

Discussion paper

Federal Government planning to prevent and manage the health consequences of climate change:

To address the health impacts of climate change - the greatest global health threat of the 21st century - national leadership and governance are needed.

Mitigation of climate change is currently accepted at the federal level as the responsibility of the Department of the Environment and Energy. At present, the Minister for Health and the Department of Health have little input or authority to address the risks and management of current and future health impacts arising from climate change.

This discussion paper details the need for federal leadership and responsibility for a framework to guide adaptation to climate change, with a particular focus on present and future threats to human health.

Definitions of mitigation and adaptation in the context of climate change:

Mitigation: Mitigation is action to decrease the level of greenhouse gases released into our atmosphere, thereby minimising the rapidity and extent of climate change.

Adaptation: Adaptation is the process by which we attempt to anticipate and manage the unavoidable impacts of climate change. Adaptation includes insulating schools, hospitals and homes to enable us to cope better with extreme weather events. It also includes the development of early warning systems and protocols for health and emergency services to cope with these events, requiring collaboration between different government departments, research and health groups.

Preamble

Within the Australian constitution various responsibilities are shared between the Commonwealth, states and territories. Matters of prime national importance are the prerogative of the Commonwealth, and defence and immigration fall into this category. Within Australia, major financial decisions are made centrally by the Reserve Bank of Australia, which reports to federal parliament.

The provision of health to the Australian community is shared between state and federal jurisdictions. The delivery of services has become the responsibility of states and territories, but the Commonwealth involves itself in initiatives that need a national approach or coordination. These include, for example, ensuring compliance with World Health Organization International Health Regulations, and responding to pandemics¹ and health emergencies.

Climate change has been declared the '*greatest health threat of the 21st century*'² and is one of the World Health Organization's priorities for health³. Effects of climate change on health include increased morbidity and mortality and occur via both direct and indirect mechanisms. Direct effects of climate change include the health consequences of extreme weather events such as heatwaves, floods, storms and bushfires. Indirect effects include those caused by worsening air quality, changes in patterns of infectious diseases, threats to food and water supplies, and effects on mental health.

In recent years, some Australian states have made good progress in planning to prevent and manage the health consequences of climate change. For example, the *Heat Health Plan for Victoria* outlines the risks posed by extreme heat events, and explains how members of the community can protect themselves. Further planning for heatwave responses is occurring at state and local levels, including changes to public health legislation.⁴

However, despite action in some states, Australia lacks a co-ordinated national approach to climate change adaptation, with no specific leadership, governance or funding at the federal level.

Background

Australia's approach to mitigation of and adaptation to climate change is inadequate in terms of both the urgency and strength of existing measures. Climate change must be accorded much greater priority to protect health and humanity. The reasons and necessary measures are detailed in the Policy paper of Doctors for the Environment Australia (DEA), *Climate Change and Health*⁵.

Climate change is already occurring, and although its extent may be limited by urgent action, some degree of global warming is unavoidable. The health and social impacts of climate change necessitate the urgent development of adaptation strategies and plans at a national level; this is critical to build adequate resilience within communities and health care systems, allowing them to anticipate and adapt to inevitable climate change.

Research for health adaptation

A robust evidence base is required to support climate change adaptation planning for the health and other sectors. The National Climate Change Adaptation Research Facility (NCCARF) was established in 2008 with a grant from the Commonwealth Government via the Department of the Environment and Energy. Its aim is '*to lead the research community in a national interdisciplinary effort to generate the information needed by decision-makers in government and in vulnerable sectors and communities to manage the risks of climate change impacts*'. NCCARF works to support decision-makers to build resilience to climate change in government, non-government organisations and the private sector.⁶

Research conducted during Phase 1 (2008-2013) of NCCARF's activities led to the development of numerous reports and recommendations relevant to the effects of climate change on health.⁷ Phase 2 (2014-2017)⁸ supports national capacity development through the synthesis of relevant and accessible climate adaptation research and information, to guide policy and decision makers across sectors. It has also seen the establishment of four adaptation networks to maintain and build adaptation research capacity in key challenge areas: natural ecosystems (terrestrial and marine); settlements and infrastructure; social, economic and institutional dimensions; and vulnerable communities (incorporating human health).

NCCARF's Vulnerable Communities Network (VCN)⁹ is hosted by the School of Public Health at the University of Adelaide. It aims to improve communication and collaboration between researchers and practitioners, to reduce social vulnerability and increase resilience to the effects of climate change, including negative health effects.

It is essential that research conducted by members of the VCN and others is used to inform national and sub-national adaptation planning, to ensure key threats to health are addressed and that those at greatest risk are the focus of adaptation strategies.

