



Understanding Environmental Causes of Disease

**FY 2011 Labor HHS Appropriations Bill
Centers for Disease Control and Prevention (CDC) - National Center for Environmental Health**

	2009	2010	FY 2011 President	FY 2011 TFAH
Climate Change Program	\$7,500,000	\$7,540,000	\$7,567,000	\$50,000,000

Background:

Climate change has serious public health consequences. Increased heat-related deaths and sickness, aggravation of asthma, increased allergens, increased food-, vector-, and water-borne diseases, mental health impacts, water shortages and malnutrition are all among the potential effects of climate change.

Planning for and responding to climate change is an ongoing process that must be tailored to the needs of each distinct community. Health departments must perform a needs assessment to determine who are the most vulnerable within the community, what specific health impacts are of concern, and develop strategic plans to address vulnerabilities. Yet, many health officials lack the expertise to conduct these responsibilities. A 2009 Association of State and Territorial Health Officials survey of top level state health officials found that only 42 percent of respondents thought their health department had sufficient assessment expertise to address climate change, while only 30 percent reported having sufficient planning expertise. A 2008 National Association of County and City Health Officials/Environmental Defense Fund/George Mason University survey of local health directors found that 83 percent felt they lacked the expertise to craft strategic climate change response plans.

CDC's expertise in environmental health, infectious disease, and translating research into tools for state and local health officials will help address these gaps in planning and expertise by:

- Providing technical assistance, training and tools to help state and local health officials conduct needs assessment to inform strategic planning;
- Translating surveillance and research on climate-related diseases into methods and best practices to inform state and local health officials; and
- Improving coordination and integration of climate change across CDC.

Funding History:

Congress first appropriated funding (\$7.5 million) for CDC's Climate Change Program in FY 2009. Funding supported one-year pilot projects to conduct needs assessment in five states and six localities, as well as, workforce development, applied research, cross-agency coordination of climate change efforts, and incorporating climate change into existing agency work. To provide greater support for state and local health officials, in FY 2010, CDC is using a two-tiered approach: 1) build climate change capacity in state and local health departments to identify what the health impacts will be and the populations most threatened, and 2) expand support in health departments that know their climate change needs and vulnerable populations and now need to develop a strategy to protect those communities. This funding extends for three years to 10-12 health departments.

Funding Recommendation:

Ultimately, \$50 million will be needed for CDC's Climate Change Program, which would provide funding for 50-65 states and localities. In FY 2011, we need to begin to begin to build toward that level.

To provide increased support for state and local health departments, three-quarters of any increased funding from FY 2011 will be awarded to state and local health departments for climate and health needs assessment and planning. That means that a total of at least \$15 million in FY 2011 would enable CDC to fund 20-25 states and localities. Funds will also be used to fill surveillance gaps by working to integrate weather and ecological system data with health outcomes. CDC's research results will be translated into best practices for state and local health departments, such as toolkits to prioritize health impacts and design interventions.

Funding will also support agency-wide strategies to address climate change, including the continued development of a CDC-wide strategic climate change plan, the expansion of CDC's intra-agency workgroup on climate change, and project support distributed throughout the agency to better integrate climate change components into existing CDC programs. These strategies are designed to ensure that each relevant CDC program is uniquely contributing to the agency's climate change efforts. CDC will also strengthen workforce development and expand technical assistance to unfunded states and localities through partnerships with public health organizations.

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	2009	2010	2011 President	2011 TFAH
National Environmental Public Health Tracking Network	\$31,143,000	\$33,124,000	\$32,548,000	\$50,000,000

Background: There is a connection between our environment and our health. Outdoor air pollutants cause an estimated 50,000 – 100,000 premature deaths annually. Illnesses stemming from air pollution alone cost about \$100 billion annually in the U.S. With a nationwide tracking program, we can begin to pull the pieces of the puzzle together to better understand the role of the environment on our health.

In 2002, Congress provided the CDC with funding to develop an environmental health tracking program and network that would build our capacity to understand and respond to environmental health issues and help document links between environmental hazards and chronic disease. The mission of the Tracking Program is to provide information that communities can use to improve their health; the information will come from a nationwide network that brings together health and environmental data. CDC funded 24 grantees for earlier stages of planning and capacity building. These pilot projects linked sets of existing data with data on environmental hazards; identified environmental health problems; and generated actions to improve the health of communities.

Results: The National Network launched in July of 2009, and CDC continues to expand the quality and quantity of health and environmental information available through the Network. CDC plans to include additional cancer data. Additional years of data on outdoor air, water, asthma, cardiovascular disease, childhood lead poisoning, and carbon monoxide poisoning, plus new data on reproductive health outcomes and birth defects, will be added, as well.

In 2009, Johns Hopkins University evaluated the impact of the tracking funding felt by the state and local grantees. Impact reported included increased data access for health effects (neurological disease, reproductive outcomes, respiratory disease) and hazard and exposure data (air pollution, heavy metals, and water pollutants). In addition, an increase in data use and dissemination was reported across all categories of data. Furthermore, 50% (8) of grantees responded that tracking data allows them to respond more efficiently and effectively to requests from policy makers, other agencies and the public. Over half of the respondents reported specific policy and/or program changes due to tracking.

