

Climate change is harmful to our health: taking action will have many benefits

“Tackling climate change could be the greatest health opportunity of the 21st century” (*The Lancet*, 2015)

Humanity is at a critical juncture, where decisions made today will have a dramatic impact on our future. In late November 2015, world leaders will gather in Paris for the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change (COP21). The aim of the meeting is to deliver a global agreement that will reduce carbon emissions, with the aim of limiting global warming to an increase of 2°C. A failure to do so will have far-reaching consequences for human health, in Australia and globally.

While the evidence for human-induced climate change is strong, and the current and projected effects of climate change are well described,¹ calls to action often do not mention its health aspects. The Lancet Commission on Climate Change and Health has attempted to redress this omission with their second report, released in June 2015.² This report summarises the health impacts of climate change and outlines the potential health benefits that would flow from reducing carbon emissions, such as those achieved by reducing particulate air pollution by decreasing fossil fuel combustion.² The report concludes that “tackling climate change could be the greatest health opportunity of the 21st century”.² This opportunity comes from maximising the direct health benefits of reducing carbon emissions, as well as from lessening the risk of human harm caused by catastrophic climate change.² The report also makes a number of specific recommendations, including conducting further research into the impacts on human health of climate change.²

Changes in our climate have the potential to affect human health in many different ways, and some effects are amplified by other projected demographic and social changes, such as ageing populations and population growth increasing the demand on agricultural production.^{1,2} The consequences for human health include the effects of extreme heat and other climate-related events, such as floods, bushfires and more intense cyclones. The influence of heatwaves on morbidity and mortality is well documented.^{1,3} For example, the prolonged heatwave in south-eastern Australia during February 2009 was directly associated with an estimated 374 excess deaths in Victoria, more than double the 173 deaths linked with the “Black Saturday” bushfires that occurred during the heatwave.^{1,3,4} The immediate results of other extreme weather events are self-evident, but less apparent are the public health and mental health effects that can continue for some time after the event.⁵



“We must ... actively promote drastic emissions reductions in international forums such as COP21”

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The health consequences associated with the impact of climate change on natural, societal and economic systems will become progressively more important as global temperatures rise.² A stable climate is important for agriculture, and threats to food security will be increasingly evident as a result of increasing temperatures.^{1,3} Food security does not just mean producing sufficient energy and protein for survival; the consumption of sufficient amounts of fruit, vegetables and whole grains is necessary for good health. Droughts and other climate events can affect the availability and cost of such foods, putting them out of reach for many people.⁶ The increasing cost of food relative to income also reduces the resources that are available for shelter, education and health services.

Water security is something that Australians know not to take for granted, and increasing drying trends, particularly as the result of more severe El Niño events, will further threaten water security in many parts of Australia. Both water availability and water quality are at risk.^{1,3} With sufficient resources, wealthy countries can respond to such problems with desalination plants, but these are unlikely to be available across Australia, so that people in rural and remote areas will be the most affected.^{1,3}

The increasing frequency and intensity of extreme weather events, combined with climate change-related

impacts on agriculture and the need to expend public money on infrastructure in response to rises in sea levels, will have major consequences for our economy.^{1,3} In particular, they will reduce the resources available for health and welfare services and education. The poor are most vulnerable to these repercussions, and are also most vulnerable to the effects of rising heat and other extreme weather events.

The impact of climate change on the emergence and spread of infectious diseases is likely to be complex, with some becoming more widespread, and others less so. Some infectious diseases are more prevalent after climate-related events such as cyclones and floods; eg, the outbreak of leptospirosis in Queensland after the 2011 floods.⁷ The prevalence of bacterial food- and water-borne diseases is likely to increase, and the epidemiology of some vector-borne diseases will probably shift as temperatures rise and ecosystems are transformed.^{1,3}

While Australians are not yet sufficiently motivated to make the changes to our energy generation systems and consumption that are necessary for reducing the risk of dangerous climate change, it would be foolish to think that we will not experience its effects. We are already doing so, and will increasingly do so as temperatures rise.

The writing is on the wall, and Australia must respond. We must reduce our emissions substantially, reduce our economic reliance on the export of fossil fuels, and actively promote drastic emissions reductions in international forums such as COP21. The carbon content of the atmosphere means that we can expect to see an average global temperature rise of 1.5°C by 2030–2040,

regardless of any mitigation efforts we might undertake.¹ This will have consequences for health, most of which can be avoided if we invest significantly in adaptation measures, including building community resilience (the capacity to adapt and respond to changing conditions), adjusting our agricultural and water systems, and ensuring that our health and social systems are sufficiently flexible and well resourced to respond to the increasing and changing needs of our communities. We must also assist low-income countries to adapt to climate change, both for ethical reasons and to limit the risks of increased migration and conflict.¹

As the Lancet Commission emphasises,² with threat comes opportunity, and we can build a healthier nation by mitigating and adapting to climate change. Reducing air pollution caused by burning fossil fuels, increasing the use of active (walking, cycling) and public transport, and reducing our consumption of meat and animal products will all contribute both to mitigating climate change and to improving health.² In addition, crucial adaptation measures, such as strengthening our public health systems,⁵ transforming our economy, improving housing and community resilience, and reducing social inequalities, will make our society a healthier and better place to live for all.¹

Competing interests: Linda Selvey is a member of Doctors for the Environment Australia and is on the board of the Wilderness Society Australia; she is also a past CEO of Greenpeace Australia Pacific.

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