NZ ROYAL COMMISSION
COVID-19 LESSONS LEARNED
TE TIRA ĀRAI URUTĀ

Whītiki Aotearoa:

Lessons from COVID-19 to prepare Aotearoa New Zealand for a future pandemic

Main Report

PHASE ONE

NOVEMBER 2024

NAKU TE ROUROU
NAU TE ROUROU
KA ORA AI TE IWI

WITH YOUR BASKET
AND MY BASKET THE
PEOPLE WILL THRIVE

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2024 – Phase One

This is the Main Report for Te Tira Ārai Urutā the Royal Commission of Inquiry into COVID-19 Lessons Learned. To see the entire report suite, visit covid19lessons.royalcommission.nz

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Part One:
Preliminaries | He whakataki

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Acknowledgements | He mihi

The COVID-19 pandemic impacted everyone in Aotearoa New Zealand and around the world. The response to the pandemic required extraordinary effort, sacrifice and resilience from all of us.

Considering the scale of the COVID-19 pandemic, and the national response to it, it is no surprise that completing our Inquiry has been a collaborative undertaking. Our work as Commissioners has benefited from the inputs and insights we received from thousands of New Zealanders, both here and overseas, and from our networks of international colleagues.

These contributions came through many channels. Between February 2023 and September 2024, we met with more than 1,600 individuals from across Aotearoa New Zealand and from overseas. We would like to acknowledge and thank each of you for generously sharing your pandemic experiences and insights.

Thank you to the nearly 13,000 individuals, whānau (families) and organisations who made submissions to the Inquiry. We know that sharing these experiences could be difficult for people. We appreciate the time and effort each submission took and are grateful for them all.

Thank you to everyone who provided written evidence to the Inquiry. We greatly appreciate the time and effort that went into preparing and submitting this material to us.

While our task has been primarily to recommend how Aotearoa New Zealand can prepare for and respond to a future pandemic, we also want to acknowledge the enormous effort of everyone who delivered the response to the last pandemic, COVID-19. We know that without your tireless work and dedication, New Zealand's response would have fallen far short.

> **"Chairing this Inquiry has been both a huge privilege and a genuinely stimulating and rewarding task."**
>
> Professor Tony Blakely

Thank you to the healthcare and essential workers, the social service providers and the educators for the work you did under challenging circumstances. To Aotearoa New Zealand's communities and leaders – iwi, Pacific peoples and ethnic communities. To the non-governmental organisations, volunteers and others who supported the people who were most vulnerable to the pandemic or impacted by it. To everyone who made sure the information necessary to safely navigate through COVID-19 was provided. To those who kept the workers employed, and to those who kept working during the pandemic. To those who provided the necessary services for life – food, water, electricity.

Under extraordinary circumstances,

you all displayed remarkable resilience, compassion and commitment that helped get Aotearoa New Zealand through the pandemic: a heartfelt thank you.

To those who did their best to ensure that life's milestones – births, deaths, marriages – could still be celebrated and honoured in some way, despite the challenges. To those who made sure access to government and public services (the courts, social assistance, housing and more) was maintained. To those who helped people safely return to or leave Aotearoa New Zealand, including the country's offshore workforce, or who were deployed to the managed isolation and quarantine (MIQ) facilities. To the New Zealand Police and Defence Force personnel who kept everyone safe, even when it sometimes meant being in harm's way.

To those across Aotearoa New Zealand who lifted people's spirits and drew them together through arts, culture and sport. To all those who supported their whānau, friends and neighbours through uncertain times. To the kiwi diaspora living overseas, who relayed much-appreciated information and aroha from elsewhere even when they could not easily make it home in person. To those who had to make the difficult decisions that would affect the entire nation.

Under extraordinary circumstances, you all displayed remarkable resilience, compassion and commitment that helped get Aotearoa New Zealand through the pandemic: a heartfelt thank you.

We also want to record our thanks to the people who made the Inquiry tick and this report a reality. Firstly, thank you to former Commissioner, the Honourable Hekia Parata (Ngati Porou, Ngāi Tahu) for your significant contribution to Phase One. Thank you to Dr Justine Cornwall, Executive Director of the Inquiry, for your hard work and leadership, and your tireless enthusiasm and commitment despite the scale of the task. Thank you to Anita West, whose early and able leadership enabled a quick and efficient establishment of the Inquiry – and recruitment of an outstanding Secretariat team. Thank you to Jane Meares and Asher Emanuel, Counsel Assisting for the Inquiry, for your exemplary legal expertise. And thank you to every member of the Secretariat, for your tireless efforts to collect and analyse evidence, organise engagements, communicate with our stakeholders, coordinate the natural justice process, assist with drafting the report and many more tasks besides – it has been a privilege to work with you. Our thanks also to the Department of Internal Affairs who supported the Inquiry, and in particular to the Department's Chief Executive, Paul James.

A huge thank you to those in the government and private sectors who helped us connect effectively with important communities, raised awareness of our work, ensured many New Zealanders could contribute to the Inquiry through a public submission or an in-person conversation, and supported us with the analysis of the public submissions we received. We could not have done it without you.

Finally, we would like to thank our partners for their encouragement and support throughout our work on the Inquiry.

> **"I sincerely hope that our Phase One work – and indeed Phase Two – will make a real difference for this country that I am so proud of."**
>
> John Whitehead

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Part One: Preliminaries

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Among the many shocks COVID-19 dealt Aotearoa New Zealand was a profound and prolonged loss of certainty. When we first saw footage of deserted streets in Wuhan and overflowing wards in Italian hospitals, we were bewildered. What was this new infection, would it affect us and how bad would it get? When would things go back to normal?

Very soon, it was clear there would be no escaping COVID-19 and normal life would be on hold for some time to come. By mid-March 2020, the Government knew it needed to respond strongly, given the risk that COVID-19 would otherwise over-run our health system and cause many deaths. As an island state, we had an opportunity unavailable to many countries already in the grip of COVID-19: we could stamp it out to the extent it had reached Aotearoa New Zealand already and then do our best to shut out further incursions, at least for a while. And so, at the end of March 2020, the Government made the difficult decision to, in effect, close the borders and put the whole country into lockdown.

Almost overnight, the routine and familiar was upended.

Almost overnight, the routine and familiar was upended. Everyday activities we took for granted – going to work or school, catching up with family and friends, a quick trip to the shops – were suddenly out of reach. Our lives were governed by strict rules that were rolled out rapidly and rolled back again as outbreaks waxed and waned. To navigate this new landscape, we acquired a whole new vocabulary: alert levels, locations of interest, personal protective equipment (PPE), rapid antigen tests (RAT), traffic lights.

Most of us learned to live with the unknowns, the instability and the sheer strangeness of it all. We recognised that, however tough things seemed here, many other countries had it far worse. International comparative studies have since borne that out. Our COVID-19 mortality rate was much lower than most other countries, including the United States and the United Kingdom (see Chapter 1 for an overview of Aotearoa New Zealand's comparative pandemic outcomes).

Our health system was never overwhelmed by COVID-19 cases, although it was often strained in other ways. While our use of lockdowns was among the most stringent in the world, it was relatively sparing: we spent more of 2020 free from onerous restrictions than people elsewhere. A generous economic response cushioned people from the worst of the pandemic's immediate impacts and – initially at least – Aoteaora New Zealand's social and economic outcomes were better than most other OECD countries.[1]

But still, the pandemic hit Aotearoa New Zealand hard, and it was harder on some people than others. For more than 4,000 New Zealanders who died between 2020 and the end of October 2024, COVID-19 either caused or contributed to their deaths.[2] Many others became seriously ill and some remain so today, due to long COVID. A disproportionate share of the health burden fell on Māori and Pacific peoples.[3] And of course the pandemic's impacts extended well beyond health. Some people lost jobs or businesses (although government intervention mitigated these losses), while others in essential roles had to keep working when they didn't feel safe to do so. Rights most of us take for granted were curtailed. Families were separated from relatives overseas, and some New Zealanders were unable to get home. Ongoing disruptions in the education sector saw some young people drop out. Women gave birth without the support of friends or family. People died alone or with only a few loved ones present. In 2024, this country (like many others) is still reckoning with the array of economic and social challenges which the pandemic either caused or worsened.

Whatever satisfaction we draw from the fact that Aotearoa New Zealand emerged from the pandemic in considerably better shape than many other countries, we cannot look away from the undeniable harm New Zealand sustained. Contentious public health measures like vaccine mandates wore away at what had initially been a united wall of public support for the pandemic response; along with the rising tide of misinformation and disinformation, this created social fissures that have not entirely been repaired. Certain groups, many already disadvantaged or vulnerable well before the pandemic, were left worse off when it subsided. As a country that has always professed its belief in equity and fairness – values also enshrined in te Tiriti | the Treaty of Waitangi – we need to make sure the response to the next pandemic does not lead to inequitable and damaging outcomes.

How can we do better next time? The importance of answering that question is, in essence, the reason for our Inquiry. Our terms of reference require us to review Aotearoa New Zealand's response to COVID-19 and identify lessons that will ensure we are better prepared for another pandemic. In fact, we think many of our lessons can be usefully applied to other threats that could also disrupt our country in this century of heightened risk – whether these hazards are familiar or unprecedented, natural or human in origin.

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There *will* be another pandemic and it will not be the same as COVID-19.

We cannot know when or where the next pandemic will break out, nor what form it will take. But we can be sure of some things. There *will* be another pandemic and it will not be the same as COVID-19. It will most likely be triggered by another respiratory virus, perhaps even another coronavirus, although an influenza virus is more likely. But in all likelihood, its transmission characteristics and virulence (the rate of fatal cases) will be different and therefore warrant different policy response options. If we have prepared well, those options will be better than last time. Our society will be different too, not least because of the scars which COVID-19 left behind. Our personal and collective resilience, our social cohesiveness, our willingness to comply with restrictions and our tolerance of risk – all severely tested by COVID-19 – may be greater or less than last time.

This uncertainty presents challenges, but it does not make us powerless. As this report sets out, there is much Aotearoa New Zealand can do – and needs to do – to get ready for the next pandemic. We can start by developing a range of pandemic scenarios, working out the probability of them occurring and identifying their likely effects – not only on public health but on all aspects of our wellbeing. From this basis, we can decide where to prioritise investments, then plan and practise accordingly.

