



# *Pediatric Physicians Workforce* **Methodology Summary**

Founded in 1933, the American Board of Pediatrics®. (ABP) is one of twenty-four physician certifying boards of the American Board of Medical Specialties (ABMS). The ABP is an independent, nonprofit organization whose certificate is recognized throughout the world as a credential signifying a high-level of pediatric physician competence.



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**Published by:**



THE AMERICAN BOARD of PEDIATRICS  
Certifying excellence in pediatrics for a healthier tomorrow

The American Board of Pediatrics  
111 Silver Cedar Court  
Chapel Hill, NC 27514

Telephone: 919-929-0461

Web: [www.abp.org](http://www.abp.org)

Email: [workforce@abpeds.org](mailto:workforce@abpeds.org)

This Methodology Summary was last updated in March 2018.

**Suggested Citation:**

American Board of Pediatrics, *Pediatric Physicians Workforce Methodology Summary*, Chapel Hill, NC: American Board of Pediatrics, 2018.

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## Foreword

Welcome to the *Pediatric Physicians Workforce Methodology Summary*.

With the most recent editions of the *Pediatric Physicians Workforce Data Book* and the introduction of online dynamic visualizations in 2018, we have made numerous changes in the presentation and content of the information provided. Additionally, the ABP's workforce reporting efforts have evolved to incorporate information across the entire span of a pediatrician's career, from training and certification through Maintenance of Certification (MOC). With these changes, this summary document seeks to explain the history of the ABP's workforce reporting efforts, the methodology used in our workforce reports, and further details about the ABP's certification, tracking, and census survey data.

Tracking the pediatric physician workforce is essential for understanding its composition, numbers, distribution, and practice patterns, but it is not just about publishing numbers. Our goal is to disseminate these data through reports and online interactive data visualization platforms that provide valuable information to pediatricians, pediatric residency and subspecialty training program directors, hospital administrators, policy makers, researchers, and others interested in ensuring that we have the skilled workforce necessary to meet the health care needs of children, adolescents, young adults, and their families.

The scope and depth of the ABP's workforce reporting efforts would not be possible without the information provided by trainees, program directors, and diplomates. Thank you for your commitment to ensuring that every child, adolescent, and young adult, no matter what their background or where they live, has access to quality pediatric care.

Sincerely,

**Laurel K. Leslie, MD, MPH**  
Vice President, Research  
American Board of Pediatrics

## History of the ABP's Pediatric Physicians Workforce Reporting Efforts

The ABP was founded in 1933 and is one of 24 boards that comprise the American Board of Medical Specialties (ABMS). These boards set standards for the various medical specialties that the public relies upon to provide high-quality health care. The ABP certifies general pediatricians and pediatric subspecialists based on standards of excellence that lead to high-quality health care during infancy, childhood, adolescence, and the transition into adulthood. Its certifying examinations and assessment processes are an important mechanism through which the profession of pediatrics sets expectations regarding professionalism, pediatric practice, continuous learning, and ongoing practice improvement.

The ABP has a long-standing history of gathering data regarding the pediatric physician workforce to inform both graduate medical education policy and workforce planning. The ABP's workforce data have been used by program directors, hospital administrators, researchers, policy makers, and others. These data have provided a comprehensive view of the pediatric physician workforce, from trainees in their first year of a medical residency through physicians engaged in retirement planning. These data also permit tracking of trends over time.

Under the leadership of James A. Stockman III, MD, President and CEO of the ABP from 1992 to 2012, the first workforce data book was published in 1992, with initial oversight provided by Robert Guerin, PhD, Vice President. The 1992 report included responses to census surveys administered at the time of application to take the General Pediatrics Examination, as well as tracking data for first-year pediatric trainees (Level 1) in Categorical General Pediatrics (GP) residency training programs.

Since 1992, the ABP has published its workforce data on an annual basis; however, the content and format of the report have changed over the last two decades. Changes to the tracking data reported in the workforce data book have reflected:

- Changes in Data Collected from Program Directors as well as in the Composition and Content of Pediatric Resident and Fellowship Training Programs. Tracking data on second- and third-year trainees (Levels 2 and 3) were first collected and reported in the workforce data book in 1993 and 1994, respectively. In 1995, the ABP began collecting tracking data on first-year subspecialty fellows, but the data were not considered sufficiently robust to include in the workforce book until the early 2000s.
- The Addition of New Subspecialties. The ABP has added certifying examinations in several new subspecialties, including Developmental-Behavioral Pediatrics (2002) and Child Abuse/Pediatrics (2009), as well as in several areas in concert with one or more of the other boards within ABMS (eg, Hospice and Palliative Medicine [2008]).
- An Expanded Approach to the ABP's Census Surveys. Pursued under the leadership of Dr. Stockman; Gail A. McGuinness, MD, ABP Executive Vice President (2002 to date); Linda Althouse, PhD, Vice President of Psychometrics & Assessment Services (2008 to date); and Gary L. Freed, MD, MPH, then Director of the Child Health Evaluation and Research Center (CHEAR) at the University of Michigan, these efforts were initiated in response to specific projects undertaken by the ABP. For example, in 2009, the ABP, in concert with CHEAR, began collecting census survey data at the time of the resident in-training examinations (ITE) to inform the ABP's Residency Review and Redesign Project (R3P). In 2009, the ABP launched its Maintenance of Certification (MOC) Enrollment Application Census Survey to include census survey data on practicing pediatricians; early analyses focused on clinically inactive pediatricians. Additional data collection with subspecialty fellows began as part of the Subspecialty Clinical Training and Certification (SCTC) Task Force (2010-2013) efforts, which examined the clinical training aspects of subspecialty pediatric training.

To read more about changes to recent reports, please see the subsection entitled "Recent Changes to the Pediatric Physicians Workforce Reporting."

