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Communities, Climate Change, and Health Equity – Exploring flood adaptation strategies to support health equity

A Virtual Workshop Series from the
Environmental Health Matters Initiative

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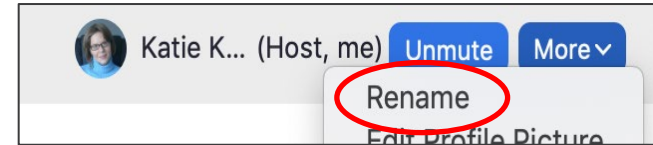


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Some Meeting Logistics

- We are using a regular Zoom meeting, not Zoom webinar. You are muted/camera off on entrance.
- Please **update your Zoom First/Last name** in the participant list by clicking on “more” next to your name.
- We’ll use the **Slido platform** for gathering questions during the plenary sessions. Do not use the chat to ask questions
- We will use the **Zoom chat** space to gather your comments and allow you to communicate with each other. **Use the chat wisely.**

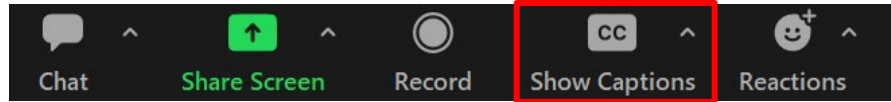


If you need assistance, send **a direct Zoom chat or email Layla Garyk (lgaryk@nas.edu) or any of the NASEM staff.** We will be available to help troubleshoot.

Workshop Material and Recording

For the workshop agenda, speaker biographies, and other background material, visit the workshop web page ([see Zoom chat](#))

- [Automated Closed captioning](#) is available throughout the workshop (and in Room 1 during the breakout sessions).



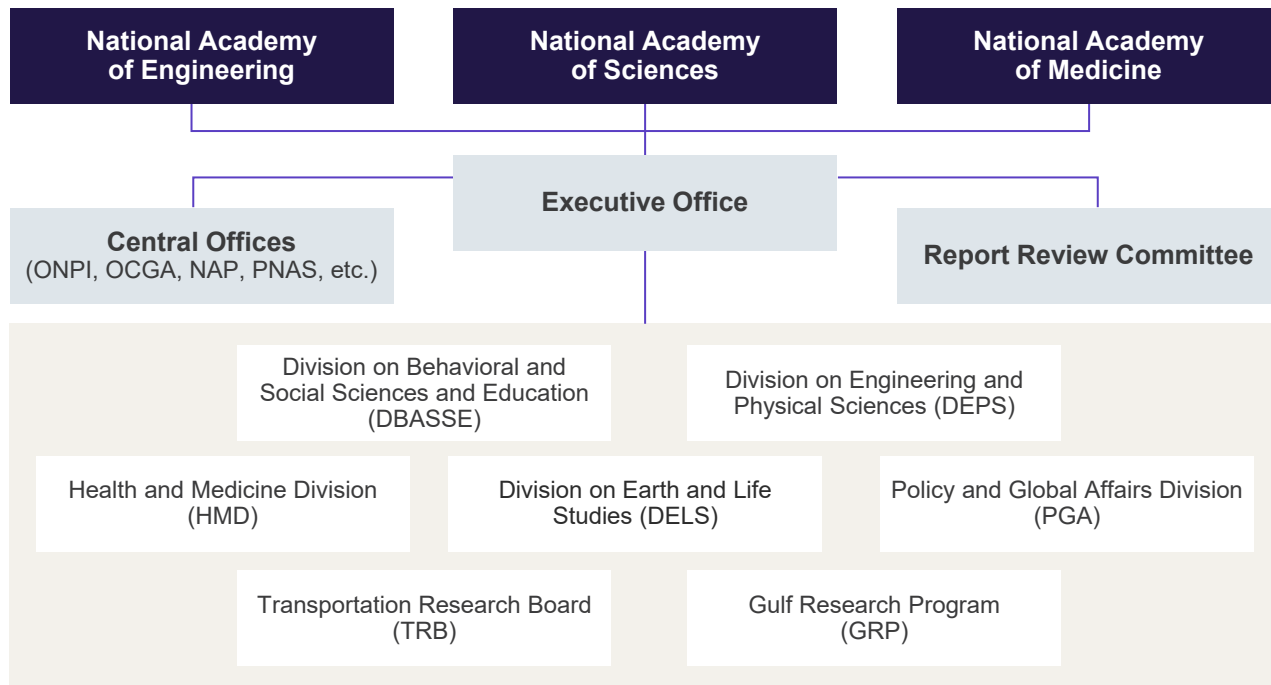
- This meeting is being [recorded](#). The recording and speaker presentations will be archived on the workshop web page for free, public access.

