Designing Program Requirements for a New Generation of Pediatricians: A Writing Group's Journey

Susie Buchter, MD
Gabriel M. Daniels, MD
Stephanie B. Dewar, MD
Caroline Fischer, MBA
Jason (Jay) Homme, MD
Jennifer Kesselheim, MD, EdM
Adam Rosenberg, MD
Shawna Segraves Duncan, DO
Judith Shaw, EdD, MPH, RN

Introduction

The Accreditation Council for Graduate Medical Education (ACGME) strives to improve health care and population health by assessing and enhancing the quality of resident and fellow physicians' education.[1] To this end, program requirements are revised and updated every 10 years. Since 2017, the ACGME has included scenario-based strategic planning in the design of training requirements. Prior to proposing any revisions, a writing group composed of the current and former Review Committee for Pediatrics (RC-Peds) Chairs, RC-Peds members, RC-Peds resident member, ACGME Board members, and ACGME Board and RC-Peds public members worked with the specialty community to think rigorously and creatively about what the specialty will look like in the future, recognizing it is marked with significant uncertainty. This article summarizes the process and product of the most recent revision of the Program Requirements for Graduate Medical Education in Pediatrics, which will be implemented in July 2025 (FIGURE).

The major changes in the requirements as envisioned by the RC-Peds will balance the training experience of pediatric residents between inpatient and outpatient as well as between general and subspecialty pediatrics. Notable additions to the requirements include mandatory education around mental health and an early introduction to outpatient subspecialty experiences. A longitudinal outpatient pediatric experience is maintained and accommodates innovative scheduling.

Current Context

Upon embarking on the revision process, the RC-Peds identified several guiding principles and relevant trends in pediatric training.

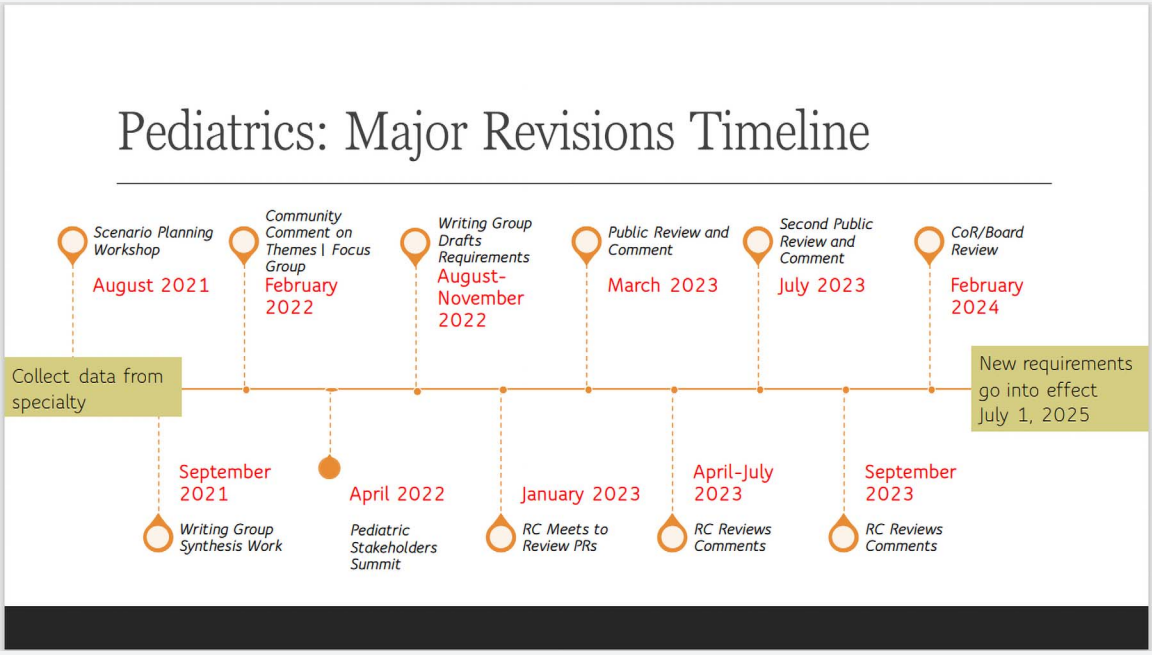
First, the RC-Peds articulated a definition of a pediatrician, with particular focus on the pediatrician who would be needed for the future (BOX). Pediatricians provide health promotion, disease prevention, diagnosis, and treatment for infants, children, adolescents, and young adults through health and all stages of illness. Pediatrics encompasses not only primary but also subspecialty care. Pediatric residency programs must train pediatricians who can assume the general practice of pediatrics, and also train pediatricians who are prepared to continue their training in subspecialty programs.

