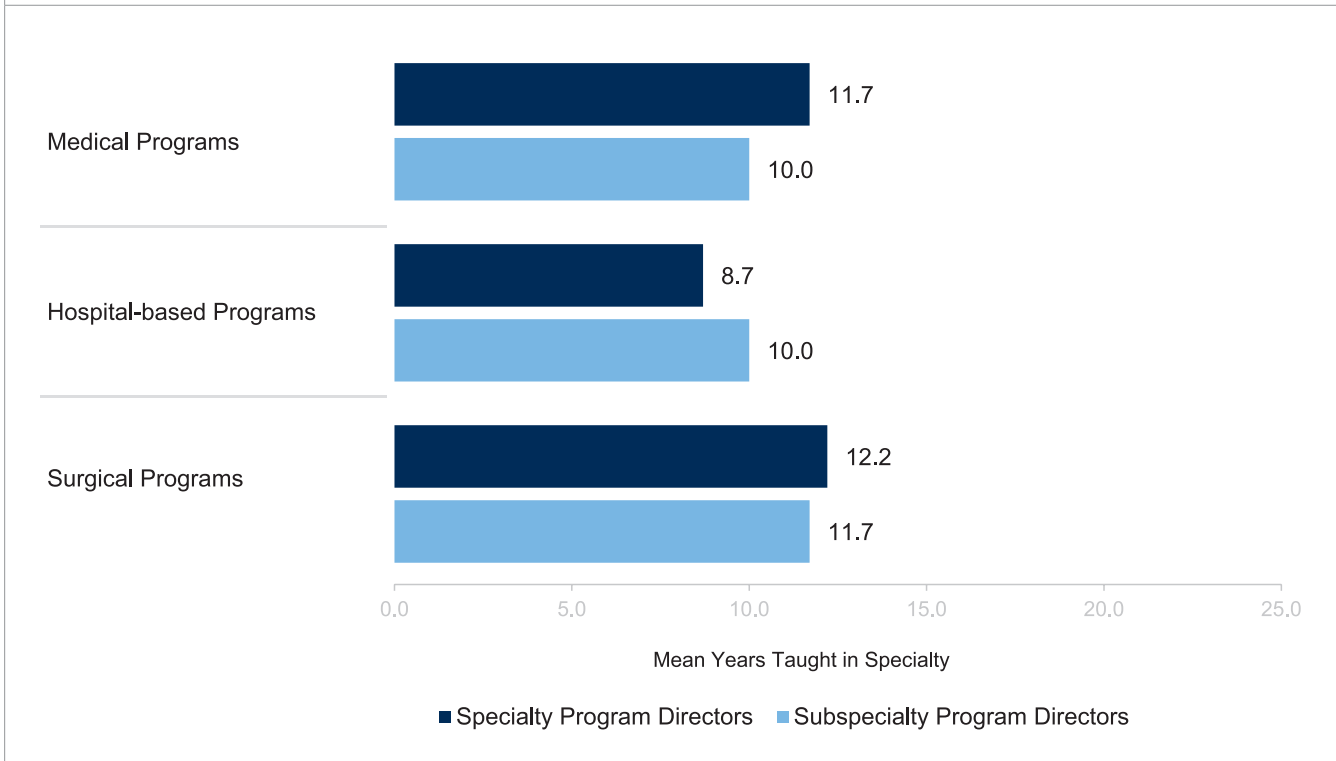
Notes: Total number of distinct program director changes =1,708 (815 in specialty programs and 893 in subspecialty programs). Pipeline specialties are highlighted.





**FIGURE G.5**

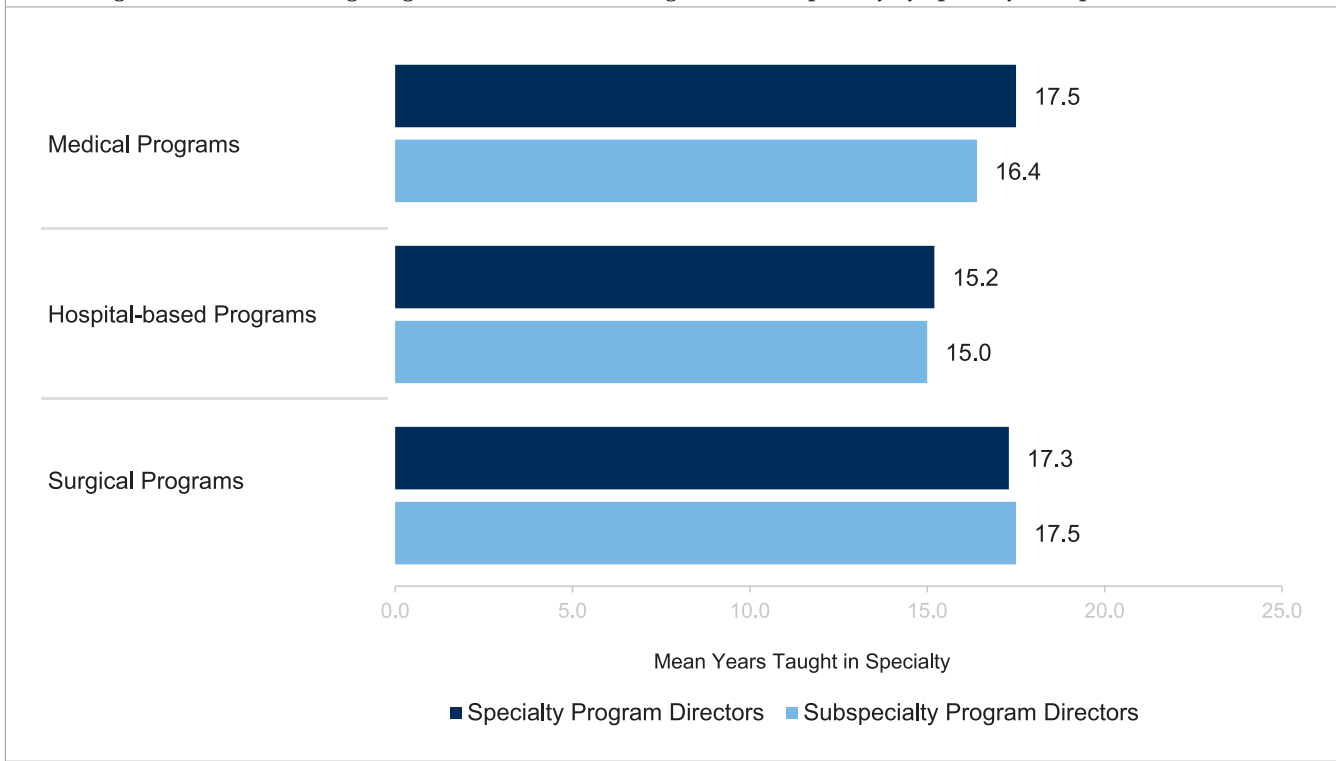
**Mean Length in Years New Program Directors Have Taught in Their Specialty by Specialty Group**



Notes: Total number of new program directors in specialty programs = 862. Total number of new program directors in subspecialty programs = 1,137.

**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 = 4,717. Total number of continuing program directors in subspecialty programs = 6,024.

