

UNEQUAL EXPOSURE:

Addressing Disparate Environmental Health Risks

Environmental justice seeks to remedy the unfair burden of environmental health hazards borne by low-income communities. While all communities face some level of risk, research has documented that environmental hazards are particularly pronounced in poor and minority communities. The Environmental Protection Agency (EPA) has identified at least 80 studies, which consistently find that minority and low-income communities face disproportionate exposure to environmental hazards (U.S. Commission on Civil Rights 2003). The poor tend to live in the least desirable neighborhoods, which are characterized by older housing stock and close proximity to sources of environmental risk such as highways, dumps, and heavy industry. The poor also tend to be employed in jobs with increased risk of occupational exposure to hazardous materials.

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The aftermath of Hurricane Katrina, the worst environmental disaster in the history of the United States, horrifically exposed how race and income determine environmental risk. When flood waters inundated the low-lying areas of New Orleans that were home to the city's poorest – predominantly African-American – residents, the disparate risk facing minority communities became tragically clear. Across the nation, the poor, particularly communities of color, tend to live in the most environmentally dangerous areas.

A recent report sponsored by the United Church of Christ found that the racial composition of an area, independent of income, education, or other indicators of socioeconomic status, is the strongest predictor of where commercial hazardous waste facilities are located. Of the 9.2 million people who live within three kilometers of the nation's 413 commercial hazardous waste facilities, nearly 56 percent represent people of color. Given the link between race and poverty, host communities' poverty rates are on average 1.5 times greater than in communities that do not host such facilities (United Church of Christ 2007).

INCREASING COMMUNITY PARTICIPATION IN THE POLICY PROCESS

Environmental hazards are often located in or near poor and

minority communities not only because land in these neighborhoods is undesirable and inexpensive, but also because these communities are politically disenfranchised. Lacking political clout, residents face a variety of obstacles in mounting "Not in My Backyard" campaigns to fend off environmental encroachment. These challenges are apparent at the local, state, and national levels.

Local and state authorities are responsible for the majority of decisions related to:

- **Zoning** – regulations that establish the types of land-use permissible in various geographic areas
- **Siting** – decisions that allow a particular facility or roadway to be placed in a particular location
- **Permitting** – rules that govern the environmental restrictions under which a facility must operate

These decisions significantly affect the type and amount of environmental risk to which a community will be exposed. Participating in these decisionmaking processes, as well as challenging decisions once they are made, requires technical knowledge, legal acumen, and political power, which vulnerable communities may be unable to access.

As the presence and activity of environmentally hazardous enterprises increase, property values in these neighborhoods decline and further industrialization and pollution become increasingly likely. Residents themselves are often unable to

EXAMPLES OF ENVIRONMENTAL HAZARDS

Heavy metals	Pesticides
Herbicides	Toxic chemicals
Particulate matter	Radioactive wastes
Microbial contaminants	Noise
Electromagnetic waves	

EXAMPLES OF SOURCES

Agricultural runoff	Incinerators
Industrial facilities	Land fills
Toxic waste sites	Vehicle emissions
Waste treatment facilities	

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take advantage of low real estate prices as mortgage lenders may be unwilling to issue loans in these neighborhoods. Low rates of home ownership and renter transience compound the political disadvantage facing vulnerable communities. This downward spiral culminates in the creation of multiple environmental hazards that both jeopardize health and perpetuate poverty.

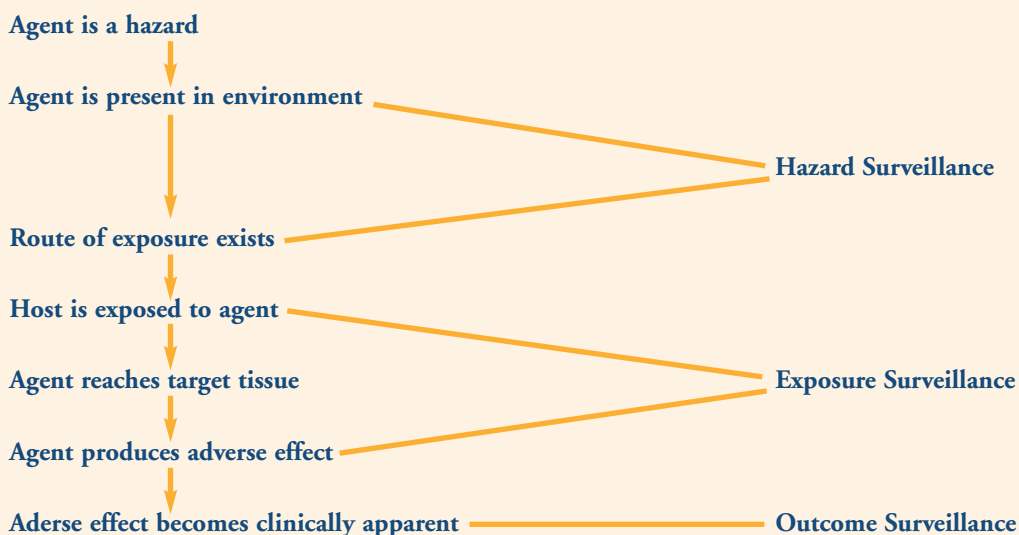
A number of health funders have sought to improve the capacity of low-income and minority communities to participate in policy decisions that influence the nature and extent of environmental hazards within their neighborhoods. For example, The California Wellness Foundation has provided core operating support to a broad range of community-based organizations seeking to educate and engage community residents on environmental justice issues. A \$225,000 grant to the Liberty Hill Foundation helps fund the organization's Environmental Justice Fund, which provides grants to grassroots organizations in the Los Angeles area and promotes leadership around environmental issues at the community level. The Paso del Norte Health Foundation has provided \$200,000 annually to the Center for Environmental Resource