## Methodology

This section first describes the entry into and progression through pediatric residency training, certification, and Maintenance of Certification (MOC) for the reader who may be less familiar with medical training and certification processes. Second, data collection efforts at the ABP are described with respect to both tracking data and census surveys. Last, this section highlights additional changes made to the latest editions of the workforce reports, as well as additional resources that may be helpful when considering the pediatric workforce.

### Pediatric Physician Workforce: Entry and Progression

The ABP's interactions with trainees begin once s/he completes medical school either in the United States (U.S.) or internationally and starts his/her residency training (see Figure A). In categorical pediatric residency programs, training typically lasts 3 years. The duration may be longer for individual residents if they are in training programs that are integrated with more than one of the American Board of Medical Specialties (ABMS)-approved specialties (for example, Medicine-Pediatrics [Med-Peds] programs provide training in both adult and pediatric medicine and require 4 years of training). Alternatively, training may be shorter in certain circumstances (eg, an international medical graduate is approved for having completed previous training in a non-accredited general pediatrics residency program).

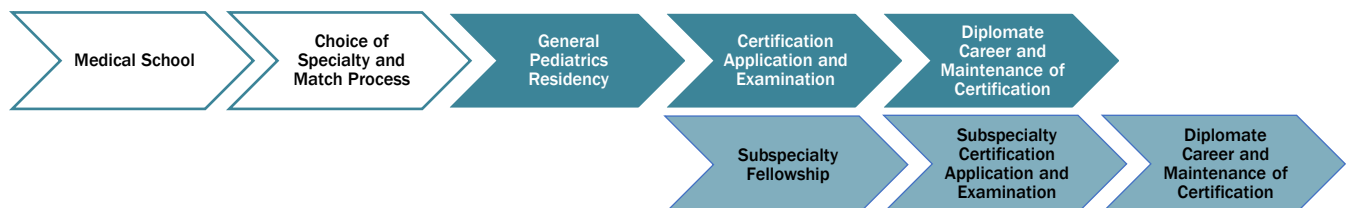
Most individuals choose to obtain board certification at the end of their training. Certification is a voluntary process that carries requirements beyond those set by state licensing boards for practicing medicine. Residents seeking initial certification in General Pediatrics (GP) through the ABP must: 1) complete an Accreditation Council of Graduate Medical Education (ACGME)-accredited training program in pediatrics, 2) receive an attestation from their program director of satisfactory performance during residency in each of six domains specified by the ACGME, and 3) obtain a valid, unrestricted medical license through the medical board in one or more states. The six domains specified by the ACGME and endorsed by the ABP and ABMS include professionalism, medical knowledge, patient care and procedural skills, practice-based learning and improvement, interpersonal and communication skills, and systems-based practice.

Upon passing the GP Certifying Examination, a pediatrician becomes an ABP diplomate and is automatically enrolled in MOC. Pediatricians may voluntarily elect to maintain their certification by participating in MOC. If a pediatrician participates in MOC, s/he chooses to meet standards of excellence with respect to lifelong learning, assessment, and practice improvement. The ABP continues to track diplomates who participate in MOC throughout their careers.

Pediatricians who have successfully completed their GP residency may choose to pursue subspecialty certification and begin a pediatric subspecialty fellowship program (see second pathway in Figure A), even if they have not yet taken their GP Certifying Examination. However, they cannot be certified in a pediatric subspecialty until they are certified in general pediatrics. Examples of pediatric subspecialties include pediatric nephrology, pediatric cardiology, and developmental-behavioral pediatrics.

Subspecialty fellowship training typically follows a path towards certification that is like the GP certification pathway. Depending on the subspecialty, certification may be administered by the ABP or administered by one of the other ABMS boards (eg, American Board of Internal Medicine). In the case of co-sponsorship, subspecialty certifying examinations may be administered to the other member boards' diplomates, but certification is awarded by the parent board (eg, ABP to ABP diplomates and ABIM to ABIM diplomates).

**Figure A. Workforce Entry & Progression**



## Description of Data Collection Points

The information presented in the ABP workforce reports is a consolidation of data collected for normal business operations at the ABP through the tracking data and census surveys.

Residency program directors submit basic **tracking data** annually to the ABP that includes demographics of their current pediatric residents as well as information about whether an individual resident is meeting standards of clinical and professional performance set by the ABP. This tracking information informs the ABP regarding the number and demographics of residents who qualify to “sit for” (or “take”) the GP Certifying Examination upon completion of their GP residency training. These tracking data are collected annually and entered into the ABP’s Certification Management System (CMS).

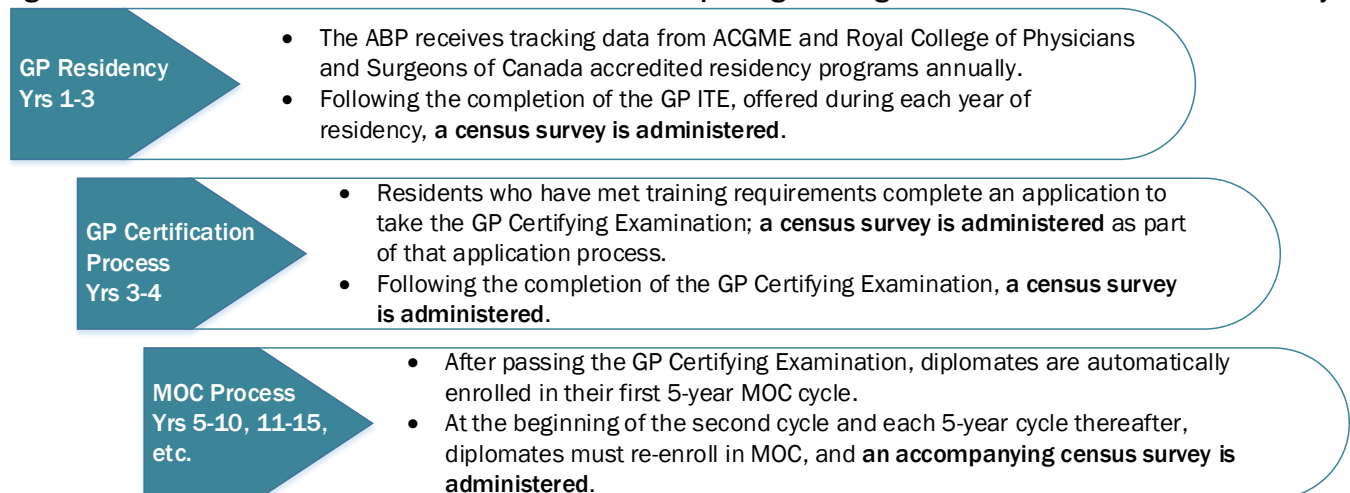
As a trainee progresses through residency, GP certification, subspecialty certification, and ultimately into participation in MOC, the ABP collects and stores information through **census surveys**.

