The Climate Change Act will now shape the nation's health: an assessment of the first policy recommendations to reach our zero carbon target

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This year, the Government will finally be forced to act on its responsibility to protect global and national health from runaway climate change. The independent Climate Change Commission has this month released a draft of its landmark first carbon budget advice. It sets the pathways for the country to get to net zero by 2050 (as required by law) and recommends specific accompanying policies. These policies cover all sectors of society, and many of the building blocks of population health and wellbeing. The choices the Government makes in response could be a real opportunity for health and equity gains, or alternatively exacerbate existing diseases and health inequities. In assessing the Commission's recommendations, health professionals should be looking for policies that uphold the Articles of te Tiriti o Waitangi; are effective at getting us on a pathway to zero emissions before 2050; and are based on the growing body of evidence about the effects of climate policy on health equity.

The independent Climate Change Commission is mandated under the Climate Change Response (Zero Carbon) Amendment Act 2019 (the 'Climate Change Act') to develop a series of emissions budgets so that we reach zero carbon emissions before 2050 and significantly reduce other greenhouse gas emissions like agricultural methane. In addition to providing the budgets, the Commission is tasked with developing source-specific policy guidance for meeting the budgets. These sources include agriculture, transport, industrial and household heat, electricity generation and land use. The expertise of the commissioners covers climate science, economics, public policy, mātauranga Māori, agriculture and forestry. Despite the critical importance of climate change to human health, public health expertise is absent from the Commission.

Climate change is a public health issue that warrants the same kind of urgent leadership and attention as COVID-19—the effects of which it is already exacerbating and will dwarf in the future because of its long-term, accelerating effects on the basic requirements for health and survival: liveable temperatures, freshwater, food and safe housing.[1] The Paris Agreement and the Climate Change Act are therefore crucial health-protecting global and national policies. The Commission's report explicitly invokes health protection as an impetus for action.

There are good health reasons for making a zero carbon transition. Although our emissions are small in gross terms, we have very high emissions per capita. Although historically these emissions have supported our current quality of life, burning fossil fuels has come with collateral harms (eg, air pollution) and represents a global injustice, since other, lower-income countries are now paying for our ongoing climate damage. Although reducing only our own emissions won't achieve the protection we need from the health effects of climate change, we cannot reasonably insist that the major emitting nations act to protect us unless we can convince them we are doing our fair share.

Unfortunately, Aotearoa New Zealand cannot currently claim this in international forums. The most recent global formal reporting of country emissions to the United Nations ranks us 42nd in performance out of 43 high-income countries in addressing our emissions.[2] Not only does this mean we will struggle to gain protection from the actions of others, but each further delay means we leave ourselves less time for a well-planned transition. Instead, we risk being forced to make expensive, sharp, poorly planned step-changes, which come with unintended consequences. Our necessary responses to COVID-19 demonstrate the widespread consequences of having to act under urgency. The longer we wait, the more we will also struggle to simultaneously finance the increasing costs of climate damage and adaptation, such as responding to sea-level rise, severe weather events, bushfires and further outbreaks of existing and new infectious disease.

We already have all the technologies and evidence to hand to make a healthy and just transition, and this is recognised in the Commission's report. Reassuringly, the Commission demonstrates that New Zealand is in a very good position to meet our global obligations in a timely fashion. A quarter century of public health research and growing global experience with implementation also provides a solid basis for designing policies across sectors to effectively reduce emissions while ameliorating some of our major health and health equity burdens—including obesity and physical inactivity, air pollution, traffic injuries, childhood infectious diseases, cardiovascular disease and some of our commonest cancers. Local cost–benefit analyses have been conducted and compare very favourably to many existing healthcare interventions. For example, the benefits of achieving basic standards of energy efficiency and healthy insulation and heating for the remainder of our poor housing stock have been estimated to bring at least $4 of health and social benefit for every dollar spent;[3] investing in high-quality urban cycling networks would likely bring tens of dollars of health and social savings for every dollar spent;[4] and shifts at a population level towards a more plant-based diet is estimated to bring $14–20billion in health savings over the lifetime of the current population.[5]

The Commission places the heaviest emphasis on actions to reduce emissions from the transport system—the sector with the fastest growing emissions and currently responsible for about half of our carbon dioxide emissions.[6] This is also the system that determines fair access to health-promoting goods and services, jobs, social connections and healthcare. Today's investments in transport infrastructure will lock us into travel and access patterns for the next 50 years. A decade-long programme of equity-focused transport health research[7–12] suggests a range of actions will be crucial for multi-solving in transport. These actions, summarised in order of urgency and priority in Figure 1, emphasise a shift in travel towards public and active transport that increases healthy access for those who need it most.

Although some of these priorities are acknowledged in the Commission's report, including the need to rebalance investment and to ensure that a just transition towards zero carbon mobility, the 'time critical necessary steps' identified in the report, which come with specific targets and policies, are to encourage the further uptake of (electric) privately owned motor vehicles, which will be neither equitable nor address transport's current health costs. The Commission signalled that investments in active and public transport are 'necessary'. But the accompanying policies are more vague; time critical policies have not been prioritised; and there is a lack of accountability targets. The report also demonstrates that the Commission is blind to the disruption that e-bikes are already causing to the urban transport status quo.[14] E-bikes have the potential for cheap and rapid upscaling, and already their uptake is far outpacing uptake of electric cars.