Management at the University of Texas, El Paso over the last three years. These funds support outreach to community organizations in order to address water supply and wastewater management issues in colonias (unincorporated areas lacking basic infrastructure such as running water).

These efforts often seek to be proactive in improving the economic, as well as environmental, circumstances of communities. The Ford Foundation has provided grants ranging from \$75,000 to \$250,000 to non-profit organizations in Detroit, Harlem, New Orleans, and Camden to engage residents in community organization, education, advocacy, and public policy activities related to sustainable development. These activities seek to minimize the influence of facilities that negatively affect the environment as well as advance economic development in businesses that create employment opportunities while protecting the environment.

Attempts to mobilize community action can often be hampered by the lack of local-level data documenting disparate exposure levels and disease rates. Grantmakers have funded locally relevant data collection and analytic activities to inform the efforts of environmental justice advocates. For example, a study conducted by the Ohio Environmental Council and funded by The George Gund Foundation identified neighborhoods in the Cleveland area which are "hot spots" for diesel exhaust emissions levels that pose significant health risks. Exposure to diesel exhaust has been linked to asthma and childhood cancer (Ohio Environmental Council

OPPORTUNITIES FOR MONITORING ENVIRONMENTAL HAZARDS



Source: McCauley 2007

2007). This type of data can be used to advocate for a variety of policy changes such as rerouting traffic patterns for trucks and other heavy vehicles and influencing roadway improvement planning. In a similar vein, Blue Cross Blue Shield of Minnesota Foundation made a \$20,000 grant award to help fund the retro-fitting of Head Start buses to demonstrate how new technology can minimize diesel emissions from school buses and reduce absenteeism due to asthma and related illnesses.

The nature of specific environmental hazards can vary across communities, but state regulatory actions are influential in establishing the standards and protections that govern local decisions. Recognizing the importance of state policymakers, the Beldon Fund has helped to establish five state-level alliances to improve the environmental protection activities of state regulatory bodies. These collaborative groups inform the public, policymakers, and state officials about chemical release and exposure policies that are more proactive in protecting human health.

While grassroots efforts are critical for ensuring environmental justice, policies at the national level are also important as they shape the direction of state and local decisions. More rigorous enforcement of federal statutes and regulations provides important avenues for challenging zoning, siting, and permitting decisions. The federal government also provides the most substantial sources of funding for environmental clean-up efforts. Major activities include the Brownfield program (which funds the assessment and remediation of abandoned properties that have the potential for redevelopment following decontamination) and the Superfund program (which funds environmental clean up in cases where the party responsible for contaminating the property can not be located). Although both programs have benefited poor and minority communities, critics question the extent to which sites in these communities have been appropriately prioritized and raise concerns that redevelopment efforts have merely introduced new forms of environmental risks.

Several health funders have supported capacity to monitor, publicize, and catalyze action on federal policy issues related to environmental health. For example, the Public Welfare Foundation, the Ford Foundation, and the Charles Stewart Mott Foundation each provide funding to the Environmental Justice Resource Center at Clark Atlanta University to serve as a national clearinghouse on issues related to research, policy, and program. The center also leverages its expertise to reach

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out and provide technical assistance to community-based organizations.

Other national efforts have focused more specifically on environmental risks in rural communities. For example, The Pew Charitable Trusts has partnered with the Johns Hopkins School of Public Health to establish the National Commission on Industrial Farm Animal Production to assess the industry's impact on public health, the environment, farm communities, and animal well-being. The commission is preparing to issue a report that will outline the key issues related to the industry and make recommendations for mitigating the negative effects of industrialized livestock production.

