



Background briefing

How does climate change affect people's health in the UK?

2024

Contents

WHAT ARE THE DIRECT IMPACTS OF CLIMATE CHANGE ON PEOPLE’S HEALTH?	3
HEATWAVES	3
FLOODS AND STORMS	4
INFECTIOUS DISEASE	4
WHAT ARE THE INDIRECT EFFECTS OF CLIMATE CHANGE ON PEOPLE’S HEALTH?	4
HOW ARE THE HEALTH IMPACTS OF CLIMATE CHANGE DISTRIBUTED ACROSS THE POPULATION?	5
WHAT CAN BE DONE TO REDUCE THE IMPACTS OF CLIMATE CHANGE ON PEOPLE’S HEALTH?	5
AUTHORS AND CONTACTS	6
FURTHER READING	6

Key points

- Climate change is already impacting the physical and mental health of people in the UK.
- Health impacts include an increase in deaths during periods of extreme heat, an increased risk of post-traumatic stress disorder for people affected by flooding and an increased risk of certain infectious diseases including Lyme disease.
- People aged over 65 years old, those on lower incomes, ethnic minorities and people with preexisting health conditions (e.g. heart disease) are at greater risk of these health impacts.
- The health impacts of climate change will increase in the absence of sufficient mitigation of greenhouse gases and adaptation to a warming climate.

This briefing outlines how people's health is directly and indirectly affected by climate change and what can be done to reduce these impacts.

What are the direct impacts of climate change on people's health?

Climate change [is increasing the frequency and intensity of extreme weather events](#) such as heatwaves, storms and floods. But how do these events affect people's health?

Heatwaves

Extreme heat causes an [increase in deaths](#) due to dementia, heart and respiratory disease, amongst other conditions. The five heat episodes of 2022, for example, [caused almost 3,000 excess deaths](#) in England and Wales. [Those aged 65 years and older](#) and people living with some [mental health challenges](#) are particularly vulnerable during periods of extreme heat.

Higher temperatures are associated with negative impacts on mental health including an [increase in suicide risk and increase in hospitalisations for psychiatric conditions](#). Global studies have found that there is an approximate [1.7% increase in suicide incidence for each 1°C daily temperature increase](#); this is also dependent on local contextual factors including humidity and local norms. [The Environmental Audit Committee reported](#) that in the UK, suicide risk is twice as high when the temperature is 32°C than when it is 22°C. Hospitalisations for psychiatric conditions have been found to be [9.7% higher in heatwave than non-heatwave periods](#).

Although fewer very cold days are expected in the future in the UK due to climate change, deaths due to moderate cold are expected to increase until the second half of the century as the UK population is aging and older people are more vulnerable to cold. [Meanwhile, heat-related deaths could increase nearly 6-fold between the 2007-2018 baseline and the 2050s](#) in the absence of additional adaptation or mitigation measures; essentially [heat-related deaths will rise faster than cold-related deaths will decrease](#).

The number of deaths that heatwaves cause is influenced by a [range of factors](#) including the peak daytime and nighttime temperatures, the duration of the heatwave, its geographic extent, the timing of the heatwave, the relative change from the conditions before the heatwave as well as the exposure and vulnerability of different groups of the population. The [economic cost of heat-related mortality](#) from climate change is estimated to increase from £6.8bn/year in the 2020s to over £14.7bn in the 2050s in a medium emissions scenario.

The July 2022 heatwave saw temperatures of over 40°C in parts of UK and contributed to wildfires that destroyed 20 homes in Wennington, East London. As temperatures increase and summers become drier on average, the risk of wildfires in the UK will increase in the absence of sufficient adaptive measures. People affected by wildfires are at [increased risk of worsened mental health](#) including post-traumatic stress disorder (PTSD) and depression.

