

## 2022 heatwaves: a failure to proactively manage the risks

Human-induced climate change has made extreme heatwaves, wildfires, and flash floods substantially more likely and more severe. Yet, health impacts are widely underestimated. Most countries have failed to adequately plan, adapt, and use evidence-based information to protect their populations. For some countries, this is a dangerous failure of action, but others lack the adequate human and financial resources to respond. So far this year, India, Pakistan, the USA, China, and Europe have experienced extreme and dangerous heatwaves that damaged vital infrastructure and threatened to overwhelm emergency service capacity. The mortality toll is staggering. According to WHO, there were at least 1700 premature and avoidable deaths in Spain and Portugal alone. For each of these deaths, many more people will have suffered serious ill health.

Extreme heat causes heatstroke, the consequence most recognised by clinicians and the public. But most heat-related deaths are due to cardiovascular events—a point often absent from public health information. Cardiac output must rise to help cool the skin while maintaining blood pressure, which can lead to dangerous cardiac strain, even in the absence of high core temperatures. Increases in respiratory disease, renal disease, anxiety, violence, and substance use are also linked with rising heat, as well as increased risks of stillbirth, preterm labour, and lower birthweight babies. Research on wildfires has quantified links with child mortality, respiratory disease, and cancer. The more we learn, the clearer it becomes that many previous figures probably underestimate the true health impact of heat.

The response in many low-income and middle-income countries is hampered by insufficient global action and financial capacity. But in many other countries, despite the clear evidence of danger, there has been a scandalous failure not only to support global action or to begin programmes of adaptation, but even to address and mitigate for the immediate vulnerability of people exposed to extreme heat. A spillover of climate denialism and resignation, mixed with insufficient political engagement, has deprived the public of the benefits of information on how to prevent increases in heat stress in hotter conditions. Politicians have downplayed the health risks of extreme

heat. Influential organisations and media outlets have circulated out-of-date and non-scientific advice above high-quality information that can increase individual heat resilience immediately. A Series published in *The Lancet* in 2021 described evidence-based personal adaptations that can reduce both thermal discomfort and cardiovascular strain, including self-dousing, immersing clothing or feet in water, and using fan-first cooling strategies, but they are not mentioned in advice from the US Centers for Disease Control and Prevention. Drinking cold water can reduce the risk of heatstroke and strain but has a minimal effect on body temperature. There is an immediate, urgent need for health workers and agencies to educate the public on heat danger and protection.

Growing evidence on heat islands in urban areas and research from the Global South has shown how dangerous heat disproportionately affects people of colour and those living in poverty. Many of the people worst affected by extreme heat have the least means to respond. In particular, outdoor workers have no or minimal protective legislation and are at an increased risk of exposure to higher temperatures and unshaded working conditions. Cooling strategies are inaccessible to them. There is an urgent need for legislative changes to protect workers—particularly outdoor workers—from dangerous conditions, while protecting income.

Global funders, including the Wellcome Trust and US National Institutes of Health, are prioritising climate-related research. But lack of political engagement threatens the translation of research into lifesaving practice, policy, and meaningful change. The heatwaves and wildfires in 2022 were forecast, but even short-term preparation and risk mitigation were shockingly poor, resulting in avoidable deaths equivalent to several mass mortality events. On July 28, the UN General Assembly adopted a historic resolution declaring access to a clean, healthy, and sustainable environment to be a universal human right. The public must understand the gaping deficiencies in the response and demand action from policy makers to deliver on this fundamental human right. Mitigation might save lives in the short term, but only global political action will alter the trajectory of rising heat-related deaths. ■ *The Lancet*



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For more on **interpersonal violence and heat** see [Comment Lancet Planet Health 2021; 5: e571–72](#)

For more on **land fires and mortality** see [Articles Lancet Planet Health 2021; 5: e588–98](#) and [Lancet Planet Health 2021; 5: e599–607](#)

For the **Lancet Series on heat and health** see <https://www.thelancet.com/series/heat-and-health>

For more on **cooling strategies** see <https://www.thelancet.com/infographics-do/cooling-strategies>

For more on **heat exposure and cardiovascular outcomes** see [Articles Lancet Planet Health 2022; 6: e484–95](#)

For more on **fan-first cooling strategies** see [Articles Lancet Planet Health 2022; 6: e301–09](#)

For more on the **UN General Assembly declaration on the right to a clean and healthy environment** see <https://news.un.org/en/story/2022/07/1123482>