

7-13-2020

“Go Hard, Go Early”: Preliminary Lessons From New Zealand’s Response to COVID-19

Thomas Jamieson

Follow this and additional works at: <https://digitalcommons.unomaha.edu/pubadfacpub>

 Part of the [Public Affairs, Public Policy and Public Administration Commons](#)

‘Go Hard, Go Early’: Preliminary Lessons from New Zealand’s Response to COVID-19¹

Thomas Jamieson
School of Public Administration
University of Nebraska at Omaha
tjamieson@unomaha.edu

Abstract

Although the full impact of the COVID-19 pandemic is yet to be realized, New Zealand has suffered comparatively less than other countries, and there were no active cases in the country by June 8, 2020. Building from best practices in emergency management research, several preliminary lessons emerge from the country's response to the crisis that could be adapted for other settings. In particular, the government acted early and decisively, developed national unity to combat the virus, communicated effectively with the public, and adapted to changing circumstances, especially to address shortcomings in the response. These preliminary lessons provide some guidance in how to effectively respond to the virus through proactive, evidence-based, well-communicated policies.

Keywords: COVID-19, emergency management, public health, leadership, communication

Word count: 4,171 words (all inclusive)

¹ Paper accepted for publication at *The American Review of Public Administration*. Please cite as:
Jamieson, Thomas. “‘Go Hard, Go Early’: Preliminary Lessons From New Zealand’s Response to COVID-19.” *The American Review of Public Administration* 50, no. 6–7 (August 2020): 598–605. doi:10.1177/0275074020941721.

“We must go hard, and go early, and do everything we can to protect New Zealanders' health.”

-- Prime Minister Jacinda Ardern, 14 March 2020 (Ardern, 2020)

Although the full impact of the COVID-19 pandemic is yet to be realized, it has already caused over 400,000 deaths, infected millions of people, and affected the lives of people around the world (Dong et al., 2020). Unsurprisingly, leaders and public officials have struggled to respond to the threat of the virus and weigh the costs and benefits of policies that could save lives but also lead to surging unemployment, economic depression, and sustained disruption to local, national, and global economies.

From the start, Jacinda Ardern prioritized public health, seeking to deliver on her pledge to protect all New Zealanders from the effects of COVID-19 (Vowles, 2020). While the virus' final implications are yet to be determined, New Zealand appears to have suffered comparatively less than other countries. By June 11, it had been three weeks since the last new case and there were no active cases remaining in the country (New Zealand Ministry of Health, 2020).

While New Zealand enjoys some advantages such as geographical isolation, a civil political environment, strong central government, recent experience with crises and disasters, and a small population, several preliminary lessons emerge from the country's response to the crisis that could be adapted in other settings. In particular, the government acted early and decisively, developed national unity to combat the virus, communicated effectively with the public, and adapted changing circumstances, especially to address shortcomings in the response. In short, other states could replicate New Zealand's approach to reduce the threat of COVID-19 and future pandemics.

This article provides a brief overview of the New Zealand government's response to COVID-19, before discussing specific aspects of their response that can be adopted elsewhere in accordance with best practices from emergency management research. These preliminary lessons provide some guidance in how to effectively respond to the virus through proactive, evidence-based, well-communicated policies.

1. New Zealand's Response to COVID-19

The New Zealand response to COVID-19 is led by Jacinda Ardern, her Cabinet and their Ministries, the Director-General of Health Ashley Bloomfield, Director of Civil Defence and Emergency Management Sarah Stuart-Black, Chief Science Advisor Juliet Gerrard, Police Commissioner Mike Bush, and businessman Rob Fyfe, among others (Strongman, 2020a). A group of 11 experts also advise the Minister of Health about COVID-19 (Morton, 2020). In consultation with the Ministry of Health and their advisory group, Jacinda Ardern adopted an “elimination strategy” to the virus (Cave, 2020).