Aotearoa New Zealand must have (or have access to) a suite of the very best epidemiological, economic and social tools and resources: treatments, vaccines, technologies, economic and social supports, data and knowledge.

Of course, no country can afford the investment needed to maintain all possible preparedness and policy responses in an optimal state. But, by quantifying the likelihood of future pandemic scenarios, and knowing the best way to prepare and respond to them should they occur, Aotearoa New Zealand can make rational and cost-effective decisions about investment and preparedness. We can put ourselves in a better position still if we also lay the groundwork now for the agile response strategies and delivery mechanisms we may need in future – and underpin them with even better decision-making arrangements and structures across government than we had in COVID-19.

It is not just Government that must take up these challenges. When the response to COVID-19 was at its most effective, it was due not only to the hard work of public servants and politicians but also to businesses and industries, iwi and Māori, Pacific communities and other ethnic communities, social service providers, charities, volunteers and many more. They knew the needs of their sectors or communities, they knew how to reach them, and they could often do what central government could not. The response to the next pandemic, and preparations for it, must therefore harness their strengths.

COVID-19 showed us the capacity of New Zealanders, individually and collectively, to rise to a challenge that proved bigger and more complex than was initially anticipated. As we travelled the country hearing from people about their experiences, we were repeatedly struck by the extraordinary effort, commitment and selflessness shown throughout the pandemic. Across the private and public sectors alike, people worked huge hours, often from home in less than ideal and sometimes stressful conditions.

They did the best they could, making difficult decisions on the basis of imperfect information. They found ways to keep things going in a rapidly-changing and sometimes frightening environment. Whether they contributed on the national stage or away from the public eye, these people made Aotearoa New Zealand's pandemic response happen. It has been one of the biggest privileges of our working lives to meet them and hear their reflections.

Aotearoa New Zealand has much to be proud of when it looks back on its response to COVID-19. But, as nearly everyone we engaged with over the course of the Inquiry agreed, there is significant room for improvement. Not only will the next pandemic be different, but our response must be different too – and better. This report aims to make a practical contribution to that goal. We have looked back, honestly and scrupulously – not to assign blame, but to enable us to move forward, as prepared as we can be, for what will be a challenging future.

Na mātou noa, na

Professor Tony Blakely, Chair

John Whitehead CNZM KStJ, Commissioner

Grant Illingworth KC,[i] **Commissioner**

i Grant Illingworth KC was appointed as a commissioner for Phase One of the Inquiry from 2 August 2024 to 28 November 2024, with his appointment to continue into Phase Two. He was later appointed as the Chair for Phase Two. His appointment to Phase One was made at a time when evidence collection had been completed. In accordance with the terms of reference for Phase Two, Mr Illingworth has not had access to any non-public material gathered in evidence during Phase One. This includes consideration of any evidence that was adduced during the natural justice process, or any other involvement in that process. His primary role during Phase One has been to review near-final drafts of this report. Mr Illingworth notes and emphasises that there are areas in the report that overlap with the Phase Two terms of reference, and that Phase Two of the Inquiry may look more deeply into some issues and make findings, identify lessons and make recommendations beyond those in the Phase One report.

I roto i ngā mea ohorere maha i puta i te KOWHEORI-19 ki Aotearoa ko te kaha o te noho rangirua. I tā tātau kitenga tuatahi o ngā tiriti mahue i Wuhan me te pokea o ngā hōhipera i Ītari, i pōkīkī tatau. He aha tēnei mate hou, ka pā mai ki a tātau, ā, he pēhea te kino? Āhea tātau ka hoki ki ngā ritenga noa?

Kāore i roa ka pā mai te māramatanga e kore e taea te karo te KOWHEORI-19, ā, ka tārewa ō tātau ake ao mō tētahi wā. I te weherua o Maehe 2020, i mōhio te kāwanatanga me taikaha tana urupare, nā te mōrea o te KOWHEORI-19 ka pokea tā tātau pūnaha hauora, ā, ko te mutunga he parekura. Hei whenua ā-motu, ko tō tātau waimarie, rerekē ki ētahi atu whenua e pēhia ana e te KOWHEORI-19: ka taea e tātau te aukati te hōrapatanga o te mate, ahakoa kua tae mai, otirā mō tētahi wā. Nō reira, i te pito o Maehe 2020, i tau i te Kāwanatanga te whakatau uaua, kia katia ngā pae o te whenua ka whakatau kia noho rāhui te whenua katoa.

Me kī, i te hikitanga o te awatea kua rerekē katoa ō tātau ao. Ko ā tātau mahi o ia rā – te haere ki te mahi, te kura, te whakawhanaunga ki te whānau me ngā hoa, te haere ki ngā toa – kua kore ērā e taea ināianei. I noho tātau i raro i ngā ture pākaha i whakatakotoria wawetia, ka mutu i whakatakotoria anōtia i te putanga me te hekenga o te mate. Kia puta ai tēnei āhuatanga hou, i whakaarahia ngā kupu kōrero hou; ngā taumata whakatūpato, wāhi pūtake, PPE, ngā whakamātautau ākipaturopi tere (RAT), ngā rama ikiiki.

Mō te nuinga, i tau tā tātau noho i roto i te kore mōhio, te āhuatanga pāhekeheke me te tino rerekē o aua mea katoa. I mōhio tātau, ahakoa ngā uauatanga o konei, he kino ake ngā āhuatanga i whenua kē. Kua puta i ngā rangahau whakataurite o te ao tērā. He iti iho te rahinga o te hunga i mate i te KOWHEORI-19 i konei tēnā i ētahi atu whenua, tae atu ki Amerika me Piritana Nui (tirohia te Upoko 5 mō te tirohanga whānui o ngā putanga mate urutā whakataurite o Aotearoa). Kāore i pokea tā tātau pūnaha hauora e te kēhi KOWHEORI-19, ahakoa i pēhia i ētahi atu āhuatanga. Ahakoa ko tā tātau whakamahi noho rāhui tētahi o ngā mea tino pākaha i te ao katoa, he itiiti noa te whakamahinga: ko te nuinga o te tau 2020 i noho wātea i ngā rāhuitanga tēnā i ngā tāngata o whenua kē. Nā te urupare ōhanga ohaoha kāore i pā mai te tino kino o ngā pānga wawe tonu o te mate urutā – heoi, i te tuatahi – i pai ake ngā putanga pāpori me te ōhanga o Aotearoa tēnā i te nuinga o ētahi atu whenua OECD.

Engari, i kaha pākia a Aotearoa e te mate urutā, ka mutu i uaua kē atu mō ētahi tāngata. Mō ngā tāngata neke atu i te 4,000 o Aotearoa i mate i waenga i te 2020 me te paunga o Oketopa 2024, i mate rātau i te KOWHEORI-19, i whai wāhi ai rānei te KOWHEORI-19 ki tō rātou matenga. He maha hoki te hunga i tino māuiuitia, ā, pērā tonu ana i tēnei rā, nā te KOWHEORI roa. He nui rawa te Māori me ngā uri o ngā Moutere i pāngia e te mate. Ka mutu, arā kē atu te whānui o te pānga o te mate urutā i tua atu i te hauora. I kore ngā tūranga mahi, ngā pakihi a ētahi (ahakoa i whakangāwaritia ēnei ngaronga e ngā āwhina a te kāwanatanga), ā, ko te hunga i ngā tūranga waiwai i mate ki te mahi tonu ahakoa kāore i te tino haumaru ki a rātau. I tauporoa ō tātau tika. I noho wehe ngā whānau mai i ō rātau whanaunga i tāwāhi, ā, kāore ētahi tāngata o Aotearoa i āhei ki te hoki mai ki te kāinga. Nā te haere tonu o ngā whakararuraru i te rāngai mātauranga i wehe mai ētahi tamariki. I whakawhānau ngā wāhine me te kore whai tautoko a ngā hoa, whānau rānei.

I mate mokemoke ētahi tāngata, he tokoiti rānei te whānau i reira. I te tau 2024, kei te pā tonu ngā uauatanga ōhanga me te pāpori ki tēnei whenua (pērā i ētahi atu) mai i te mate urutā, kua tino hē kē atu rānei.

Ahakoa te āhuareka ki a tātau i te mea i pai ake te āhua o Aotearoa mai i te mate urutā tēnā i te maha o ētahi atu whenua, e kore e taea te tahuri atu mai i te kino i pā ki Aotearoa. Ko ngā whakaritenga hauora tūmatanui tautohetohe pērā i ngā mana rongoā āraimate i wetewete haere i ngā tautoko mō te urupare ki te mate urutā; i te taha o te nui haere o ngā mōhiohio parau me te horihori, i uru mai te wehewehe i waenga i te iwi, ā, kāore anō tērā kia tino tau. Ko ētahi rōpū ake, he maha rātau he rawakore, he whakaraerae rānei i mua noa atu i te mate urutā, i tino hē kē atu i te maurutanga atu. I te mea he whenua tēnei kua roa e whakapuaki ana i tōna pono ki te mana ōrite me te tōkeke – ngā uara kei roto i te Tiriti – me mātua whakarite tātau kia kaua e pā mai ngā putanga kore tōkeke, tūkino rānei i te urupare ki te mate urutā whai ake.

Me pēhea e pai ake ai ā muri ake? Ko te mea hira o te whakautu i taua pātai, me kī koinā te pūtake mō tā mātau Uiui. E herea ana mātau e ā mātau tūtohu mahi kia arotakehia te urupare a Aotearoa ki te KOWHEORI-19 me te whakaatu i ngā akoranga hei whakarite ka takatū ake tātau mō tētahi mate urutā. Otirā, e whakapono ana mātau ka taea te whakamahi te nuinga o ā tātau akoranga ki ētahi atu mōrea ka whakararu pea i tō tātau whenua i tēnei rau tau whakamōrearea – ahakoa he pūmate ēnei e mōhiotia ana, he mea hou rānei, he tūturu, he whaihanga rānei.