Floods and storms

Flooding poses a risk to life and injury both during the flood (e.g. due to drowning) and also after the flood from infections. There is also an increased risk of carbon monoxide poisoning from inappropriate use of generators which may be used when electricity supply is disrupted or to pump water out of people's homes. In the months and years after people's homes are flooded, they are also at much greater risk of mental health disorders such as PTSD and depression. [The National Study on Flooding and Health](#), for example, found that 36% of people whose homes had been flooded had PTSD one year after the flooding, compared to 8% of people who hadn't experienced flooding.

Extreme weather events such as floods and heatwaves can also disrupt the provision of healthcare services (e.g. medical staff not being able to get to work, operations being cancelled) which can affect the timeliness and quality of care received by patients.

Infectious disease

A warmer climate is expected to increase the risk of several vector-borne diseases in the UK such as those spread by ticks and mosquitoes that are already present in the UK, as well as invasive species imported from outside the UK, as these are able to establish and survive in greater numbers or across a wider geographical area when previously it would have been too cold for them. The [diseases carried by these animals](#) can include Lyme disease, tick-borne encephalitis, dengue and Zika virus, amongst others.

What are the indirect effects of climate change on people's health?

Awareness of the current and future impacts of climate change can induce a [range of psychological and emotional responses including distress, anxiety and hopelessness](#). These are natural responses, but particularly strong emotional responses can be hard for individuals to cope with and

ultimately worsen mental health and wellbeing. [Young people are particularly vulnerable](#) due to their rapid rate of mental development.

Climate change can also undermine some of the factors that support good health and wellbeing such as food availability. Extreme weather events around the world are damaging crops which increases food prices and reduces people's access to affordable, healthy food. The impact of climate change on global food production in 2022 and 2023, for example, is estimated to have [increased the cost of food by £361 for each household in the UK](#). This has been accompanied by increases in energy prices causing more [households to struggle to put food on the table and to adequately heat their homes](#). The resulting underheating of homes or underheating both have negative impacts on people's physical and mental health.

How are the health impacts of climate change distributed across the population?

The health impacts of climate change are not distributed equally across society. Those on [lower incomes and ethnic minorities are often more vulnerable to extreme weather events](#), for example, as they are more likely to live in flood prone area or to live in properties that are prone to overheating. People with preexisting health conditions (e.g. heart disease, diabetes, schizophrenia) are also more vulnerable to the physical and mental health impacts of climate change. This indicates why it's important to direct climate/health interventions towards particularly vulnerable groups of society.

What can be done to reduce the impacts of climate change on people's health?

The primary way to avoid or reduce these health impacts is to reduce the amount of fossil fuels being burnt that are causing climate change. The burning of fossil fuels causes air pollution which contributes to [7 million premature deaths a year globally](#) and significantly increases physical and mental health burdens. So, as well as helping to reduce climate change and its associated longer-term impacts on health, moving away from fossil fuels also provides immediate and local health benefits.

Alongside reducing emissions, societies need to adapt to a warmer climate with more extreme weather events. [Relevant actions include retrofitting properties](#) (e.g. with shutters on windows, painting roofs white) so they are [less likely to overheat](#) and increasing the amount of green space and tree cover, particularly in urban areas, to reduce the urban heat island effect and reduce the risk of flooding. Early warning systems (e.g. flood alerts, heat-health alerts), cool spaces that are accessible for the community (e.g. libraries), strong communities equipped to look out for each other, and public advice can also help people to reduce their exposure to extreme weather events and thereby reduce the impact of these events on people's health. It is also important for healthcare workers to be trained to recognise and understand the risks posed by climate change so they can

inform people (e.g. people taking psychoactive medications) of the ways to support their health, particularly during heatwaves.

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Further Reading

- Lawrance, E.L., Thompson, R., Fontana, G. & Jennings, N. (2021). The impact of climate change on mental health and emotional wellbeing: current evidence and implications for policy and practice. Grantham Institute Briefing No 36. <https://doi.org/10.25561/88568>.
- UKHSA (2023). Health Effects of Climate Change (HECC) in the UK: 2023 report. HM Government. <https://www.gov.uk/government/publications/climate-change-health-effects-in-the-uk>.

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