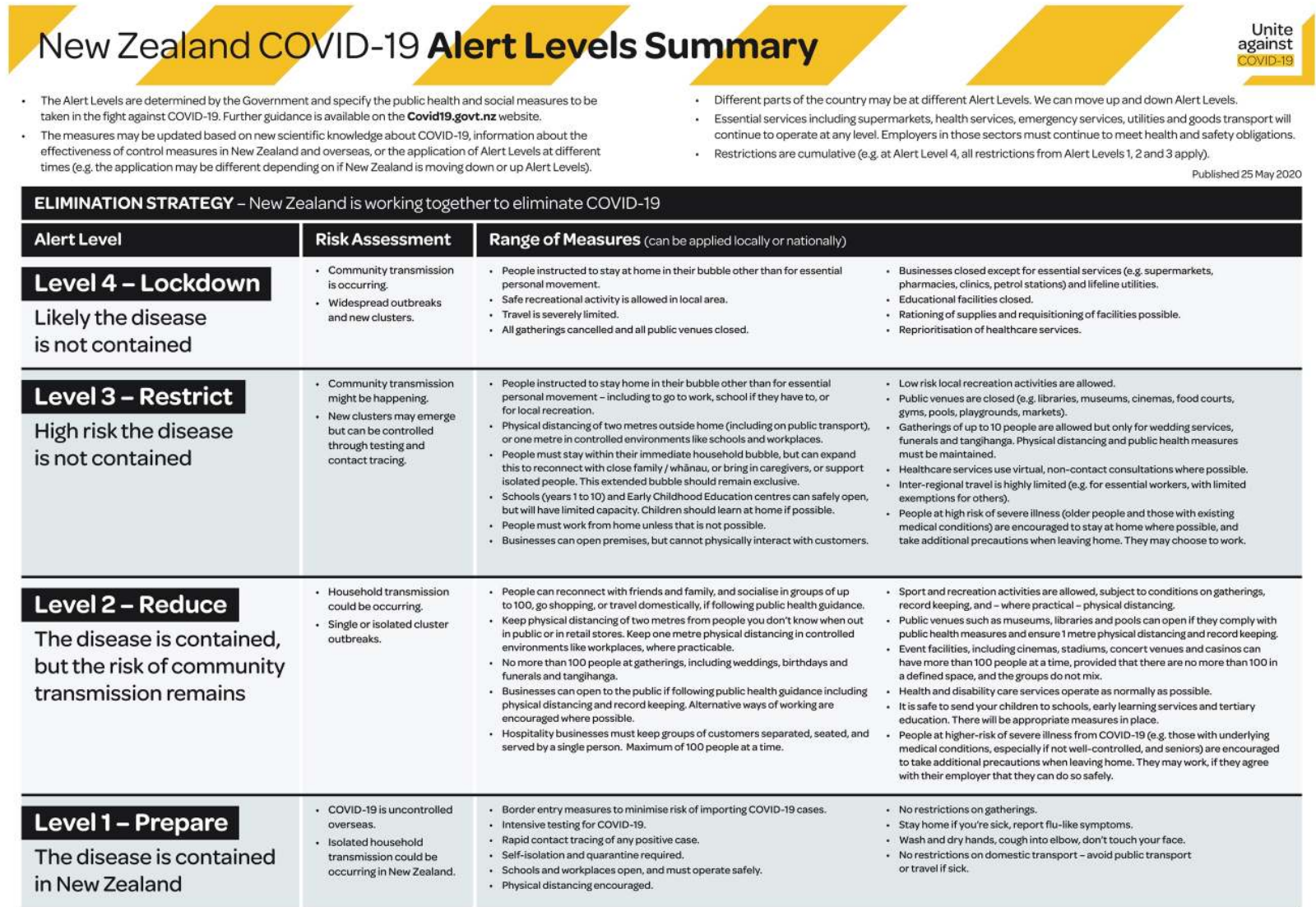
The New Zealand response initially involved monitoring the situation in China, and evacuating New Zealanders from affected regions. However, as the virus rapidly spread the government had to make consequential decisions about the best response to the pandemic. To hold the government accountable for its response, they formed an Epidemic Response Committee led by Simon Bridges, then-leader of the opposition. Table 1 presents a potted summary of the country's response.

Table 1: A Potted Timeline of the New Zealand Government’s Response to COVID-19.