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

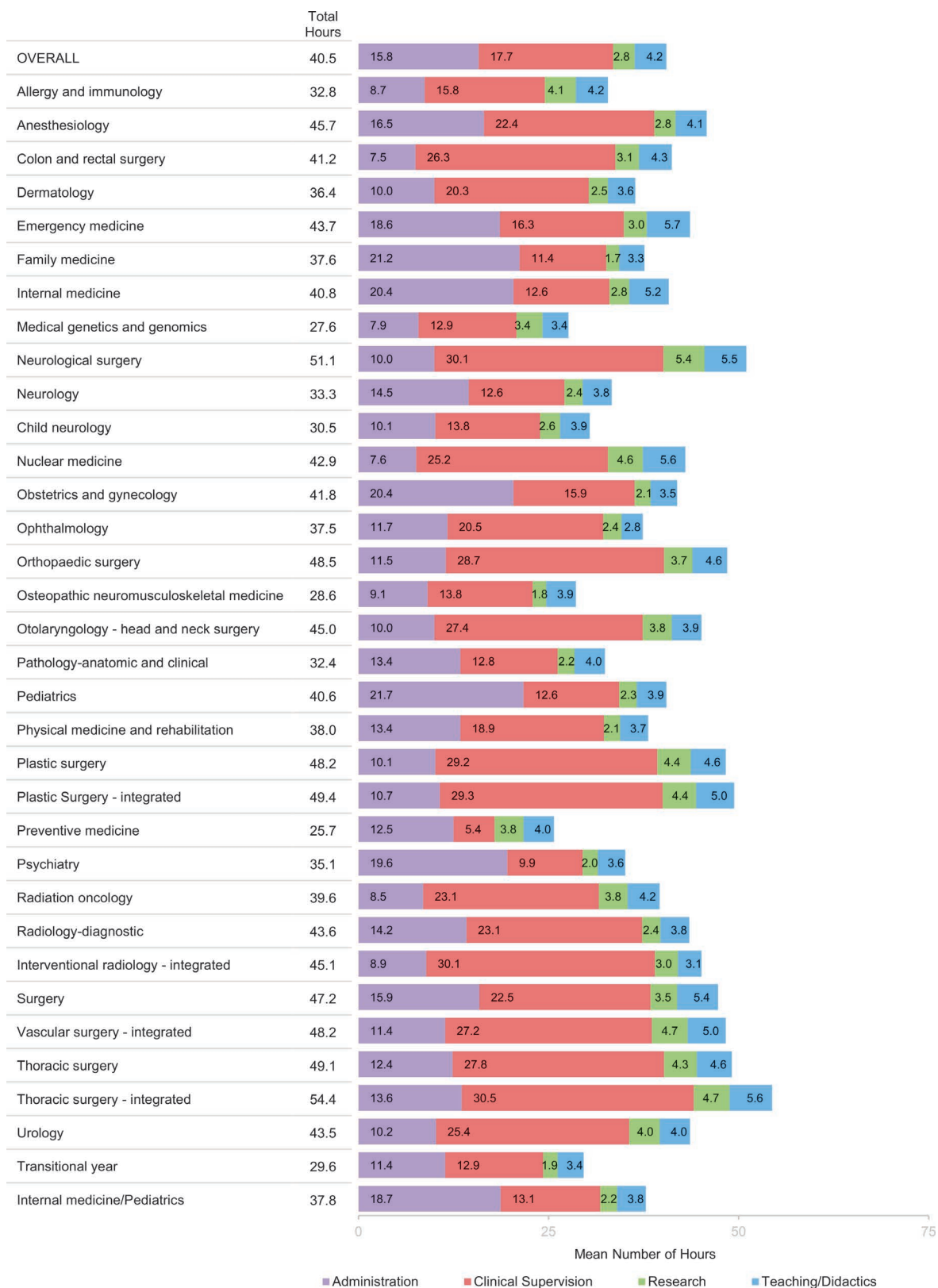


TABLE G.8

**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	12,740	197,089	15.5	0	167
TOTAL PIPELINE	5,270	128,490	24.4	1	167
Allergy and immunology	84	833	9.9	2	28
Anesthesiology	166	8,969	54.0	8	167
- Adult cardiothoracic anesthesiology	74	1,032	13.9	5	30
- Clinical informatics	1	6	6.0	6	6
- Critical care medicine	64	873	13.6	4	39
- Regional anesthesiology and acute pain medicine	40	468	11.7	3	39
- Obstetric anesthesiology	41	409	10.0	2	20
- Pain medicine (multidisciplinary)	114	1,039	9.1	3	28
- Pediatric anesthesiology	61	985	16.1	4	56
Colon and rectal surgery	67	474	7.1	2	20
Dermatology	143	2,271	15.9	4	45
- Dermatopathology (multidisciplinary)	57	336	5.9	1	15
- Micrographic surgery and dermatologic oncology	77	309	4.0	0	12
- Pediatric dermatology	17	59	3.5	1	8
Emergency medicine	279	5,997	21.5	5	73
- Clinical informatics	5	43	8.6	6	13
- Emergency medical services	79	353	4.5	2	11
- Medical toxicology	28	169	6.0	2	14
- Pediatric emergency medicine	29	316	10.9	3	24
- Sports medicine	10	56	5.6	2	9
- Undersea and hyperbaric medicine	8	31	3.9	2	9
Family medicine	722	17,101	23.7	2	104
- Clinical informatics	7	54	7.7	3	12
- Geriatric medicine	46	302	6.6	1	18
- Hospice and palliative medicine (multidisciplinary)	187	1,560	8.3	2	22
- Sports medicine	161	1,169	7.3	2	21
Internal medicine	601	12,580	20.9	4	157
- Adult congenital heart disease	26	147	5.7	2	13
- Advanced heart failure and transplant cardiology	86	482	5.6	0	16
- Cardiovascular disease	268	3,827	14.3	3	63
- Clinical cardiac electrophysiology	115	597	5.2	1	19
- Clinical informatics	23	167	7.3	1	11
- Critical care medicine	62	673	10.9	3	28
- Endocrinology, diabetes, and metabolism	157	1,254	8.0	2	25
- Gastroenterology	222	2,608	11.7	1	51
- Geriatric medicine	117	816	7.0	0	19
- Hematology	2	23	11.5	9	14
- Hematology and medical oncology	180	2,545	14.1	2	50
- Infectious disease	163	1,616	9.9	1	38
- Interventional cardiology	177	904	5.1	1	14
- Nephrology	151	1,505	10.0	2	33
- Medical oncology	5	55	11.0	3	22
- Pulmonary disease	22	136	6.2	2	16
- Pulmonary disease and critical care medicine	196	2,711	13.8	4	42
- Rheumatology	128	980	7.7	1	25
- Sleep medicine (multidisciplinary)	92	584	6.3	2	16
- Transplant hepatology	62	383	6.2	2	12
Medical genetics and genomics	45	487	10.8	1	50
- Medical biochemical genetics	20	120	6.0	3	17
- Molecular genetic pathology (multidisciplinary)	42	245	5.8	1	12
Neurological surgery	118	2,151	18.2	4	37
- Endovascular surgical neuroradiology	3	15	5.0	2	10

**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	175	5,519	31.5	7	106
- Brain injury medicine	1	3	3.0	3	3
- Clinical neurophysiology	94	900	9.6	2	22
- Epilepsy	93	781	8.4	3	21
- Neurocritical care (multidisciplinary)	7	82	11.7	5	21
- Endovascular surgical neuroradiology	2	7	3.5	2	5
- Neurodevelopmental disabilities	8	130	16.3	3	29
- Neuromuscular medicine	55	397	7.2	2	16
- Vascular neurology	112	817	7.3	2	24
Child neurology	79	1,367	17.3	3	50
Nuclear medicine	37	217	5.9	1	18
Obstetrics and gynecology	299	8,441	28.2	6	95
- Female pelvic medicine and reconstructive surgery	55	364	6.6	3	12
- Gynecologic oncology	67	565	8.4	0	19
- Maternal-fetal medicine	101	1,208	12.0	3	28
- Reproductive endocrinology and infertility	49	412	8.4	2	25
- Complex family planning	29	138	4.8	2	10
Ophthalmology	125	3,156	25.2	9	68
- Ophthalmic plastic and reconstructive surgery	4	9	2.3	1	4
Orthopaedic surgery	203	6,056	29.8	10	91
- Adult reconstructive orthopaedics	24	160	6.7	2	17
- Foot and ankle orthopaedics	8	35	4.4	2	9
- Hand surgery	73	517	7.1	3	19
- Musculoskeletal oncology	12	41	3.4	1	7
- Orthopaedic sports medicine	93	623	6.7	1	27
- Orthopaedic surgery of the spine	15	72	4.8	2	9
- Orthopaedic trauma	12	58	4.8	2	13
- Pediatric orthopaedics	24	222	9.3	3	20
Osteopathic neuromusculoskeletal medicine	28	293	10.5	3	21
Otolaryngology - Head and Neck Surgery	129	2,824	21.9	5	50
- Neurotology	28	144	5.1	1	11
- Pediatric otolaryngology	34	313	9.2	4	21
Pathology-anatomic and clinical	145	3,978	27.4	9	68
- Blood banking/transfusion medicine	53	290	5.5	1	13
- Clinical informatics	10	67	6.7	3	10
- Chemical pathology	4	8	2.0	1	4
- Cytopathology	92	520	5.7	1	15
- Forensic pathology	45	274	6.1	1	22
- Hematopathology	86	545	6.3	1	26
- Medical microbiology	16	39	2.4	0	8
- Neuropathology	39	182	4.7	1	9
- Pediatric pathology	27	204	7.6	2	18
- Selective pathology	116	793	6.8	1	29
Pediatrics	212	8,247	38.9	16	155
- Adolescent medicine	32	212	6.6	2	17
- Child abuse pediatrics	31	129	4.2	1	12
- Clinical informatics	9	75	8.3	2	18
- Developmental-behavioral pediatrics	44	281	6.4	1	14
- Neonatal-perinatal medicine	110	1,667	15.2	2	46
- Pediatric cardiology	64	1,074	16.8	3	55
- Pediatric critical care medicine	77	1,176	15.3	3	42
- Pediatric emergency medicine	56	1,112	19.9	6	59
- Pediatric endocrinology	72	569	7.9	1	26
- Pediatric gastroenterology	67	682	10.2	3	31
- Pediatric hematology/oncology	77	1,188	15.4	4	52
- Pediatric infectious diseases	64	545	8.5	2	28

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
- Pediatric nephrology	47	298	6.3	1	16
- Pediatric pulmonology	57	505	8.9	2	24
- Pediatric rheumatology	38	190	5.0	2	12
- Sports medicine	17	122	7.2	3	14
- Pediatric transplant hepatology	17	92	5.4	2	10
- Pediatric hospital medicine	65	944	14.5	4	29
Physical medicine and rehabilitation	100	2,172	21.7	5	57
- Brain injury medicine	25	154	6.2	2	12
- Neuromuscular medicine	1	5	5.0	5	5
- Spinal cord injury medicine	24	157	6.5	3	13
- Pediatric rehabilitation medicine	22	142	6.5	3	14
- Sports medicine	22	161	7.3	2	16
Plastic surgery	50	744	14.9	4	34
Plastic Surgery - Integrated	88	1,744	19.8	5	56
- Craniofacial surgery	8	25	3.1	1	6
- Hand surgery	18	112	6.2	3	12
Preventive medicine	72	735	10.2	1	34
- Medical toxicology	1	6	6.0	6	6
- Undersea and hyperbaric medicine	1	4	4.0	4	4
Psychiatry	294	6,402	21.8	4	70
- Addiction medicine (multidisciplinary)	91	775	8.5	2	24
- Addiction psychiatry	55	408	7.4	2	19
- Child and adolescent psychiatry	152	1,534	10.1	1	36
- Forensic psychiatry	49	297	6.1	1	15
- Geriatric psychiatry	64	417	6.5	1	15
- Consultation-liaison psychiatry	66	450	6.8	2	27
Radiation oncology	90	1,231	13.7	4	59
Radiology-diagnostic	197	6,718	34.1	8	107
- Abdominal radiology	13	133	10.2	3	15
- Endovascular surgical neuroradiology	3	9	3.0	2	4
- Musculoskeletal radiology	20	137	6.8	1	22
- Neuroradiology	91	872	9.6	1	31
- Nuclear radiology	18	103	5.7	1	21
- Pediatric radiology	47	573	12.2	2	38
Interventional radiology - independent	95	818	8.6	3	26
Interventional radiology - integrated	92	2,379	25.9	9	68
Surgery	353	10,775	30.5	4	136
- Complex general surgical oncology	33	549	16.6	9	31
- Hand surgery	2	22	11.0	9	13
- Pediatric surgery	51	500	9.8	2	21
- Surgical critical care	156	1,580	10.1	2	33
- Vascular surgery	118	896	7.6	2	19
Vascular surgery - integrated	73	981	13.4	3	55
Thoracic surgery	75	1,056	14.1	3	33
- Congenital cardiac surgery	16	66	4.1	1	10
Thoracic surgery - integrated	34	777	22.9	7	84
Urology	148	2,622	17.7	5	40
- Female pelvic medicine and reconstructive surgery	16	122	7.6	2	14
- Pediatric urology	26	133	5.1	2	11
Transitional year	178	2,151	12.1	4	63
Internal medicine/Pediatrics	78	738	9.5	2	22