Second, the RC-Peds identified misalignment between current training and the ideal state, especially with regard to the balance of inpatient and ambulatory training experiences. Excessive time spent in inpatient units, including inpatient subspecialty and critical care experiences, comes at the expense of exposure to ambulatory settings. The pediatric workforce remains inadequate in certain subspecialty areas.

Third, competency-based medical education (CBME) has been a focus of the ACGME and the pediatrics professional organizations since the introduction of the Outcome Project in 2001.[2] One of the tenets of CBME is variability in the time needed for residents to be ready to enter unsupervised practice. The writing group discussed whether this variability should alter the overall time in training in the new requirements. We felt that having a defined number of residents over an academic year is needed to provide for a consistent team structure and schedule on clinical rotations and would lessen fluctuations in any graduate medical education (GME) funding needed. A consistent "dwell time" in training would also support resident well-being by promoting camaraderie within a class. Within the new program requirements, there is flexibility through the individualized curriculum for residents to continue to work in areas where assessments indicate lack of competency or to delve into areas that further their career development. The concepts of CBME, Milestones 2.0, and the American Board of Pediatrics' entrustable

DOI: http://dx.doi.org/10.4300/JGME-D-24-00932.1

Editor's Note: The ACGME News and Views section of JGME includes data reports, updates, and perspectives from the ACGME and its review committees. The decision to publish the article is made by the ACGME.



FIGURE

Timeline for the Revision of the Program Requirements for Graduate Medical Education in Pediatrics

Abbreviations: RC, Accreditation Council for Graduate Medical Education Review Committee for Pediatrics; CoR: Accreditation Council for Graduate Medical Education Committee on Requirements.

Note: The process had considerable input from the community we serve and the graduate medical education community. At all points, the writing group carefully considered feedback while crafting these requirements.

professional activities (EPAs) were all integrated in the revisions without moving away from the current state of time-based training.[3-5]

Lastly, the RC-Peds recognized the value of flexible scheduling because of an AIRE (Advancing Innovation in Resident Education) project conducted from 2018 to 2024.[6] This project examined the impact of consolidating the longitudinal outpatient experience into blocks of time (Y) between the other structured experiences of training (X) rather than traditional half-day per week clinic experiences.[7] The project showed that most residents and faculty members at all sites perceived improvement in outpatient continuity and inpatient workflow, and increased teaching time in both settings. The revised requirements allow for X+Y or other flexible scheduling models since minimal experiences are defined in weeks of aggregate time rather than in blocks.

In the scenario-based planning process, further strategies were identified that were necessary to train the pediatrician of the future. Additional representatives invited to participate in the workshop included: program directors from large and small programs, academic medical center and community-based programs, and pediatric and subspecialty programs; pediatrics residents; recent general pediatrics and pediatric subspecialty graduates; a pharmacist; a psychologist/social worker; a pediatrics physician assistant; ACGME Board members (including public members); and representatives from the American Academy of Pediatrics (AAP), American Board of Pediatrics (ABP), American Osteopathic Association (AOA), Association of Pediatric Program Directors, Council of Pediatric Subspecialties (CoPS), Medicine-Pediatrics Program Directors Association (MPPDA), Review Committee for Obstetrics and Gynecology, Review Committee for Internal Medicine, and ACGME International Review Committee.

An independent literature review was also conducted on a variety of topics including complex care management, procedural expectations, advancing technologies (eg, telehealth), exposure to pediatric subspecialties, individualized curriculum, and inclusive learning environments.

