

# Reducing Environmental Threats

## WHY ARE ENVIRONMENTAL THREATS HARMFUL TO THE NATION'S HEALTH?

### The Health Impact of Environmental Hazards is Well Documented:

- There are more than 80,000 synthetic chemicals, most of them developed since the 1950s.<sup>2</sup>
- Children have greater exposures to environmental toxins than adults. Pound for pound of body weight, children drink more water, eat more food, and breathe more air than adults.<sup>3</sup>
- The National Research Council estimates that approximately three percent of all developmental disabilities are attributable to exposure to toxic chemicals, such as lead, methyl mercury, and polychlorinated biphenyls (PCBs) and other environmental factors; 25 percent of all developmental disabilities may result from a combination of genetic and environmental factors.<sup>4</sup>
- There is no safe blood lead level. On average, children's IQ scores decrease six points as blood lead levels increase from zero to 10 micrograms per deciliter (µg/dL).<sup>5</sup>
- Asthma, which is triggered by air pollution, allergens, certain chemicals, exercise, and stress, affects 16.4 million adults<sup>6</sup> and 7 million children<sup>7</sup> in the United States. An estimated 4,000 people die each year in the United States from asthma. Many of these deaths could be avoided with proper treatment and care.<sup>8</sup>
- Certain populations, including children, the elderly, and lower-income populations are at greater risk from exposure to indoor air pollutants, including particulate matter, chemicals, animal allergens, and mold.<sup>9</sup>
- Contaminated drinking water can cause gastrointestinal illness, developmental delays such as learning disorders, and serious long-term illnesses such as cancer.<sup>10</sup>

### The Human Health Effects of Climate Change:

- Climate change is expected to put people in the United States at higher risk for a range of health threats, including temperature effects, air quality changes, more extreme weather events, and climate-sensitive diseases, including vector-, food-, and water-borne diseases.<sup>11</sup>

- Each summer, an estimated 1,700 to 1,800 people in the United States die of heat-related causes.<sup>12</sup> Climate change is projected to intensify severe heat waves.
- Poor air quality is associated with increased asthma,<sup>13</sup> chronic obstructive pulmonary disease,<sup>14</sup> and other respiratory diseases.<sup>15</sup>
- As more extreme weather events, such as hurricanes, heavy rains and wildfires occur, humans are expected to suffer from an increase in deaths, injuries, disease, and mental health conditions such as depression and post-traumatic stress disorder.<sup>16</sup>
- Certain people in the United States are particularly vulnerable to the negative consequences of climate change on human health, including infants and children, pregnant women, the elderly, the poor, racial and ethnic minorities, people with disabilities, people with chronic medical conditions, and outdoor workers.<sup>17</sup>

### Investigating Connections between the Environment and Health Yields Life-Saving Discoveries:

- The National Children's Study is tracking 100,000 U.S.-born children from birth to age 21 to seek information on environmental risks and individual susceptibility factors for asthma, birth defects, dyslexia, attention-deficit/hyperactivity disorder, autism, schizophrenia, and obesity, as well as for adverse birth outcomes.<sup>18</sup>
- Researchers are also exploring concerns that diseases such as multiple sclerosis<sup>19</sup>, Parkinson's disease<sup>20</sup>, and Alzheimer's disease<sup>21</sup> may be linked to exposure to environmental hazards.
- Tracking the impact of environmental factors has led to greater understanding of the connections between:
  - ▲ Folic acid and the reduction of neural tube birth defects;
  - ▲ Tobacco and cancer;
  - ▲ Childhood exposure to lead and development of mental retardation and loss of motor skills; and
  - ▲ Early cancer screenings and better treatment outcomes.

"ENVIRONMENTAL PROTECTION IS ABOUT HUMAN PROTECTION. IT'S ABOUT FAMILY PROTECTION AND COMMUNITY PROTECTION. IT'S ABOUT SAFEGUARDING PEOPLE IN THE PLACES WHERE THEY LIVE, WORK, PLAY, AND LEARN. ENVIRONMENTAL PROTECTION IS PUBLIC HEALTH PROTECTION."

-- Lisa P. Jackson,  
Administrator, U.S.  
Environmental  
Protection Agency<sup>1</sup>

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PREVENTING  
EPIDEMICS.  
PROTECTING  
PEOPLE.

## WHAT CAN BE DONE TO REDUCE ENVIRONMENTAL HEALTH HAZARDS?

- **Improve Coordination Among Agencies.** Health departments at the federal, state, and local levels should work with environmental agencies to undertake initiatives to reduce known health threats from food, water, and air, and educate the public about ways to avoid potential risks.
- **Establish a Nationwide Health Tracking Network.** Congress should provide full funding for the U.S. Centers for Disease Control and Prevention's (CDC) environmental public health tracking program. The CDC should be provided with the mandate and resources to establish a centralized, nationwide health tracking center, and each state should receive the necessary funding to fully conduct health tracking activities, including tracking animal diseases; chronic diseases such as cancer and asthma; events related to bioterrorism; and environmental risks.
- **Fund Research on Climate-related Health Effects.** Congress should provide significantly increased funding to CDC to track data on environmental conditions, disease risks, and disease occurrences related to climate

change. CDC should use these data to inform communities about the health-related risks of climate change and means to reduce them.