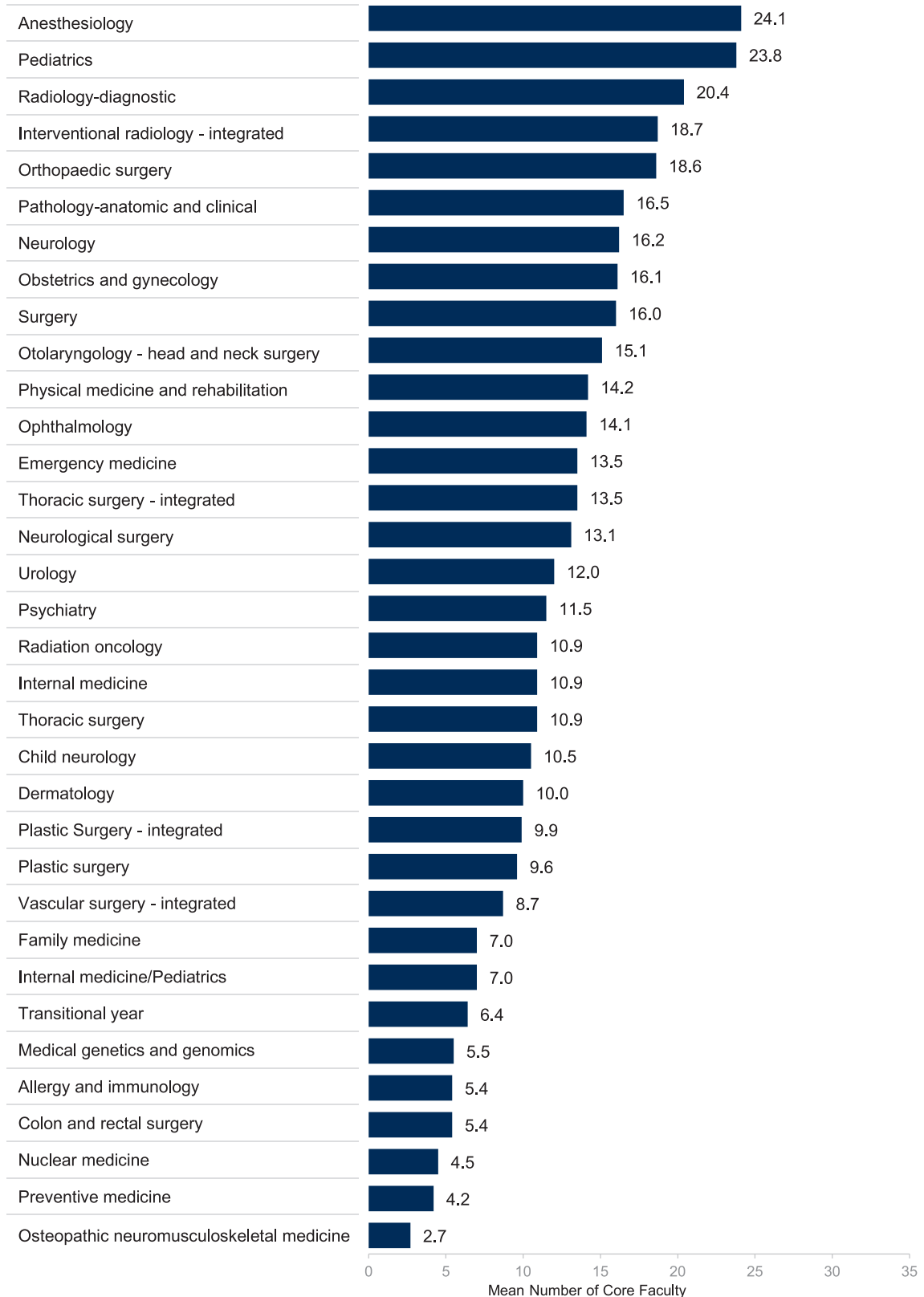
Notes: Excluding program directors. Total number of physician faculty does not represent the count of distinct people as individuals may be listed in more than one program. Total number of distinct physician faculty across all programs= 197,089. Pipeline specialties are highlighted.

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	5,579	71,233	12.8	0	94
Allergy and immunology	84	454	5.4	1	14
Anesthesiology	166	3,999	24.1	5	94
Colon and rectal surgery	67	365	5.4	2	17
Dermatology	143	1,435	10.0	1	28
Emergency medicine	279	3,764	13.5	4	70
Family medicine	722	5,018	7.0	1	32
Internal medicine	601	6,528	10.9	3	56
Medical genetics and genomics	45	249	5.5	1	23
Neurological surgery	118	1,546	13.1	2	29
Neurology	175	2,840	16.2	3	72
Child neurology	79	833	10.5	3	29
Nuclear medicine	37	167	4.5	0	10
Obstetrics and gynecology	299	4,821	16.1	2	59
Ophthalmology	125	1,758	14.1	2	38
Orthopaedic surgery	203	3,773	18.6	2	56
Osteopathic neuromusculoskeletal medicine	28	76	2.7	0	5
Otolaryngology - head and neck surgery	129	1,942	15.1	3	43
Pathology-anatomic and clinical	145	2,398	16.5	3	60
Pediatrics	212	5,050	23.8	4	53
Physical medicine and rehabilitation	100	1,415	14.2	3	50
Plastic surgery	50	478	9.6	2	34
Plastic Surgery - integrated	88	875	9.9	2	34
Preventive medicine	72	302	4.2	0	10
Psychiatry	294	3,376	11.5	2	50
Radiation oncology	90	984	10.9	3	42
Radiology-diagnostic	197	4,027	20.4	6	84
Interventional radiology - integrated	92	1,723	18.7	5	51
Surgery	353	5,665	16.0	1	74
Vascular surgery - integrated	73	634	8.7	3	30
Thoracic surgery	75	821	10.9	3	29
Thoracic surgery - integrated	34	459	13.5	6	27
Urology	148	1,781	12.0	3	38
Transitional year	178	1,131	6.4	2	26
Internal medicine/Pediatrics	78	546	7.0	2	22

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 = 71,233.