Date	Event
January 30, 2020	Charter flight evacuates New Zealanders from Wuhan, China. Passengers are quarantined for 14 days.
February 3, 2020	Entry restrictions on foreign nationals traveling from mainland China. People entering New Zealand from mainland China required to self-isolate for 14 days.
February 28, 2020	First case of COVID-19 reported in New Zealand. Entry restrictions placed on people traveling from Iran.
March 2, 2020	Entry restrictions placed on people traveling from northern Italy and South Korea.
March 5, 2020	First confirmed person-to-person transmission of COVID-19 in New Zealand.
March 11, 2020	WHO declares COVID-19 a pandemic.
March 14, 2020	All people entering the country must self-isolate for 14 days, except arrivals from Pacific Island countries. Cruise ships are banned.
March 16, 2020	Announcement that all tourists who do not self-quarantine on arrival will be deported.
March 17, 2020	Initial \$12.1 billion recovery package launched for health, business, and income support.
March 19, 2020	28 cases of COVID-19 in New Zealand, all linked to overseas travel. Indoor gatherings of more than 100 people are banned.
March 21, 2020	Borders are closed to everyone except New Zealand citizens and permanent residents. 52 confirmed cases in New Zealand.
March 23, 2020	Introduction of a four-level alert system, New Zealand placed at Level 2. For the first time, community transmission cannot be ruled out. New Zealand placed at Level 3, additional restrictions imposed.
March 25, 2020	State of Emergency declared.
March 26, 2020	New Zealand enters Level 4, lockdown restrictions imposed for four weeks.
March 29, 2020	First death caused by COVID-19 in New Zealand.
April 7, 2020	Recovered cases exceed new cases for the first time.
April 9, 2020	29 new cases of COVID-19 are reported, the lowest daily total since March 23.
April 20, 2020	Level 4 is extended for another week, with Level 3 to be phased in.
April 27, 2020	New Zealand enters Level 3, with some lockdown restrictions eased.
May 14, 2020	New Zealand re-enters Level 2, with further restrictions eased.
June 8, 2020	New Zealand has no active cases of COVID-19.
June 9, 2020	New Zealand enters Level 1 for the first time with minimal internal restrictions in place.

Source: Strongman (2020b)

Figure 1: New Zealand COVID-19 Alert Levels Summary (updated May 25, 2020).



Source: New Zealand Government (2020)

In early February, foreign nationals were prevented from traveling from mainland China, and this was subsequently extended to cover travelers from Iran, northern Italy, and South Korea as cases emerged in those regions. In mid-March these restrictions were increased again, before the unprecedented step was taken to closer the borders for everyone but New Zealand citizens and permanent residents from March 19 after 28 cases had emerged. Any travelers from affected regions were required to self-isolate, but there was little enforcement initially, and the government later declared they would deport non-compliant visitors.

On March 21, the New Zealand government introduced the four-level alert system, and they placed the country in Level 2.² Risk assessment and corresponding social distancing measures are outlined in Figure 1. After community transmission could not be ruled out, the government raised the country to Level 3 on March 23, and three days later, lockdown restrictions were imposed for a four week period, which was then extended until April 27. The country then re-entered Level 3, and on May 14 re-entered Level 2. After no active cases remained on June 8, New Zealand moved to Level 1 for the first time on June 9.

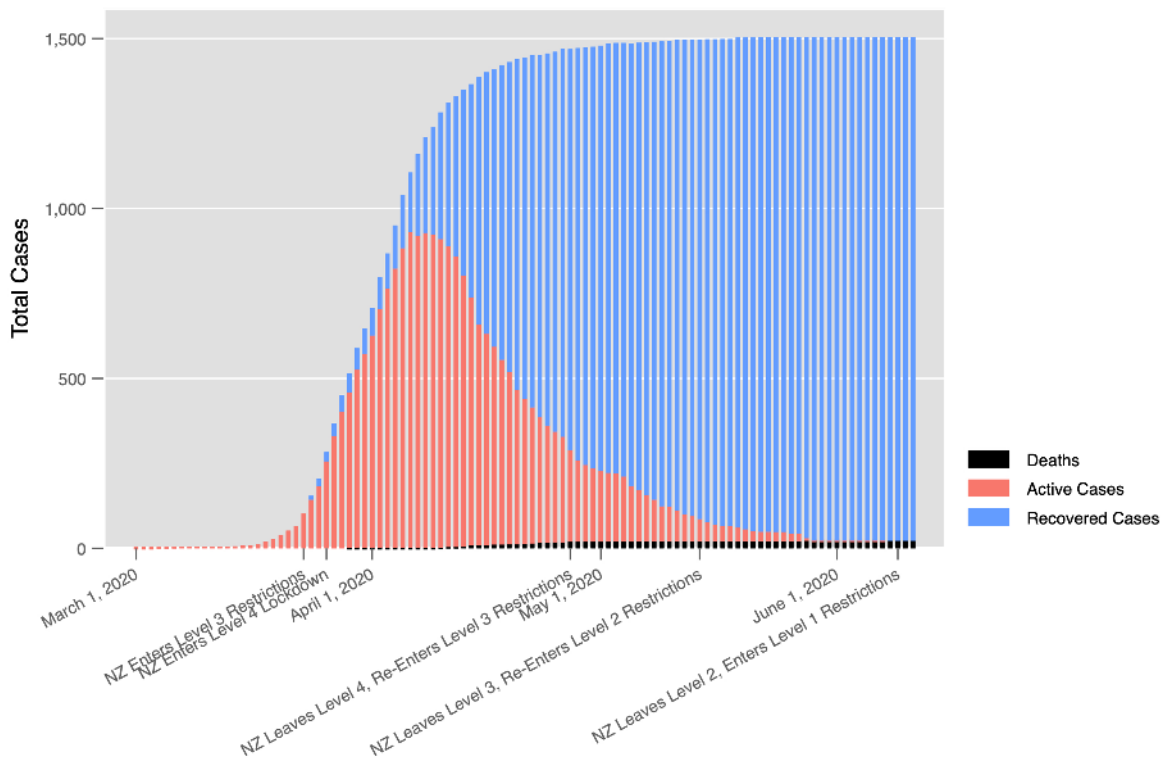
The Treasury announced a \$NZ12.1 billion recovery package on March 17, and subsequent initiatives have increased this figure up to \$NZ52 billion in wage subsidies, leave and self-isolation support, business tax changes, financial guarantees for small and medium-sized businesses, and support for vulnerable populations, among others (Robertson, 2020). To put this in context, the latter figure constitutes almost half the government's entire 2019 annual budget expenditure.