Finally, focus groups and interviews were conducted to solicit input from patients and families as well as health care executives. Key priorities that emerged from the focus groups included:

- Parents value a pediatrician's listening and communication skills, ability to connect with children in all age stages, and ability to reassure and guide parents.
- Parents view primary pediatricians as generalists responsible for health promotion, illness identification and treatment, and appropriate triage and referral. Both parents and health care executives

BOX The Pediatrician of the Future

Pediatricians are physicians who provide comprehensive patient-centered preventive, acute, and chronic care for the growing and developing child from birth through the transition to adult care. They have expertise in managing the whole patient, including medical and psychosocial concerns. The pediatrician has knowledge of and manages common childhood and adolescent medical and behavioral issues, including attention-deficit/hyperactivity disorder (ADHD), depression, and anxiety.

Pediatrics practice is characterized by flexibility and adaptability. A good pediatrician has broadbased knowledge, strong critical thinking skills, and the flexibility to practice in a wide variety of settings and circumstances. Pediatricians have the skills to recognize and refer ill children to higher levels of care, manage the care of hospitalized children, and see sick children in a primary care office, urgent care, or other settings. Pediatricians formulate questions for consulting subspecialists and co-manage children with chronic physical and mental health problems.

Pediatricians are the voices for children, so are vigorous advocates on their behalf. They have a strong presence within their local communities, where they promote health and health equity in ways that build public trust in the profession. In their interactions with others, they exhibit cultural humility and empathy. They are grounded in principles of social justice, advocate for underserved populations, and seek to eliminate disparities in care. They are collaborative leaders who lead by example and practice interprofessional team-based care. Pediatricians use broad communication skills with patients, patients' families, treatment teams, communities, and health care managers and systems.

Pediatricians are lifelong learners. They stay current with advanced and emerging technologies and understand and manage the business of medicine. Pediatricians utilize data management science to inform patient care resulting in high-value patient-centered care, continuous quality improvement, and ethical service delivery.

Pediatricians partner and connect in their relationships with colleagues, team members, and patients, maximizing both their own and their teams' well-being. They find meaning, joy, and purpose in efficiently caring for patients and are equipped, educated, and trained to lead and manage teams. The pediatrician's coordination of care extends through the end-of-life, including grief and bereavement management for the benefit of children, families, and their team members. The discipline is characterized by a collaborative, compassionate, cognitive, scholarly, and relationship-oriented approach to comprehensive patient care.

identify that mental/behavioral health services should receive significant attention.

- Health care executives identify access to care as a concern.

Insights About Pediatricians of the Future and Their Practice (Scenario Planning)

Several themes emerged from the scenario planning efforts that provide insight into the potential pediatricians of the future and their practice. It is recognized that the pediatrician of the future will not achieve mastery of all competencies during residency alone. Residency must serve as the foundation for career-long professional development and adaptation to a changing health care system and community need. A significant number of pediatricians also go on to attain further education and training in subspecialties.

Future Pediatrics Residency Education and Training

The scenario planning was a central element to the process. It allowed development of essential themes through consideration of 4 alternate futures. The themes were then utilized to develop training strategies. In each scenario, strategies were developed to successfully educate and train the pediatrician of the future. The strength of each strategy was then assessed in each of the other 3 scenarios. Strategies that were most successful across scenarios were considered most likely to be useful in any potential future.

Eight themes emerged from the consolidation of the diverse strategies:

1. Comprehensive Clinical Care

The essential role of the pediatrician is to provide comprehensive medical care to infants, children, and adolescents. This includes routine well-child visits, minor intercurrent sick visits, acute more severe illness encounters, and management of chronic conditions. Pediatricians are proficient in assessing growth and development from a patient's birth until their transition to adult physicians.

They are experts in recognizing normal variations in growth, development, and wellness, along with detecting abnormalities that may threaten the well-being of their patients.

2. Technology Integration

Pediatricians will interface with technology in a multitude of areas, including the electronic health record, clinical decision-making tools, patient engagement platforms, and new technologies, to improve clinical care of patients.

3. Outcomes-Based Practice

Pediatricians must be mindful of the many dimensions of the outcomes of their care. They must monitor

patient safety, patient cost, patient access, and effectiveness of treatment in single patients and in populations. Pediatricians are cognizant of their role in preventive care and health maintenance through transitioning a child's care to an adult physician.