- **Increase Funding for Research into the Impact of Chemical Exposures on Human Health.** CDC has conducted limited research on how chemicals ranging from pesticides to personal care products impact health. CDC and state health departments need increased resources for "biomonitoring" (analysis of blood, urine, and tissues to measure chemical exposure in humans) to gain more understanding of how different chemicals and levels of exposures to chemicals affect health.
- **Prioritize Childhood Lead Poisoning Prevention.** While great progress has been made nationally in reducing childhood lead poisoning through efforts to remove older paint from homes and to reduce lead gasoline emissions, serious problems remain. In many cities, lead is present in the water at unacceptable high levels, while lead paint is still found in older, substandard housing in many lower-income urban areas.

### ENDNOTES

- 1 Jackson LP. "Remarks to the American Public Health Association." November 8, 2009. <http://yosemite.epa.gov/opa/admpress.nsf/12a744ff56dbff8585257590004750b6/2af3d0143020edc1852576690052a953!OpenDocument> (accessed July 21, 2010).
- 2 President's Cancer Panel. *Reducing Environmental Cancer Risk: What We Can Do Now. 2008-2009 Annual Report.* Washington, D.C.: U.S. Department of Health and Human Services, 2010, p. 5.
- 3 Landrigan PJ, Carlson JE, Bearer CF, et al. "Children's Health and the Environment: A New Agenda for Prevention Research." *Environmental Health Perspectives*, 106 (Suppl 3): 787-94; 1998.
- 4 National Research Council. *Scientific Frontiers in Developmental Toxicology and Risk Assessment.* Washington, D.C.: National Academies Press, 2000, p. 1.
- 5 Lanphear BP, Hornung R, Khoury J, et al. "Low-level Environmental Lead Exposure and Children's Intellectual Function: An International Pooled Analysis." *Environmental Health Perspectives*, 113(7): 894-99; 2005.
- 6 U.S. Centers for Disease Control and Prevention. *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2008*, Table 3. Atlanta, GA: CDC, 2009.
- 7 U.S. Centers for Disease Control and Prevention. *Summary Health Statistics for U.S. Children: National Health Interview Survey, 2008*, Table 1. Atlanta, GA: CDC, 2009.
- 8 U.S. Centers for Disease Control and Prevention. *America Breathing Easier.* Atlanta, GA: CDC, 2007.
- 9 Mitchell CS, Zhang J, Sigsgaard T. "Current State of the Science: Health Effects and Indoor Environmental Quality." *Environmental Health Perspectives*, 115(6): 958-64; 2007.
- 10 U.S. Environmental Protection Agency. "Drinking Water Contaminants." <http://www.epa.gov/safewater/hfacts.html> (accessed July 21, 2010).
- 11 U.S. Environmental Protection Agency. "EPA's Endangerment Finding: Health Effects." [http://www.epa.gov/climatechange/endangerment/downloads/EndangermentFinding\\_Health.pdf](http://www.epa.gov/climatechange/endangerment/downloads/EndangermentFinding_Health.pdf) (accessed July 20, 2010).
- 12 U.S. Environmental Protection Agency. *Excessive Heat Event Guidebook.* Washington, D.C.: EPA, 2008, p. 12.
- 13 Confalonieri U, Menne B, Akhtar R, et al. "Human Health." Chapter in: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.* Eds. Parry ML, Canziani OF, Palutikof JP, et al. eds. Cambridge: Cambridge University Press, 2007, pp. 391-431.
- 14 Bell ML, Goldberg R, Hogrefe C, et al. "Climate Change, Ambient Ozone, and Health in 50 US Cities." *Climatic Change*, 82(1-2): 61-76, 2007.
- 15 Shindell DT, Levy H, Gilliland A, et al. "Climate Change from Short-lived Emissions Due to Human Activities." Chapter in: *Climate Projections Based on Emissions Scenarios for Long-Lived and Short-Lived Radiatively Active Gases and Aerosols. Synthesis and Assessment Product 3.2.* Eds. Levy H, Shindell DT, Gilliland A, et al. Washington, D.C.: U.S. Climate Change Science Program, 2008, pp. 27-60.
- 16 Karl TR, Melillo JM, and Peterson TC, eds. *Global Climate Change Impacts in the United States.* New York, NY: Cambridge University Press, 2009, p. 89-98.
- 17 Ebi KL, Balbus J, Kinney PL, et al. "Effects of Global Change on Human Health." Chapter in: *Synthesis and Assessment Product 4.6. Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems.* Ed. Gamble JL. Washington, D.C.: U.S. Environmental Protection Agency, 2-1 to 2-78.
- 18 Landrigan PJ, Trasande L, Thorpe LE, et al. "The National Children's Study: A 21-year Prospective Study of 100,000 American Children." *Pediatrics*, 118(5): 2173-86; 2006.
- 19 Handel AE, Giovannoni G, Ebers GC. "Environmental Factors and Their Timing in Adult-onset Multiple Sclerosis." *Nature Reviews. Neurology*, 6(3): 156-66; 2010.
- 20 Brown TP, Rumsby PC, Capleton AC, et al. "Pesticides and Parkinson's Disease—Is There a Link?" *Environmental Health Perspectives*, 114(2): 156-64; 2006.
- 21 Stein J, Schettler T, Rohrer B, et al. *Environmental Threats to Healthy Aging: With a Closer Look at Alzheimer's and Parkinson's Disease.* Boston, MA: Greater Boston Physicians for Social Responsibility and Science and Environmental Health Network, 2008.

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