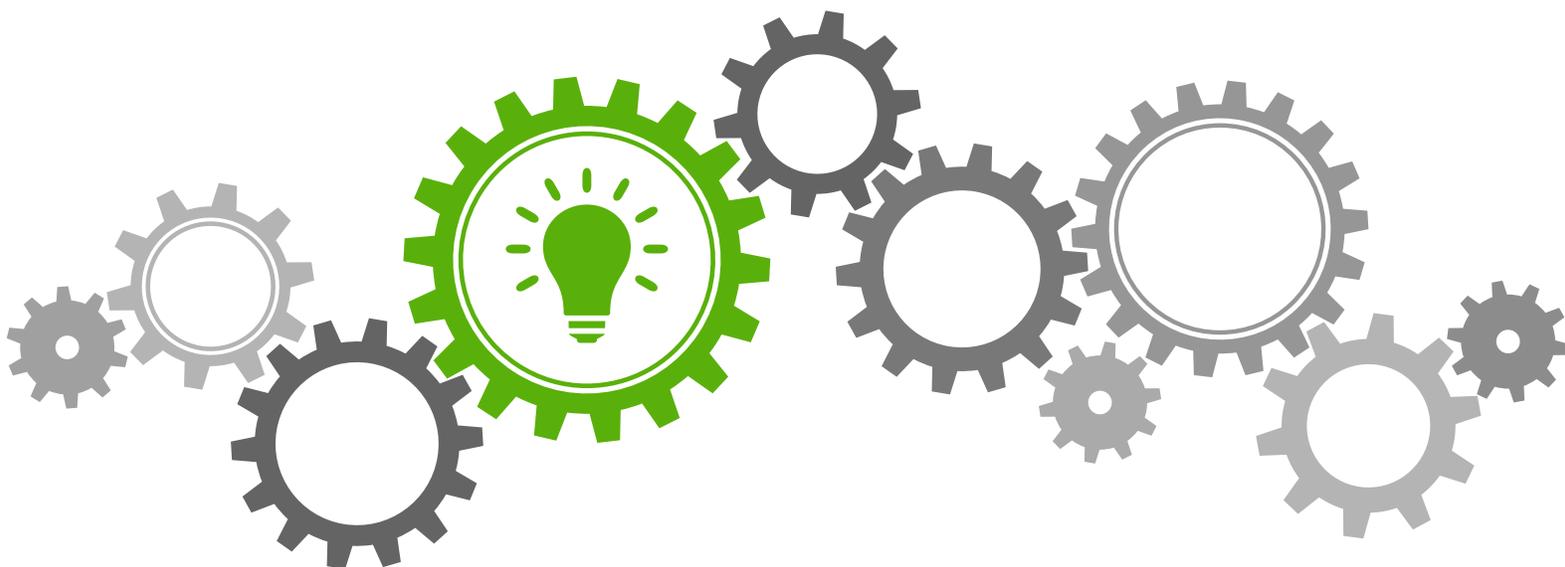


Environmental Health Recommendations

Policy Recommendations for the Incoming Administration



INTRODUCTION

Environmental health is the branch of public health that focuses on the interrelationships between people and their environment, promotes human health and well-being, and fosters healthy and safe communities. As a fundamental component of a comprehensive public health system, environmental health works to advance policies and programs to reduce environmental exposures from air, water, food, and chemicals to protect people and provide communities with healthier surroundings. Environmental health protects the public by tracking environmental exposures, identifying potential links with diseases, and working to remove or control those exposures.

Governmental environmental health services are not a luxury. They are essential to providing the public basic needs, such as safe drinking water, clean air, safe foods, chemical safety, lead poisoning prevention, healthy housing, climate change adaptation, emergency preparedness, and more. Environmental health has long been recognized as being a crucial government function.

