



The need for long-term thinking - Especially for preventing catastrophic risks

15 February 2023

Nick Wilson, Matt Boyd, John Kerr, Amanda Kvalsvig, Michael Baker

PUBLIC HEALTH

PRIORITIES SERIES

Summary

Short-term thinking dominates policymaking in Aotearoa NZ. This Briefing highlights the problem and the need to strengthen long-term thinking. Short-term thinking leads to the neglect of multiple public health problems particularly long-term disease prevention and mounting environmental health concerns where the burden falls on those living in coming decades. Short-term policy horizons also undermine NZ's capacity to respond to catastrophic and existential risks, including those from nuclear war, engineered pandemics, ecological degradation, out-of-control artificial intelligence (AI) and climate change.

Fortunately, there is a wide range of feasible options to build long-term thinking into the government system and to facilitate public participation. Election year provides an ideal time for political parties to incorporate these ideas into their manifestos, and for citizens and organisations to engage in dialogue with candidates on this major public health need.

NZ policymaking is too short-term focused

To illustrate the short-term nature of much policymaking in NZ, consider these examples:

- Local government has allowed building on [land that is at risk of flooding or slips](#) and which does not adequately consider the mounting impacts of climate change. The extensive damage in Auckland in late January 2023 (which also caused four deaths) is now the most costly weather event in NZ history. The unprecedented rainfall involved in this event is likely [driven by climate change](#). Appropriately responding to this threat also demands a long-term focus on building in safe locations and having the appropriate infrastructure such as adequate storm water drainage.
- Drinking water infrastructure is typically decades out-of-date and needs a major upgrade.^{1 2} This deficit caused an outbreak of [waterborne disease in Havelock North](#) that made thousands sick, sent people to hospital, and killed several.³
- Tobacco control has been neglected for many of the decades since smoking was established as a cause of lung cancer in the 1960s. This delay is despite smoking causing around 5000 deaths per year in NZ⁴ and it being a major contributor to health inequities.⁵ Only last year has there been a major step forward in government action (ie, [the new law that will remove nicotine from tobacco, restrict outlets and ensure a smokefree generation](#)).
- The country is losing [192 millions tonnes of soil](#) into waterways annually and has had erosion problems for many decades. This soil loss is a terrible economic and environmental waste and is damaging water quality. It also raises issues of the Government's responsibility to Māori under Te Tiriti to protect such resources as waterways and coastal environments. Yet such soil loss is a largely fixable problem. One clear solution is policies favouring reversion of steep hill country land to native bush or being planted in sustainable forestry.
- The Covid-19 pandemic that reached NZ in 2020 exposed marked deficits in NZ's pandemic planning. Governments ignored expert warnings about the gaps in these plans prior to this pandemic.^{6 7 8} There was also published historical evidence of the disproportionately adverse impact of pandemics on Māori.⁹
- Political parties in NZ can't seem to meaningfully address the gross distortions in the design of the tax system. That is the unfair levels of income tax levied on low-income

people who don't own houses – given how capital gains and assets are not taxed (see an upcoming PHE Briefing).

- A decades-long and systematic under-investment in children¹⁰ has resulted in poor outcomes for NZ children across a range of indicators, with NZ recently [ranking 35th out of 41](#) EU and OECD countries in child well-being outcomes. Adverse early environments have lifelong consequences in terms of lost human potential and preventable harms,¹¹ impairing NZ citizens' well-being and resilience to future threats. Conversely, [effective early childhood programmes](#) generate long-term population-level benefits that far exceed their initial costs.

Many more examples could have been detailed, for example addressing poverty and inequality, and fixing housing supply and quality. But the above list should give a broad indication of the problem. Others have also identified this country's problem with short-term thinking. Professor Jonathan Boston (Victoria University Wellington) details how government departments are busy with day-to-day operational needs and how this prioritises the present and obscures slow-onset "creeping problems" in his book *Safeguarding the Future*.¹² In another book, *Policy-making under Pressure*,¹³ a wide range of NZ contributors also highlight the short-term and reactive nature of NZ policy-making. The editors, Professors Sonia Mazey and Jeremy Richardson, describe the problem plainly¹⁴:

Our policy landscape is littered with policy-problem time bombs quietly ticking away; they could probably be defused or controlled by early government intervention, but they are not. Instead, known problems are left to fester unattended until such time as they become a crisis that can no longer be ignored. In summary, the prevalent national 'policy style' in New Zealand has been reactive, not anticipatory.

