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POLICY STATEMENT

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

Committee on Pediatric Workforce

Pediatrician Workforce Statement

ABSTRACT. This statement discusses the importance of pediatrician-workforce issues and their relevance to the provision of pediatric health care. It reviews previous work in the health policy arena on physician and pediatrician workforce. Key pediatrician-workforce trends are described, including the growth in the number of pediatricians in relation to the child population, the increase in the number of female pediatricians, the role of international medical graduates, the diversity of the pediatrician workforce, the contributions of internal medicine-pediatrics physicians, the increasing number of nonpediatrician providers of pediatric care, geographic distribution of physicians, and the future of pediatric subspecialists. Methods of influencing the pediatrician workforce are also considered. In the concluding series of recommendations, the statement identifies both overarching policy goals for the pediatrician workforce and implementation strategies designed to ensure that all of America's infants, children, adolescents, and young adults have access to appropriate pediatric health care. *Pediatrics* 2005;116:263–269; *diversity, female pediatricians, geographic distribution, internal medicine-pediatrics, international medical graduates, pediatric subspecialists, pediatrician workforce, Title VII.*

ABBREVIATIONS. AAP, American Academy of Pediatrics; IMG, international medical graduate.

INTRODUCTION

An appropriate pediatrician workforce is essential to achieve the mission of the American Academy of Pediatrics (AAP) to attain the optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults within the context of the medical home.¹ However, accurately forecasting the pediatrician workforce is a difficult task, and shaping an appropriate workforce that meets these needs is even more challenging. Although there is extensive literature on the physician workforce, many fundamental questions remain unanswered. To inform the recommendations of this workforce policy statement, the companion pediatrician workforce technical report, "The Pediatrician Workforce: Current Status and Future Prospects,"² reviews the current knowledge and the problems to be addressed.

PHYSICIAN-WORKFORCE HISTORY

Health care has been considered a societal responsibility as well as an individual one. Government has taken an active role in influencing the physician workforce and, consequently, the pediatrician workforce to meet perceived obstacles to access to care.³ After World War II, the federal government addressed a perceived physician shortage by offering incentives to states to increase the number of medical students and reduced immigration barriers to international medical graduates (IMGs). Public policy began to change in 1980 when the Graduate Medical Education National Advisory Committee, applying a needs-based approach, reported a projected physician surplus.⁴ The expansion of managed care in the 1980s led to additional predictions of an oversupply of physicians, particularly specialists, based on physician utilization by managed care organizations⁵ and international comparisons. Anecdotal accounts about residents unable to find practice positions in the late 1990s lent credence to those concerns.^{6,7} Many policy bodies, such as the federal Council on Graduate Medical Education and the Institute of Medicine, and professional associations, including the AAP, advocated for policies to reduce the number of residency positions.^{3,8,9}

Recently, however, some researchers and policy makers are questioning these past projections of a physician surplus, and some state medical associations are reporting physician shortages.^{10–13} In 2000, the Future of Pediatric Education II recommended that the number of pediatric residents be stabilized at the current level of 3000 new residents each year.¹⁴ In 2005, the Association of American Medical Colleges released a new physician workforce position suggesting that "current trends, if continued, will in all probability culminate in a shortage of physicians within the next few decades, absent fundamental changes in the demand and need for health care and/or in the way health care is provided."¹⁵ Physician-workforce policy seeks to address the health needs of the population by influencing through various incentives the characteristics of people entering the medical education pipeline, their choices in specialty and practice setting, and the type of residency education received. As demonstrated by the companion technical report,² however, pediatrician-workforce considerations are often more complex and very different from the macro view of the physician workforce. For this reason, the technical report

documents trends in the pediatrician workforce, reviews different forecasting models, describes the model used to develop AAP recommendations, and serves as the foundation for this policy statement. The discussion and recommendations included in this statement will focus on pediatric-specific issues, which may or may not dovetail the issues of the adult-medicine physician workforce.

KEY PEDIATRICIAN-WORKFORCE TRENDS

The pediatric workforce is influenced by many policy decisions, most of which, as noted previously, were developed to address deficiencies in the overall physician workforce. Thus, it is critical for the AAP to participate in policy development with both professional organizations and governmental bodies to ensure that these deliberations have a pediatric perspective.