² Incidentally, these measures are a standard against which governments' social distancing measures are assessed by the University of Washington's Institute for Health Metrics and Evaluation (2020).

Testing for COVID-19 improved substantially over time. From just 12 tests conducted on March 9, the average daily number of tests was 3,870 in April and 4,571 in May (New Zealand Ministry of Health, 2020). By June 10, 301,882 tests had been conducted in total (New Zealand Ministry of Health, 2020).

To date, New Zealand has contained the spread of the virus in the country. As of June 11, New Zealand had a total of 1,504 cases of the virus, of which 1,154 cases are confirmed and 350 are considered probable cases (New Zealand Ministry of Health, 2020). 22 people have died as a result of COVID-19, 1,482 people have recovered from COVID-19, and no cases remain active (New Zealand Ministry of Health, 2020).

Figure 2: Deaths, Active Cases, and Recovered Cases in New Zealand, March 1-June 11, 2020.



Sources: McDowall & Garcia (2020); New Zealand Ministry of Health (2020)

Figure 2 shows the number of deaths, active cases (including confirmed and probable cases), and recovered cases, demonstrating the relative success of social distancing in New Zealand. First, the figure illustrates that New Zealand entered the Level 4 lockdown before the first COVID-19 fatality. Second, the figure shows that after an initial peak in early April, the number of active cases steadily decreased while recovered cases increased. Third, by the middle of May, there were considerably fewer active cases than there were at the beginning of the Level 4 lockdown, demonstrating the effectiveness of the containment measures. Finally, the figure shows that by June 8, there were no remaining active cases.

2. Preliminary Lessons from New Zealand's Response

New Zealand's response to COVID-19 has been successful in flattening the curve and reducing the spread of the virus. From the emergency management literature, there are several key lessons from its response that could be adopted elsewhere.

2.1 Go Hard, Go Early

First, investing in prevention is much more efficient and cost-effective than responding to a crisis (Healy & Malhotra, 2009; Perry et al., 2001). Like most states, New Zealand was not fully prepared for a pandemic (Cameron et al., 2019), but when COVID-19 cases emerged in the country, the Ardern government acted quickly to contain the virus despite the immediate impact on the agricultural, hospitality, and tourism industries especially.

This included unprecedented actions like requiring almost all arrivals to self-isolate for 14 days upon arrival on March 14 when the country had just six active cases; closing the borders to everyone but New Zealand citizens and Permanent Residents on March 19 when there were 28

active cases; and imposing a strict lockdown on March 26 when there were 283 cases but no deaths (New Zealand Government, 2020b). Furthermore, the government stayed the course, with Level 3 restrictions remaining in place until May 14, and Level 2 restrictions remaining in place until no active cases remained, despite considerable political pressure from members of their governing coalition and the opposition to ease restrictions (Graham-McLay, 2020), and the looming general election in September.

