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References

- 1. Dreyfus J, Jacobs DR, Mueller N, Schreiner PJ, Moran A, Carnethon MR, et al. Age at menarche and cardiometabolic risk in adulthood: The Coronary Artery Risk Development in Young Adults Study. J Pediatr 2015;167: 344-52.
- Morrison JA, Glueck CJ, Daniels SR, Wang P. Race, childhood insulin, childhood caloric intake, and class 3 obesity at age 24: 14-year prospective study of schoolgirls. Obesity (Silver Spring) 2012;20:597-604.

- **3.** Kimm SY, Barton BA, Obarzanek E, McMahon RP, Sabry ZI, Waclawiw MA, et al. Racial divergence in adiposity during adolescence: The NHLBI Growth and Health Study. Pediatrics 2001;107:E34.
- **4.** Glueck CJ, Morrison JA, Wang P, Woo JG. Early and late menarche are associated with oligomenorrhea and predict metabolic syndrome 26 years later. Metabolism 2013;62:1597-606.
- 5. Dreyfus JG, Lutsey PL, Huxley R, Pankow JS, Selvin E, Fernández-Rhodes L, et al. Age at menarche and risk of type 2 diabetes among African-American and white women in the Atherosclerosis Risk in Communities (ARIC) study. Diabetologia 2012;55:2371-80.
- 6. Morrison JA, Glueck CJ, Daniels S, Wang P, Stroop D. Adolescent oligomenorrhea in a biracial schoolgirl cohort: a simple clinical parameter predicting impaired fasting glucose plus type 2 diabetes mellitus, insulin, glucose, insulin resistance, and centripetal obesity from age 19 to 25 years. Metabolism 2011;60:1285-93.
- Glueck CJ, Wang P, Woo JG, Morrison JA, Khoury PR, Daniels SR. Adolescent and young adult female determinants of visceral adipose tissue at ages 26-28 years. J Pediatr 2015;166:936-46.e3.

How Do We Create the Best Pediatric Workforce? Questions Abroad and at Home



hat is the best system of providing primary care to children and how should pediatricians be trained to maximize health outcomes in children are cogent questions in the changing healthcare environment. Numerous pressures are causing a re-examination of the roles of pediatricians, including the number of children with medically complex conditions or mental health/behavioral conditions, and increase and cost pressures pushing high-cost hospital and closed by the

conditions or mental health/behavioral conditions, and increase and cost pressures pushing high-cost hospital and emergency room care into primary care settings. Our "system" of primary care for children includes pediatricians, family physicians, osteopaths, nurse practitioners, and others who are distributed randomly and unevenly without coordination.

The US is not alone in exploring how best to provide maximal health care for children. In this issue of *The Journal*, a study by the Union of European Paediatric Societies and Association assessed the European child health workforce and the educational background of the pediatrician providers. Responses from 42 European Paediatric Society leaders revealed remarkable variation in the training and distribution of pediatricians as well as the relative composition of pediatricians and family physicians in the pediatric workforce. Among the 42 countries, the ratio of pediatricians ranged from 1 per 408 to 1 per 11 250 children under the age of 15 years. In Europe, as in the US, a greater proportion of children under the age of 5 years receive their primary care from pediatricians compared with family physicians. A dramatic reduction of children receiving primary care after the age of 12 years was observed in Europe. The composition of the primary care child health workforce varied greatly among the European countries. In Russia, 100% of the primary care for children was provided by pediatricians, whereas in Ireland non-pediatricians provided 95%-98% of primary care for children.

The similarity of the structure of the health care systems among the European countries is uncertain and interpretation of their data in the context of the various primary care systems is not discussed by the authors. Information concerning the sex distribution, availability of part-time

employment status or the roles of hospitalists or pediatric subspecialists, all factors

influencing the pediatric workforce in the US, was not disclosed by the survey. Also unknown is the capacity of primary care across Europe to care for the elderly, as well as children with medically complex and mental health conditions.

