

## **Climate Change: a threatening public health emergency—symptoms too serious to ignore.**

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After decades of peer-reviewed work, the Intergovernmental Panel on Climate Change, an international scientific organisation involving thousands of climate scientists, recently concluded "... warming of the climate system is unequivocal." and "... human influence on the climate system is clear."<sup>1</sup> This work, and observation of health outcomes world-wide is prompting global health authorities (WHO, WHA, BMJ etc) to promote the Lancet/UCL Commission contention that "Climate change is the greatest threat to human health of the 21st century."<sup>2</sup> Dr Margaret Chan, Director-General of the WHO, states "The verdict is in. Climate change is real. Human activities are a prime cause. Human activities can also be the solution. We must act now, together, to find ways to protect human health and the people on this planet."<sup>3</sup>

New Zealand is already experiencing climate change: higher mean temperatures, more hot and fewer cold extremes, and shifting rainfall patterns--and it's on track to get worse. Despite this, our media treats the issue as a debate, which confuses the public. Governments encourage fossil fuel subsidy and exploration. Climate and health are largely ignored in their policies on agriculture and transport, the two leading causes of NZ greenhouse gas emissions (Fig.1. NB 'Energy' includes transport which makes up approx 20% of the total NZ GHG emissions).

What does the reality of climate change and its agreed health implications mean for us medical specialists? My College (RACS Code of Ethics) tells me, a surgeon, that I am charged "to advocate for improvements in individual and public health." The Medical Council of NZ tells me that I am to "protect and promote the health of patients and the public." The NZMA Code of Ethics: item 10, states that I must "accept a responsibility to assist in the protection and improvement of the health of the community." The World Medical Association Declaration of Geneva (revised 2006) states "I solemnly pledge to consecrate my life to the service of humanity..." These are weighty responsibilities. But that is what we have signed up to.

The strength of the evidence that climate change is linked to human activity is being compared with that linking cigarette smoking to lung cancer. We might consider a patient who has come to us for a routine health check. On discovering that this patient is a chain smoker, should we warn of the danger of life-threatening lung disease? Are we negligent if we do not? Are we similarly negligent if we fail to inform the public that the changing climate threatens health?

We know what the changing climate means for health. Extreme weather events and climate-sensitive diseases cause millions of deaths globally, right now. Insecurity of food and fresh water, economic collapse and human conflict over diminishing resources are likely. Margaret Chan again: "All populations are vulnerable, but the poor are the first and hardest hit. Climate change threatens to reverse our progress in fighting diseases of poverty, and to widen the gaps in health outcomes between the richest and the poorest. This is unfair – and it is unacceptable."<sup>3</sup>

But fortunately there is good news: climate change action benefits health. More active forms of transport and the consumption of less red meat will cut cardiovascular disease, obesity, diabetes and cancer. Warmer houses reduce asthma and other pulmonary disease: less air pollution reduces these as well as cancer and heart disease.

Spending on roads nation-wide is markedly increasing. The NZ Land Transport programme (2012-2015) predicts a total spend of approximately \$12 billion. Most of this is for Roads of National Significance (RoNS). Cycling, however, will be allocated less than 1% of the total spend. RoNS by induction will therefore encourage private vehicle transport over walking, biking and public transport, thus discouraging healthy physical exercise: and all this at a time when the young are decreasingly seeking their driving licenses, and the vehicle kilometres travelled per person is staying static or reducing (particularly in Wellington (fig.2).

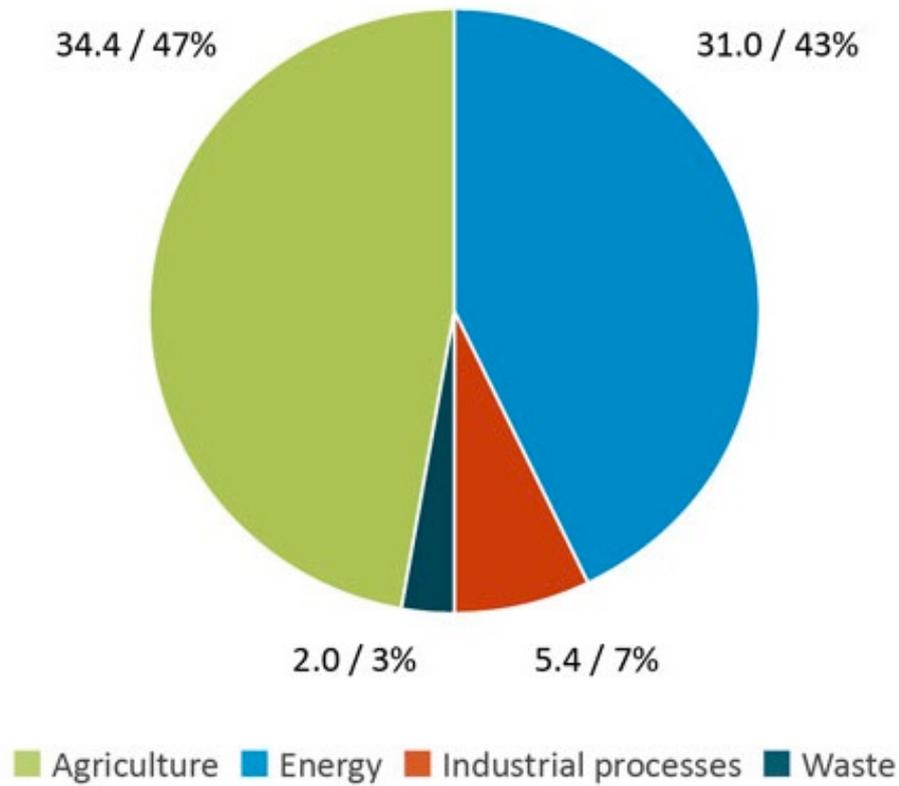
The NZ Transport Agency policy of its “vehicle first” approach makes current transport policy a threat to international efforts to tackle global environmental problems, including air pollution and climate change: its transport benefit/cost ratios (BCRs) often fail to quantify the health and equity costs<sup>4</sup>.

So what can health professionals do? People respect and listen to us. Doctors are ideally placed to interpret the science, as we are in the unique position of bridging the theory of science and the pragmatism of care and treatment. We have the greatest responsibility to act, and our professional organisations require it of us.

We should reduce the high carbon footprint of health delivery. We must also push our organisations to divest from fossil fuel industries. We need to ask our politicians for Health Impact Assessments (HIAs) before the formulation of their policies. We have to speak out clearly to the public, the media, government: in so doing we need to provide a strong and unified message – that climate change is real and is a result of human activity; that it is already affecting people globally and is the greatest current threat to human health; and that there are many positive and practical things we can do to avert its worst effects.

1. <https://www.ipcc.ch/report/ar5/wg1/>
2. <http://www.ucl.ac.uk/global-health/outcomes/reports/publications-docs/lancet-commission>
3. [http://www.who.int/world-health-day/dg\\_message/en/](http://www.who.int/world-health-day/dg_message/en/)
4. Woodward et al. Editorial NZMJ:126,1374, May 2013.

Figure 1: Ministry of the Environment Greenhouse Gas inventory-2011 ( NB Transport is included in “Energy” and comprises about 20% total of GHGs )



*Note: Emissions from the solvent and other product use sector are not represented in this figure.*

Figure 2: Vehicle-kilometres travelled per capita. Data from Ministry of Transport and Statistics New Zealand