E kore tātau e mōhio ki te wā, te wāhi rānei ka pakaru mai mate urutā whai ake, tōna āhua rānei. Engari tērā ētahi mea e tino mōhio ana tātau. Ka pā anō he mate urutā, ā, kāore e rite ki te KOWHEORI-19. Kāore e kore ka pupū ake i tētahi atu huaketo arahau, tētahi atu mate korona rānei, heoi tērā pea ko tētahi mate rewharewha. Engari tērā tonu pea ka rerekē ōna āhuatanga hōrapa me te nui o te hunga ka mate, nō reira me rerekē ngā kōwhiringa urupare kaupapahere. Mēnā kei te tino takatū tātau, kai pai ake aua kōwhiringa tēnā i mua. Ka rerekē hoki tātau te iwi whānui, tētahi take nā ngā pānga mauroa o te KOWHEORI-19. Ko tō tātau tū pakari takitahi, takitini, tō tātau pipiri ā-pāpori, tō tātau hiahia kia ū ki ngā here me tō tātau rata ki te mōrea – i tino whakamātauria ēnei mea katoa e te KOWHEORI-19 – ka nui ake, ka iti iho rānei pea tēnā i mua.

Ka pā mai te whakapātaritari i tēnei mea pāhekeheke, engari ehara i te mea kua mana-kore tātau. E kī ana tēnei pūrongo, he nui ngā mea ka taea e Aotearoa – ka mutu me pērā ka tika – kia takatū ai mō te mate urutā ā muri ake. Ka taea e tātau te tīmata mā te waihanga i ngā tūmomo āhuatanga mate urutā rerekē, te whiriwhiri i te tūponotanga o te pā mai me te tautuhi i ōna pānga ka taea – kaua i te hauora tūmatanui anake engari ki ngā āhuatanga katoa o te oranga. Mai i tēnei āhuatanga, ka taea te whakatau me haumi ki hea, kātahi ka whakarite mahere me te whakatinana hoki. Me mātua whai a Aotearoa (te āhei atu rānei) ki ngā momo utauta me ngā rawa mātai tahumaero, ōhanga me te pāpori tino pai rawa; ngā maimoatanga, ngā āraimate, ngā hangarau, ngā tautoko ōhanga me te pāpori, ngā raraunga me ngā mōhio.

Otirā, e kore e taea e tētahi whenua kotahi ngā haumitanga e hiahiatia ana mō ngā momo takatū me ngā urupare kaupapahere katoa ki te āhuatanga tiketike. Engari, mā te rapu kia mārama ai ka pēhea ngā mate urutā o muri mai, me te mōhio ki te āhuatanga pai rawa mō te takatū me te urupare ki te pā mai, ka taea e Aotearoa ngā whakatau i runga i te mārama, i te tika o te utu mō te haumitanga me te takatū. Ka pai ake mō tātau mēnā ka tahuri tātau ki te whakariteriteināianei mō ngā rautaki urupare kakama me ngā tikanga whakarato ka hiahia pea tātau ā muri ake – me te paihere i ērā ki ngā whakaritenga whakatau tikanga me ngā hanganga puta noa i te kāwanatanga kia pai ake ki tērā i te KOWHEORI-19.

Ehara ko te Kāwanatanga anake me kawe ake i te mānuka. I te wā i tino whaitake ai te urupare ki te KOWHEORI-19, ehara nā te whakapau kaha a ngā kaimahi kāwanatanga me ngā kaitōrangapū anake engari nā ngā pakihi anō hoki me ngā rāngai, ngā iwi me te Māori, ngā uri o ngā Moutere me ētahi atu hapori mātāwaka, ngā kaiwhakarato ratonga pāpori, ngā kaupapa aroha, ngā kaitūao me te maha atu. I te mōhio rātau ki ngā hiahia o ō rātau rāngai, hapori rānei, i mōhio rātau me pēhea te toro atu, ka mutu ka taea e rātau ngā mea kāore i taea e te kāwanatanga. Nō reira ko te urupare ki te mate urutā whai ake, ā, kia takatū hoki mō tērā, me mātua whakamahi i ō rātau kaha.

I whakaatu te KOWHEORI-19 i te kaha o Ngāi Aotearoa, ā-takitahi, ā-takitini hoki, ki te whakatūtaki i te wero tino nui ake, matatini ake ki tērā i whakaarohia ai. I a mātau i huri haere i te motu ki te whakarongo ki ngā whakaaro o ngā tāngata, hoki atu, hoki atu i mīharo mātau ki ngā mahi, te pūmau me te ohaoha i whakatauiratia puta noa i te mate urutā. Puta i ngā rāngai tūmataiti me te tūmatanui, he tino maha ngā haora i te mahi ngā tāngata, otirā mai i te kāinga i ngā āhuatanga kāore i pai, ā, kāore i tika. I tino kaha rātau, ki te whakatau tikanga ahakoa kāore i whānui ngā mōhiohio. I kitea e rātau ngā ara kia mahi haere tonu i roto i tētahi taiao tere te hurihuri, whakawehi hoki i ētahi wā. Ahakoa i tautoko rātau i mua i te aroaro o te motu, muna rānei, nā ēnei tāngata i tutuki ai te urupare mate urutā o Aotearoa. Koinei tētahi o ngā hōnore nui rawa o ō mātau ao mahi te tūtaki ki a rātau me te whakarongo ki ō rātau whakaaro.

Ka nui te ngākau whakahī o Aotearoa i te hoki o ngā whakaaro ki te urupare ki te KOWHEORI-19. Heoi, ahakoa i whakaae te nuinga o ngā tāngata i toro atu mātau i roto i te Uiui, he nui tonu ngā wāhi hei whakapai ake. Ka rerekē te mate urutā whai ake, nō reira me rerekē anō tā tātau urupare – ka mutu me pai ake. E whai ana tēnei pūrongo kia whaitake te tautoko i taua whāinga. Kua hoki mātau ki te tirotiro, i runga i te tika me te uhupoho – kaua ki te whakatau hē engari kia anga whakamua ai tātau, kia tino takatū ai tātau, mō tētahi anamata whakapataritari.

Introduction

Our core task is to identify the lessons that can be learned from Aotearoa New Zealand's response to COVID-19 between February 2020 and October 2022, and to use those lessons to make recommendations for how the country should prepare for any future pandemic. To do this, our Inquiry examined many aspects of the response to gain a comprehensive understanding of what unfolded in New Zealand during the COVID-19 pandemic.

We set out to establish:

We also considered how the pandemic was managed in other international jurisdictions to learn from different approaches.

From reviewing Aotearoa New Zealand's COVID-19 pandemic experience and response, we have identified a wide-ranging set of lessons that we consider will help the country respond better to any future pandemic. We present them in two ways in this report: the lessons we learned from looking back at New Zealand's COVID-19 pandemic experience and response; and looking forward, the lessons that will ensure New Zealand is better prepared for the future. Our approach looks beyond COVID-19 to a wide range of pandemic scenarios, as the next pandemic could originate from a different pathogen that spreads and affects people quite differently.

The insights from all our 'lessons learned' provide the basis for the Inquiry's recommendations, which detail the practical steps we consider the Government of Aotearoa New Zealand, and its agencies, should now take. They have been developed based on areas of the COVID-19 response that were particularly challenging, had the biggest impact, can be most feasibly tackled by the government – and, importantly, offer the greatest opportunities for better preparedness as we look to the future.

Lessons learned from looking back

The 'Looking Back' part of this report reviews and draws lessons from the key areas of the Aotearoa New Zealand's pandemic response specified in our terms of reference.

Chapters 1 to 8 provide an overview of some key pandemic events, impacts, decisions and outcomes (and how Aotearoa New Zealand compared with other countries), and examine the following topics:

- The all-of-government response
- Lockdowns
- Border and quarantine measures
- The health system response
- Economic and social measures and impacts
- Vaccination
- The use of mandatory measures

In Chapter 9, we provide a summary of Aotearoa New Zealand's pandemic story and what we learned from it.

Overall, compared to other jurisdictions, the evidence shows that the COVID-19 response in Aotearoa New Zealand was effective at protecting people from the health effects of the virus. The public health response successfully prevented widespread infection until most of the population was vaccinated. The health system was never overwhelmed, and many of the potentially unequal health impacts on disadvantaged or vulnerable populations were minimised or mitigated.

The initial success of the elimination strategy allowed the country to spend less time under strict lockdown conditions than many other parts of the world, meaning daily life and economic activity were broadly able to return to 'normal' much earlier. This was coupled with a swift and generous economic and social response which cushioned many people and businesses from the pandemic's worst impacts – and saw Aotearoa New Zealand's economy perform well compared to other countries in the initial phases of the pandemic. We highlight examples in the 'Looking Back' chapters where we identified aspects of the response working well.

However, the response was not perfect and over time some aspects proved challenging, particularly in terms of delivery and adapting as circumstances changed. We also identified unintended consequences that stemmed from certain decisions or approaches that could have benefited from greater flexibility. As was the case overseas, the pandemic (and aspects of the response to it) had negative impacts on Aotearoa New Zealand's economy, society, individuals and families that were significant, cumulative and unevenly distributed over time.

We assess many of these impacts in detail in the 'Looking Back' chapters. For example, we consider and draw lessons learned from the impacts of lockdowns and border restrictions on individuals and groups; missed opportunities to ensure the vaccine rollout reached vulnerable populations as equitably as desirable; and the social and economic consequences of certain mandatory measures, particularly vaccine requirements. We recognise the full extent of the impacts from the COVID-19 pandemic may not be wholly understood for some time. Current and future research will continue to add to our overall understanding of the pandemic and enhance future planning and decision-making.

The swift response saw Aotearoa New Zealand's economy perform well compared to other countries in the initial phases of the pandemic.

We also identified unintended consequences that stemmed from certain decisions or approaches that could have benefited from greater flexibility.

Lessons learned for the future

After reflecting on what can be learned from looking back at Aotearoa New Zealand's response to the COVID-19 pandemic, we turn to our lessons for the future. We begin by acknowledging the many ways in which COVID-19 has shifted the global context in which the next pandemic will unfold.

- One critical overall observation we have made, and which applies internationally, is that the foundations for future pandemic responses must be put in place ahead of time. We cannot predict the exact nature of the next pandemic, or the economic and social situation in which it might occur, but there are many tools available – scenario planning, ethical and human rights frameworks, cost-effectiveness tools and more – that can assist with planning, proactive management, and making decisions about where to focus resources.
- We then present six thematic lessons more specific to Aotearoa New Zealand on what we learned for the future. These describe the high-level elements we consider are essential to ensure we are fully prepared for, and respond well to, the next pandemic.
- Our overarching high-level lesson from COVID-19 is that:

successfully managing a pandemic requires a response that looks after all aspects of people's lives.