Environmental health provides everyone the opportunity to achieve their highest possible level of health at all stages of life, encompassing physical, mental, and social well-being, extending beyond the absence of disease. The following **opportunities for action** support the basic human right to environmental health:

- **PREVENTION:** Enable federal, state, local, and tribal governments to promote resilient, equitable, and healthy communities for all Americans, especially those who are most vulnerable and most at risk.
- **RESPONSE:** Build and support the governmental environmental health system, including workforce needs, research, tracking disease outcomes, and environmental exposures.
- **REAL-LIFE SOLUTIONS:** Strengthen environmental health protections and support peer-reviewed research to inform environmental health decision-making and practice.

In order to secure these actions, it is absolutely essential that the United States has a well-educated, fully staffed, robust, and financially and politically supported environmental public health workforce.

Environmental equity is a key component of every environmental health program. **Federal health and environmental regulatory agencies** define environmental equity as the fair treatment and meaningful involvement of all people—regardless of race, color, national origin, sexual orientation, education, or income—in the development, implementation, and enforcement of environmental laws, regulations, and policies. **Environmental health practitioners** utilize health, demographic, and environmental monitoring data to ensure the protection of populations at disproportionate risk to the impacts of adverse environmental and health exposures.

Environmental health practitioners work to ensure that vulnerable populations, including the elderly, children, families from low income communities, and those with preexisting conditions (e.g., asthma, chronic respiratory disease), are protected from environmental threats. These populations are at far greater risk of adverse health impacts related to environmental exposures (e.g., air pollution) than otherwise healthy populations.

Environmental health is a vital component of a “One Health” approach, which recognizes the connections between human, animal, and environmental health. Offering collaboration early on, enhancing environmental health capabilities to detect and respond to threats, grounding policy and actions in evidence-based research, and ensuring that environmental health services reach everyone are critical tenets of a robust health system.

As a nation, **the U.S. spends over \$3 trillion annually on healthcare but lags behind other developed countries in practically every health metric.** The lack of investment into the preventative efforts of a robust environmental health system costs this nation. The conditions in which people live and work are key drivers of their health. Finding solutions to many health risks requires work by stakeholders beyond the healthcare sector; this reinforces the value of investing in population health and understanding the social determinants of health.

The next administration should prioritize the reversal of regulatory actions that are harmful to health. Three specific examples come from the U.S. Environmental Protection Agency (EPA): the “transparency in science” rule; the adoption of the 2020 chlorpyrifos risk assessment that will result in the pesticides continued use; and the Clean Power Plan, which was overturned after excluding health benefits from reduction in co-pollutants from the benefit-cost analysis.

The following six issues are the highest priorities for environmental health:



*Portions of this document were adapted from
Environmental Health Playbook: Investing in a Robust Environmental Health System.*

CLIMATE EFFECTS

Recommendations:

- Help communities plan for and adapt to the impacts of climate change. Many states and localities have begun this planning but will need resources to continue this work and to coordinate with neighboring jurisdictions.
- Monitor environmental impacts, human exposures, and surveil diseases to inform public health intervention and public policy.
- Ensure that climate- and health-related laws, policies, and funding opportunities acknowledge and address the disproportionate impact that climate change has on marginalized populations.
- Conduct risk assessments and establish plans to anticipate risks for adaptation and build resilience for future generations.
- Reduce emissions of carbon dioxide, methane, and other pollutants that accelerate climate change.
- Promote the use of clean renewable energy.
- Promote the energy efficiency of cooling systems, all modes of transportation, housing and buildings, and other energy-intensive products.
- Require federally supported activities to include a climate risk and impacts analysis.
- Embolden each state to adopt a Clean Power Plan to reduce carbon pollution and mitigate climate change.
- Ensure that funding is sufficient for implementation of climate health initiatives and to conduct climate change research and programs across federal agencies.

KEY PROGRAMS, FUNDING, AND POLICIES TO SUPPORT

Support full funding of:

- ✓ CDC's Climate Change Program; specifically, the CDC's Climate-Ready States and Cities Initiative and program support for all 50 states and DC.
- ✓ EPA's Climate Change Program; specifically fund for state and local climate change efforts

Support the passage of the:

- ✓ Climate Change Health Protection and Promotion Act (H.R. 1243/S. 523)

Climate change is affecting environmental health—the quality of air, food, housing, and water in the communities where people live, work, and play. Climate change impacts health and safety to individuals and communities in the U.S. and abroad. Environmental health professionals protect the public's health and sustain healthy communities; they need support to address the health impacts of climate change with laboratory and field data, risk assessment, evidence-based adaptation plans, and mitigation resources.