4. Effective Communication

To better serve the needs of the whole patient, pediatricians have exemplary communication skills. They interact and build relationships with patients, patients' families, care teams, health care managers, schools, and other members of the patient's community. Communication needs to be culturally sensitive and provided through a variety of modalities.

5. Leadership and Collaboration

Pediatricians are collaborative leaders of care teams and partners in decision-making around issues of child health and well-being.

6. Community and Physician Advocacy

Pediatricians are the voices for children, so they must have a strong presence within their local community. They promote health and health equity while exhibiting cultural humility and empathy. They need to be grounded in principles of social justice, advocate for underserved populations, and seek to eliminate disparities in care. Pediatric medicine is filled with joy and a sense of accomplishment. Pediatricians should recognize the need for a healthy work environment, as long work hours, administrative and documentation requirements, poor patient outcomes, and interpersonal conflict with patients, patients' families, and/or colleagues can lead to exhaustion, burnout, and loss of valuable physicians.

7. Professionalism, Diversity, Equity, and Inclusion

Pediatricians care for children, a vulnerable population, and engender public trust through their ethical and professional principles. As part of a systematic approach to reducing health care disparities, pediatricians should seek to develop a diverse workforce.

8. Educational Process

The education and training of a pediatrician includes the development of attributes and values, as well as knowledge and skills. The time it takes for residents to acquire competence may vary in length and experience. Some abilities, once acquired, may not be permanent, and may require ongoing attention and effort by graduates throughout their careers. The profession will be sustained and enhanced by inspiring students and residents to consider a career in pediatrics.

Stakeholders' Summit

The Themes document was posted for public comment. After receipt of public comments, the ACGME and the writing group hosted a key stakeholders' summit. Invited attendees included representatives from the AAP, ABP, American College of Osteopathic Physicians, American Medical Association, Association of Medical School Program Department Chairs, AOA, American Osteopathic Board of Pediatrics, APPD, Council on Medical Student Education in Pediatrics, CoPS and MPPDA, Review Committee for Psychiatry, along with current residents, fellows, early career pediatricians, and public members.

Topics for discussion at the summit included: subspecialty experiences, mental health training, longitudinal ambulatory experience, technology integration, procedural competence including the use of simulation, effective communication, community and physician advocacy, outcomes-based practice including quality improvement, leadership/collaboration, interprofessionalism and teamwork, and educational process/training framework.

Essential takeaways from the stakeholders' summit included strengthening general pediatric training, enhancing subspecialty experiences in the outpatient setting, adding focused mental health training, providing clarification of required procedures, reinforcing attention to trainee and faculty well-being, enhancing community involvement, maintaining safe patient volumes on inpatient services, and providing culturally sensitive care.

Initial Draft of the Revised Program Requirements for GME in Pediatrics

The writing group drafted an initial set of requirements that addressed the definition of the pediatrician, the specialty-specific competencies, curriculum, length of the program, participating sites, resources, program director responsibilities, faculty qualifications, and evaluation. The specialty-specific competencies were developed through a thorough review of the components from the Themes document, along with integration of the EPAs as published by the American Board of Pediatrics and the Pediatric Milestones 2.0 from the ACGME. Objectives of the revision included the focus on the future practice of pediatrics, the reduction in the number of requirements to relieve administrative burden, and encouragement of flexibility that allows for innovation.

TABLE
Features of the Revised Program Requirements

Requirement Domain	New Requirements (July 2025)	Previous Requirements
General principles		
Inpatient	8 half-days × 4 weeks	200 hours
Ambulatory	Minimum 8 half-days × 4 weeks	Minimum 32 half-days
Supervisor rotations	4 four-week experiences	5 educational units
Continuity clinic	36 with no more than 8 weeks between sessions	36 in no less than 26 weeks
Inpatient	10 four-week experiences	10 educational units
General IP Peds/PHM	4 four-week experiences	5 educational units
General IP Peds/PHM or IP subspecialty	2 four-week experiences of different subspecialties	The 5 IP months could include inpatient subspecialties
NICU/PICU	3 four-week experiences; minimum 1 each	2 units NICU, 2 units PICU
Newborn	1 four-week experience	1 educational unit
Ambulatory	10 four-week experiences	7 educational units
Adolescent medicine	1 four-week experience	1 educational unit
Developmental-behavioral pediatrics	1 four-week experience	1 educational unit
Mental health	1 four-week experience	0
General ambulatory clinic	2 four-week experiences	2 educational units
Peds EM/urgent care	3 four-week experiences	3 educational units
Outpatient subspecialty (minimum 2 different)	1 four-week experience	0
Additional ambulatory	1 four-week experience	0
Individualized/subspecialty	40 weeks	
Subspecialty experiences	20 weeks	7 educational units
Other elective/research/QI–career focused	20 weeks	6 educational units