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**

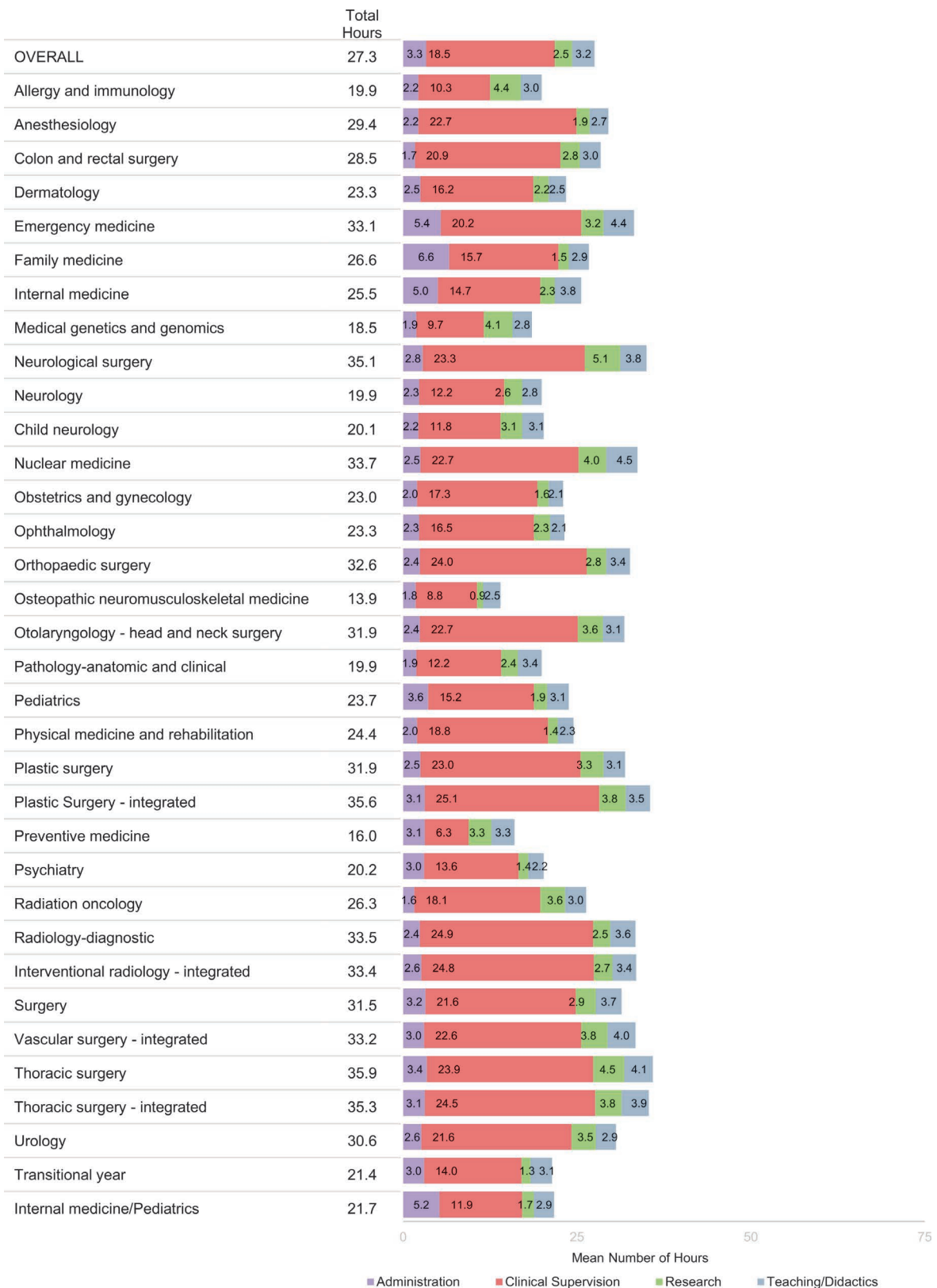


TABLE G.12

## 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	12,740	7,836	61.5%	4,904	38.5%	1,983	15.6%	2,429
TOTAL PIPELINE	5,270	3,270	62.0%	2,000	38.0%	802	15.2%	975
Allergy and immunology	84	53	63.1%	31	36.9%	11	13.1%	12
Anesthesiology	166	83	50.0%	83	50.0%	31	18.7%	37
- Adult cardiothoracic anesthesiology	74	31	41.9%	43	58.1%	14	18.9%	18
- Clinical informatics	1	0	0.0%	1	100.0%	0	0.0%	0
- Critical care medicine	64	30	46.9%	34	53.1%	10	15.6%	13
- Regional anesthesiology and acute pain medicine	40	19	47.5%	21	52.5%	9	22.5%	12
- Obstetric anesthesiology	41	18	43.9%	23	56.1%	9	22.0%	11
- Pain medicine (multidisciplinary)	114	69	60.5%	45	39.5%	18	15.8%	26
- Pediatric anesthesiology	61	29	47.5%	32	52.5%	5	8.2%	6
Colon and rectal surgery	67	40	59.7%	27	40.3%	13	19.4%	17
Dermatology	143	109	76.2%	34	23.8%	28	19.6%	33
- Dermatopathology (multidisciplinary)	57	37	64.9%	20	35.1%	8	14.0%	10
- Micrographic surgery and dermatologic oncology	77	63	81.8%	14	18.2%	13	16.9%	15
- Pediatric dermatology	17	12	70.6%	5	29.4%	3	17.6%	3
Emergency medicine	279	158	56.6%	121	43.4%	54	19.4%	73
- Clinical informatics	5	3	60.0%	2	40.0%	2	40.0%	2
- Emergency medical services	79	54	68.4%	25	31.6%	9	11.4%	11
- Medical toxicology	28	18	64.3%	10	35.7%	5	17.9%	6
- Pediatric emergency medicine	29	20	69.0%	9	31.0%	4	13.8%	4
- Sports medicine	10	4	40.0%	6	60.0%	0	0.0%	0
- Undersea and hyperbaric medicine	8	5	62.5%	3	37.5%	0	0.0%	0
Family medicine	722	528	73.1%	194	26.9%	106	14.7%	123
- Clinical informatics	7	3	42.9%	4	57.1%	2	28.6%	2
- Geriatric medicine	46	40	87.0%	6	13.0%	6	13.0%	6
- Hospice and palliative medicine (multidisciplinary)	187	136	72.7%	51	27.3%	29	15.5%	31
- Sports medicine	161	125	77.6%	36	22.4%	26	16.1%	28
Internal medicine	601	344	57.2%	257	42.8%	95	15.8%	113
- Adult congenital heart disease	26	10	38.5%	16	61.5%	3	11.5%	3
- Advanced heart failure and transplant cardiology	86	44	51.2%	42	48.8%	10	11.6%	11
- Cardiovascular disease	268	178	66.4%	90	33.6%	47	17.5%	58
- Clinical cardiac electrophysiology	115	65	56.5%	50	43.5%	19	16.5%	20
- Clinical informatics	23	13	56.5%	10	43.5%	4	17.4%	4
- Critical care medicine	62	44	71.0%	18	29.0%	10	16.1%	12
- Endocrinology, diabetes, and metabolism	157	111	70.7%	46	29.3%	19	12.1%	25
- Gastroenterology	222	164	73.9%	58	26.1%	38	17.1%	48
- Geriatric medicine	117	85	72.6%	32	27.4%	21	17.9%	26
- Hematology	2	1	50.0%	1	50.0%	0	0.0%	0
- Hematology and medical oncology	180	118	65.6%	62	34.4%	33	18.3%	47
- Infectious disease	163	107	65.6%	56	34.4%	23	14.1%	27
- Interventional cardiology	177	112	63.3%	65	36.7%	24	13.6%	26
- Nephrology	151	111	73.5%	40	26.5%	21	13.9%	25
- Medical oncology	5	3	60.0%	2	40.0%	0	0.0%	0
- Pulmonary disease	22	17	77.3%	5	22.7%	4	18.2%	4
- Pulmonary disease and critical care medicine	196	139	70.9%	57	29.1%	33	16.8%	38
- Rheumatology	128	84	65.6%	44	34.4%	19	14.8%	25
- Sleep medicine (multidisciplinary)	92	60	65.2%	32	34.8%	19	20.7%	26
- Transplant hepatology	62	41	66.1%	21	33.9%	8	12.9%	10
Medical genetics and genomics	45	28	62.2%	17	37.8%	7	15.6%	9
- Medical biochemical genetics	20	11	55.0%	9	45.0%	3	15.0%	3
- Molecular genetic pathology (multidisciplinary)	42	18	42.9%	24	57.1%	6	14.3%	8
Neurological surgery	118	78	66.1%	40	33.9%	8	6.8%	9
- Endovascular surgical neuroradiology	3	3	100.0%	0	0.0%	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	175	106	60.6%	69	39.4%	19	10.9%	22
- Brain injury medicine	1	0	0.0%	1	100.0%	0	0.0%	0
- Clinical neurophysiology	94	51	54.3%	43	45.7%	19	20.2%	25
- Epilepsy	93	54	58.1%	39	41.9%	12	12.9%	21
- Neurocritical care (multidisciplinary)	7	7	100.0%	0	0.0%	0	0.0%	0
- Endovascular surgical neuroradiology	2	1	50.0%	1	50.0%	1	50.0%	1
- Neurodevelopmental disabilities	8	4	50.0%	4	50.0%	0	0.0%	0
- Neuromuscular medicine	55	30	54.5%	25	45.5%	11	20.0%	22
- Vascular neurology	112	70	62.5%	42	37.5%	20	17.9%	30
Child neurology	79	47	59.5%	32	40.5%	11	13.9%	12
Nuclear medicine	37	25	67.6%	12	32.4%	6	16.2%	6
Obstetrics and gynecology	299	186	62.2%	113	37.8%	48	16.1%	64
- Female pelvic medicine and reconstructive surgery	55	27	49.1%	28	50.9%	5	9.1%	5
- Gynecologic oncology	67	40	59.7%	27	40.3%	9	13.4%	12
- Maternal-fetal medicine	101	61	60.4%	40	39.6%	12	11.9%	14
- Reproductive endocrinology and infertility	49	23	46.9%	26	53.1%	6	12.2%	9
- Complex family planning	29	11	37.9%	18	62.1%	5	17.2%	6
Ophthalmology	125	85	68.0%	40	32.0%	18	14.4%	24
- Ophthalmic plastic and reconstructive surgery	4	3	75.0%	1	25.0%	0	0.0%	0
Orthopaedic surgery	203	120	59.1%	83	40.9%	28	13.8%	31
- Adult reconstructive orthopaedics	24	16	66.7%	8	33.3%	2	8.3%	2
- Foot and ankle orthopaedics	8	5	62.5%	3	37.5%	1	12.5%	1
- Hand surgery	73	44	60.3%	29	39.7%	9	12.3%	13
- Musculoskeletal oncology	12	5	41.7%	7	58.3%	1	8.3%	1
- Orthopaedic sports medicine	93	49	52.7%	44	47.3%	9	9.7%	11
- Orthopaedic surgery of the spine	15	10	66.7%	5	33.3%	1	6.7%	1
- Orthopaedic trauma	12	4	33.3%	8	66.7%	1	8.3%	2
- Pediatric orthopaedics	24	14	58.3%	10	41.7%	4	16.7%	4
Osteopathic neuromusculoskeletal medicine	28	21	75.0%	7	25.0%	9	32.1%	10
Otolaryngology - head and neck surgery	129	89	69.0%	40	31.0%	18	14.0%	22
- Neurotology	28	23	82.1%	5	17.9%	2	7.1%	2
- Pediatric otolaryngology	34	18	52.9%	16	47.1%	2	5.9%	2
Pathology-anatomic and clinical	145	91	62.8%	54	37.2%	22	15.2%	30
- Blood banking/transfusion medicine	53	32	60.4%	21	39.6%	9	17.0%	12
- Clinical informatics	10	6	60.0%	4	40.0%	2	20.0%	3
- Chemical pathology	4	4	100.0%	0	0.0%	0	0.0%	0
- Cytopathology	92	55	59.8%	37	40.2%	8	8.7%	10
- Forensic pathology	45	28	62.2%	17	37.8%	5	11.1%	5
- Hematopathology	86	48	55.8%	38	44.2%	12	14.0%	16
- Medical microbiology	16	5	31.3%	11	68.8%	2	12.5%	2
- Neuropathology	39	16	41.0%	23	59.0%	5	12.8%	6
- Pediatric pathology	27	12	44.4%	15	55.6%	6	22.2%	8
- Selective pathology	116	54	46.6%	62	53.4%	12	10.3%	14
Pediatrics	212	126	59.4%	86	40.6%	29	13.7%	33
- Adolescent medicine	32	15	46.9%	17	53.1%	5	15.6%	5
- Child abuse pediatrics	31	23	74.2%	8	25.8%	4	12.9%	4
- Clinical informatics	9	4	44.4%	5	55.6%	0	0.0%	0
- Developmental-behavioral pediatrics	44	32	72.7%	12	27.3%	8	18.2%	11
- Neonatal-perinatal medicine	110	66	60.0%	44	40.0%	17	15.5%	22
- Pediatric cardiology	64	28	43.8%	36	56.3%	12	18.8%	18
- Pediatric critical care medicine	77	37	48.1%	40	51.9%	18	23.4%	19
- Pediatric emergency medicine	56	28	50.0%	28	50.0%	13	23.2%	18
- Pediatric endocrinology	72	35	48.6%	37	51.4%	11	15.3%	14
- Pediatric gastroenterology	67	32	47.8%	35	52.2%	8	11.9%	13
- Pediatric hematology/oncology	77	40	51.9%	37	48.1%	18	23.4%	23
- Pediatric infectious diseases	64	33	51.6%	31	48.4%	12	18.8%	15

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	47	20	42.6%	27	57.4%	8	17.0%	10
- Pediatric pulmonology	57	35	61.4%	22	38.6%	12	21.1%	14
- Pediatric rheumatology	38	16	42.1%	22	57.9%	9	23.7%	13
- Sports medicine	17	10	58.8%	7	41.2%	5	29.4%	5
- Pediatric transplant hepatology	17	9	52.9%	8	47.1%	3	17.6%	3
- Pediatric hospital medicine	65	38	58.5%	27	41.5%	19	29.2%	22
Physical medicine and rehabilitation	100	71	71.0%	29	29.0%	12	12.0%	14
- Brain injury medicine	25	19	76.0%	6	24.0%	3	12.0%	5
- Neuromuscular medicine	1	1	100.0%	0	0.0%	0	0.0%	0
- Spinal cord injury medicine	24	19	79.2%	5	20.8%	3	12.5%	5
- Pediatric rehabilitation medicine	22	11	50.0%	11	50.0%	2	9.1%	3
- Sports medicine	22	12	54.5%	10	45.5%	2	9.1%	2
Plastic surgery	50	34	68.0%	16	32.0%	8	16.0%	9
Plastic surgery - integrated	88	53	60.2%	35	39.8%	15	17.0%	17
- Craniofacial surgery	8	3	37.5%	5	62.5%	0	0.0%	0
- Hand surgery	18	12	66.7%	6	33.3%	2	11.1%	2
Preventive medicine	72	60	83.3%	12	16.7%	6	8.3%	8
- Medical toxicology	1	0	0.0%	1	100.0%	0	0.0%	0
- Undersea and hyperbaric medicine	1	0	0.0%	1	100.0%	0	0.0%	0
Psychiatry	294	203	69.0%	91	31.0%	49	16.7%	56
- Addiction medicine (multidisciplinary)	91	55	60.4%	36	39.6%	19	20.9%	20
- Addiction psychiatry	55	32	58.2%	23	41.8%	7	12.7%	7
- Child and adolescent psychiatry	152	107	70.4%	45	29.6%	23	15.1%	24
- Forensic psychiatry	49	32	65.3%	17	34.7%	9	18.4%	10
- Geriatric psychiatry	64	40	62.5%	24	37.5%	8	12.5%	8
- Consultation-liaison psychiatry	66	46	69.7%	20	30.3%	7	10.6%	9
Radiation oncology	90	62	68.9%	28	31.1%	3	3.3%	3
Radiology-diagnostic	197	96	48.7%	101	51.3%	23	11.7%	29
- Abdominal radiology	13	6	46.2%	7	53.8%	2	15.4%	3
- Endovascular surgical neuroradiology	3	1	33.3%	2	66.7%	1	33.3%	1
- Musculoskeletal radiology	20	8	40.0%	12	60.0%	4	20.0%	4
- Neuroradiology	91	47	51.6%	44	48.4%	18	19.8%	20
- Nuclear radiology	18	8	44.4%	10	55.6%	4	22.2%	4
- Pediatric radiology	47	30	63.8%	17	36.2%	3	6.4%	4
Interventional radiology - independent	95	43	45.3%	52	54.7%	22	23.2%	25
Interventional radiology - integrated	92	34	37.0%	58	63.0%	17	18.5%	22
Surgery	353	187	53.0%	166	47.0%	57	16.1%	75
- Complex general surgical oncology	33	18	54.5%	15	45.5%	5	15.2%	8
- Hand surgery	2	1	50.0%	1	50.0%	0	0.0%	0
- Pediatric surgery	51	26	51.0%	25	49.0%	8	15.7%	8
- Surgical critical care	156	91	58.3%	65	41.7%	28	17.9%	31
- Vascular surgery	118	67	56.8%	51	43.2%	22	18.6%	27
Vascular surgery - integrated	73	31	42.5%	42	57.5%	16	21.9%	19
Thoracic surgery	75	36	48.0%	39	52.0%	15	20.0%	20
- Congenital cardiac surgery	16	9	56.3%	7	43.8%	3	18.8%	4
Thoracic surgery - integrated	34	13	38.2%	21	61.8%	8	23.5%	13
Urology	148	105	70.9%	43	29.1%	21	14.2%	25
- Female pelvic medicine and reconstructive surgery	16	8	50.0%	8	50.0%	3	18.8%	4
- Pediatric urology	26	16	61.5%	10	38.5%	0	0.0%	0
Transitional year	178	126	70.8%	52	29.2%	45	25.3%	53
Internal medicine/Pediatrics	78	54	69.2%	24	30.8%	8	10.3%	9

