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Community-Oriented Primary Care: Epidemiology's Role in the Future of Primary Care

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This paper is based on Dr. Mullan's presentation at the Second Binational Symposium: United States–Israel, held October 17–19, 1983, in Bethesda, Md.

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COMMUNITY-ORIENTED PRIMARY CARE (COPC) is a concept pioneered in Israel that is receiving increasing attention in the United States. COPC is a development of enormous importance to this symposium because it demonstrates yet another area where the principles of epidemiology can be applied in biomedicine with important medical, scientific, and social results.

The experiences discussed in this paper are limited to those of the United States and Israel, two economically advanced nations with highly developed systems of medical care and abundant technological resources. The principles of COPC discussed, therefore, are set in the context of the Western medical model, with physicians and hospitals playing a central role in the delivery of health services. The basic construct of COPC, however, is equally germane to less developed nations where physicians and hospitals are rare and the improvement of health status depends primarily on village health workers and basic public health interventions. Although the international applications of COPC will not be addressed here, this aspect is important to both Israel and the United States in their roles as leaders in providing technical assistance to the developing world. COPC, in short, has policy relevance at home and abroad for the United States and Israel.

Although both nations have growing amounts of experience with the implementation of COPC, neither currently has an academic commitment to training primary care epidemiologists, the critical researchers and teachers who can help COPC realize its potential. After fully defining COPC I will discuss the concept of primary care epidemiology in an effort to stimulate further discussion.

Community-Oriented Primary Care

Community-oriented primary care was proposed as a concept and first codified by Sidney Kark, based on his extensive work at Kiryat Yovel, a small, defined community in Jerusalem (*1,2*). Many principles explored by Kark are taught in the community-oriented curriculum of the medical school at Ben Gurion University of the Negev, Beersheva, Israel.

To the practice of good primary care medicine COPC adds the systematic use of clinically oriented epidemiology. The COPC practitioner does not simply treat patients as they arrive in the waiting room; rather, he or she defines a community of service and establishes a program to evaluate systematically the actual needs of that community. The data thus derived are used to orient both the activities of the practice itself and the outreach programs undertaken by its staff alone or with staff of other community agencies. The process is an ongoing one in which the practice systematically and periodically evaluates and reorients itself based on the needs of its population.

The basic principles of COPC can be summarized as follows:

1. Primary care: the practice of primary care, including the availability of a complete range of services and the geographic, financial, and cultural accessibility of the practice to the patient population.
2. Epidemiology: use of epidemiologic skills in conjunction with the clinical activities of the practice. The epidemiologic activities should take place both in the community (extramurally) and within the practice (intramurally).
3. Defined population: definition of the population for whom the practice is responsible. This group of people is the target population for primary care services and the denominator population for the measurement of health status, need, and outcome.
4. Defined programs: defined programs, which are based on the epidemiologic analysis, aimed so they deal

with the health problems of the community within the framework of primary care. These programs may involve disease prevention and health promotion as well as curative and rehabilitative care.

5. Community involvement: involvement of the community in the governance of the practice, the design of the epidemiologic activities, and the implementation of the resulting health programs.

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Several things need to be said about COPC. First of all, the concepts that constitute it are not new but represent a reformatting of established ideas. The concepts are an alliance between population-based precepts, which have been the domain of public health and personal health care that is represented by primary care medicine (*3*). Second, pluralistic, noncapitated systems of health care (such as those in the United States) do not easily lend themselves to the formally defined populations that a strict interpretation of COPC envisions. Nonetheless, physicians working in almost all settings have or could have a definition of the population for whom they care. Third, while few current practices in the United States or Israel embody all aspects of COPC, many use key elements and have in fact been engaged in forms of COPC, calling it community medicine, comprehensive care, preventive services, or community-responsive medicine.

In an immediate and practical sense, COPC promises to make any medical practice more effective. Although physicians over the years have tended to wait to see who comes to their door for treatment, this has not been a very effective way of treating illnesses, let alone preventing disease. This approach, and the training that leads to it. have never made physicians particularly skilled with or interested in the population as a whole. COPC is a paradigm that will enable a medical practice to analyze illness in the community and to work prospectively to treat it. The issues may be as diverse as streptococcal disease or patient transportation, long-term care or smoking, and hypertension or teenage pregnancy. The technique of epidemiologic analysis (community diagnosis) followed by clinical and community action promises an effectiveness that one-to-one treatment room medicine does not (*4*).