The technical report² identifies several important pediatrician-workforce trends. The first is that the growth in the number of pediatricians in the United States over the past decade exceeds the growth in the number of children (younger than 18 years). The second notable trend is the continued growth in the number of female medical students, pediatric residents, and physicians and the implications of this gender shift for pediatric health care delivery. The recently demonstrated increase in the number of female pediatricians working part-time will influence future workforce projections.¹⁶

The third trend relates to the role of IMGs in the pediatrician workforce. The proportion of practicing pediatricians who attended medical schools outside the United States and Canada has remained at approximately one third for the past decade. Most IMGs are US citizens and permanent residents who have the resources to attend medical school abroad and then return to the United States for residency education. Immigration policies such as the J-1 visa program, which provides preferential immigration status for foreign physicians to receive residency education in the United States, affect only one third of IMGs. However, the J-1 visa waiver program, which allows physicians with J-1 visas to remain in the United States after completing residency education, is considered a significant, if temporary, source of physicians for underserved areas.¹⁷ Changes in visa requirements and availability have brought into sharper focus a number of issues for the pediatrician workforce. These issues range from what the technical report terms "social value" to the impact of visa regulations on the supply of the pediatrician subspecialty workforce.

It has been widely acknowledged that effectiveness of health care delivery is enhanced by an appreciation of and respect for diverse cultural attributes and that there are substantial advantages to diversity within the pediatrician workforce, including diversity of race and ethnicity. However, the overall racial/ethnic composition of pediatricians little resembles the populations they seek to serve, a reality of increasing significance as the pediatric population becomes more racially/ethnically diverse. Greater minority representation in the workforce seems to be

one important way of improving health outcomes in minority children. Physicians from minority or underrepresented groups are known to be more likely to provide care for patients from minority and underserved groups. The low entry rates of students of minority groups into medical school and then into pediatrics could present a barrier to access to health care services for many patients of minority and underserved groups. Medical schools' admissions policies, however, have the potential to influence the characteristics of US medical graduates entering medicine, thereby increasing diversity. Additionally, physician-in-training demographics can affect career choices and the overall workforce. Affirmative-action policies, moreover, can increase the diversity of applicants entering pediatrics. To ensure the provision of culturally effective pediatric care, measures in addition to increasing workforce diversity, such as the development of cultural competence in current and new pediatricians, will be necessary.^{18,19}

The technical report also notes the importance of the combined specialty of internal medicine-pediatrics ("med-peds") to any analysis of pediatrician-workforce trends. Fifty-four percent of medicine-pediatrics physicians practice in community office settings, usually in primary care, serving both adults and children.²⁰ Many have speculated, however, that the aging of the US population may decrease the amount of clinical effort that these physicians will be able to devote to the care of children.

The increasing number of nonpediatrician providers of pediatric care (both physicians in other specialties and nonphysicians) is another important trend that influences the delivery of pediatric care as well as public policy pertaining to the pediatrician workforce. Family practice currently has a high interest in children's health care.²¹ A key component of this trend is the fact that family physicians provide the majority of primary care office visits for older adolescents. As the aging population creates additional demands on family physicians, the role of pediatricians in providing services to adolescents may increase. Nurse practitioners and physician assistants have emerged as a health workforce larger than many physician specialties, including pediatrics. Their separate roles and contributions are considered in the technical report and in an AAP policy statement pertaining to scope of practice.²²

The geographic distribution of physicians, including pediatricians, and the significant number of underserved areas (both urban and rural) remain important trends in any pediatrician-workforce consideration. Federal and state governments have established loan-repayment programs to encourage students and residents with large educational debts to practice in underserved areas or to enter research careers. Geographic maldistribution relates also to other workforce trends including IMGs, women in pediatrics, nonpediatrician providers of pediatric care, and pediatric subspecialists.

The last trend highlighted in the technical report concerns the future of pediatric subspecialists, which is a heterogeneous group of pediatricians that eludes generalizations with respect to type of practice,

workforce sizes, and future opportunities. This heterogeneity has 2 important implications. The first is that workforce statistics, forecasting models, and health services studies that report the general experience of pediatric subspecialists will be driven by the largest subspecialties. Pediatric subspecialists, as a whole, have already suffered this fate by being subjected to the same broad policies as have adult subspecialists, an extremely large group of physicians whose practice patterns differ significantly from their pediatric counterparts. These and related experiences serve to underscore the need for the AAP to serve as an advocate for children and for the specialty of pediatrics. The second implication is that workforce analysts must recognize that, from a measurement viewpoint, many pediatric subspecialists qualify in epidemiologic terms as "rare events." This, as well as the geographic variation in the supply of subspecialists, can lead to confusion about the overall adequacy of supply.

