

EDITOR'S CHOICE



Impact of Environmental Justice Investments

I grew up in a farming community in a valley along the Appalachian mountain range in what was purported to be the most impoverished county in the State of Tennessee. Therefore, I am intimately familiar with the social and health consequences associated with poverty, race, and environmental degradation and understand how the daily struggle to acquire the basic necessities of life are made more difficult by living and working in such an environment. When I became Scientific Director of the Howard University Cancer Center in 1979, I realized that little had changed since I left home to pursue advanced studies. Residents in the socioeconomically disadvantaged community surrounding the medical center were dying from preventable or curable diseases even though life-saving knowledge and technologies were available within the walls of this and other medical centers in Washington, DC. In fact, the 1985 publication of the Heckler Report confirmed racial/ethnic disparities in mortality from causes attributable to modifiable risk factors.

At present, we can do little to modify the effects of genetics on human health, and modifying individual behaviors and cultural practices sufficiently to influence population health has proven to be difficult. Furthermore, genetic effects on population health are likely mediated by interactions with modifiable environmental exposures. Therefore, progress in eliminating disparities in health requires that we look upstream to social and environmental factors that are amenable to intervention through public policies.

It is well established that race, poverty, and degraded environments are linked to increased risk for many chronic diseases, but except for a few well-studied cases, the relationship remains elusive. In the case of many known risks, the government has instituted regulatory and consumer protection policies to prevent adverse health outcomes from exposure. The problem, in my view, is twofold. First, many environmental and consumer protection policies are less rigorously enforced in low-income and minority communities and, second, evidence to establish cause-effect relationships is often lacking.

Becoming Director of the National Institute of Environmental Health Sciences in 1991 provided an opportunity to address this long-neglected area of health research. To identify the research needs and priorities of low-income and minority communities with respect to environmental exposures and their health, I arranged for the senior leadership of the institute to join me on so-called "toxic tours" of such communities to see the real-life impact of environmental pollution and degradation on human health and well-being.

We realized that the task of identifying causative environmental exposures would be difficult because many factors may contribute to the correlation between poverty, minority status, pollution, and health. Nevertheless, we concluded that a concerted effort should be initiated to develop the tools and models to define environmental risk factors in the context of multiple possible contributors. Therefore, we pooled our resources with the US Environmental Protection Agency and the Centers for Disease Control and Prevention to cosponsor the first government summit on environmental justice in February of 1994 and commissioned a 1999 Institute of Medicine report on the research, education, and policy needs of environmental justice.

The selected papers in this supplement demonstrate the remarkable success of this investment. However, the most important legacy may be the introduction of the concept of gene-environmental interaction in the development of chronic diseases and the validation of community-based participatory research as a model for the conduct of public health research. ■

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