



Climate Change and Health

Position Statement

November 2009

AIMA broadly supports the AMA revised Position Statement on Climate Change and Human Health (2008), which is incorporated by reference into this document¹.

Background

The Lancet's 2009 commission into the potential health impacts of climate change highlighted the particular threats facing our current healthcare systems and also outlined potential strategies to combat these threats. AIMA agrees with the statement that, "*Climate change is the biggest global health threat of the 21st century...the effects of climate change on health will affect most populations in the next decades and put the lives and wellbeing of billions of people at increased risk².*"

Worldwide, the Intergovernmental Panel on Climate Change (IPCC)³, and in Australia, 'The Garnaut Review'⁴, have both outlined in great detail the environmental science underpinning climate change. This AIMA position statement does not attempt to question or further explain the accepted science, but rather to emphasise the role that healthcare providers have both within the healthcare system and as advocates to the general public about the impact of climate change on human health^{5,6}.

Rigorous scientific evidence compiled by the IPCC unequivocally confirms the reality of climate change, attributed to human-induced greenhouse gas emissions into the atmosphere, predominantly from the burning of fossil fuels (IPCC 2007, pp 2-10). Consequences include rising global average temperatures and rising sea levels, which threaten to disrupt the physical, biological and ecological life-support systems on which human health depends. It is, in short a global public health problem.

¹ Australian Medical Association Limited ABN 37 008 426 793 1 AMA Position Statement on Climate Change and Human Health 2004. Revised 2008.

² Costello, et al. 2009 "Managing the health effects of climate change", Lancet and University College London Institute for Global Health Commission, The Lancet, 373, pp. 1693-1733.

³ Intergovernmental Panel on Climate Change (IPCC) 2007 "Summary for Policymakers" in Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor & H.L. Miller (eds.) Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge & New York: Cambridge University Press.

⁴ Available at www.garnautreview.com.au. Accessed 18 November 2009.

⁵ Woodruff RE, Hales S, Butler CD, McMichael AJ. Climate change health impacts in Australia: effects of dramatic CO2 emission reductions. Canberra: Australian Conservation Foundation and the Australian Medical Association, 2005: 44. Available at www.acfonline.org.au/uploads/res_AMA_ACF_Full_Report.pdf. Accessed 18 November 2009.

⁶ Patz JA, Campbell-Lendrum D, Holloway T, Foley JA. Impact of regional climate change on human health. Nature 2005;438:310-17.

The Chairman of the British Medical Association was recently quoted as saying:

“It is the duty of the medical profession to warn people about how lifestyle choices might destroy their health or even end up killing them... it is our responsibility to talk about another major issue that has the potential to kill millions of people: climate change... and we should all be worried about climate change... warnings about it need to be taken as seriously as those about smoking and alcohol abuse⁷.”

Serious health impacts will manifest in a myriad of ways for the world's population, but what is already apparent is that people living in lower socioeconomic groups in both developed and developing countries will have the most difficulty adapting⁸. We will most likely encounter large-scale displacement of individuals, particularly those vulnerable to the effects of rising sea levels, extreme temperatures, natural disasters and lack of access to resources, particularly drinking water^{9,10}.

In Australia, we have already begun to see such effects. The Torres Strait is experiencing first-hand the effect of increasing sea levels and an increase in the height of king tides, leading to the flooding of coastal areas below sea level and the internal displacement of people from coastal areas to inland areas^{11,12}.

Within the concept of human health and welfare, we must also acknowledge the potential loss of culture, identity and human heritage that may occur with the internal displacement of people, even if there is no physical trauma. And these losses need to be accounted for outside of the economic model¹³.

In relation to the heatwave in Victoria between 26th January and 1st February 2009, Federal Minister for Climate Change, Penny Wong, reported that, *“Eleven of the hottest years in history have been in the last twelve, and we...note, particularly in the southern part of Australia, we're seeing less rainfall, All of this is consistent with climate change... and all of this is consistent with what scientists told us would happen^{14,15}.”* During the week of the heatwave, mortality increased significantly when compared with the same week in the previous year. Total excess mortality, when calculated, was found to be 374 excess deaths in Victoria in that week. Harrowing, as these figures appear they do not fully quantify the increased stress placed on the health system when attempting to cope with an influx of individuals suffering from heat-related conditions. It was also calculated that in the same period, attendance by ambulance officers for heat-related conditions increased 34-fold, translating to an extra 499 attendances¹⁶.

