



CLIMATE^{AND}
HEALTH
ALLIANCE

Submission to Parliamentary Inquiry into the Paris Agreement

October 2016

Contact:
CAHA Executive Director
Fiona Armstrong
fiona.armstrong@caha.org.au
0438900005
www.caha.org.au

Contents

About the Climate and Health Alliance	3
1. Introduction	4
2. Key messages	5
3. Summary of evidence relating to climate change and human health	6
4. Suitability of current response in satisfying Paris Agreement obligations	
5. Recommendations	9
Appendix A: Climate and Health Alliance members	11
Appendix B: Survey of Health Professionals' Opinions around a National Strategy on Climate, Health and Wellbeing for Australia	12
References	13

About the Climate and Health Alliance

The Climate and Health Alliance (CAHA) is a not-for-profit organisation that is a national alliance of organisations and people in the health sector working together to raise awareness about the health risks of climate change and the health benefits of emissions reductions.

CAHA's members recognise that health care stakeholders have a particular responsibility to the community in advocating for public policy that will promote and protect human health.

Membership of the Climate and Health Alliance includes a broad cross section of the health sector with 28 organisational members, representing hundreds of thousands of health care professionals from a range of disciplines, health care service providers, institutions, academics, researchers, and health consumers.

The Climate and Health Alliance, as its name suggests, is concerned with the health threats from climate change, and the organisation works to raise awareness of those risks and advocate for effective societal responses, including public policies, to reduce risks to health.

The Alliance aims to contribute to the development and implementation of evidence based public policy to protect the community from the adverse consequences of climate change, and promote recognition that policies to reduce greenhouse gas emissions and protect the environment have the potential to bring important public health benefits.

For more information about the membership and governance of the Climate and Health Alliance, please see Appendix A. For further information see www.caha.org.au

1. Introduction

The need to consider the co-benefits of climate change mitigation strategies on human health has been cemented as an obligation of signatories to the Paris Agreement.

In an Accompanying Decision to the Paris Agreement (see Report of the Conference of the Parties, Addendum, Part two: Action taken by the Conference of the Parties at its twenty-first session, Section IV. Enhanced action prior to 2020), nations resolved to: “ensure the highest possible mitigation efforts in the pre-2020 period”, including by:

- [see Clause 108] Recognizing “the social, economic and environmental value of voluntary mitigation actions and their co-benefits for adaptation, health and sustainable development”.

Implementation of nationally determined commitments under the Paris Agreement will directly serve Australia’s national interest with regards to the health and wellbeing of her citizens.

2. Key messages

This paper’s key messages are that:

- Climate change poses serious immediate, medium term and long term risks to human health
- The current mitigation and adaptation responses are insufficient in keeping global temperature rise ‘well below 2 degrees,’ and inadequate in terms of safeguarding the Australian health system against the effects of climate change
- A ‘health lens’ must be applied to all climate change mitigation and adaptation policies to ensure maximum co-benefits to health and the health sector
- The development of a National Strategy for Health and Wellbeing is the most effective way to fulfil Paris Agreement obligations through a coordinated and wide-ranging policy suite

3. Summary of evidence relating to climate change and human health in Australia

Climate change poses serious immediate, medium term and long term risks to human health.

These risks follow an increase in extreme weather events and natural disasters, changing distribution of flora and fauna, increases in infectious disease outbreaks, respiratory, cardiovascular and mental health stressors, reduced food security and volatility in the Asia-Pacific region.

Vulnerable populations

Those at the highest risk of all adverse effects of climate change are the elderly, disabled or immobile, very young, new migrants and socioeconomically disadvantaged. Indigenous Australians are identified as particularly vulnerable.^{1,3,7,12,14,15,17,18,21,24}

Along with those working in the most climate sensitive occupations and sectors (agriculture, tourism, outdoor workers), and locations (rural, remote, coastal, low lying islands), children and young people are particularly vulnerable to cumulative climate impacts. With Australia's population including a growing number of new and non-English speaking migrants who face additional barriers in accessing healthcare, and the remaining issue of inadequate access to healthcare, appropriate housing and clean water in remote Indigenous populations, Australia's most vulnerable will suffer disproportionate effects of climate change without action.^{7,14}

National security, social instability and conflict

Forced migration from uninhabitable land (due to sea level rise, food insecurity, etc.) causes both internal and inter-state conflict.^{1,4,10} Australia's strategic role in the Asia-Pacific region ensures our engagement in humanitarian and emergency response missions with implications for the efficacy of the Australian Defense Force (ADF).^{1,4,10} These substantial costs have already been demonstrated, such as during the ADF response in Papua New Guinea following devastation caused by El Nino in 1997 lasting 6 months and costing \$30million.⁹

Mental illness and stress

Adverse mental health impacts arise due to loss of livelihood and financial stress or uncertainty in the face of climate change.^{4,7,18} With extreme weather such as prolonged drought shown to increase rates of suicide in rural Australian communities,¹³ and increasing evidence of short and long term mental health impacts including post traumatic stress disorder (PTSD) in communities following

bushfires, cyclones and floods, there are serious consequences for the mental health of millions, and economic costs to the health system due to a lack of action to mitigate climate change.

