Community-oriented Primary Care: An Often Overlooked Option for Community Pediatrics Practice and Training

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In the U.S. healthcare system, there is an increasing awareness of the influence of social, environmental, and community factors on health and well-being. Pediatrics has responded to this new health perspective by developing and adopting the concept of community pediatrics. The American Academy of Pediatrics (AAP) first published its Statement on Community Pediatrics in 1999. The AAP defines community pediatrics as "a synthesis of clinical practice and public health principles directed toward providing health care to a given child and promoting the health of all children within the context of the family, school, and community."[1] The AAP also calls for pediatricians to become involved in training residents and medical students in this model of practice.

As part of the changing medical paradigm, pediatric residency requirements are also changing. The Accreditation Council for Graduate Medical Education (ACGME) Residency Review Committee requirements for pediatric residency training now include community and advocacy experiences (see Table 1, page 102). These requirements focus on an understanding of the health of children in their community, environmental hazards, and injury prevention, as well as the pediatrician's role in community schools and child advocacy.[2]

With these guidelines as a foundation, there is clear evidence that a child's health and well-being is intimately related to socioeconomic and environmental factors.[3] There are calls from multiple professional and educational groups to train residents to practice community

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pediatrics.[1,2,4] Despite this, models for teaching community pediatrics have not been well defined. Although there have been multiple excellent guidelines for community curriculums produced,[4-6] many of these provide a list of discrete curricular objectives but do not include a unifying model of practice for incorporating public health principles into clinical care. Community Oriented Primary Care (COPC) provides a framework for teaching the skills necessary for community pediatrics practice. This article provides a review of COPC and its current use in pediatric education.

COPC HISTORY

The concepts behind COPC were in clinical use long before the term was coined in the 1980s. As early as the 1930s, William Pickles, a general practitioner in England, described the use of epidemiology in his primary care practice.[7] In 1940, the South African government recruited Sidney and Emily Kark to create the Pholela Health Unit in rural South Africa. The Health Unit integrated individual care with community health activities, using epidemiologic methods and working with a healthcare team to assess health and the determinants of health on a population level. In 1959, the Karks moved to Israel and, over the next decades, worked with Hebrew University to develop a program at a community health center integrating public health and primary care using a multidisciplinary team.[8] This center is where the basics of COPC were refined, practiced, and taught.

At the same time that the Karks were working in Jerusalem, the U.S. government sponsored a series of "community responsive initiatives" in underserved areas.[7] One of the earliest federally funded community health centers was established in Mound Bayou, in the Mississippi Delta, by Jack Geiger, a physician who studied with the Karks in South Africa. Over the course of the next decade, the U.S. government funded an increasing number of these health centers. By the end of the 1970s, there were more than 200 community health centers nationwide, but the early 1980s brought a loss of government funding. In response, the Institute of Medicine (IOM) sponsored a 1982 COPC conference. This conference not only produced a formal definition of COPC as "the provision of primary care services to a defined community, coupled with systematic efforts to identify and address the major health problems of that community through effective modifications in both the primary care services and other appropriate community health programs."[9] However, it also concluded that COPC should be developed further in the United States.[7]

Since that time, community health centers have been expanded to include a network of more than 1,000 centers, and

TABLE 1.

ACGME Requirements Related to COPC[2]

Medical Knowledge Community and Child Advocacy Experiences	Community-oriented care with focus on the health needs of all children within a community, particularly underserved populations
	Culturally effective healthcare
	Effects on child health of common environmental toxins
	The role of the pediatrician as a consultant to schools
	The role of the pediatrician in child advocacy
	The role of the pediatrician in disease and injury prevention
	The role of the pediatrician in the regional emergency medical system for children
	These experiences should utilize settings within the community
Practice-based Learning and Improvement	Residents are expected to participate in a quality improvement project
Systems-based Practice	Patient advocacy within the system (understanding the epidemiology of major health problems and health literacy awareness in the community)

the concepts of COPC have been taught in schools of public health, as well as some medical schools and residency training programs.

COPC PRINCIPLES

In 1994, the IOM definition of COPC was modified by the King's Fund College of London and the Jerusalem School's team to be "a continuous process by which Primary Health Care is provided to a defined community on the basis of its assessed health needs by the planned integration of public health with primary care practice."[10] This is the essential definition that continues to be used today.

There are four underlying principles of COPC:

Principle 1: A COPC program takes responsibility for the health of a defined population, including people who use the health center, as well as those who do not.

Principle 2: Care is based on the identified health needs of the defined population and not from assumptions of those providing care. This means that COPC practitioners look beyond individual needs to the needs of the community as a whole. This also emphasizes the importance of looking at the determinants of health within the population.

Principle 3: An intervention should cover all stages of the health-illness continuum of the selected condition. Any COPC intervention not only focuses on those who are sick, but also those who are well and at risk for disease, including health promotion and prevention components.

Principle 4: The community should be kept involved throughout the process.