The economic and health costs of climate change

The expected economic and health costs of climate change are becoming clearer. In Australia, a report entitled *The economic cost of the social impact of natural disasters* was commissioned by the Australian Business Roundtable for Disaster Resilience and Safer Communities and prepared by Deloitte Access Economics in 2015.¹⁰ This report outlines the costs of extreme weather events and disasters, both tangible and intangible. Tangible costs refer to those that have a market value, for example damage to properties, infrastructure and crops. Intangible costs cover those that cannot easily be measured including effects on the health and wellbeing of affected communities: the lives destroyed by an increase in mental health issues, family violence, alcohol consumption, chronic and non-communicable diseases, and unemployment. Specific medical costs include increased hospitalisations, mortality, emergency department and general practitioner visits, ambulance call outs and associated medications.

The Roundtable report states that, in 2015, the social costs of natural disasters were at least equal to the physical costs at a total of over \$9 billion, about 0.6% of gross domestic product. The total cost of disasters is expected to rise to an average of \$33 billion per year by 2050 unless steps are taken to increase resilience and address mitigation.

For example, the 2009 Black Saturday bushfires in Victoria killed 173 people and injured a further 414. The Roundtable report states that the estimated intangible costs of this disaster were significantly higher than the tangible costs, at \$3.9 billion and \$3.1 billion, respectively. The Queensland floods of 2010-2011 resulted in more than 78% of the state being declared a disaster zone, with 35 people killed and approximately 2.5 million otherwise affected.¹¹ According to the Roundtable report, the tangible asset loss was \$6.7 billion and was exceeded by intangible losses of \$7.4 billion.

The Roundtable is a non-government organisation which comprises business leaders 'representing a cross-section of the Australian economy' which believes 'it is of national importance to make communities safer and more resilient to natural disasters'. Their report makes four recommendations:

1. Pre- and post-disaster funding should better reflect the long-term nature of social impacts.
2. A collaborative approach involving government, business, not-for-profits and community is needed to address the medium- and long-term economic costs of the social impacts of natural disasters.
3. Governments, businesses and communities need to further invest in community resilience programs that drive learning and sustained behaviour change.

4. Further research must be done into ways of quantifying the medium- and long-term costs of the social impacts of natural disasters.

Additionally, it is clear to the health profession in Queensland that many costs are likely to be ongoing, particularly those related to mental illness and social disruption¹², but also to the functioning of specialist services.¹³

Furthermore, DEA's report *No Time for Games: Children's Health and Climate Change* highlights the wide range of health effects and associated costs, attributable to present and future climate change, on our children.¹⁴

National Climate Resilience and Adaptation Strategy

The Australian Government's *National Climate Resilience and Adaptation Strategy*, published in 2015, seeks to 'guide effective adaptation practice and resilience building'.¹⁵ Agreeably, this strategy acknowledges the threat of climate change to health, identifying risks including heatwaves, droughts and other extreme weather events. In particular it highlights the increased demand extreme weather events place on health systems and associated agencies, such as local governments and community organisations. The Strategy also describes the increasing threat of food and water-borne diseases and the effects of drought on mental health, particularly in rural communities.

However, the Strategy does not acknowledge the breadth of risks to health caused by climate change, excluding, for example, changing patterns of vector-borne diseases, increasing burdens of respiratory and allergic diseases, and effects on child health. Critically, it fails to recognise the adverse health effects of fossil fuel combustion, also the principal driver of anthropogenic climate change.

Furthermore, the Strategy does not recognise the inadequacy of current measures to anticipate and respond to increasing threats to health caused by climate change. It reports that Australia is 'in a good position to adapt to climate change from a health perspective', citing high levels of education, access to technology and the strength of the public health system as supporting factors. DEA disputes this statement, as even in Australia today, any one natural disaster or extreme weather event can cause significant disruption and brings risk of injury and death, which are only partially offset by current support services. This is apparent in the Roundtable study of natural disasters detailed above.

The Strategy does not acknowledge a need for strengthening health systems in the face of increasing threats, stating that Australia is 'responding to the health effects of climate change within the overall context of existing health services'. The evidence suggests otherwise. Hospitals are vital for the management of the severe health impacts of extreme weather events. However, many hospitals have not been designed with these risks in mind and are not adapted to ensure they can maintain healthcare services during such events.¹⁶ While the public health system is able to cope with some of the consequences, it is inadequately resourced; the strengthening of both hospital and community services is necessary to cope with additional impacts.

The Strategy describes the role of the Australian Government in leading and shaping the health system, and in coordinating state and territory governments. However, it does not recognise a need for national leadership of health sector responses to climate change, indeed conceding that there are 'no national programmes specifically targeting the health effects of climate change'.