Figure B (below) illustrates a standard example of a trainee in a categorical general pediatrics residency.

Data collection begins in the first year of residency with residency tracking data provided by residency program directors at the time of the General Pediatrics In-Training Examination (GP ITE). The ABP offers the GP ITE to pediatric residents each year during their residency training. GP ITE scores are not used to make decisions regarding board certification, but rather are intended to be used for educational purposes only. An individual trainee, in concert with his/her program director, may use the ITE scores to identify gaps in his/her knowledge. Program directors may also identify general gaps in knowledge across trainees at their program.

A post-examination census survey is associated with the GP ITE in each year of training.

### Figure B. Workforce Data Collection for A Resident Completing a Categorical General Pediatrics Residency



Before residency is completed, usually in the third year of training, residents can apply to take the GP Certifying Examination. Workforce census surveys are administered during the application process and, again, at the time a resident sits for the GP Certifying Examination. Often, when analyzing the data in the census surveys, the ABP uses responses from first-time takers, as graduated residents can take the examination as many times as needed to pass for up to 7 years following residency completion. Analyses tables and figures in the latest workforce reports are notated with the corresponding sample information.

After a resident passes the GP Certifying Examination, s/he is considered a diplomate and is automatically enrolled in his/her first 5-year MOC cycle in the following year. At the end of that 5-year cycle, a diplomate must complete an MOC application to enter a second, 5-year MOC cycle in the following year. A workforce census survey is associated with each opportunity for re-enrollment in MOC. It is important to note that there is at least 5 years between when a diplomate takes his/her certifying examination and re-enrolls in MOC.

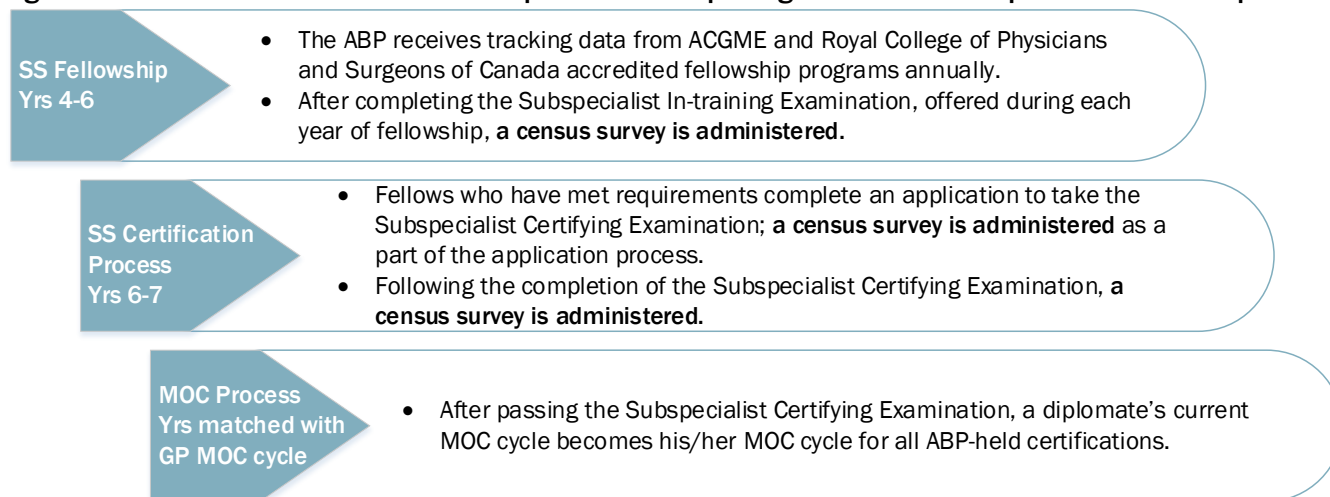


While most diplomates do meet MOC requirements and continue MOC on the regular 5-year cycle, some allow their certifications to lapse by not completing all MOC requirements, thereby extending the time between census surveys to greater than 5 years.

Whereas the text above details data collection points from the viewpoint of a general pediatrics diplomate, many of the same data collection points are relevant for individuals participating in a pediatric subspecialty fellowship program and pursuing subspecialty certification. Program directors share information about the numbers and demographics of individuals participating in their training programs. Pediatric subspecialty fellows apply for and take Subspecialty In-Training Examinations (SITE). Subspecialty fellows may be asked to complete a census survey with their initial subspecialty certification application and following their Subspecialty (SS) Certifying Examination. Figure C (below) depicts the experience of the standard subspecialty fellowship participant.

It should be noted that pediatric diplomates may choose to exit this system at any time by not re-enrolling in MOC, although most pediatricians do maintain certification. Also, some diplomates completed their training prior to the requirement for participation in MOC. These diplomates may choose whether to participate in MOC. Thus, some tables in the workforce reports do not capture all practicing pediatricians, particularly the *Maintenance of Certification Enrollment Census Survey* tables. In these instances, the authors of recent reports have made notations regarding the included sample and considerations for interpretation.

