

Report 96: Reframing the Societal Narrative so that Environment is the Default for Prevention

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Brief History: Americans have high expectations that biomedical technology and drugs will cure chronic disease, but they are largely unaware that the most dramatic reductions in child mortality and increases in life expectancy over the past century were largely due to environmental modifications, such as water treatment, housing quality, pasteurization and enhanced nutrition.

With the decline in communicable diseases, chronic disease has emerged as the leading cause of death and disease worldwide. There is now considerable evidence that industrial pollutants, environmental chemicals, poor nutrition and the built environment are major risk factors for chronic diseases. As such, there are tremendous research and public health opportunities to quantify and prevent environmentally-induced disease if we can convince the public to invest in environmental research and interventions, such as regulations to reduce pollutant and environmental chemicals, as well as efforts to modify our environments in ways that are conducive to health.

Discussion Highlights:

We need to identify low-hanging fruit to illustrate the impact of environmental research and interventions on disease outcomes, such as hospitalizations or the impact of smoking bans on asthma and heart attacks. In absence of such data, public assumes health benefits are “medical”.

We need to point out the fallacy of lifestyle choice as the primary reason people develop chronic disease. Our tendency is to blame people for their lifestyle choices, but environmental influences (e.g., living in lead-contaminated housing, lack of affordable healthy foods, smoking in movies) often “cause” lifestyle choices.

We need to redefine the level of evidence that is necessary to justify action. This might be operationalized as the proportionately principle. We also need to distinguish the level of evidence necessary to *remove* or *reduce* exposures to an environmental hazard versus *introducing* a drug or potential hazard.

We need to find ways to enhance research to test synergistic or additive effects of exposures to multiple chemicals or stressors.

We need to enhance use of mechanistic pathways to evaluate the impact of environmental risk factors on a disease or disorder.

We need to recognize that, in contrast with medical interventions (i.e., drugs, procedures) which result in short-term privatize profits or individuals benefits, environmental regulations (i.e., reduce tobacco use, airborne pollutants, blood lead concentration) result in public benefits and costs averted. We need to use different metrics to evaluate environmental hazards and find ways to promote them.

Medical interventions are focused on individuals; environmental interventions (prevention) must focus on populations that affect large numbers of people with only some people benefiting.

Under current model, we wait until an environmentally-induced disease emerges before attempt to identify risk factors rather than require cost-benefit analysis on potential impact of introducing a chemical or industrial pollutant and requiring industry to prove product is “safe”.

Recommendations:

Increase cross-disciplinary research awards with non-traditional disciplines, such as economists, city planners, sociologists and engineers.

Increase partnerships with other federal agencies to conduct research on sustainability (e.g., US EPA), housing (US D of HUD), and Superfund remediation (e.g., ATSDR).

Write narrative as part of first 50 years of NIEHS focusing on lessons learned from lead, asbestos, tobacco, air pollution and other key examples about how to prevent exposure and benefits of reducing exposures on human health, including costs of reducing death, disease and disability. This should include a catalogue of benefits and profiles of environmental scientists who led innovative research with public health impact.

Support cost-benefit analysis of environmental health interventions or regulations including impact of environmental hazards on violence, hospitalizations, crime, neurobehavioral problems, cardiovascular. These models should also examine the impact of newly introduced chemicals or hazards and their potential impact, including estimates of remediation.

Develop an intramural program and fund extramural programs in environmental health economics, focusing on impact of environmental interventions on health care costs, disease and disability or death. These models should also examine economic benefits of alternatives, such as Green Chemistry.

Find ways to communicate impact of environment to public and interested groups, including results of biomonitoring data and impact of environmental interventions. Interested groups might include journalists (e.g., Society of Environmental Journalists).

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