Dr. Shy Replies to Dr. Walker

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Dr. Walker (1) raises the question, "Are there principles of effective public health intervention that are not rooted in chemistry, physics, and biology?" A quotation from the World Health Organization's 1986 Ottawa Charter for Health Promotion provides an appropriate response: "Political, economic, social, cultural, environmental, behavioural and biological factors can all favour health or be harmful to it" (2, p. 426). The major point I was trying to make in my paper, "The Failure of Academic Epidemiology: The Case for the Prosecution" (3), is that, in the past two to three decades, academic epidemiology has largely limited itself to a biomedical and individual risk factor approach to disease in populations, and in doing so has left unstudied the political, economic, and cultural forces that are major determinants of the population's health. This is not to deny that many diseases of public health importance require the application of biomedical knowledge in order to develop effective public health interventions. But biology and biomedical epidemiology are not sufficient as a scientific basis for public health interventions, which often require proposal of public policies. Public health practice frequently entails advocacy for a specific course of action, such as mandatory reporting of diseases, economic disincentives to smoking, establishment of air quality standards, or disinfection of the drinking water. Surely, one function of epidemiology, as the basic science of public health, is to develop scientific evidence for making informed choices among alternative public health interventions, and here is where we need to draw upon the methods and principles of the social and public policy sciences.

However, even if we limit our consideration to the etiology of diseases of public health importance, an ecologic and social-cultural perspective needs to be added to the biomedical, in order to understand disease as a consequence not only of individual risk factors in populations, but also as a predictable outcome of living in a specific social-cultural-economic environment. Why did lung cancer become an epidemic in the 20th century, even though tobacco was used in the prior 200 or more years? More importantly, what evidence should epidemiology have provided for effective intervention in the epidemic? These questions transcend the biomedical knowledge of tobacco's effects on health. Similar reasoning can be applied to public health efforts to understand and intervene in domestic violence, adolescent pregnancy, the AIDS epidemic, and the continuing occurrence of occupational dust diseases, among other issues.

Dr. Walker suggests that by moving epidemiology upstream, into the realm of underlying societal determinants of disease, we will leave the mainstream of science and wander into the murky waters of social interventions based on unvalidated social and political theories. It is true that if epidemiology turns its attention to societal determinants of health status, we will depart from our currently well-developed methods for studying individual risk factors, and from our biomedical roots. But there is no reason why societal determinants of health status can not be studied scientifically, with methods that have been used in the population and social sciences of economics, sociology, cultural anthropology, political science, social psychology, etc. That epidemiology has not developed the methods for studying underlying societal determinants of health status is a challenge for the next generation of epidemiologists, rather than a threat to the validity of epidemiologic investigation.

REFERENCES