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## Environment Meets Health, Again

THE SEEMINGLY INSURMOUNTABLE HEALTH CHALLENGE IN THE 19TH CENTURY WAS infectious disease. In the 21st century it will be a mix of global warming, poverty, and infectious and chronic diseases. Life expectancy in the United States is now twice that of the 19th century, and environmental health—healthier food, cleaner water, better places to live (the “built environment”)—has been the greatest contributor. Can environmental health address 21st-century challenges?

Environmental health in the 19th century was practiced by physicians and scientists, but, importantly, also by business people, engineers, lawyers, architects, politicians, and many others outside health and science. The primary tools for health improvement were infrastructure and sanitation. For example, it was Frederick Law Olmsted, the man behind urban landscapes like New York City’s Central Park, who headed the Sanitary Commission during the Civil War that saved thousands of lives.

Over the past 50 years, environmental science and practice have become specialized but also fragmented. The U.S. Environmental Protection Agency, which was created largely out of federal health programs in 1970, focused on legal and engineering strategies related to air and water pollution, as well as species and land protection. Meanwhile, environmental health practitioners in local agencies hunkered down to enforceable and fee-supported activities like food service inspection. And environmental health scientists increasingly emphasized mechanisms of toxicity or illness within biological systems.

This separation led to decisions where a solution for one problem created unexpected collateral effects: the chemical MTBE that was added to gasoline to prevent air pollution caused groundwater contamination; flame retardants required in consumer products turned out to be human milk contaminants and carcinogens. Today, environmental health in the United States is vested in many agencies, not just those titled Environment or Health, but also Transportation, Education, Housing, Energy, Agriculture, and Defense. Each has its critical primary mandate, but each influences essential elements of the requirement to protect health and the environment. The complex challenges of the 21st century cannot be met by a set of stovepipes as disconnected as these.

Can we fix the present system? Two illustrations, one historical and the other emerging, lend hope. The first was the success of the focus on children’s environmental health in the 1990s. The Food Quality Protection Act of 1996 required that children’s health be the benchmark for decisions on allowable levels of pesticide residues in food, the tenet being that protecting the most exposed and sensitive in the population protects everyone. At the 10th anniversary of this Act, one-third of pesticide tolerances have been revoked. Recognizing the improvements that a children’s health initiative could bring about, President Clinton ordered that all agencies develop strategies to improve the health of children, and mandated twice-yearly cabinet-level meetings to make it happen. After a cautious and questioning start, each agency recognized that it had large impacts on children’s well-being, for example, Transportation in terms of safe routes to school or Housing in terms of indoor air quality. Several important efforts, including the proposal for the National Children’s Study, grew out of this initiative.

The second example is more contemporary. Public health leaders are asserting—as had leaders 150 years earlier—that the built environment profoundly influences health. The focus this time is not urban tenements, but rather the fragmented and sprawling communities that foster car dependency, inactivity, obesity, loneliness, fossil fuel and resource consumption, and environmental pollution. Concern about the built environment’s effects on health has caught fire, with joint health and urban-planning conferences and strategy sessions, pending legislation, and an increasing number of new scientific studies. Disciplines long estranged from health issues—planners and architects, environmentalists, even builders and developers—are becoming engaged. It’s a good time to spread ownership of health and environment challenges. The challenges of the 21st century will require leadership and collaboration. It worked in the 19th century; it can work today.

—Richard J. Jackson

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