Climate change is a worldwide environmental health problem that is caused in part by human influences. Climate change results in serious health and safety impacts to individuals and communities. While sometimes referred to as "global warming," **climate change** is identified as any significant change in climate trends and measures lasting for an extended period, such as changes in temperature, precipitation, or wind patterns. *In our atmosphere, greenhouse gases—such as carbon dioxide (derived from burning coal, oil, and natural gas), nitrous oxide, and methane—absorb solar radiation and emit it back to the Earth's surface, contributing to the climate changes observed in recent decades.*

Climate and weather have an appreciable impact on environmental health. The **2017 Climate and Health Assessment** explains the impacts of climate change on human health, providing scientific evidence regarding the relationship between health impacts and associated outcomes: temperature-related death and illness, air quality impacts, extreme weather events (droughts, fires, storms, flooding), vector-borne disease, water-related illness, mental health, food safety/nutrition/distribution, and populations of concern. Human health, quality of life, and economic growth are vulnerable to the impacts of climate change. Populations of concern are those that

are at a disproportionate risk, such as families from low-income communities, migrants, children, communities of color, indigenous peoples, older adults, pregnant women, and those with disabilities and/or preexisting medical conditions.

The capacity to collect, manage, analyze, and interpret climate and extreme weather data systematically and the impact on human health is critical to making informed climate policy and developing effective responses to climate and weather events. CDC's Environmental Public Health Tracking program, which collects, integrates, and analyzes non-infectious disease and environmental data from a nationwide network of partners, should be enhanced and expanded to all jurisdictions.

EMERGENCY PREPAREDNESS

Recommendations:

The environmental health workforce performs many critical functions during and after an emergency caused by natural calamity, terrorism, industrial accident, or infectious disease. Their role is to:

- Ensure adequate safe drinking water.
- Conduct food inspections.
- Ensure basic sanitation services.
- Promote personal hygiene.
- Provide laboratory and field evidence of infection, contamination, exposure, and/or disease to inform public health practice.
- Assist first responders by providing health risk consultations or advising on exposure pathways.
- Provide information to emergency managers to help assess the scale of the emergency to ensure an effective response.
- Ensure safe and healthy building environments.

After an event, it is the environmental health workforce that remains on the scene conducting longitudinal assessment of hazardous exposures. With a strong environmental health system, experts receive the data that can prevent or lessen damage from routine incidents. Investing in infrastructure, like secure water systems, chemical safety protocols, resilient and healthy housing, and disaster mitigation systems before an event makes communities less likely to live without clean water and sanitation services facing hazardous conditions post-disaster.

KEY PROGRAMS, FUNDING, AND POLICIES TO SUPPORT

Support funding for:

- ✓ HHS' Office of the Assistant Secretary for Preparedness and Response

Support increased funding of CDC's Emergency Preparedness and Response efforts, including:

- ✓ The Climate and Health Program, to ensure states and local governments are climate ready.
- ✓ The Public Health Emergency Preparedness and Response cooperative agreements including expanded, sustained funding for the Laboratory Response Networks (Biological and Chemical Threats) and implementation of the Laboratory Response Network (Radiological)
- ✓ The Epidemiology and Laboratory Capacity Grant Program
- ✓ The National Environmental Public Health Tracking Program
- ✓ The National Wastewater Surveillance System to provide data to inform COVID-19 pandemic response and to identify future environmental pathogens and threats

SAFE DRINKING WATER

Recommendations:

- Review, update, and systematically enforce primary drinking water standards.
- **Ensure** the major federal agencies responsible for water quality—EPA, CDC, U.S. Corps of Engineers, U.S. Department of Agriculture, and U.S. Department of the Interior—develop a national action plan.
- Ensure that water- and health-related laws, policies, and funding opportunities acknowledge and address the disproportionate impact climate change has on marginalized populations.
- As the pandemic continues, ensure that all people continue to have access to clean, safe drinking water through a moratorium on water shutoffs and assistance with reconnection of service where needed and provide financial support to local governments to offset lost income.
- Provide education to private well owners about the importance of periodic water quality testing and access to affordable testing.