**Figure C. Workforce Data Collection for Diplomates Completing a Standard Subspecialist Fellowship**





## Guide to Data Interpretation

Individuals using the information in the ABP's workforce reports should be aware of several considerations for data interpretation, both for the data presented in this report and if trends are calculated comparing these data with data presented in previous reports.

Why might this be important?

- Clinical activity of the pediatric workforce is complex to measure. The workforce reports present information on all pediatricians ever certified over time. In addition, estimates are provided for the number of pediatricians by state. However, the ABP is unable to report on whether individual diplomates included in these tables are clinically active and whether they are full-time or part-time. Any data used for workforce estimates should attempt to control for rates of clinical inactivity and part-time employment among pediatricians.
- Certification is a complex process that is continually evolving. The types of residency and subspecialty programs that are required for certification have changed over time as certification processes have changed. For example, several of the subspecialties did not exist when the first workforce data book was published in 1992. Others have changed in important but subtle ways.
- SS Certifying Examinations are typically offered every other year. Regardless of when training ends, a recently graduated fellow may have to wait for a few months to more than a year to take the certifying examination. This also affects how frequently census survey information is collected for each subspecialty, as the survey is administered after the SS Certifying Examination. Accordingly, the data included in reports of census surveys may come from odd or even years.
- MOC has also evolved. Prior to 1980, a formalized, systematic mechanism to re-assess a pediatrician's knowledge or skills did not exist. Voluntary recertification began in 1980 and continued to evolve to the MOC process of today. Currently, individuals who obtained their initial certification on or after May 1, 1988 and who wish to maintain certification must participate in MOC.
- The ABP has changed its data collection processes for the residency and subspecialty training program tracking data in the ABP's Certification Management System over time. For example, chief residents are currently included in program directors' reports to the ABP. They will be excluded beginning in 2018-2019 so that the tracking data collection reverts to its primary mission: to track individuals who are seeking certification.
- The content, timing, and processes of the ABP's census surveys have changed over time. Accordingly, for 2018, the census surveys will be entered into their own report for clarification and standardization purposes.

## Impact of Policies and Operational Decisions on ABP Certifications

Over time, the ABP has made several operational decisions and/or approved numerous policies that have impacted certification, and ultimately aggregated certification counts. The decisions and policies below are notable because of their impact on certification.

<u>Year</u>	<u>Policy/Operational Decision and Implications</u>
1988	The ABP issued the first time-limited certificates in general pediatrics in May 1988. After this date, to be considered as “maintaining certification,” diplomates had to pass a secure examination and renew their certificate every 7 to 10 years through participation in required Maintenance of Certification activities. (See Certification Status in <i>Key Definitions</i> for more details on the types of certificates that have resulted from this decision.) There was no immediate shift in the number of initial certifications in that year.
1989	The ABP offered the last oral exam in general pediatrics in 1989, opting to move to a longer written certifying exam (2 days in length at that time). Both oral and written examinations were offered that year, opening more slots to take the examination than had been previously given. This led to a spike in certifications in 1989, with more than 5,000 general pediatrics certifications that year, up from approximately 2,000 the year prior.
2012	The ABP approved its time-limited eligibility policy for initial certification in 2012, beginning with examinations administered in 2014. As a result, the ABP began to require applicants to have completed the training required to sit for their initial Certifying Examination within the previous 7 years; any gap beyond 7 years now requires additional training before one is eligible to sit for the Certifying Examination. The increase in general pediatric certifications awarded in 2012 is most likely due to the implementation of this policy. More details can be found <a href="#">here</a> .

## Recent Changes to the Pediatric Physicians Workforce Reporting

In 2015-2016, under the leadership of Laurel K. Leslie, MD, MPH, Vice President, Research, the ABP embarked on a review of the tracking and census data collected and published in the annual workforce book from 2015 to date. As part of that process, the ABP garnered feedback from a variety of stakeholders who have used the workforce data to inform planned revisions.

Changes to workforce data reporting starting in 2017 include, but are not limited to:

### General Formatting:

- Online Visualizations. In the spring of 2018, the ABP placed numerous key data elements into online, dynamic visualizations that may be controlled by the end-user for a deeper, tailored investigation into key data elements. Please visit the [ABP website](#) to explore these features.
- Additional Information on the History, Content, and Methodology of the Pediatric Physicians Workforce Reporting Efforts. In this summary and beginning in the 2016-2017 version of the *Pediatric Physicians Workforce Data Book*, background text has been expanded to permit the reader to better understand the history of the ABP's annual workforce reporting efforts and its data collection and analysis processes. Similarly, information has been added on entry and progression in the field of pediatrics.
- Key Definitions. Given that not all the readers are familiar with terms commonly employed in describing pediatric physicians' training and certification processes, a section defining commonly used terms and abbreviations was added to the 2016-2017 version of the *Pediatric Physicians Workforce Data Book* and this summary document.

