

Research Article

Impact of Climate Change on Global Health

Emily Harrison^{1*}, James Walker², Sarah Mitchell³, David Thompson⁴, Rachel Green⁵*Department of Public Health, University of Oxford, UK*²*Institute for Climate and Health, London School of Hygiene & Tropical Medicine, UK*³*Centre for Global Health Research, University of Edinburgh, UK*⁴*Faculty of Medicine and Health, University of Leeds, UK*⁵*Department of Environmental Sciences, University of Manchester, UK****Corresponding author:** Emily Harrison, Department of Public Health, University of Oxford, UK**Citation:** Harrison E, Walker J, Mitchell S, Thompson D, Rachel Green R (2025) Impact of Climate Change on Global Health AJRES: 2025-005**Received Date:** 04 July 2025; **Accepted Date:** 10 July 2025; **Published Date:** 12 July 2025

Abstract

Climate change represents one of the greatest threats to global health in the 21st century. Rising temperatures, extreme weather events, and shifting ecosystems are exacerbating health inequalities and placing significant strain on healthcare systems worldwide. This article explores the impact of climate change on infectious diseases, non-communicable diseases, nutrition, and mental health. The evidence highlights the urgent need for cross-sectoral action and international collaboration to mitigate health risks associated with a changing climate.

Keywords: Climate change, global health, heat stress, vector-borne diseases, food security, air pollution, climate adaptation, health equity

Introduction

Climate change is increasingly recognised not only as an environmental and economic challenge but also as a pressing public health issue. The World Health Organization (WHO) has identified climate change as the 'greatest health threat facing humanity' in this century. Rising greenhouse gas emissions, biodiversity loss, and altered weather patterns are intensifying the global burden of disease. This article examines the pathways through which climate change impacts human health, with a focus on vulnerable populations.

Health Impacts of Climate Change

Infectious Diseases

Changes in temperature, rainfall, and humidity affect the distribution of vector-borne diseases such as malaria and dengue fever. Warmer climates expand mosquito habitats, bringing new risks to regions previously unaffected.

Non-Communicable Diseases (NCDs)

Air pollution, exacerbated by fossil fuel combustion, contributes to cardiovascular and respiratory conditions. Heat stress also increases hospital admissions related to chronic illnesses.

Nutrition and Food Security

Climate change disrupts agricultural productivity, leading to undernutrition in low-income countries and food insecurity globally. Extreme weather events damage crops, reduce yields, and threaten supply chains.

Discussion

The impact of climate change on health is multidimensional and disproportionately affects low- and middle-income

countries despite their lower contributions to global emissions.

Conclusion

Climate change poses a profound threat to global health through direct and indirect pathways. Without urgent action, millions more people will be at risk of malnutrition, disease, and displacement. Governments, researchers, and healthcare providers must work together to address both mitigation and adaptation strategies to safeguard human health.

References

- 1.Watts N, Amann, M, Arnell N (2019). The 2019 report of The Lancet Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. *The Lancet*, 394: 1836–1878.
- 2.Smith K R, Woodward A, Campbell-Lendrum D, (2014). Human health: impacts, adaptation, and co-benefits. In *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Cambridge University Press.
- 3.Haines A, Ebi K (2019). The imperative for climate action to protect health. *The New England Journal of Medicine*, 380: 263–273.
- 4.Costello A, Abbas, M, Allen A, (2009). Managing the health effects of climate change. *The Lancet*, 373:1693–1733.
- 5.Patz J A, Frumkin H, Holloway T, Vimont D J, Haines A. (2014). Climate change: challenges and opportunities for global health. *JAMA*, 312: 1565–1580.