FABBS Federation of Associations in Behavioral & Brain Sciences

September 17, 2021

Steering Committee
Climate Change and Human Health Working Group
National Institutes of Health

Dear Steering Committee,

The Federation of Associations in Behavioral and Brain Sciences (FABBS) appreciates the NIH leadership on climate change research and the opportunity to respond to the request for information on "Climate Change and Health." FABBS is a coalition of 28 scientific societies that share an interest in advancing the behavioral, brain, and cognitive sciences in support of furthering research knowledge and improving public health and welfare.

FABBS commends the NIH working group on the comprehensive list of human health and climate change research topics identified in the six priority areas. FABBS members value the inclusion of and focus on the importance of behavioral considerations and strategies. We highlight four areas that our members have identified as opportunities for NIH to leverage its investments to more fully address health concerns related to climate change.

Related to item *I. Innovative Research that Addresses Climate Change and Human Health–*

1) Include Behavioral and Psychological Research in Systems Science to Address Complexities of Climate Change

   FABBS encourages NIH to facilitate interdisciplinary collaborations from the initiation of proposals, bringing together diverse fields – including the behavioral sciences – to collaboratively formulate the research agenda and enable a holistic approach to adaptation and mitigation.

   Broadly, policies seeking to address climate change, either by mitigating its effects or adapting to them, depend heavily on individual and group behavioral change. These can include policies that seek to reduce energy consumption, encourage the use of sustainable materials, increase the use of alternative modes of transportation, etc. However, research suggests that the success of these policies is contingent on knowledge about specific behaviors and motivations, as well as the social and environmental contexts in which behaviors occur.[1]

   For example, including researchers who study effective messaging and strategic communication about public health risks will be important. Behavioral scientists studied the information environment preceding hurricanes and found that most media coverage focused on wind speeds. However, most hurricane-related deaths are caused by drowning, especially from flooding due to storm surge. While accurate information existed to predict

[1] "Psychology and Energy-Use Reduction Policies," *Policy Insights from the Behavioral and Brain Sciences*

storm surge, it was not communicated to the public in a way that individuals were likely to access or understand.

> *"While weather warning debates can often get caught up in the minutiae of higher-resolution models and degrees of uncertainty, sometimes the best way to increase safety is to determine what messages resonate with people and to provide information in formats they understand."*[2]

The researchers were able to survey the public and develop new terminology and graphics that would more effectively communicate the risks of storm surge. These insights were adopted by the National Hurricane Center in its warning systems. Interdisciplinary considerations such as these could be incentivized more broadly, more intentionally, and earlier in the process to increase the health improvements seen as a result of research investment.

In another example of innovative research from behavioral science, researchers trained weather reporters nationally to discuss climate change. This led to 13 times more frequent mention of climate change and an increase in public attitudes that it is a credible threat to address.[3]

2) Mental Health Impact of Climate Change

FABBS would also encourage NIH to prioritize the mental health consequences of climate change. Areas of concern that would benefit from increased understanding include:

a. Climate distress about climate change - the conscious and unconscious responses to climate change such as anger, grief, sadness, and hopelessness, especially in youth, that can freeze or prevent climate mitigation actions; and
b. the impact of climate disasters on mental health, leading to acute and posttraumatic stress disorders and the characteristics of effective community-based psychosocial resilience programs.

Related to item *IV. Rapid Research Response Capacity to Address Human Health and Climate Change* - Collection of Baseline and Time Sensitive Data

FABBS recommends that NIH consider more flexible funding mechanisms to collect baseline physical and mental health data in communities at risk for climate events. These data are essential to support resilience and identify opportunities for prevention. Under existing funding paradigms, most studies are retrospective assessments conducted in the aftermath of climate change-induced events. However, without baseline data on pre-event mental and physical health, it is difficult to differentiate between the effects of the event on subsequent responses to it, thus limiting the potential insights of research done after the fact.

