

## **Federal Research Funding Priorities and Opportunities at the Nexus of Environment and Health**

*Lewis-Burke – September 16, 2022*

Environmental health brings together two of the Biden Administration's top priorities and is an intersection that will continue to grow under this Administration. The White House demonstrated its commitment to this space by launching the whole-of-government Justice40 Initiative earlier this year. Justice40 aims to ensure each federal agency delivers 40 percent of the overall benefits of climate, clean energy, affordable and sustainable housing, clean water, and other investments to disadvantaged communities. Federal agencies recently started rolling out a list of programs covered by the Justice40 Initiative, the agencies of most relevance include the [Department of Health and Human Services](#) (HHS) and the [Environmental Protection Agency](#) (EPA).

In addition, White House Environmental Justice Advisory Council and other cross-agency groups focused on health and equity continue to highlight the disproportionate impacts of a changing climate on health disparities populations in their recommendations and reports.

Despite the Biden Administration proposing major increases for programs at the intersection of the environment and human health in fiscal year (FY) 2022 and FY 2023, there has been a lack of directed funding to the cross-cutting initiative has stymied significant progress. Instead, there has been a focus on expanding existing programs within the Department of Health and Human Services (HHS) and other federal agencies, like the Environmental Protection Agency (EPA) and U.S. Department of Agriculture (USDA).

### **National Institutes of Health (NIH)**

#### **Priority Areas:**

The National Institute of Environmental Health Sciences (NIEHS) within NIH is home to most of the environment and health research and opportunities, its mission to "discover how the environment affects people in order to promote healthier lives." NIEHS' extramural research on environmental exposure spans a variety of topic areas including: health effects of exposure to air pollution, endocrine disruptors, nanomaterials, and other contaminants; Superfund Research Program, which has supported PFAS research

The Administration also established an [Office of Climate Change and Health Equity](#) (OCCHE) within HHS to coordinate efforts across agencies to address environmental health, especially with an equity lens. Despite strong Administration interest and significant internal planning at agencies, Congress has not yet provided the dedicated funds needed to stand up programs at the scale envisioned by the Administration. The Senate appropriations bill would provide the Office with \$3 million to help it get off the ground. OCCHE priorities include:

- Identifying communities with disproportionate exposures to climate hazards and vulnerable populations;

- Addressing health disparities exacerbated by climate impacts to enhance community health resilience;
- Promoting and translating research on public health benefits of multi-sectoral climate actions;
- Assisting with regulatory efforts to reduce greenhouse gas emissions and criteria air pollution throughout the health care sector, including participating suppliers and providers;
- Fostering innovation in climate adaptation and resilience for disadvantaged communities and vulnerable populations;
- Providing expertise and coordination to the Administration on climate change and health equity deliverables and activities, including executive order implementation, and reporting on health adaptation actions under the United Nations Framework Convention on Climate Change;
- Promoting training opportunities to build the climate and health workforce and empower communities; and
- Exploring opportunities to partner with the philanthropic and private sectors to support innovative programming to address disparities and health sector transformation.

NIEHS is leading an NIH-wide [Climate Change and Health Initiative \(CCHI\)](#) with the goals of: reducing the health threats posed by climate change across the lifespan; improving the health of people who are at increased risk from or disparately affected by climate change impacts; and building health resilience among individuals, communities, Tribal Nations, and nations around the world, thereby increasing health equity.

- Budget request proposed \$100 million increase in FY 2022 and 2023, but Congress has not provided increases for the program.
- NIH has outlined [Climate Change and Health Initiative Strategic Framework](#) across NIH, including focus on health effects research, health equity, intervention research, and training and capacity building, should funding be provided.
- In absence of new appropriations, NIH has initiated other smaller scale efforts to build capacity in climate health (e.g. Notices of Special Interest, Climate and Health Scholars Program, seminar series, literature portal, etc.).
  - NIEHS released a [notice of special interest](#) (NOSI) for its SBIR/STTR program, soliciting innovative technologies for research on climate change and human health.
  - A list of open RFAs at NIEHS and RFAs in which NIEHS is a partner can be found [here](#).

### **Funding Outlook:**

The House and Senate appropriations bills propose similar increases over the FY 2022 enacted level of \$45 billion, the House bill would fund NIH at \$47.5 billion and the Senate would fund it at \$48 billion. Of most relevance to the environmental community, the National Institute of Environmental Health Sciences (NIEHS) would receive \$918.3 million in the Senate bill (9 percent above FY 2022) and \$878.75 million in the House bill (4.3 percent above FY 2022).

### **Centers for Disease Control and Prevention (CDC)**

#### **Priority Areas:**

CDC is the nation's health protection and health security agency, focusing on conducting critical science and providing health information to fight disease and support communities.

- The agency has a broad national agenda and focuses on funding state/local health agencies to complete its mission.

CDC's [Climate-Ready States and Cities Initiative](#), established in 2010, funds 11 jurisdictions nationwide in identifying and preparing for climate impacts and potential health effects in their communities.

