

Shaping GME: The Future of Pediatrics

Major Revisions to the Program Requirements for Pediatrics

Scenario-Based Planning Summary of Themes and Insights

2022

Overview

Every 10 years, the ACGME Review Committees are required to evaluate the applicable specialty-specific Program Requirements for revision. In 2017, the ACGME re-envisioned the process by which this is done and piloted a new approach within the specialty of internal medicine. The new process, which includes scenario-based strategic planning, requires a writing group (composed of Review Committee members and ACGME Board members, including public members) and the specialty community to think rigorously and creatively about what the specialty will look like in the future prior to proposing any revisions, recognizing the future is marked with significant uncertainty.

Key Insights about the Practice of the Pediatrician of the Future

Several themes emerged from the scenario planning efforts that provide insight into the pediatricians of the future and their practice. It is recognized that the pediatrician of the future will not achieve mastery of all these 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 go on to attain further education and training in subspecialties.

Definition of the Pediatrician

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 broad-based 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.

Future Pediatrics Residency Education and Training

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 three 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
2. Technology Integration
3. Outcomes-Based Practice
4. Effective Communication
5. Leadership and Collaboration
6. Community and Physician Advocacy
7. Professionalism, Diversity, Equity, and Inclusion
8. Educational Process

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 competent in assessing growth and development from birth until the transition to adult providers. 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.

Pediatrics residency programs will:

- Ensure all pediatricians are experts at routine diagnosis and treatment while ensuring they remain able to recognize, critically evaluate, and manage complexities.
- Educate and train residents to provide preventive, acute, and chronic care for problems that are psychosocial and those emanating from climate change.
- Educate and train residents who are competent in identifying and managing common psychological conditions of childhood and in partnering with the community to minimize stressors through non-medical solutions.
- Educate and train residents to provide medical care that addresses concerns of individual patients, patients' families, and/or groups of patients.

- Teach residents end-of-life care coordination and grief and bereavement management, including the care team.
- Educate and train residents to be self-reliant, use critical thinking, use independent problem-solving, and devise solutions in rapidly changing conditions and ambiguous situations.
- Educate and train residents to be adaptable, obtain broad-based knowledge, and be flexible to practice in various care environments, including settings with differing access to resources.

Successful programs will:

- Provide experiences in the full spectrum of inpatient and outpatient care of well and sick infants, children, and adolescents, including attention to diagnosis and treatment of psychological issues to include ADHD, anxiety, and depression.
- Provide experiences in appropriate procedures necessary for the successful practice of pediatrics.
- Structure clinical experiences in which residents have appropriate supervision while increasing their responsibilities as they advance their clinical skills.
- Structure clinical and educational experiences that engage residents in critical thinking about clinical scenarios.
- Train supervisors to elicit critical thinking processes with residents as they care for patients.
- Embed discussions about psychological stressors of patients and patients' families in all care locations.
- Educate and train residents to provide care to individual patients, patients' families, and groups of patients.
- Teach residents the essential components of end-of-life care and provide safe spaces to debrief the death of patients.
- Offer clinical experiences with varying levels of resource support, such as community, global, and resource-poor environments.

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.

Pediatrics residency programs will:

- Ensure competence in advanced and emerging technologies in a variety of care settings.
- Ensure familiarity with the application of data analysis to inform patient care.

Successful programs will:

- Offer clinical training in emerging technologies through workshops, simulation, and didactic education.
- Produce graduates who can use the electronic health record to analyze patient data to drive quality improvement and equitable service delivery.
- Ensure their graduates can effectively use technology-assisted clinical decision-making tools, such as search engines and artificial intelligence.
- Teach residents how to perform a telehealth visit.

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 provider.

Pediatrics residency programs will:

- Organize learning around the central principles that drive exceptional health outcomes: high-value patient-centered care; continuous quality improvement; and equitable service delivery.
- Model preventive health care skills to improve population health outcomes through ongoing community involvement and facilitating the transition to adult care.