As the need for clean water during the COVID-19 pandemic has highlighted, everyone in this country needs access to safe, clean water for drinking and washing. Unfortunately, there remain barriers across the country to such access, in urban, rural, and suburban areas. The administration must take steps to address issues ranging from sources of contamination, including lead pipes and chemical releases, to lack of funding for infrastructure and wastewater treatment.

Safe water is critical to the welfare of individuals, families, businesses, and the U.S. economy. Two out of every five Americans rate their quality of water as poor. Within the next decade, at least 36 states will face water shortages. At the same time, contaminated water is a source of illness and premature death in this country.

About **one in nine U.S. residents** gets their drinking water from a private well. **About a quarter** of the roughly 2,100 private wells sampled by the U.S. Geological Survey between 1991 and 2004 were found to have at least one contaminant exceeding federal maximum contaminant levels for regulated substances or health-based screening levels for unregulated substances. Over the past 45 years, the proportion of outbreaks associated with private water sources **has increased**. Five waterborne illnesses—giardiasis, cryptosporidiosis, Legionnaires' disease, otitis externa (inflammation of the ear canal), and non-tuberculous mycobacterial infection—cause an estimated 40,000 hospitalizations each year at a cost of \$970 million. Altogether, **researchers estimate** that up to 900,000 people fall ill and up to 900 die annually from waterborne infectious diseases.

KEY PROGRAMS, FUNDING, AND POLICIES TO SUPPORT

- ✓ Support a budget that provides strong investment in water infrastructure by funding the EPA's Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF).
- ✓ Upgrade community water and wastewater treatment systems. Prioritize investments in remediation where the water or wastewater infrastructure poses health risks.
- ✓ Develop a federal interagency plan to eliminate lead exposure, including exposure to lead from water. Provide for full lead service line replacement.
- ✓ Provide federal funding and technical assistance to public environmental and public health laboratories to develop and maintain capability and capacity for critical priority and emerging contaminants.
- ✓ Address widespread per- and polyfluoroalkyl substances (PFAS) contamination of water by, among other actions, regulating PFAS discharge under the Clean Water Act and setting true health protective standards for PFAS in drinking water.

CLEAN OUTDOOR AIR

Recommendations:

- Implement and enforce the Clean Air Act, one of the nation’s most successful public health laws.
- Strengthen outdated particulate and ozone standards. Encourage EPA to use the best available science to strengthen National Ambient Air Quality Standards (NAAQS) that sufficiently protect the health of U.S. residents, including populations at disproportionate risk (e.g., children, the elderly, low-income groups, those with asthma or cardiopulmonary diseases).
- Adopt national steps to reduce emissions of methane and volatile organic compounds from new and existing oil facilities, gas facilities, and other sources.
- Ensure that research continues through EPA and the National Institute for Occupational Safety and Health to provide more information and assistance to employers and employees on indoor air pollutants in work settings.
- Increase funding to state, local, and tribal governments to promote healthy air, including expanded environmental and public health laboratory capabilities to test outdoor and indoor air.
- Promote environmental justice through the development of policies and programs that reduce exposure to air pollution and decrease the impacts of climate change.
- Foster collaboration among state, local, and tribal air agencies to reduce air pollution and its associated ills.
- Utilize current air quality data and identify future air quality data needs to inform environmental and public health policy.