The response suggests that “Go hard, go early” was not just a soundbite, but it encapsulated the government's approach to reduce the spread of the virus from the start. While it may no longer be possible for many governments to act early, they could adopt similarly stringent social distancing measures to contain the spread of COVID-19 and replicate these policies in future pandemics.

2.2 Unite Against COVID-19

Second, despite the continuing prevalence of “disaster myths,” societies frequently rally together during disasters and crises (Johnson, 1987; Quarantelli & Dynes, 1977). The Ardern government harnessed this knowledge by creating a campaign built upon “uniting against COVID-19,” where the public bind together to defeat the virus, especially when it required sacrificing personal freedoms for the greater good during lockdown.

As the success of social distancing is contingent on compliance with government instructions, it was critical that people bought into the task. The “Unite Against COVID-19” campaign helped develop a collective sense of purpose (Duncan, 2020), and public opinion polls consistently showed over 80 percent support for the government's actions including the lockdown (Cooke, 2020; Cooke & Malpass, 2020; Coughlan, 2020; Manhire, 2020).

Beyond supporting lockdown measures, location trend data suggests that New Zealanders also complied with them. By April 17, the data suggested reductions of 90 percent in retail and recreation, 81 percent in parks, 87 percent in transit stations, and 72 percent in workplaces compared to the baseline (Google, 2020).

Collectively, the unifying campaign helped secure support for lockdown measures that would not otherwise be tolerated given their impact on civil liberties (Edwards, 2020; Gillespie, 2020). As attention turns to the long-term economic recovery from the considerable effects on the national economy, New Zealanders are now asked to “unite for the recovery” (New Zealand Government, 2020a). Governments in other countries could pursue similar campaigns to help create the collective will to temporarily suspend regular life to reduce the spread of the virus, and recover from its effects once it is contained.

2.3 Effective Communication

A third lesson for other governments is the importance of effective risk communication, ensuring people understand and trust the messages conveyed by the government in order to keep the public safe. Previous research demonstrates the importance of warning messages that reach their intended targets, especially in diverse populations (Mileti, 1999; Mitchell, 2003; Perry et al., 2001; Phillips & Morrow, 2007). The New Zealand response featured effective communication in a variety of settings.

First, Ardern has communicated policy initiatives well, helping the public understand their goals and their obligations to reduce the spread of the disease in daily briefings and social media posts (Wilson, 2020). For example, Ardern asked New Zealanders to stay in their household “bubble” as part of social distancing, and she asked people to stay home, stay safe, and to act as

though they already have COVID-19 to reduce the spread of the disease (Fifield, 2020; Wilson, 2020). For the duration of the lockdown she was joined by the Director-General of Health Ashley Bloomfield, who developed an earnest following for his competence and knowledge (Fifield, 2020).

Second, official communications also appear to be designed to be clear and concise. For example, the different levels of the alert system in Figure 1 are presented so that their different motivations and implications can be understood. Similarly, rules for the lockdown were shared through an emergency alert prior to entering Level 4 that combined both clear instructions and unifying messages (Fifield, 2020).

Third, the government created a COVID-19-dedicated website so people could find information without having to find the right government department for the best information. The website describes the alert system, and provides information relating to individuals, businesses, and communities. Information is also provided in 28 languages in an attempt to reach diverse linguistic communities within New Zealand, and many translations also included accompanying videos (Mitchell, 2003; Phillips & Morrow, 2007).

Finally, government efforts were aided by excellent science communication in the public sphere. Alongside public and private efforts to assist the government's response (Morton, 2020; Murdoch et al., 2020), scientists communicated best practices to the public to help contain the spread of COVID-19. Among others, an outstanding example is the collaboration of Dr. Siouxsie Wiles and illustrator Toby Morris in a series of articles explaining risk, hygiene practices, and how to reduce the spread of COVID-19 (see The Spinoff, 2020).

While effective communication and consistent messaging is arguably easier in small countries with a strong central government, these efforts to communicate government policy

effectively across all groups in the country can be replicated in other settings to reduce the spread of COVID-19. Given the importance of social distancing, it is vital this information is conveyed to the public with the right tone and tenor to generate public buy-in.

2.4 Adapting to an Evolving Situation

Finally, the New Zealand government has been adept at responding to a rapidly evolving situation. Prior research demonstrates that the best leadership during crises involves changing plans to adapt to the situation rather than rigidly enforcing existing plans (Dynes, 1994; Neal & Phillips, 1995; Webb & Chevreau, 2006).