This means first recognising the various ways people's lives will be affected by a future pandemic, and then creating a balanced pandemic response that minimises both immediate and long-term harms. Supporting this lesson are five more that highlight the importance of:

Make good decisions
Build resilience in the health system
Build resilience in economic and social systems
Work together
Build the foundations for future responses

The foundations for a future pandemic response must be put in place ahead of time.

Within each thematic lesson, a range of 'sub-lessons' elaborate on how our Inquiry considers Aotearoa New Zealand can develop balanced and effective pandemic responses in the future. For example, decision-makers need to keep sight of the overall and multi-faceted purpose of a pandemic response while being adaptable; and we emphasise the importance of good quality advice and evidence, robust processes, and a firm commitment to responsiveness, clear communication and transparency.

Ahead of the next pandemic, we highlight the importance of strengthening Aotearoa New Zealand's public health capacity and increasing the resilience of the healthcare system. Strong economic and social systems must also be fostered to support resilience and New Zealand's ability to absorb shocks like pandemics. We discuss the critical importance of government agencies working together and maintaining relationships with iwi and Māori, communities, businesses, faith groups and non-governmental organisations who, as the COVID-19 response demonstrated, can reach people the government often cannot. Future pandemic responses in New Zealand should also uphold te Tiriti o Waitangi (the Treaty of Waitangi) and we discuss how the government might work in partnership with Māori in the development, design and delivery of the response.

Recommendations

The uncertainty posed by the nature and context surrounding any future pandemic in Aotearoa New Zealand presents challenges, but it does not make us powerless. Our recommendations outline the practical steps that the Government of New Zealand, and its agencies, should take to ensure any future pandemic response is effective and looks after all aspects of people's lives.

Our recommendations call for action across many areas of government, but all support a common overall objective: ensuring pandemic preparations and any future pandemic responses have a clear purpose and are people-centred. While directed at central government, other communities and organisations throughout New Zealand may also find aspects of our recommendations relevant and useful in their own pandemic planning.

Recommendations are organised in six groups:

1. Strengthen all-of-government coordination and accountability for pandemic preparedness
2. Ensure an all-of-government pandemic plan, response structure and supporting processes are developed and ready for a pandemic response
3. Strengthen the public health measures that may be required in a pandemic
4. Ensure all sectors are prepared for a pandemic and ready to respond
5. Ensure enablers are in place
6. Implement the Inquiry's recommendations

We recommend a central agency function be established to coordinate all-of-government preparation and response planning for pandemics (and other national risks), supported by strengthened scenario planning, modelling capability, and external expertise. Oversight and accountability for pandemic preparedness should be strengthened and made more publicly transparent. An all-of-government response plan for a pandemic should be developed and regularly practised, and an all-of-government response structure ready to be activated if needed.

We make specific recommendations designed to ensure the public health measures that may be required in a pandemic can be enabled. This includes the Ministry of Health refining the health system pandemic plan and linking it with the all-of-government response plan. We also set out recommendations for ensuring plans are in place for scaling-up and implementing significant public health measures; and which address planning for when and how border restrictions, lockdowns and vaccine requirements might be used.

Recommendations are also provided to help ensure the economic, social, education and justice sectors are all prepared for a pandemic and ready to respond: each sector should have a pandemic plan and consider what they need to do to support activity within their sector to help the country safely keep going in a pandemic. It is important these sectors are prepared to keep necessary goods and services going as much as possible during a pandemic, while protecting the long-term capability to continue delivering what will be needed in the future.

It is also important to ensure enablers are in place: public sector agencies need to improve the way they work with iwi and Māori to support the Crown in its relationship with Māori under Te Tiriti o Waitangi (the Treaty of Waitangi); we also recommend all relevant legislation be reviewed to ensure it is fit for purpose for any future pandemic, and that core infrastructure is in place and ready to support each sector's pandemic response. Finally, we outline how the Inquiry's Phase One recommendations should be implemented.

While our recommendations are drawn from the lessons learned from the COVID-19 pandemic, they are designed and intended to apply to any future pandemic – some also apply to other major national emergencies. While we cannot predict when the next pandemic will be, or what form it will take, there is much we can do to ensure we are prepared for whatever the future may bring.

To review our recommendations in full please refer to the separate document – Consolidated lessons and recommendations.

Why and how the Inquiry was established

The Government announced the establishment of the Royal Commission of Inquiry into COVID-19 Lessons Learned I Te Tira Ārai Urutā on 5 December 2022. The announcement came not long after the public health measures – mask wearing, vaccine mandates, isolation requirements and more – had been retired. Likewise, the extraordinary powers that the Government was able to exercise under legislation throughout the pandemic had been largely wound back.

Even though the SARS-CoV-2 virus was still very much a part of daily life, Cabinet considered the time was right 'to invest in a process to learn from Aotearoa New Zealand's COVID-19 experience and to use those lessons to strengthen New Zealand's preparedness for any future pandemics'. Ministers decided it was fitting for this task to be undertaken by a Royal Commission – the highest form of public inquiry – given the magnitude of the COVID-19 emergency, the scale and complexity of its impacts, and the toll it had taken on the country's social and economic wellbeing.[4]

The then-Prime Minister Jacinda Ardern confirmed that epidemiologist and public health medicine specialist Professor Tony Blakely would lead the Royal Commission. He would be joined by two members, former Cabinet Minister, the Honourable Hekia Parata (Ngati Porou, Ngāi Tahu) and former Treasury Secretary John Whitehead CNZM KStJ. All three were subject matter experts who brought a 'unique set of skills' to the Inquiry, the Prime Minister said.

They would be supported by a secretariat, with the Department of Internal Affairs serving as the host agency. The Inquiry would start hearing evidence from February 2023 and deliver its report by mid-2024 (later extended to the end of November 2024).

Following the 2023 election, the new Government signalled it was considering changes to the Inquiry's terms of reference. After a public consultation process, it announced in June 2024 that a second inquiry phase would begin when Phase One ended. It would have different terms of reference and new commissioners. Grant Illingworth KC was appointed as a commissioner, and later appointed chair of Phase Two, alongside fellow commissioners Judy Kavanagh and Anthony Hill. The Phase Two report is scheduled to be submitted by 26 February 2026.

Our terms of reference

Our terms of reference[5] set the parameters for both the scope and style of the Phase One Inquiry. They confirmed our core task: to look at how to strengthen Aotearoa New Zealand's preparedness for future pandemics. We were asked to give effect to this by identifying what lessons could be learned from New Zealand's response to COVID-19 between February 2020 and October 2022, and how those lessons could be applied in preparation for any future pandemic.

Specifically, we were asked to consider:

- The **public health response** and the delivery of health services – including things like border closures and MIQ arrangements; the approval and mandating of vaccines; lockdowns and isolation arrangements; as well as modelling and surveillance systems, vaccine passes, gathering limits and PPE, along with continued delivery of necessary health services.
- The **provision of goods and services** – such as how people's everyday needs were met during the pandemic; the provision of lifeline utilities and services (water, electricity and so on); how education and childcare services were delivered, along with other essential services that the Government provides, like regular superannuation payments or housing.
- The **economic response** – the support available to individuals and businesses (such as the wage subsidy); the exemptions that were put in place for specific industries (farming, for example); and the Government's economic response more generally.
- **Government decision-making, communication and engagement** – what decision-making structures and arrangements were used to manage and deliver the response? How did people and communities receive information and how did Government engage with them, in order to limit the spread of the virus and ensure everyone was kept safe?

Our terms of reference were therefore broad. Across health, economic and social aspects of the country's response, the Inquiry was asked to examine the **legislative, policy and operational settings** applying throughout the response and to consider: what can be learned that could improve Aotearoa New Zealand's preparedness and response to a future pandemic? The terms of reference also required us to examine how the pandemic response addressed *the interests of Māori*, consistent with the te Tiriti o Waitangi relationship, and any disproportionate impacts the pandemic may have had on particular population groups and communities. We were also invited to assess the effectiveness of the various pandemic strategies, settings and measures (both health and economic) that were adopted.

Our terms of reference exclude certain aspects of the pandemic response. Out of scope matters included specific clinical decisions, the wider health system reforms, decisions of the courts and oversight bodies, the private sector's operations (beyond delivering essential services), particular decisions taken by the Reserve Bank of New Zealand's independent monetary policy committee during the COVID-19 pandemic, adaptation of court procedures and parliamentary processes, and the conduct of the general election. In addition, 'the specific epidemiology of the COVID-19 virus and its variants' and 'vaccine efficacy' were out of scope. As regards the first exclusion, an analysis of matters such as the detailed structure, immunology and cellular interaction of the SARS-CoV-2 virus is out-of-scope; but widely understood and elementary points like the increasing infectivity and changes in virulence of variants (such as the Delta and Omicron variants) are not excluded from our consideration. Similarly, in medical usage there is a well-established distinction between 'efficacy' and 'effectiveness.' Simply put, an assessment of efficacy would involve a systematic review, in deep detail, of a vaccine's ability to provide protection against a virus (and its variants), with laboratory studies and clinical trials (including immunological and specific vaccine safety, side effects and adverse effects). An evaluation of that kind is obviously out-of-scope for present purposes. However, the more general concept of vaccine 'effectiveness' is qualitatively different. It includes, for example, how well the Pfizer vaccine performed in reducing transmission and protecting against serious illness and death in Aotearoa New Zealand. We have obviously had to consider issues of that kind as they underpin the rationale for an elimination strategy, the pace at which a country opens up as vaccine coverage increases, and the deployment of vaccine requirements such as mandates, employer vaccine policies and vaccine passes.

The terms of reference emphasise that the Phase One Inquiry's aim is to extract lessons for the future. We should not take a legalistic and adversarial approach (see 'Our approach to the Inquiry') and should use the least formal information-gathering processes possible. We were required to utilise publicly-available information as much as possible and seek any additional information we needed in an efficient and targeted way.

