

**Submission
to the
Senate Community Affairs Committee
Inquiry into
Australia's domestic response to the World
Health Organization's (WHO) Commission on
Social Determinants of Health report
"Closing the gap within a generation"**

Submission from
Doctors for the Environment Australia Inc.
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Doctors for the Environment Australia (DEA) is a voluntary organisation of medical doctors in all Australian states and territories. We work to address the diseases – local, national and global – caused by damage to the earth's environment. In effect we are an advocate for public health.

The medical profession has a proud record of service to the community. This record not only includes personal clinical care, but also involvement in global issues that threaten the future of humanity. We aim to use our scientific and medical skills to educate governments and industry, the public and our colleagues to highlight the medical importance of our natural environment. To our patients we try to provide a role model in the care of the environment for this is part of a preventative health ethos.

DEA is a branch of the International Society of Doctors for the Environment (ISDE), based in Switzerland, which is a global network of concerned medical professionals. There are now branches in 35 other countries. ISDE has significant achievements in Europe and has established strong links to and influence in the European Community.

DEA submits that the natural and built environments are determinants of human health. The environment helps determine human health via three pathways:

1. The requirements for human health both individually and at a societal level of a healthy, well-functioning environment;
2. The link between environmental damage and the causes of poor health in modern societies; and
3. The effects of environmental pollution in contributing to and worsening chronic diseases.

A well-functioning environmental contributes to human health in three inter related ways. Firstly, is the range of ecosystem functions and cycles that provide clean air, fresh water, support food production (soil and insect life) and help manage human society's waste streams (McMichael 2009; Butler and Hanna – In Press).

Secondly, access to natural places and 'nature' contributes to human psychological, cultural and 'spiritual' wellbeing (Connor, Albrecht et al, 2004; Townsend 2006; Peacock, Hine & Pretty 2007; Albrecht, Sartore et al 2007; Higgenbotham, Freeman et al, 2010).

Thirdly, a politically and economically equitable society determines good social and consequently individual health and wellbeing (Wilkinson, 2009). This approach is outlined in the Commission on Social Determinants of Health Report (Commission on Social Determinants of Health 2008).

For these three reasons the natural (and human-modified) environment plays a vitally important role in providing the foundations for complex industrial society, and their population's wellbeing and health, productivity, and material, social and aesthetic conditions of living.

Humanity's relationship with the environment is two way; while we derive vital support from our natural environment, our own actions contribute to supporting or damaging the environment. As human numbers grow and economic activities intensify and extend, so the negative impacts on the environment's health-enhancing and, indeed, its life-supporting systems increase. Thus human political and economic behaviour has an influence on our ecosystem supports, which in turn affect our health. Human-induced disruptions and depletions of environmental systems loom increasingly large as a fundamental, mostly negative, influence on health and longevity in coming decades in countries around the world (McMichael and Butler, 2011).

Environmental functions which contribute support and improvement to human health include:

- The co-benefits for health and ecological sustainability from, for instance, active transport (walking, bicycling) with greenhouse gas emission reductions as well as improved urban air quality (and consequent reduction in respiratory and cardiac diseases) and improvements in psychological wellbeing with better community amenity (Rissel 2009; Woodcock, Edwards et al. 2009; Giles-Corti, Foster et al. 2010).
- Sustainable urban design permits active transport. Open and green natural spaces increase recreational potential for physical activity which reduces cardiovascular disease, and contributes to mental wellbeing. Furthermore, urban layout with features such as water and green spaces result in reduced heat island and cooler cities. Temperature stable house design contributes further. Such factors reduce demand for electricity and so reduce emissions and further improve air quality in addition to reducing risks of adverse effects from heat on very hot days.
- Experience in the United Kingdom with the Sustainability Development Unit has shown that green health care options provide both more cost effective health care and reduced greenhouse gas emissions (see http://www.sdu.nhs.uk/sd_and_the_nhs/).
- The importance for operating within the planetary safe operating limits (Rockström, Steffen et al. 2009) has a strong health and health care dimension (McMichael 2009).

- The health sector needs to become aware of, and start to plan, a response to other resource constraints that may directly affect health care, such as 'peak oil' (Raffle 2010) or those effecting agriculture and food yields, such as 'peak phosphorus' (Cordell, Rosemarin et al. 2011). In fact the effects on agriculture and livestock productivity of resource 'peaks' compounding the effects of global warming will be very significant for human health and wellbeing through effects on food quality and availability. They deserve much more health sector attention.

Second, the economic arrangements that cause environmental degradation are the same ones that determine chronic diseases. Examples include economic systems that engender a more stressful society, and those which support tobacco availability, energy dense low nutrition foods and reduced opportunities for exercise that elevate rates of diabetes and heart disease. Governments need to more strongly regulate economic activities that lead to both these outcomes. Economic models that do not recognise the environmental costs that result from their implementation, or persistently assume natural resources only have a commodity value; or that view damage to ecosystem supports as discountable externalities; or, even where the importance of ecosystem supports is recognised, undervalue their absolute essential worth to human survival and wellbeing, require challenge by the health sector.

Finally a large number of humanly generated environmental pollutants contribute to human illness. Such pollutants include urban and industrial air pollution; residual lead (in places such as Broken Hill, Port Pirie and Mt Isa) and arsenic in soil and food. Further evidence is emerging that chemicals play a significant role in developmental and other illnesses including congenital malformations, cancers, diabetes, allergenicity, generalised immune disorders, asthma, neurological and behavioural conditions, endocrine disruption, and, perhaps, obesity and autism (Weiss, 2000; Giles-Corti et al. 2003; Choi, Yoo & Lee 2004; Hanna 2005; Weselak et al 2007; Dietert & Dietert 2007; Heindel, 2007; Lee, et al. 2007).

