Community-Oriented Primary Care: Historical Perspective

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Background: **Community-oriented primary care (COPC) is a systematic approach to health care based upon principles derived from epidemiology, primary care, preventive medicine, and health promotion. We describe the development of COPC from an historical perspective. A critical assessment of current trends and implication for physician education and practice of COPC will be discussed in a companion article in the next issue of *The Journal*.**

Methods: **: MEDLINE was searched using the key phrase "community-oriented primary care" Other sources of information included books and other documents.**

Results and Conclusions: **In the 1950s, Sydney Kark showed dramatic positive changes in the health status of the population of Pholela, South Africa, using this approach. Similar approaches showed positive change in the health status of poor and underserved populations in the United States. The results were so impressive that the Institute of Medicine recommended widespread application of COPC in the United States. Successful COPC practices, however, have historically required considerable external funding from private and government sources. Thus, controversy about the feasibility of implementation of COPC in mainstream primary care practices developed. Schools of medicine and the discipline of family medicine have struggled to implement effective training in COPC within traditional medical school and residency structures. Yet, the societal need for recognition of and intervention in community health problems and coordination of community health resources continues. (J Am Board Fam Pract 2001;14:54–63.)**

Community-oriented primary care (COPC) is a systematic approach to health care based upon principles derived from epidemiology, primary care, preventive medicine, and health promotion. Since publication of its initial success,[1] COPC has been intensely debated among primary care educators. Though intuitively appealing, COPC remains largely misunderstood by primary care practitioners and educators alike, who view it as great theory but difficult practice.

In the early 1980s, the Institute of Medicine (IOM) called for a strengthening of primary care in the United States, with particular emphasis on the underserved. The IOM convened a conference in 1982 to advocate increased COPC training among health professionals.[2] This conference resulted in an operational definition that included three requirements for implementing true COPC:

1. A primary care practice providing accessible, comprehensive, coordinated, continuous-over-time, and accountable health care services.
2. A defined community for whose health the practice has assumed responsibility. In this context community refers to geographic or social communities; groups that form within the workplace, church, or schools; or persons enrolled in a common health plan. Specifically excluded are communities consisting of the active patients in a practice.
3. A process including the following four steps: (1) defining and characterizing the community, (2) describing community health problems, (3) modifying the health care program to address high-priority health needs, and, (4) monitoring the effectiveness of program modifications.[3]

This conference resulted in a number of large-scale publicly and privately funded projects de-

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signed to show the value of COPC. Though these projects improved the health status of selected populations and increased access to health care for the underserved, there was little evidence that this approach could be successfully sustained without external funding.[4] Additionally, most practitioners felt inadequately trained in the basic concepts and methods of COPC.[5,6]

In 1999, members of the Strategic Planning Working Group of the Academic Family Medicine Organizations and the Association of Family Practice Residency Directors recommended that family practice residents acquire the following competencies during training: (1) family practice residents should understand COPC and the practice of population-based medicine, (2) family practice residencies should model COPC or population-based interventions within their practices, and (3) family practice graduates should be capable of recognizing community health needs, developing interventions, and assessing the outcomes.[7]

Educators in family medicine, however, are still struggling to develop a curriculum and teaching strategies that will prepare family physicians to establish COPC practices. This article will provide an historical review describing the evolution of the concepts and practices of COPC, and a common perspective from which family medicine professionals can reevaluate COPC as a viable practice option for family physicians.

Methods

An Internet MEDLINE search was conducted using Pub Med with the key phrase "community oriented primary care." More than 200 articles were generated. Abstracts of these articles were reviewed for relevance, and full texts were obtained for relevant articles. References cited in these articles were selected and reviewed for their relevance and historical information. In total, more than 100 articles and 8 books or other documents were reviewed in preparation of this article.

The Evolution of COPC

Conceptually, COPC is derived from what is now traditional public health methodology combined with primary care medical practice. Will Pickles, the Grand Old Man of General Practice, used epidemiologic techniques to improve his primary care practice in the 1920s and 1930s.[8] The only physician among seven rural English villages, Pickles well knew who was related to whom and when residents and strangers traveled among the villages. At the time, little was known about infectious disease, nor had science determined how disease was spread.