In addition to the principles, there is a framework of COPC that describes a practical methodology for application (see Figure, page 103).

Define the Community

Defining a population makes it easier to identify discrete needs, make comparisons, and monitor and track changes during the COPC process. There are a variety of ways the community can be defined, such as using geographic boundaries, including all the enrollees of a particular health plan, or using a common place of employment. It is important to note that the definition is not limited to only the users of a health center; it should include any potential users as well.

Community Characterization

Characterization creates a clear picture of the community by gathering available information on geographic features of the community, demographic and social features of the population, resources and assets available in the community, and the health status of the population. Pre-existing community data (such as census data), interviews with key community leaders, and focus groups are useful tools to identify health issues facing the community.

Prioritization

Characterization typically identifies an extensive list of health problems facing the community. Because of the limited resources of most COPC practices, it is incumbent on the COPC team to prioritize the list of problems to choose one that will be the focus of an intervention program.

This prioritization should involve the community and use mutually agreed upon objective criteria, such as severity (morbidity and mortality) of the health problem and prevalence among the defined population.

Detailed Assessment

Once the top health problem is chosen, the COPC team will need additional data about the condition and factors that relate to it. Baseline data are gathered specifically on how the problem affects the community and what is already being done in the community to address the problem.

Intervention Planning and Implementation

Intervention planning involves a review of the literature for "best practices" for addressing the problem in similar populations. The identified best practices can then be adapted to create an intervention program with goals, objectives, and activities that are relevant to the defined community and the COPC practice. Implementation should begin once a timeline is laid out and an evaluation plan is in place. It is important to keep the community and office staff involved in intervention planning and implementation to ensure adequate buy-in.

Evaluation

Evaluation is necessary to show success of a program. It is important to plan the evaluation process before implementation to ensure appropriate and adequate data are collected.

Reassessment

COPC is meant to be practiced as a continuous cycle. It is important to reassess constantly what has gone well and what has not. Once a successful intervention is in place to address one issue, the cycle can begin again at the prioritization stage to choose a new health problem that is relevant to address. The definition and characterization generally remain appropriate for some period of time with only intermittent updates.

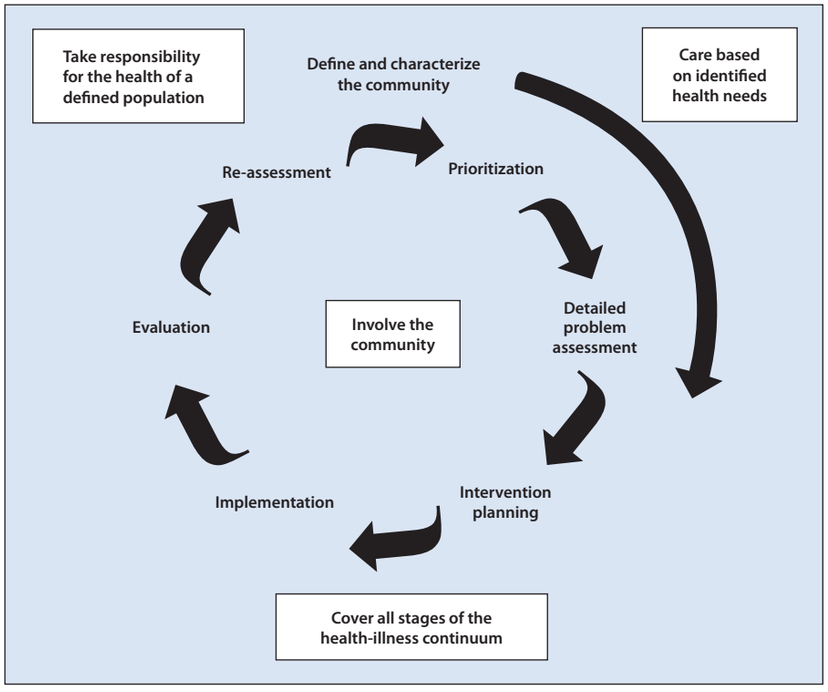

Figure. COPC cycle and principles. Adapted from: Rhyne R. Community-Oriented Primary Care: Health Care for the 21st Century. Washington, DC: American Public Health Association; 1998.

COPC: CURRENT TRAINING, PRACTICE, AND EVIDENCE

A review of the literature reveals that the implementation of COPC in practice and training and the evidence for COPC is predominantly in the field of family medicine. A 2008 systematic review of the COPC literature by Thomas Gavagan identified 170 articles and found that all articles were limited to the disciplines of family medicine or nursing.[11] Our review of the literature identified only two articles that explicitly discuss the use of COPC in pediatric residency training programs.[6,12]

An internet search using the search terms "community oriented primary care" and "pediatric(s) residency" indicates at least six other residency programs have incorporated COPC into their curriculums (see Table 2, page 104).

