

Climate change and health: global issue, local responses

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Climate change affects health directly through changing frequency, intensity and duration of extreme heat events, floods, droughts and storms, and indirectly through adverse changes in air pollution, the spread of disease vectors, food insecurity and undernutrition, displacement and mental ill health.^{1,2} According to the latest Intergovernmental Panel on Climate Change report³, the impacts and costs of a 1.5°C rise in global average temperatures since pre-industrial times will be far greater than previously expected. This report also found that without major cuts in carbon dioxide emissions, a 1.5°C rise in global average temperatures could be reached in as little as 12 years, and almost certainly within 20 years.

Internationally, climate change is now mainstream in health discourse.⁴ Research on health impacts of climate change suggests that health gains achieved over the past half century are being undermined by climate change.⁵ Given this, and the health co-benefits that accrue from actions for a sustainable economy, the 2015 Lancet Commission on Health and Climate Change concluded that tackling climate change could be the greatest global health opportunity of this century.²

In October 2016, the New South Wales (NSW) Government in Australia published the NSW Climate Change Policy Framework⁶, to respond to and mitigate the effects of climate change at a local level. Objectives of the framework include net-zero emissions by 2050 and for NSW to be more resilient to climate change. Within the framework, policy directions include reducing climate change impacts on health and wellbeing, and capturing co-benefits. One example of an initiative to arise from this framework is a multidisciplinary research group, the Human Health and Social Impacts Node, and some of the papers in this issue report findings of node research projects.

The papers in [this issue](#) address selected climate change and health issues in NSW, Australian and regional contexts. [Hime and colleagues](#)⁷ report the findings of a climate change and health policy investigation in NSW and conclude that building adaptive capacity and resilience, and mitigating climate change, creates opportunities to promote health. [Boylan and colleagues](#)⁸ propose a conceptual framework for climate change, health and wellbeing in NSW, based on the World Health Organization's Driving force, Pressure, State, Exposure, Effect and Action (DPSEEA) approach. [Perkins-Kirkpatrick and Pitman](#)⁹ provide a perspective on extreme events in the context of climate change, reporting the increase in heatwaves that is already occurring due to climate change, and uncertainty about how droughts and extreme rainfall

events will change in the future. They argue that building resilience is the best way to safeguard communities.

Dr Colin Tukuitonga, who has served as Pacific Community Director-General since 2014, is interviewed¹⁰ by *Public Health Research & Practice* Editor-in-Chief Don Nutbeam. Dr Tukuitonga is a general practitioner by training and has held senior public health roles in the New Zealand Government. He candidly explains the health risks from climate change in Pacific Island countries and the relevance of Australian climate change policy responses to health futures in these neighbouring countries.

Beggs¹¹ reviews published research on the impacts of climate change on allergens and allergic diseases from an Australian perspective. He concludes that Australia's vulnerability to the adverse impacts of climate change on allergic diseases is compounded by the precarious nature of aeroallergen monitoring, reporting and forecasting in Australia. Charlesworth and colleagues¹² reflect on environmental sustainability initiatives in NSW Health organisations. They note that, thus far, these efforts to reduce carbon emissions have been largely ineffective, and they present eight lessons for implementation. Prior and colleagues¹³ address built environment interventions for human and planetary health, and they highlight the utility of a health co-benefits framework in built environment practice.

These papers and current evidence point to the urgent need for stronger action on climate change to protect the health and wellbeing of current and future generations. Health offers a valuable perspective on climate change for three reasons. First, it makes the case for action on climate change more urgent because human health is already being adversely affected by extreme weather events that are being amplified in frequency, intensity and duration by climate change. Second, it makes the case for action on climate change more personal because there are compelling human stories to tell about loss of lives and livelihoods attributable to climate change. Third, there is a positive story to tell about the co-benefits for health from action on climate change, including the substantial contribution to reducing by two-thirds the 7 million annual deaths from air pollution by 2030.¹⁴

We hope you find these papers useful and that they inspire you to strengthen the focus on climate change in the work you do to protect and promote health.

Peer review and provenance

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Competing interests

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Author contributions

AC and CC contributed equally to writing and editing the article.

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