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 2021-2022 academic year.

## **Pain Management and Recognition of Addiction**

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

- Pharmacologic pain management (90.1%)
- Recognition of dependence and addiction (89.9%)
- Opioid prescribing (89.6%)
- Non-pharmacologic pain management (84.0%)

A similar trend can be seen in subspecialty programs. ↗

TABLE H.1									
Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Addiction 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 Addiction	
		#	%	#	%	#	%	#	%
OVERALL	12,740	9,987	78.4%	10,642	83.5%	10,281	80.7%	10,642	83.5%
TOTAL PIPELINE	5,270	4,448	84.4%	4,761	90.3%	4,730	89.8%	4,741	90.0%
Allergy and immunology	84	44	52.4%	48	57.1%	47	56.0%	56	66.7%
Anesthesiology	166	160	96.4%	166	100.0%	162	97.6%	166	100.0%
- Adult cardiothoracic anesthesiology	74	56	75.7%	69	93.2%	44	59.5%	65	87.8%
- Clinical informatics	1	0	0.0%	0	0.0%	1	100.0%	1	100.0%
- Critical care medicine	64	56	87.5%	63	98.4%	50	78.1%	57	89.1%
- Regional anesthesiology and acute pain medicine	40	39	97.5%	39	97.5%	40	100.0%	38	95.0%
- Obstetric anesthesiology	41	34	82.9%	40	97.6%	33	80.5%	38	92.7%
- Pain medicine (multidisciplinary)	114	114	100.0%	114	100.0%	114	100.0%	113	99.1%
- Pediatric anesthesiology	61	58	95.1%	60	98.4%	50	82.0%	56	91.8%
Colon and rectal surgery	67	49	73.1%	62	92.5%	65	97.0%	57	85.1%
Dermatology	143	105	73.4%	118	82.5%	105	73.4%	107	74.8%
- Dermatopathology (multidisciplinary)	57	11	19.3%	14	24.6%	19	33.3%	21	36.8%
- Micrographic surgery and dermatologic oncology	77	62	80.5%	64	83.1%	66	85.7%	63	81.8%
- Pediatric Dermatology	17	12	70.6%	14	82.4%	8	47.1%	12	70.6%
Emergency medicine	279	256	91.8%	274	98.2%	276	98.9%	276	98.9%
- Clinical informatics	5	0	0.0%	3	60.0%	3	60.0%	1	20.0%
- Emergency medical services	79	70	88.6%	75	94.9%	67	84.8%	70	88.6%
- Medical toxicology	28	25	89.3%	28	100.0%	27	96.4%	28	100.0%
- Pediatric emergency medicine	29	28	96.6%	28	96.6%	27	93.1%	28	96.6%
- Sports medicine	10	8	80.0%	8	80.0%	9	90.0%	10	100.0%
- Undersea and hyperbaric medicine	8	7	87.5%	6	75.0%	5	62.5%	6	75.0%
Family medicine	722	712	98.6%	717	99.3%	713	98.8%	710	98.3%
- Clinical informatics	7	5	71.4%	5	71.4%	5	71.4%	4	57.1%
- Geriatric medicine	46	44	95.7%	45	97.8%	43	93.5%	45	97.8%
- Hospice and palliative medicine (multidisciplinary)	187	183	97.9%	185	98.9%	185	98.9%	183	97.9%
- Sports medicine	161	156	96.9%	153	95.0%	134	83.2%	135	83.9%
Internal medicine	601	557	92.7%	584	97.2%	582	96.8%	577	96.0%
- Adult congenital heart disease	26	14	53.8%	15	57.7%	10	38.5%	17	65.4%
- Advanced heart failure and transplant cardiology	86	61	70.9%	69	80.2%	56	65.1%	67	77.9%
- Cardiovascular disease	268	179	66.8%	203	75.7%	196	73.1%	218	81.3%
- Clinical cardiac electrophysiology	115	77	67.0%	87	75.7%	88	76.5%	84	73.0%
- Clinical informatics	23	15	65.2%	15	65.2%	17	73.9%	12	52.2%
- Critical care medicine	62	51	82.3%	59	95.2%	50	80.6%	54	87.1%
- Endocrinology, diabetes, and metabolism	157	84	53.5%	91	58.0%	83	52.9%	98	62.4%
- Gastroenterology	222	178	80.2%	191	86.0%	173	77.9%	182	82.0%
- Geriatric medicine	117	114	97.4%	116	99.1%	113	96.6%	107	91.5%
- Hematology	2	2	100.0%	2	100.0%	1	50.0%	1	50.0%
- Hematology and medical oncology	180	156	86.7%	175	97.2%	172	95.6%	153	85.0%
- Infectious disease	163	92	56.4%	91	55.8%	93	57.1%	136	83.4%
- Interventional cardiology	177	122	68.9%	133	75.1%	121	68.4%	138	78.0%
- Nephrology	151	101	66.9%	122	80.8%	107	70.9%	109	72.2%
- Medical oncology	5	4	80.0%	5	100.0%	4	80.0%	3	60.0%
- Pulmonary disease	22	17	77.3%	19	86.4%	20	90.9%	20	90.9%
- Pulmonary disease and critical care medicine	196	149	76.0%	179	91.3%	165	84.2%	165	84.2%
- Rheumatology	128	121	94.5%	122	95.3%	105	82.0%	101	78.9%
- Sleep medicine (multidisciplinary)	92	52	56.5%	49	53.3%	63	68.5%	69	75.0%
- Transplant hepatology	62	46	74.2%	47	75.8%	45	72.6%	55	88.7%
Medical genetics and genomics	45	22	48.9%	22	48.9%	19	42.2%	30	66.7%
- Medical biochemical genetics	20	11	55.0%	11	55.0%	9	45.0%	12	60.0%
- Molecular genetic pathology (multidisciplinary)	42	10	23.8%	9	21.4%	7	16.7%	16	38.1%
Neurological surgery	118	101	85.6%	108	91.5%	112	94.9%	108	91.5%
- Endovascular surgical neuroradiology	3	2	66.7%	2	66.7%	3	100.0%	1	33.3%

