

- Greenhouse gases have increased in the atmosphere from 280 parts per million (ppm) before industrialization to 385 ppm in 2008.
- The world's weather is rapidly changing. This includes rising temperatures, increased drought and flooding, hurricanes, melting ice caps and rising sea levels.

Relationship between our health and our planet

Climate change has been described as the biggest global threat of the 21st century (Chan 2007). According to the United Nations Environment Programme, "all constituents of the environment of our planet ultimately exert an influence on human health and well-being." (United Nations 1992). This is consistent with the chiropractic concept of holism.

There is an interrelatedness and complexity of ecosystems. If we alter one or more aspects, it has flow-on effects. We have seen this play out in nature when we introduce a new species of animal into an area, and we have seen this play out in the human body when a new drug is introduced (internal ecosystem).

Weather has a profound effect on human health and well-being. Weather is associated with changes in birth rates and sperm counts, with outbreaks of pneumonia, influenza and bronchitis, and is related to other morbidity effects linked to pollen concentrations and high pollution levels (Kalkstein 1987). Increases in famine and air borne illnesses have occurred due to changing weather caused by global warming.



Sustainable future

Sustainability is defined as 'meeting the needs of current generations without compromising future generations'. At our current rate of resource consumption, is this possible?

How can we continue to improve (or even maintain!) the quality of life of human beings without compromising the integrity and health of the planet's ecological life support systems?

Is it time to re-think a mutualistic relationship between human society and natural

systems? This would certainly be congruent with chiropractic thinking.

What is happening in medicine?

The medical community has been active in this area for some time. Numerous articles on Climate Change and Health have been written in the *BMJ*, *Lancet* and other journals. As long ago as 400BC Hippocrates writing in *Airs, Waters and Places* suggested doctors consider issues in their local region including water quality, soil and temperature.

The International Society of Doctors for the Environment (ISDE) is a worldwide group of medical doctors committed to ecological problems affecting health. Founded in 1990, ISDE has member organizations in over 35 countries, and in 2009 a student chapter was formed.

Opportunities for the Chiropractic profession

- **On a personal level** — Engage in the issue. Increase your knowledge and understanding through reading and engagement. Two "must reads": the 2007 UK Stern Review and the IPCC Reports.

Lead by example in your practice and life. Review your energy use, recycling, modes

of travel, and animal food intake. For example there is a growing movement towards less meat and dairy consumption in our diets. This has not only direct health benefits of less animal food intake; it also has environmental benefits due to less methane emissions from lower animal production

and less resources required to produce the animals.

- **On a practice level** — Consider practice design and energy use. Could your practice run on renewable energy? Could you move to a paperless office?

Consider disposal of x-ray chemicals. The move to digital radiography alleviates chemical use and disposal.

Consider events such as "Earth Day" in your practice calendar of events. Involving and engaging your patients will have long-term benefits.

Discuss with patients the dual benefit on

personal health and the environment by, say, cycling to work. Benefits include decreased fossil fuel use, decreased carbon emissions, and increased cardiovascular health.

In chiropractic we have access to vast numbers of patients. Patient empowerment equals people power. Not only are there millions of people on practice databases, but as health conscious consumers they are likely to be more open to environmental concerns. How can we maximise communicating this issue?

In fact a survey of medical patients in Wisconsin in 2001 found that patients wanted their doctors to give them more information about environmental health topics (Temte 2001). 373 adult patients surveyed at four University of Wisconsin-Madison medical clinics found patients had a strong desire for, and would be receptive to, more environmental education from their physicians. Could this be true of chiropractic patients as well?

- **Chiropractic education** — The profession could consider expanding chiropractic education in the area of sustainability, environmental and ecological health. This is a known prerequisite to protecting and improving public health. Using the latest evidence available, these improvements in the curriculum could lead to revised accreditation standards.

Could a chiropractic college campus or chiropractic practice also take a "triple bottom line" approach and report to the governing boards on environmental improvements?

- **Chiropractic leadership** — The leadership organizations in chiropractic could develop position papers on the environment and climate change. Could a new international agency similar to the ISDE, the ICCE — International Committee of Chiropractors for the Environment be formed?

Conclusion

We cannot have health and well-being and achieve human potential if we live in an unhealthy environment. While the central focus of chiropractic is the correction of subluxations, consideration of the environment is congruent with chiropractic principles.

The potential risks of inaction are high, so perhaps the **precautionary principle** should apply. The precautionary principle says "it is appropriate to respond aggressively to low-probability, high-impact events" (Douthat 2009).