INFLUENCING THE PEDIATRICIAN WORKFORCE

As noted earlier, medical school–admissions policies influence many aspects of the pediatrician workforce. Selection of medical students with interests in child health and primary care will increase the number of students seeking pediatric careers. Policy makers have developed various means of influencing career choices and opportunities of students and residents to meet a number of goals, most prominently physician workforce. Initiatives such as the federal Interdisciplinary Generalist Curriculum and the Robert Wood Johnson Foundation Generalist Physician Initiative promoted primary care career choices by influencing medical school curricula. Medical schools and residency programs have implemented curricular changes such as required clerkships in family practice, community-based training, and research electives to encourage career choices that achieve desired policy goals.

However, recruitment into pediatrics cannot be limited to those with an interest in primary care. To ensure an adequate future supply of pediatric subspecialists, individuals with an interest in subspecialty and research careers must also be targeted by recruitment efforts. Pediatrician-workforce planning will need to ensure that a sufficient proportion of those who enter pediatric residency education continue beyond first board certification into pediatric fellowship training. It will be important to educate medical students and residents early about the breadth of career opportunities in the pediatric subspecialties and prepare them to assume roles in patient care, administration, education, and research. For example, the American Board of Pediatrics and the Pediatric Residency Review Committee are involved in influencing career choice through creation of "fast tracking" into pediatric medical subspecialty training and mandating research for all pediatric medical subspecialty training.

Some of the fundamental issues encompassed under the rubric of "pediatrician workforce" are not related to overall supply. Reimbursement for health services for children, for example, is usually substan-

tially less than equivalent services for adult patients.^{23,24} In addition, children are more likely than adults to live in poverty and to be insured through a public program such as Medicaid or the State Children's Health Insurance Program (SCHIP). Financing policies of these programs can strongly influence the pediatrician workforce and access to care for children. Questions such as the following are but a few of the workforce considerations apart from supply: How do we enhance the racial and ethnic diversity of the pediatrician population? Do we have the right type of pediatricians in the right places? Will children be able to overcome the myriad of access barriers? Pediatrics is confronted with a quandary. Although there is concern about the increasing numbers of pediatricians, it is recognized that substantial unmet patient needs remain. It is humbling to try to project into the future, especially because workforce policy is often fragmented and based on insufficient data. Additional research is needed to develop sound policy that maximizes the public's investment in medical education and, most importantly, ensures access to quality care for infants, children, adolescents, and young adults.

CONCLUSIONS

An appropriate pediatrician workforce is essential to attain the optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. To fully realize such a workforce requires careful examination of the needs of children and the consequences of policies that influence the pediatrician workforce. Market forces, including changes in health care financing and the provision of care delivered by nonpediatricians such as family physicians and nurse practitioners, make it difficult to state with precision the workforce requirements for pediatricians. The companion technical report² reviews our current knowledge of the pediatrician workforce, explores in detail pediatrician-workforce requirements, and describes several models, each using specific theoretic assumptions and data, for forecasting pediatrician-workforce requirements. The technical report (see Table 5 in the report²) summarizes conclusions from a number of reports and articles related to the general pediatrician current supply, projected supply, and requirements.² From this table it becomes evident that relatively little work has been performed in this area, although recent predictions about the supply of general pediatricians are similar to earlier forecasts. These predictions demonstrate that the current pediatrician workforce seems adequate to meet the health needs of US children, although significant regional variations may result in local shortages or oversupply, and subspecialty gaps remain to be addressed.

The information presented in the technical report leads to the projection that sufficient numbers of general pediatric residents are being trained to meet the overall demand for general pediatricians in the near future. Geographic maldistribution of pediatricians and the lack of racial and ethnic diversity of pediatricians compared with the diversity of the child population are chronic problems that, although

discussed in the technical report, have been inadequately addressed to date on a policy level and will require expanded efforts that include targeted incentives to resolve them.

