

Climate change and human health

What can GPs do?

In recent months articles in the most respected peer reviewed medical journals in Australia, the USA and Britain have called for urgent action to reduce climate change.¹⁻⁴ The chief scientist of the United Kingdom has described climate change as 'the most severe problem that we are facing today – more serious even than the threat of terrorism'.⁵ Yet, many of you will wonder if this is really such an urgent issue, and – even if it is – what on earth has it got to do with general practice?

This article argues that because of its considerable health consequences^{6,7} climate change is indeed a critical issue for the general practice community. While recognising that solutions depend on government policies, we believe that general practitioners are well placed to constructively influence this debate. There is much that GPs can do to help to trigger the wide social changes needed, as they have done in relation to other public health issues such as smoking and immunisation. To do this, GPs need to be better informed and extend their role model function to include leadership about climate change by setting an example.

Credible climatologists around the world not only agree that human induced climate change is occurring,⁸ but are increasingly concerned that they have underestimated the rate and risk of this.⁹ Numerous changes have been detected in both geographic¹⁰ and natural systems.¹¹ And, as the flood of recent papers in medical journals attest, there is growing consensus that future warming will have major adverse public health implications.

Yet, because we are all familiar with substantial daily, seasonal and regional temperature differences, the change in global temperature that is predicted to occur might seem insignificant. However, this future change (at least 1–2°C in addition to the change of 0.5°C observed in the past century³) is to the average temperature. This will result not only in changes to extreme temperatures such as the frequency of extremely hot days, but also to many other natural and human systems. According to a recent

Australian assessment, average temperature increases of 1–2°C will result in critical damage to crucial Australian ecosystems including the Great Barrier Reef, Kakadu, the Alpine zone and World Heritage rainforests.¹

Cyclone Larry, which had a devastating effect in North Queensland, was rapidly followed by Monica, another category 5 cyclone. This unusual pattern is consistent with the global increase in extreme weather events, which is also increasingly attributed to climate change, operating through the mechanism of warmer sea surface temperatures.¹² Concerns are also growing that climate change will alter regional agricultural productivity, aggravating food and water shortages in some parts of the world.^{1,7} The case for urgent reductions in our emission of greenhouse gases is also becoming increasingly clear in Australia from an economic perspective.¹³

A recent joint report by the Australian Medical Association and the Australian Conservation Foundation⁶ investigated some of the likely effects of climate change for Australia and our immediate region. It found that rising temperatures are likely to result in increased heat related deaths and greatly extend the potential transmission zone for several vector borne diseases, including dengue fever. (Dengue is of particular concern not only because it is potentially lethal, but because it lacks both a vaccine and effective treatment.) Water quality is also likely to deteriorate, including through increased algal blooms. Climate change is predicted to impact on the disease patterns of a range of pathogens including viruses, ticks and water borne diseases.⁴

Weather extremes are unlikely to be confined to heat waves: droughts, fires, storms, crop losses and insurance premiums are also likely to worsen, harming the health, morale and wellbeing of many people, particularly the vulnerable.

GPs can act right now

How can GPs meaningfully reduce the problems that we appear to be creating not only for our children, but for



Grant Blashki

MD, FRACGP, is Senior Research Fellow, Department of General Practice and Program Evaluation Unit, University of Melbourne, and Honorary Senior Lecturer, Health Services Research, Kings College London. gblashki@unimelb.edu.au

Colin D Butler

BMed, BMedSci(Hons), DTM&H, MSc, PhD, is Senior Research Fellow in Global Health, Deakin University, Victoria.

Suzie Brown

is GreenHome Coordinator, Australian Conservation Foundation.

the next generation of GPs? A good starting point is to make some simple changes in the way in which we organise our clinics (Table 1). Others may consider domestic changes

such as found in the Australian Conservation Foundation's GreenHome guide¹⁴ and where appropriate, such lifestyle changes may be discussed with patients directly. Many GPs

have already contributed to environmental debates by joining groups such as Doctors for the Environment Australia¹⁵ or the Australian Conservation Foundation.¹⁶ In our view, the

Table 1. Ten tips for a green clinic

1. Install low energy lighting

- Replace old style incandescent globes with compact fluoro globes or use fluorescent tubes. Avoid halogen downlights
- Replacing one incandescent globe with a compact fluoro can save 0.5 tonnes of greenhouse gas and save you \$70 in energy costs in its lifetime (about 8 years)