⁷ British Medical Association Member Newsletter 16.11.09 www.bma.org.uk. Accessed 18/11/09.

⁸ Woodward A, Hales S, Weinstein P. Climate change and human health in the Asia Pacific region: who will be most vulnerable? *Clim Res* 1998;11:31–8.

⁹ Costello, et al. 2009 “Managing the health effects of climate change”, *Lancet* and University College London Institute for Global Health Commission, *The Lancet*, 373, pp. 1693-1733.

¹⁰ Barnett J, Adger N: Climate change, human security and violent conflict. *Political Geography* 2007, 26(6):639-655.

Bronstert A. Floods and climatic change: interactions and impacts. *Risk Anal* 2003;23:545–57.

¹¹ Woodward A, Hales S, Weinstein P. Climate change and human health in the Asia Pacific region: who will be most vulnerable? *Clim Res* 1998;11:31–8.

¹² Professor Ross Garnaut delivering the Eddie Kioki Mabo Lecture, James Cook University 09.10.09. http://cms.jcu.edu.au/events/JCUPRD_052140. Accessed 18/11/09.

¹³ Meehl G A, Tebaldi C. More intense, more frequent, and longer lasting heat waves in the 21st century. *Science* 2004;305:994–7.

¹⁴ Australian Associated Press (AAP) 2009 “Heatwave shows climate scientists are right, Wong says” *The Canberra Times*, 29/1/09. <http://www.canberratimes.com.au/news/local/news/general/heatwave-shows-climate-scientists-are-right-wong-says/1419596.aspx>. Accessed 18 November 2009.

¹⁵ Edwards, T., Fritze, J. Wiseman, J. 2009 “Community Wellbeing in a Changing Climate: Challenges and Priorities for the Australian Community Sector”, *Just Policy*, 50, pp.80-86.

¹⁶ Available at http://www.health.vic.gov.au/chiefofficer/downloads/heat_impact_rpt.pdf, page 12. Accessed 18/11/09.

These findings demand robust policy development at a state and federal level to mitigate the potential failure of the healthcare system in the face of an influx of individuals affected by the impacts of climate change.

We suggest that one important approach is to strengthen primary healthcare, particularly in vulnerable populations, so that as our understanding of the health impacts of climate change develop, so too can our adaptive strategies to mitigate these impacts.

As an organisation of healthcare professionals who already work within a paradigm of integrative and preventative medicine, AIMA members have the opportunity within our own practices and through individual consultations, to highlight the impact of climate change on health and to guide patients towards adopting healthier lifestyles which are not only beneficial for themselves but also for the community.

We believe the role of the health sector in climate change can be considered in three main sections:

- The role of the healthcare sector in adaptation
- The role of the healthcare sector in mitigation
- The role of the healthcare sector in engaging the community

The role of the healthcare sector in adaptation

Climate change in Australia will have far-ranging health impacts and for the healthcare sector to adequately respond, we must also adapt, and where possible attempt to anticipate demands upon resources, and develop appropriate measures before we begin to feel the more significant impacts of a rise of 1-2° C above average temperatures.

There is a high likelihood of Australians suffering from more extreme weather events and therefore consequently, increased injury, death and post-traumatic distress disorders. The adverse health impact of more severe droughts on rural and remote communities will be significant¹⁷. There is likely to be a change in the seasonality and scope of vector-borne diseases which had previously been restricted to the far north of Australia, such as Dengue Fever¹⁸. We have already seen an increase in the spread of Dengue Fever¹⁹, which is of particular concern as there remains no vaccination and no effective treatment. There may be fresh water shortages with consequences for hygiene and sanitation and increased risks of gastroenteritis, such as campylobacter²⁰.

¹⁷ Morrissey SA, Reser JP. Natural disasters, climate change and mental health considerations for rural Australia. *Aust J Rural Health* 2007;15:120–5.

¹⁸ McMichael AJ, Woodruff RE, Hales S. Climate change and human health: present and future risks. *Lancet* 2006;36:859–69.

¹⁹ Available at www.health.qld.gov.au/dengue/outbreak_update/current.asp. Accessed 18 November 2009.