The European data provide interesting comparisons with the pediatric workforce in the US. Similar to Europe, pediatricians in the US are distributed unevenly. In 2006, 850 000 children in 47 states lacked any primary care child health provider. An average patient panel for a pediatrician is 1420 children, which is not dissimilar to the mean of 1 pediatrician to 1707 children in the European study. Recent trends have found that more children under the age of 5 years are seeing pediatricians and fewer are seeking care from family physicians. Similar to Europe, family physicians in the US comprise a greater proportion of the primary care workforce for older children, although in the US, pediatricians are seeing an increasing number of children in late childhood.

It is fascinating that 12 European countries were conducting national discussions evaluating a change from a pediatrician-based primary care system to a general practitioner/family physician primary care model. The leading reason for this consideration was economic, although the financial exigencies driving this discussion were not clarified. The high cost of health care is clearly driving changes in the

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practice of pediatrics in the US as well. With the need for more primary care physicians to meet the growing senior citizen population, as well as the increasing number of insured children, adolescents, and young adults, it is unlikely that a similar consideration to reduce primary care pediatricians will occur in the near future in the US. Pressures on health cost care reduction in the US, however, are making significant changes in pediatric health care. Payers are demanding that when possible, medical care for children with complex chronic conditions be redirected from expensive hospital and emergency room care to less expensive primary care settings.

The transformation in pediatric practice is occurring as a rapidly growing interest in pediatric hospital medicine care has emerged. Pediatric hospitalists, pediatric subspecialists, and primary care pediatricians (and other child health providers) increasingly will provide care as an integrated team and receive a bundled payment to distribute across the multiple providers. What this new pediatric health care environment means for the composition of the primary care workforce for our nation's children is uncertain.

The European Study examined training and board certification of pediatricians. Substantial variation in the length of training across Europe was identified. Despite the recommendation of the Union Europeanne des Medecins Specialistes to establish a standard 3-year residency curriculum, only a little more than one-half of the countries responding to the survey have accepted a residency common core curriculum and one-third of the countries did not certify pediatric graduates with a board examination.

Fortunately, in the US, the American Board of Pediatrics and the American Board of Family Medicine continue to offer robust interrogation into cognitive and practical competencies. The coordination of the American Board of Medical Specialties, the Accreditation Council of Graduate Medical Education, The American Osteopathic Association, and the American Association of Colleges Osteopathic Medicine to develop a common certification process will further standardize and verify the competencies of physicians caring for children in the US.

Because of the various levels of pediatric primary care evolving in our country's evolving health care system, it is reasonable to question whether the current single core pediatric residency training curriculum sufficiently prepares all graduates for their niche within the pediatric workforce. Certainly the adequacy of current pediatric residency training is being questioned by pediatric hospitalists. I posit that the challenges of medical complexity facing primary care pediatricians are equal to or perhaps greater than that facing pediatric hospitalists and may exceed the competencies of the typical pediatric resident graduate. Perhaps greater resident career specialization following a 1- or 2-year core curriculum should be considered to facilitate the increasing complexity in pediatric hospital and community settings.

The most important goal of creating the ideal pediatric workforce is to produce the best health care outcomes for children. The authors of the report from the European Alliance state that outcome measures will be reported in the future. Such efforts are a good beginning. Data evaluating the composition of the collective pediatric primary care workforce, residency curriculum, and pediatric outcomes should determine future workforce planning at home and abroad.

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References

- 1. Ehrich JHH, Tenore A, del Torso S, Pettoello-Mantovant M, Lenton S, Grossman Z. Diversity of pediatric workforce and education in 2012 in Europe: a need for unifying concepts or accepting enjoyable differences. J Pediatr 2015;167:471-6.
- 2. Shipman SA, Lan J, Chang C, Goodman DC. Geographic maldistribution of primary care for children. Pediatrics 2011;127:19-27.
- **3.** Freed GL, Dunham KM, Gebremariam A, Wheeler JR, Research advisory committee of the American Board of Pediatrics. Which pediatricians are providing care to America's children? An update on the trends and changes during the past 26 years. J Pediatr 2010;157:148-52.e1.