Occupational health impacts

A warmer climate places outdoor and manual labourers at a higher risk of heat exhaustion, cardiac arrest and more frequent work accidents.^{20, 26} More frequent extreme events will also increase the occupational hazard for fire fighters, medical and army personnel who respond to them. The number of days where manual labour will not be able to be safely carried out is projected to increase from 1 per year in the 2000s to 15-26 days per year in the 2070s,²² demonstrating significant financial burden to sectors such as mining and construction.

Food and water security

The current high dependency on fertilisers in agriculture, changing climate in food producing regions and population growth contributes to volatile food prices,^{10,18} while the nutritional value of crops and dairy can decline due to heat stress and high CO2 levels.¹⁸ Changing rainfall, seawater intrusion and contamination by flooding also threaten freshwater sources.^{4, 15}

Infectious diseases

In a direct threat to health, a warmer climate will increase the reproduction rate, resilience and distribution of a number of food, water and vector-borne pathogens.^{1,7,10} Pathogens such as E. coli, giardiasis, salmonella, malaria and dengue are all sensitive to altered temperature, season duration and water supply,⁷ and already display peak infection rates in warmer months.^{12,15,25} This especially puts children, the elderly and immunocompromised Australians at increased risk of death or serious illness.

Extreme weather events

It is widely acknowledged that climate change is contributing to increased intensity, duration and frequency of events such as floods, storms and heatwaves. This increases mortality and morbidity and places pressure on health services, aggravating existing illnesses and placing more Australians at risk of physical and mental illness.^{1,2, 3, 10,17}

Aeroallergens and air pollution

Quality of life decreases in sufferers of diseases such as asthma and allergic rhinitis, as they are exacerbated by increased exposure to aeroallergens such as pollen, moulds, and airborne Particulate Matter (PM).^{4,5,6} One example is the altered pollen season of the irritant 'gamba grass' in Darwin.¹¹ Bushfires and photochemical

smog from anthropogenic pollution contribute substantially to atmospheric levels of highly toxic ozone and PM, also leading to cardiopulmonary mortality.^{8,24}

Due to the widespread and significant effects of climate change on health, Australia's national response also needs to be all-encompassing with a 'health lens' applied during development.

4. Current response is inadequate in meeting Paris Agreement obligations and in mitigating climate change

The current national mitigation response is inadequate in meeting Australia's obligations under the Agreement and in combatting climate change, leaving Australians vulnerable to its insidious effects on health outlined above.

Australia's current mitigation strategy, the Direct Action Plan (DAP), has been subject to intense criticism of its inability to facilitate the substantial emissions cuts needed to achieve the 'well below 2 degree' goal. (Garnaut, 2014) CAHA's most recent survey of over 130 peak health bodies has exposed deep concerns regarding the federal government's failure to act on climate change, with 52% of health professionals surveyed considering the DAP to be 'not at all effective'. (See Appendix B for Preliminary Report) Instrumentally, the DAP provides less incentive for polluters to curb emissions than a tax on carbon, (Kumarasiri, et al., 2016) (Garnaut, 2014) characterising a step backwards in Australia's federal response to climate change.

The current emission reduction target of 28% by 2030 based on 2005 levels must be increased in line with the most recent climate science and considerable public ambition to prevent further environmental degradation and its effects on health.

The resilience of Australia's healthcare sector is also undermined by the lack of current adaptation strategies emphasising human health under the Direct Action Plan. The establishment in 2008 of a National Climate Change Adaptation Research Facility (NCCARF) awarded only \$2.8 million of \$47 million in funding to climate change and human health projects under the Human Health Climate Change National Adaptation Research Network (NARN), however disappointingly, additional funding from 2014-2017 of \$8.8 million (NCCARF, 2014, p. 1) does not include a research network for human health.

Furthermore, the Adaptation Strategy explicitly states there are "no national programs specifically targeting the health effects of climate change," (Australian Government, 2015, p. 61), constituting a detrimental gap between considerable adaptation requirements and relevant research capacity in Australia.

4. Recommendations

CAHA recommends the Australian Government ratify the Paris Climate Agreement, and strengthen its legislative and policy settings to increase the co-benefits of voluntary mitigation actions for adaptation, health and sustainable economic development in Australia and the region.

