

## ENVIRONMENTAL HEALTH

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget	FY 2013 +/- FY 2012
Budget Authority	\$134.855	\$104.998	\$103.672	-\$1.326
ACA/PPHF	\$35.000	\$35.000	\$29.000	-\$6.000
<b>Total</b>	<b>\$169.855</b>	<b>\$139.998</b>	<b>\$132.672</b>	<b>-\$7.326</b>
FTEs	455	453	452	-1

**Authorizing Legislation:** PHSA §§ 301, 307, 310, 311, 317, 317A, 317B, 317I, 327, 352, 361, 366, 1102; Toxic Substances Control Act, § 405(c) (15 U.S.C. 2685)

**FY 2013 Authorization**..... Expired/Indefinite

**Allocation Methods:** Direct Federal/Intramural, Competitive Grants/Cooperative Agreements, Direct Contracts, Interagency Agreements

### SUMMARY

CDC's FY 2013 request of \$132,672,000 for environmental health, including \$29,000,000 from the Affordable Care Act Prevention and Public Health Fund, is an overall decrease of \$7,326,000 below the FY 2012 level.

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget	FY 2013 +/- FY 2012
Environmental Health Laboratory	\$42.628	\$42.383	\$42.394	+\$0.011
Environmental Health Activities	\$35.526	\$35.322	\$33.962	-\$1.360
Healthy Home and Community Environments	\$56.701	\$27.293	\$27.316	+\$0.023
Asthma (non-add)	\$27.444	\$25.298	N/A	N/A
Healthy Homes/Childhood Lead Poisoning (non-add)	\$29.257	\$1.995	N/A	N/A
Environmental Health Tracking Network (ACA/PPHF)	\$35.000	\$35.000	\$29.000	-\$6.000
<b>Total</b>	<b>\$169.855</b>	<b>\$139.998</b>	<b>\$132.672</b>	<b>-\$7.326</b>

CDC's environmental health programs prevent illness, disabilities, and premature death caused by environmental exposures. In particular, CDC's environmental health programs protect the health of vulnerable populations, such as children, older adults, and people with disabilities, compromised immune systems, or chronic conditions. These programs also serve as the CDC leads for environmental emergencies like natural disasters and radiologic and/or chemical emergencies caused by natural or man-made events like terrorist attacks.

Recent data show that investments in CDC's environmental health programs are yielding results. Two examples are CDC's national programs to reduce childhood lead exposure and national programs to control asthma. Between 2008 and 2010, CDC-supported efforts to reduce childhood lead exposure saved \$7.5 billion in increased lifetime productivity because 200,000 fewer children suffered these dangerous exposures. CDC's national asthma control program reduced medical costs and saved lives. CDC's national asthma control programs help people control their asthma, stay out of the hospital, and miss less school and work. Trends over the last 10 years show that more people with asthma are living with their disease under control, which means lower medical costs and saved lives. For example, in 2008, our nation

saved \$4 billion in medical costs because 245,000 fewer people were hospitalized due to asthma. More importantly, 1,400 fewer Americans now die from the disease.

CDC's Environmental Health Laboratory provides unique laboratory science. Biomonitoring methods supported by the program measure more than 300 chemicals in blood and urine and provide data for more than 50 studies per year assessing exposure and health effects. The program provides accurate testing for congenital diseases in more than 98 percent of newborns in the United States to identify 5,000 to 6,000 babies with treatable diseases each year that may have otherwise died or been severely disabled. In the area of terrorism response, the laboratory has a mass spectrometry method for anthrax lethal factor that detects disease 24 hours before symptoms start and is critical to identifying anthrax exposures during a bioterrorism event. In the area of chronic diseases, the program has developed a first-time method to measure trans fats in people, successfully used to track extent of population exposure and demonstrate the effectiveness of interventions. These are but a few of the successful programs in this area.

CDC's Environmental Public Health Tracking program is connecting environmental exposure with health indicators yielding essential information helping to diagnose how the environment is influencing disease.

This program supports key public actions to protect people from possible threats posed by environmental exposures and, according to the Public Health Foundation, could save up to \$1.44 for every \$1 invested. In 2011, 24 states used data generated by the program in a myriad of ways to protect the public by determining disease impacts and trends, recognizing clusters and outbreaks, and identifying populations and geographic areas most affected. For example, the program has quickly identified clusters of pre-term births associated with traffic exposure in California, quantified indoor pollution levels associated with tobacco exposure in Oregon showing three times the acceptable pollution exposure levels identified by the Environmental Protection Agency (EPA), and evaluated community concerns about cancer clusters in Massachusetts showing an unexpected spike in oral cancers.

Access to clean water, clean air, healthy food, and healthy housing are critical components of health and disease prevention. For example, acute foodborne illnesses cost the United States an estimated \$152 billion per year in health care, workplace, and other economic losses. CDC's state and community environmental health programs are helping people improve their lives and save money by protecting them from these environmental threats and exposures.