### Changes to Tables, Figures, and Maps in Reports:

- Inclusion of Data Source, Sample, Response Rate, Missing Data, and Considerations for Interpretation. Where possible, and particularly in published reports, footnotes have been added to most tables and figures to aid the reader in data interpretation. These include:
  - Source of Data. Data presented vary in their source and may be drawn from tracking data entered into the ABP's Certification Management System, results from census surveys described previously, or another source, such as U.S. Census Data.
  - Sample. The samples for the tables published vary within reports. Please use the Key Definitions found later in this summary for explanations of the samples where necessary.
  - Response Rate. For all survey data reported, the response rate has been calculated to provide the reader an indication of the completeness of the data collected.
  - Missing Data. Missing data may occur with both administrative and survey data. Causes for missing data are numerous and include missing by design (eg, skip pattern in a survey), missing by respondent choice (eg, information of a sensitive nature), missing due to measurement error (eg, data entry or survey error), and missing due to other factors. Where data are missing, the cause(s) and description of the missing data are provided.
  - Considerations for Interpretation. When relevant, there is a description of definition changes or nuances of the data that should be considered when interpreting the data in the table, map, or figure.
- Table Restructuring. Where possible, tables have been restructured when compared to previous reports by collapsing numerous tables into one table. Commonly, demographic and other independent variables are listed in the first column of the table and dependent variable(s) across the first row(s).
- Sample Restriction in Some Tables to "Ever Certified, Age 70 and below". Some use the data in this report to assist in determining current and future workforce numbers. The ABP is currently unable to access the U.S. Social Security Administration's Death Master File due to changes in federal regulations, and thus is unable to determine which diplomates have deceased in recent years. The ABP is also unable to identify all diplomates who are retired. For those reasons, a proxy measure has been used to limit the sample for some analyses to those diplomates ever certified and age 70 and under. These limitations should be considered in any use of the data for workforce forecasting.

purposes. When using online visualizations, filtering may be used to go beyond this age limit based on user preference.

- Additional Figures and Maps. Figures and maps are often useful for rapidly visualizing comparisons. Where requested or appropriate, these have been added.

#### **Residency and Subspecialty Fellowship Tracking Data:**

- Inclusion of only ACGME-accredited programs. Prior to the *Pediatric Physician Workforce Data Book, 2016-17*, Canadian residency programs were included in the tracking data for residency and subspecialty fellowship programs. This led to some confusion, as the requirements for Canadian programs accredited by the Royal College of Physicians and Surgeons of Canada (RCPSC) differ from those for U.S. and Puerto Rican programs accredited through the ACGME. Currently and when in print, tracking data for residency and subspecialty fellowship programs will include only ACGME-accredited programs. When data from previous years are reported in future reports, those numbers have been recalculated under this framework for ease of comparison. When using online visualizations of the tracking data, Canadian residency programs are not included by default but may be turned on through a filter.

## Additional Resources

Most of the ABP's workforce reporting efforts only include information on pediatric physicians using tracking and survey data available to the ABP. Conducting research about the pediatric workforce requires knowledge of both the demand (eg, health needs of children, adolescents, young adults, and their families in the United States) and supply (ie, all child-serving current and future providers, including trainees).

The U.S. Department of Health and Human Services, Health Resources & Services Administration (HRSA) supports data collection and analyses that may inform pediatric workforce research efforts. For additional information, the following websites may be of use:

- **National Survey Publications and Chartbooks**  
Publications from the Maternal and Child Health Bureau's National Surveys as well as chartbooks that describe historical and current trends in child and maternal health, accessible at <https://mchb.hrsa.gov/data-research-epidemiology/research-epidemiology/national-survey-publications-and-chartbooks>
- **National Center for Health Workforce Analysis (NCHWA)**  
Data analyses on workforce (the NCHWA also administers all HRSA-funded workforce center), accessible at <https://bhw.hrsa.gov/health-workforce-analysis/about>
- **HRSA-Funded Workforce Centers**  
HRSA funds several centers that support workforce research, accessible at <https://bhw.hrsa.gov/health-workforce-analysis/research/research-centers>

The following sites may be useful for additional information on the medical workforce and on pediatric training programs:

- **Association of American Medical Colleges (AAMC) Workforce Studies**, accessible at <https://www.aamc.org/data/workforce/>
- **Accreditation Council for Graduate Medical Education (ACGME) Data Collection Systems**, accessible at <https://www.acgme.org/Data-Collection-Systems/Overview>
- **National Commission on Certification of Physician Assistants Reports**, accessible at <http://www.nccpa.net/Research>
- **American Association of Nurse Practitioners Reports**, accessible at <https://www.aanp.org/research/reports#nurse-practitioner-facts>
- **Children's Hospital Association Survey**, accessible at <https://www.childrenshospitals.org/Issues-and-Advocacy/Graduate-Medical-Education/Fact-Sheets/2018/Pediatric-Workforce-Shortages-Persist>

## Key Definitions

(In alphabetical order)

**Accreditation:** Voluntary process whereby residency and training programs and their sponsoring institutions are reviewed and recognized for meeting standards of excellence. Programs in the U.S. and Puerto Rico are accredited by the Accreditation Council for Graduate Medical Education (ACGME). Programs in Canada are accredited by the Royal College of Physicians and Surgeons of Canada (RCPSC).

**Accreditation Council for Graduate Medical Education (ACGME):** The ACGME is a private, not-for-profit organization that sets standards for graduate medical education programs, both residency and fellowships, in the U.S. and Puerto Rico and the institutions that sponsor them. The ACGME also certifies some programs outside the U.S. and Puerto Rico through its ACGME-International certification program. The ABP does not collect tracking data on individuals in these international training programs.

**American Board of Medical Specialties (ABMS):** The ABMS is a private, not-for-profit organization that was established in 1933 to provide a national system for recognizing that specialists have met standards. ABMS acts as the umbrella

organization for twenty-four member boards of various medical specialties, of which the ABP is one. More information on the ABMS and other member boards can be found by visiting [www.abms.org](http://www.abms.org).

**Candidate:** Term used to designate an applicant who is eligible to sit for a certifying examination.

**Census Surveys:** Census surveys seek to collect information from all participants in a population. The ABP collects data at different “touchpoints” with residents, fellows, and diplomates maintaining certification. These data are used primarily for operational business purposes, but may be used secondarily for research purposes. Typical questions ask about practice patterns (eg, average hours worked, area of work).

**Certification:** Board certification is a voluntary process that goes beyond state licensing requirements for practicing medicine. After completion of residency and, if applicable, fellowship, a trainee’s program director must verify to the ABP that the trainee is competent in the practice of pediatrics and is eligible to sit for the initial certifying examination. Upon passing this examination, the candidate is then designated as “board-certified” and referred to as a “diplomate” of the ABP. Pediatric board certification is a testament to a physician’s expertise in the pediatric field and/or a subspecialty of the pediatric field.