TABLE H.1 *Extended*

Referral for Dependence and Addiction Treatment		Treatment of Dependence and Addiction		Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		None of The Above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%
8,995	70.6%	5,777	45.3%	2,376	18.6%	1,942	15.2%	83	0.7%	251	2.0%	351	2.8%
4,228	80.2%	2,965	56.3%	1,400	26.6%	1,144	21.7%	31	0.6%	58	1.1%	58	1.1%
43	51.2%	14	16.7%	5	6.0%	4	4.8%	1	1.2%	3	3.6%	4	4.8%
144	86.7%	133	80.1%	37	22.3%	32	19.3%	0	0.0%	0	0.0%	0	0.0%
39	52.7%	26	35.1%	4	5.4%	4	5.4%	0	0.0%	0	0.0%	1	1.4%
0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
41	64.1%	37	57.8%	5	7.8%	5	7.8%	0	0.0%	0	0.0%	0	0.0%
35	87.5%	29	72.5%	9	22.5%	8	20.0%	0	0.0%	0	0.0%	0	0.0%
25	61.0%	24	58.5%	4	9.8%	7	17.1%	0	0.0%	0	0.0%	0	0.0%
111	97.4%	97	85.1%	57	50.0%	53	46.5%	1	0.9%	0	0.0%	0	0.0%
39	63.9%	30	49.2%	2	3.3%	4	6.6%	0	0.0%	0	0.0%	0	0.0%
45	67.2%	25	37.3%	6	9.0%	3	4.5%	0	0.0%	0	0.0%	0	0.0%
85	59.4%	20	14.0%	5	3.5%	6	4.2%	0	0.0%	0	0.0%	4	2.8%
14	24.6%	6	10.5%	2	3.5%	1	1.8%	0	0.0%	11	19.3%	15	26.3%
41	53.2%	14	18.2%	4	5.2%	6	7.8%	1	1.3%	0	0.0%	2	2.6%
12	70.6%	2	11.8%	0	0.0%	0	0.0%	0	0.0%	1	5.9%	0	0.0%
267	95.7%	245	87.8%	159	57.0%	109	39.1%	5	1.8%	0	0.0%	0	0.0%
1	20.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	1	20.0%
58	73.4%	52	65.8%	35	44.3%	18	22.8%	1	1.3%	0	0.0%	0	0.0%
27	96.4%	27	96.4%	25	89.3%	21	75.0%	0	0.0%	0	0.0%	0	0.0%
20	69.0%	14	48.3%	5	17.2%	2	6.9%	0	0.0%	0	0.0%	0	0.0%
9	90.0%	3	30.0%	2	20.0%	1	10.0%	0	0.0%	0	0.0%	0	0.0%
7	87.5%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	1	12.5%	0	0.0%
698	96.7%	595	82.4%	418	57.9%	335	46.4%	3	0.4%	0	0.0%	0	0.0%
5	71.4%	5	71.4%	3	42.9%	1	14.3%	0	0.0%	2	28.6%	0	0.0%
41	89.1%	26	56.5%	16	34.8%	13	28.3%	0	0.0%	0	0.0%	0	0.0%
173	92.5%	126	67.4%	66	35.3%	39	20.9%	3	1.6%	0	0.0%	0	0.0%
115	71.4%	47	29.2%	18	11.2%	12	7.5%	1	0.6%	0	0.0%	2	1.2%
544	90.5%	443	73.7%	176	29.3%	128	21.3%	5	0.8%	0	0.0%	1	0.2%
14	53.8%	5	19.2%	1	3.8%	1	3.8%	0	0.0%	1	3.8%	3	11.5%
50	58.1%	20	23.3%	4	4.7%	4	4.7%	0	0.0%	0	0.0%	4	4.7%
161	60.1%	83	31.0%	18	6.7%	16	6.0%	1	0.4%	2	0.7%	5	1.9%
62	53.9%	24	20.9%	4	3.5%	3	2.6%	2	1.7%	0	0.0%	5	4.3%
12	52.2%	6	26.1%	4	17.4%	0	0.0%	0	0.0%	2	8.7%	3	13.0%
42	67.7%	34	54.8%	9	14.5%	8	12.9%	0	0.0%	0	0.0%	0	0.0%
86	54.8%	34	21.7%	9	5.7%	5	3.2%	1	0.6%	11	7.0%	9	5.7%
164	73.9%	72	32.4%	14	6.3%	13	5.9%	1	0.5%	0	0.0%	4	1.8%
93	79.5%	54	46.2%	24	20.5%	19	16.2%	1	0.9%	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%
125	69.4%	56	31.1%	19	10.6%	13	7.2%	1	0.6%	0	0.0%	0	0.0%
127	77.9%	58	35.6%	23	14.1%	12	7.4%	2	1.2%	2	1.2%	7	4.3%
106	59.9%	51	28.8%	13	7.3%	13	7.3%	1	0.6%	1	0.6%	5	2.8%
100	66.2%	40	26.5%	10	6.6%	9	6.0%	2	1.3%	2	1.3%	4	2.6%
2	40.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
16	72.7%	12	54.5%	3	13.6%	3	13.6%	0	0.0%	0	0.0%	1	4.5%
138	70.4%	81	41.3%	20	10.2%	12	6.1%	0	0.0%	0	0.0%	2	1.0%
80	62.5%	23	18.0%	5	3.9%	2	1.6%	2	1.6%	0	0.0%	1	0.8%
45	48.9%	18	19.6%	5	5.4%	6	6.5%	0	0.0%	1	1.1%	2	2.2%
49	79.0%	29	46.8%	2	3.2%	3	4.8%	0	0.0%	0	0.0%	0	0.0%
22	48.9%	11	24.4%	3	6.7%	4	8.9%	2	4.4%	3	6.7%	5	11.1%
7	35.0%	3	15.0%	2	10.0%	2	10.0%	0	0.0%	2	10.0%	4	20.0%
13	31.0%	7	16.7%	1	2.4%	0	0.0%	0	0.0%	13	31.0%	9	21.4%
90	76.3%	53	44.9%	16	13.6%	16	13.6%	1	0.8%	0	0.0%	0	0.0%
1	33.3%	1	33.3%	1	33.3%	1	33.3%	0	0.0%	0	0.0%	0	0.0%



TABLE H.1 <i>Continued</i>									
Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Addiction 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 Addiction	
		#	%	#	%	#	%	#	%
Neurology	175	159	90.9%	172	98.3%	147	84.0%	158	90.3%
- Brain injury medicine	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%
- Clinical neurophysiology	94	67	71.3%	74	78.7%	59	62.8%	68	72.3%
- Epilepsy	93	54	58.1%	58	62.4%	56	60.2%	65	69.9%
- Neurocritical care (multidisciplinary)	7	7	100.0%	7	100.0%	5	71.4%	7	100.0%
- Endovascular surgical neuroradiology	2	2	100.0%	2	100.0%	1	50.0%	2	100.0%
- Neurodevelopmental disabilities	8	8	100.0%	7	87.5%	4	50.0%	5	62.5%
- Neuromuscular medicine	55	48	87.3%	51	92.7%	34	61.8%	41	74.5%
- Vascular neurology	112	90	80.4%	91	81.3%	72	64.3%	85	75.9%
Child neurology	79	75	94.9%	77	97.5%	54	68.4%	62	78.5%
Nuclear medicine	37	24	64.9%	22	59.5%	22	59.5%	24	64.9%
Obstetrics and gynecology	299	271	90.6%	292	97.7%	288	96.3%	287	96.0%
- Female pelvic medicine and reconstructive surgery	55	52	94.5%	54	98.2%	54	98.2%	44	80.0%
- Gynecologic oncology	67	61	91.0%	66	98.5%	66	98.5%	61	91.0%
- Maternal-fetal medicine	101	93	92.1%	95	94.1%	95	94.1%	98	97.0%
- Reproductive endocrinology and infertility	49	45	91.8%	48	98.0%	43	87.8%	37	75.5%
- Complex family planning	29	29	100.0%	29	100.0%	28	96.6%	28	96.6%
Ophthalmology	125	83	66.4%	96	76.8%	96	76.8%	88	70.4%
- Ophthalmic plastic and reconstructive surgery	4	3	75.0%	4	100.0%	3	75.0%	3	75.0%
Orthopaedic surgery	203	185	91.1%	193	95.1%	199	98.0%	185	91.1%
- Adult reconstructive orthopaedics	24	21	87.5%	21	87.5%	22	91.7%	21	87.5%
- Foot and ankle orthopaedics	8	7	87.5%	8	100.0%	8	100.0%	7	87.5%
- Hand surgery	73	64	87.7%	64	87.7%	68	93.2%	63	86.3%
- Musculoskeletal oncology	12	8	66.7%	10	83.3%	12	100.0%	8	66.7%
- Orthopaedic sports medicine	93	88	94.6%	84	90.3%	89	95.7%	81	87.1%
- Orthopaedic surgery of the spine	15	13	86.7%	15	100.0%	15	100.0%	14	93.3%
- Orthopaedic trauma	12	11	91.7%	12	100.0%	12	100.0%	12	100.0%
- Pediatric orthopaedics	24	22	91.7%	22	91.7%	24	100.0%	20	83.3%
Osteopathic neuromusculoskeletal medicine	28	28	100.0%	28	100.0%	27	96.4%	28	100.0%
Otolaryngology - head and neck surgery	129	102	79.1%	121	93.8%	127	98.4%	119	92.2%
- Neurotology	28	24	85.7%	25	89.3%	27	96.4%	24	85.7%
- Pediatric otolaryngology	34	26	76.5%	30	88.2%	31	91.2%	23	67.6%
Pathology-anatomic and clinical	145	31	21.4%	31	21.4%	40	27.6%	66	45.5%
- Blood banking/transfusion medicine	53	8	15.1%	10	18.9%	13	24.5%	15	28.3%
- Clinical informatics	10	5	50.0%	4	40.0%	5	50.0%	4	40.0%
- Chemical pathology	4	1	25.0%	1	25.0%	0	0.0%	0	0.0%
- Cytopathology	92	22	23.9%	23	25.0%	25	27.2%	37	40.2%
- Forensic pathology	45	3	6.7%	5	11.1%	6	13.3%	20	44.4%
- Hematopathology	86	16	18.6%	18	20.9%	22	25.6%	40	46.5%
- Medical microbiology	16	4	25.0%	4	25.0%	4	25.0%	5	31.3%
- Neuropathology	39	8	20.5%	9	23.1%	7	17.9%	15	38.5%
- Pediatric pathology	27	2	7.4%	3	11.1%	6	22.2%	11	40.7%
- Selective pathology	116	16	13.8%	16	13.8%	27	23.3%	40	34.5%
Pediatrics	212	202	95.3%	210	99.1%	194	91.5%	199	93.9%
- Adolescent medicine	32	29	90.6%	26	81.3%	20	62.5%	31	96.9%
- Child abuse pediatrics	31	17	54.8%	14	45.2%	13	41.9%	24	77.4%
- Clinical informatics	9	2	22.2%	4	44.4%	6	66.7%	3	33.3%
- Developmental-behavioral pediatrics	44	31	70.5%	23	52.3%	24	54.5%	38	86.4%
- Neonatal-perinatal medicine	110	104	94.5%	105	95.5%	88	80.0%	82	74.5%
- Pediatric cardiology	64	47	73.4%	54	84.4%	48	75.0%	45	70.3%
- Pediatric critical care medicine	77	73	94.8%	76	98.7%	65	84.4%	62	80.5%
- Pediatric emergency medicine	56	50	89.3%	56	100.0%	54	96.4%	44	78.6%
- Pediatric endocrinology	72	35	48.6%	34	47.2%	37	51.4%	44	61.1%
- Pediatric gastroenterology	67	56	83.6%	55	82.1%	52	77.6%	54	80.6%
- Pediatric hematology/oncology	77	75	97.4%	77	100.0%	74	96.1%	67	87.0%
- Pediatric infectious diseases	64	37	57.8%	39	60.9%	40	62.5%	44	68.8%