## **FUNDING HISTORY<sup>1</sup>**

<b>Fiscal Year</b>	<b>Dollars (in millions)</b>
2008	\$154.486
2009	\$185.415
2010	\$181.004
2011	\$134.855
2011 (ACA/PPHF)	\$35.000
2012	\$104.998
2012 (ACA/PPHF)	\$35.000

<sup>1</sup>Funding levels prior to FY 2010 have not been made comparable to the budget realignment

## **ENVIRONMENTAL HEALTH LABORATORY BUDGET REQUEST**

<b>(dollars in millions)</b>	<b>FY 2011 Appropriation</b>	<b>FY 2012 Enacted</b>	<b>FY 2013 President's Budget</b>	<b>FY 2013 +/- FY 2012</b>
<b>Budget Authority</b>	<b>\$42.628</b>	<b>\$42.383</b>	<b>\$42.394</b>	<b>+\$0.011</b>

Program Overview: CDC's Environmental Health Laboratory is globally recognized as an advanced state-of-the-art laboratory providing unique laboratory science that improves the detection, diagnosis,

treatment, and prevention of diseases resulting from exposure to toxic chemicals in the environment and selected other diseases that need advanced laboratory measurement for accurate diagnosis. The Environmental Health Laboratory assesses population and individual exposure to environmental chemicals using unique and high-quality measurements in blood and urine (biomonitoring); assures the quality of selected diagnostic tests essential for early disease detection, such as nationwide newborn screening for treatable diseases that cause malformation, mental retardation, and death; provides standardization for cholesterol and selected other diagnostic tests for chronic diseases so that results are sufficiently accurate for correct clinical use; develops and applies innovative laboratory methods to respond to emergencies, including disease and death from unknown causes; develops and applies new methods to diagnose and assess risk for disease; and conducts and collaborates in studies of populations exposed to environmental chemicals to better determine safe and unsafe human exposure levels. CDC is the sole or primary source for high-quality laboratory tests for many priority environmental chemicals, such as biphenyl-A (BPA), speciated arsenic, uranium, speciated mercury, volatile organic compounds (VOCs), phthalates, triclosan, select radionuclides (including polonium-210, cesium-134, cesium-137, and iodine-131), and many others.

Recent accomplishments:

- Provided a portable blood lead instrument and laboratory assistance for a lead poisoning outbreak in Nigeria, where 118 children under the age of five in two remote mining villages died and 97 percent of children tested had blood-lead levels  $\geq 45$   $\mu\text{g/dL}$ , the threshold for initiating chelation therapy. CDC staff used the Lead Care II instrument to rapidly identify exposed children on-site, enabling life-saving medical treatment.
- Provided laboratory studies and method improvements that substantially supported the addition of Severe Combined Immunodeficiency (SCID) to the Secretary of HHS's Recommended Uniform Newborn Screening Panel, including sponsoring pilot studies in Wisconsin and Massachusetts and ensuring testing quality. SCID is the first condition to be added to the original panel of 29 conditions after a scientific review process was established and is the first molecular test to be included; states are using the Secretary's Recommended Panel to begin discussions regarding adding SCID to state newborn screening panels.
- Demonstrated the impact of voluntary discontinuation of the use of perfluorooctane sulfonic acid (PFOS) by measuring a substantial reduction in human exposure to PFOS, following the end of production in 2002. CDC's Biomonitoring Program had previously documented widespread human exposure to PFOS in the United States.
- Developed an accurate and specific method to monitor vitamin D blood levels in populations. The method detects vitamin D from sunlight, diet, and supplement sources, and is essential to evidence-based investigations that relate disease risk and low vitamin D status and develop cost- and life-saving interventions for deficiency.
- Improved the accuracy and comparability of numerous laboratory measurements, including the Hormone Standardization (HoSt) Program's new testosterone test that more accurately diagnoses polycystic ovary syndrome, adrenal cancers, and other diseases of androgen excess and deficiency.

**Budget Proposal:** CDC's FY 2013 request of \$42,394,000 for the environmental health laboratory is \$11,000 above the FY 2012 level.

In FY 2013, CDC will:

- Conduct laboratory measurements for 50 studies that examine exposure of vulnerable population groups to environmental chemicals, or that investigate the relationship between exposure levels and adverse health effects. CDC's high-quality exposure measurements contribute substantively to identifying safe and unsafe levels of exposure, identifying potential health impacts of human exposure to chemicals in our environment, helping to avoid unnecessary regulation identifying true hazards, and protecting lives and reducing health care costs.
- Measure and report on the U.S. population's nutritional status and exposure to environmental chemicals. CDC will release the 2<sup>nd</sup> *National Report on Biochemical Indicators of Diet and Nutrition in the US Population*, which is the most extensive assessment ever done of the nutritional status of the U.S. population. Measuring and tracking over time the presence and amount of environmental chemicals and nutritional indicators in humans identifies at-risk population groups and assesses the effectiveness of interventions to reduce harmful environmental exposures and improve nutritional status.
- Develop new and improved biomonitoring methods for priority environmental chemicals and develop new and improved methods to measure nutritional indicators and dietary bioactive compounds.
- Provide biomonitoring technical support, training, quality assurance, and technology transfer to state and local laboratories to support investigations of known and potentially unsafe exposures.
- Continue funding biomonitoring programs in California, New York, and Washington to increase national capacity and technical expertise in measuring human exposure to environmental chemicals and to assess specific exposures of concern in states.

