Resident Training and Education in the United States

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ABSTRACT. The Issue. Critical institutional and organization issues affect the education of pediatricians, influence their knowledge about child health disparities, and shape their attitudes and approaches to community pediatrics. Understanding the US graduate and postgraduate medical education system is necessary if critical and sustainable changes are to be made to ensure the capacity of pediatricians to respond to critical contemporary determinants of child health. Pediatrics 2003;112:752–754; resident training, pediatric education, community pediatrics, resident education.

ABBREVIATIONS. APA, Ambulatory Pediatric Association; RRC, Residency Review Committee; AAP, American Academy of Pediatrics; FOPE II, Future of Pediatric Education II; ABP, American Board of Pediatrics.

There are several key US sources of guidance for the development of community pediatrics programs in medical schools and residency training:

- The Ambulatory Pediatric Association (APA) is a voluntary organization that has developed a set of in-depth educational guidelines related to residency training in community pediatrics.1
- Pediatric Education in Community Settings2 is a monograph that describes community-based approaches to resident education and can be used to guide the planning and implementation of community pediatrics curricula.
- The Pediatrics Residency Review Committee (RRC) of the Accreditation Council of Graduate Medical Education is the body in the United States that establishes the standards and accreditation criteria for pediatric training. Residency Review Committee guidelines related to community pediatrics have evolved rapidly over the past decade to include requirements for community-based experiences in resident training.3
- The American Academy of Pediatrics (AAP) Future of Pediatric Education II (FOPE II) is one of the most current sources of recommendations on residency training.4
- The AAP Council on Medical Student Education in Pediatrics, a new organization aligned with the chairs of pediatric training programs, has established a General Pediatrics Core Curriculum for medical school training.5

The APA training guidelines describe a comprehensive set of topics that define the content of community pediatric education from advocacy through environmental health and the pediatrician’s role in community settings (Table 1).1 The RRC program requirements are not as prescriptive as those of the APA guidelines, but they do establish the requirements for community experiences as a core component of residency curricula.3 The community experiences may include didactics but must involve residents in a community-based experience. The guidelines give examples of the types of experiences that a program can use to fulfill the criteria.

The AAP Section on Community Pediatrics surveyed training programs to determine what they were using as their community sites. Table 2 indicates that the sites most commonly used are private practice offices. By UK standards, these might not be considered community sites, but as US medical education is primarily hospital based, these are considered community sites.

The FOPE II report reaffirms the need for education in primary care pediatrics to be provided in ambulatory and community settings. It also describes the roles that pediatricians will play in community pediatrics in terms of the pediatrician generalist of the future.7,8 These roles include serving as community consultants, population-based community medicine practitioners, school-based pediatricians, and providers for home-based medical care for chronically ill children.9

Once the content of community pediatrics curricula is defined, the next challenge is to delineate the attitude and skill sets to be acquired by trainees and how to measure this acquisition. What are relevant process and outcome measures? Previous measures have included only process criteria that have solely evaluated the existence of the experience in curricula,

<table>
<thead>
<tr>
<th>TABLE 1. APA Resident Training Guidelines in Community Pediatrics</th>
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<tbody>
<tr>
<td>Child in the Community</td>
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<tr>
<td>The Child in the Cultural, Ethnic, and Family Context</td>
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<tr>
<td>The Child in Day Care and School Settings</td>
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<tr>
<td>Practice Management and Community Pediatrics</td>
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<tr>
<td>Health Care Organization and Financing</td>
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<tr>
<td>Health Care for Children With Chronic Disease and Terminal Illness</td>
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<tr>
<td>Child Abuse, Neglect, Violence, and Substance Abuse</td>
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<tr>
<td>Medically Underserved Children</td>
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</tbody>
</table>
TABLE 2. Most Common Community Sites Used by Training Programs

<table>
<thead>
<tr>
<th>Site</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Private practice offices</td>
<td>81.5%</td>
</tr>
<tr>
<td>School-based/school-related sites</td>
<td>70%</td>
</tr>
<tr>
<td>Neighborhood health centers</td>
<td>65%</td>
</tr>
<tr>
<td>Services for children who are disabled</td>
<td>56%</td>
</tr>
</tbody>
</table>

and resident participation. The demonstration of competency for accreditation purposes and more active measures of the success of the educational process are now being developed by the RRC. The educational framework from which these community pediatrics competencies are being derived are outlined in the FOPE II report. The framework establishes a competency-based educational system that is derived from the health care needs of the child in the context of family and community. The structure of the health care system; advances in biomedicine and psychosocial sciences; the evolution of our understanding of the social, political, economic, and environmental determinants of child health; and advances in the application of new technology will influence how these needs are translated into the future roles of pediatricians. Using the broadest context of "community" to frame community pediatrics, the applicable RRC competency criteria—"actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value"—can be adopted as the benchmark for resident and residency competencies.