KEY PROGRAMS, FUNDING, AND POLICIES TO SUPPORT

- ✓ Restore the EPA advisory panels to their full capacity and rescind measures that keep qualified scientists off advisory panels.
- ✓ The EPA should initiate new, robust National Ambient Air Quality Standards (NAAQS) reviews for both **particle pollution** and **ozone** and set the strongest standards supported by the science to fully protect health.
- ✓ Fully fund the EPA Office of Air and Radiation’s outdoor air activities.
- ✓ Fully fund CDC’s NCEH Office of Air.

Healthy air is essential to life. Polluted indoor and outdoor air places millions of Americans at risk, threatening their health and lives. Various airborne pollutants aggravate existing lung disease; contribute to the development of lung cancer; contribute to chronic cardiovascular problems, potentially causing heart attacks and strokes; and play a role in central nervous system and developmental problems, including low birth weight. These adverse health effects worsen health inequities, posing a disproportionate risk to low-income populations in areas where transportation systems, zoning laws, and industrial policies increase exposure burdens.

The NAAQS are the foundation to guarding the public against dangerous health complications from air pollution. Strong NAAQS set the baseline that helps drive all other progress reducing emissions from polluting sources.

Everyone deserves to breathe clean air, yet **nearly half of Americans** still live in areas with unhealthy levels of air pollution, with people of color bearing a disproportionate burden. The administration and Congress must fully implement and enforce the Clean Air Act’s fundamental, science-based protections to ensure cleanup of harmful pollution in every community, particularly those near polluting sources, transportation centers, or corridors that have too long suffered disproportionately.

HEALTHY HOUSING / INDOOR AIR

Recommendations:

Administrative and congressional actions should focus on preventative measures to repair homes and remove hazards. These actions must include both robust funding of healthy homes programs across the federal government and new regulatory or legislative action, such as:

- Raise standards for conditions in both federally supported housing, including Section 8, and federal mortgage requirements.
- Provide funding options for home- and building owners to fix hazards, such as through a tax credit or a low-/no-interest loan program.
- Fund repairs and services through Medicaid, expanding on the success of several states that have supported this work through waivers.
- Support replacement of single-pane windows, which both removes a significant source of lead poisoning and provides energy efficiency benefits.
- Ensure that housing- and health-related laws, policies, and funding opportunities acknowledge and address the disproportionate impact climate change has on marginalized populations.
- Include programs and funding to improve housing conditions in any large-scale infrastructure package.
- Support public laboratory infrastructure, specifically regarding identification of health threats in private well water, indoor air, and lead hazards.
- Work to increase supply of affordable housing nationwide, and increase funding for public housing and subsidized housing.

Americans spend roughly **70 percent of their time in the home**.

The home environment, in turn, may promote or diminish health. Housing risks include dilapidated structures; roofing problems; heating, plumbing, and electrical deficiencies; water leaks; unregulated sources for drinking water; secondhand smoke exposure; vermin and other pests; and lead paint or radon gas exposure. Overall, **40%, or 35 million U.S. homes**, have at least one health or safety hazard. Some of the health impacts of these hazards in the U.S. include:

- **24.7 million people have asthma**, which is often exacerbated by home conditions such as mold and pests;
- **270,000 children** aged 1-5 have elevated blood lead levels;
- **32,000 older adults** die annually from unintentional falls;
- **21,000 people** die annually from radon-related lung cancer; and
- **400 people** die annually from unintentional CO poisoning not linked to fires.

KEY PROGRAMS, FUNDING, AND POLICIES TO SUPPORT

Support funding for:

- ✓ HUD's Office of Lead Hazard Control and Healthy Homes
- ✓ CDC's Childhood Lead Poisoning Prevention Program
- ✓ CDC's National Asthma Control Program
- ✓ CDC's National Environmental Public Health Tracking Network
- ✓ NCEH Division of Laboratory Sciences for human biomonitoring programs that assess human chemical exposures
- ✓ EPA's Lead Categorical Grant and Lead Risk Reduction Programs
- ✓ EPA's Radon Categorical Grant, Indoor Air: Radon, and Reduce Risk from Indoor Air Programs
- ✓ EPA's Children and other Sensitive Populations: Agency Coordination Program
- ✓ DOE's Weatherization Assistance Program

Much more needs to be done to make homes safe, healthy, and affordable, especially in low-income communities and communities of color, who are frequently disproportionately impacted by these hazards. Because of these inequities, black children have **higher blood lead levels** than other racial or ethnic groups and also have **greater hospitalization and mortality rates** due to asthma than white children.

