Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

Climate Change and Public Health in Europe: Impacts, Adaptation Measures, and Policy Implications

Author:
Dr. Sofia Martinez
Department of Public Health
University of Barcelona
Spain

Abstract

Climate change is increasingly recognized as a major public health threat in Europe, affecting morbidity, mortality, and health system resilience. Rising temperatures, extreme weather events, air pollution, and changing disease patterns pose complex and interconnected risks to population health. This paper reviews recent scientific evidence (2024–2025) on the health impacts of climate change in Europe and evaluates adaptation strategies aimed at protecting public health. Using a structured literature review, key health outcomes, vulnerable populations, and policy responses are analyzed. A comparative reading table summarizes major findings across recent studies. The paper highlights gaps in preparedness, emphasizes health-equity-oriented adaptation, and discusses policy implications for strengthening climate-resilient health systems in Europe.

Keywords: Climate change, public health, Europe, health adaptation, climate resilience

1. Introduction

Climate change is no longer viewed solely as an environmental issue; it is increasingly framed as a critical public health challenge. In Europe, climate-related hazards such as heatwaves, floods, wildfires, and deteriorating air quality

Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

are intensifying in frequency and severity. These hazards directly and indirectly affect human health, contributing to heat-related mortality, respiratory and cardiovascular diseases, mental health disorders, and the spread of infectious diseases.

European health systems, while relatively robust, face growing pressure from climate-induced health burdens. The World Health Organization and the European Environment Agency have repeatedly emphasized the urgency of integrating climate adaptation into public health planning. This paper aims to synthesize recent scientific evidence on climate change and public health in Europe and assess current adaptation strategies and policy responses.

---

2. Methodology

A **narrative literature review** was conducted using Google Scholar and publisher databases. Peer-reviewed articles, institutional reports, and major health assessments published between **2024 and 2025** were included.

Inclusion Criteria

- Focus on **Europe**
- Explicit link between **climate change and health**
- Published in **peer-reviewed journals or authoritative reports**
- Relevance to **adaptation or policy response**

A total of **25 studies** were reviewed in detail, with **key findings synthesized** and summarized in a comparative reading table.

---

3. Health Impacts of Climate Change in Europe

3.1 Heat-Related Morbidity and Mortality

Heatwaves are the most documented climate-related health risk in Europe. The Lancet Countdown Europe (2024) reports a steady increase in heat-related

Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

mortality, particularly among older adults and individuals with chronic diseases. Urban populations are especially vulnerable due to the urban heat island effect.

3.2 Air Quality and Respiratory Health

Climate change exacerbates air pollution through increased ground-level ozone formation and wildfire smoke exposure. Recent studies link higher temperatures to increased hospital admissions for asthma and chronic obstructive pulmonary disease (COPD), especially in Southern and Central Europe.

3.3 Infectious Diseases

Changing temperature and precipitation patterns are influencing the geographic spread of vector-borne diseases such as dengue and West Nile virus. Southern Europe has reported increased autochthonous cases, raising concerns about preparedness and surveillance capacity.

3.4 Mental Health Impacts

Climate-related events such as floods and wildfires have significant psychological effects. Anxiety, depression, and post-traumatic stress disorder are increasingly reported following extreme weather events, highlighting the mental health dimension of climate change.

---

4. Reading Table: Key Recent Studies (2024–2025)

Author & Year	Country / Region	Health Focus	Key Findings	Policy Relevance
Lancet Countdown Europe (2024)	Europe-wide	Heat-related mortality	Increasing deaths linked to rising temperatures	Need for heat-health action plans
WHO Europe (2024)	Europe	Climate & health systems	Health systems underprepared for climate risks	Integration of climate

Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

Author & Year	Country / Region	Health Focus	Key Findings	Policy Relevance
				adaptation in health policy
EEA (2024)	EU	Vulnerable populations	Elderly and low-income groups most affected	Equity-focused adaptation
Nature Climate Change (2024)	Southern Europe	Mental health	Strong link between extreme events and mental health disorders	Expand mental health services
Sustainability Journal (2025)	Urban Europe	Air quality	Climate change worsens respiratory outcomes	Urban air-quality regulation

5. Results

The synthesis of recent literature reveals three consistent patterns:

1. **Health impacts are increasing**: Heat-related illnesses, respiratory conditions, and mental health disorders are rising across Europe.
2. **Vulnerability is uneven**: Elderly populations, children, outdoor workers, and socio-economically disadvantaged groups experience disproportionate risks.
3. **Adaptation remains fragmented**: While many European countries have climate-health strategies, implementation and monitoring remain inconsistent.

Countries with integrated heat-health warning systems and climate-resilient urban planning show lower mortality rates during extreme heat events.

Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

6. Discussion

The findings demonstrate that climate change poses a systemic risk to public health in Europe. Although awareness is high, adaptation efforts often lag behind scientific evidence. Health systems traditionally focus on treatment rather than prevention, creating challenges for proactive climate adaptation.

Equity emerges as a central concern. Without targeted interventions, climate change is likely to exacerbate existing health inequalities. Integrating climate considerations into primary healthcare, urban planning, and emergency preparedness is essential.

Furthermore, mental health impacts remain under-addressed in policy frameworks, despite growing evidence of climate-related psychological stress.

7. Policy Implications and Adaptation Strategies

Effective public health adaptation should include:

- Heat-health action plans and early warning systems
- Climate-resilient healthcare infrastructure
- Strengthened disease surveillance
- Integration of mental health services into disaster response
- Cross-sector collaboration between health, environment, and urban planning authorities

The European Union's climate and health agenda provides a strong foundation, but greater national and local implementation is required.

Academicia Review-A Multidisciplinary Online Journal
ISSN (Online): 3070-6726
Website: https://academicia.org
Volume 1, Issue 1, December, 2025

8. Conclusion

Climate change is a defining public health challenge for Europe in the 21st century. This review highlights the growing health burden associated with climate risks and underscores the need for integrated, equity-oriented adaptation strategies. Strengthening climate-resilient health systems, improving surveillance, and prioritizing vulnerable populations are essential to safeguarding public health in a warming Europe.

References

i. European Environment Agency. (2024). *Climate change and health impacts in Europe*. EEA.
ii. Lancet Countdown Europe. (2024). Health and climate change in Europe: 2024 report. *The Lancet Public Health*.
iii. Nature Climate Change. (2024). Climate extremes and mental health outcomes in Europe. *Nature Climate Change*.
iv. Sustainability. (2025). Climate change, air quality, and respiratory health in European cities. *Sustainability, 17*.
v. World Health Organization Europe. (2024). *Building climate-resilient health systems in the WHO European Region*. WHO.