The need for action

Climate change is already placing an additional burden on the already overloaded Australian health system. This burden will increase further with the inevitable increase in extreme weather events, with the current approach to adaptation planning inadequate.

Despite the need for a comprehensive, all-of-government approach to climate change adaptation for health, there is no significant national planning on this issue nor is there leadership from the Federal government.

Similarly, evidence of action at state and territory level is inconsistent. For example, the South Australian Government recently called for comment on the development of a new state climate change strategy. The consultation papers for *Developing a New Climate Change Strategy for South Australia* bore little reference to health. In response, a DEA submission urged that health must be considered in all policies, with an emphasis on planning, greening urban environments and public transport, and their significant co-benefits.¹⁷ Such policies exist¹⁸ in South Australia but are not implemented in crucial areas. Many of the problems facing society today require collective government and community action. These complex issues can only be effectively resolved through interaction between different levels of government.¹⁹

Because the *National Climate Resilience and Adaptation Strategy* fails to acknowledge the breadth and severity of threats to health, and is inadequate to sufficiently guide health adaptation planning nor to promote an adequate response for all Australians, it is appropriate to consider advances made in some other developed countries.

Examples from other countries

Climate Adaptation in the United States

The US example illustrates the effectiveness of federal power to protect the public in a governance system similar to that in Australia, where the states have significant independence in health matters.

However, the United States Constitution also confers certain executive processes for establishing action which Australia does not have. These merit understanding as they have proven effective in facilitating change in the context of climate change responses.

On November 1 2013 President Obama issued an Executive Order *Preparing the United States for the Impacts of Climate Change* ([Appendix 1](#)). The order recognised and described the harms of climate change and stated:

These impacts are often most significant for communities that already face economic or health-related challenges, and for species and habitats that are already facing other pressures. Managing these risks requires deliberate preparation, close cooperation, and coordinated planning by the Federal Government, as well as by stakeholders, to facilitate Federal, State, local, tribal, private-sector, and non-profit sector efforts to improve climate preparedness and resilience; help safeguard our economy, infrastructure, environment, and natural resources; and provide for the continuity of executive department and agency operations, services, and programs.

The Order states that Government agencies should promote: (1) engaged and strong partnerships and information sharing at all levels of government; (2) risk-informed decision-making and the tools to facilitate it; (3) adaptive learning, in which experiences serve as opportunities to inform and adjust future actions; and (4) preparedness planning.

The Order then established agencies to deliver (1) to (3); the federal health department and 'public health and social equity issues' are included as participants in these agencies.

On March 19 2015 the President built on this foundation with an Executive Order *Planning for Federal Sustainability in the Next Decade* which includes further health considerations ([Appendix 2](#)).

An important outcome delivered since the initial Executive order was implemented is the 2014 report *Primary protection; enhancing health care resiliency for a changing climate*²⁰ which outlines guidelines to help hospitals prepare for climate change.²¹

In 2016 the US government issued a comprehensive report *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*^{22,23} which indicates impressive progress in a range of areas.

Australia has elements of many of these US activities in some states and territories, but there is no coordination or overall plan.

Climate Adaptation in the United Kingdom

In 2013 the government of the United Kingdom published *The National Adaptation Programme (NAP): Making the country resilient to a changing climate* in 2013.²⁴ This was developed by the government, industry and other non-government organisations and incorporated a mix of policies and actions to guide adaptation.

Development of the NAP was guided by the findings of the UK Climate Change Risk Assessment, performed in 2012.²⁵ Health priorities identified in this assessment included effects of flooding (particularly deaths, injuries and mental health effects); risks and benefits of increasing sunlight/UV exposure; effects of higher temperatures on summer morbidity and mortality; effects of increasing ozone levels on mortality and respiratory morbidity; increasing risks of vector, water and food-borne diseases; and effects of marine algal blooms.

Chapter 4 of the NAP, *Healthy and Resilient Communities*, describes three focus areas:

1. Climate resilience in the health and social care system.
2. Vulnerable groups.
3. Emergency services, local responders and community resilience.

A list of actions to address priority risks is provided for each focus area, with responsibility for each action clearly stated. A timeline for completion is not included, however a strategy for monitoring and evaluation of the NAP has been developed. The NAP will be reviewed every five years.

Importantly, the NAP is accompanied by an analytical annex, *Economics of the National Adaptation Programme*.²⁶ This document outlines the evidence base for adaptation decision-making and the costs and benefits of adaptation.