Recent Funding History: CDC now funds just 22 states and one city to build and implement state-based tracking networks that will feed into the national Tracking Network. One additional state will be funded due to the increase in the Fiscal Year 2010 appropriations for this program.

Recommendation:

Provide \$50 million for the National Environmental Public Health Tracking Network to expand the program to link environmental and health data to identify problems and effective solutions that will reduce the burden of chronic disease. This level of funding would enable CDC to fund up to 13 new grantees (states, cities, or counties).

Even just an additional \$5 million would enable the program to add three states to the existing network, and to add just one state would require at least an additional \$1.3 million. But this level of funding is not sufficient to fill the health and environmental data gap that is preventing our full understanding of how our health is affected by the environment.

Ultimately, to implement a comprehensive network in all 50 states, a total of at least \$120 million will be needed.

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	2009	2010	FY 2011 President	FY 2011 TFAH
Environmental Health Labs	\$42,735,000	\$43,346,000	\$41,980,000	\$63,000,000

Overview and Accomplishments: For over 30 years, the Environmental Health Laboratory of the National Center for Environmental Health (NCEH) has been performing biomonitoring measurements--direct measurements of people's exposure to toxic substances in the environment. By analyzing blood, urine, and tissues, scientists can measure actual levels of more than 450 chemicals and nutritional indicators in people's bodies. This information helps public health officials to determine which population groups are at high risk for exposure and adverse health effects, assess public health interventions, and monitor exposure trends over time.

In the past year, CDC has worked with state health departments, academic partners and others to provide exposure information for more than 50 public health investigations and studies. Over the years, specific accomplishments have included:

- Publishing the *National Report on Human Exposure to Environmental Chemicals*, which provides a comprehensive assessment of the U.S. population's exposure to chemicals in our environment. In 2009, CDC published the *Fourth Report*, presenting exposure information for 212 environmental chemicals in Americans' blood and urine. Some key highlights and findings include:
 - First-time exposure information for 75 chemicals, including acrylamide, a chemical formed when foods containing carbohydrates are cooked at high temperatures [e.g., French fries] and also a byproduct of tobacco smoke; and environmental phenols, including bisphenol A (BPA), an industrial chemical, and triclosan, an anti-bacterial chemical used in consumer products such as detergents, soaps, and skin cleansers.
- Contributing to the science used to support the ban of certain phthalates used in children's toys;
- Assessing the exposure of Nevada school children to mercury after a student brought liquid mercury to school;
- Showing that restrictions on smoking in public places caused significant decreases in environmental tobacco exposure;
- Publishing the *National Report on Biochemical Indicators of Diet and Nutrition*.

State Biomonitoring Funding: In August 2009, CDC awarded a total of \$5 million to three states (California, New York & Washington) for state-based laboratory biomonitoring programs. This funding will increase the capability and capacity of state public health laboratories to conduct biomonitoring and thus assess human exposure to environmental chemicals within their jurisdictions. Thirty-three states applied for funding either individually or as part of a consortium.

Funding Outlook:

The proposed \$1.3 million cut in the President's budget means that the Environmental Health Laboratory will not be able to implement a quality assurance program for biomonitoring measurements produced by state biomonitoring grantees. High-quality measurements are essential to ensure that data and the resulting data interpretation are valid and can be relied on for conducting research, assessing national-

state- or community-specific exposure, informing policy decisions and for developing public health interventions. State biomonitoring grantees need to know that their test results are accurate and are comparable to CDC's results in order to show whether a person or a group has an unusually high exposure compared to the rest of the U.S. population. Without a quality assurance program, measurements produced by states cannot be compared to national data.

FY 2011 Funding Recommendation:

Provide a \$19.6 million increase for CDC's Environmental Health Laboratory's biomonitoring capacity to expand the assessment of the U.S. population's exposure to environmental chemicals in order to support policy decisions and enhance capabilities and capacity of state biomonitoring programs.

- \$10 million would be used to fund 7-10 grantees, either individual states or a consortia of states, to conduct biomonitoring, under a new cooperative agreement.
- \$7.6 million would be used for intramural activities, such as increasing the number of chemicals measured in CDC's *National Report on Human Exposure to Environmental Chemicals*; providing measurements for chemicals measured in newborns and women participating in the pilot study for the National Children's Study; developing, validating, and simplifying biomonitoring methods that would be transferred to state programs; providing training and quality assurance for state laboratories awarded biomonitoring funds; increasing the number of studies used to assess health effects associated with exposure to environmental chemicals; and maintaining capacity to provide emergency response support related to exposure to environmental chemicals.
- An additional \$2 million would support the *National Report on Biochemical Indicators of Diet and Nutrition*, which will provide first-time data on the U.S. population for several nutritional indicators including *omega*- and *trans*-fatty acids.

Even just a \$5 million increase for CDC's Environmental Health Laboratory's biomonitoring capacity would be helpful. Three million would be used for extramural programs to fund three grantees -- either individual states or a consortia of states -- to conduct biomonitoring activities. Two million would be used to support state biomonitoring, including developing, validating, and simplifying biomonitoring methods that would be transferred to state programs, providing laboratory training, and developing a quality assurance program for state laboratories.