²⁰ Kovats RS, Edwards SJ, Charron D, et al. Climate variability and campylobacter infection: an international study. *Int J Biometeorol* 2005;49:207–14.

The potential impact on both individual and community mental health cannot be underestimated, with a projected rise in depression²¹, a trend we are already witnessing in rural and remote communities^{22,23,24}. There may also be a rise in prejudicial emotional and developmental experiences in childhood²⁵, and there is already research suggesting that children feel anxious about climate change and worry about how it will affect their lives²⁶. This is all without considering the strain placed upon the healthcare sector by a potential influx of environmental refugees²⁷.

We suggest that public education and increased awareness of the impacts of climate change on human health are essential. We suggest the development of improved early warning alert systems for extreme weather events and infectious disease outbreaks. All healthcare providers need to consider their “disaster preparedness” and their surge capacity to respond to emergencies²⁸. In response to the threat of increased vector-borne disease, improved surveillance must be explored, for example by improved case detection and treatment, tracking mosquito numbers, and monitoring aero-allergen concentrations to alert the public to increased asthma risk²⁹.

Appropriate health outcomes need to be identified, so that they can then be monitored as the climate continues to change. This may include infectious disease outbreaks and seasonal asthma peaks³⁰. There must be appropriate health workforce training and this may include mid-career development, by updating understanding of the impacts of climate change, the development and implementation of education programmes at an undergraduate level³¹, and the collaboration of healthcare professionals across disciplines.

²¹ Fritze, J., G. Blashki, et al. 2008 "Hope, Despair and Transformation: Climate Change and the Promotion of Mental Health and Wellbeing", *International Journal of Mental Health Systems*, 2:13, <http://www.ijmhs.com/content/2/1/13>. Accessed 18/11/09.

²² Morrissey SA, Reser JP. Natural disasters, climate change and mental health considerations for rural Australia. *Aust J Rural Health* 2007;15:120–5.

²³ Sartore G, Kelly B, Stain H: Drought and mental health. *Australian Family Physician* 2007, 36(12):990-993.

²⁴ Nicholls N, Butler C D, Hanigan I. Inter-annual rainfall variations and suicide in New South Wales, Australia, 1964–2001. *Int J Biometeorol* 2006;50:139–43.

²⁵ Keenan H, Stephen W, Marshall S, Nocera M, Runyan D: Increased incidence of inflicted traumatic brain injury in children after a natural disaster. *American Journal of Preventive Medicine* 2004, 26(3):189-193.

²⁶ Tucci J, Mitchell J, Goddard C: *Children's Fears, Hopes and Heroes: Modern childhood in Australia Melbourne: Australian Childhood Foundation; 2007.*

²⁷ Myers N: *Environmental Refugees: An emergent security issue 13th Economic Forum, Prague; 2005.*

²⁸ Blashki G, McMichael T, Karoly D *Climate Change and Primary Healthcare Australian Family Physician*, Vol 36, No 12 December 2007.

²⁹ D'Amato G, Liccardi G, D'Amato M, Cazzola M. Outdoor air pollution, climatic changes and allergic bronchial asthma *Eur Respir J* 2002;20:763–76.

³⁰ Nicholls N, Butler C D, Hanigan I. Inter-annual rainfall variations and suicide in New South Wales, Australia, 1964–2001. *Int J Biometeorol* 2006;50:139–43.

³¹ Green E, Blashki G, Berry H, Harley D, Horton G, Hall G *Preparing Australian Medical Students for Climate Change Australian Family Physician Vol 38 No 9 September 2009.*

The role of the healthcare sector in mitigation

For those in the healthcare sector to influence both policy development and individual patient choices, we need to first be educated about the health impacts of climate change and where possible, to lead by example³². There are simple changes which can be made in our working environments, or in our domestic environments, and in this respect we support the changes suggested in the Australian Conservation Foundation's 'Green Home' guide³³. Some simple Green home strategies to employ in a clinic setting include the installation of low-energy lighting and energy-efficient refrigerators, turning off all unused electrical equipment, buying "green energy", creating a "paper-free office" and where that is not possible, using only recycled stationery products and recycling all used plastic and paper³⁴. We also broadly support the organisation, Doctors for the Environment Australia³⁵, which continues to provide resources to the wider community and education for healthcare professionals.