**Certification Management System (CMS):** ABP database that stores demographic, training program, and certification information on all trainees, diplomates, and training programs.

### Certification Status:

- **Permanent:** Prior to May 1, 1988, certification by the ABP was granted on a permanent basis. Permanent certificate holders, regardless of whether they participate in Maintenance of Certification (MOC), retain their designation as an ABP certified diplomate. However, they are strongly encouraged to participate in MOC and MOC activities to ensure maintenance of clinical competency. Exceptions to the May 1, 1988 date include certificates for Pediatric Pulmonology and Pediatric Critical Care Medicine, which were administered for the first time in 1986 and 1987, respectively. While administered before May 1, 1988, these certificates were first awarded on a time-limited basis.

Commonly Used Acronyms	
ABMS	American Board of Medical Specialties
ABP	American Board of Pediatrics
ACGME	Accreditation Council for Graduate Medical Education
AMG	American Medical Graduate
CMS	Certification Management System
GP	General Pediatrics
GP ITE	General Pediatrics In-Training Examination
IMG	International Medical Graduate
MOC	Maintenance of Certification
SITE	Subspecialty In-Training Examination
SS	Subspecialty
RCPSC	Royal College of Physicians and Surgeons of Canada

- **Time-limited:** After May 1, 1988, the ABP, in recognition of the ever-changing world of medicine, began issuing time-limited certificates to pediatricians who passed the board examination. Time-limited certificates are valid for 7 to 10 years, at which point the diplomate must recertify by completing the required Maintenance of Certification (MOC) activities prior to the expiration date.
- **No end date:** In 2010, the Maintenance of Certification process was revised to a more continuous model and the ABP began issuing certificates with no end dates. Diplomates who hold certificates with no end dates must recertify by completing the required Maintenance of Certification (MOC) activities prior to the end of their 5-year cycle, including the MOC recertifying examination, which is required every 10 years.
- **Lapsed:** If a physician fails to complete any of the required Maintenance of Certification (MOC) activities prior to his or her certification expiration date (ie, lifelong learning (Part 2), assessment (Part 3), or practice improvement (Part 4)), s/he will, at the end of his or her 5-year cycle, have a certificate that is considered “lapsed.” The physician will need to re-enroll in MOC and complete the necessary requirements to regain certification. Similarly, if a diplomate is in a 5-year cycle and is due to pass an MOC examination prior to the end of the cycle and fails to do so, s/he is considered “lapsed.” Pediatricians who are lapsed may regain certification by passing their examination and completing any other required MOC activities.
- **Revoked:** Certificates issued by the ABP are subject to revocation due to disciplinary action or if one of the following occurs:
  - The issuance of the certificate has been contrary to or in violation of provisions of the ABP’s articles of incorporation or bylaws;
  - The physician was ineligible to receive such certificate, irrespective of whether the facts constituting his/her ineligibility were known to any or all the members of the ABP at the time of the issuance of the certificate;
  - The physician made any misstatement of fact in his/her application for certification or in other statements or representations to the ABP, its members, representatives, or agents;
  - The physician is not in compliance with the ABP licensure policy.

**Certification Types:** The ABP offers two general certification types, as described below:

- **General Pediatrics Certification** is awarded to pediatricians who complete a general pediatrics residency program and pass their general pediatrics certifying examination. A physician with this certification is commonly referred to as a **general pediatrician (GP)**.
- **Subspecialty Certifications** are awarded to pediatricians who attain their general pediatrics certification and then pursue more extensive training in at least one pediatric subspecialty fellowship program. The certification is given in one of the ABP’s subspecialty areas (see *Pediatric Subspecialty Types*) following completion of a fellowship program and passing a subspecialty certifying examination in that subspecialty. A physician with an ABP subspecialty certification is commonly referred to as a **pediatric subspecialist (SS)**.

**Certifying Examination:** Examinations completed following training to demonstrate expertise in the pediatric field and/or a subspecialty of the pediatric field.

- Candidates who plan to take the **General Pediatrics (GP) Certifying Examination** must have completed an ACGME-accredited training program in pediatrics within the previous 7 years, received an attestation from their training program director of satisfactory performance, and obtained a valid, unrestricted medical license from a state medical board. Applicants may apply for any of the ABP’s examinations numerous times because of multiple situations (eg, previous examination date missed, failure to pass a previous examination). For additional requirements, please see the ABP website.
- Candidates who plan to take a **Subspecialty (SS) Certifying Examination** must have achieved initial certification in general pediatrics and continue to maintain certification, as well as have received an attestation from their training program director of satisfactory performance. They must have completed an ACGME-approved fellowship. For additional requirements, please see the ABP website.



**Chief Resident:** A Chief Resident is selected by Training Program leadership based on his/her abilities in patient care, teaching, and leadership to perform additional teaching and administrative duties related to the residency training program. Typically, Chief Residents have completed residency training but continue at the program for an extra year or two and are classified as at a Pediatric Level-4 (PL-4) or PL-5.

**Diplomate:** A pediatrician who has passed his or her board certification examination is designated as board-certified and awarded the title “Diplomate of the American Board of Pediatrics”.

**Ever Certified:** Includes all pediatricians who have ever been certified by the American Board of Pediatrics. The “ever certified” data presented in ABP reports includes physicians who are deceased, as well as physicians whose certifications may have lapsed and/or been revoked.

**Fellows:** Individuals who have completed a residency training program and are pursuing advanced training in a subspecialty through a fellowship program.