Abbreviations: IP, inpatient; Peds, pediatrics; PHM, pediatric hospital medicine; NICU, neonatal intensive care unit; PICU, pediatric intensive care unit; EM, emergency medicine; QI, quality improvement.

The initial draft was reviewed, updated, and endorsed by the full RC-Peds. This draft was posted for public review and comment. The RC-Peds received an unprecedented number of comments during the open comment period. Most comments focused on intensive care unit rotations, elimination of the mandatory procedure list, and faculty qualifications. The RC-Peds reviewed all comments, considered the rationale behind each, and revised the proposed requirements. To accommodate the revisions, the implementation deadline was postponed allowing for a second public comment period.

After the second public comment period, the final document was prepared by the RC-Peds and submitted for Committee on Requirements (CoR)/ACGME Board approval. In their response to the RC-Peds, the CoR applauded the flexibility and innovation of the requirements, reduction of administrative burden, and entrustment of program leaders to implement the revisions in line with their program mission.

Features of the Revised Program Requirements for Graduate Medical Education in Pediatrics include (the TABLE shows minimum requirements for each component):

- Equal balance between inpatient, outpatient, and individualized experiences.
- Recognition of importance of both general pediatrics and subspecialty experiences.
- Maintenance of longitudinal outpatient experience (continuity clinic) with increased flexibility.
- Introduction to ambulatory subspecialty experience early in training.
- Addition of mandatory mental health experience.
- Inclusion of all Pediatrics Milestones 2.0 and ABP EPAs in required curricular elements in preparation for a move toward CBME.
- Faculty responsibility for team workload, resident well-being, and patient safety.
- Requirement to mitigate implicit bias in resident evaluations.

- A limited number of core procedures with additional individualized opportunities.
- Clarification of required faculty and their qualifications.

Lessons Learned and Future Steps

The authors, through creation of this article, intend to equip program leaders and faculty with deeper insight into the process of requirement development as transparency often builds trust and trust is the foundation for collaborative change. The process of program requirement revision highlighted many key considerations within GME. As a profession we agree to self-monitor/regulate. Programs and institutions agree to accreditation and review and, in turn, have opportunities to provide input, as was demonstrated through stakeholder events and the periods of public comment. The periodicity of program requirements' revision acknowledges the changes within the field and the importance of making changes in current training to meet future societal needs. The creation of a definition of a pediatrician illuminated several key components that make up the essence of our specialty, and the program requirements mandate core experiences and dwell time to produce fundamental knowledge, skills, and attitudes in all graduates regardless of program location or size. The ability for programs to innovate within a framework optimizes the opportunity to meet the needs of the unique patient populations they serve and to prepare each trainee for the next step in their training/career. Flexibility and delegated authority to program leaders are key tenets of these latest updates along with burden reduction in terms of the number and specificity of total requirements.

The writing group identified a myriad of opportunities for research endeavors that stem from the updated requirements. Scholarship intended to measure outcomes of this shift in training falls outside the purview of the ACGME or the RC-Peds. But the community of pediatric GME educators, both for residency and fellowship training, is well-positioned to design and execute scholarly pursuits due to its robust collaborative research networks, such as the Longitudinal Educational Assessment Research Network (LEARN) and the Subspecialty Pediatrics Investigator Network (SPIN). Future research could be designed to investigate the process and outcomes of implementing innovative components of the new requirements. For example, which health professionals are delivering the teaching and supervision during the new mental health rotation? To what extent are the teachers physicians vs interprofessional partners, and what settings prove most fruitful for learning about mental and behavioral health?