Gavagan's literature review also found that only 13 of 170 articles (7.6%) were focused on outcomes and analysis.[11] Another study, reviewing the use of COPC in U.S. family medicine residency programs, identified 22 articles. Only eight papers evaluated the outcomes of these training programs.[20]

Few pediatric residency programs appear to be teaching COPC, and most programs go no further than a didactic introduction to the principles of COPC, with few evaluation components. However, despite the lack of evidence-based studies, COPC is a promising concept in terms of improving patient outcomes and preparing residents for practice in underserved settings and community-oriented careers.[20] Although current implementation of COPC in training programs is limited, COPC presents an opportunity for expansion and research.

COPC: OPPORTUNITIES AND CHALLENGES

COPC provides a framework for the practice and teaching of skills necessary for community pediatricians in the context of the larger healthcare system

TABLE 2.

COPC Pediatric Residency Programs

Residency Program Name	COPC Program Description
Children's Hospital at Scott & White, Texas A&M[13]	The Community Pediatrics Practice & Practice Management rotation includes an understanding COPC fundamentals in its rotation goals and objectives
Children's National Medical Center[14]	Introduction to COPC is included as an outpatient rotation in the Pediatric Residency Community Health track
Massachusetts General Hospital[15]	Offers a lecture series in COPC
Morehouse School of Medicine[16]	"Community Oriented Primary Care —From Principles to Practice" by P. Nutting is included as a reference for the Community Medicine rotation
Social Medicine Residency of the Montefiore Medical Center[12]	First-year residents receive seminars on COPC, undertake a community-mapping exercise, and undertake a collaborative community project that they conceive, plan, implement and evaluate
University of California — San Francisco, Fresno[17]	A residency training site — Clinica Sierra Vista Elm Health Center — incorporates COPC into practice and training
University of Florida — Jacksonville[18]	COPC is included in the noon conference curriculum and works with a faculty mentor to identify a population of interest, identify a health need then design, implement and evaluate an initiative
University of Texas — Southwestern[19]	Resident continuity clinic operates through the Parkland Memorial Hospital system's COPC facilities

in which they practice. COPC also provides a structure for the implementation and amplification of important quality improvement and community-based research activities. It represents a rich learning environment for medical students and pediatric residents to recognize and apply public health principles, learn the importance of collaboration with community leaders and resources, and focus beyond the care they provide to individual patients and families learned in traditional training.

Pediatric RRC requirements state that residents are to "systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement."[2] The iterative process of COPC is consistent with the Plan, Do, Study, Act (PDSA) cycle of continuous quality improvement. The use of COPC also introduces public health principles into this process. The community definition, characterization, and prioritization components of COPC allow practices to focus not just on issues that will improve the efficiency of the practice but also focus on health issues most relevant to the needs of the community they serve. The public health approach of COPC provides a stronger foundation for the quality improvement (QI) process and the potential for farther-reaching outcomes.

Another area that would benefit from integration with COPC is the field of clinical and translational science research. Healthcare providers have long expressed concern that research interventions and literature do not reflect the real world environment in which they practice. As a result, clinical and translational research efforts have included a community engagement component that focuses on increasing the participation of end users (the community) in every phase of the research process.[21,22] However, the conceptualization of community engagement in clinical and translational research is less rigorous than COPC regarding the level of influence that the community has in determining the focus of the research and intervention development. The addition of COPC processes could provide a framework for community engagement in clinical and translational science research and a public health model for assessment outcomes.

Although COPC holds promise in providing a framework for community practice, quality improvement, and community engagement in research, there are a number of challenges to increasing

the use of COPC in training and practice. COPC requires a commitment at all levels of management and providers in a healthcare system. Implementation of the COPC cycle requires the development of expertise in COPC principles and skills, dedicated staff time to implement the steps, a shift in the priorities of the healthcare system to a community focus, and integrated funding to allow staff to perform COPC activities, in terms of supporting staff time and supporting COPC initiatives. Training in COPC requires additional faculty commitment to train residents and students in the COPC principles, and the most effective training programs will occur in systems with COPC fully implemented in practice.

However, a small but growing body of literature provides a basis for further development and research in COPC. Existing programs, such as the Parkland Hospital and Health System in Dallas and the University of Florida, Jacksonville pediatric residency program, provide models of implementation. One university, George Washington University, offers a COPC track in its master of public health degree.

Government and private organization grants are available to support COPC. Although significantly reduced in recent years, Title VII of the Public Health Service Act supports training in primary care and has supported the start-up and ongoing costs of COPC training programs in the past. The American Academy of Pediatrics Community Access to Child Health (CATCH) grants are an example of a private organization opportunity to support COPC projects. Revitalization of Title VII and increasing private foundation funding for community-based practice would further support the expansion of COPC.

CONCLUSION

Pediatricians have increasingly recognized the need to move from a purely biomedical model to a community model to address the healthcare needs of children and families. COPC provides a framework for the practice and teaching of community-based practice, including quality improvement and community engagement in research and shows promise for improving patient outcomes and attracting young physicians to underserved practice.

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