Physicians trained in many pediatric subspecialties are in short supply, particularly in those without a procedural focus, such as pediatric endocrinology and infectious disease. There is also concern about an insufficient supply of pediatrician-scientists. Incentives and policies that increase the number of pediatric residents choosing pediatric subspecialty and research careers and that shift the numbers of pediatric fellows from more oversubscribed pediatric subspecialties (eg, neonatology²⁵) to undersupplied subspecialties will help to address these shortages.

The pediatrician workforce, similar to all labor forces, is heavily influenced by the opportunities available to those entering the field.^{26,27} Remuneration for physicians entering pediatric careers is often substantially less than for physicians in similar adult specialties despite the same investments of time and money for education and similar practice workloads. This is particularly true of nonprocedural pediatric medical subspecialists and pediatric surgical specialists, creating significant challenges to attracting physicians-in-training to these pediatric careers. In addition, young pediatricians are looking for flexible work environments to balance work, personal, and family responsibilities.^{16,28} Increasing these opportunities can make pediatric careers more attractive.

Most importantly, with respect to children's access to pediatric care, expanded health insurance is imperative. Without coverage, most children and their families cannot afford care, and pediatricians cannot maintain their practices. Adequate child health care financing, including health insurance coverage, will help to ensure appropriate reimbursement for care and address the financial barriers to health care experienced by many families and, therefore, will be a strong incentive for an appropriate pediatrician workforce.

This workforce policy statement serves as the overarching framework for a compilation of AAP policy statements on specific physician-workforce topics. To achieve an appropriate pediatrician workforce, the AAP reaffirms the following policies: "Financing Graduate Medical Education to Meet Pediatric Workforce Needs,"²⁹ "Enhancing the Racial and Ethnic Diversity of the Pediatric Workforce,"³⁰ "Ensuring Culturally Effective Pediatric Care: Implications for Education and Health Policy,"¹⁹ "Scope of Practice Issues in the Delivery of Pediatric Health Care,"²² and "Principles of Child Health Care Financing."³¹ It also makes the following recommendations supported by strategies.

RECOMMENDATIONS

1. To meet their health needs and provide them with a medical home, infants, children, adolescents, and young adults require access to a pediatrician workforce composed of appropriate numbers and distribution of well-trained pediatricians, pediatric medical subspecialists, pediatric surgical specialists, and other specialist physicians who provide

care to children. The AAP, working collaboratively with other appropriate groups, shall advocate for and participate in professional and governmental efforts to achieve such a pediatrician workforce and encourages members and chapters to do the same.

Strategies

- A. The AAP shall collect and disseminate accurate and timely data and information by evaluating the policy positions of organizations and agencies as they pertain to health care workforce issues and by providing testimony and/or policy positions.
 - B. The AAP shall continue to provide accurate, timely information to the Council on Graduate Medical Education, the Advisory Committee on Training in Primary Care Medicine and Dentistry, congressional subcommittees, and other governmental and nongovernmental entities and advocate for pediatric representation in organizations developing workforce policies.
 - C. Develop a sound, independent, national physician-workforce-planning body with pediatric representation that has the authority to allocate funding for graduate medical education positions based on the best available workforce data and information.
 - D. Stabilize the number of pediatric residency positions to ensure that adequate numbers of well-trained pediatricians enter the labor market in accordance with the needs and numbers of US children.
 - E. Maintain the current numbers of first-year graduate medical education positions and US medical school graduates.
 - F. Create opportunities for training in pediatrics and related specialties in the United States for IMGs through the J-1 visa program, with the intent of improving pediatric care in their home countries.
 - G. Ensure that all primary care-incentive programs at the local, state, and federal levels recognize pediatrics as a primary care specialty and include pediatricians in all legal definitions of primary care clinicians and advocate for continued inclusion of pediatrics and pediatric residency education programs.
 - H. Continue and expand primary care training programs such as the Title VII programs.
 - I. There must be adequate reimbursement for child health services to support a sufficient pediatrician workforce that is appropriately trained to deliver these services. The AAP shall continue monitoring pediatrician workforce issues and demand for pediatric services by following significant changes occurring in the delivery and financing of health care.
2. The breadth of career choices in pediatrics and child health, including primary care, subspecialty care, research, advocacy, education, and public health, should be promoted to medical students and resident physicians.

