



## Offline: Rethinking the human costs of climate change

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In the preface to *Pulse to Planet: the Long Lifeline of Human Health* (2023), an eloquent appeal to a world on the edge of “civilisational suicide”, K Srinath Reddy argues that the “main driver” of our mortal predicament “is a lack of understanding of how the wellbeing of humans is closely connected to one another, other occupants of this planet, and to our common environment”. In his view, “health is the best summative indicator of sustainable development as it connects many dimensions of human activity”. Looking at the causes of this gloomy future, Reddy concludes that “Climate change, in particular, will have a cascade of harmful consequences.” It seems a lifetime ago (it was only 2009) since the first Lancet Commission on Climate and Health concluded that “Climate change is potentially the biggest global health threat in the 21st century.” Few agree with that view outside the cognoscenti of global health. According to a UK opinion poll published last week, only one in ten people believe that climate change is a serious problem. BP has ditched plans to substantially reduce fossil fuel production. Intensive lobbying by oil and gas companies has helped to persuade a new UK Government to invest £22 billion in subsidies for carbon capture projects, acknowledging that fossil fuels will be an important part of the country’s energy mix for decades to come. Meanwhile, a large majority of climate scientists expect a rise in average planetary temperature of at least 2.5°C above pre-industrial levels. Why are we losing the argument about the importance of a growing climate emergency?

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Part of the reason may lie in the way we marshal evidence about the harmful effects of climate change. In a webinar last week, together with the Global Research on Antimicrobial Resistance Project, we discussed the global burden of bacterial AMR. Work led by the Institute for Health Metrics and Evaluation forecast 39.1 million deaths attributable to AMR between 2025 and 2050. What are the comparable estimates for deaths attributable to climate change? A 2021 study projected 83 million cumulative excess deaths between 2020 and 2100 from rising temperatures. A 2022 analysis suggested that death rates from climate change would be dwarfed by deaths from non-communicable diseases. In other words, using mortality data alone, the climate crisis appears to

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be just one of many health challenges facing the world this century, and maybe not the worst. Such a conclusion would be a serious mistake. Climate change is an entirely different category of emergency compared with any other global health threat. Why? First, these estimates do not take account of tipping points—moments when small changes become sufficiently self-perpetuating to cause larger, more significant, and more dangerous changes. What happens if the Antarctic, Arctic, or Greenland ice sheets collapse? Or Amazon rainforests dieback? Or boreal permafrosts thaw? These tipping points are conveniently forgotten in climate modelling and policy making.

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But second, mortality is a very blunt measure. Here are some of the scientifically validated harms to human health from climate change, which all fall short of death: half a billion children experiencing extreme and unprecedented heat; climate instability causing a food-system crisis; West Nile virus and the Asian tiger mosquito gradually advancing into Europe; first-time meetings between species increasing the risk of zoonotic infections; higher temperatures worsening mental health; wildfires fuelling air pollution; record sea-level rises leading coastal cities to disappear; flooding, droughts, involuntary displacement, poverty, geopolitical instability, and conflict all becoming entirely foreseeable outcomes. Beyond these direct effects to human health: biodiversity is being eroded; global water supplies are drying up; ocean temperatures are rising; periods of extreme rainfall are more common; tropical glaciers are in retreat; forest resilience is declining; oceans are acidifying; species extinctions are accelerating; and severe hurricanes, such as Hurricane Ian which surged through Florida last week, are becoming more frequent. What conclusions can we draw? That death is only one, and not necessarily the best, measure of how a changing climate will shape human life. We need broader planetary metrics of climate’s impact. A flourishing human life is not only about the biological me. It also depends on a flourishing world in all of its astonishing diversity. Let us take account of that diversity when we assess the threats to our future.

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