Elsewhere they also make the case for a shift from reactive to anticipatory policy making in response to threats like pandemics.¹⁵

Not only is there the problem of short-term thinking but long-term risks are not properly identified in a transparent manner. The 2021 report *Uncertain but Inevitable*, written by former NZ chief science adviser Peter Gluckman and Anne Bardsley,¹⁶ provides an account of how NZ Government thinking on risk and resilience has evolved in the country since 2014. Yet it reports that the national risk register that was developed is classified and so is not available for public scrutiny and critique (albeit a few details are now on [this website](#)).

Internationally, philosophers have been paying increasing attention to the need for long-term thinking and protecting the wellbeing of future generations.^{17 18} Their arguments identify the potentially vast number of future human lives that are endangered by risks such as nuclear war and climate change (see further below). Nevertheless, just focusing on the lives of people currently alive might be a more useful initial conceptual shift (see this article for an attempt to quantify this in the NZ context¹⁹). The median Kiwi citizen is 37 years old and so will likely have half a century more to live. A one-year-old alive now might

even have another 100 years to live. Taking such a 100-year time horizon would certainly force serious consideration of nearly all the major known problems that NZ society needs to tackle.

Playing ‘Russian roulette’: Neglected responses to long-term catastrophic and existential threats

The world faces a range of existential and catastrophic risks as recently detailed by the Oxford scholar Toby Ord in his book *The Precipice*.¹⁷ Those risks considered to pose the greatest threat to human survival were (in order of decreasing probability): out-of-control artificial intelligence (AI), engineered pandemics, nuclear war, climate change, ecological degradation (the latter three at a similar existential risk level). Overall Ord puts the “existential risk this century at around one in six: Russian roulette.”¹⁷ Of course such an estimate is extremely uncertain and may be an under-estimate. This is because of rapid developments in AI in the last few years (eg, with combining language models with strategic reasoning²⁰) and also the likely increasing risk of nuclear war – as is given as a further example below.

The risk of nuclear war has recently increased as the result of the poor international situation, including the rise of tensions between major autocracies (Russia and China) and Western democracies. In particular Russia’s invasion of Ukraine in 2022 and the associated threats to use nuclear weapons by its leader²¹ (who has various views that are incompatible with peaceful international relations²²). There has also been a lack of meaningful progress with nuclear disarmament²³ and an ongoing expansion of some nuclear arsenals (eg, those of the UK,²⁴ China,²⁵ and Pakistan²⁶). The modernisation of nuclear arsenals has also been occurring (eg, in the US,²⁷ France,²⁸ Russia,²⁹ India,³⁰ and North Korea³¹) along with the modernisation of weapon delivery systems (eg, by Israel³²). Taken together, such developments might increase the perceived utility of these weapons in war and therefore the risk of actual use.

As such, previous estimates for the annual probability of nuclear war, being in the 0.3% to 3% range may well underestimate the true annual risk at the current time.^{33 34}

Some possible solutions to increasing long-term thinking and reducing catastrophic risk

Despite the dominance of short-term thinking, NZ has a relatively well functioning government system when comparisons are made with other countries (eg, results of the [International Civil Service Effectiveness Survey](#) and the [Corruption Perceptions Index](#)). NZ also does make some use of Commissions which can facilitate more deliberative long-term thinking (eg, for [Climate Change](#), [Infrastructure](#), and [Productivity](#)) and has Commissioners reporting to Parliament (eg, [for the Environment](#) and for various inquiries – most recently [the Inquiry into the Covid-19 response](#)). Signs of long-term thinking are seen with: regulations for mitigating long-term risks (eg, building codes to reduce harm in earthquakes), legislating to protect nature (eg, national parks and marine parks), and adopting long-term projects to eliminate diseases (eg, hydatids and brucellosis) and introduced pests (the predator free 2050 initiative). And internationally NZ has occasionally shown leadership on catastrophic risk reduction eg, with its nuclear-free status and work at the United Nations to take these weapons off high alert.

