

On the Other Hand

On Paradigms, Community Participation, and the Future of Public Health

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In the Journal's recent series of articles on the future of public health, Pearce argues that epidemiology has become overreductive, attending to personal behaviors at the expense of social and historical factors; he proposes instead a "postmodern epidemiology," ecological and interdisciplinary, built through quantitative and qualitative methods.¹ The Sussers advocate a similar but more modest scheme, "eco-epidemiology," that would include social and molecular variables.² Both claim to be proposing a new paradigm, an idea that Winkelstein, in his editorial, dismisses.³ We concur. On the understanding that a paradigm is a fundamental set of beliefs and practices, an ecological approach does not constitute a new paradigm. Nor is it a solution to the problems of modern epidemiology. However, we believe that there is, in fact, a new paradigm at large in public health and that an ecological approach is one of its two principal characteristics. The other is community participation.

Before elaborating, we should ask whether a new paradigm is needed. Perhaps no better answer is required than the relative failure of our best efforts over the last 25 years to develop successful interventions to reduce coronary heart disease. The Multiple Risk Factor Intervention Trial in the 1970s, based on elaborate clinical treatment, failed to reduce mortality rates in treated vs control subjects.⁴ Likewise, the "community" interventions of the 1980s in Stanford, Minnesota, and Pawtucket, although somewhat more ecological, have so far yielded poor results.⁵⁻⁷ The risk factors—smoking, high blood pressure, high cholesterol, and obesity—were selected on the basis of extensive epidemiologic and clinical research; the intervention was planned with expert advice on information diffusion and community organization.^{8,9} Yet, after 10 years, risk factor levels in the intervention communities are not significantly different from those in

the comparison communities. These results are especially disappointing because coronary heart disease mortality rates in the general population have declined steeply since 1968.¹⁰ Epidemiological research appears not to have contributed to this decline.

The paradigm underlying these efforts was the reductive-objective paradigm of science, which aims at "objective" and "universal" truths, as determined by the scientist. It has clearly evolved, from simple models of cause and effect to complex ecological "webs" of causation,¹¹ but the search for objective, universal truths has not changed, and the processes of research and intervention are still controlled by the scientist. An ecological approach does help solve some problems, overconcentration on personal behaviors, for example. Complex social factors are indeed also determinants of health and disease. But this complexity can also immobilize; there are so many potentially relevant variables! To work more effectively, and to constitute a new paradigm, we need something more.

Community participation—the involvement of people in designing and implementing research and interventions intended to benefit them—emerges from public health practice to satisfy this need. We first became aware of its possibilities from the North Karelia Project, Finland's major coronary heart disease intervention in the 1980s. Although similar in scale and methods to the US interventions, it differed from them in two important ways. First, it was initiated and in some ways driven by the community; citizens, startled by newspaper

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reports that their coronary heart disease mortality rate was the highest in the world, petitioned for the intervention. Second, it was successful, with significant reductions in risk factors and mortality.¹²

We discovered that community participation is not a new concept. It was central to the Office of Economic Opportunity's approach to health services in the 1960s; there is a literature on its uses and abuses in government interventions.^{13,14} It was endorsed by the World Health Organization as a central tenet of primary health care in the 1970s¹⁵ and of health promotion in the 1980s.¹⁶ It was, to some degree, part of the Centers for Disease Control and Prevention's Planned Approach to Community Health.¹⁷

Practitioners claim that interventions informed by community participation are more likely to succeed, and some well-documented projects have demonstrated the real possibility that this is so.¹⁸⁻²² But the literature is richer in descriptions of how the concept has been understood and practiced,²³⁻²⁷ and how it has been distorted and rendered rhetorical,²⁸⁻³⁰ than it is in rigorous evaluation. Perhaps this is to be expected: evaluation is in its infancy³¹⁻³³, much needs to be worked out. There are, for example, many shades of participation, from passive compliance through tokenism to a true sharing of decision making.³⁴⁻³⁶ In the meantime, many practitioners would agree with Green that "nothing assures the success of a program more than to engage the people of a community,"²⁶ and there is a growing eclectic body of evidence suggesting that involvement in controlling events that determine our lives promotes good health.³⁷ Foundations increasingly are interested in funding research and interventions that involve communities as partners.

What does an ecological and participatory paradigm imply for epidemiology? It implies working across disciplines, and with the population itself, in defining variables, designing instruments, and collecting data (qualitative and quantitative) that reflect the ecological reality of life in that population, as people experience it. This collaboration is not easy. It calls for cross-disciplinary patience, as well as cultural sensitivity and competence, to overcome the differences of race, class, and age that generally exist between public health specialists and the populations we are here to serve. Epidemiologists would not be required to surrender rigor, but they would be required to share power!

The body of knowledge emerging from this process is not "normal science," and this is essential for a new paradigm.³⁸ It makes no claim to universal truth; it is not defined

by the scientist. Rather, the scientist helps reveal patterns of shifting "local" truths, as perceived by the many kinds of people involved. Is this a "postmodern" epidemiology? Perhaps. Postmodernity acknowledges diversity and uncertainty,³⁹ it accepts experience as valid and useful knowledge, and it implies a search for local understanding rather than universal truths.⁴⁰ If, as Winkelstein and Pearce suggest, epidemiology and public health practice were better integrated, a postmodern paradigm might well evolve as the future of public health: a "participatory eco-epidemiology" embracing the experience and partnership of those we are normally content simply to measure. □

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Pearce Responds

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I strongly agree with the views of Schwab and Syme¹ as to the benefits of community participation in epidemiological research,²⁻⁴ and I see their views as being largely complementary to my own.⁵ However, it is also important to note some points of difference. My emphasis was on adopting the appropriate *level of analysis* in research, an issue that is related to, but not synonymous with, issues of community participation. Schwab and Syme cite examples of unsuccessful cardiovascular intervention trials and contrast them with community-driven initiatives involving the same individual-level risk factors, which were more successful. The implication is that the individual-risk factor approach is appropriate, but that the focus of research and action should be on "the community" rather than on the individual (as in modern epidemiology) or on the population (as I advocate).

While being sympathetic to this approach, it is also necessary to note its limitations in contrast to a true population-level approach (which also incorporates community-level and individual-level analyses). In particular, community interventions frequently fail, or have limited success because they do not recognize the population-level factors that limit what can be achieved at the community level. For example, if action on tobacco is not taken at the population level (particularly with regard to tobacco production, distribution, and advertising), then action in a particular community will at best shift the problem to other communities; at worst it may have no effect at all because of the population-level factors that influence smoking habits. The increased emphasis on community participation has come during a time when communities are being restructured by eco-

nomical changes that mean that most people have less, rather than more, control over their lives and their communities,⁶ making individual (or community) responsibility for health more difficult. Community participation, when it works, is desirable and very beneficial, but it is not an alternative to understanding and taking action at the population level. While acting locally it is also important to think and act globally, in the manner advocated by Susser and Susser.⁷

Finally, Schwab and Syme imply that the main feature of my article is advocacy of a "postmodern epidemiology" involving an ecological approach, and they state that "an ecological approach does not constitute a new paradigm." In fact, I specifically rejected the term "postmodern epidemiology" because I believe that postmodernism has even greater epistemological and practical shortcomings than the reductionist "modern" approach. Furthermore, I argued that "epidemiology must reintegrate itself into public health and must rediscover the population perspective" with an emphasis on using appropriate methodology, rather than making the question fit the method. Ecological studies were merely used as an example of an approach that may be most appropriate in some instances even though it does not easily fit the "modern epidemiology" clinical trial paradigm. □

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