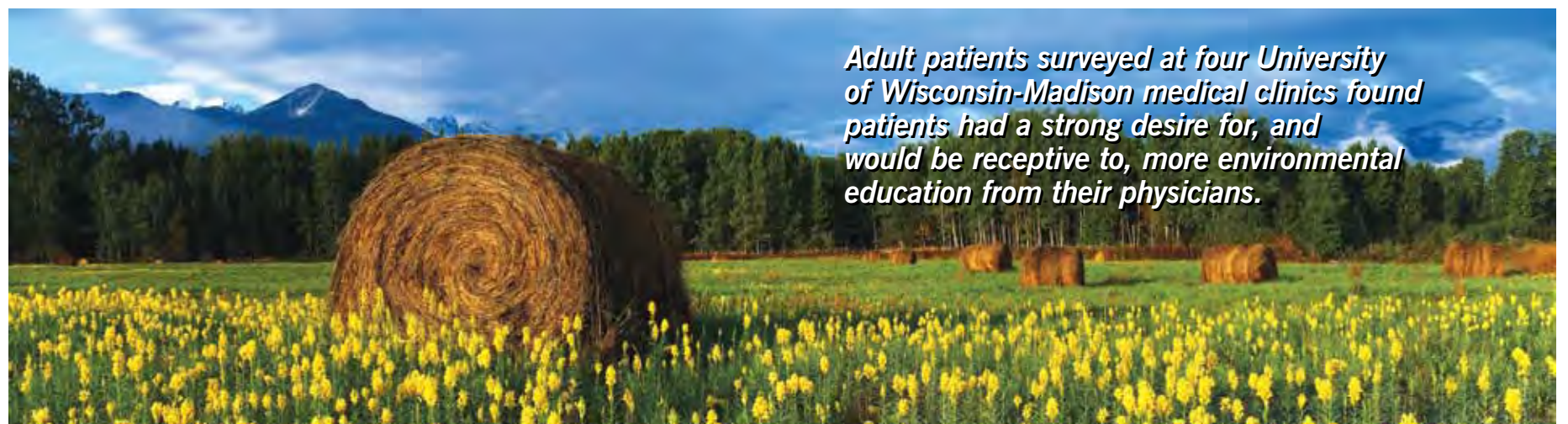
For humans to have a sustainable future on planet earth, we need to revisit our relationship with the planet and its resources. The World Bank says a climate-smart world is within reach if we work together. "... but we need a new momentum for concerted action on climate issues before it's too late" (World Bank 2009).

What steps can we take to be part of the solution?

References

- Chan M. Climate change and health: preparing for unprecedented challenges. The 2007 David E. Barnes Global Health Lecture, Bethesda, Maryland, USA, 10 December 2007. Retrieved 11 December 2009 from www.who.int/dg/speeches/2007/20071211_maryland/en/index.html.
- Doctors for the Environment Australia. Retrieved 12 December 2009 from <http://www.dea.org.au/node/337>
- Douthat, Ross. Climate Change and the Precautionary Principle. December 9, 2009. *New York Times*.
- Kalkstein, L. S., and Valimont, K. 1987. Climate effects on human health. In *Potential effects of future climate changes on forests and vegetation, agriculture, water resources, and human health*. EPA Science and Advisory Committee Monograph no. 25389, 122-52. Washington, D.C.: U.S. Environmental Protection Agency.
- Temte, J. L., and McCall J. C. Patient Attitudes Toward Issues of Environmental in *Health Wilderness and Environmental Medicine*: 2001; Vol. 12, No. 2, pp. 86-92.
- United Nations, 1992. Saving Our Planet Saving our planet: challenges and hopes: the state of the environment (1972-1992) United Nations Environment Programme (UNEP), Nairobi, Kenya.
- World Development Report 2010: Development and climate change. Washington DC: The International Bank for Reconstruction and Development/The World Bank, 2009.

Brian Kelly, BSc (Chiro) is president of the New Zealand College of Chiropractic. A graduate of RMIT in Melbourne, Australia, Dr. Kelly operated a multi-doctor practice in Melbourne before returning to New Zealand in 2003 to become president of the NZ Chiropractic College. Dr. Kelly has always been interested in advancing research knowing how important it is for the profession and is strong supporter of the Australian Spinal Research Foundation (ASRF). He served as ASRF president for many years. Recently Dr. Kelly received the prestigious CengageLearning-NZAPEP Leadership Award from the New Zealand Association Private Education Providers for exceptional leadership in private tertiary education. He was also named Chiropractor of the Year by the NZ Chiropractic Association.



Adult patients surveyed at four University of Wisconsin-Madison medical clinics found patients had a strong desire for, and would be receptive to, more environmental education from their physicians.