***Biomonitoring Grant Table***

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget
Number of Awards	16	16	16
Average Award	\$0.358	\$0.358	\$0.358
Range of Awards	\$0.005–\$2.652	\$0.005–\$2.652	\$0.005–\$2.652
Number of New Awards	10	1	2
Number of Continuing Awards	6	15	14

**ENVIRONMENTAL HEALTH ACTIVITIES BUDGET REQUEST**

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget	FY 2013 +/- FY 2012
Environmental Health Activities	\$35.526	\$35.322	\$33.962	-\$1.360
Environmental Health Tracking Network (ACA/PPHF)	\$35.000	\$35.000	\$29.000	-\$6.000
<b>Total</b>	<b>\$70.526</b>	<b>\$70.322</b>	<b>\$62.962</b>	<b>-\$7.360</b>

**Program Overview:** CDC supports environmental public health activities to save lives, protect people, and reduce medical costs. These activities build federal, state, and local capacity to address environmental health hazards and respond to public health needs. Within this framework, CDC's Environmental Health

activities include an expansive range of environmental health programs and services, from ensuring food and water free of environmental contaminants and ensuring appropriate sanitation to providing expert technical assistance during emergency responses like the recent nuclear events in Japan and the Deep Water Horizon oil spill in the Gulf of Mexico. These activities provide significant public health benefits to the American public.

Recent accomplishments:

- Provided radiation dose estimates and technical expertise for a Food and Drug Administration-(FDA) requested Epi-Aid investigation to help assess exposures to radioactive strontium among patients who received rubidium-82 infusions for position emission tomography (PET) cardiac imaging scans.
- Expanded the use of Health Impact Assessments (HIAs) to guide public health decisions by training over 600 health, planning, and community design professionals; completing five HIAs; and creating HIA tools for local jurisdictions. This pilot program in only four states has provided communities in those states with data to assess several policy changes, including a restriction on alcohol outlets, comprehensive plans that support walking and bicycling, and design modifications to reduce motor vehicle fatalities.
- Developed tailored training materials, survey instruments, and sustainable clean water and sanitation strategies in response to the Haiti cholera outbreak.
- Continued to provide technical assistance to CDC-Kenya and the Kenyan Ministry of Public Health and Sanitation in response to outbreaks of aflatoxicosis.
- Funded eight states to identify exposures, assess well-monitoring coverage, evaluate regional water issues, and identify and prioritize areas for intervention in order to ensure safe and plentiful drinking water for the nearly 39 million Americans using private wells or other small water systems.
- Launched the Climate Ready States and Cities Initiative to provide funding and technical support to eight states and two city health departments to investigate, prepare for, and respond to climate-related health impacts.
- Provided critical health expertise to the White House; State Department; and state, local, and tribal governments in response to radiation releases related to the March 2011 earthquake and resulting tsunami in Japan.
- Investigated with the American Red Cross tornado-related deaths in Alabama to identify risk and protective factors and prevent future tornado-related fatalities. On April 27, 2011, 67 tornadoes including several powerful (EF-4, EF-5) tornadoes tore through Alabama, killing 258 people.

Budget Proposal: CDC's FY 2013 request of \$62,962,000 for environmental health activities, including \$29,000,000 from the Affordable Care Act Public Health and Prevention Fund, is an overall decrease of \$7,360,000 below the FY 2012 level. This level includes a reduction to climate change activities and the elimination of the Built Environment activities; CDC will aim to integrate aspects of the former Built Environment activities into the Community Transformation Grants, supported by the ACA Prevention and Public Health Fund in order to have a more integrated approach. The FY 2013 budget request also reduces funding for studying and addressing the impacts of climate on health. This will reduce surveillance and early warning system capacity. The budget also includes a redirection of \$3.752 million to support core environmental health activities.

In FY 2013, CDC will:

- Protect the public's health in the event of a radiological emergency.

- Respond to harmful exposures and advance the identification of potentially harmful human exposures and/or contamination related to ionizing radiation.
- Study methods to communicate information about radiation exposures and/or contamination to the public, responders, and clinicians.
- Providing emergency response training for state and local workers to help protect the public during and after natural and man-made catastrophes. This training focuses on restoring clean drinking water, proper sewage disposal, ensuring food safety, preventing spread of diseases by mosquitoes and rodents, etc., and inspecting mass shelters to prevent the spread of infectious diseases. CDC also trains state and local workers to conduct disease, injury, and death surveillance following a disaster.
- Provide technical support for states to participate in the new surveillance system: National Voluntary Environmental Assessment Information System (NVEAIS). Each year, one out of six Americans get sick from and 3,000 die of foodborne diseases. Reducing foodborne illness by 10 percent would keep five million Americans from getting sick each year. NVEAIS is a data collection system critical to identify underlying environmental causes of foodborne and waterborne illness outbreaks and developing effective measures to prevent outbreaks.
- Protect American lives by overseeing the U.S. Army's chemical weapons destruction program to ensure that the workers who are destroying the chemical weapons and the people living near the destruction sites are not exposed to the chemical agents or other dangerous chemicals resulting from the destruction process.
- Provide training and technical assistance for on-the-ground local, state, and tribal environmental health practitioners involved in front-line pest control programs (e.g. mosquitoes, bedbugs, rodents) to prevent vector-borne diseases from taking hold in local communities.
- Support state participation in the Environmental Health Specialist Network (EHS-Net) to carry out research used by states, CDC, FDA, and others to inform policy decisions related to preventing foodborne and waterborne illness outbreaks.
- Fund seven health departments to address the impact of climate change on human health.
- Investigate and recommend strategies to reduce water related exposure and health risks for people using drinking water systems that are not protected by the Safe Drinking Water Act.
- Fund eight states through a cooperative agreement to identify exposures, assess well monitoring coverage, evaluate regional water issues, and identify and prioritize areas for intervention.