However, there is far more that the NZ Government could do to advance long-term thinking nationally and internationally:

1. **Strategically direct resources towards preventing catastrophic risks** given the immense burdens and costs, should they occur (even though the per year probability is low). Potential approaches include focusing more attention on: progressing nuclear disarmament, an upgraded international bioweapons convention, work on assessing the risks of AI, and stronger action on climate change. The country has particular international credibility in the nuclear disarmament arena and for promoting multi-lateral approaches to international problems. NZ is also well placed to help build long-term thinking into the work of multilateral organisations like the UN and WHO. One example is the revision of the International Health Regulations to incorporate a more proactive approach to pandemic control.³⁵
2. **Mitigate catastrophic risks.** Unfortunately there is a risk that the prevention of catastrophic risks may fail. Policymakers must also build long-term resiliency into NZ society to increase survival prospects. This strategy has been discussed for NZ in the cases of nuclear war^{36 37} and for future pandemics.³⁸ This mitigation could include global catastrophe scenario analysis and strategic investment in corresponding food, energy, and communication systems resilience, water supply, and public health capability.
3. **Explore structural changes to further institutionalise long-term thinking.** There has been some recent progress here with the requirement that every departmental chief executive has to publish a “long-term insights briefing” independent of ministers every three years.³⁹ This system appears to be off to a good start but options to improve it exist (see for example this [blog](#)). More specific to catastrophic risk is the idea of having a dedicated Parliamentary Commissioner for Extreme Risks (for this idea and a comparison with other suggested options for NZ see:⁴⁰). In a Report on Covid-19, the Auditor General refers to such a Commissioner and lists other potential structural changes to address such risks.⁴¹ NZ could also consider adopting a form of the recently enacted [Global Catastrophic Risk Management Act](#) in the US.
4. **Reform the NZ Parliamentary system** to make it more likely to deliberate carefully and address long-term issues and spend less time on political party posturing and partisan name calling. Suggestions in Mazey and Richardson’s *Policy-making Under Pressure* include longer Parliamentary terms (they favour the 5-years as per the UK) and having more standing policy commissions that can carefully deliberate on the issues.¹³ Some of their examples are drawn from how Scandinavian Governments work eg, using non-Parliamentarians as Ministers as in Norway and Denmark. NZ clearly needs to avoid evolving towards the US situation where the partisan divide is extreme. One analysis found that 27% of US senator press releases included partisan taunts.⁴²
5. **Increasing public engagement in long-term policymaking** and on considering major risks and how to prioritise responses. Options include more use of [citizens’ assemblies](#), in-depth public surveys, and a Polis-like process. The latter uses a [pro-social media platform](#) which builds domains of consensus so that policy makers can see normalised positions upon which to subsequently build policy solutions.⁴³ Polis has been successfully used in Taiwan on over 100 occasions as part of policy making at both the national and local levels (see this [podcast](#)).
6. **Increase the explicit focus on the health of children and future lives.** NZ has already taken steps towards greater institutionalisation and accountability for the long-term health of children with the [Child Poverty Reduction Act 2018](#). But greater

investments are needed in poverty reduction, [providing food in schools](#) and improving housing.

Given it is an election year – this seems an ideal time for political parties to build some of these ideas into their manifestos, and for citizens and organisations to engage in dialogue with candidates on this topic.

Without such changes, our society will continue its wasteful and dangerous approach of ignoring major long-term threats and lurching from one inadequate short-term fix to another.

What is new in this Briefing

- The problematic dominance of short-term thinking in policymaking in NZ is described.
- Examples are given on how this short-term thinking results in neglect of multiple public health issues – including catastrophic and existential risks (eg, from nuclear war or engineered pandemics).

Implications for public health and risk reduction

- There is a range of feasible options to build long-term thinking into the NZ Government system and to facilitate public participation.
- The options include parliamentary reform such as a move to a 5-year term, and legislative and administrative reform requiring a focus on future decades.
- Planning for catastrophic risk needs additional mechanisms such as the creation of a Parliamentary Commission for Extreme Risks or adopting a US-style Global Catastrophic Risk Management Act.