TABLE H.1 Continued, Extended

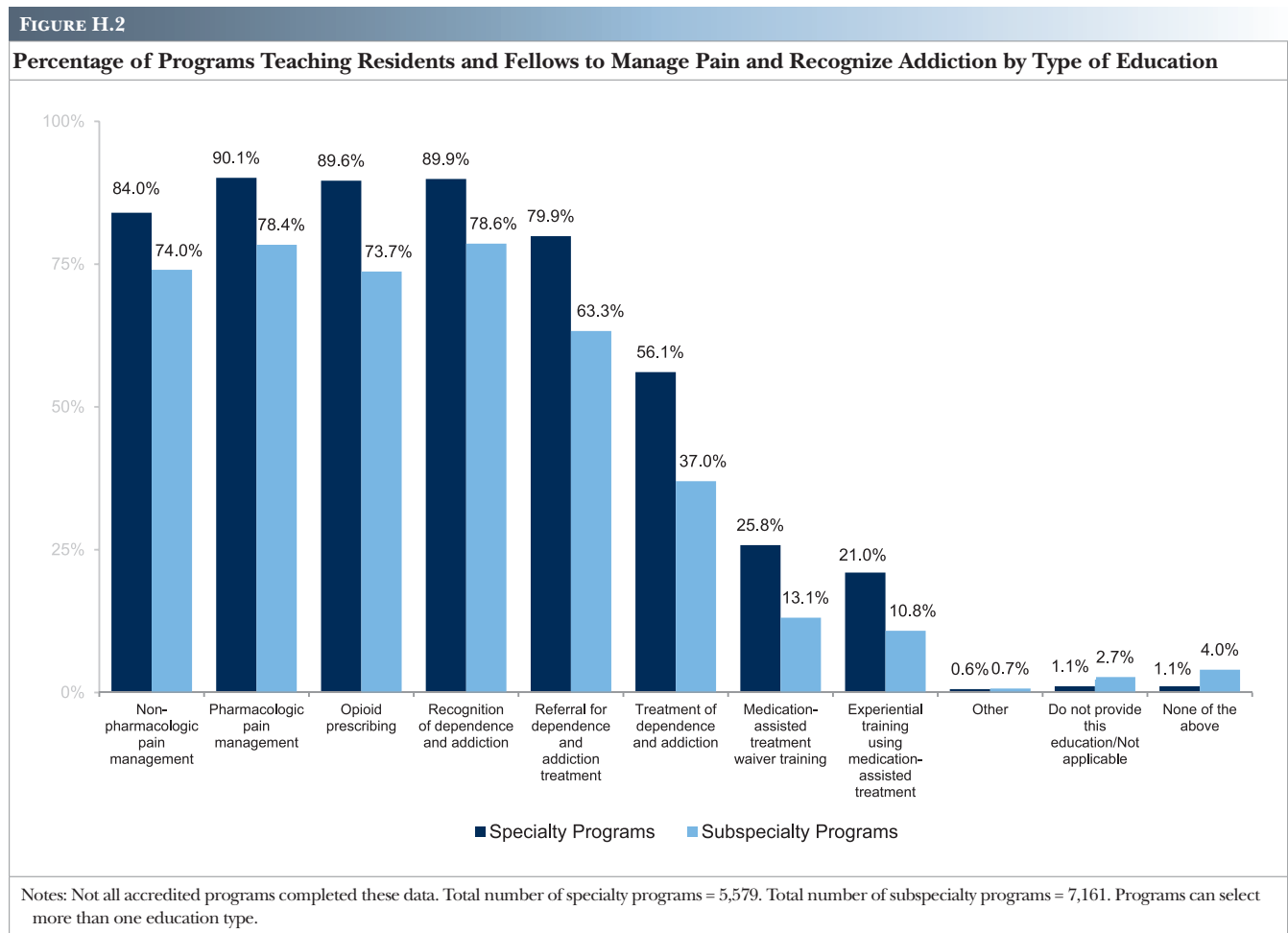
Referral for Dependence and Addiction Treatment		Treatment of Dependence and Addiction		Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		None of The Above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%
141	80.6%	73	41.7%	15	8.6%	14	8.0%	1	0.6%	0	0.0%	0	0.0%
1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
56	59.6%	22	23.4%	1	1.1%	1	1.1%	0	0.0%	2	2.1%	4	4.3%
46	49.5%	17	18.3%	2	2.2%	3	3.2%	1	1.1%	0	0.0%	6	6.5%
6	85.7%	3	42.9%	1	14.3%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
2	25.0%	1	12.5%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
38	69.1%	11	20.0%	2	3.6%	1	1.8%	0	0.0%	0	0.0%	1	1.8%
68	60.7%	26	23.2%	6	5.4%	5	4.5%	0	0.0%	1	0.9%	0	0.0%
46	58.2%	22	27.8%	3	3.8%	3	3.8%	0	0.0%	0	0.0%	0	0.0%
19	51.4%	13	35.1%	6	16.2%	5	13.5%	0	0.0%	2	5.4%	3	8.1%
276	92.3%	187	62.5%	78	26.1%	75	25.1%	1	0.3%	0	0.0%	0	0.0%
35	63.6%	11	20.0%	4	7.3%	1	1.8%	0	0.0%	0	0.0%	0	0.0%
49	73.1%	19	28.4%	8	11.9%	3	4.5%	1	1.5%	0	0.0%	0	0.0%
95	94.1%	75	74.3%	42	41.6%	32	31.7%	1	1.0%	0	0.0%	0	0.0%
27	55.1%	10	20.4%	3	6.1%	2	4.1%	0	0.0%	0	0.0%	0	0.0%
24	82.8%	8	27.6%	3	10.3%	1	3.4%	0	0.0%	0	0.0%	0	0.0%
72	57.6%	26	20.8%	5	4.0%	3	2.4%	1	0.8%	1	0.8%	3	2.4%
3	75.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
160	78.8%	77	37.9%	28	13.8%	19	9.4%	0	0.0%	0	0.0%	0	0.0%
16	66.7%	7	29.2%	3	12.5%	4	16.7%	0	0.0%	0	0.0%	1	4.2%
7	87.5%	3	37.5%	1	12.5%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
51	69.9%	24	32.9%	7	9.6%	4	5.5%	2	2.7%	0	0.0%	1	1.4%
5	41.7%	3	25.0%	1	8.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
66	71.0%	27	29.0%	9	9.7%	7	7.5%	2	2.2%	0	0.0%	0	0.0%
11	73.3%	3	20.0%	1	6.7%	1	6.7%	0	0.0%	0	0.0%	0	0.0%
8	66.7%	4	33.3%	2	16.7%	2	16.7%	0	0.0%	0	0.0%	0	0.0%
12	50.0%	3	12.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
24	85.7%	14	50.0%	5	17.9%	5	17.9%	0	0.0%	0	0.0%	0	0.0%
102	79.1%	44	34.1%	9	7.0%	4	3.1%	0	0.0%	0	0.0%	0	0.0%
17	60.7%	6	21.4%	4	14.3%	2	7.1%	0	0.0%	0	0.0%	0	0.0%
17	50.0%	5	14.7%	2	5.9%	3	8.8%	0	0.0%	0	0.0%	0	0.0%
47	32.4%	24	16.6%	3	2.1%	4	2.8%	1	0.7%	37	25.5%	29	20.0%
12	22.6%	4	7.5%	0	0.0%	0	0.0%	1	1.9%	11	20.8%	17	32.1%
2	20.0%	1	10.0%	0	0.0%	1	10.0%	0	0.0%	1	10.0%	2	20.0%
2	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%
22	23.9%	14	15.2%	0	0.0%	1	1.1%	0	0.0%	21	22.8%	21	22.8%
5	11.1%	3	6.7%	0	0.0%	0	0.0%	3	6.7%	9	20.0%	15	33.3%
26	30.2%	14	16.3%	1	1.2%	2	2.3%	0	0.0%	14	16.3%	25	29.1%
3	18.8%	3	18.8%	0	0.0%	0	0.0%	0	0.0%	2	12.5%	8	50.0%
8	20.5%	4	10.3%	0	0.0%	0	0.0%	0	0.0%	12	30.8%	10	25.6%
9	33.3%	1	3.7%	1	3.7%	0	0.0%	0	0.0%	10	37.0%	6	22.2%
36	31.0%	24	20.7%	2	1.7%	4	3.4%	1	0.9%	34	29.3%	23	19.8%
172	81.1%	105	49.5%	17	8.0%	17	8.0%	2	0.9%	0	0.0%	0	0.0%
31	96.9%	25	78.1%	14	43.8%	8	25.0%	0	0.0%	0	0.0%	0	0.0%
17	54.8%	5	16.1%	0	0.0%	1	3.2%	0	0.0%	3	9.7%	2	6.5%
2	22.2%	2	22.2%	0	0.0%	0	0.0%	1	11.1%	0	0.0%	2	22.2%
31	70.5%	13	29.5%	2	4.5%	1	2.3%	0	0.0%	0	0.0%	1	2.3%
41	37.3%	67	60.9%	8	7.3%	11	10.0%	0	0.0%	0	0.0%	1	0.9%
22	34.4%	16	25.0%	4	6.3%	4	6.3%	1	1.6%	0	0.0%	3	4.7%
40	51.9%	41	53.2%	2	2.6%	5	6.5%	1	1.3%	0	0.0%	1	1.3%
37	66.1%	25	44.6%	5	8.9%	2	3.6%	1	1.8%	0	0.0%	0	0.0%
34	47.2%	12	16.7%	1	1.4%	0	0.0%	0	0.0%	4	5.6%	10	13.9%
37	55.2%	19	28.4%	5	7.5%	5	7.5%	0	0.0%	0	0.0%	0	0.0%
42	54.5%	22	28.6%	4	5.2%	4	5.2%	0	0.0%	0	0.0%	0	0.0%
34	53.1%	8	12.5%	3	4.7%	1	1.6%	1	1.6%	0	0.0%	5	7.8%