[2] *Communicating a Hurricane's Real Risks*, National Science Foundation Research News
[3] https://pubmed.ncbi.nlm.nih.gov/26551357/

Moreover, to successfully conduct rigorous research on the health effects of climate change-induced events, there must be better mechanisms for funding research in the immediate aftermath of such events.

The National Science Foundation has implemented the Rapid Response Research (RAPID) program which can be used "when there is a severe urgency with regard to availability of, or access to, data facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events."[4] NSF's RAPID funding mechanism allows program officers to award research funding to investigators without undergoing the traditional external review process in time-sensitive circumstances. This greatly increases the speed of responsiveness to proposals and enables researchers to quickly study urgent events and gain insights that would otherwise be impossible to obtain.

The National Institutes of Health should develop similar funding models to allow for rapid-response research on the health effects of climate change-induced events, and the psychological and behavioral impacts, which may provide useful insights to inform future policy responses and improve health outcomes.

Related to item *VI. Translation and Dissemination of Research Findings and Health Protective Strategies* – National Network of Regional Research and Translation Centers and Expert Consultations

The health consequences of climate change are often localized: wildfires and drought in the west, tornadoes in the Great Plains states, hurricanes in the Gulf of Mexico, etc. This demands a range of prevention, mediation, and adaptation strategies to support good health and address poor health outcomes across the diversity of American experiences.

Local governments frequently lack the funding for staff to distill research findings, adapt them to local paradigms, and implement resulting policies. These challenges highlight significant gaps for NIH to consider. FABBS encourages NIH to support localized research that would not only allow for more community-specific findings, but also create a more efficient pathway from research to policy for local leaders. Further, there is no mechanism for sharing local solutions and how they can be adapted toward different climate issues.

NIH could fund a national network of regional research/translation centers addressing the health aspects of climate while considering geographic and cultural conditions. These centers could draw from existing research and knowledge, and conduct new interdisciplinary research focused on the specific concerns present in a given locality. Such centers would serve as connective tissue between federally funded science and application at the local level.

By way of example: the Regional Education Laboratory (REL) Program[5] administered by the Institute of Education Sciences within the Department of Education can provide an

[4] https://www.nsf.gov/pubs/policydocs/pappg20_1/nsf20_1.pdf
[5] https://ies.ed.gov/ncee/edlabs/about/

example of how such an approach might be useful. These labs bring together researchers with diverse expertise to conduct research and disseminate findings. They work in close partnership with local decisionmakers to generate useful and applicable tools to improve student educational outcomes.

Another useful model to consider is the *Societal Experts Action Network (SEAN)*. Beginning in 2020, in response to the COVID-19 pandemic, the National Academies of Sciences, Engineering, and Medicine (NASEM) launched SEAN to "Facilitate Rapid and Actionable Responses to Social, Behavioral, and Economic-Related COVID-19 Questions."[6]

This effort brought together experts from the social and behavioral sciences to assess research findings relevant to pressing policy issues and delineate specific steps that policymakers and practitioners could take. These Rapid Expert Consultations distilled the relevant academic literature into digestible and actionable reports on topics from increasing confidence in COVID vaccines, to encouraging adoption of protective behaviors, to addressing youth mental health effects of online learning and social isolation.

Efforts by the NIH to solidify the connection between climate change research and improved health outcomes would be strengthened by developing forums similar to *SEAN*. Expert consultations conducted with a specific eye towards policy and practice can make research more accessible and useful to those making decisions about public policy. Not only will this facilitate evidence-backed decisions from policymakers, but it will heighten the impact and demonstrate the value of NIH investments in climate change research.

Thank you for the opportunity to provide input. Additional research on the physical and mental health effects and behavioral components of climate change is needed, as are new approaches to maximize the benefit of that research and create more direct lines from high quality research to effective public policy.

Sincerely,

Juliane Baron
Executive Director

[6] https://www.nationalacademies.org/our-work/societal-experts-action-network