Additional research could measure financial ramifications of the new requirements as we observe patterns of hiring that may be needed to supplement the resident role in the inpatient setting and the potential costs or revenues related to having greater resident presence in ambulatory settings. Also, the requirement for earlier exposure to subspecialties creates an opportunity to study when residents make pivotal career decisions and how the pediatric fellowship match numbers may change after implementation of the new requirements.

References

1. Accreditation Council for Graduate Medical Education. Mission, Vision, and Values. Accessed October 31, 2024. https://www.acgme.org/about/overview/mission-vision-and-values/
2. Swing SR. The ACGME outcome project: retrospective and prospective. *Med Teach*. 2007;29(7):648-654. doi:10.1080/01421590701392903
3. Accreditation Council for Graduate Medical Education. Pediatric Milestones. Accessed October 7, 2024. https://www.acgme.org/globalassets/pdfs/milestones/pediatricsmilestones.pdf
4. Schumacher DJ, West DC, Schwartz A, et al. Longitudinal assessment of resident performance using entrustable professional activities. *JAMA Netw Open*. 2020;3(1):e1919316. doi:10.1001/jamanetworkopen.2019.19316
5. American Board of Pediatrics. Entrustable professional activities for general pediatrics. Accessed October 7, 2024. https://www.abp.org/content/entrustable-professional-activities-general-pediatrics
6. Accreditation Council for Graduate Medical Education. Advancing Innovation in Residency Education (AIRE). Accessed October 7, 2024. https://www.acgme.org/initiatives/advancing-innovation-in-residency-education-aire/
7. Myers RE, Thoreson L, Howell HB, et al. Three years of X + Y scheduling: longitudinal assessment of resident and faculty perceptions. *Acad Pediatr*. 2022;22(7):1097-1104. doi:10.1016/j.acap.2022.01.014

Susie Buchter, MD, is Professor Emerita, Department of Pediatrics, Emory University School of Medicine, Atlanta, Georgia, USA, and Former Pediatrics Review Committee (RC) Chair, Accreditation Council for Graduate Medical Education (ACGME); Chicago, Illinois, USA; **Gabriel M. Daniels, MD,** is a Fellow in Hospice and Palliative Medicine, Department of Internal Medicine, University of Alabama at Birmingham, Birmingham, Alabama, USA, and Former Pediatrics RC Resident Representative, ACGME, Chicago, Illinois, USA; **Stephanie B. Dewar, MD,** is Professor Emeritus of Pediatrics, Department of Pediatrics, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA, and Former Pediatrics RC Chair, ACGME, Chicago, Illinois, USA; **Caroline Fischer, MBA,** is

Executive Director, Pediatrics RC, ACGME, Chicago, Illinois, USA; **Jason (Jay) Homme, MD,** is Associate Professor of Pediatrics, Department of Pediatric and Adolescent Medicine, Mayo Clinic Rochester, Minnesota, USA, and Pediatrics RC Member, ACGME, Chicago, Illinois, USA; **Jennifer Kesselheim, MD, EdM,** is Designated Institutional Official, Boston Children's Hospital and Associate Professor of Pediatrics, Department of Pediatrics, Harvard Medical School, Boston, Massachusetts, USA, and Former RC Vice Chair, ACGME, Chicago, Illinois, USA; **Adam Rosenberg, MD,** is Pediatric Residency Program Director, Department of Pediatrics, University of Colorado School of Medicine, Aurora, Colorado, USA, and Pediatrics RC Member, ACGME, Chicago, Illinois, USA; **Shawna Segraves Duncan, DO,** is Professor of Pediatrics, Department of Medical Education, Oklahoma State University College of Osteopathic Medicine at Cherokee Nation, Tahlequah, Oklahoma, USA, and Pediatrics RC Member, ACGME, Chicago, Illinois, USA; and **Judith Shaw, EdD, MPH, RN,** is Emeritus Professor of Pediatrics, Department of Pediatrics, Larner College of Medicine, University of Vermont, Burlington, Vermont, USA, and Pediatrics RC Public Member, ACGME, Chicago, Illinois, USA.

Corresponding author: Stephanie B. Dewar, MD, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA, sbd12@pitt.edu