**First-Time Applicant:** Individual applying for their certification examination for the first time.

**First-Time Taker:** Individuals sitting for any of their certifying examination for the first time.

**In-Training Examination (ITE):** The ABP offers two types of voluntary in-training examinations to pediatric trainees, one for general pediatrics residents (GP ITE) and one for subspecialty fellows (SS ITE). These examinations are designed to provide residents and fellows with an opportunity to assess their strengths and weaknesses in current knowledge at the time of examination, assess their progress from year to year, and to compare their performance with national peer groups. In addition, program directors can use results from these examinations to provide counseling and remediation to residents and subspecialty fellows. Directors can also accumulate and analyze results over several years to evaluate the quality of training their program has provided.

**Maintenance of Certification:** Maintenance of Certification (MOC) is a process that began in 2003 and was adopted by all twenty-four American Board of Medical Specialty (ABMS) boards to continuously assess the six core physician competencies outlined by the ABMS and the Accreditation Council for Graduate Medical Education (ACGME). The six competencies that have been identified as important to deliver quality care are interpersonal and communication skills, professionalism, medical knowledge, patient care, and practice-based learning and improvement (which includes the ability to measure and improve quality of care and systems-based practice). Participation in MOC indicates that a pediatrician is committed to an ongoing process of lifelong learning and self-assessment to continuously improve knowledge and clinical performance. Continuous certification is increasingly recognized by the public as the “gold standard” of physician quality.

MOC in pediatrics has evolved over the years and is currently conducted on a 5-year schedule with a few exceptions extending the schedule. MOC is composed of four parts (see the ABP website for additional information). Diplomates with permanent certificates are not required to participate in MOC, although many do so. Diplomates with time-limited certification who chose not to participate in recertification or who now choose not to participate in MOC are no longer certified by the ABP.

**Medical School Graduate Type:** Medical school graduates are often classified as American Medical Graduates (AMGs) or International Medical Graduates (IMGs). These are defined as follows:

- **AMG:** An individual who has graduated from a medical school within the United States, Puerto Rico, or Canada, regardless of citizenship.
- **IMG:** An individual who has graduated from a medical school outside the United States, Puerto Rico, or Canada, regardless of citizenship. This designation includes U.S. citizens who have completed their medical education outside the United States, Puerto Rico, or Canada.

**Pediatric Fellowship Trainee Types:** Fellowship trainees can be categorized into three types:

- **ABP Fellowship Trainee:** Fellows who are enrolled in a standard fellowship program of one of the ABP subspecialty types. See *Pediatric Subspecialty Types*. This typically is a 3-year program.
- **Dual Fellowship Trainee:** Fellows who have been approved to combine training from two ABP pediatric subspecialty fellowships. This typically is a 4- to 5-year program (eg, Pediatric Cardiology and Pediatric Critical Care Medicine), combining the scholarly activity requirement from both subspecialties.
- **Combined Fellowship Trainee:** Fellows who have been approved to combine training from one ABP pediatric subspecialty fellowship and a subspecialty from the American Board of Internal Medicine (ABIM). This is for Med-Peds fellows only, where a pediatric subspecialty and adult subspecialty from ABIM is combined (eg, Pediatric Rheumatology and Adult Rheumatology). This typically is a 5-year program, combining the scholarly activity requirement from both subspecialties.

**Pediatric Residency Program Types:** Residency training programs can be classified into three types:

- **Categorical Pediatrics Programs:** Programs in which pediatricians pursue training in general (ie, Categorical) pediatrics. Categorical pediatric residencies typically consist of 3 years (Level 1 to Level 3) of core pediatrics experiences and elective rotations. Upon completion of the program, residents are eligible to apply to sit for the General Pediatrics board certification examination.
- **Medicine-Pediatrics (Med-Peds) Programs:** Residency programs in which pediatricians pursue training in Internal Medicine and General Pediatrics. Unlike other 3-year residency programs, Med-Peds programs include 4 years (Level 1 to Level 4) of training in the two specialties. Upon completion of the program, Med-Peds residents are eligible to apply to sit for board certification examinations in both Internal Medicine and Pediatrics.
- **Other Combined Programs:** Residency programs in which pediatricians pursue combined training in two or more closely related specialty programs. Like Med-Peds, the duration of combined training is longer than any one of its component specialty programs standing alone and at the end of the program, residents will have the option to apply to sit for board certification examinations in both specialties. A common combined program is Pediatrics/Anesthesiology (Level 1 to Level 5).

**Pediatric Subspecialty Types:** There are four types of subspecialties in which a pediatrician may become certified; the type is based on which boards administer the Subspecialty Certification Examination. These are:

- **ABP Subspecialties:** Subspecialty disciplines that offer certification examinations administered by the ABP.
  - Adolescent Medicine – *co-sponsored by the American Board of Family Medicine and the American Board of Internal Medicine*
  - Pediatric Cardiology
  - Child Abuse Pediatrics
  - Pediatric Critical Care Medicine
  - Developmental-Behavioral Pediatrics
  - Pediatric Emergency Medicine – *co-sponsored by the American Board of Emergency Medicine*
  - Pediatric Endocrinology
  - Pediatric Gastroenterology
  - Pediatric Hematology-Oncology
  - Pediatric Infectious Diseases
  - Neonatal-Perinatal Medicine
  - Pediatric Nephrology
  - Pediatric Pulmonology
  - Pediatric Rheumatology
  - Pediatric Hospital Medicine – *projected launch date of 2019*

- **Co-sponsored Subspecialties:** The following subspecialties have examinations that are administered by one of the co-sponsoring boards:
  - Hospice and Palliative Medicine
  - Medical Toxicology
  - Sleep Medicine
  - Sports Medicine
  - Pediatric Transplant Hepatology
- **Non-ABP Subspecialties:** Pediatric-related subspecialties/specialty certifications that are offered by other Boards within the American Board of Medical Specialties. There are currently three subspecialty/specialty certifications that fall into this category.
  - Adult Congenital Heart Disease (ACHD)
  - Allergy and Immunology
  - Neurodevelopmental Disabilities (NDD) - *From 2001 to 2007, the NDD certification was awarded by the ABP and the American Board of Psychiatry and Neurology (ABPN) to their respective diplomates. Since 2007, all first-time applicants have been required to apply directly to the ABPN for NDD certification, but applicants whose examination application had been approved previously (between 2001-2007) by the ABP could still take the examination through 2013. Since 2014, initial NDD certification has been offered only by the ABPN. However, individuals initially certified from 2001 through 2009 in NDD by the ABP may still maintain their certification through the ABP.*
- **Multi-Specialty Subspecialties:** Certain subspecialty certifications may be obtained by physicians certified by any Member Board of the ABMS. Examples of multi-specialty subspecialties include addiction medicine and clinical informatics. Multi-Specialty Subspecialties typically are not reviewed in the ABP's workforce reports.