Conclusions

Australia is not adequately prepared to manage the health and social consequences of accelerating climate change. Whilst some steps have been made in the right direction, and some states have been proactive, a more consistent, co-ordinated and adequately funded federal response is required to ensure optimal Australian adaptation to climate change.

Both the US and UK have developed a national response to adaptation by different means. The USA EPA provides Federal mechanisms for the US government to drive reform in effect by

directing states into action. By this means a Clean Air Plan is being delivered. In the UK, government action is much more centralised than Australia and a national plan has been developed and is being implemented.

In Australia, there is a prime need for the Federal government to accept responsibility for adaptation and for the health aspects of adaptation to be the responsibility of the Department of Health. At present the Department of Health has no internal structure to develop or deliver this need nor is there federal funding.

Legislation may be required to facilitate these actions.

We suggest the following reforms:

The Prime Minister should lead on the basis that climate change is not just an environmental and health issue, but also one of national and economic security and one which needs a whole of government approach. This should build upon and ensure implementation of specific actions arising from the National Climate Resilience and Adaptation Strategy.

The Department of Health must be given responsibility for development of a national strategy to coordinate an adequate response to the human health impacts of climate change. As the '*greatest health threat of our time*' the issue cannot be left to each state and territory governments to implement partial or poorly coordinated responses.

A summary of recommended actions is outlined in the DEA Policy *Federal Government leadership on the health consequences of climate change*.

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Appendix 1

Executive Order -- Preparing the United States for the Impacts of Climate Change November 1 2013

<https://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>

Section 1. Policy. The impacts of climate change -- including an increase in prolonged periods of excessively high temperatures, more heavy downpours, an increase in wildfires, more severe droughts, permafrost thawing, ocean acidification, and sea-level rise -- are already affecting communities, natural resources, ecosystems, economies, and public health across the Nation. These impacts are often most significant for communities that already face economic or health-related challenges, and for species and habitats that are already facing other pressures. Managing these risks requires deliberate preparation, close cooperation, and coordinated planning by the Federal Government, as well as by stakeholders, to facilitate Federal, State, local, tribal, private-sector, and non-profit-sector efforts to improve climate preparedness and resilience; help safeguard our economy, infrastructure, environment, and natural resources; and provide for the continuity of executive department and agency (agency) operations, services, and programs.

The Federal Government must build on recent progress and pursue new strategies to improve the Nation's preparedness and resilience. In doing so, agencies should promote: (1) engaged and strong partnerships and information sharing at all levels of government; (2) risk-informed decision making and the tools to facilitate it; (3) adaptive learning, in which experiences serve as opportunities to inform and adjust future actions; and (4) preparedness planning.

(c) Interagency groups charged with coordinating and modernizing Federal processes related to the development and integration of both man-made and natural infrastructure, evaluating public health and social equity issues, safeguarding natural resources, and other issues impacted by climate change.

Sec. 5. Federal Agency Planning for Climate Change Related Risk

Sec. 6. Council on Climate Preparedness and Resilience.

(a) Establishment. There is established an interagency Council on Climate Preparedness and Resilience (Council).

(ii) support regional, State, local, and tribal action to assess climate change related vulnerabilities and cost-effectively increase climate preparedness and resilience of communities, critical economic sectors, natural and built infrastructure, and natural resources, including through the activities as outlined in sections 2 and 3 of this order;

(iii) facilitate the integration of climate science in policies and planning of government agencies and the private sector, including by promoting the development of innovative, actionable, and accessible Federal climate change related information, data, and tools at appropriate scales for decision makers and deployment of this information through a Government-wide web-based portal, as described in section 4 of this order; and

Sec. 7. State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience.

(a) Establishment. To inform Federal efforts to support climate preparedness and resilience, there is established a State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience (Task Force).

Appendix 2

Executive Order -- Planning for Federal Sustainability in the Next Decade March 19 2015

<https://www.whitehouse.gov/the-press-office/2015/03/19/executive-order-planning-federal-sustainability-next-decade>

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to maintain Federal leadership in sustainability and greenhouse gas emission reductions, it is hereby ordered as follows:

Section 1. Policy. Executive departments and agencies (agencies) have been among our Nation's leaders as the United States works to build a clean energy economy that will sustain our prosperity and the health of our people and our environment for generations to come. Federal leadership in energy, environmental water, fleet, buildings, and acquisition management will continue to drive national greenhouse gas reductions and support preparations for the impacts of climate change. Through a combination of more efficient Federal operations such as those outlined in this Executive Order (order), we have the opportunity to reduce agency direct greenhouse gas emissions by at least 40 percent over the next decade while at the same time fostering innovation, reducing spending, and strengthening the communities in which our Federal facilities operate.

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