Our approach to the Inquiry

Throughout Phase One, our approach has been:	
Non-adversarial: 	Under the Inquiries Act 2013, a Royal Commission must conduct its inquiry in accordance with that Act and the terms of reference, but otherwise as it considers appropriate. Our terms of reference directed us to use a non-adversarial approach.
Scenario-focused: 	Our work has been informed by scenario thinking – a way of understanding and planning for future events when, like pandemics, we do not know what 'type' they will be nor when they will occur. The next pandemic could play out in many ways, depending on the specific pandemic agent involved (such as a virus), the response measures adopted, and the social, economic and political context in which it occurs. However, using scenarios, we can still determine and plan for the most likely types of pandemics that will occur and the likely range of economic and social impacts; we are not powerless. Our lessons and recommendations seek to strengthen Aotearoa New Zealand's readiness to meet a range of future pandemic scenarios. They also urge those tasked with preparing for and delivering future pandemic responses to ensure scenario thinking – supported by modelling – is at the heart of those preparations. For more on scenario thinking and its application to pandemic policy and investment decisions, see Appendix C.
Exploratory, holistic and forward-looking: 	Rather than undertaking an overly forensic analysis of past activities and decisions, we inquired into the areas identified in the terms of reference from a broad and holistic perspective, looking for common issues and themes in the pandemic response. We focused on inquiring deeply enough to extract lessons, but the breadth of our terms of reference meant we did not need to dig exhaustively into every last detail of what happened. This allowed us to develop lessons and recommendations that span several areas, are sustainable and flexible, and can have real system-level impact in the next pandemic, whatever its cause, trajectory and duration.

Non-duplicative:

As required by our terms of reference, we have not sought to duplicate the already existing extensive analysis of Aotearoa New Zealand's response to COVID-19 and the lessons arising already undertaken by others (see 'Existing reviews'). We have certainly taken account of this valuable work, but much of it is specific to COVID-19 or addresses only particular aspects of the response. Our approach has been broader and explicitly focused on a range of possible future pandemics. Consistent with our remit – and our public feedback process – we have indeed 'looked back' on the COVID-19 experience. But we have done so with the express aim of learning how New Zealand can prepare itself to 'move forward' with more confidence in either similar, or potentially somewhat different, circumstances.

Finally, we want to clarify the relationship between this Phase One report and Phase Two of the Inquiry. This report is the result of work planned and undertaken independently of the terms of reference governing Phase Two. We were guided by the original terms of reference, and had in fact completed our evidence-gathering and begun drafting this report when Phase Two was established.

We consider that the breadth of the work carried out in this initial phase and presented in this report prepares the ground for, and will complement, the next phase of the Inquiry. Phase Two will look deeper into some of the same areas and also address the issue of vaccine safety and harm, excluded from the scope of Phase One.

How we gathered and used evidence

As our remit was to inquire into many dimensions of Aotearoa New Zealand's response to COVID-19 – public health, economic and social – our evidence base has been necessarily wide-ranging. We have considered information from many sources, including:

- investigations, reports, reviews and research (both domestic and international) and other publicly available information – including Cabinet papers, and minutes of advisory groups and oversight bodies proactively released by government agencies;
- written evidence provided by government departments and other parties;
- additional evidence requested by the Inquiry;
- public submissions; and
- evidence gathered via direct engagements with key stakeholders, decision-makers, public servants, independent experts, and communities most impacted by the pandemic. These engagements took the form of face-to-face or virtual meetings, interviews and correspondence.

Evidence snapshot

The Phase One Inquiry received evidence and information from across the length and breadth of Aotearoa New Zealand. We:

Received more than
133,000
pages of evidence

Held nearly 400 meetings, almost a third of them outside Wellington

Met with over
1,600
people

Heard from nearly 13,000 New Zealanders through our public submissions process

The views, suggestions and evidence provided by these people and groups have been incorporated into our assessment of the overall COVID-19 response and helped us to identify key lessons for the future.

Existing pandemic reviews (domestic and international)

As noted above, the terms of reference asked us to consider existing investigations, reports and reviews relating to the COVID-19 response although we were to avoid repeating work already undertaken and were free to reach different conclusions. Seventy-five reviews of the domestic response had been produced since 2020, generating 1,639 recommendations.

The Cabinet paper '*Establishing an inquiry into New Zealand's preparedness for a future pandemic*' (October 2022) summarised the 37 domestic reviews most relevant to our work.[6] They included rapid reviews of the initial all-of-government operating model and governance arrangements, material produced by the COVID-19 Independent Review and Improvement Advice Group, the Office of the Auditor-General's report into all-of-government coordination in the first year of the response, reviews of COVID-19 clusters in aged-care facilities, a report on the implementation of the COVID-19 Surveillance Plan and Testing Strategy, and inquiries into the MIQ booking system, isolation facilities and prisons.

Starting from this list and supplementing it with other reviews and analysis we identified, we amassed a comprehensive record of findings and data about the Aotearoa New Zealand pandemic response. The existing reviews inform the analysis, lessons and recommendations set out in this report, and are referenced throughout. However, many of these reviews focused on specific topics, usually operational, and a particular point in time.

While they certainly offered useful insights about particular pandemic phases, their specificity and limited parameters meant we sometimes needed to seek out more information and perspectives that shed light on their findings. None had sought to provide a comprehensive, holistic, future-oriented picture of the entire pandemic response, nor considered what lessons might apply for future pandemics that are different from COVID-19.

Similarly, we reviewed the considerable body of literature and evidence on the international COVID-19 experience. It encompassed formal inquiries, like ours, into other countries' responses, and assessments by independent and international bodies. Those which have been particularly helpful to our work include:

- *UK Covid-19 Inquiry – Resilience and preparedness (Module 1)*[7]
- *Commonwealth Government of Australia COVID-19 Response Inquiry*[8]
- *Fault Lines: an independent review into Australia's response to COVID-19*[9]
- *Australian Government Crisis Management Framework*[10]
- *Dutch Safety Board, Investigations into the Approach to COVID-19 crisis*[11]
- *OECD Policy Responses to Coronavirus (COVID-19)*[12]
- *Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic*[13]
- *Independent Panel for Pandemic Preparedness and Response*, co-chaired by Her Excellency Ellen Johnson Sirleaf and the Right Honourable Helen Clark.[14]

Direct engagements

The Phase One terms of reference did not direct us to undertake public hearings. However, we wanted to engage authentically with a wide range of groups and individuals in order to fully understand the complex and multi-faceted impact of the pandemic, and to inform our lessons. For example, when considering how the next pandemic response could best support the wellbeing of essential workers (such as people working in supermarkets or at the border) or communities and population groups likely to be especially impacted (Māori and Pacific peoples, for example), we knew that those were the people we needed to talk to.

Starting in June 2023, we undertook an extensive programme of targeted, in-person (and sometimes virtual) engagements – interviews, hui and facilitated group meetings. Over the next 15 months, the people and groups we met with included:[ii]

- those who implemented the response (including representatives of government agencies, the private sector, non-governmental organisations, community groups, charities and not-for-profit groups, and more)
- key government decision-makers
- the public service leaders and officials advising them
- iwi and Māori organisations (who in many cases also led the pandemic response in their own communities)
- representatives of the health, education, and business sectors
- individual business owners
- researchers and experts in a wide range of disciplines
- members of the disabled community
- members of the Pacific and other ethnic communities
- representatives of numerous stakeholder groups – peak bodies for specific sectors and professions; media and communications; local authorities; faith groups and more.
- advocacy groups representing a wide range of viewpoints, including those sceptical of, or opposed to, aspects of the pandemic response.
- people and groups who were not involved in delivering the response but were willing to share how it had affected them. We were particularly keen to meet with those whose voices went largely unheard in the pandemic so we could better understand the human impact of COVID-19 policies, legislation, regulations and public health measures.

ii A complete list is available at https://www.covid19lessons.royalcommission.nz/the-inquiry/record-of-inquiry-engagements.

Public input

The final stage of our engagement approach was to call for public input through an online submissions process. An awareness campaign ran alongside it, using a variety of channels. As part of the campaign, we had a presence at various public-facing events ranging from community markets and A&P (agricultural and pastoral) shows to music festivals. This was an excellent opportunity to talk informally about COVID-19 and what could be learned from it with people holding a wide range of viewpoints – and to encourage or support them to make a submission.

We also worked with partners to connect with 'hard to reach' communities and individuals who might not otherwise have engaged with us. Where appropriate, we employed a trauma-informed approach, recognising that for some people – such as those who experienced the death of a loved one – the effects of the pandemic were significant and continue to be felt deeply.

Confidentiality arrangements

Our engagements were held in private. Everyone taking part was assured that any notes or recordings made by Commissioners or staff from the Secretariat would remain confidential until the end of the Inquiry (at which point the provisions of our fourth procedural minute, which sets out the Inquiry's final non-publication orders, would apply).

These arrangements were consistent with our general approach to the confidentiality of all non-public evidence gathered during the Inquiry – whether through direct engagements, in written evidence or through the public submissions process. In all cases, we wanted to encourage discussion and evidence that was rich, free and frank, and given without fear of repercussions. Preserving confidentiality would also allow us to ascertain all the facts necessary to support robust lessons and recommendations.

We issued three procedural Minutes confirming our approach:

Minute 1 – Interim non-publication orders[15]
On 2 June 2023, we put in place an interim order forbidding the publication of all evidence and submissions provided to the Inquiry until further orders were made. The Minute also specified that there would be no public access to Inquiry meetings or to correspondence relating to information requests.

Minute 2 – Inquiry meeting procedure and information-gathering[16]
First issued on 17 July 2023 and re-issued on 27 September 2023, this Minute gave guidance on who could attend engagements, how the Inquiry would look after and use the information provided to us, how people's views would be attributed in the final report, and the natural justice processes that would be undertaken (discussed further in the Conclusion).[iii]

Minute 3 – Inquiry procedures for public and other submissions[17]
On 6 December 2023, the Inquiry's third procedural minute addressed how information received through the public submission process would be treated. Where confidentiality was requested, it was granted.

Of course, maintaining confidentiality has not prevented this report from referring to the information we gathered and drawing conclusions, lessons and recommendations from it. But it does mean much of the evidence that informs our analysis has not been formally cited, unless we sought and received permission from the source to quote from or otherwise identify their evidence. Likewise, statements or views are not attributed to specific organisations or individuals except with their agreement. Publicly-available sources are cited.

iii The Inquiries Act 2013 requires us to ensure that if the Inquiry makes a finding that is adverse to any person, that person is aware of the matters on which the finding is based and has had the opportunity to respond before our report is finalised.

