

The impacts of extreme heat on health and well-being in the United Kingdom

December 7 2023



Credit: Pixabay/CC0 Public Domain

A new study has been published as part of the TRUUD project, a research project led by the University of Bristol that aims to reduce non-communicable disease (such as cancers, diabetes, obesity, mental ill-

health and respiratory illness) and health inequalities linked to the quality of urban planning and development.

[The new study](#), led by the University of the West of England, looked at gaps in our knowledge between the [urban environment](#) and heat waves, indoor heat, and [non-communicable diseases](#) such as cancers, heart disease and asthma.

Published in *Cities & Health*, it examined what we already know about the effects of [extreme heat](#), non-communicable diseases and related risk factors to help urban planners factor health considerations in the decision-making process.

Extreme heat is one of the largest weather-related causes of mortality, and particular challenge for towns and cities that experience the "[urban heat island effect](#)" (built up areas that are hotter than surrounding locations). It is most extreme in tall buildings with little shading and no outdoor spaces, such as older tenement blocks; often the most vulnerable are most affected.

The U.K. experienced three extreme heat wave events through summer 2022 with older and clinically vulnerable groups more at risk from suffering and death. Through [climate change](#), high carbon emission scenarios point towards a rise in outdoor temperature in the U.K. of up to 5.4°C by 2070. It is widely reported that 2023 is expected to be the hottest on record globally.

Findings in the research consistently demonstrated that higher temperatures above defined heat thresholds were significantly associated with increased [mortality rates](#). The studies included in the review reported that for every 1°C rise above the heat threshold, mortality increased by up to 2.5%, emphasizing the urgent need for mitigation strategies. Furthermore, the projected impact of temperature rise on heat-

related mortality showed alarming figures, with estimates suggesting a potential 90% increase in heat-related deaths between the 2020s and 2050s under medium-emission scenario.

Researchers involved in the systematic review identified 24 eligible studies from a potential 244 on the topic. Fourteen of these examined the links between exposure to high ambient temperature and mortality in [urban areas](#), while the remaining studies focused on emergency hospital admissions and years of life lost.

They found that there is very limited evidence of the effects of indoor heat exposure on a broad range of diseases and that advanced tools are needed to detect and attribute them. It strengthens arguments for planners and developers to mitigate the effects of urban heat islands. Researchers also recommend further investigations between indoor heat and death from any cause, heat stroke, hyperthermia, dehydration or hospital admissions.

Senior Lecturer in Public Health at the University of the West of England Dr. Janet Ige said, "Danger to life from extreme heat in the U.K. is well documented but less is known about how it affects non-communicable disease. These are diseases that you can't catch such as cancers, heart disease or asthma.

"Our [systematic review](#) of all the available academic literature in the U.K. reveals a gap in our knowledge, especially concerning indoor [heat](#), that should be urgently addressed so we can work with urban developers and planners to protect communities."

Program Director for TRUUD, Daniel Black added, "This work adds critical evidence to help us improve the way our towns and cities are planned to promote better health. Our [pilot project](#) revealed the lack of data in this area, so these new systematic reviews are providing essential

missing data on flooding and overheating.

"A key innovation is the use of this data by our economists, who will incorporate it in to our HAUS database tool, which our different intervention teams are testing with national and local government, and private sector."

More information: Janet Ige-Elegbede et al, A systematic review of the impacts of extreme heat on health and wellbeing in the United Kingdom, *Cities & Health* (2023). [DOI: 10.1080/23748834.2023.2283240](https://doi.org/10.1080/23748834.2023.2283240)

Provided by University of Bristol

Citation: The impacts of extreme heat on health and well-being in the United Kingdom (2023, December 7) retrieved 29 April 2024 from <https://phys.org/news/2023-12-impacts-extreme-health-well-being-kingdom.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.