- CDC uses a five-step [Building Resilience Against Climate Effects](#) (BRACE) framework to assess risks and implement adaptation plans:
  - Anticipate Climate Impacts and Assessing Vulnerabilities
  - Project the Disease Burden
  - Assess Public Health Interventions
  - Develop and Implement a Climate and Health Adaptation Plan
  - Evaluate Impact and Improve Quality of Activities

### **Funding Outlook:**

In both the House and Senate bill, the CDC would receive \$10.5 billion in FY 2022, an increase of \$2.04 billion over FY 2022 enacted level.

### **Environmental Protection Agency (EPA)**

#### **Priority Areas:**

Most of the EPA's research budget is intramural, extramural programs are leveraged to address gaps in EPA's internal research programming and are not typically subject to outside influence. Rather, EPA's Core Programs are each guided by a Strategic Research Action Plan (StRAP) in the following areas:

- Air & Energy
- Chemical Safety for Sustainability
- Health and Environmental Risk
- Homeland Security
- Safe and Sustainable Water Resources
- Sustainable and Healthy Communities

Some research priorities dictated by Congress include: PFAS/PFOA; Environmental Justice; Water Quality/Availability; and COVID-19 (wastewater monitoring, surface decontamination, etc.).

EPA has issued several [Notices of Intent](#) (NOIs) to indicate areas of future funding, many of them are at the cross-section of health and environment, including:

- Landfill Emissions: "will solicit research to quantify emissions of methane and hazardous air pollutants from landfills and, during the times the emissions are measured, any quantity of methane captured by the landfill gas collection system."
- Developing and Demonstrating Nanosensor Technology to Detect and Monitor Pollutants: "will solicit research to develop and demonstrate nanosensor technology with functionalized

catalysts that have the potential to degrade selected contaminants, in addition to detecting and monitoring pollutants.”

- Children’s Health: Early Lifestage Vulnerabilities to Environmental Stressors: “will solicit research to investigate early life-stage vulnerabilities to both chemical and non-chemical environmental stressors and their impacts on early childhood health outcomes.”
- Cumulative Impacts Assessment: “will solicit research to address knowledge gaps in the cumulative impacts of multiple chemicals (pollutants/contaminants) and non-chemical stressors affecting human health.”
- 20<sup>th</sup> Annual P3 Awards: “A National Student Design Competition Focusing on People, Prosperity and the Planet.”

### **Funding Outlook:**

In the Senate bill, EPA would receive \$10.6 billion in FY 2023 which is lower than the House’s bill which proposes funding EPA at \$11.5 billion, both above the FY 2022 enacted level of roughly \$9.6 billion. The [Science to Achieve Results](#) (STAR) program, the primary mechanism for funding extramural research, responsive to StRAPs, would be flat funded at \$28.6 million in the Senate bill and would be funded at \$30 million in the House bill. Environmental Justice (EJ) programs would be funded at \$180 million in the Senate bill and \$291.3 million in the House bill, both proposing significant increases over the \$100 million enacted level. EJ is anticipated to be incorporated across all EPA programs.

### **U.S. Department of Agriculture (USDA)**

#### **Priority Areas:**

Under the Biden Administration, USDA has had an increased focus on addressing climate change, creating a resilient food supply, and mitigating risks to human health from the changing environment. While there is not an abundance of programs focused on the nexus of health and environment, a few core programs at the Agriculture and Food Research Initiative (AFRI) have embedded human health into their target research areas. Specifically, the annual AFRI [Foundational and Applied Science](#) (FAS) program supports grants in six priority areas to advance knowledge in both fundamental and applied sciences important to agriculture. The most recent solicitation identified the six priority areas as: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; **Food Safety, Nutrition, and Health; Bioenergy, Natural Resources, and Environment**; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. Additionally, the [Sustainable Agricultural Systems](#) (SAS), another annual program, solicits programs that will have significant impact on the safety and nutrition of agricultural products and must demonstrate an understanding of current and future health and environmental impacts.

#### **Funding Outlook:**

USDA’s intramural research arm, the Agricultural Research Service (ARS) would receive \$1.736 billion for its Salaries and Expenses account in the House bill and \$1.756 billion in the Senate bill, 6.3 percent and 7.5 percent above the FY 2022 level, respectively. Within the report, over sixty activities are singled out



within ARS, ranging from human nutrition throughout the lifespan to climate science. Some priorities are included to remind ARS of the committee's ongoing interest in an area, others would receive new or additional funding.

The National Institute of Food and Agriculture (NIFA) would receive \$1.768 billion in the House bill and \$1.691 in the Senate, 8 percent and 3.3 percent over FY 2022, respectively, with modest growth across its programs. Specifically, AFRI would receive \$500 million in the House bill and \$455 million in the Senate bill, an increase of 12.4 percent and 2.2 percent over the FY 2022 enacted level, respectively.