The role of the healthcare sector in engaging the community

Health researchers and practitioners have a key role to play in researching and communicating appropriate strategies for responding to climate change in ways which, alongside emissions reductions, also have health and wellbeing benefits. This involves the identification and promotion of the population health benefits of changed behaviours to reduce emissions such as sustainable transport and localised energy and food systems. Creating a low carbon society will have benefits in reducing air pollution and related respiratory diseases, reducing the incidence of obesity and related diseases such as diabetes and heart disease.

The healthcare sector has previously demonstrated it can impact on societal opinions and behaviours, for example, through smoking cessation campaigns and sexually transmitted disease education and immunisation³⁶. Therefore we have a unique opportunity through climate change to further develop lifestyle interventions, such as exercise and balanced diet and stress reduction as both essential to maintain health but also as part of a broader approach to both mitigate and adapt to climate change.

Increasing exercise and use of public transport, has beneficial effects both for the environment and for health^{37,38}. Eating a diet rich in fruits, vegetables, oily fish, nuts and pulses, and reducing the amount of meat consumed has a beneficial effect on total mortality³⁹, a reduction in cardiovascular disease and is also beneficial for the environment. The chairman of the IPCC, Rajendra Pachauri, was quoted as suggesting that people can, "*Reduce their personal carbon footprint simply by eating one less meat meal a week*"⁴⁰.

Protecting health from the impacts of climate change is an emerging priority for the public health community, however research in this area is comparatively undeveloped. Given the complexity of the issues involved and the magnitude of health risks that may arise from inadequate or inappropriate responses, it is necessary to ensure adequate funding for this developing sector.

³² Blashki G, Butler C, Brown S. Climate change and health: what can GPs do? Aust Fam Physician 2006;35:909–11.

³³ Available at <http://www.acfonline.org.au/greenhome>. Accessed 18 November 2009.

³⁴ Fogarty A, Blashki G, Morrell E, Horton G. The Green Clinic Pilot – Educational Intervention for environmentally sustainable general practice. Australian Family Physician Vol 37 No8 August 2008

³⁵ Available at <http://www.dea.org.au>. Accessed 18 November 2009.

³⁶ Noakes K, Salisbury D Immunization campaigns in the UK. Curr Top Microbiol Immunol. 2006;304:53-70.

³⁷ Kampert J, Blair S, Barlow C, et al. Physical activity, fitness and all cause and cancer mortality. Annals of Epidemiology. 1996;6:542-7.

³⁸ Maiorana A, et al., Combined aerobic and resistance exercise training improves functional capacity and strength in CHF. J Appl Physiol. 2000;88:1565-70.

³⁹ Buckland G et al. Adherence to the Mediterranean Diet and Risk of Coronary Heart Disease in the Spanish EPIC Cohort Study. Am J Epidemiol. 2009 Nov 10.

⁴⁰ Rajendra Pachauri joins 7.30 Report Australian Broadcasting Corporation Broadcast: 29/09/2009.

As noted by the World Health Organisation:

“Research on the health effects of mitigation and adaptation decisions in other sectors can help to avoid harm, and identify important opportunities for health promotion...applied research can help maximise the health co-benefits of greenhouse gas mitigation, and avoid health-damaging ‘maladaptations’ to climate change. This should include definition of best practice for assessing health in mitigation policies from ‘macro’ level policies, e.g. carbon-pricing, to local and sector-specific decisions such as home insulation schemes⁴¹.”

Conclusion

AIMA urges the Australian government to adopt robust emission reduction policies which aim to reduce the level of carbon dioxide in the environment to 350 parts/million. A reduction of this magnitude is necessary if we hope to prevent “runaway climate change.” This reduction can also be thought about as reducing emissions to 50% below 1990 levels by 2050³⁶. This is the target which has been suggested by Nicholas Stern in the Stern Report, by Professor Ross Garnaut in the Garnaut Review and by the IPCC, mentioned earlier.

AIMA urges it’s members and the broader healthcare sector to consider the health impacts of climate change on a personal, professional and societal level, and where possible to provide guidance to the community in both mitigation and adaptation to climate change.

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⁴¹ World Health Organization (WHO) 2009 Protecting Health from Climate Change: Global research priorities, Geneva: WHO Press.