Authors

[Prof Nick Wilson](#), Department of Public Health, University of Otago, Wellington, and Co-director of the Public Health Communication Centre (PHCC)

[Dr Matt Boyd](#), Director, Adapt Research Ltd

[Assoc Prof Amanda Kvalsvig](#), Department of Public Health, University of Otago, Wellington,

[Dr John Kerr](#), Department of Public Health, University of Otago, Wellington, and Science Lead, PHCC

[Prof Michael Baker](#), Department of Public Health, University of Otago, Wellington, and Director of the PHCC

None of the authors have competing interests.

This article is part of the Public Health Priorities Series, coinciding with the launch of the Public Health Communication Centre. These articles highlight some of Aotearoa's most pressing issues and policy solutions to be considered in light of the upcoming general election. You can read more articles from the series as they are published [here](#).

References

1. Chambers T, Hales S, Wilson N, et al. Improvements to Drinking Water: Monitoring, Reporting and Record-keeping Needed to Protect Health. *Policy Quarterly* 2022;18(2):23-27.
2. Chambers T, Wilson N, Hales S, et al. Beyond muddy waters: Three Waters reforms required to future-proof water service delivery and protect public health in Aotearoa New Zealand. *N Z Med J*. 2022;135(1566):87-95.
3. Gilpin BJ, Walker T, Paine S, et al. A large scale waterborne campylobacteriosis outbreak, Havelock North, New Zealand. *Journal of Infection* 2020;81(3):390-95.
4. GBD Tobacco Collaborators. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990-2019: a systematic analysis from the Global Burden of Disease Study 2019. *Lancet* 2021;(E-publication 31 May) doi: 10.1016/S0140-6736(21)01169-7 [published Online First: 2021/05/31]
5. Ouakrim DA, Wilson T, Waa A, et al. Tobacco endgame intervention impacts on health gains and Māori: non-Māori health inequity: a simulation study of the Aotearoa/New Zealand Tobacco Action Plan. *Tobacco Control* 2023
6. Boyd M, Baker MG, Mansoor OD, et al. Protecting an island nation from extreme pandemic threats: Proof-of-concept around border closure as an intervention. *PloS one* 2017;12(6):e0178732.
7. Boyd M, Mansoor OD, Baker MG, et al. Economic evaluation of border closure for a generic severe pandemic threat using New Zealand Treasury methods. *Australian and New Zealand journal of public health* 2018;42(5):444-46.
8. Boyd M, Baker M, Wilson N. New Zealand's poor pandemic preparedness according to the Global Health Security Index'. *Public Health Expert* 2019;11
9. Wilson N, Barnard LT, Summers JA, et al. Differential mortality rates by ethnicity in 3 influenza pandemics over a century, New Zealand. *Emerging infectious diseases* 2012;18(1):71.
10. D'Souza AJ, Signal L, Edwards R. Patchy advances in child health hide a systematic failure to prioritise children in public policy. *The New Zealand Medical Journal (Online)* 2017;130(1450):12.
11. Kvalsvig A, D'Souza A, Duncanson M, et al. Pathways to Child Health, Development and Wellbeing: Optimal Environments for Orchids and Dandelions: An Overview of the Evidence: University of Otago 2015.
12. Boston J. Safeguarding the Future: governing in an uncertain world. Wellington: Bridget Williams Books 2017.
13. Mazey S, Richardson JJ. Policy-making under Pressure: rethinking the policy process in Aotearoa New Zealand: Canterbury University Press 2021.
14. Mazey S, Richardson J. All is not well in the policy process. *Public Sector* 2021;44:8-11.
15. Mazey S, Richardson J. Lesson-drawing from New Zealand and covid-19: The need for anticipatory policy making. *The Political Quarterly* 2020;91(3):561-70.