Most importantly Doctors for the Environment Australia notes the burden of illness suffered by some communities in Australia as a result of air pollution from the combustion and mining of coal and other fossil fuels and the inadequate actions of the Commonwealth to remedy this situation. This responsibility has been devolved to individual states through EIS processes which frequently fail to use adequate Health Impact Assessment (HIA) processes for developments, fail to utilise adequate deployment of monitoring and fail to implement remediable measures. We contend that community health could be significantly improved either by the Commonwealth policing standards or by accepting responsibility through the establishment of a national HIA process. Australia can contribute to the intent of closing the health gap in a

generation by ensuring a higher standard of governance for some of its own communities.

DEA submits that:

- Environmental protection and rehabilitation are important determinants of health.
- The Commonwealth should be developing policy responses to inform relevant Commonwealth programs and services and the activities of national health agencies.
- A framework and information about environmental determinants of health and wellbeing be included in all programs undertaken to improve awareness of determinants of health.
- The Commonwealth should examine its own responsibilities in public health governance and implement reforms.

References

Albrecht G, Sartore GM, Connor L, Higginbotham N, Freeman S, Kelly B, Stain H, Tonna A, Pollard G. Solastalgia: the distress caused by environmental change. *Australasian Psychiatry*. 2007; 15(S1):95-8

Butler C, Hanna EG. Cross-cutting threats to Human Health and Health Care systems: Biodiversity loss and ecosystem function In: Adegoke J, Wright C, editors. *Climate Vulnerability. Volume 1 Health*: Elsevier. 2013

Choi S, Yoo S, & Lee B. Toxicological characteristics of endocrine-disrupting chemicals: developmental toxicity, carcinogenicity, and mutagenicity. *J Toxicol Environ Health B Crit Rev*, 2004; 7(1):1-24

Connor L, Albrecht G, Higginbotham N, Freeman S, Smith W. Environmental change and human health in Upper Hunter communities of New South Wales, Australia. *EcoHealth*. 2004; 1(sup 2):47-58

Cordell D, Rosemarin A, Schröder J, Smit A. Towards global phosphorus security: A systems framework for phosphorus recovery and reuse options. *Chemosphere*. 2011; 84(6):747-58
Commission on Social Determinants of Health (2008). Closing the gap in a generation: health equity through action on the social determinants of health: Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.

Dietert R, & Dietert J. Early-Life Immune Insult and Developmental Immunotoxicity (DIT) Associated Diseases: Potential of Herbal and Fungal-Derived Medicinals. *Current Medicinal Chemistry*. 2007; 14(10):1075-85

Giles-Corti B, Macintyre S, Clarkson JP, Pikora T, Donovan RJ. Environmental and lifestyle factors associated with overweight and obesity in Perth, Australia. *American Journal of Health Promotion*. 2003; 18(1):93-102

Giles-Corti, B., S. Foster, et al. (2010). "The co-benefits for health on investing in active transportation." *NSW Public Health Bulletin* **21**((5-6) May-June 2010): 122-127

Hanna EG. *Environmental health and primary health care: Towards a new workforce model* [PhD. Research]. Melbourne: La Trobe University; 2005. Access via Thesis On-Line at <http://www.lib.latrobe.edu.au/thesis/public/adt-LTU20061110.152550/>

Heindel J. Role of exposure to environmental chemicals in the developmental basis of disease and dysfunction. *Reproductive Toxicology*, 2007; 23(3): 257-9

Higginbotham N, Freeman S, Connor L, Albrecht G. Environmental injustice and air pollution in coal affected communities, Hunter Valley, Australia. *Health & Place*. 2010; 16(2):259-66

Lee D, Lee I-K, Porta M, Steffes M, & Jacobs D . Relationship between serum concentrations of persistent organic pollutants and the prevalence of metabolic syndrome among nondiabetic adults: Results from the National Health and Nutrition Examination Survey 1999-2002, *Diabetologia*, 2007; 50:1841-51

McMichael AJ. Human population health: Sentinel criterion of environmental sustainability. *Current Opinion in Environmental Sustainability*, 2009. 1(1): 101-106.

McMichael AJ, Butler CD. Promoting global population health while constraining the environmental footprint. *Annual Review of Public Health* 2011; 32: 179-197

Peacock, J., Hine, R. & Pretty, J. (2007). Got the Blues, then find some Greenspace: The Mental Health Benefits of Green Exercise Activities and Green Care, Centre for Environment and Society, University of Essex Raffle, A. E. (2010). "Oil, health, and health care." *BMJ* **341**.

Rissel, C. E. (2009). "Active travel: a climate change mitigation strategy with co-benefits for health." *NSW Public Health Bulletin* **20**((1-2) January February 2009): 10-13

Rockström, J., W. Steffen, et al. (2009). "Planetary boundaries: exploring the safe operating space for humanity." *Ecology and Society* **14**(2): 32

Townsend, M. (2006). "Feel blue? Touch green! Participation in forest/woodland management as a treatment for depression". *Urban Forestry & Urban Greening* 5: 111-120.

Weiss B. Vulnerability of children and the developing brain to neurotoxic hazards. *Environ Health Perspect*. 2000;108(3):375-81

Weselak M, Arbuckle T, & Wigle D & Krewski D. In utero pesticide exposure and childhood morbidity. *Environ Res*. 2007; 103(1):79-86

Wilkinson, RG & Pickett, K, 2009, *The Spirit Level: why more equal societies almost always do better*, Allen Lane, London, UK

Woodcock, J., P. Edwards, et al. (2009) "Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport." *The Lancet* DOI: 10.1016/S0140-6736(09)61714-1