***Safe Water (Previously Pfiesteria) Grant Table***

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget
Number of Awards	26	26	26
Average Award	\$0.092	\$0.092	\$0.092
Range of Awards	\$0.030–\$0.140	\$0.030–\$0.140	\$0.030–\$0.140
Number of New Awards	8	25	21
Number of Continuing Awards	18	1	5

## **HEALTHY HOME AND COMMUNITY ENVIRONMENTS BUDGET REQUEST**

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget	FY 2013 +/- FY 2012
Healthy Home and Community Environments	\$56.701	\$27.293	\$27.316	+\$0.023
Asthma (non-add)	\$27.444	\$25.298	N/A	N/A
Healthy Homes/Childhood Lead Poisoning (non-add)	\$29.257	\$1.995	N/A	N/A
<b>Total</b>	<b>\$56.701</b>	<b>\$27.293</b>	<b>\$27.316</b>	<b>+\$0.023</b>

**Program Overview:** In FY 2013, CDC proposes the creation of a Healthy Home and Community Environments program—a new, multi-faceted approach to address healthy homes and community environments through surveillance, partnerships, and implementation and evaluation of science-based interventions to address the health impact of environmental exposures in the home and to reduce the burden of disease through comprehensive asthma control. This integrated approach aims to control asthma and mitigate health hazards in homes and communities such as air pollution, lead poisoning hazards, second-hand smoke, asthma triggers, radon, mold, unsafe drinking water, and the absence of smoke and carbon monoxide detectors. The consolidated program will replace CDC’s long-standing National Asthma Control Program and Healthy Homes and Lead Poisoning Prevention Program. CDC will take two years to transition to this new, coordinated approach.

Lead poisoning remains an important public health issue in the United States, and CDC remains committed to eliminating childhood lead poisoning. There is no safe level of exposure to lead; any exposure to lead can reduce brain development and children’s Intelligence Quotients. For every one microgram per deciliter increase in blood lead levels, there is a \$3,220 loss in productivity. Though the levels in children have dropped over time, in 2010, approximately 650,000 children had blood lead levels above five micrograms per deciliter.<sup>9,10</sup> Most people spend over 90 percent of their time indoors and about half of every day inside their homes. Under the new consolidated Healthy Home and Community Environments program, CDC will continue to collaborate with states and other federal agencies to reduce or eliminate multiple housing-related health hazards, including lead poisoning hazards, second-hand smoke, asthma triggers, radon, mold, unsafe drinking water, and the absence of smoke and carbon monoxide detectors. CDC will support state and local data collection via CDC’s Healthy Homes and Lead Poisoning Prevention Surveillance System. This data will be used by the U.S. Department of Housing and Urban Development and other federal, state, and local agencies to target the most vulnerable populations living in homes with lead-based paint hazards.

Asthma remains a common disease with significant health disparities and associated health care costs. The number of people with asthma continues to grow, now reaching almost 25 million. CDC has been working with state health departments for over 10 years to conduct surveillance, build coalitions, and implement evidence-based interventions to address the burden of asthma and ensure that asthma control and management are available to those in need. Under the new consolidated Healthy Home and Community Environments program, CDC will continue to support evidence-based comprehensive asthma control programs in state health departments. CDC will provide limited surveillance of asthma prevalence and control and will support the training of health professionals and the education of patients, families, and the public on how to improve asthma self-management and control.

<sup>9</sup>National Surveillance Data 2008.

<sup>10</sup>Barnett SBL, Nurmagambetov TA. “Costs of Asthma in the United States: 2002–2007.” J Allergy Clin Immunol 2011;127:145–52.

Recent accomplishments:

- Funded 34 states, Puerto Rico, and Washington, D.C. to implement evidence-based, comprehensive asthma programs to reduce the morbidity and mortality of people with asthma living in their states. Impacts include:
  - Improved primary care for asthma and other chronic health conditions in Rhode Island using a team approach, quality improvement methods, and electronic patient monitoring.
  - Funded Montana community-based programs in areas with a greater burden of asthma, particularly those low-income, rural, and tribal communities that are at increased risk for exposure to asthma triggers. These programs provide education on asthma triggers and assistance to schools and daycares to improve building air quality.
  - Developed a training curriculum to integrate environmental asthma management into pediatric health care practice through the Hawaii Community Rural Asthma Control Program.
- Analyzed and released data showing that while asthma prevalence increased, deaths due to uncontrolled asthma decreased in CDC's Vital Signs, "Asthma in the U.S.: Growing Every Year," in May 2011. The *MMWR*, fact sheet, and related materials provide new prevalence and cost data, as well as key recommendations for federal, state, and local policymakers; health care providers; schools; people with asthma; and parents of children with asthma.
- Trained more than 11,000 public health workers in the principles of Healthy Homes. This includes how to identify and implement low-cost, reliable methods to reduce lead and other health and safety risks in substandard housing.
- Deployed the new Healthy Homes and Lead Poisoning Surveillance System in 17 states and Washington, D.C. to gather information on housing-related health hazards.
- Partnered with stakeholders involved with immigrant and adopted children from other countries—who have a much higher rate of lead poisoning—to ensure they have appropriate blood lead screening and follow-up.
- Provided key scientific expertise and technical assistance to CDC-Nigeria and the Nigerian Federal Ministry of Health in response to a lethal lead poisoning outbreak in six villages in Zamfara, Nigeria associated with the artisanal processing of gold ores. The mortality rate of affected children under five was reduced from 44 percent to 1 percent within two weeks of CDC arriving on the ground there.