Moreover, the COPC approach invites—actually mandates—the involvement of the community's residents in both diagnosis and treatment and, as such, builds community responsiveness into a practice in a manner that traditional medical practice and even idealistic community medicine do not. COPC is a discipline and a method that requires step-by-step communication with, and involvement of, the citizens in a practice. This distinguishes COPC from traditional medicine not only in its clinical activities, but in its ethos.

Currently, COPC is not the prevalent form of medical practice in Israel or the United States. Defined populations are more common in Israel than in the United States. The provision of service on a capitated basis by Kupat Holim (the Health Insurance Institute of the General Federation of Labor) and the Israeli Ministry of Health as well as the strong tradition of epidemiology in Israel would seem to offer a clement environment for the development of COPC. Moreover, the strong focus at Ben Gurion University of the Negev, one of the country's four medical schools, on community-oriented medical education would suggest that the tools are in hand to develop a much broader approach to COPC than currently exists.

Although certain elements of the health care system are different in the United States, COPC, nonetheless, is relevant to the entire spectrum of health service delivery in this country. COPC offers a simple and useful tool for practices that already have a community-oriented or population-based approach, such as the Indian Health Service, community health centers, the National Health Service Corps, and certain State-supported primary care programs. COPC should serve as a guiding principle and help for all those practitioners and communities attempting to establish medical services in traditionally underserved or marginal areas.

COPC speaks to the mainstream health care providers as well. There is already a significant movement toward prepaid services underway in this country. The well-established and highly competitive health maintenance organization (HMO) movement is predicated on the notion of a defined user population. HMO practices collect large amounts of data on their patients which, if used to establish a community-oriented feedback loop, would move those practices quickly toward a COPC model.

In the fee-for-service private sector, marketplace forces are growing that may make unknowing COPC converts out of many private practitioners. These forces can be seen in the emerging competitiveness for patients in regions that have too many physicians. Once upon a time a physician could wait in the office for patients to arrive with their illnesses and their payments. Today in many parts of urban and suburban America, medical practices are having a rough go of it because of too many physicians and too few patients. This problem will only

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get worse as the numbers of medical graduates remain at high levels for the immediate future.

In traditional marketplace fashion, physicians will be looking for ways to improve their share of the market. Those physicians who can be most responsive to the needs and wants of their patients will, arguably, have more successful practices. The efforts of these physicians to determine what range of services will give them a competitive advantage will probably not take the form of classic epidemiology or even formal community diagnosis. Rather, it will be modest—or perhaps not so modest—market research, patient inventories, and trial and error. The resultant modifications of practices may range widely and include adding social workers to staffs, setting up diet and exercise programs, initiating patient newsletter, developing classes for Lamaze instruction and for patients who are diabetic or overweight, and setting up support groups for cancer patients under treatment. The increasingly tight medical marketplace, then, may prove to be a surprise ally in the effort to develop COPC.

Primary Care Epidemiology

To move COPC from a largely theoretical stage to prominence in health services delivery, a number of developments must take place. On a policy level, the government should promote COPC formally and vocally. In the service arena, those physicians currently in population-based or community-responsive practices should be fostered and encouraged to see themselves as examples and leaders in COPC activity. Academic medical centers and community practices need to collaborate in developing and implementing a research agenda for COPC. Formal training programs in COPC at undergraduate and graduate levels need to be developed in departments of primary care. In addition to standard clinical training, students and house staff should be exposed to subjects such as basic epidemiology and biostatistics, sociology, and community development.

An element essential to this entire process is the development of a currently nonexistent discipline called primary care epidemiology. Its practitioners would bridge the fields of clinical primary care and traditional epidemiology, serving as research scientists, pedagogues, and catalysts to the teachers and practitioners of COPC.

Primary care epidemiology encompasses a specific set of activities that can be seen as the outcome of a steady evolution of the application of epidemiologic principles to increasingly clinically oriented subject matter. In recent years, clinical epidemiology has emerged as an important variant of the traditional discipline. The main thrust of this movement has been the use of quantitative methods in conventional, clinically oriented biomedical investigation.