Despite relatively few cases, Pickles' meticulous recording of births; the dates, locations, and incidence of illnesses; and the deaths throughout the seven villages permitted him to track the spread of infections. He examined parish documents to record death clusters, studied geography to map the water table, and recruited schoolmistresses to record student absences that he correlated with illness in the villages. Thus he was able to show ". . . the relationship between chickenpox and shingles, the incubation period of . . . infectious (Type A) hepatitis, and the infectious nature of . . . Bornholm Disease. . . . " Pickles' book, entitled *Epidemiology in a Country Practice*,[9] a classic in the field, describes the basic elements of modern COPC, among other things.

Two decades later, measures implemented by the government of South Africa to address the nation's health needs led to further development of the conceptual and applied bases of COPC. In 1942, the government appointed the National Health Service Commission to establish a network of comprehensive health centers. Government support was extensive, and the new programs thrived. In 1945, the Institute of Family and Community Health was established to teach and conduct research in community health practices. The institute included divisions of epidemiology, data management, health administration, community nursing, health education, environmental sanitation, laboratory services, and nutrition.[8]

Sydney Kark coined the term *community-oriented primary health care* (COPHC, later changed to COPC) to describe his work in South Africa. After a survey of the nutritional and health status of its people, the South African government appointed Kark to be the director of the Pholela Health Center. Charging him to develop a "comprehensive, curative, and preventive service," he was given a team of two medical officers, a nurse, several health assistants, and local nurses' aides.[10] Within the institute, Kark implemented multidisciplinary training for his team, including physiology, infectious disease, hygiene, health promotion, nutrition, and survey methodology. Cornerstone concepts of

COPC, including an emphasis on applied research, the importance of understanding local concepts of health and disease, a refined understanding of community diagnosis, community orientation, and the team approach were central to the training.[10]

Kark built his practice on a foundation of clinical epidemiology, social psychology, basic science, and primary care. Community health needs assessments were accomplished through surveys that measured health status and demographic, behavioral, and environmental characteristics of the community.[1] Detailed maps of the area were drawn to provide the basis for the first population census in the area. Multidisciplinary primary care teams included a physician, a nurse, a health educator, and a health recorder. Each team was assigned to a particular demographic service area. Physicians and nurses provided medical care while the health educator provided community and family health education. Nurses assessed families in the home, thus building relations between the community and the health care team. The health recorder maintained individual, family, and community records including births, deaths, and migrations.

Kark's first project report emphasized the need for basic sanitation, prevention of soil erosion, and improvements in nutritional status.[11] Though these measures are basic community health initiatives considered routine by modern standards, they were revolutionary in Kark's South Africa. Later reports noted a decline in the incidence of scabies or impetigo infections from 82% (1942) to 7.8% (1950) among school children examined. Further, Kark reported a decline in the infant mortality rate from 27.5% to 10% in 1950. Similar declines did not occur beyond the project's service area.[1]

In 1948, the National Party came to power in South Africa. State funding was withdrawn, and the centers were closed during the next 10 years. By 1960, even the Department of Social, Preventive and Family Medicine of Natal University Medical School was closed. Kark left South Africa and never returned. Following a brief stay in the United States, he went to Israel to join the Hadassah School of Public Health and Community Medicine of the Hebrew University in Jerusalem. Hebrew University worked with Kark to develop training programs similar to those in South Africa. In Kiryat Yovel, Israel, an urban underserved area, Kark used a multidisciplinary team of physicians, nurses, and health care workers and focused on community programs for mothers and children to promote infant and early childhood growth and development.

Modern COPC concepts are embedded in Kark's work in both South Africa and Israel: comprehensive primary care within a defined community, community health needs assessment, systematic approach to health problems, recording results, and multidisciplinary teams. Based upon his work, Kark and Abramson defined the essential features of COPC during the 1970s.[12,13]

Important elements of Kark's COPHC are found in Pickles' approach to primary care in the 1920s and 1930s. Pickles practiced primary care in a defined geographic area; kept records of births, deaths, and illnesses in the area; and used a multidisciplinary team of priests, schoolmistresses, and community members to track disease. While Pickles struggled to understand how disease spread, Kark, having that knowledge, struggled to impart it to a traditional culture with few resources. In South Africa and Israel, Kark benefited from government funding and an association with the University of Natal and Hebrew University and their faculty in medical and nonmedical disciplines. Kark's system failed only after losing funding subsequent to the political change in South Africa during the late 1940s. Given government support in Israel, Kark effected substantial community health improvement in an urban environment by implementing COPHC.