The analytical process

The lessons and recommendations set out in this report are founded in a thorough and careful analysis of the information and evidence relevant to our terms of reference.

We began by examining each topic within the Inquiry's scope – identifying the relevant legislative, regulatory and operational settings and then analysing the relevant evidence through a series of research questions. We applied a consistent analytical framework across the various matters under inquiry and considered cross-cutting issues, including ethical and human rights perspectives, cost-effectiveness, optimal policy-making and implementation arrangements, te Tiriti and equity. This approach allowed us to manage the breadth of the terms of reference, to undertake a thematic analysis that approached the topics for inquiry in an integrated way, and to avoid 'siloed' assessments.

On the basis of this analytical work, we identified lessons about Aotearoa New Zealand's COVID-19 response – namely, whether it was effective in limiting both the spread of infection and the impact of the virus on vulnerable groups and the health system. These lessons from looking back at the pandemic, and the analysis supporting them, are set out in the 'Looking Back' chapters of this report (Part 2).

We then turned our attention to the future, using the most actionable insights arising from what we learned looking back to develop lessons for the future. We then developed a suite of recommendations giving practical effect to the lessons. Our lessons and recommendations are presented in the 'Moving Forward' chapters (Part 3).

This approach allowed us to manage the breadth of the terms of reference, to undertake a thematic analysis that approached the topics for inquiry in an integrated way, and to avoid 'siloed' assessments.

Conclusion

We are confident in the robustness of our evidence-gathering and analytical processes. We cast a wide net, looked closely at international pandemic experiences and outcomes as well as Aotearoa New Zealand's, encouraged candid conversations, and deliberately sought out a diversity of views and pandemic experiences – including from people and groups who remained 'below the radar' during the pandemic or are considered hard to reach.

Supported by the Secretariat, we have weighed, assessed and cross-checked the evidence. We ensured we tested our assumptions, and we took account of a range of scenarios and counter-factuals. We requested those whose evidence was relied on to check the accuracy of parts of our report. We were mindful of the need to ensure that, in accordance with the Inquiries Act 2013, we undertook a fair process and gave those who were referred to in the report – or against whom we proposed to make an unfavourable finding or statement – were given the opportunity to review those statements. We carefully considered all responses received and changes were made to the draft report as appropriate.

As a result, we consider our lessons and recommendations are soundly based. We trust they will help ensure Aotearoa New Zealand is well-prepared to respond to a future pandemic.

This report comprises three parts:

This first part provides essential context about the Inquiry, the report and the state of Aotearoa New Zealand in the immediate pre-pandemic period.

Part Two: Looking Back examines and assesses Aotearoa New Zealand's response to the COVID-19 pandemic. The first chapter provides context: using graphs and other visuals, it is a brief reminder of some of the key pandemic events, impacts, decisions and outcomes New Zealand experienced and how they compared with other countries. With this context in mind, we present our analysis and lessons on seven key aspects of the pandemic response in Chapters 2 to 8:

- all-of-government arrangements,
- lockdowns,
- border restrictions and quarantine,
- the health system,
- economic and social impacts,
- vaccination, and
- the use of mandatory measures.

In each chapter, our approach is to begin by describing 'what happened', usually in a broadly chronological sequence and with little evaluative commentary. Short 'spotlights' feature throughout, highlighting particular pandemic policies or measures and their impacts. We then set out our assessment of that particular topic, drawing together our major conclusions at the end of each chapter. Finally in Chapter 9, we take stock of New Zealand's pandemic response and set out some broad reflections on what the country's experience of COVID-19 taught us.

Part Three: Moving Forward contains two chapters. Chapter 10 sets out the six broad lessons we consider Aotearoa New Zealand should learn for the future and apply when preparing for, and responding to, the next pandemic. Chapter 11 details our recommendations for action. While they are directed at central government and its agencies, our recommendations are also relevant to the many groups and sectors outside of government which – as we saw during COVID-19 – will undoubtedly make critical contributions to the next pandemic response. They include communities, iwi and Māori, non-governmental organisations, local government and the private sector.

A series of *appendices* concludes the report. These present detailed epidemiological, legal and governance information that supports the 'Looking Back' chapters in particular. A glossary is also included.

Endnotes appear at the end of each chapter. As noted earlier, the confidentiality arrangements put in place to encourage the free and frank sharing of information throughout Phase One mean we cannot formally cite much of the evidence provided in direct engagements with stakeholders. Publicly-available sources are cited, and we have tried to provide as much information as possible (including URLs) to help readers access them if they wish. Please note that some hyperlinks in this report may no longer work at the time of publication. Most links should still be accessible when copied and pasted into the National Library webarchive: https://ndhadeliver.natlib.govt.nz/webarchive/

05 Pre-pandemic Aotearoa New Zealand: an overview | I mua i te mate urutā i Aotearoa: he tirohanga whānui

In the 'Looking Back' chapters that follow, we examine Aotearoa New Zealand's experience of the COVID-19 pandemic in detail. Before doing so, however, it is important to set the scene and recall the economic, social and historical context in which these events occurred. While the COVID-19 pandemic was universal in reach, the way it was experienced around the world was far from uniform. In New Zealand, as elsewhere, a range of pre-existing and locally-specific conditions shaped the course of the pandemic itself and the response. This will be true of the next pandemic too.

This short section therefore briefly revisits Aotearoa New Zealand's pre-pandemic landscape, summarising some of the distinctive features, strengths and vulnerabilities that came to bear on how the pandemic and the response unfolded. Some were accidents of geography, history or sheer luck, while others were the result of deliberate policy and design. Some allowed New Zealand to avoid, delay or mitigate some of the pandemic's worst impacts, while others may have hindered the response – issues we consider throughout the following chapters.

On the eve of the pandemic . . .

As an island nation, Aotearoa New Zealand's remoteness – along with its thinly-spread population – was set to play a significant part in how COVID-19 would affect the country. Because of its distance from other countries, and comparatively smaller volume of inbound travellers, the likelihood of infected people entering New Zealand early in a pandemic was less than other countries. This proved important as the COVID-19 pandemic played out. Another factor that was likely to affect the spread of any infectious disease was New Zealand's low population density – at just 19 people per square kilometre, it was half the OECD average.[18]

Aotearoa New Zealand's population (5 million) was fast becoming more ethnically diverse.[19] At the 2018 Census, 71 percent of the population identified as being of European ethnicity, with significant Māori, Pacific and Asian populations (17, 8 and 15 percent respectively). Many people identified with more than one ethnic group – approximately 11 percent.[20] More than a quarter of New Zealanders were born overseas, and a significant number (thought to be between 600,000 and one million) were living overseas.

The diversity of the population would present some challenges during the pandemic response, given the pace of events and the need to make information available in culturally responsive ways. Meanwhile, the large expatriate population would be particularly affected by the border restrictions and quarantine requirements in effect during the pandemic.

Overall, the population was also ageing, with the total number of people aged 65 or older growing rapidly. However, Māori and Pacific populations were generally younger and growing faster than the European population. As has long been the case, Māori life expectancy – 77 years for women and 73 years for men – was considerably lower than for non-Māori, although the gap had been slowly reducing.[21] This disparity pointed to underlying differences in health status across the population – a significant issue the health response needed to take account of during COVID-19.

Te Tiriti o Waitangi | the Treaty of Waitangi, the agreement written and signed by the Crown and Māori in 1840, held an increasingly important place in the life of Aotearoa New Zealand, its laws and government policies – including those used to enable the COVID-19 response.

The three articles of te Tiriti | the Treaty set out the relationship between the treaty partners, and their respective duties and obligations, although there are some differences between the te reo Māori and English versions:

- **Article One** affirms that Māori cede to the Crown 'kāwanatanga' (or governorship); the English version uses the term 'sovereignty'.
- **Article Two** guarantees Māori 'te tino rangatiratanga' over their lands, villages, and all their properties and treasures. The English version renders this as 'exclusive and undisturbed possession of their lands and estates, forests, fisheries, and other properties'. But many think Māori signatories understood 'te tino rangatiratanga' to mean much more than mere possession – the unqualified exercise of their chieftainship, self-determination, perhaps something more like sovereignty.[22]
- **Article Three** assures Māori they will have the Queen's protection and all rights (tikanga) accorded to British subjects.

Many statutes, including some relied on during the COVID-19 response, required government officials and agencies to 'have regard to', 'take into account' or 'give effect to' its principles in order to protect Māori interests. Those principles – identified over the past 40 years by the executive branch of government, Parliament, the courts and the Waitangi Tribunal[iv] – are sometimes distilled into three broad principles: **partnership** (often described as the overarching principle, with other important principles embedded within it), **protection** and **participation**. The extent to which the Government's COVID-19 response upheld these principles would be tested in November 2021, when the Waitangi Tribunal held a priority inquiry into the effects of the response on Māori.

Although te Tiriti was an integral part of the national landscape by 2020, and had always been of the utmost importance to Māori, it is fair to say that views on its contemporary status and application differed widely across the community as a whole. Increasingly, public discourse emphasised its articles as well as, or instead of, the principles. Differing expectations of how te Tiriti would be applied in the pandemic, and how iwi and hapū would be involved in decision-making and delivery of services, became apparent during the pandemic response.

iv The Waitangi Tribunal was established under legislation in 1975 as a permanent commission of inquiry into alleged Crown treaty breaches.

The economy was performing moderately well against several key measures, and the Government's fiscal position was strong, providing head-room for fiscal support and investment during the pandemic response. In 2019, the OECD had rated Aotearoa New Zealand's levels of both employment and unemployment as 'very good' and economic growth – an important driver of wellbeing that contributes positively to jobs and income – had stabilised at around 2½ percent. The same OECD survey also raised concerns about low household incomes, the availability and cost of housing, the unequal distribution of wealth and several other indicators of wellbeing.[23] Pre-existing disparities in household incomes and resources meant some whānau would be more impacted during the pandemic than others, and decisions about support measures had to take account of diverse and complex needs.