TABLE H.1 <i>Continued</i>									
Percentage of Programs Teaching Residents and Fellows to Manage Pain and Recognize Addiction 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 Addiction	
		#	%	#	%	#	%	#	%
- Pediatric nephrology	47	31	66.0%	38	80.9%	30	63.8%	32	68.1%
- Pediatric pulmonology	57	39	68.4%	40	70.2%	33	57.9%	42	73.7%
- Pediatric rheumatology	38	37	97.4%	35	92.1%	22	57.9%	24	63.2%
- Sports medicine	17	17	100.0%	17	100.0%	14	82.4%	15	88.2%
- Pediatric transplant hepatology	17	14	82.4%	15	88.2%	14	82.4%	14	82.4%
- Pediatric hospital medicine	65	65	100.0%	65	100.0%	63	96.9%	63	96.9%
Physical medicine and rehabilitation	100	99	99.0%	99	99.0%	98	98.0%	98	98.0%
- Brain injury medicine	25	25	100.0%	25	100.0%	25	100.0%	22	88.0%
- Neuromuscular medicine	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%
- Spinal cord injury medicine	24	23	95.8%	24	100.0%	22	91.7%	19	79.2%
- Pediatric rehabilitation medicine	22	21	95.5%	22	100.0%	21	95.5%	18	81.8%
- Sports medicine	22	20	90.9%	21	95.5%	22	100.0%	21	95.5%
Plastic surgery	50	39	78.0%	46	92.0%	50	100.0%	43	86.0%
Plastic surgery - integrated	88	71	80.7%	85	96.6%	88	100.0%	82	93.2%
- Craniofacial surgery	8	5	62.5%	8	100.0%	8	100.0%	5	62.5%
- Hand surgery	18	12	66.7%	17	94.4%	18	100.0%	16	88.9%
Preventive medicine	72	50	69.4%	51	70.8%	57	79.2%	67	93.1%
- Medical toxicology	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%
- Undersea and hyperbaric medicine	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%
Psychiatry	294	233	79.3%	245	83.3%	233	79.3%	293	99.7%
- Addiction medicine (multidisciplinary)	91	90	98.9%	91	100.0%	90	98.9%	90	98.9%
- Addiction psychiatry	55	52	94.5%	53	96.4%	51	92.7%	55	100.0%
- Child and adolescent psychiatry	152	107	70.4%	90	59.2%	70	46.1%	151	99.3%
- Forensic psychiatry	49	18	36.7%	21	42.9%	21	42.9%	41	83.7%
- Geriatric psychiatry	64	53	82.8%	50	78.1%	36	56.3%	63	98.4%
- Consultation-liaison psychiatry	66	56	84.8%	62	93.9%	47	71.2%	64	97.0%
Radiation oncology	90	75	83.3%	83	92.2%	88	97.8%	79	87.8%
Radiology-diagnostic	197	103	52.3%	128	65.0%	123	62.4%	138	70.1%
- Abdominal radiology	13	8	61.5%	9	69.2%	5	38.5%	8	61.5%
- Endovascular surgical neuroradiology	3	2	66.7%	3	100.0%	2	66.7%	2	66.7%
- Musculoskeletal radiology	20	10	50.0%	12	60.0%	12	60.0%	12	60.0%
- Neuroradiology	91	44	48.4%	49	53.8%	50	54.9%	60	65.9%
- Nuclear radiology	18	7	38.9%	8	44.4%	8	44.4%	8	44.4%
- Pediatric radiology	47	17	36.2%	15	31.9%	19	40.4%	29	61.7%
Interventional radiology - independent	95	68	71.6%	80	84.2%	82	86.3%	74	77.9%
Interventional radiology - integrated	92	65	70.7%	75	81.5%	80	87.0%	74	80.4%
Surgery	353	304	86.1%	329	93.2%	343	97.2%	309	87.5%
- Complex general surgical oncology	33	28	84.8%	31	93.9%	32	97.0%	25	75.8%
- Hand surgery	2	2	100.0%	2	100.0%	2	100.0%	1	50.0%
- Pediatric surgery	51	46	90.2%	50	98.0%	50	98.0%	39	76.5%
- Surgical critical care	156	137	87.8%	150	96.2%	145	92.9%	137	87.8%
- Vascular surgery	118	87	73.7%	101	85.6%	114	96.6%	96	81.4%
Vascular surgery - integrated	73	51	69.9%	66	90.4%	70	95.9%	59	80.8%
Thoracic surgery	75	54	72.0%	64	85.3%	70	93.3%	62	82.7%
- Congenital cardiac surgery	16	10	62.5%	12	75.0%	13	81.3%	11	68.8%
Thoracic surgery - integrated	34	24	70.6%	30	88.2%	31	91.2%	29	85.3%
Urology	148	120	81.1%	137	92.6%	146	98.6%	130	87.8%
- Female pelvic medicine and reconstructive surgery	16	16	100.0%	15	93.8%	16	100.0%	13	81.3%
- Pediatric urology	26	18	69.2%	23	88.5%	25	96.2%	21	80.8%
Transitional year	178	161	90.4%	171	96.1%	170	95.5%	171	96.1%
Internal medicine/Pediatrics	78	73	93.6%	76	97.4%	78	100.0%	76	97.4%

Notes: Not all accredited programs completed these data. Total number of specialty programs = 5,579. Total number of subspecialty programs = 7,161. Programs can select more than one education type.

TABLE H.1 Continued, Extended

Referral for Dependence and Addiction Treatment		Treatment of Dependence and Addiction		Medication-Assisted Treatment Waiver Training		Experiential Training Using Medication-Assisted Treatment		Other		Do not provide this education/Not applicable		None of The Above	
#	%	#	%	#	%	#	%	#	%	#	%	#	%
22	46.8%	11	23.4%	4	8.5%	3	6.4%	0	0.0%	0	0.0%	1	2.1%
29	50.9%	11	19.3%	2	3.5%	4	7.0%	1	1.8%	1	1.8%	3	5.3%
18	47.4%	5	13.2%	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%
14	82.4%	7	41.2%	2	11.8%	1	5.9%	0	0.0%	0	0.0%	0	0.0%
9	52.9%	7	41.2%	1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
55	84.6%	28	43.1%	3	4.6%	4	6.2%	0	0.0%	0	0.0%	0	0.0%
90	90.0%	65	65.0%	17	17.0%	19	19.0%	1	1.0%	0	0.0%	0	0.0%
17	68.0%	6	24.0%	2	8.0%	4	16.0%	1	4.0%	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%
17	70.8%	10	41.7%	3	12.5%	2	8.3%	0	0.0%	0	0.0%	0	0.0%
13	59.1%	5	22.7%	1	4.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
14	63.6%	10	45.5%	1	4.5%	1	4.5%	0	0.0%	0	0.0%	0	0.0%
30	60.0%	20	40.0%	6	12.0%	7	14.0%	1	2.0%	0	0.0%	0	0.0%
63	71.6%	37	42.0%	14	15.9%	13	14.8%	0	0.0%	0	0.0%	0	0.0%
3	37.5%	2	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
13	72.2%	3	16.7%	0	0.0%	2	11.1%	0	0.0%	0	0.0%	0	0.0%
57	79.2%	39	54.2%	21	29.2%	13	18.1%	0	0.0%	1	1.4%	1	1.4%
1	100.0%	1	100.0%	1	100.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
285	96.9%	290	98.6%	233	79.3%	198	67.3%	0	0.0%	0	0.0%	0	0.0%
89	97.8%	90	98.9%	89	97.8%	85	93.4%	4	4.4%	0	0.0%	0	0.0%
52	94.5%	55	100.0%	53	96.4%	51	92.7%	0	0.0%	0	0.0%	0	0.0%
147	96.7%	136	89.5%	52	34.2%	34	22.4%	1	0.7%	0	0.0%	0	0.0%
29	59.2%	22	44.9%	8	16.3%	6	12.2%	0	0.0%	1	2.0%	2	4.1%
59	92.2%	58	90.6%	18	28.1%	15	23.4%	0	0.0%	0	0.0%	0	0.0%
64	97.0%	57	86.4%	38	57.6%	32	48.5%	0	0.0%	0	0.0%	0	0.0%
66	73.3%	27	30.0%	8	8.9%	6	6.7%	1	1.1%	0	0.0%	0	0.0%
93	47.2%	56	28.4%	9	4.6%	9	4.6%	3	1.5%	12	6.1%	10	5.1%
5	38.5%	2	15.4%	0	0.0%	0	0.0%	0	0.0%	1	7.7%	0	0.0%
2	66.7%	1	33.3%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%
8	40.0%	7	35.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	10.0%
41	45.1%	24	26.4%	9	9.9%	8	8.8%	2	2.2%	5	5.5%	11	12.1%
7	38.9%	5	27.8%	2	11.1%	1	5.6%	0	0.0%	2	11.1%	3	16.7%
17	36.2%	9	19.1%	1	2.1%	4	8.5%	0	0.0%	2	4.3%	9	19.1%
53	55.8%	23	24.2%	7	7.4%	9	9.5%	0	0.0%	1	1.1%	0	0.0%
59	64.1%	33	35.9%	6	6.5%	7	7.6%	0	0.0%	1	1.1%	0	0.0%
276	78.2%	133	37.7%	40	11.3%	36	10.2%	2	0.6%	0	0.0%	1	0.3%
23	69.7%	9	27.3%	3	9.1%	3	9.1%	0	0.0%	0	0.0%	0	0.0%
1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
30	58.8%	19	37.3%	3	5.9%	2	3.9%	1	2.0%	0	0.0%	0	0.0%
111	71.2%	76	48.7%	20	12.8%	21	13.5%	2	1.3%	0	0.0%	0	0.0%
82	69.5%	44	37.3%	10	8.5%	9	7.6%	1	0.8%	0	0.0%	1	0.8%
45	61.6%	23	31.5%	7	9.6%	7	9.6%	0	0.0%	0	0.0%	1	1.4%
47	62.7%	33	44.0%	5	6.7%	6	8.0%	0	0.0%	0	0.0%	1	1.3%
7	43.8%	8	50.0%	1	6.3%	1	6.3%	0	0.0%	0	0.0%	1	6.3%
21	61.8%	15	44.1%	5	14.7%	4	11.8%	0	0.0%	0	0.0%	0	0.0%
109	73.6%	60	40.5%	16	10.8%	14	9.5%	1	0.7%	0	0.0%	0	0.0%
10	62.5%	3	18.8%	1	6.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
12	46.2%	6	23.1%	2	7.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
150	84.3%	116	65.2%	28	15.7%	22	12.4%	0	0.0%	0	0.0%	1	0.6%
72	92.3%	59	75.6%	28	35.9%	23	29.5%	0	0.0%	0	0.0%	0	0.0%



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

Emergency medicine

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

Medical genetics and genomics

- Medical biochemical genetics
- Molecular genetic pathology (multidisciplinary)

Nuclear medicine

Pathology-anatomic and clinical

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

Preventive medicine

- Medical toxicology
- Undersea and hyperbaric medicine

Radiation oncology

Radiology-diagnostic

- Abdominal radiology
- Endovascular surgical neuroradiology
- Musculoskeletal radiology
- Neuroradiology
- Nuclear radiology
- Pediatric radiology

Interventional radiology – integrated

Transitional year

#### Medical Specialties and Subspecialties

---

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
- Hematology and medical oncology
- Infectious disease
- Interventional cardiology
- Nephrology
- Medical oncology
- Pulmonary disease
- Pulmonary disease and critical care medicine
- Rheumatology
- Sleep medicine (multidisciplinary)
- Transplant hepatology

## Neurology

- Brain injury medicine
- Clinical neurophysiology
- Epilepsy
- Neurocritical care (multidisciplinary)
- Endovascular surgical neuroradiology
- Neurodevelopmental disabilities
- Neuromuscular medicine
- Vascular neurology

## Child neurology

## Osteopathic neuromusculoskeletal medicine

## Pediatrics

- Adolescent medicine
- Child abuse pediatrics
- Clinical informatics
- Developmental-behavioral pediatrics
- Neonatal-perinatal medicine
- Pediatric cardiology
- Pediatric critical care medicine
- Pediatric emergency medicine
- Pediatric endocrinology
- Pediatric gastroenterology
- Pediatric hematology/oncology
- Pediatric infectious diseases
- Pediatric nephrology
- Pediatric pulmonology
- Pediatric rheumatology
- 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

---

Colon and rectal surgery

Neurological surgery

- Endovascular surgical neuroradiology

Obstetrics and gynecology

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

Ophthalmology

- Ophthalmic plastic and reconstructive surgery

Orthopaedic surgery

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

Otolaryngology – 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

# 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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