Strategies

- A. Medical school admissions committees should select students with an interest in the health and welfare of children and primary care.
 - B. Medical student and pediatric organizations should develop and disseminate information about the diversity of careers in pediatrics to support recruitment efforts to encourage medical students of the highest caliber to select pediatrics, pediatric medical subspecialties, and pediatric surgical specialties as a career.
 - C. Support combined residency programs, such as internal medicine-pediatrics, as a means to enhance child health care opportunities.
 - D. Provide appropriate funding, teaching resources, and faculty-development opportunities for community-based pediatricians who agree to train medical students and pediatric residents in their office practices.
 - E. Provide greater flexibility in residency education, practice, and job environments to support pediatricians balancing personal and family and professional responsibilities.
 - F. Extend student-loan deferment until completion of residency education, and make educational loans tax deductible.
 - G. Expand federally sponsored student-loan deferment and forgiveness programs and other incentives for residents and pediatricians to ensure a health care workforce that is adequate to meet patient needs. These incentives should also support pediatricians pursuing pediatrician-scientist careers or practicing in designated underserved areas.
 - H. Medical schools and residency programs should provide opportunities for medical students and residents to participate in professional and community organizations and/or governmental entities as child advocates.
3. Improve access to pediatric expertise in areas of pediatrician undersupply, particularly in inner-city and rural areas critical to delivering pediatric care.

Strategies

- A. Medical school admissions committees should select students from rural and other underserved communities.
- B. Expand the National Health Service Corps to increase opportunities for pediatricians where market forces do not facilitate private pediatric practice.
- C. Gradually eliminate J-1 visa waivers as a policy mechanism to improve access to pediatric care. Governmental bodies, policy makers, and others need to design and implement a long-term, fiscally responsible, and more effective plan to address the medical underservice of children.
- D. Consider reimbursement differentials in Medicaid and other publicly financed care to support higher rates for services delivered in identified underserved areas.

- E. Explore the creative use of tax credits and practice subsidies as financial incentives to physicians for providing care in identified underserved areas.
 - F. Assure the stability of health care systems providing primary and specialty child health services to underserved children, such as children's hospitals, safety-net hospitals, and inner-city and rural hospitals, including support for appropriate staffing at these institutions to provide these services.
4. Increase the diversity and cultural effectiveness of the pediatrician workforce, essential to meet the needs of an increasingly diverse child population.

Strategies

- A. Increase specific recruitment of students from underrepresented minority groups into pediatrics according to current estimates of the population of children and pediatricians in the United States by:
 - encouraging more individuals from minority groups at appropriate educational levels to pursue the study of the sciences in preparation for careers in medicine;
 - increasing the number of students from minority groups enrolled in and graduating from Liaison Committee on Medical Education-accredited schools of medicine and American Osteopathic Association-accredited schools of osteopathic medicine in the United States;
 - increasing the number of medical students from minority groups choosing pediatrics as a career; and
 - increasing the racial, ethnic, and cultural diversity of medical school faculty.
 - B. Develop curricula in medical schools, residency programs, and continuing medical education to enhance the provision of culturally effective health care.
5. Promote research to provide data about the pediatric workforce to plan for the current and future health care needs of all of America's children.

Strategies

- A. Develop realistic, scientifically sound workforce models for both primary and subspecialty pediatric care.
- B. Determine the factors influencing career choices of pediatricians and pediatric residents, including specialty, geography, and employment and practice arrangements.
- C. Collect data on the supply of other child health clinicians and the services they provide.
- D. Study how health care financing at the national, state, and local levels influences the pediatrician workforce and, subsequently, access to care for children in a locality.
- E. Determine the links between physician supply and children's access to care, quality of care, and health outcomes.

- F. Support research on the apparent disparity of income of female pediatricians.
 - G. Develop models for the delivery of quality health care for children in rural areas with low numbers of children.
 - H. Determine the causes and consequences of regional variation in child health clinician supply.
 - I. Regularly collect data on opportunities for child health clinicians and the availability of child health clinicians to children.
 - J. Educate more pediatric health services researchers.
6. The AAP shall be a national leader on pediatric workforce issues. Achieving the AAP workforce policy statement recommendations requires the active and collaborative involvement of the AAP with other professional organizations, medical education bodies, health care organizations, academic health centers, individual physicians and educators, child and family advocates, and governmental entities. The AAP shall encourage them to support and implement the recommendations.

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