

# What impact will the climate emergency have on public health?

Considering the climate crisis from a public health perspective.

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	Low				High	
<b>Impact</b>	●	●	●	●	●	How significant will the effects be?
<b>Likelihood</b>	●	●	●	●	●	How likely is this to happen?
<b>Controversy</b>	●	●	○	○	○	How much do people agree on this?
<b>Where</b>	Domestic/Global					Global? Local? Domestic?
<b>When</b>	1-20 years					e.g. 5 years time, 10-15yrs time
<b>How fast</b>	Starting now					How quickly will this happen?

The implications of the climate emergency for human health and well-being are becoming increasingly apparent. In 2022, we have seen record temperatures, many areas of the UK received extreme weather warnings and safety advice was issued to prevent people and their homes from overheating. Government and policy makers need to use foresight and horizon scanning to understand and plan for public service interventions and the public health implications of extreme temperatures, in a joined up manner alongside the implementation of the national Net Zero Strategy (1). If the current trends continue, two specific things may occur: a rise in the transmission of communicable diseases and the inability to thermoregulate for people with chronic health conditions, this will lead to rising hospital admissions for cases of heat exhaustion and heat stroke. Increasing population rates of old age and obesity hinders thermoregulation and increases complications arising in these at risk groups. Many implications on public health from lesser quality of life to healthcare system failure, can benefit from building foresighting activities into the governments implementation of its net zero strategy. Understanding the early indicators of the economic, scientific and political implications on a national level, identifying early warning signs and the drivers and inhibitors of the health impact of extreme climate events will save lives. Solutions will be multidisciplinary and multiagency, technological innovations could range from aspects of building design to community health monitoring for vulnerable.

*Climate change is a particularly concerning trend with a direct impact on human health. Average global temperatures have increased by 1.1°C since records began, and are projected to rise by 1.5 – 2°C by 2050 (2).*

*In August 2022, the UK saw temperatures surpass 40°C for the first time. Extreme weather events such as heatwaves will become more prevalent in the coming decades, presenting a major threat to society and public health (1). This is an area where policy makers stand to benefit from foresighting activities, to identify scientific expertise to understand the scope and extent of the threat and the implications and necessary mitigating actions for key public services, such as the NHS, as well as identifying emerging technological interventions for preventative measures and solutions.*

*Rising ambient temperatures present a challenge for maintaining core body temperature in the UK during the summer months (3). To advance towards Net Zero, and reduce the impact of rising fuel costs for households, the government is being encouraged to improve home insulation (4). However, building design needs to factor in the ability to maintain comfortable temperatures in the summer, to avoid overheating and dangerously high body temperatures resulting in heat stroke, and to avoid increased hospital admissions. This risk is exacerbated by the trends in the ageing society and increasing rates of obesity, both risk factors for a reduced ability to thermoregulate. In addition, the Covid-19 pandemic, has prompted discussion about the link between climate change and another threats to health - the prevalence and transmission of infectious diseases (5). If mitigating action is not taken this threat will place a very large burden on global health systems and economies.*

**Implications:** *The trends in obesity, ageing population, infectious diseases and the warming climate potentially combine to form the perfect storm culminating in a public health crisis and push healthcare systems around the world to breaking point.*

**Drivers:** *These trends are **drivers** that will accelerate the biological human impact of climate change. Multidisciplinary scientific support from academics, industrialists, and healthcare strategists can help policy makers and service providers develop a proactive and preventative, rather than a reactive, approach to countering these threats by using horizon scanning/foresighting to model solutions to mitigate/**inhibit** the health impact of climate change, alongside the implementation of the Net Zero Strategy, which could include scoping strategies for developing climate-proof housing, health service provision and health monitoring to identify at risk groups. Key questions/issues to further probe the problem and identify public policy interventions and necessary planning and investment in solutions and services are proposed as follows:*

- *What are the implications for the forecasted rise in the spread of infectious diseases?*
- *How will the challenges associated with human thermoregulation in periods of extreme environmental heat impact on public health provision?*  
**Early indicators could be formulated using community health monitoring devices to signal an alert for intervention to prevent rising hospital admissions.**
- *What interventions and solutions could be deployed to mitigate the effects of extreme temperatures for at risk groups (such as older people, those living with conditions like diabetes, learning disabilities, (3))? Consider health service provisions, and preventative measures and solutions to identify and deploy technologies to monitor health in the home (e.g., emerging smart home tech)?*
- *What are the implications for design of future buildings (both homes and healthcare settings)?*

#### References

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4. BBC News. 2022. *Climate change: UK government told to insulate more homes*. [online] Available at: <<https://www.bbc.co.uk/news/science-environment-61926275>> [Accessed 14 August 2022].
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