2. Turn off computers and appliances to save energy

- Turn off computers and screens when not in use
- Turn off standby power at the end of each day, ie. switch off all appliances at the wall or power board (eg. photocopiers, printers, stereos)

3. Buy 'green power' for the clinic

- Ask your energy supplier to switch you to accredited green power, or change to another energy supplier with accredited green power (www.greenpower.gov.au for suppliers)
- Buying 100% green power means all your electricity will come from wind, solar other renewable sources

4. Energy efficient refrigerators

- Aim to have the most energy efficient and smallest refrigerator(s) you can – when buying a refrigerator check the star rating and choose the one that uses the least energy per year
- Maintain your existing refrigerator(s) to be as efficient as possible:
 - ensure the seals are completely intact and gripping – replace any damaged ones
 - position your refrigerator so it has air space around it to expel the heat it generates (especially behind and above) and keep it away from the sun

5. Reduce car journeys

- Arrange pick up with pathology companies in advance to avoid them making unnecessary trips – try to restrict pick ups and deliveries to the minimum number per day
- Encourage staff to take public transport or ride to work – provide bicycle storage and changing facilities
- Reducing petrol usage from car trips saves greenhouse gases – with every litre of petrol saved 2.5 kg of greenhouse pollution is saved

6. Aim for a paper free office

- Communicate with doctors and patients by email where possible
- Request test results and other information be sent to you by email
- Manage files and patient records on computer to avoid the need for printed documents
- When using paper for printing, try to reduce paper usage by printing on both sides of the page and only print the pages you need

7. Recycle paper and plastics

- Arrange for a regular paper and plastic container recycling collection
- Have a paper shredder to shred patient documents before recycling
- Make the recycling bins available to both patients and staff and clearly label the recycling vs. landfill bins

8. Buy recycled paper, stationery and toilet tissue

- Try to buy 50–100% recycled office paper
- Look for other stationery made from recycled materials (eg. toners, post-it notes, pens, pencils)
- Buy recycled toilet paper, kitchen towel and tissues
- Arrange for your toner cartridges to be collected for refill or recycling

9. Save water in the bathroom and kitchen

- Fit aerators to all taps to reduce tap water usage by up to 50%
- Fix all dripping taps or leaking toilets immediately
- Convert an old single flush toilet to a dual flush toilet or install a cistern regulator (allows the user to determine the flush length)
- Install a low flow showerhead if you have a shower

10. Reduce junk mail

- Put a 'No junk mail' sticker on your letterbox
- Ask to be taken off the direct mail lists of pharmaceutical companies and other businesses who regularly post you materials you do not want

capacity of the medical voice to influence long term government policies on environmental issues including climate change should not be underestimated.

Conflict of interest: none declared.

References

1. Woodruff RE, McMichael AJ, Hales S. Action on climate change: no time to delay *Med J Aust* 2006;184:539–40.
2. Coote A. What health services could do about climate change. *BMJ* 2006;332:1343–4.
3. McMichael AJ, Woodruff RE, Hales S. Climate change and human health: present and future risks. *Lancet* 2006; 367: 859–69.
4. Epstein PR. Climate change and human health. *N Engl J Med* 2005; 353: 1433–6.
5. King DA. Climate change science: adapt, mitigate, or ignore? *Science* 2004; 303:176–77.
6. 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 June 2006].
7. Patz JA, Campbell-Lendrum D, Holloway T, Foley JA. Impact of regional climate change on human health. *Nature* 2005;438:310–17.
8. Oreskes N. The scientific consensus on climate change. *Science* 2004;306: 1686.
9. Clery D. Climate change demands action, says U.K. report. *Science* 2006;311:592.
10. Kerr RA. A worrying trend of less ice, higher seas. *Science* 2006;311:1698–701.
11. Root TL, Price JT, Hall KR, Schneider SH, Rosenzweig C, Pounds J. Fingerprints of global warming on wild animals and plants. *Nature* 2003;421:57–60.
12. Emanuel K. Increasing destructiveness of tropical cyclones over the past 30 years. *Nature* 2005;436:686–8.
13. Available at www.businessroundtable.com.au. [Accessed 29 June 2006].
14. Available at www.acfonline.org.au/greenhome [Accessed 29 June 2006].
15. Available at www.dea.org.au/ [Accessed 29 June 2006].
16. Available at www.acfonline.org.au [Accessed 29 June 2006].