BUILDING THE EVIDENCE BASE

Political and financial support for reducing environmental risks are often contingent on the strength of the evidence base establishing a direct impact on human health and documenting inequity in terms of exposure levels and disease burden. This evidence base is still developing, and the contributions of environmental hazards to health disparities have not been clearly established. The strength of the evidence base varies significantly across types of environmental hazards. For some agents, such as lead, these relationships are fairly well established. Because lead is toxic to children even at fairly low levels and exposure levels can be monitored, the impact of lead poisoning on cognitive impairments and developmental delays is well documented, and the disparate risk facing the poor has been clearly demonstrated. The rate of elevated blood lead levels in African-American children is twice that of the rate in white children.

For many other potential environmental hazards, key pieces of information remain missing. More research is needed to establish the biological mechanisms through which potential hazards affect human health, to document differential levels of exposure within human populations, and to monitor disease rates for environmentally sensitive conditions at the community level. The susceptibility of different populations to environmental risks and the interactive, cumulative effects of multiple hazards further complicate efforts to clarify the disease burden caused by specific environmental hazards and to document elevated risks facing poor and minority communities.

Recently health philanthropies have played important roles in sponsoring epidemiological research to explore the relationship between environmental hazards and disease incidence as government support for this type of research has lagged. The New York Community Trust awarded \$110,000 to fund a study to screen chronically ill children for exposure to toxic chemicals, focusing on how polychlorinated biphenyls (PCBs) and pesticides contribute to the statewide distribution of asthma, birth defects, and learning disorders.

Establishing a clear causal link between a substance and its human health effects often necessitates identifying the biological mechanism through which this damage occurs. A few health funders have supported basic research to elucidate how environmental hazards interfere with metabolic and developmental functions. For example, the Northwest Health Foundation provided \$40,000 in funds for basic research to determine how a specific class of pesticides acts as a developmental toxin using an animal model.

INCREASING AWARENESS TO MITIGATE RISKS

Future research linking environmental exposures to health inequities will bolster policy change efforts, but the existing evidence base can be used now to inform and empower individuals about environmental health risks. The Paso del Norte Health Foundation has supplemented its support of advocacy work related to environmental improvements with short-term interventions to educate at-risk populations about the environmental challenges they face. Funded at \$300,000 over five years, these efforts promote behavioral changes related to personal hygiene, waterless sanitation, and drinking water protection that can reduce exposure to environmental hazards. The Public Welfare Foundation awarded \$90,000 to the Safety and Health Institute for Farmworkers to educate workers about how they can reduce the use of toxic pesticides and protect themselves from the adverse effects of pesticide exposure.

Some educational efforts have focused on health care providers to ensure that early screening and treatment for environmentally sensitive diseases occur. Clinicians may not be aware of the environmental hazards facing vulnerable populations, and this lack of awareness can hinder their ability to recognize or correctly diagnosis environmentally induced diseases. The David and Lucile Packard Foundation funded a \$250,000 initiative to increase lead screening and treatment for children insured by Medicaid. Blue Cross Blue Shield of Minnesota Foundation supported the Institute for Agriculture and Trade Policy with a \$30,000 grant to train providers and early childhood educators about environmental risks and give guidance regarding how these topics could be introduced into patient care and parent education.

Health care professionals have also been mobilized to provide leadership in grassroots efforts to reduce environmental health hazards. The Long Beach Alliance for Children with Asthma, currently funded by The California Endowment, has advanced community activism on air quality issues related to pollution from ships and trucks transporting goods through the port at Long Beach. A strong presence from the Children's Clinic, a community health center, has helped demonstrate how these hazards influence the rates of asthma and other respiratory diseases within the Long Beach community.

Other approaches have targeted the business practices of health care providers to ensure that they are not inadvertently adding to the environmental burden in low-income communities. The Jenifer Altman Foundation's \$50,000 grant spearheaded efforts to launch Health Care Without Harm, a campaign to decrease pollution caused by the health care industry such as dioxin and mercury emissions from medical waste incinerators.

CONCLUSION

Addressing environmental injustice promises not only to improve the health of poor, but also to decrease the prevalence of poverty itself. The environmental health risks facing vulnerable communities are varied, ubiquitous, and, in many ways, still undefined. These environmental hazards undermine the employment potential of individuals by engendering disease and disability. Environmental risks further compromise economic development prospects of low-income communities by creating powerful investment disincentives. Community organizations, advocacy groups, health care providers, and researchers, however, are making great strides to identify and address these environmental hazards. Health philanthropy can continue to play important roles in supporting the environmental justice movement by asking provocative questions, moving the knowledge base forward, and providing key resources to the disenfranchised.

RESOURCES

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