Budget Proposal: CDC requests \$27,316,000 in FY 2013 for an integrated Healthy Homes/Childhood Lead Poisoning Prevention Program. Prior to FY 2013, CDC maintained separate programs for the National Asthma Control Program (NACP) and the Healthy Homes/Childhood Lead Poisoning Prevention Program (HHCLPPP). In FY 2013, CDC will develop a strategy to integrate these two programs into a Healthy Home and Community Environments program. The goal is to maintain a multi-faceted approach through surveillance, partnerships, and implementation and evaluation of science-based interventions to address the health impact of environmental exposures in the home and to reduce the burden of asthma through comprehensive control. CDC will take two years to complete the transition to this new, integrated approach. Findings indicate that multi-component, multi-trigger home based environmental interventions are effective in improving overall quality of life, reducing health care costs, and improving productivity. A healthy homes approach works to mitigate health hazards in homes such as lead poisoning hazards, secondhand smoke, asthma triggers, radon, safe drinking water, and the absence of smoke and carbon monoxide detectors. Evidence shows that comprehensive asthma control programs are most effective in improving asthma outcomes and reducing health care costs. One key intervention to



manage asthma is to increase use of inhaled corticosteroids, something that will be facilitated in 2014 and beyond through expanded coverage through the Affordable Care Act.

In FY 2013, CDC will:

- Work toward establishing a consolidated funding announcement in which states can apply for comprehensive asthma control and/or lead poisoning prevention funding to support surveillance, interventions, training, national expertise and leadership, and efforts to reduce disparities.
- Reduce funded states from 36 to 15 or fewer for comprehensive asthma control programs that implement effective interventions to reduce asthma-related morbidity and mortality and support state-based surveillance systems to monitor progress.
- Support funded states to continue implementation of asthma self-management education in non-clinical and clinical settings and to pursue comprehensive asthma management programs that address asthma in a variety of environments (schools/daycares, community and other health care settings, homes, and workplaces).
- Fund up to 15 states for primary prevention and case management of lead poisoned children.
- Continue to monitor national data on asthma prevalence, but narrow surveillance activities used to track progress in helping people control their asthma and reduce medical costs in the United States through the collection and analysis of asthma surveillance data.
- Provide software and technical assistance to support state and local health department data collection on lead and other health hazards in homes via the nation's only Healthy Homes and Lead Poisoning Surveillance System (HHLPPS). This system triggers actions by the U.S. Department of Housing and Urban Development and other federal, state, and local agencies to protect children from lead exposure and to serve children who have already been lead poisoned. It also targets the limited federal, state, and local government resources to the highest-risk children and to track incidence and risk factors from lead poisoning.
- Support training of health professionals and the education of patients, families, and the public on how to improve asthma self-management and control.
- Continue to be a Federal Partner with the National Healthy Homes Training Center and Network (HHTC). HHTC provides training to public health, environmental health and housing professionals to recognize and address housing related health hazards.
- Continue to participate and provide leadership for multiple federal workgroups on asthma.
- Continue to provide lead expertise and analysis at the national level and remain a resource to state and local public health agencies.
- Maintain the Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP). The ACCLPP advises and guides the Secretary and Assistant Secretary of the U.S. Department of Health and Human Services and the Director of the Centers for Disease Control and Prevention regarding new scientific knowledge and technical developments and their practical implications for childhood lead poisoning prevention efforts.
- Provide expertise and epidemiological support in response to lead poisoning outbreaks.
- Work with Environmental Justice groups to address disproportionately high and adverse human health or environmental effects on minority and low-income (and tribal/indigenous) populations.
- Evaluate program impact.

***Asthma Grant Table***

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget
Number of Awards	65	65	19
Average Award	\$0.301	\$0.301	\$0.300
Range of Awards	\$0.076–\$0.594	\$0.076–\$0.594	\$0.070–\$0.500
Number of New Awards	0	0	0
Number of Continuing Awards	65	65	19

***Healthy Homes-Lead Grant Table***

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget
Number of Awards	38	0	15
Average Award	\$0.522	\$0.000	\$0.583
Range of Awards	\$0.005–\$0.594	\$0.000–\$0.000	\$0.250–\$1.000
Number of New Awards	37	0	15
Number of Continuing Awards	1	0	0

**AFFORDABLE CARE ACT PREVENTION AND PUBLIC HEALTH FUND**

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget	FY 2013 +/- FY 2012
ACA/PPHF	\$35.000	\$35.000	\$29.000	-\$6.000

***National Environmental Public Health Tracking Network***

Program Overview: The National Environmental Public Health Tracking Program strengthened state and local agencies' ability to prevent and control diseases and health conditions that may be linked to environmental hazards. Public health professionals and policymakers use data from the National Environmental Public Health Tracking Network (Tracking Network) to target preventive services. Tracking Network data is used at state and local levels for interventions, education, outbreak investigations, and program evaluation. The public can use information from the Tracking Network to better understand health trends and events in their communities, and protect their own health. The program provides over 75 percent of its budget to fund state and local health departments, university public health programs, information technology operations and enhancements, and nongovernmental organizations. Investment supports improving the ability of state, local, and tribal governments to evaluate linkages between disease and environmental exposures in their areas and to document improvements through interventions using the National Environmental Public Health Tracking Network.