Successful programs will:

- Make available to residents the cost of lab tests, pharmaceuticals, and imaging so they may balance clinical benefits with cost and harm and eliminate unnecessary care.
- Involve residents in the development of evidence-based guidelines that inform care.
- Teach residents how to provide transition of care to adult providers, including performing a readiness assessment, soliciting a patient self-assessment, and providing an appropriate medical summary.
- Teach residents the appropriate preventive health services for children.
- Involve residents in quality improvement initiatives in the hospital and outpatient clinic.

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 through a variety of modalities.

Pediatrics residency programs will:

- Foster deep and broad skills in communication with patients, patients' families, complex treatment teams, communities, and health care managers and systems, as well as in emerging communication modalities.

Successful programs will:

- Assess residents' communication skills through comprehensive, multi-perspective evaluations, including feedback from patients and their families, faculty members, peers, and other members of the care team.
- Provide education centered on establishing rapport, sharing information, eliciting patients' and patients' parents' perspectives, and setting goals with patients and their families.
- Coach residents on handling difficult conversations, such as disclosing serious diagnoses, responding to emotions, and navigating end-of-life discussions with patients and patients' families.
- Utilize educational modules about effective communication with the vaccine hesitant.

Leadership and Collaboration

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

Pediatrics residency programs will:

- Immerse residents in experiences that facilitate longitudinal partnerships with interprofessional colleagues, community organizations, and/or leaders in health care systems, thereby cultivating interdisciplinary communication skills and impressing an understanding of others' roles in the lives of healthy children.
- Teach residents to influence child health and well-being through communication, negotiation, collaboration, and leadership within health systems, community and professional organizations, and related governing bodies.

Successful programs will:

- Structure clinical rotations and experiences so that residents have critical roles in care teams with progressing levels of responsibility and leadership throughout their educational program experience.
- Provide experiences for residents as members of interdisciplinary committees and groups (e.g., hospital committees, community boards, advocacy groups, health departments, specialty boards) to allow for involvement in discussions and decisions around the provision of care and maintenance of the well-being of children in their communities.

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. Pediatrics 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.

Pediatrics residency programs will:

- Educate and train residents to have cultural and structural competence and humility to support bias mitigation.
- Prepare residents to advocate for the care of underserved populations by promoting equity and seeking to eliminate disparities in care.
- Prepare residents to be advocates for destigmatizing and providing care for psychological conditions.
- Be structured to support the well-being of the entire care team while supporting clinical, scholarly, personal, and professional development.
- Model the pediatrician's essential role as a physician in the delivery of interprofessional health care to patients and patients' families.
- Model a community of support among physicians, patients, and patients' families to enhance therapeutic relationships and build public trust in the profession.

Successful programs will:

- Provide education and training in antiracism, recognizing explicit and implicit biases, and health care inequities that place populations at risk and result in poor health outcomes.

- Provide a mechanism for reporting racism, discrimination, prejudice, and health care inequities to revise and improve systems.
- Incorporate competency-based evaluations to assess residents' level of knowledge and interventions around racism and health disparities.
- Structure rotations and work schedules to minimize physical, mental, and emotional exhaustion and burnout.
- Provide support for administrative tasks and documentation to minimize time spent away from the bedside of patients.
- Provide access and time to utilize physical, mental, social, and psychological support for residents, faculty members, and administrative staff members.
- Normalize the use of mental health resources.
- Create safe spaces for debriefing challenging and/or devastating patient outcomes and encounters.
- Provide longitudinal clinical experiences with mental health providers to incorporate attention to psychological issues in clinical interactions.
- Develop a culture of inclusion without fear of intimidation with free dialogue among all team members.

Professionalism, Diversity, Equity, and Inclusion

Pediatricians care for children, a vulnerable population, and engender the 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.

Pediatrics residency programs will:

- Instill exemplary ethical and professional standards.
- Advance diversity through recruitment, education, and longitudinal mentoring programs.

Successful programs will:

- Emphasize ethics and professionalism in interactions with patients and colleagues through formal curricula and role modeling.
- Recruit and retain residents and faculty members of diverse backgrounds.
- Develop partnerships within the community to aid in developing a diverse workforce.
- Build safe, equitable, and inclusive learning environments.

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 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.