**Pediatric Training Level:** The level of training at the time of data collection. Level 1 through level 5 are commonly used in this report to indicate the training level in residency and in subspecialty fellowships. For the purposes of this report, trainees participating in fellowship programs restart the level of training at level 1 when entering fellowship. Other designations may be used in other external literature including PL-1 through PL-5 (Pediatric Training Level Years 1-5), PGY-1 through PGY-5 (Post-Medical School Graduate Years 1-5), R1-R5 (Residency Years 1-5), or F1-F5 (Fellowship Training Years 1-5). Pediatric training levels employed in this report are described below:

- **Level 1:**
  - **Residency:** The first year of pediatric residency training.
  - **Fellowship:** The first year of pediatric subspecialty fellowship.
- **Level 2:**
  - **Residency:** The second year of pediatric residency training, with increased responsibility for patient care and for the supervision of junior house staff (eg, other residents) and medical students.
  - **Fellowship:** The second year of pediatric subspecialty fellowship, with increased responsibility for patient care in the subspecialty and for the supervision of junior house staff (eg, other fellows), residents, and medical students.
- **Level 3:**
  - **Residency:** The third year of pediatric residency training, with further increased responsibility. Most residents in a categorical pediatric program will complete their training in level 3.
  - **Fellowship:** The third year of pediatric subspecialty fellowship, with further increased responsibility. Most fellows will complete their subspecialty training in level 3.
- **Level 4 – Typically for Trainees in Combined Programs:**
  - **Residency:** The fourth year of pediatric residency is for individuals participating as a Chief Resident or for individuals participating in a 4-year or 5-year combined training program, such as Med-Peds.

- **Fellowship:** The fourth year of pediatric subspecialty fellowship is most often for individuals participating in a 5-year combined training specialization.
- **Level 5 – Typically for Trainees in Combined Programs:**
  - **Residency:** The fifth year of pediatric residency for individuals participating in a 5-year combined training program, such as Peds-Anesthesiology.
  - **Fellowship:** The fifth year of pediatric subspecialty fellowship is most often for individuals participating in a 5-year combined training specialization.

**Program Directors:** Directors of pediatric residency or subspecialty fellowship training programs responsible for the educational experience of the trainees in their program. Program directors submit tracking data to the ABP on an annual basis.

**Recertification:** Recertification was implemented by the ABP from 1980 through 2002. It provided pediatricians a way to periodically evaluate their knowledge, medical problem solving, and record keeping. It also encouraged continued professional education and self-assessment. Recertification evolved throughout the years it was implemented, initially beginning with a voluntary process from 1980 through 1995. Beginning in 1996 through 2002, a 7-year open book examination was required for recertification for those whose certifications were up for renewal. This recertification process was required to remain certified except for permanent certificate holders (those initially certified before May 1, 1988). Diplomates with permanent certificates were not required to participate in recertification to maintain certification, although many did so. Beginning in 2003, Maintenance of Certification (MOC) was begun, thereby replacing the recertification process. Nonetheless, the word “recertification” is commonly used to refer to both recertification processes from 1980 through 2002 and MOC.

**Resident:** A trainee who has completed undergraduate medical education and is engaged in graduate medical education at a residency training program.

**Royal College of Physicians and Surgeons of Canada (RCPSC):** Accrediting and certifying organization for training programs in Canada. Conversely, the U.S. system separates accreditation from certification.

**Specialty:** An area of training in which an individual physician may be initially certified and maintain certification through one of the member boards of the American Board of Medical Specialties (ABMS). Examples include Pediatrics, Family Medicine, Internal Medicine, Emergency Medicine, Surgery.

**Time-limited Eligibility Policy:** Beginning in 2014, the ABP requires that applicants for certifying examinations have completed the required training for initial certification within the previous 7 years.

**Tracking Data:** Data collected annually by the ABP from pediatric residency and subspecialty fellowship training program directors and entered into the ABP’s Certification Management System (CMS). The data includes measures of trainees’ clinical competence and professionalism throughout residency. This information is then used to help evaluate readiness to sit for the GP Certifying Examination.

**Trainee:** When used by the ABP, this term typically indicates a resident or subspecialty fellow.

**Unduplicated:** In some tables, figures, or maps in workforce reports, individuals may fall into more than one category. When this occurs and where possible, individuals are counted in only one category to avoid duplicate counts.

**Work Status: Diplomates may be identified as “clinically active” or “clinically inactive” as defined below:**

- **Clinically Active:** Diplomate engaged in some level of clinical practice, even if only supervising trainees.
- **Clinically Inactive:** Diplomate not involved in clinical practice. This status can be associated with pediatricians who are retired from medical practice or may be employed in academic, administrative, research, or other non-clinical capacities.



**Published By:**

**The American Board of Pediatrics, Inc.**

111 Silver Cedar Court

Chapel Hill, NC 27514

Telephone: 919-929-0461

Web: [www.abp.org](http://www.abp.org)

Email: [workforce@abpeds.org](mailto:workforce@abpeds.org)