The health of Aotearoa New Zealand's total population had consistently ranked well internationally. For more than 25 years, people's average life expectancy had steadily increased, as had the amount of time they live in good health.[24] Health outcomes and spending levels were in line with other OECD countries.[25]

However, as the Ministry of Health acknowledged in a 2017 ministerial briefing, the health of some groups – Māori, Pacific peoples, people in lower socio-economic areas, disabled people – was persistently worse than the general population's. These groups were more likely to have cardiovascular disease, psychological distress, respiratory illness, diabetes and chronic pain; they also faced greater barriers to accessing healthcare (cost, transport, cultural difficulties and more). For Māori, these disparities contrasted starkly with the equal rights and privileges they are guaranteed under te Tiriti o Waitangi.[26] Shortly before COVID-19 reached New Zealand, a Waitangi Tribunal inquiry into the primary healthcare system found the Crown had breached te Tiriti by failing to ensure the system addressed persistent Māori health inequities. The pre-existing differences in health status across the population were among the many factors that had to be considered when deciding how best to target and prioritise health services during the pandemic – including access to vaccines.

The healthcare system itself was a large, complex and widely-distributed network of public and private organisations under growing pressure. The publicly-funded system provided specialist and hospital care that was free at the point of use. Public funding also subsidised most primary care, prescriptions and community care services (such as aged residential care, disability supports and maternity care). A fully private system operated alongside the public system, with private providers offering specialist and some hospital care in separate facilities. The entire healthcare system employed the country's largest single industry workforce,[27] comprising approximately 220,000 full-time equivalent staff or 8.5 percent of the total workforce. The delivery of hospital and primary care varied between regions, with no common national approach. Although the health of New Zealanders overall was in line with other similar countries, the Government at the time had acknowledged that the health system was not working for everyone, and ways to reform the system were under investigation. The vulnerabilities and challenges already evident in the health system would become significant pressure-points in the pandemic response.

The public health service was the part of health system that delivered communicable disease control, environmental health and health prevention services. Aotearoa New Zealand had 12 public health units that served the population in each region, in collaboration with local government and healthcare services. They were supported by the Institute of Environmental Science and Research (ESR), the country's national reference laboratory and provider of national analysis and reporting of communicable diseases. Public health services managed disease outbreaks and responded to reports of notifiable diseases, including through contact tracing: that is, identifying people who had been in close contact with the person originally diagnosed, supporting them to be tested and – if necessary – undergo treatment. Medical Officers of Health (doctors who have specialised in public health) and Health Protection Officers (trained public health workers) had statutory powers under the Health Act 1956 to require members of the public to comply with contact tracing and (if necessary) quarantine or isolation. A national notification and surveillance system collected information on cases of notifiable diseases.

Some urgent social problems and inequalities were confronting Aotearoa New Zealand, including a housing crisis, child poverty, family violence, and mental health and wellbeing. The OECD had recently drawn attention to New Zealand's high suicide rate (especially among young people), 'woeful' child wellbeing outcomes, and high levels of family violence.[28] Despite the promises enshrined in te Tiriti and the benefits that treaty settlements had brought some iwi and hapū, Māori experienced worse outcomes than non-Māori in many areas. Other groups and communities also faced persistent disadvantage.[29] Critics said funding for social services, and benefits, was inadequate to meet needs. The COVID-19 pandemic would place additional pressure on all these groups, which – as had been decisively demonstrated in all kinds of national and global emergencies in the past – were less able to absorb the shock arising from such crises.[30]

Numerous programmes and services existed to support individuals, families and communities facing such hardships. Many services targeted specific populations or issues. Some were delivered directly by government agencies, and others by philanthropic and voluntary organisations that the Government contracts with or commissions. Some providers operated in just one location while others had sophisticated national operations, paid staff and multiple contracts with a range of government agencies. In the immediate pre-pandemic period, 22 government agencies were either delivering, contracting or commissioning social services.[31] Given the complexity of the sector, and the many non-governmental agencies working to meet the needs of local communities during the pandemic, significant coordination and co-operation would be required across funding agencies to support the response.

The education system had three levels: early childhood education (comprising a mix of services, led variously by teachers, whānau, parents and private sector operators), primary and secondary schooling (state, integrated/special character and private schools, including Māori-medium kura) and tertiary education (technical/vocational education providers, wānanga and universities).

All parts of the system faced a common challenge: it was not keeping pace with the educational needs of an increasingly diverse country. Various system-wide and sector-specific reforms were underway. However, statistics consistently showed marked inequities in educational outcomes and participation rates for some groups, including Māori and Pacific peoples. Digital access was also highly variable across the country and between population groups – something that became problematic during the pandemic when many educational institutions switched to online learning.

The lucrative international education sector was important for the country and would be critically affected by the border restrictions in effect during the pandemic. In 2018, international education contributed over $4.9 billion to the national economy and was the country's fifth largest export industry.[32] More than 117,000 international students were enrolled in schools, universities, technical training institutes, polytechnics, private training establishments and English language schools.[33]

The emergency management system was under pressure as some familiar hazards became more frequent and severe, while new threats emerged. A ministerial review established in 2018 had recommended modernising the existing national emergency management system so it could better respond to the increasingly complex demands it faced.[34]

By the end of 2019, the reforms were well underway and the system was being overhauled to clarify roles, strengthen leadership, better partner with iwi and Māori, and focus on the wellbeing of people in emergencies. A new ten-year National Resilience Strategy was being implemented and a new agency – the National Emergency Management Agency (NEMA) – had been established to provide national system-wide leadership, coordination and stewardship before, during and after emergencies. It replaced the Ministry of Civil Defence and Emergency Management,[35] and would play a key role in the response to COVID-19.

In the event of an emergency involving infectious human diseases, the law provided for the Ministry of Health to lead the national response and gave the Director-General of Health certain powers which could be exercised independently of government ministers. The Ministry was thus at the forefront of the response to COVID-19 from the very start.

The various roles and functions already established across the emergency management system would add to the overall complexity of rapidly activating the pandemic response.

Aotearoa New Zealand's human rights framework included a mix of domestic laws, international laws, and the various United Nations treaties and rights declarations which New Zealand has ratified.[v] A key part of the domestic framework was, and remains, the New Zealand Bill of Rights Act 1990. This Act affirms a range of rights and freedoms – including the right to refuse to undergo medical treatment (section 11), freedom of expression (section 14), and freedom of movement (section 18) – all of which were shown to be relevant in a pandemic. The rights and freedoms affirmed by the New Zealand Bill of Rights Act are not absolute. Rather, they are subject to 'such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society' (section 5) and to other Acts of Parliament (section 4).

Ethics frameworks also formed part of the landscape for decision-makers. The need to define fundamental values or ethics that should be used to balance different interests when making urgent decisions in a public health crisis such as a pandemic was recognised internationally. The most globally influential ethics framework was developed in Canada, following the 2005 Severe Acute Respiratory Syndrome (SARS) epidemic, and promoted in the *Oxford Handbook of Public Health Policy*.[36] It influenced the development of Aotearoa New Zealand's first statement of ethical values for a pandemic, *Getting Through Together*, issued in 2007 by the National Ethics Advisory Committee.[37]

These ethics frameworks[vi] were available to support decision-makers having to make, and communicate, complex decisions about public health measures – including how and when to implement measures to make the best use of available resources and place the fewest restrictions on personal freedoms. In a pandemic, such decisions might include prioritising access to vaccines and hospital beds, and weighing up the benefits of closing borders or lockdowns against the wider impacts on society.

The issues highlighted in this brief overview, and how they played out during the pandemic, are addressed in more detail in Chapters 2 to 9 of this report.

v Further detail is provided in Appendix A.
vi Further detail is provided in Chapter 10.

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36. Maxwell Smith and Ross Upshur, 'Pandemic Disease, Public Health, and Ethics', in *The Oxford Handbook of Public Health Ethics*, ed. Anna C. Mastroianni, Jeffrey P. Kahn, and Nancy E. Kass (Oxford Handbooks, 2019; online edn, Oxford Academic, 8 Jan. 2019), https://doi.org/10.1093/oxfordhb/9780190245191.013.69
37. National Ethics Advisory Committee, *Getting Through Together: Ethical values for a pandemic*, Ministry of Health (Wellington, 10 July 2007), https://neac.health.govt.nz/assets/Uploads/NEAC/publications/getting-through-together-jul07.pdf

NZ ROYAL COMMISSION
COVID-19 LESSONS LEARNED
TE TIRA ĀRAI URUTĀ

Part Two:

Looking back | Hokinga whakaaro

PHASE ONE

NOVEMBER 2024

Contents | Ngā Kaupapa

Introduction | Kupu whakataki

Our core task is to identify what lessons can be learned from Aotearoa New Zealand's response to COVID-19, and then use those lessons to recommend how we should prepare for a future pandemic. To do so, we must first examine the COVID-19 response to establish what worked well; how the response affected individuals, family and whānau, communities and the economy; and what could have been done better. That is what this section does – not to attribute blame, but to build a robust, well-evidenced foundation for the lessons and recommendations that follow.

We examine and evaluate the response from many angles

How well did Aotearoa New Zealand emerge from the pandemic compared with other countries?

In the face of the (initially unknown) threat that COVID-19 represented, **what policies, strategies and measures did the Government adopt?**

What part was played in the response by groups outside central government – iwi and Māori, communities, business, charities and local authorities, to name a few?

What were the effects of the response – positive and adverse, intended and unintended – on the general population and on specific groups and sectors?

What did decision-makers do to prevent or reduce the worst impacts?

In considering such questions, we are aware of the huge advantage we have over those responding to the pandemic in 2020–2022, rapidly, under huge pressure and often with scant information. Unlike them, we have the wisdom of hindsight. The decisions and measures we are scrutinising now reflect the circumstances and pressures of that particular and extraordinary time. We cannot be certain what other decisions might have been made if people had known more about the virus then, if COVID-19 had reached us earlier or if it had evolved differently. But we have looked for evidence that decision-makers were actively considering what scenarios might unfold and how to respond if they did. The conclusions we reach about the pandemic response reflect this expectation.

Because this section aims to support our lessons for the future and our recommendations, it provides a focused and selective account of preparations for, response to and recovery from the pandemic.

It is not a comprehensive day-by-day chronicle of Aotearoa New Zealand's experience. As required by our terms of reference, we have drawn on but do not duplicate the many comprehensive reports and chronologies already produced by government agencies, reviewers, independent researchers and others.[1] Nor is this section a forensic examination of every decision and development made between February 2020 and October 2022. Instead, it addresses those aspects of the response that proved most challenging, had the biggest impact, can be most feasibly tackled by Government – and, crucially, that offer the biggest opportunities for learning as we look to the future.