The Emergence of COPC in the United States

During the 1950s and 1960s, the US government implemented a series of "community responsive initiatives" for health care among underserved populations. These early attempts thrived while receiving federal support but failed in its absence. In 1955, with sponsorship by the US Public Health Service, the Department of Public Health at Cornell Medical School developed a comprehensive model for primary care and community health for Native Americans, including periodic documentation of health problems through community surveys. Working with the Tribal Health Committee, Cornell selected the Many Farms-Rough Rock chapter of the Navajo Tribe as the project site. Language and a lack of knowledge about Navajo culture proved to be major barriers between patients and non-Navajo providers. Cornell relied

heavily on community health workers to bridge cultural barriers and to serve in nursing capacities. Unfortunately, because government regulations required a minimum of high school education for nursing staff that most community workers did not have, the Public Health Service was unable to continue the use of this source of manpower.[14]

In 1962 the federal government, in cooperation with the University of Kentucky Medical College, established a community-responsive project in Martin County, a depressed area in rural Kentucky. The project, undertaken to eradicate tuberculosis, resulted in a cooperative effort between the university and the community to set up a primary care clinic. Initially, the clinic thrived; however, when federal funding was withdrawn and a coal boom improved the economy, the clinic was reduced to 1 physician and 1 clerk. Community members who had received care from the clinic sought care from other physicians who had recently moved into the area.[14]

In 1964 the US Congress established the Medicare and Medicaid programs and the Office of Economic Opportunity and mandated each to eliminate poverty. Based upon this legislation, federally funded neighborhood health centers were established in disadvantaged communities. Two of the earliest health centers, funded by an Office of Economic Opportunity grant to Tufts University School of Medicine, were located at Mound Bayou in the Mississippi Delta and the Columbia Point Health Center in a low-income housing project in Boston.[15]

Physicians Jack Geiger and Count Gibson, then faculty at the Tufts University School of Medicine, were appointed directors of Mound Bayou and Columbia Point health centers, respectively. During medical school, Geiger had spent a year studying with Kark in South Africa. Advocating the use of COPC in medically underserved areas of the United States, Geiger used Kark as a consultant and implemented his methods at Mound Bayou and Columbia Point.[8]

The primary goal at Mound Bayou was to show that a new approach to health care could be cost-effective. This rural Mississippi Delta area was poverty stricken and had an infant mortality rate of 70 deaths per 1,000 live births. At Mound Bayou, all community projects were coordinated through the clinic, eventually resulting in an agricultural co-op, a transportation company, and an integrated primary health care system. The success of the project led to the establishment of more than 200 health centers in the United States by 1973 and 600 more by the end of the decade.

COPC Development in the United States in the 1980s and 1990s

During the 1970s, the World Health Organization called upon primary care professionals to work with underserved communities to accomplish three goals: (1) care for the ill, (2) prevent illness, and, (3) maximize health potential. At the same time, the US government funded an increasing number of community health centers, primary care enjoyed a new prominence, and family medicine became firmly established as a medical specialty.[2]

The loss of federal funding for community health centers in the early 1980s prompted debate regarding the value and cost-effectiveness of COPC. In 1981, the IOM sponsored a group to plan a national COPC conference to be held in 1982. The conference featured an international panel of presenters, including Kark, Abramson, and Geiger. COPC concepts were refined, and methods for its incorporation in provider training were developed.[13] This conference resulted in the operational definition of COPC given above, an IOM determination to develop COPC in the United States, and a decision to fund a study to assess its status.[3]

Maurice Wood, MD, chaired the IOM committee to study the current state of COPC in the United States, and Paul Nutting, MD, served as the chief IOM staff member. Seven sites were assessed in view of the operational definition of COPC. Noting the difficulty with implementing COPC in the "pluralistic . . . private practice system of primary care in this country . . ," the study concluded that COPC was appropriate for a variety of populations and could succeed with various forms of funding. The biggest determinant of success was a physician COPC champion willing to challenge the practice to focus on the needs of the entire community.[3]

Three other points are worth noting about the IOM study. First, it recommended COPC for widespread application in the United States. Second, it encouraged research to examine the costs of COPC relative to its outcomes. Third, it described the need to make demographic and epidemiologic

methods more useful to physicians who had little training in those methods.

