New vision, new paradigm:
health and wealth for all by 2100 — or for no one

Peter W Tait

*Global environmental change is threatening the health and survival of humankind —
are we doing enough to ensure the environmental and social bases for health?*

Global warming and resultant climate change pose serious risks to human health.[1-3] However, global warming is only one of a nested series of threats to the health — and even survival — of humankind. With this in mind, is our current approach to both clinical and public health sufficient?

Parallel threats to the health and wellbeing of humanity arise from a myriad of anthropogenic problems (Box). All such problems, acting synergistically, stress the ecological and social foundations upon which humanity relies for air to breathe, water to drink, food to eat, and disposal of waste, and without which there can be no civilisation and no economy. Taken together, they comprise what has been described as global environmental change (GEC).[4]

There are many drivers of GEC. Our complex society is heavily dependent on oil to function, even though the supply of easily recoverable oil has peaked or is about to peak.[5] However, the fossil fuel bonanza over the past century and a half has enabled a human population explosion that, in turn, has been driving GEC.

As populations expand and encroach into new areas, destroying natural habitats and putting animals and humans into close proximity, humans are being increasingly exposed to novel animal diseases. HIV and emerging diseases such as Ebola virus, severe acute respiratory syndrome and H5N1 avian influenza may be manifestations of this.[6]

The rising population, ecological stress, and neoliberal-driven economic disparity all contribute to political unrest and human violence,[7,8] which drive further GEC.

Consequently, humanity is facing a series of serious, unprecedented ecological and social changes caused by ourselves. Of these, it is global warming that, if not the most dangerous threat, is the fulcrum about which to coordinate analysis and action.

To express concern about the survival of humankind is not being alarmist. Our understanding of the threats facing humanity has moved to a point where the full range of possibilities confronting us can be appreciated. Where we end up consequent to GEC in the next two centuries will be somewhere on a continuum that extends from the extinction of *Homo sapiens*, through collapse or patchy disintegration of complex industrialised society, to a sustainable industrial civilisation. Exactly where we find ourselves on this continuum depends on how quickly and effectively we act environmentally, economically and socially. Our survival also depends on our ability to control weapons of mass destruction, which are more likely to be used as the consequences of GEC generate conflict over access to ever scarcer resources.

As health carers, we are involved on several levels. Individually, we are both part of the cause of GEC and recipients of its effects. As health care professionals, we will need to modify both our health systems and the way we practise to meet the challenge of new health problems, and to adapt to old health problems in new guises. As health professionals, we also have a duty of care to our patients to strongly advocate for action.

Serendipitously, GEC also presents unique opportunities. GEC and economic inequity have related causes. Thus, a strategic approach would enable humanity to derive a set of solutions that will make the world both environmentally sustainable and more economically just,[7] with flow-on benefits for health. Indeed, Jonathan Patz proposed that "global climate change could be the greatest public health opportunity we've had in over a century".[9] Changes needed to mitigate and adapt to GEC present specific health opportunities; for instance, less car use means more exercise. Howard Frumkin has explained how redesigning cities and rearranging traditional work practices can enhance exercise, build social capital, and make a healthier society.[10]

While beneficial, such changes are not in themselves sufficient. GEC is adversely affecting our society and will continue to do so. The medical community can no longer limit its focus to hospital waiting times, fee levels, workforce shortages, obesity and diabetes. These issues all become starkly irrelevant if the ecological and social systems on which we depend for both our survival and our capacity to deliver services, save lives and care for people stop working. We need a profound shift in our paradigm.

The health care sector is not only responsible for delivering health care, but must also ensure the environmental and social bases for health itself. To meet this responsibility, we can act personally — buy a hybrid car, for instance. Individually, we can join and financially support organisations that are working for change: Doctors for the Environment Australia, the Medical Association for Prevention of War, the Australian Conservation Foundation, and others. But collectively, our academic colleges and professional associations must advocate strongly and clearly to government about the gravity of our predicament and the need for urgent, wide-ranging action.

Serious current environmental problems*

Destruction/loss of natural resources
- natural habitat (ecosystem services)
- wild food sources
- biological diversity
- soil (erosion, salinity, fertility)

Ceilings on natural resources (soft ceiling, raising the ceiling costs)
- energy (fossil fuel and alternatives)
- fresh water
- photosynthetic capacity of plants

Harmful things made or moved around
- toxic chemicals
- alien species
- atmospheric gases (greenhouse gases → climate change, ozone destruction)

Increasing human population
- actual numbers
- impact per capita on the environment (resource use and waste)

* Derived from Diamond J. Chapter 16. In: Collapse: how societies choose to fail or survive. London: Allen Lane, 2005. ◆

Humanity needs a new vision for health for the year 2100: to make sure we have an economically equitable society on an ecologically healthy planet. The stakes are high — we must not fail. The challenge I put to all of us and to our health and political leaders is to work together to make this vision a reality.

Author details

Peter W Tait, MB BS, FRACGP, Australian General Practitioner of the Year (2007), and Member, Environmental Health Special Interest Group
Public Health Association of Australia, Canberra, ACT.
Correspondence: aspetert@bigpond.com

References

1 Woodruff R, Hales S, Butler C, McMichael A. Climate change health impacts in Australia: effects of dramatic CO_2 emission reductions. Report for the Australian Conservation Foundation and the Australian Medical Association. Canberra: National Centre for Epidemiology and Population Health, Australian National University, 2005.

2 Green DL. Climate change and health: impacts on remote Indigenous communities in northern Australia. CSIRO Marine and Atmospheric Research Paper 012. Melbourne: CSIRO, 2006.

3 McMichael AJ, Woodruff RE, Hales S. Climate change and human health: present and future risks. *Lancet* 2006; 367: 859-869. DOI: 10.1016/S0140-6736(06)68079-3.

4 McMichael AJ. Planetary overload: global environmental change and the health of the human species. Cambridge: Cambridge University Press, 1993.

5 Leggett J. Half gone: oil, gas, hot air and the global energy crisis. London: Portobello Books, 2005.

6 Weiss RA, McMichael AJ. Social and environmental risk factors in the emergence of infectious diseases. *Nat Med* 2004; 10 (12 Suppl): S70-S76.

7 Sachs JD. The end of poverty: how we can make it happen in our lifetime. London: Penguin Books, 2005.

8 Wilkinson RG. The impact of inequality: how to make sick societies healthier. New York: The New Press, 2005.

9 Patz J. Overview presentation. Climate change and health: research and policy issues in relation to health impacts and adaptations. A short course for researchers & policy-makers; 2007 Dec 4–6; National Centre for Epidemiology and Population Health, Australian National University, Canberra, ACT.

10 Frumkin H. Designing and building healthy communities. Presentation at Public Health Association of Australia 37th Annual Conference; 2006 Sep 25–27; Sydney, NSW. ❏