Like other countries, New Zealand was unprepared for the pandemic, and the government made mistakes in their handling of the crisis. For example, there were too few tests available in March, there was insufficient engagement and coordination with Māori communities (Parahi, 2020), and there was some confusion about the requirements of self-isolation upon arrival into the country. Initial containment measures proved insufficient to prevent COVID-19 from spreading in New Zealand.

However, the Ardern government has generally responded to errors and oversights by correcting them. For example, tests are now widely available across the country after the slow start (New Zealand Ministry of Health, 2020), the government released a Māori COVID-19 response plan including the formation of a Māori Touchstone Group and almost \$50 million in assistance for Māori health providers (Johnsen, 2020), and arrival documentation was changed so that arrivals became aware of social distancing requirements before the borders were closed.

Furthermore, decisions about the appropriate level have been based on scientific expertise and expert advice. For example, after four weeks of Level 4 lockdown conditions, Jacinda

Ardern extended it for another week to increase the chances of eliminating the virus. Rather than pre-judging when to ease restrictions, each decision has been made on evidence available at the time.

There remain important areas for improvement in the New Zealand response, including the provision of personal protective equipment (PPE), the long-term implications of the lockdown on civil liberties, and ongoing concerns about the disproportionate impact of COVID-19 on Māori and Pasifika communities. These issues need to be satisfactorily addressed in the near future to continue an effective approach as the country emerges from lockdown.

However, the Ardern government has largely adapted to changing conditions to respond effectively. Other states and local governments could adopt similar approaches by reacting to changing conditions and responding to up-to-date evidence to contain COVID-19 and protect their communities.

3. Conclusion

Although New Zealand has different circumstances to a lot of other countries, it is also true that local and national governments learn from others as a matter of course. Not every policy might be viable in every other context, but generalizable lessons from the New Zealand include launching preventive action early, actively encouraging public compliance with social distancing by uniting the country together, effectively communicating with all groups in the population through a combination of inspiring rhetoric and clear instructions, and adapting to the changing situation and making decisions based on conditions at the time. Above all, the Ardern government prioritized keeping the public safe, and the relative success of their efforts reflect this emphasis on public health.

Given the persistence of COVID-19, it is not clear that New Zealand will ultimately succeed in its elimination strategy despite having no active cases in June 2020. Furthermore, the long-term economic implications of stringent lockdowns are not yet known, and the costs could be especially burdensome on an economy reliant on agriculture, tourism, and hospitality.

However, at this point, the government's response provides a model of what is possible if leaders act early and decisively (Sridhar, 2020). Given the global news coverage of New Zealand's success, leaders might be able to adapt policies for their community that might not otherwise be possible, especially if the public supports similar policies (Jamieson & Van Belle, 2018, 2019).

Around the world, governments and public officials are forced to make difficult decisions about public health which will likely have lasting consequences regardless of the outcome. As New Zealand has contained COVID-19 thus far, it makes sense to look south for some direction through this crisis.

References

- Ardern, J. (2020, March 14). *Major steps taken to protect New Zealanders from COVID-19*.
<http://www.beehive.govt.nz/release/major-steps-taken-protect-new-zealanders-covid-19>
- Cameron, E. E., Nuzzo, J. B., & Bell, J. A. (2019). *A World at Risk: Annual Report on Global Preparedness for Health Emergencies*. Nuclear Threat Initiative and Johns Hopkins University Center for Health Security. <https://www.ghsindex.org/report-model/>
- Cave, D. (2020, April 24). Vanquish the Virus? Australia and New Zealand Aim to Show the Way. *The New York Times*. <https://www.nytimes.com/2020/04/24/world/australia/new-zealand-coronavirus.html>
- Cooke, H. (2020, April 8). Coronavirus: Public surge in trust of Government during Covid-19 crisis. *Stuff*. <https://www.stuff.co.nz/national/health/coronavirus/120911320/coronavirus-public-surge-in-trust-of-government-and-national-pride>
- Cooke, H., & Malpass, L. (2020, March 25). Coronavirus: Poll shows Kiwis back harsh measures but are extremely worried about virus. *Stuff*.
<https://www.stuff.co.nz/national/health/coronavirus/120534052/coronavirus-poll-shows-kiwis-back-harsh-measures-but-are-extremely-worried-about-virus>
- Coughlan, T. (2020, April 23). Coronavirus: The Government's Covid-19 lockdown measures have overwhelming public support, according to a poll. *Stuff*.
<https://www.stuff.co.nz/national/121231591/coronavirus-the-governments-covid19-lockdown-measures-have-overwhelming-public-support-according-to-a-poll>
- Dong, E., Du, H., & Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. *The Lancet Infectious Diseases*, 0(0). [https://doi.org/10.1016/S1473-3099\(20\)30120-1](https://doi.org/10.1016/S1473-3099(20)30120-1)