In 1987, Nutting edited a book bringing together a comprehensive view of COPC, including its concepts, processes, resources, and tools. More than 70 physicians and other health professionals contributed to this important work,[16] which served as a major resource on COPC for more than a decade. The National Rural Health Association, with Kellogg Foundation funding, implemented a national COPC demonstration project involving 13 rural practices. This study produced four major findings: (1) despite funding for nearly 3 years, most practices were only designing and implementing interventions, (2) staff and physician turnover impaired many projects, (3) implementing COPC in rural underserved areas takes more than 2 years' effort, and (4) coordination by dedicated nonphysician staff is required.[17]

Definition of Community

Despite the success of federally funded projects, such as Mound Bayou and Columbia Point, many physicians were skeptical that COPC methods could be implemented in the private practice environment. This skepticism led to modifications in the definition of COPC.

The definition of one concept undergoing intense scrutiny during the 1980s was "community" in the COPC context. In 1982, Kark and Abramson provided five distinct definitions of community in preferred order: (1) a true community in the sociological sense; (2) a defined neighborhood; (3) workers in a factory or company or students in a defined school; (4) persons registered as potential users of a group practice, a health maintenance organization, a neighborhood health center, or other defined service; and (5) users of a defined service or repeated users of the service.[13] That same year, Madison[18] suggested that COPC principles could be more easily implemented by redefining community. Rather than restricting community to naturally occurring social groups or to geographic groupings, its meaning could be broadened to include the population served by a single practice or to the community of patients with a particular disease. For many, COPC became associated with any health care provided in the community.

In 1988, despite the utility of the new definitions, Abramson[19] warned of the dangers of blurring the of meaning COPC. Acknowledging that a community in the "sociological sense, with a shared community sentiment and its own social institutions" might not be necessary for establishing a COPC practice, Abramson insisted that "all four components of COPC need to be present . . ." and concluded that ". . . the presence of organized community health programs alone . . . unlinked with primary care, [does not] constitute COPC. Nor does the performance of epidemiological studies . . . in a primary care setting justify the use of the term COPC, unless these studies are used as a basis for the planning and evaluation of community health programs."

Blurring the meaning of what constituted a community in COPC practices had the subsequent effect of distorting and diluting the purpose of classic COPC. To add to the confusion, in the 1990s terms with similar sounding names emerged and were used interchangeably with COPC. Terms such as "community-responsiveness,"[20–22] "population-based medicine,"[23] "service-education linkages,"[24,25] "community-based education,"[25] and "orientation to community"[26] became popular. Though these terms seemed congruent with COPC, each lacked certain classic elements. With the possible exception of population-based medicine, these terms generally referred to training delivered in community settings outside tertiary centers. Geiger[27] referred to this as the "geographic fallacy."

In 1998, the American Public Health Association (APHA) published a book entitled *COPC: Health Care for the 21st Century*.[28] This book, based upon the authors' national experience with both rural and urban COPC demonstration projects, was in agreement with Nutting's operational definition of COPC offered in the 1980s; however, the authors went on to reemphasize the necessity for involving the community in COPC efforts. Kark had clearly recommended involving the community in the early 1980s, along with his emphasis on the multidisciplinary team as essential to accomplishing the goals of a COPC practice.[12] During the decade-long debate concerning the definition of community, attention to the role of the community in COPC was largely ignored.

COPC Education in the United States

Both the 1982 IOM conference and Nutting's subsequent study of COPC specifically detailed the need for physician training in COPC. Kark and his

colleagues developed two distinct training modes considered essential to implementing successful COPC practices. First, multidisciplinary teams of health care providers were formally trained in nontraditional, nonclinical subjects, such as epidemiology, survey methodology, health promotion, nutrition, and others; this training was provided in university centers in both South Africa and Israel. Kark believed this type of training was not possible in traditional schools of medicine.[5]

The second training mode emphasized by Kark and the approach used by Pickles is the involvement of nonprofessional community members and professionals from a variety of disciplines. Rogers[6] noted that training physicians in COPC in isolation from other health professions has contributed to many failed programs. Abramson advocated training health professionals in a well-established COPC practice environment, such as that found at Kiryat Yovel in Israel. This aspect of COPC is difficult to incorporate within traditional physician training, in part because of time demands and in part because of the physician mind set.