Feinstein defined the domain of clinical epidemiology as "the development of clinimetric indexes, scales, and criteria to deal with the many important clinical phenomena that are currently unidentified and omitted from most collections and analyses of scientific data." The outcome of these exercises will be "the improvement of data available for policy decisions regarding personnel, physical and administrative mechanisms and other aspects of strategy for the provision of health care" (*5*).

Other practitioners of clinical epidemiology emphasize its focus on the outcome of care rather than the causation of disease. Phillips wrote that "A common definition is that classical epidemiology is the study of the distribution and determinants of disease and injury in human populations. The emphasis is on the origins of disease. Clinical epidemiology, in contrast, focuses on the intervention applied to control or eradicate illness, and it uses similar methods to study the outcomes in addition to the origins of disease and illness"(*6*). Clinical epidemiology encourages the screening of populations for asymptomatic disease and the investigation of nonusers of medical services as well as those who bring diseases to the clinical setting. Although clinical epidemiology represents an enormously valuable and timely variation on a grand old theme, it falls short of defining and filling the specific epidemiologic needs of COPC.

COPC calls for direct application of the approach of clinical epidemiology to primary care practice with several important specifications.

- The investigations undertaken are to be community based (community diagnosis) and designed to be part of a short feedback loop to the practice itself.
- The explicit purpose of those investigations is to direct or redirect the clinical and community activities of the practice.
- Investigations should concern the impact of the primary care services delivered by the practice as well as the nature of primary care problems in the community.

Primary care epidemiology goes beyond clinical epidemiology in its specific and pragmatic focus on community-based data gathering and the resultant modifica-

tion of the primary care activities of the practice in order to make the practice ever more relevant to the needs of the community. Although it does encourage the use of certain research techniques, the principle value of primary care epidemiology is not generalized data base collection or improvements in methodology associated with the lengthy and nonspecific feedback loop of traditional research. Rather, its value lies in the establishment of a specific feedback loop of epidemiologic data in the context of a given practice and its community.

Although not called primary care epidemiology, the concept of the highly targeted application of epidemiologic techniques to clinical practice is not a new idea. The International Journal of Epidemiology, for instance, published an editorial about the set of skills that compare the effectiveness of various types of clinical service, calling them "operational epidemiology." "[Epidemiologists] are now faced with the new mutation [of epidemiology], calling for the development of quick and robust measuring techniques, imaginative data collection methods, different measurement indices, and new ways of analyzing and presenting results. Measurements, tools, indices, methods of analysis must be made relevant to primary health care. These should be made widely applicable in the field" (*7*).

White put the concept in perspective by writing that the primary care physician has more in common with the naturalist than with the physicist or engineer. "In research, the naturalist observes and describes, the naturalist identifies patterns and associations and distributions; less frequently does the naturalist undertake definitive experiments. Although both have their place, medicine urgently needs the wonder, curiosity, and observational powers of the naturalist" (*8*).

Examples of the practical applications of primary care epidemiology would include studies to determine the rate of teenage pregnancy or the prevalence of terminal cancer patients in a community in order to determine if the practice should initiate a family planning clinic or a hospice service. Likewise, studies to elucidate the true incidence of presenting complaints in a practice will help the practitioner to determine what types of consultants the practice needs or how to direct professional continuing education efforts. Even the solo practitioner who conducts a survey of his patients on their perceived health education needs and then outfits his waiting room with the appropriate literature is undertaking a modest exercise in primary care epidemiology.

The importance of the specific and conscious development of the discipline of primary care epidemiology is that it will produce a group of persons with a disciplinary identification and a set of skills who will be able to teach and consult in academic centers and practices that are developing COPC programs. The existence of primary care epidemiology will greatly facilitate the development of COPC.

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Conclusion

COPC offers a clear discipline that can be taught to and practiced by health care providers, administrators, educators, and communities attempting to make the promise of community-responsive practice of primary care medicine a reality. This promise is true in the United States and in Israel as well as in the developing world. COPC, while not a revolution in itself, is an idea that can maximize the effectiveness of community-oriented practitioners and encourage traditional, disease-oriented practitioners to respond to the needs and interests of their patients as consumers and citizens. COPC is a uniting and motivating principle that, if carefully developed and wisely implemented, will be the catalyst of extraordinary changes and profound benefits in the provision of health care.

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