Recent accomplishments:

- Prevented negative health effects from environmental exposures using state and local tracking programs. Examples include:
  - Monitored and provided information to residents and workers related to the Gulf Deepwater Horizon incident.
  - Helped New Mexico residents reduce their exposure to uranium from contaminated drinking water.

- Demonstrated to San Jose, California city officials how heat related illnesses peaked during heat waves. City officials used this data to allocate resources to re-open cooling centers during heat waves.
- Analyzed Oregon tracking data, which revealed that workers at locations with indoor smoking were exposed to pollution levels more than three times higher than the annual EPA exposure standard. Local officials took action to institute smoking bans in most work and public places to curb the public health threat detected by the tracking network.
- Expanded the scope and functionality of the National Environmental Public Health Tracking Network to include new and updated content areas to provide health professionals, elected officials, and the public with better disease burden estimates, such as:
  - Health impacts of fine particulates (PM<sub>2.5</sub>) in air. These data combine health and environmental variables to provide estimates of the impact fine particle pollution has on health. Each county in the United States can estimate deaths prevented based on variables related to air pollution reduction.
  - Climate and health data that includes heat vulnerabilities, heat related mortality, and temperature distribution. Vulnerability measures include topics such as diabetes, disabilities, poverty, land use, and more.
  - A cutting-edge new data query system that allows greater flexibility for mapping, sorting, and graphing data. Expanded national maps, side-by-side mapping comparisons, and faster results are a few of the enhancements now available.
- Updated birth defects, carbon monoxide poisoning, cancer, childhood lead poisonings, air monitoring, and heart attack statistics.
- Increased state use of tracking networks for reporting asthma hospitalizations, carbon monoxide poisonings, community drinking water, and heart attack hospitalizations.
- Added two new tracking networks in Minnesota and South Carolina.
- Funded universities to study connections between air quality and cardiovascular effects, as well as drinking water and health outcomes, including cancers and low birth weight.

In FY 2013 CDC will:

- Identify opportunities for prevention of chronic diseases using environmental public health tracking data. For example, Massachusetts' analysis of cancer data in two neighborhoods detected an elevated rate of oral cancer due to high tobacco usage. They alerted the health department's tobacco control program to work with the city on cessation strategies.
- Identify opportunities for improving public health by using available environmental public health tracking data. For example, with data from the carbon monoxide (CO) poisoning surveillance system, the Maine Tracking Program found that almost every case of CO poisoning in the state was associated with not having a CO detector. These data led to a requirement that CO detectors be installed in all rental units and in single family homes when there is an addition or renovation and whenever a property is sold.
- Focus on sustaining local environmental public health tracking networks in at least 23 states, New York City, and the National Tracking Network for non-infectious health conditions and environmental hazards and seek other partners to continue important research.

- Maintain a repository of tools, methods, and other resources available to state and local health departments to examine data trends, assess the impact of the environment on health, identify susceptible populations, and respond to community concerns.
- Provide over 75 percent of the budget for the National Environmental Public Health Tracking Network to fund state and local health departments, universities, public health programs, information technology operations, and nongovernmental organizations.
- Focus on investments improving the ability of state, local, and tribal governments to evaluate linkages between disease and environmental exposures in their areas and to document improvements through interventions using the National Environmental Public Health Tracking Network

***National Public Health Tracking Network Grant Table***

(dollars in millions)	FY 2011 Appropriation	FY 2012 Enacted	FY 2013 President's Budget
Number of Awards	30	30	30
Average Award	\$0.760	\$0.760	\$0.760
Range of Awards	\$0.1–\$1.100	\$0.1–\$1.100	\$0.1–\$1.100
Number of New Awards	17	0	4
Number of Continuing Awards	13	30	26

**PERFORMANCE**

**Efficiency Measure for National Center for Environmental Health and Agency for Toxic Substances and Disease Registry**

Measure	Most Recent Result	FY 2012 Enacted Target	FY 2013 Target	FY 2013 +/- FY 2012
6.E.2: Increase the percentage of cost savings each year for NCEH/ATSDR as a result of the Public Health Integrated Business Services HPO. <sup>1</sup> (Efficiency)	FY 2010: 42 % (Target Exceeded)	N/A	N/A	N/A

<sup>1</sup>This efficiency measure will be retired but remains as a placeholder as CDC and ATSDR explore options for replacing.