- Duncan, G. (2020, April 15). New Zealand's coronavirus elimination strategy has united a nation. Can that unity outlast lockdown? *The Conversation*.
<http://theconversation.com/new-zealands-coronavirus-elimination-strategy-has-united-a-nation-can-that-unity-outlast-lockdown-135040>
- Dynes, R. R. (1994). Community Emergency Planning: False Assumptions and Inappropriate Analogies. *International Journal of Mass Emergencies and Disasters*, 12(2), 141–158.
- Edwards, B. (2020, April 15). New Zealand's fight against Covid-19 looks successful, but democracy is under threat. *The Guardian*.
<https://www.theguardian.com/commentisfree/2020/apr/16/new-zealands-fight-against-covid-19-looks-successful-but-democracy-is-under-threat>
- Fifield, A. (2020, April 7). New Zealand isn't just flattening the curve. It's squashing it. *Washington Post*. <https://tinyurl.com/tszd6ww>
- Gillespie, A. (2020, April 15). Five ways New Zealanders' lives and liberties will be heavily controlled, even after lockdown eases. *The Conversation*.
<http://theconversation.com/five-ways-new-zealanders-lives-and-liberties-will-be-heavily-controlled-even-after-lockdown-eases-136237>
- Google. (2020, April 17). *COVID-19 Community Mobility Report: New Zealand*. Google.
<https://www.google.com/covid19/mobility/>
- Graham-McLay, C. (2020, May 27). New Zealand deputy PM breaks ranks to urge Ardern to lift Covid-19 lockdown. *The Guardian*.
<https://www.theguardian.com/world/2020/may/27/new-zealand-winston-peters-jacinda-ardern-lift-covid-19-lockdown>

- Healy, A., & Malhotra, N. (2009). Myopic Voters and Natural Disaster Policy. *American Political Science Review*, 103(3), 387–406. <https://doi.org/10.1017/S0003055409990104>
- Institute for Health Metrics and Evaluation. (2020, March 24). *IHME COVID-19 model FAQs*. Institute for Health Metrics and Evaluation. <http://www.healthdata.org/covid/faqs>
- Jamieson, T., & Van Belle, D. A. (2018). Agenda Setting, Localisation and the Third-person Effect: An Experimental Study of When News Content will Directly Influence Public Demands for Policy Change. *Political Science*, 70(1), 58–91. <https://doi.org/10.1080/00323187.2018.1476029>
- Jamieson, T., & Van Belle, D. A. (2019). Resilience-Focused Journalism: The Motivations, Tactics, and Impact of the Los Angeles Times Coverage of Earthquake Risk. *Environmental Communication*, 0(0), 1–15. <https://doi.org/10.1080/17524032.2019.1674895>
- Johnsen, M. (2020, April 20). Government’s Māori Covid-19 response all words, no action—Response group. *RNZ*. <https://www.rnz.co.nz/news/te-manu-korihi/414667/government-s-maori-covid-19-response-all-words-no-action-response-group>
- Johnson, N. R. (1987). Panic and the Breakdown of Social Order: Popular Myth, Social Theory, Empirical Evidence. *Sociological Focus*, 20(3), 171–183.
- Manhire, T. (2020, April 23). Public backing for NZ Covid-19 response rises to 87% – new poll. *The Spinoff*. <https://thespinoff.co.nz/politics/23-04-2020/public-backing-for-nz-government-covid-19-response-rises-to-87-new-poll/>
- McDowall, C., & Garcia, D. (2020, April 30). Covid-19: New Zealand cases mapped and charted, April 30. *The Spinoff*. <https://thespinoff.co.nz/society/30-04-2020/covid-19-new-zealand-cases-mapped-and-charted-april-30/>