Competencies can be measured more adequately at the level of individual programs. The community pediatrics program in San Diego, CA, published an excellent set of community pediatric competencies that include the trainee’s ability to access and use community services, appropriate identification and referral of victims of child abuse, and the ability to devise effective strategies for child advocacy (Table 3). These are examples of the kinds of competencies that would be expected of residents who complete community pediatrics rotations. Although the minimum requirement of the RRC is a 1-month community pediatrics rotation, some programs have expanded this and have grounded other required rotations (eg, child development and adolescent medicine rotations, continuity care) in community settings.

Inclusion of these competencies in the American Board of Pediatrics (ABP) certification process will be the final measure of the incorporation of community pediatrics into the corpus of pediatrics. At the individual trainee level, the ABP is the organization that certifies pediatricians. Whereas the RRC defines the pediatrics training "process," it is the ABP that establishes the "outcome" criteria for board certification. There is a set of 10 to 12 competencies that residency program directors use to judge the preparation and readiness of residents to sit for the board examinations. These do not currently include community pediatrics. If pediatricians are to be prepared to respond to the future health needs of children as they relate to community pediatrics, then the recognition by RRC of the importance of community pediatrics to the future of pediatrics will need to be translated into competencies required by the ABP for board certification. As yet, no institution has included well-defined competencies related to the knowledge, attitudes, and skills required to translate an understanding of the social, political, economic, and environmental determinants of child health into child health practice, advocacy, and policy.

What are the challenges to establishing congruence between training curricula and resident competencies as they relate to producing pediatricians who are prepared with skills in community pediatrics? The first would be funding. A substantial portion of residency training is funded by the federal government through the hospital-based care provided by each resident. Hospitals apply for federal funds, called graduate medical education funds, through a formula that is based on the number of trainees and the volume of adult patient care provided in a hospital system. Until recently, children's hospitals did not qualify to receive any graduate medical education funding. Before this time, freestanding children's hospitals relied on their own funds to support residency training. The funding is not full funding to this point. Even with current federal resources for children's hospitals, federal support falls far short of the costs of training residents. The need for children's hospitals to generate reimbursements through inpatient care conflicts with the time required for residents to spend in the community to prepare them in community pediatrics. This presents a real dilemma to training programs throughout the United States.

A second challenge is how to measure competence, as defined by knowledge, skills, and attitudes. One option, described for the United Kingdom, is a portfolio that demonstrates the type of cases that a trainee managed with evidence of how he or she made use of the community system. In the US system, few approaches have been developed to document the competencies of the pediatrician other than via the board certification examination. This results in an educational environment in which the board certification examination wields significant influence on curricula and the attention of residents. The critical issue then becomes how to incorporate competencies related to community pediatrics into the board certification examination.

The identification of funding and other resources to support, advance, and sustain educational innovation in the discipline of community pediatrics is the final challenge. Multiple public- and private-sec-
tor agencies and foundations have supported community pediatrics innovations in the United States. These have included the Maternal Child Health Bureau and nonprofit organizations, eg, the Dyson Foundation.13

CONCLUSIONS

Progress is being made in the United States to affirm the need for community pediatrics training in the education of pediatric residents. Various US organizations with responsibility for establishing standards for pediatric training are defining the elements of community pediatrics for inclusion in curricula. The current challenge is to generate process and outcome measures of competencies in knowledge, attitudes, and skills related to community pediatrics and resident training experiences. Until these are well defined, core competencies in community pediatrics will not be incorporated into ABP certification examinations for pediatricians and thus will not be a priority focus for residency program directors. Also, given the current funding mechanisms for pediatric training that compensate for time spent in hospital-based rotations, there will be only limited success in efforts to expand community-based rotations.

The AAP and Royal College of Paediatrics and Child Health should work together to define the core competencies of community pediatrics and strategies for assessment of process and outcome measurements of these competencies. This will facilitate the enculturation of community pediatrics into pediatric training in the United States and the United Kingdom and catalyze changes in residency funding equations to include community-based experiences as core rotations in training programs.

REFERENCES

10. Accreditation Council for Graduate Medical Education Outcome Project web site. Available at: http://www.acgme.org/outcome/comp/comhome.asp
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