In order to minimise the threats to health from climate change, a comprehensive and ambitious approach is imperative. Such a strategy must facilitate collaboration across multiple sectors, including community, state and national levels of the health sector, and between national government departments and agencies for transport, energy, environment, agriculture, and infrastructure.

CAHA recommends this takes the form of a National Climate, Health and Well-being Strategy, encompassing a range of policy areas, including:

- meaningful national emissions reduction targets and policies
- establishment of effective governance arrangements for the development and implementation of the National Strategy
- development of a sustainable and resilient healthcare sector
- promotion of education and awareness about climate change and health across the health sector and broader community
- strengthening of communication and collaboration between federal, state, local and community health agencies, and
- re-establishment of national climate change and health research capacity.

Application of a 'health lens' to evidence-based climate change mitigation strategies will enable Australia to succeed in meeting her obligations under the Paris Agreement and thus her national interests in regards to emissions reduction, health, economy and international reputation.

APPENDIX A

Climate and Health Alliance Committee of Management

- Fiona Armstrong, Executive Director
- Dr Liz Hanna, President (Australian College of Nursing)
- Dr Peter Sainsbury, Vice-President (Public Health Association of Australia)
- Kim Daire, Treasurer (Independent Director)
- Dr Elizabeth Haworth, Secretary (Friends of CAHA)
- Dr Brad Farrant (Independent Director)
- Terrona Ramsay (Kooverup Regional Health Service)
- Robyn Clay-Williams (Australian Institute of Health Innovation)
- Harry Jennens (Healthy Futures)
- Carolyn Reimann and Natasha Abeysekera, Observers (Australian Medical Students Association – jointly held)

CAHA Organisational Members

Australian Association of Social Workers (AASW)
Australian College of Nursing (ACN)
Australian Council of Social Service (ACOSS)
Australian Healthcare and Hospitals Association (AHHA)
Australian Health Promotion Association (AHPA)
Australian Institute of Health Innovation (AIHI)
Australian Women's Health Network (AWHN)
Australian Medical Students' Association (AMSA)
Australian Nursing and Midwifery Federation (ANMF)
Australian Psychological Society (APS)
Australian Rural Health Education Network (ARHEN)
CRAN*plus*
Doctors Reform Society (DRS)
Friends of CAHA
Health Consumers' Network (Qld)
Health Issues Centre (HIC)
Health Services Union (HSU)
Kooverup Regional Health Service (KRHS)
Public Health Association of Australia (PHAA)
Psychology for a Safe Climate
CoHealth
School of Public Health and Community Medicine, University of NSW
Services for Australian Rural and Remote Allied Health (SARRAH)
Victorian Allied Health Professionals Association (VAHPA)
Women's Health East (WHE)
Women's Health in the North (WHIN)

Expert Advisory Committee

Associate Professor Grant Blashki, Nossal Institute for Global Health
Associate Professor Colin Butler, College of Medicine, Biology and Environment, Australian National University
Professor Garry Egger, School of Health & Human Sciences, Southern Cross University
Professor David Karoly, Federation Fellow in the School of Earth Sciences, University of Melbourne
Professor Stephan Lewandowsky, School of Psychology, University of Western Australia
Dr Peter Tait, Convenor, Ecology and Environment Special Interest Group, Public Health Association
Professor Simon Chapman, Professor of Public Health, University of Sydney
Dr Susie Burke, Senior Psychologist, Public Interest, Environment & Disaster Response, Australian Psychological Society