- Mileti, D. (1999). *Disasters by Design: A Reassessment of Natural Hazards in the United States*. National Academies Press.
- Mitchell, L. (2003). Guidelines for Emergency Managers Working with Culturally and Linguistically Diverse Communities. *Australian Journal of Emergency Management*, 18(1), 13.
- Morton, J. (2020, March 6). Coronavirus: Meet the experts advising the NZ Government on Covid-19. *NZ Herald*. <https://tinyurl.com/ybvwk7ed>
- Murdoch, D., Addidle, M., Andersson, H. S., Arnold, B., Balm, M., Benschop, J., Betty, B., Birch, M., Bloomfield, M., Brunton, C., Burns, A., Chambers, S., Cook, L., Dalton, S., Duncan, H., Elvy, J., Everts, R., Freeman, J., French, N., ... Wiles, S. (2020). Politicians: Please work together to minimise the spread of COVID-19. *The New Zealand Medical Journal*, 133(1511). <https://covid19.elsevierpure.com/fr/publications/politicians-please-work-together-to-minimise-the-spread-of-covid->
- Neal, D. M., & Phillips, B. D. (1995). Effective Emergency Management: Reconsidering the Bureaucratic Approach. *Disasters*, 19(4), 327–337. <https://doi.org/10.1111/j.1467-7717.1995.tb00353.x>
- New Zealand Government. (2020a). *Unite for the recovery*. Unite for Recovery. <https://uniteforrecovery.govt.nz/unite-for-the-recovery/>
- New Zealand Government. (2020b, May 26). *COVID-19 Alert System*. Unite against COVID-19. <https://covid19.govt.nz/alert-system/covid-19-alert-system/>
- New Zealand Ministry of Health. (2020, June 11). *COVID-19—Current cases*. Ministry of Health NZ. <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-current-situation/covid-19-current-cases>

- Parahi, C. (2020, March 20). Coronavirus: New pandemic group says Māori “left out” of planning. *Stuff*.
<https://www.stuff.co.nz/national/health/coronavirus/120448243/coronavirus-new-pandemic-group-says-mori-left-out-of-planning>
- Perry, R. W., Lindell, M. K., & Tierney, K. J. (2001). *Facing the Unexpected: Disaster Preparedness and Response in the United States*. Joseph Henry Press.
- Phillips, B. D., & Morrow, B. H. (2007). Social Science Research Needs: Focus on Vulnerable Populations, Forecasting, and Warnings. *Natural Hazards Review*, 8(3), 61–68.
[https://doi.org/10.1061/\(ASCE\)1527-6988\(2007\)8:3\(61\)](https://doi.org/10.1061/(ASCE)1527-6988(2007)8:3(61))
- Quarantelli, E. L., & Dynes, R. R. (1977). Response to Social Crisis and Disaster. *Annual Review of Sociology*, 3(1), 23–49. <https://doi.org/10.1146/annurev.so.03.080177.000323>
- Robertson, G. (2020, March 17). *\$12.1 billion support for New Zealanders and business*. The Beehive. <http://www.beehive.govt.nz/release/121-billion-support-new-zealanders-and-business>
- Sridhar, D. (2020, April 22). Crunching the coronavirus curve is better than flattening it, as New Zealand is showing. *The Guardian*.
<https://www.theguardian.com/commentisfree/2020/apr/22/flattening-curve-new-zealand-coronavirus>
- Strongman, S. (2020a, March 31). The people leading New Zealand’s fight against Covid-19. *RNZ*. <https://www.rnz.co.nz/news/covid-19/413048/the-people-leading-new-zealand-s-fight-against-covid-19>
- Strongman, S. (2020b, April 17). Covid-19 pandemic timeline. *RNZ*.
<http://shorthand.radionz.co.nz/coronavirus-timeline/index.html>

- The Spinoff. (2020, May 19). The bumper Toby Morris & Siouxsie Wiles Covid-19 box set. *The Spinoff*. <https://thespinoff.co.nz/media/19-05-2020/the-great-toby-morris-siouxsie-wiles-covid-19-omnibus/>
- Vowles, J. (2020, June 10). An election like no other: With 100 days to go, can Jacinda Ardern maintain her extraordinary popularity? *The Conversation*. <http://theconversation.com/an-election-like-no-other-with-100-days-to-go-can-jacinda-ardern-maintain-her-extraordinary-popularity-140252>
- Webb, G. R., & Chevreau, F.-R. (2006). Planning to improvise: The importance of creativity and flexibility in crisis response. *International Journal of Emergency Management*, 3(1), 66–72. <https://doi.org/10.1504/IJEM.2006.010282>
- Wilson, S. (2020, April 5). Three reasons why Jacinda Ardern’s coronavirus response has been a masterclass in crisis leadership. *The Conversation*. <http://theconversation.com/three-reasons-why-jacinda-arderns-coronavirus-response-has-been-a-masterclass-in-crisis-leadership-135541>