***Program: Environmental Health Laboratory***

**Performance Measures for Program: Environmental Health Laboratory**

Measure	Most Recent Result	FY 2012 Enacted Target	FY 2013 Target	FY 2013 +/- FY 2012
6.1.1: Increase the number of environmental chemicals, including nutritional indicators that are assessed for exposure of the U.S. population. (Output)	FY 2011: 323 (Target Met)	323	323	Maintain
6.1.3: Increase the number of laboratories participating in DLS <sup>2</sup> Quality Assurance and Standardization Programs to improve the quality of their laboratory measurements <sup>3</sup> (Output)	FY 2011: 974 (Target Met)	974	974	Maintain

<u>6.A</u> : Increase the number of new or improved methods developed for measuring environmental chemicals in people (Output)	FY 2011: 9 (Target Met)	9	9	Maintain
<u>6.B</u> : Increase the number of laboratory studies conducted to measure levels of environmental chemicals in exposed populations (Output)	FY 2011: 52 (Target Met)	52	52	Maintain
<u>6.F</u> : Increase the number of states assisted with screening newborns for preventable diseases (Output)	FY 2011: 50 (Target Met)	50	50	Maintain

<sup>2</sup> CDC Division of Laboratory Sciences

<sup>3</sup> (i.e., newborn screening, chronic diseases [diabetes, cholesterol], environmental health [blood lead, cadmium and mercury], and nutritional indicators).

Performance Trends: CDC is the only agency that tests for chemical exposure and nutritional indicators in a nationally representative sample of the U.S. population. In FY 2011, CDC met its target of 323 chemicals measured, a continued trend since the inception of this measure (Measure 6.1.1). CDC released data from the 2005–2006 and 2007–2008 National Health And Nutrition Examination Survey for 54 of the chemicals previously reported along with data for nine more recently added chemicals in the *Updated Tables to the Fourth National Report on Human Exposure to Environmental Chemicals*. These tables provide critical exposure data to scientists, physicians, and health officials who use the data to determine which chemicals and indicators are in people's bodies and at what levels, and establish national reference ranges and trends against which physicians and health officials can determine which groups may have an unusually high exposure.

Additionally, in FY 2011, CDC met its target by developing nine new or improved methods to measure environmental chemicals in people (Measure 6.A). In FY 2011, CDC met the target to complete 52 laboratory studies that help identify populations with unsafe exposures to chemicals and demonstrate the effectiveness of public health actions (Measure 6.B).

CDC's Environmental Health Laboratory provides quality assurance and standardization programs for tests for chronic diseases, newborn screening disorders, nutritional status, and environmental exposures. While participation is voluntary, CDC met its target of 974 laboratories participating in these programs in FY 2011, continuing a trend since the inception of this measure (Measure 6.1.3). Participation in a rigorous quality assurance program helps ensure laboratory and medical tests are comparable and accurate. For example, CDC's Newborn Screening Quality Assurance Program (NSQAP) found that performance of the methods used to identify a biochemical marker for Cystic Fibrosis was variable and dependent upon recognizing and recovering the relevant antibodies. NSQAP collaborated with states and vendors to resolve assay concerns and provide information to reassess cutoff values for positive and negative results. Additionally, CDC provided assistance to 50 states in newborn screenings for preventable diseases and additional funding to Delaware, Texas, and Utah to improve testing for disorders such as congenital adrenal hyperplasia and cystic fibrosis (Measure 6.F).

CDC continuously reviews and revises activities to ensure laboratory measurements are relevant, consistent, and high-quality, undertaken studies provide substantive public health impact, and state and local laboratory needs are prioritized.

***Program: Environmental Health Activities***

**Performance Measures for Program: Environmental Health Activities**

Measure	Most Recent Result	FY 2012 Enacted Target	FY 2013 Target	FY 2013 +/- FY 2012
<u>6.1.2</u> : Complete studies to determine the harmful health effects from environmental hazards. (Output)	FY 2011: 27 (Target Exceeded)	24	24	Maintain
<u>6.C</u> : Increase the number of public health actions undertaken (using Environmental Health Tracking data) that prevent or control potential adverse health effects from environmental exposures <sup>4</sup> (Output)	FY 2011: 20 (Target Exceeded)	15	15	Maintain
<u>6.H</u> : Increase the number of emergency radiation preparedness toolkits provided to clinicians/public health workers (Output)	FY 2011: 1,350 (Target Exceeded)	750	750	Maintain

<sup>4</sup>Targets reflect ACA/PPHF funding.

**Performance Trends:** Acute foodborne illnesses cost the United States an estimated \$152 billion per year in healthcare, workplace, and other economic losses. In addition to supporting multi-state studies resulting in seven publications on a variety of food safety issues, 93 percent of CDC-funded states participating in the Environmental Health Specialist Network (EHS-Net) successfully changed policies to improve their food and water safety programs. The EHS-Net states were successful in changing the 2009 Food and Drug Administration (FDA) model food code to prohibit the sale of undercooked ground meat in restaurants that offer “kid’s meal” menus. Changes to the FDA Food Code to address the reporting, exclusion, and restriction of foodworkers diagnosed with *Nontyphoidal Salmonella* will be sought in a joint effort between CDC EHS-Net and FDA in 2012.

