

# BIOMONITORING

UNDERSTANDING HOW ENVIRONMENTAL EXPOSURES AFFECT HUMAN HEALTH

## UNMET NEEDS

- Provide the US Centers for Disease Control and Prevention (CDC) funding to develop and expand state- based biomonitoring programs to sixteen states (from six) and establish a data repository for the National Biomonitoring Network
- Allocate historic level funding to the CDC to re-establish a lead testing and quality assurance program for the states
- Increase funding to the Environmental Public Health Tracking Network to create a comprehensive national environmental health surveillance system
- Provide funding to the US Agency for Toxic Substances and Disease Registry (ATSDR) to improve the use of laboratory data in communities impacted by potentially- toxic exposures

## BACKGROUND

Every day we risk coming into contact with thousands of chemicals, some of which may damage our physical health, mental development, cause birth defects, or raise our risks for cancer or other chronic diseases. Although you would not knowingly breathe in air polluted with benzene gas or drink water containing lead, toxic chemicals in the environment often go unnoticed.

Public concern about chemical exposure has increased as awareness of incidents of contaminated drinking water such as lead in Flint, MI and perfluorinated chemicals across the country are discovered. However, **the US has no comprehensive environmental health surveillance system to identify and track these potential exposures.**

Environmental emergencies such as these, combined with a lack of a national environmental health surveillance system and our current inability to establish



the causes of many chronic illnesses, developmental disorders and deaths in the US, underscores the **need to understand and document which chemicals are getting into our bodies and their impact.**

For the last 30 years, **the National Biomonitoring Program at CDC's National Center for Environmental Health Laboratory has measured hundreds of chemicals** including lead, cotinine (a measure of secondhand tobacco smoke), flame retardants and certain pesticides. The data are used to assess exposure to environmental chemicals in the US population and provide valuable information when analyzed alongside health outcome data. Additionally, information from CDC about background levels of exposure serves as a reference to determine when people have elevated levels of chemicals in their bodies. **The US needs similar systems at the state and local levels to identify emerging concerns and allocate resources appropriately.**

## STATE-BASED PROGRAMS

**State and local health departments need to integrate biomonitoring into public health practice.** Biomonitoring data are useful for identifying serious environmental hazards, assessing exposure and evaluating the efficacy of public health policies and interventions, thus

allowing for evidence-based decision-making. To be truly effective, the US needs to expand biomonitoring capability to support all state programs. Currently CDC funds only six state biomonitoring laboratory programs. The requested funding would help support or establish programs throughout the US, allowing at least ten additional states to conduct population-based and/or targeted biomonitoring, establish a baseline of local chemical exposure and leverage capabilities developed through preparedness efforts. It would also enable the creation of a data repository for the National Biomonitoring Network, which would harmonize data collection on a national level.

Historically, CDC was funded for a lead testing and quality assurance program through the National Health and Nutrition Examination Survey (NHANES). Starting in the 1980s, this program resulted in the first and most successful biomonitoring public health achievement to date—significantly lowering blood lead levels in children—but support was eliminated over time. Reallocating one million dollars to this CDC lab program will ensure that these activities continue to be supported by the premier laboratory in the US and this capability is retained in the state laboratories.

### EPHT NETWORK BRINGS DATA TOGETHER

Rates of chronic diseases such as allergies, asthma, diabetes and heart disease are all on the rise in the US, with no definitive answers as to why. Past research has linked some environmental exposures with specific diseases, such as leukemia. However, much work remains to determine how exposure to certain things, such as flame retardants, may cause illness or disease.

Addressing this evidence gap, the Environmental Public Health Tracking (EPHT) Network allows existing environmental hazard, exposure and disease tracking systems to be viewed together by both researchers and the public. As national exposure assessment capabilities grow, more and more local data will become available. The EPHT Network could serve as an ideal, central, national database to display this information. The best place to begin the establishment of a US environmental health surveillance system is through expansion of the EPHT Network to include local exposure data and, therefore, state laboratories

## CDC FUNDING

### STATE-BASED LABORATORY BIOMONITORING

FY 2019:	\$5.0
FY 2020:	\$25.0 (necessary)

(Dollars in millions)

should play an important role in the network.

APHL supports the expansion of the EPHT program to link environmental exposure (biomonitoring) data in all states. Additional funding for EPHT and state biomonitoring laboratories would enhance their ability to share data electronically with other agencies and become the basis of a nationwide environmental surveillance system that could effectively respond to local concerns as well.

### ATSDR: MEASURING COMMUNITY EXPOSURE TO CHEMICAL SITES

ATSDR investigates the health effects of community exposures related to chemical sites and releases. With additional funds, ATSDR could strengthen and expand their role as a safeguard—better protecting communities from hazardous substances by working more closely with experts from environmental health laboratories. New funding would allow ATSDR to connect over 40 communities across the country with their state or local environmental health laboratories, whose advanced capabilities can help communities better understand and address pressing environmental health concerns, from contaminants in drinking water like per- and polyfluoroalkyl substances (PFAS) and lead, to chemical threat agents which challenge our global health security. Such an investment would increase ATSDR's ability to serve its role as a health shield for communities—protecting the public from exposure to hazardous substances at the federal, state and local levels. ■

### CONTACT

Peter Kyriacopoulos, senior director of public policy  
240.485.2766 | peter.kyriacopoulos@aphl.org



## ASSOCIATION OF PUBLIC HEALTH LABORATORIES

8515 GEORGIA AVENUE, SUITE 700, SILVER SPRING, MD 20910 | WWW.APHL.ORG  
240.485.2745 (P) | 240.485.2700 (F)