Pediatrics residency programs will:

- Employ individualized, competency-based education, training, and assessments.
- Ensure that residents have skills for self-directed learning and emerge from the program as motivated lifelong learners.
- Educate and train effective and inspiring teachers, with a goal of retaining the best and brightest among the next generation of physicians.

Successful programs will:

- Individualize the length of education and training and clinical experience based on each resident's achievement of competence.
- Graduate residents who are competent teachers and mentors.
- Graduate residents who achieve and maintain board certification.
- Graduate residents who participate in ongoing professional development.

Next Steps

The writing group respectfully requests feedback regarding the major themes from the report, including the vision of the future pediatrician and program strategies. The group seeks diverse perspectives—from the public, patients, families of patients, community agencies, clinicians within and outside pediatrics, and all stakeholders in health care and population health.

A Stakeholder Summit will be held in May or June 2022 to consider and expand on feedback from the public comment period and adjust themes and strategies to prepare for revisions to the Program Requirements.

Questions for Various Stakeholders – Pediatrics

- What, if any, additional educational experiences should be considered in support of meeting the aspirational definition of the pediatrician, as proposed above?
- Describe any potential challenges your program might face in providing the experiences described above. What additional resources might be required to support implementation of these experiences?
- In addition to the themes and strategies described what, if any, additional issues should be addressed in the revised Program Requirements?

Submit comments using [the comment form](#) to pediatrics@acgme.org by **March 16, 2022**.

Addendum

What is scenario-based planning?

Scenario-based planning is a technique by which organizations develop and test their readiness for the future using a range of alternative futures or scenarios. In this case, these scenarios are detailed, systematically developed descriptions of operating environments that the US medical profession might face over the next 25 years or more. This is a technique for managing uncertainty, risk, and opportunity. It yields a strong strategic framework for understanding future needs and a practical basis for immediate action. The intent is not to predict what the future will be and then build a master plan, but rather to ask what the future might hold and identify actions that can be taken today that are most likely to be valuable regardless of how the future turns out. As a result, the technique relies far more on expert judgment and less on quantitative trend forecasts.

What has taken place so far?

In 2013, the ACGME Board of Directors engaged in a scenario-based planning exercise using four widely varied, plausible, internally consistent scenarios describing the range of the future context for health care delivery. These same scenarios were used again during two workshops for the Review Committee for Internal Medicine's Program Requirement revision process in 2017 ("Internal Medicine 2035").

The process resulted in a summary of general insights about the practice of medicine in the future, followed by key insights about the internist in 2035 that worked well and were viable regardless of scenario, and final recommendations for what residency programs should do to prepare the internal medicine resident to practice in 2035. The Review Committee for Internal Medicine then used this information to design the recent major revisions to the Program Requirements for Graduate Medical Education in Internal Medicine.

The process was refined as a result of the experiences with internal medicine, and subsequently with family medicine. Pediatrics is the third specialty to embark on this new major revision process through scenario-based planning. New scenarios were developed and updated for envisioning the future in 2050 or beyond. These are:

- Now You're on Your Own – A dynamic, high-technology world characterized by a novel mix of libertarian economics and progressive social policies, with a rich economy.
- New New Deal – Following decades of political division and economic stagnation, this world is based on social democracy, civic unity, bold government actions, economic rebound, and public optimism.
- Ex Uno, Plures – A world with a weak federal government, strong independent states, divisive culture wars, no safety nets, isolationism, and near-depression economics.
- One Giant Leap – A world of rapid temperature rise and extreme weather causing havoc and widespread anxiety, and a large shift in government priorities, with sluggish economics.

Thirty participants representing the pediatrics community, other specialties (internal medicine and obstetrics and gynecology), and related fields attended a workshop in August 2021. The focus was to provide the Review Committee with insights regarding what the practice of pediatrics could look like in each scenario.

Above is a summary of the results of the scenario-based planning workshop – key insights about the pediatrician of the future that worked well and were viable regardless of the scenario, and recommendations for what programs should do to prepare pediatrics residents to practice in

2050. The writing group will use these findings and public comments to begin its major revision process in the summer of 2022.