In addition to the multi-solving policies suggested by the evidence, acting on climate change as a public health issue will mean tackling the 'commercial determinants' of climate health: those global industries who have deliberately undermined healthy, equitable responses to climate change globally and nationally, leaving us with the long-play climate health crisis we now face. In the case of transport, that means explicitly adding car use to our list of major disease risk factors and acting accordingly to regulate oil-based transport industries, in the same

way that public health experts have recommended regulating tobacco, alcohol and highly processed food.[13] In practical terms, the Commission should recommend policies that regulate the advertising of the most climate and health-harming vehicles and reduce the social license for their sale and consumption, as well as eliminating the political influence of industry lobby groups on climate policy.

By taking the following effective actions on behalf of our patients and families and the communities we serve, medical professionals have a powerful voice to influence the final advice of the Commission and the Government's response:

- Put the Articles of te Tiriti, public health and health equity at the centre of submissions to improve the policy proposals by the Climate Change Commission—and encourage submissions from our professional colleges. The Commission is calling for input here.
- Call for climate-harming industries, including in transport, to be regulated in keeping with recommendations about the commercial determinants of health.
- Call for public health expertise, especially expertise in hauora Māori, and expertise in health equity to be represented on the Climate Change Commission and in climate policy development.

The changes being decided now will have systemic effects on the building blocks of health equity with long-term consequences. We need to ensure the policies being designed are an opportunity for wellbeing rather than locking us into further health harm.

Figure 1: Evidence-based actions to multi-solve for climate change, health and health equity in the transport sector in order of priority.

1. The National Land Transport Fund requires urgent reorientation. Building new roads should be replaced with major ongoing national investments in public and active transport infrastructure and services, including rapid inter-city zero carbon links
2. Electrified public transport needs major investment as a public good, rather than as private enterprise (much like the health system). It should be made free for under 25 year-olds, with reduced fares for other age groups, and see immediate improvements in quality and accessibility.
3. Car ownership and use will need to be actively curtailed to ensure the safety and success of the two strategies above. This includes lower vehicle speeds, reallocation of existing road space and rapidly constraining the import and urban use of high-emitting and oversized private vehicles (eg, large diesel SUVs and twin-cab utes), as they are energy- and space-inefficient and pose an unacceptable injury risk to other people.
4. The rapidly accelerating uptake of electric bicycles (e-bikes) needs to be further incentivised, supported with safe cycling infrastructure and made equitable and affordable for low-income households through share schemes and financial support.
5. A residual quota of car use will need to be reserved for households who have the least choice and the poorest access to the destinations needed for wellbeing. Investments in shared and affordable electric vehicles suitable for large families, disabled people and longer trips will be crucial for meeting health equity and climate goals.
6. Eliminating transport poverty and forced car ownership (having to own and run a car despite not being able to afford to do so) will require wider policies to end income and housing inequities, along with addressing structural injustices in urban planning and transport.

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Nil.

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REFERENCES

1. Watts N, Amann M, Arnell N, et al. The 2020 report of The Lancet Countdown on health and climate change: responding to converging crises. *The Lancet* 2021; 397(10269): 129-70.
2. United Nations Climate Change. Global Map of Annex 1 Countries. Total Emissions including LULUCF. Base Year-2018 growth. UNFCCC; 2020.
3. Grimes A, Denne T, Howden-Chapman P, et al. Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme. A report prepared for the Ministry of Economic Development. Wellington: Motu Economic and Public Policy Research,, 2011.
4. Macmillan A, Connor J, Witten K, Kearns A, Rees D, Woodward A. The Societal Costs and Benefits of Commuter Bicycling: Simulating the Effects of Specific Policies Using System Dynamics Modeling *Environmental Health Perspectives* 2014; 122(4).
5. Drew J, Cleghorn C, Macmillan A, Mizdrak A. Healthy and Climate-Friendly Eating Patterns in the New Zealand Context. *Environmental Health Perspectives* 2020; 128(1): 017007.
6. Ministry for the Environment. New Zealand's Greenhouse Gas Inventory 1990–2018. In: Ministry for the Environment, editor. Wellington: New Zealand Government; 2020.
7. Lindsay G, Macmillan A, Woodward A. Moving urban trips from cars to bicycles: impact on health and emissions. *Australian and New Zealand Journal of Public Health* 2011; 35(1): 54-60.
8. Raerino K, Macmillan AK, Jones RG. Indigenous Māori perspectives on urban transport patterns linked to health and wellbeing. *Health & Place* 2013; 23(0): 54-62.
9. Macmillan A, Mackie H. Optimising low carbon mobility for health and equity. In: Hopkins D, J H, eds. Low Carbon Mobility Transitions. Oxford: Goodfellow Publishers Ltd; 2016: 45-65.
10. Macmillan A, Smith M, Witten K, et al. Suburb-level changes for active transport to meet the SDGs: Causal theory and a New Zealand case study. *Science of The Total Environment* 2020; 714: 136678.
11. Randal E, Shaw C, Woodward A, et al. Fairness in Transport Policy: A New Approach to Applying Distributive Justice Theories. *Sustainability* 2020; 12(23): 10102.
12. Mackie H, Woodward A, Witten K, et al. Healthy Future Mobility. Synthesis Report. Auckland: Mackie Research, 2019.
13. Kickbusch I, Allen L, Franz C. The commercial determinants of health. *The Lancet Global Health* 2016; 4(12): e895-e6.
14. Downard-Wilke, A. (2020). Predicting e-bike sales in NZ (Data analysis). Retrieved 16 February 2021, from ViaStrada https://viastrada.nz/e-bike-sales?