16. Gluckman P, Bardsley A. Uncertain but Inevitable: the expert-policy-political nexus and high-impact risks. Auckland: Koi Tu: Centre for Informed Futures. <https://informedfutures.org/high-impactrisks/> 2021.
17. Ord T. The Precipice: 'A book that seems made for the present moment' New Yorker: Bloomsbury Publishing 2020.
18. MacAskill W. What we owe the future: Basic books 2022.
19. Boyd M, Wilson N. Existential risks: New Zealand needs a method to agree on a value framework and how to quantify future lives at risk. *Policy Quarterly* 2018;14(2)
20. Hutson M. AI learns the art of Diplomacy. *Science (New York, NY)* 2022;378(6622):818-18.
21. Mecklin J. A time of unprecedented danger: It is 90 seconds to midnight. 2023 Doomsday Clock Statement. *Bulletin of the Atomic Scientists* 2023;(24 January); https://storage.pardot.com/878782/1674512728rAkm0Vt3/2023_doomsday_clock_statement.pdf
22. Hill F, Gaddy CG. Mr. Putin: operative in the Kremlin: Brookings Institution Press (Kindle edition) 2015.
23. Diaz-Maurin F. The 2022 nuclear year in review: A global nuclear order in shambles. *Bulletin of the Atomic Scientists* 2022;(26 December)
24. Kristensen HM, Korda M. United Kingdom nuclear weapons, 2021. *Bulletin of the Atomic Scientists* 2021;77(3):153-58.
25. Kristensen HM, Korda M. Chinese nuclear weapons, 2021. *Bulletin of the Atomic Scientists* 2021;77(6):318-36.
26. Kristensen HM, Korda M. Pakistani nuclear weapons, 2021. *Bulletin of the Atomic Scientists* 2021;77(5):265-78.
27. Kristensen HM, Korda M. United States nuclear weapons, 2022. *Bulletin of the Atomic Scientists* 2022;78(3):162-84.
28. Kristensen HM, Korda M. French nuclear forces, 2019. *Bulletin of the Atomic Scientists* 2019;75(1):51-55.
29. Kristensen HM, Korda M. Russian nuclear weapons, 2022. *Bulletin of the Atomic Scientists* 2022;78(2):98-121.
30. Kristensen HM, Korda M. Indian nuclear weapons, 2022. *Bulletin of the Atomic Scientists* 2022;78(4):224-36.
31. Kristensen HM, Korda M. North Korean nuclear weapons, 2022. *Bulletin of the Atomic Scientists* 2022;78(5):273-94.
32. Kristensen HM, Korda M. Israeli nuclear weapons, 2022. *Bulletin of the Atomic Scientists* 2022;78(1):38-50.
33. Hellman M, Cerf V. An existential discussion: What is the probability of nuclear war? *Bulletin of the Atomic Scientists* 2021;(18 March). <https://thebulletin.org/2021/03/an-existential-discussion-what-is-the-probability-of-nuclear-war/>
34. Barrett A, Baum S, Hostetler K. Analyzing and Reducing the Risks of Inadvertent Nuclear War Between the United States and Russia. *Science and Global Security* 2013;21(2):106-33.
35. Baker MG, Durrheim D, Hsu LY, et al. COVID-19 and other pandemics require a coherent response strategy. *The Lancet* 2023
36. Green W, Cairns T, Wright J. New Zealand After Nuclear War. Wellington: New Zealand Planning Council 1987.
37. Boyd M, Wilson N. Island refuges for surviving nuclear winter and other abrupt sunlight-reducing catastrophes. *Risk Analysis* 2022
38. Boyd M, Wilson N. Optimizing island refuges against global catastrophic and existential biological threats: Priorities and preparations. *Risk Analysis*

2021;41(12):2266-85.

39. Menzies M. Long-term Insights Briefings: a futures perspective. *Policy Quarterly* 2022;18(4):54-64.
40. Boyd M, Wilson N. Anticipatory Governance for Preventing and Mitigating Catastrophic and Existential Risks. *Policy Quarterly* 2021;17(4):20-31.
41. Controller and Auditor-General. Co-ordination of the all-of-government response to the Covid-19 pandemic in 2020: Controller and Auditor-General. <https://oag.parliament.nz/2022/covid-19> 2022.
42. Grimmer J, King G. General purpose computer-assisted clustering and conceptualization. *Proceedings of the National Academy of Sciences* 2011;108(7):2643-50.
43. Small C, Bjorkegren M, Erkkilä T, et al. Polis: Scaling Deliberation by Mapping High Dimensional Opinion Spaces. *Recerca : revista de pensament i anàlisi* 2021;26(2) doi: 10.6035/recerca.5516

Public Health Expert Briefing (ISSN 2816-1203)

Source URL:

<https://www.phcc.org.nz/briefing/need-long-term-thinking-especially-preventing-catastrophic-risks>