Climate and Health Research: Evidence for Action

The “why” of climate and health research

As the 2022 Global Report of the Lancet Countdown notes, the climate crisis has “profound implications for human health.” From the death tolls associated with heat waves, severe storms, and flooding to the long-term challenges these and other disasters pose for the well-being of front-line communities, the health impacts of the climate crisis are vast. And while no individual is safe from the health risks of climate change, the impacts are not uniformly experienced. Climate change disproportionately affects children, pregnant women, older adults, low-income communities, outdoor workers, and people of color. In the U.S., race is the most accurate predictor of who lives and works close to facilities that produce toxic waste and other pollutants, making environmental health risks especially high for communities of color.

Climate change is also leading to significant financial burdens from health impacts. A recent study estimated that in the U.S., extreme heat alone causes about $1 billion in health care costs every year. Another 2021 report, by The Medical Society Consortium on Climate & Health, Wisconsin Health Professionals for Climate Action, and the National Resources Defense Council, estimated that the national yearly health care costs of fossil fuel-related air pollution and climate change was over $820 billion. These costs demonstrate both the wide-ranging and significant health burden represented by climate change, and the financial incentive to take action.

Yet despite our general understanding of the financial and health implications of climate change, we have an opportunity to better support climate action through more comprehensive, evidence-based strategies**. To meet this challenge, there is a need to aggregate existing research, understand the gaps in evidence, and better inform future research opportunities**.

Current state of climate and health evidence

In its 2021 discussion paper “Current Trends, Gaps and Perspectives for the Future,” the World Health Organization aimed to summarize the state of global research on climate and health in the most recent decade. The comprehensive literature review

focused on the current evidence for climate and health, including the geographic distribution of studies.

WHO key findings

- The number of yearly published articles increased sixfold between 2008 and 2019.
- Most research was based in high-income countries.
- Studies focused primarily on the health impacts of climate change.
- There remains a consistent opportunity for additional research on:
    - Potential health co-benefits of mitigation strategies
    - Health advantages of adaptation strategies
    - Financial estimations of climate and health impacts
    - Health impacts on vulnerable communities, particularly using disaggregated data

Why we need to do more

The best way to respond to any public health crisis is using evidence-based strategies, which supports the most efficient, effective use of resources. We must ensure researchers, philanthropists, policymakers, and communities understand the existing evidence on climate change, related health impacts, and adaptation strategies, and utilize the aggregated knowledge as a foundation for stronger climate and health communication and policies.

To advance the national and global climate and health agenda, it is crucial to support and expand research activities by:

Promoting equity and social justice. Enhance research on the disproportionate impacts of climate change on the most vulnerable communities (such as children and aging populations, low-income households, people of color, and people with certain health conditions), both in terms of information availability, accessibility, and geographic coverage.

Bridging the knowledge and action gap. A large discrepancy exists between scientific knowledge on climate and health and the prioritization of climate action, as well as between priority research needs and funding for research. Evidence-based guidance must also be translated into understandable formats that are useful for policymakers to break down silos between the academic community and decision-makers.

Collecting gender-disaggregated data. Vulnerabilities to climate change are multidimensional, and gender is an important determinant of health risks. However, gender-disaggregated data on the health impacts of climate change, as well as on the

health effects of climate mitigation and adaptation measures, remains largely missing from existing research.

Conducting economic assessments. Further quantify the economic impacts of climate change by taking into account health considerations and evaluating health costs of mitigation and adaptation action (or inaction).

Promoting collaborative, intersectoral research. To guide future decisions, health co-benefits and health impacts of various mitigation and adaptation measures must be carefully analyzed in an interdisciplinary way.

Improving advocacy and communications. Effective, equity-based communication on climate-related health risks and potential solutions is crucial for motivating and guiding work related to the reduction of greenhouse gas emissions and climate change adaptation. Evidence-based guidance on how to communicate climate and health risks to broad, diverse audiences is needed.

How we move forward

The reality of climate change and the myriad of health risks and costs can feel overwhelming, and the increased pace of climate disasters makes prompt investments in adaptation strategies critical.

We can rise to the challenge, ready with evidence-based approaches to reduce our health risks and promote healthier environments.

Research can show us how to strategically invest our time and resources wisely and help us understand how to build community resilience now to reduce current and future health harms from climate change.

To help address the need for strategic climate and health research, Kaiser Permanente is supporting the National Academy of Medicine to build and expand the evidence base for solutions to protect against climate change's impacts on health and health equity, and to inform future investments in climate research, strategies, and policies.

With funding from Kaiser Permanente, NAM will:

- Develop a clear inventory of existing research and evidence on the relationship between climate and health
- Identify gaps and opportunities to conduct further research
- Create a public resource with evidence-based information that allows communities, policymakers, and researchers to pursue the most impactful solutions

Understanding that climate change impacts us all, we want to engage a broad, diverse set of partners to develop a comprehensive resource that will meaningfully serve our communities. **If you are a researcher, clinician, policymaker, community member, or anyone interested in supporting this work — we want to hear from you!**

To get involved, please complete the survey by clicking on the link below:

- NAM Research Agenda and Climate Agenda Survey

Below are additional resources about climate and health:

- Grand Challenge on Climate Change, Human Health, and Equity at National Academy of Medicine
- Environmental Stewardship at Kaiser Permanente
- Climate Events and Health at Kaiser Permanente

To read some examples of Kaiser Permanente's climate and health-related research, click on the links below:

- Kaiser Permanente study provides support for strengthening air quality standards.
- Kaiser Permanente study finds health care system costs were lower for people who live in greener areas.