There is a **strong evidence base** detailing what works to create healthier home environments. And interventions have been proven to be both effective and cost-effective; for example, for every \$1:

- Invested in home visiting programs that address both asthma self-management and indoor environmental triggers, there is a **return of \$5.30-\$14.00**;
- Spent to reduce lead paint and dust hazards in the home, there is a **benefit of \$1.39**;
- Spent ensuring compliance with EPA's lead Renovation, Repair, and Painting (RRP) Rule or removing lead service lines, there is a benefit of **benefit of \$3.10 or \$1.33**, respectively;
- Invested in poison control centers, approximately **\$7 to \$15** are saved in unnecessary healthcare expenses; and
- Spent to install a smoke detector, there is a societal **benefit of \$28**.

ENVIRONMENTAL HEALTH WORKFORCE

Recommendations:

- Build a well-trained and highly skilled workforce, consisting of educated, well-trained and technically competent environmental health practitioners (e.g., sanitarians, epidemiologists, laboratory scientists, occupational and industrial hygienists).
- Develop public health and environmental laboratory data and surveillance systems at the federal, state, local, territorial, and tribal levels to enable a rapid detection and response to disease threats.
- Ensure that environmental health workforce-related laws, policies, and funding opportunities acknowledge and address the disproportionate impact climate change has on populations with a disproportionate risk.
- Support increased funding to allow ATSDR to enhance its mission by expanding its support to health departments, recruit additional staff to investigate community concerns and increase its technical support to healthcare and public health professionals.
- Ensure that environmental health agencies at all levels of government and industry partners **attract and retain trained and credentialed environmental health professionals** to provide capacity and quality in environmental health programs to protect the health of our communities.

KEY PROGRAMS , FUNDING, AND POLICIES TO SUPPORT

Support the:

- ✓ Environmental Health Workforce Act, HR 2262/S 1137
- ✓ Public Health Workforce Loan Repayment Program, HR 6578

Fully fund the:

- ✓ CDC's National Environmental Public Health Tracking Network
- ✓ NCEH Division of Laboratory Sciences to enhance human biomonitoring capability and capacity among the states
- ✓ CDC's National Center of Environmental Health
- ✓ Agency for Toxic Substances and Disease Registry (ATSDR) APPLETREE program

Environmental health is central to achieving a healthier nation. Providing safe food, safe drinking water, clean air, safe sewage disposal, emergency response, and healthy living and workplace environments are basic necessities for every community.

Environmental health professionals work every day to ensure the air we breathe, the water we drink, and the food we eat are safe and secure; however, the profession is limited by the human and capital resources available.

Environmental health programs carried out by professionals serve to prevent illness, injury, and death from environmental harms. Professionals within these programs work to help community residents and businesses solve environmental health problems, improve the quality of life in local communities and to prepare their communities to respond to and/or recover from disasters including terrorism events, acts of nature, and pandemics.

The National Environmental Public Health Tracking Network identifies laboratory data, cancer, reproductive health outcomes, birth defects, and demographics and socioeconomic status, outdoor air quality, drinking water quality, hospitalizations for asthma, cardiovascular disease, carbon monoxide poisoning, childhood lead poisoning, community design, and developmental disabilities. Grantees have taken over 400 data-driven actions to improve health.

CONCLUSION

Environmental health services are preventative measures that are far more affordable than the absence of action. An environmental health system incorporates a structure, costs, funding mechanisms, vulnerable populations, and a trained multidisciplinary workforce to serve and protect the health of community members.

Mitigating newly detected environmental health problems will require increased appropriations and new legislative or regulatory action. Investing in environmental health means that fewer communities suffer from adverse health and environmental outcomes.

The following organizations contributed to the development of these policy recommendations:

