

ADAPTING HEALTH SYSTEMS TO CLIMATE CHANGE

This briefing is derived from an expert panel, convened by Springer Nature and the United Nations Sustainable Development Solutions Network (SDSN) as part of their [Science for a Sustainable Future series](#).

Panel session speakers included:

- Dr. Salome Bukachi, University of Nairobi
- Dr. Andrew Haines, London School of Hygiene and Tropical Medicine (Moderator)
- Dr. Thierry Lefrançois, CIRAD
- Dr. Uduak Okomo, London School of Hygiene and Tropical Medicine
- Dr. Madeleine Thomson, Wellcome Trust



Extreme heat events, wildfires, droughts and floods, infectious diseases, zoonoses, and food availability and nutrition are all inextricably linked to climate and how humans and animals interact. For instance, one-third of heat-related deaths can be attributed to climate change.¹ Climate change is also linked to poor pregnancy outcomes, including congenital abnormalities, miscarriage, stillbirth, premature birth, and low birth weight² as well as increases in respiratory infections. Additionally, as climate change modifies the ecological niches of pathogens, vectors, and hosts, it can lead to increases in the transmission of vector-borne diseases, as well as spillovers of new diseases.³ Often, these issues are exacerbated in vulnerable populations.

Urgent action is needed by all stakeholders to mitigate climate change and adapt our current health systems to meet these challenges and prepare for the future. This requires meaningful collaboration between academia, the private sector, governments and health ministries, funders, and grassroots and community organizations.



¹Lüthi, S., Fairless, C., Fischer, E.M. et al. [Rapid increase in the risk of heat-related mortality](#). Nat Commun 14, 4894 (2023).

²Bonell A, Part C, Okomo U, Cole R, Hajat S, Kovats S, et al. [An expert review of environmental heat exposure and stillbirth in the face of climate change: Clinical implications and priority issues](#). BJOG. 2024; 131(5): 623–631.

³The World Health Organization, [Climate Change](#), accessed April 30, 2024

Critical actions include:

Education & Community Support

- Life-long learning programs are needed to teach professionals to respond to climate change and new health situations.
- Communities need help adapting their livelihoods to climate change; for example, arid and semi-arid areas need access to safe water for drinking, livestock, and irrigation. Traditional crops also need to be conserved, as they are often highly adapted to climate regimes.
- Academics and other researchers could better incorporate Indigenous knowledge and develop methodologies for different ways of knowing to be integrated.



Improved Research and Data

- More research is needed on health impacts in vulnerable populations, such as pregnant women and infants, unhoused people, and the elderly.
- Researchers need to engage with other stakeholders and effectively communicate their findings; tenure committees need to reward such activities, rather than placing so much emphasis on academic publications.
- Better data is needed, especially in vulnerable populations, to improve future projections and design effective interventions; Data can be collected rapidly in crises to inform interventions.



Long-term and Systemic Investments

- Investments need to be made 'in peacetime' to support prevention and build capacity to respond to crises.
- Improving healthcare access is essential to improve health outcomes in the face of climate change. There are many co-benefits to addressing climate, biodiversity, and health issues; this can inspire individuals to act, and justify interventions to governments and businesses.
- Interventions are most effective when systems thinking, and systems investment, occurs.



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