Overview of the Environmental Health Matters Initiative





THE ENVIRONMENTAL HEALTH MATTERS INITIATIVE



EHMI VISION

*The Environmental Health Matters Initiative (EHMI) aims to improve the health of **all people** equitably by engaging diverse partners using **systems thinking and evidence-based approaches** to advance **accessible, lasting solutions** to multifaceted and interrelated environmental health challenges.*

- Establish Enduring **Partnerships** to Equitably Address Environmental Health Challenges
- Propose **Actionable Solutions** to Pressing and Emerging Environmental Health Issues
- Implement a Comprehensive **Systems Approach** for Environmental Health Solutions

Communities, Climate Change, and Health Equity

A Workshop Series

*Sponsors:
CDC, EPA, and NIEHS*



Goals of the Workshop Series

As climate change worsens air pollution, expands urban heat islands, and intensifies extreme weather events, **communities least able to respond often bear the largest health burden.** Targeted resources, time, and efforts that prioritize disproportionately impacted communities are needed to mitigate and adapt to the health effects of climate change.

This workshop series aims to **explore the current state of knowledge about climate-related health disparities and the specific actions co-produced with change-makers and leaders at all levels of decisions to improve climate-related health outcomes for all.**

Workshop #1 – October 2021

Proceedings of a Workshop

JANUARY 2022

IN BRIEF

Communities, Climate Change, and Health Equity

Proceedings of a Workshop—in Brief

As the effects of climate change become more widespread and significant, communities least able to respond are bearing the largest burden. In the United States, communities disadvantaged by a legacy of racial segregation and environmental injustice struggle with disparate health outcomes, are vulnerable to the effects of climate change (e.g., severe flooding in low-lying areas and extreme heat in urban neighborhoods), and lack sufficient resources to recover from and rebuild for resilience against future events.

On October 12 and 14, 2021, the 2-day virtual workshop “Communities, Climate Change, and Health Equity—A New Vision” brought together environmental health experts, resilience practitioners, climate scientists, and people with lived experience to discuss the disproportionate impact of climate change on communities experiencing health disparities and environmental injustice. During the workshop, the first in a four-part series, 41 speakers shared their perspectives on the topic and suggested specific actions that decision-makers can take to address the intersecting crises of climate change and health inequity (summarized in Table 1).

The workshop was organized by an ad hoc planning committee of the Environmental Health Matters Initiative (EHMI), a program that spans all major units of the National Academies of Sciences, Engineering, and Medicine to facilitate multisector, multidisciplinary exchange around complex environmental health challenges. Jonathan Samen (Colorado School of Public Health) opened the event with an overview of the EHMI, which was established to address “wicked” problems—problems that are complex, multidisciplinary, of global relevance, and impacted by multiple intersecting factors.

Workshop planning committee chair Jeanne Herb (Baylor University) summarized the background and aims of the workshop. Although the effects of climate change span the United States, certain communities and populations bear the largest burden. In these communities, climate change exacerbates the underlying inequities that drive existing health disparities. She noted that members of these communities not only contribute least to the causes of climate change but also have little influence on policy development and decision making; this imbalance further aggravates climate injustice. Moreover, the increasing frequency of extreme weather-related events underscores the urgent need to address the intersection of climate change and health inequity. “Every day, every week, we see the devastating impact that climate change is having on the health and well-being of disproportionately affected populations,” Herb said. Therefore, one goal of this workshop was to inform action now, particularly with regard to upcoming federal and state policy opportunities, and with a focus on adaptation, preparedness, and resilience. Notwithstanding the need to “turbocharge our transition off of fossil fuels,” as expressed by Barak Gottlieb (Physicians for Social Responsibility), climate mitigation and pollution mitigation were not the primary focus of the workshop.

This Proceedings of a Workshop—in Brief provides the rapporteurs’ high-level summary of the workshop discussion. Additional details can be found in available online. This proceedings highlights potential opportunities for action, but these should not be viewed as consensus conclusions or recommendations of the National Academies.