Despite the successes associated with Kark's training methods, educators and the US government maintained a more traditional approach to COPC training. During the 1980s, funding preferences published by the Bureau of Health Professions encouraged health educators to incorporate COPC training programs in medical school and residency curricula. Various methods for teaching COPC in both medical school[29] and residency programs[30–34] have been described, but none has succeeded in the widespread integration of COPC in clinical practices. Reported attempts to include medical students and residents in multidisciplinary team learning environments have also met with limited success. Seldom viewed by physicians-in-training as reflective of their future practice environments, these efforts have permitted trainees to discount COPC as interesting in concept but inappropriate for real-world practice.

Because COPC training in the United States has not been integrated among the primary care disciplines, those who offered such training approached it from diverse conceptual and definitional perspectives.[35–38] Most efforts focused on increasing the trainee's awareness of community health problems or practicing in particular community environments. Though many programs claimed to promote or teach COPC in general, there was no implementation of COPC in its traditional sense. This is not to say the new concepts had no value; however, these programs did not teach COPC.

In addition to reemphasizing the role of the community in the COPC process, the 1998 APHA publication *COPC: Healthcare for the 21st Century*[28] presented a comprehensive guide to essential COPC skills and included a model multidisciplinary curriculum and a discussion of specific COPC competencies health professionals should acquire. The authors emphasized that COPC training must not be limited to the classroom. COPC trainees require time dedicated to observing and participating in the both the *action* of addressing community health needs and the ongoing *process* of examining community health needs.

COPC Education in Family Medicine

In the 1970s, when momentum for COPC was developing in the United States, family medicine was a newly recognized medical specialty designed to care for patients with a broad range of common illnesses. Recognizing the value of patient management in the context of family, social, and cultural environments, departments of family medicine have always included nonphysicians, particularly behavioral scientists, as faculty integral to the training programs. Family medicine developed as a comprehensive approach to health care, in which the family physician serves as the coordinator, bridging multiple biopsychosocial systems and factors to affect positively the health of the individual patient. Thus, COPC was intuitively appealing to family physicians, while proponents of COPC saw the discipline as fertile ground for educating COPC practitioners.[28] The stage was set for a multidisciplinary and culturally sensitive team approach to patient care. In 1982, the IOM conference on COPC called for medical education to explore ways to include COPC principles in medical training programs[39]; family medicine educators sought workable ways to meet this challenge.

During the early 1980s, despite growing concern regarding the feasibility of COPC in private practice settings, medical schools, departments of family medicine, and others explored ways to incorporate COPC education within medical training.[40,41] The American Academy of Family Physicians published a monograph on COPC and its implementation.[42] Family medicine textbooks included chapters on COPC.[43] Successful examples

of community-oriented approaches to care were described in family medicine and other primary care literature.[16,41, 44–47]

Teaching COPC effectively within a traditional residency program has many challenges. COPC is longitudinal in nature and requires skills not now adequately addressed in medical education. Challenges include allocating sufficient time among competing priorities within a residency to teach skills whose value might not be readily appreciated by residents.[34] Often, faculty have not received formal training in COPC and are uncomfortable with their personal level of knowledge.

The need to provide primary care to underserved areas[48] prompted some family practice residencies to establish relations with community and migrant health centers in which resident physicians could learn primary care in the community context.[34] Community and migrant health centers, sponsored by the US Public Health Service (USPHS), support and encourage COPC concepts and processes and would seem an ideal resource for COPC training.

Serious challenges occur, however, when trying to combine the service requirements of the community and migrant health centers and the educational requirements of the Residency Review Committee. Financial support for residents and faculty was problematic for both the community and migrant health centers and the educational institutions.[24] Meeting Residency Review Committee requirements for quality and quantity of educational experiences and meeting USPHS requirements for productivity were common challenges in these settings.[33,49] Additional problems arose in the governance of the clinic schedule relating to competing missions: the service mission of the community and migrant health centers, and the educational mission of residency programs.[33] Despite these challenges, some success has been reported in these efforts but has not resulted in more widespread use of COPC. Additionally, teaching COPC primarily in this setting implies the need for federal support to accomplish the concept of COPC.