In FY 2011, public health officials undertook 20 public health actions using environmental public health tracking data, exceeding the target (Measure 6.C). Since FY 2002, state and local public health officials used the Tracking Network to implement more than 120 data-driven public health actions to prevent adverse health effects from environmental exposures. Specific public health actions include monitoring and providing information to residents and workers related to the Deepwater Horizon incident, helping residents reduce their exposure to uranium from drinking water, and providing information to the public on bed bug infestations and prevention strategies. In FY 2011, CDC exceeded its target and completed 27 studies examining the health effects from environmental health hazards such as water and air pollutants, radiation, and hazards related to natural and other disasters (Measure 6.1.2). These study results help CDC develop, implement, and evaluate actions and strategies for preventing or reducing harmful exposures and their health consequences. Since 2005, CDC met or exceeded targets for this measure and is on track to meet the targets for FY 2012. In FY 2011, CDC distributed 1,350 emergency radiation preparedness toolkits to clinicians and public health workers to improve their ability to identify and respond to radiological events (Measure 6.H). Since 2005, CDC met or exceeded targets and is on track to meet targets for FY 2012.

***Program: Asthma, Healthy Home and Community Environments***

**Performance Measures for Program: Healthy Home and Community Environments**

Measure <sup>5</sup>	Most Recent Result	FY 2012 Enacted Target	FY 2013 Target	FY 2013 +/- FY 2012
<u>6.2.4</u> : Increase the proportion of those with current asthma who report they have received self-management training for asthma in populations served by CDC funded state asthma control programs. (Output)	FY 2009: 45% (Target Not Met but Improved)	50%	Unable to report	N/A
<u>6.2.5a</u> : Reduce health disparities associated with blood lead levels in children aged 1-5 in the U.S. such that: a. The gap in blood lead levels between black children and children of other races is reduced (Outcome)	FY 2010: 0.52 (Baseline)	0.52	0.50	-0.02
<u>6.2.5b</u> : The gap in blood lead levels between children living above the federal poverty level and those living below the poverty level is reduced (Outcome)	FY 2010: 0.54 (Baseline)	0.54	0.52	-0.02

<sup>5</sup> Due to programmatic changes, these measures may be revised in FY 2014 to better reflect CDC activities.

**Performance Trends:** CDC estimates the total direct cost of asthma at \$3,259 per person per year for the period 2002–2007 (calculated in 2009 dollars).<sup>1</sup> In 2007, the estimated total cost of asthma (incremental direct cost and productivity costs) was \$56 billion (2009 dollars).<sup>2</sup> These costs would exceed \$58 billion in 2011 dollars. Implementing asthma action plans and effective asthma self-management (per the National Institutes of Health’s Guidelines for the Diagnosis and Management of Asthma) are vital to helping people stay out of the hospital and manage their asthma. One study shows asthma self-management education, delivered to high-risk adult asthma patients in the clinic, by phone, and at home, as needed, results in 54 percent fewer hospital readmissions and 34 percent fewer emergency department visits, saving \$35 in health care costs and lost work days for every \$1 spent.<sup>3</sup> Four billion dollars were saved in medical costs in 2008 because 245,000 fewer people were hospitalized due to asthma. Measure 6.2.4 reports increases in the number of individuals with current asthma who report they have received self-management training for asthma. The most recent result of 45 percent in 2009 increased two percent over the 2008 result of 43 percent, but did not meet the target. However, CDC is on track to continue positive increases in this measure (Measures 6.2.4) in FY 2012, including strengthening patient self-management education efforts by physicians and other health care providers. In FY 2013, under the new consolidated Healthy Home and Community Environments program, CDC will continue to monitor national data on asthma prevalence but narrow surveillance activities of asthma control, and unable to report a target for FY 2013.

Because of the CDC partnership with the Department of Housing and Urban Development (HUD), \$18.6 billion (2011 dollars) was saved by abating homes from lead, thus protecting all future residents.<sup>4</sup> In addition, between 2008 and 2010, the number of children with a blood lead level over five µg/dL decreased by 200,000. This reduction translates to \$7.5 billion in savings in lifetime productivity. The focus of Measures 6.2.5 a, b is on closing the health disparity gaps that exists between children on the basis of race and household income. African American children are three times more likely than white children to have blood lead levels greater than five micrograms per deciliter, a significant disparity that needs continued attention. While focusing specifically on health disparities, the new two-part measure is a

key component of targeting a continued overall decrease in mean blood lead levels among all children ages one through five in the United States (2010 baseline: 1.53 micrograms per deciliter; target for 2013 NHANES data release: 1.38 micrograms per deciliter).

<sup>1</sup> Barnett SBL, Nurmagambetov TA. Costs of asthma in the United States: 2002—2007. *J Allergy Clin Immunol* 2011;127:145–52

<sup>2</sup> Barnett SBL, Nurmagambetov TA. Costs of asthma in the United States: 2002—2007. *J Allergy Clin Immunol* 2011;127:145–52

<sup>3</sup> Castro M, et al. “Asthma Intervention Program Prevents Readmissions in High Health Care Users”. *American Journal of Respiratory Critical Care*. 2003; 168:1095-1099

## **IT INVESTMENTS**

CDC invests in numerous Information Technology (IT) systems that support strategic and performance outcomes. Systems track non-infectious diseases and other health effects that may be associated with environmental exposures. The systems also maintain and collect standardized data from surveillance systems at the state and national level. IT investments allow federal, state, and local agencies and others to monitor and distribute information about environmental hazards and disease trends; advance research on possible linkages between environmental hazards and disease; and develop, implement, and evaluate public health actions to prevent or control environment-related diseases.