CLIMATE CHANGE IS A PUBLIC HEALTH EMERGENCY

Climate scientists, advocates, government officials, and representatives of disproportionately affected communities shared their firsthand knowledge to illustrate the human dimensions of the climate crisis in communities throughout the United States.

¹ See <https://www.nationalacademies.org/our-work/environmental-health-matters-initiative> (accessed November 12, 2021).

² See <https://www.nationalacademies.org/event/10-12-2021/communities-climate-change-and-health-equity-a-new-vision> (accessed November 12, 2021).

The National Academies of
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The first workshop brought together environmental health experts, resilience practitioners, climate scientists, and people with lived experience to **discuss the disproportionate impact of climate change** on communities experiencing health disparities and environmental injustice

- 41 speakers shared their perspectives on the topic and suggested specific actions that decision-makers can take to address the intersecting crises of climate change and health inequity

Workshop #2 – May 2022

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Proceedings of a Workshop—in Brief

Communities, Climate Change, and Health Equity—State-Level Implementation

Proceedings of a Workshop—in Brief

INTRODUCTION

Climate change is exacerbating unjust health disparities and disproportionate environmental burdens experienced in communities across the United States. Because of historic and ongoing discriminatory policies and practices, certain populations—namely people of color, Indigenous people, and low-income communities—disproportionately suffer from the adverse impacts of extreme weather and other disasters that are exacerbated by climate change.¹

Given that much of the authority for addressing issues at the intersection of climate change, health inequity, and environmental justice rests at the state level, the two-day virtual workshop Communities, Climate Change, and Health Equity—State-Level Implementation was held on May 24 and 26, 2022. It brought together representatives from state and federal agencies, universities, community-based organizations, state and national advocacy organizations, foundations, and private sector organizations to examine community-driven and state-level actions that could help improve climate-related health outcomes in disproportionately impacted

communities. For additional details on potential actions suggested by workshop participants, see the table at <https://www.nap.edu/resource/26493/actionsactionsTable>. The workshop was organized by an ad hoc planning committee of the Environmental Health Matters Initiative, a program spanning all major units of the National Academies of Sciences, Engineering, and Medicine that facilitates multisector, multidisciplinary exchange around complex environmental health challenges. The event, the second in a series, built on the October 2021 workshop Communities, Climate Change, and Health Equity—A New Vision, which provided an overview of how changing climate conditions exacerbate health inequities in communities across the United States.²

Workshop planning committee chair Jeanne Herb (Rutgers University) opened the event by summarizing the key themes of the first workshop, which can be seen in more detail in Communities, Climate Change, and Health Equity: Proceedings of a Workshop—in Brief.³

¹See <https://www.nationalacademies.org/press/10-11-2021/communities-climate-change-and-health-equity-a-new-vision-workshop-1> (accessed July 11, 2022).

²National Academies of Sciences, Engineering, and Medicine. 2021. Communities, Climate Change, and Health Equity: Proceedings of a Workshop—in Brief. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26435>.

Building on the first workshop discussion, the second workshop focused on **state-level implementation**.

The workshop brought together representatives from state and federal agencies, universities, community-based organizations, state and national advocacy organizations, foundations, and private sector organizations to **identified actions that could help improve climate-related health outcomes in disproportionately impacted communities**.

Workshop #3 – June 2023

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Proceedings of a Workshop—in Brief

Communities, Climate Change, and Health Equity: Lessons Learned in Addressing Inequities in Heat-Related Climate Change Impacts

Proceedings of a Workshop—in Brief

INTRODUCTION

Extreme heat is a pervasive and critical hazard of climate change. While heat poses a significant threat to large swaths of the human population, it is not affecting all people or all communities equally. To explore what it takes to prevent and mitigate inequitable health impacts from extreme heat, the National Academies' Environmental Health Matters Initiative (EHMI) organized a workshop on June 20–21, 2023, titled "Communities, Climate Change, and Health Equity: Lessons Learned in Addressing Inequities in Heat-Related Climate Change Impacts."

The workshop was the third in a series of EHMI events exploring the state of knowledge about climate-related health disparities. This hybrid event convened people with lived experience in communities affected by extreme heat; experts in environmental health, economic, and racial justice; climate scientists; energy specialists; and people involved in sustainable planning and disaster relief. Through presentations, shared stories, and interactive discussions, participants explored real-world challenges related to extreme heat, along with actions being pursued to prevent, adapt to, or mitigate the health consequences.