Despite the public and academic support for COPC, as recently as 1994 only 73% of responding family practice residency directors had heard of COPC and only 34% believed they understood COPC well. A mere 37% of the directors indicated that COPC was taught in their program. Only one sixth of practicing physicians believed they practiced COPC. Furthermore when asked about incorporation of specific elements of COPC, only one practicing physician and four training programs included all elements of COPC. Those who were familiar with the concept of COPC, however, viewed it favorably but indicated that "practical, inexpensive, quick, and resource-efficient methods of applying COPC" were needed.[50]

Based upon a study of physicians' current level of community involvement, Pathman et al[51] reported that community activities of primary care physicians fall into four general domains: (1) recognition of and intervention in the community's health problems (COPC), (2) awareness of the particular health beliefs of local cultural groups, (3) coordination of community's health resources and collaboration with other health professionals, and (4) assimilation into the community and participation in its organizations, ie, as civic leaders. Pathman et al suggest educators use this typology when seeking to provide students with a wide range of valuable community skills, including, but not limited to those of COPC. Analyzing the relation between the community training physicians received and their subsequent community activities, Pathman and his colleagues[52] note the following:

1. Training in a given domain, whether in medical school or residency, produced a greater probability that practicing physicians would undertake activities in that domain only.
2. Rural rotations during residency (but not during medical school) were associated with domains 1, 3, and 4. A longitudinal community experience at either level of training was associated with domains 1 and 4.
3. Rotations in inner-city settings or underserved populations and greater participation in general outpatient rotations were not associated with any domain.
4. Physicians who had mentors active in the community during residency were much more active in domains 1 and 4.

These findings support the need for family medicine educators to assess critically not only community medicine curricula, but also the timing of its presentation and the teaching strategies necessary for optimal integration of such learning into physician practices.

Given the recommendations from the Working Group of the Academic Family Medicine Organi-

Table 1. Community-Oriented Primary Care (COPC): Historical Lessons Learned

1.	COPC has been shown to have a striking, positive impact on the health of communities where it is practiced
2.	Most successful COPC undertakings have been externally funded and associated with academic institutions
3.	Traditional US medical education structures pose major barriers to teaching and learning COPC
4.	Simply moving the educational setting to a community or a community health center does not constitute teaching COPC
5.	COPC is more than epidemiological studies, needs assessments, or other health surveys
6.	Health promotion and disease prevention projects do not in themselves constitute COPC
7.	COPC is not widely integrated or understood in family medicine
8.	Family physicians participate in their practice communities in a variety of ways that have a positive impact on the community's health
9.	There is a relation between the type of community health training given residents and their eventual practice activities
10.	COPC continues to appeal to family physicians and offers a strategy to care for populations beyond the limits of an individual practice
11.	A common understanding of COPC as a system of health care will contribute to consistency of educational goals and effective teaching strategies

zations and the Association of Family Practice Residency Directors to develop certain community competencies for resident training, family medicine educators must now determine which community competencies to teach and how best to implement appropriate curricular changes.[7]

Summary

This description of the evolution of COPC provides a conceptual foundation for family medicine professional educators and practitioners involved with its development. Table 1 provides the most important factors to be gleaned from this study.

COPC has its roots in the work of Will Pickles in England and of Sydney Kark in South Africa and Israel. Their work shows major positive health benefits of COPC. Because COPC demonstration projects in the United State occurred mainly in underserved areas and required large amounts of public and private funding, COPC became thus associated; and though its name held a certain appeal, mainstream primary care providers viewed COPC as impractical.

In response to the IOM call for its widespread application, family medicine educators eagerly embraced COPC but struggled to understand the family physician's role. Though primary care is central to COPC, additional skills less familiar to family physicians are required: community epidemiology, outcomes research, information systems, and multidisciplinary collaboration.

As controversy about the meaning and practicality of COPC emerged, its definitions and applications became blurred. Despite warnings to the contrary, traditional training environments continued as the preferred medical education and residency training sites and thus failed to teach the full range of COPC concepts. Family medicine attempts to teach COPC in the United States have been difficult and frustrating. The APHA recently described a multidisciplinary COPC curriculum; however, it does not define COPC training in family medicine. The implications for family physician education in COPC will be addressed in an upcoming article in this journal.

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