APPENDIX B

References

1. Australian Academy of Science. (2015). Climate change challenges to health: Risks and opportunities. Recommendations from the 2014 Theo Murphy High Flyers Think Tank. Canberra: Australian Academy of Science.
2. Australian Government. (2013). State of Australian cities. Department of Infrastructure and Transport, Major Cities Unit. Canberra: Commonwealth of Australia.
3. Bambrick, H., Dear, K., Woodruff, R., Hanigan, I., & MacMichael, A. (2008). Garnaut Climate Change Review: The impacts of climate change on three health outcomes: temperature-related mortality and hospitalisations, salmonellosis and other bacterial gastroenteritis, and population at risk from dengue, report commissioned by the Garnaut Climate Change Review.
4. Barrie, C., Steffen, W., Pearce, A., & Thomas, M. (2015). Be Prepared: Climate change, security and Australia's defence force. Climate Council of Australia. Climate Council of Australia Ltd.
5. Beggs, P. J., & Bambrick, H. J. (2005). Is the global rise of asthma an early impact of anthropogenic climate change? *Environmental Health Perspectives*, 113 (8), 915-919.
6. Beggs, P. J., & Bennett, C. M. (2011). Climate change, aeroallergens, natural particulates, and human health in Australia: State of the science and policy. *Asia-Pacific Journal of Public Health*, Supplement to 23 (2), 46S–53S.
7. Bourque, F., & Willox, A. C. (2014). Climate change: The next challenge for public mental health? *International Review of Psychiatry*, 26 (4), 415–422.
8. Broome, R. A., Fann, N., Cristina, T. J., Fulcher, C., Duc, H., & Morgan, G. G. (2015). The health benefits of reducing air pollution in Sydney, Australia. *Environmental Research*, 143, 19-25.
9. Department of Defence. (1998, April 3). ADF flies final aid deliveries into PNG. Retrieved April 18, 2016, from Department of Defence: <http://www.defence.gov.au/media/1998/04798.html>
10. Dupont, A. (2009). The strategic implications of climate change. In W. T. Tow, & C. Kin Wah, *ASEAN-India-Australia: Towards closer engagement in a New Asia* (pp. 131-152). Singapore: Institute of Southeast Asian Studies.
11. Haberle, S. G., Bowman, D. M., Newnham, R. M., Johnston, F. H., Beggs, P. J., Buters, J., et al. The macroecology of airborne pollen in Australian and New Zealand urban areas. *PLoS ONE*, 9 (5), e97925. doi:10.1371/journal.pone.0097925.
12. Hall, G. V., Hanigan, I. C., Dear, K. B., & Vally, H. (2011). The influence of weather on community gastroenteritis in Australia. *Epidemiol. Infect.*, 139, 927–936. doi:10.1017/S0950268810001901.
13. Hanigan, I. C., Butler, C. D., Kocic, P. N., & Hutchinson, M. F. (2012). Suicide and drought in New South Wales, Australia, 1970–2007. *Proceedings of the Royal Academy of Sciences*, 35, 13950–13955.
14. Hansen, A., Bi, L., Saniotis, A., & Nitschke, M. (2013). Vulnerability to extreme heat and climate change: is ethnicity a factor? *Global Health Action*, 6.

15. Harley, D., Bi, P., Swaminathan, A., Tong, S., & Williams, C. (2011). Climate change and infectious diseases in Australia: Future prospects, adaptation options, and research priorities. *Asia-Pacific Journal of Public Health, Supplement to 23* (2), 54S–66S.
16. Hodgkinson, D., Burton, T., Anderson, H., & Young, L. (2010). 'The hour when the ship comes in': A Convention for persons displaced by climate change. *Monash University Law Review*, 36 (1), 69-120.
17. Hughes, L., Hanna, E., & Fenwick, J. The Silent Killer: Climate change and the health impacts of extreme heat. Climate Council of Australia. 2016: Climate Council of Australia.
18. Hughes, L., Steffen, W., Rice, M., & Pearce, A. (2015). Feeding a hungry nation: Climate change, food and farming in Australia. Climate Council of Australia. Climate Council of Australia.
19. Keating, A., & Handmer, J. (2013). Future potential losses from extremes under climate change: the case of Victoria, Australia. RMIT -University, Centre for Risk and Community Safety. Melbourne: VCCCAR.
20. Kjellstrom, T., Briggs, D., Freyberg, C., Lemke, B., Otto, M., & Hyatt, O. (2016). Heat, human performance, and occupational health: A key issue for the assessment of global climate change impacts. *Annual Review of Public Health*, 37, 97–112.
21. Liu, J. C., Pereira, G., Uhl, S. A., Bravo, M. A., & Bell, M. L. (2015). A systematic review of the physical health impacts from non-occupational exposure to wildfire smoke. *Environmental Research*, 136, 120–132.
22. Maloney, S. K., & Forbes, C. F. (2011). What effect will a few degrees of climate change have on human heat balance? Implications for human activity. *International Journal of Biometeorology*, 55 (2), 147-160.
23. Maté, J., & Oosthuizen, J. (2012). Global warming and heat stress among Western Australian mine, oil and gas workers, *Environmental Health – Emerging Issues and Practice*, ECU publications 2012, 289-305.
24. Parkinson, D. F. (2015). Women's experience of violence in the aftermath of the Black Saturday bushfires. PhD thesis. Available at <http://arrow.monash.edu.au/vital/access/manager/Repository/monash:153836>.
25. Spickett, J. T., Brown, H. L., & Rumchev, K. (2011). Climate change and air quality: The potential impact on health. *Asia-Pacific Journal of Public Health, Supplement to 23* (2), 375-455.
26. Wilks, C. R., Turner, A. J., & Azuolas, J. (2006). Effect of flooding on the occurrence of infectious disease. *Advances in Ecological Research*, 39, 107-124.
27. Zander, K. K., Botzen, W. J., Oppermann, E., Kjellstrom, T., & Garnett, S. T. (2015). Heat stress causes substantial labour productivity loss in Australia. *Nature Climate Change*, 5, 647-652. doi: 10.1038/NCLIMATE2623.