CONTEXT

On the first day, speakers provided context on the current state of knowledge about disparities in heat-related health impacts of climate change and their underlying drivers. They highlighted gaps of implementation in creating solutions for all, with several speakers specifically noting challenges of environmental racism, as well as the approaches being explored to address these gaps from the lenses of research, policy, and grassroots action.

Heat Action Planning to Address Urban Inequities

Vivek Shandas (Portland State University) addressed the context for strategies being employed to enhance resilience in the face of extreme heat. Earth is at a moment of massive, transformational change, he said, "unlike anything human civilizations have seen, on a scale as we have never known." Heat is central to many climate hazards. In addition to an increasing number of extreme heat days, warming is driving changes such as sea level rise and the growing frequency of drought and wildfire. At the same time, the acceleration and concentration of human activity in dense urban areas has contributed to unprecedented prosperity but has also amplified the toll of climate-related tragedies.

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The third workshop focused on **extreme heat**

This hybrid event convened people with lived experience in communities affected by extreme heat; experts in environmental health, economic, and racial justice; climate scientists; energy specialists; and people involved in sustainable planning and disaster relief.

Through presentations, shared stories, and interactive discussions, participants **explored real-world challenges related to extreme heat, along with actions being pursued to prevent, adapt to, or mitigate the health consequences.**

Communities, Climate Change, and Health Equity – Exploring flood adaptation strategies to support health equity

A Virtual Workshop Series from the
Environmental Health Matters Initiative

Venkataraman Lakshmi
John L Newcomb Professor of Engineering
University of Virginia



Workshop Series Planning Committee



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(Co-Chair)
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Mental Hygiene*



Jennifer Horney
University of Delaware



Sara Hughes
University of Michigan & RAND



Anuli Njoku
Southern Connecticut University



Meagan Williams
City of New Orleans



Katya Wowk
The Water Institute

Goal of the Workshop

For this workshop, invited participants will **explore health risks posed by flooding events, discuss effective adaptation strategies for community resilience, and foster partnerships among government, academia, and the private sector to implement these strategies locally.**

This multiday virtual workshop will convene people with lived experience facing health inequities, experts in environmental health, economic, and racial justice, and policy, climate scientists, engineers, infrastructure specialists, and individuals who work on sustainable planning and disaster relief.

Objectives of the Workshop

Through presentations, shared stories, and interactive discussions in breakout sessions, participants will be:

1. Reviewing and exploring **health risks to communities** from stormwater runoff induced flooding events, including how communities **experience risks differently** depending on new and existing social, health, economic, and environmental stressors.
2. Discussing **adaptation strategies** that have the potential to improve community resilience and **reduce health inequities**, prior, during, and after flooding events. **Lessons learned from prior adaptations** will be discussed with a focus on vulnerable communities.
3. Providing a **platform to facilitate partnerships** among government, academia, and private sectors, to implement these adaptation strategies locally.

Agenda at a Glance – Day 1

Health risks from stormwater runoff-induced flooding events

Session 1

Current state of knowledge and knowledge gaps around flooding, health, communities, and policy

Session 2

Shared stories focused on lived experiences related to flooding health risks and equity

Session 3

Thematic breakout rooms: Identify barriers in implementation, knowledge gaps, or lapses in communication in effectively addressing flooding challenges

(1) Green, blue, and gray infrastructure; (2) Economic Recovery, Resilience, and Stability; (3) Health and Healthcare; (4) Social cohesion and Housing

Session 4

Reflection and Aha Moments: Chat Waterfall

Agenda at a Glance – Day 2

Adaptation strategies to improve community resilience and reduce health inequities

Session 1

Opening Keynote: Overview of adaptation strategies at all levels of implementations

Session 2

Success stories focused on cross-sector partnerships, impact of adaptation strategies, and lessons learned.

Session 3

Interactive Cross-Sectoral and Transdisciplinary Solution-building Panel Discussions with Public Participation

Session 4

Thematic breakout rooms – Circumventing unexpected obstacles through collaborative brainstorming

Communities, Climate Change, and Health Equity – Exploring flood adaptation strategies to support health equity

THANK YOU

LET'S GET STARTED!