'Looking Back' begins with a brief, largely visual snapshot of some of the key pandemic events, impacts, decisions and outcomes Aotearoa New Zealand experienced and how they compared with other countries. The eight chapters that follow each address a different aspect of the pandemic response in detail: the all-of-government response (**Chapter 2**), lockdowns (**Chapter 3**), border and quarantine measures (**Chapter 4**), the health system response (**Chapter 5**), economic and social measures and impacts (**Chapter 6**), vaccination (**Chapter 7**) and finally the use of mandatory measures (**Chapter 8**). Each chapter follows a broadly consistent pattern: we begin by describing 'what happened', usually in a broadly chronological sequence and with little evaluative commentary. Short 'spotlights' feature throughout, highlighting particular pandemic policies or measures and their impacts. We then set out our assessment of that particular topic, summarising our major learnings from the pandemic at the end of each chapter. Finally, **Chapter 9** takes stock of New Zealand's pandemic response overall and sets out some broad reflections on what the country's experience of COVID-19 taught us.

While the use of topic-specific chapters imposes a degree of order on our subject matter, in reality the many elements of the response cannot be readily separated into discrete strands. In a pandemic, everything affects everything else. It is impossible to consider lockdowns without also talking about education and mental health, for example, or vaccine mandates without also mentioning unemployment and social cohesion. As a result, there are inevitable and necessary overlaps between the chapters. Particular themes – te Tiriti o Waitangi obligations, the steadfastness of communities, economic consequences and, crucially, COVID-19's human impacts – resurface in each. This reflects the unique nature of the period we have examined: the COVID-19 pandemic was truly an 'everything, everywhere' event for this country and the world.

A reminder about our use of evidence in this section:

In Part One, we described the breadth and depth of the evidence provided to us and the range of sources it came from – official records, independent reviews and reports, academic studies, and engagements with senior officials and decision-makers, iwi leaders, community groups, experts in disciplines like economics and public health, and members of the public.

From the start, and as our terms of reference envisaged, we knew that everyone who shared information or experiences with us needed to do so freely and frankly, and without fear of repercussion. This would allow us to get the fullest picture of what happened in the pandemic response, and to draw out useful lessons as efficiently as possible. We therefore agreed to certain confidentiality arrangements (summarised under 'How we gathered and used evidence' in Part One of this report).[i]

As a result of these arrangements, much of the non-public evidence which was provided to the Inquiry and informs our analysis is not cited in the chapters that follow – unless we sought and received permission from the source to quote from or otherwise identify their evidence. Likewise, statements or views are not attributed to specific organisations or individuals except with their agreement. Publicly-available sources are cited.

This section is founded in a thorough and careful analysis of information relevant to our terms of reference.

In sum, this section is founded in a thorough and careful analysis of information relevant to our terms of reference. As outlined in the discussion of our methodology in Part One, we have followed a robust process – weighing, assessing and cross-checking the evidence, testing our assumptions and considering the many possible counter-factual scenarios. As a result, we are confident that all our lessons and recommendations are soundly based.

i For more details of the Royal Commission's non-publication orders and other confidentiality arrangements, see 'Procedural Minutes', https://www.covid19lessons.royalcommission.nz/the-inquiry/procedural-minutes/

CHAPTER 1:

1 A snapshot of Aotearoa New Zealand's pandemic experience | He tirohanga ki ngā wheako o Aotearoa mō te mate urutā

What's in this chapter

Many people are still living with the after-effects of the COVID-19 pandemic. But for others, it may already feel quite remote. Indeed, the slightly surreal experience of revisiting relatively recent COVID-19 memories was something many submitters and stakeholders remarked on during the Inquiry. For future readers, the events of the COVID-19 pandemic may be firmly in the category of 'history' by the time they are engaging with this report.

The aim of this chapter is therefore to reorient, remind or indeed introduce readers to some of the key pandemic events, impacts, decisions and outcomes in Aotearoa New Zealand. In presenting a high-level snapshot of the country's COVID-19 experience and response, it provides necessary context for the detailed analysis and assessment to be found in the eight Looking Back chapters that follow.

The chapter is largely visual, telling the story of Aotearoa New Zealand's COVID-19 experience via:

- a high-level timeline setting out key events during the pandemic period; and
- a series of facts, figures and graphics providing international comparisons for some of the key aspects of the COVID-19 pandemic in Aotearoa New Zealand.

1.1 Timeline of key events | Wātaka o ngā āhuatanga hira

December 2019 – March 2020

1/12/2019
First cases of mysterious illness emerge in Wuhan City, Hubei, China

6/1/2020
WHO reports cluster of pneumonia cases of unknown cause

2/2/2020
Ministers agree to place restrictions on entry into New Zealand for travellers arriving from or through China

5/2/2020
New Zealand Government-chartered repatriation flight from Wuhan lands in New Zealand

31/1/2020
Director-General of WHO declares novel coronavirus to be a public health emergency of international concern – the WHO's highest level of alarm

21/2/2020
First New Zealand COVID-19 case is retrospectively identified

5/3/2020
First table-top COVID-19 planning exercise held by the Department of Prime Minister and Cabinet

11/3/2020
WHO declares COVID-19 a pandemic

11/3/2020
COVID-19 Government website is launched

6/3/2020
National Crisis Management Centre activated

28/2/2020
First COVID-19 case announced and contact tracing begins for positive cases

16/3/2020
Self-isolation requirement for all arrivals into New Zealand begins

19/3/2020
New Zealand's border is closed to all except returning New Zealand citizens

29/3/2020
First New Zealand COVID-19 related death occurs

25/3/2020
New Zealand goes into Alert Level 4 (lockdown)

17/3/2020
Economic support package is announced, including wage subsidy and leave support

2019

2020

7/1/2020
Mysterious pneumonia outbreak sickens dozens in China

Source: https://abcnews.go.com/Health/mystery-pneumonia-outbreak-sickens-dozens-china/story?id=68094861

April 2020 – July 2021

9/4/2020
All international arrivals in New Zealand are required to undertake managed isolation and quarantine (MIQ)

27/4/2020
Strict lockdown ends, and New Zealand enters Alert Level 3

20/5/2020
NZ COVID Tracer app is released

19/8/2020
Businesses and workplaces are required to display NZ COVID Tracer QR code posters

2/11/2020
Minister for COVID-19 Response portfolio is created

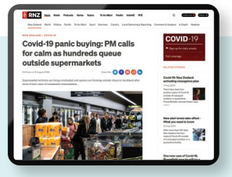
20/1/2021
Quarantine Free Travel from Pacific starts with the Cook Islands

19/2/2021
First COVID-19 vaccine arrives in New Zealand

19/3/2021
Trans-Tasman Quarantine Free Zone begins (and ends on 23 July 2021)

30/4/2021
Vaccine mandate for all border and MIQ workers introduced

12/8/2020
Covid-19 panic buying: PM calls for calm as hundreds queue outside supermarkets



Source: https://www.rnz.co.nz/news/national/423310/covid-19-panic-buying-pm-calls-for-calm-as-hundreds-queue-outside-supermarkets

26/5/2020
COVID-19 Vaccine Strategy announced, and NZ COVID-19 Vaccine Taskforce is established

14/5/2020
$50 billion COVID-19 Response and Recovery Fund is announced

15/4/2020
Ministry of Education launches Home Learning TV channel

13/12/2020
'Make Summer Unstoppable' public information campaign is launched

30/8/2020
Face coverings are made mandatory for people aged 12+ on public transport and aircraft at Alert Level 2 and above

31/3/2021
First case of Delta variant of COVID-19 is identified in New Zealand

26/3/2021
Vaccination rollout begins for frontline health workers

3/2/2021
First COVID-19 vaccine (Pfizer/bioNTech) provisional approval is announced

28/7/2021
Vaccination rollout begins for general population

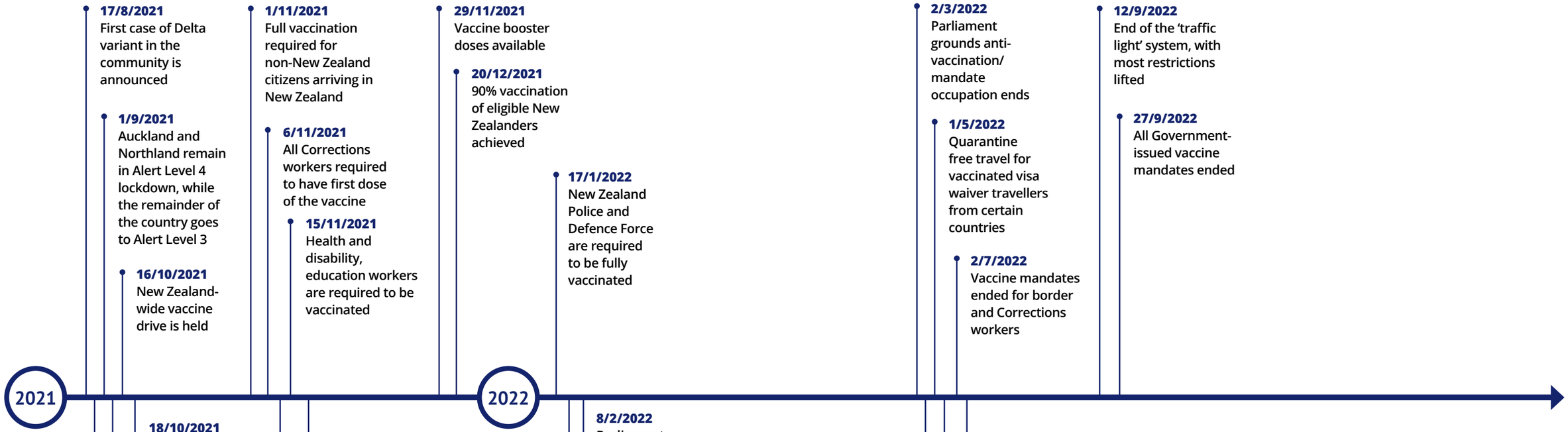
1/6/2021
WHO identifies Delta

20/5/2021
$1 billion is invested into whānau Māori wellbeing to assist economic and social recovery from the effects of COVID-19

2021

August 2021 – February 2022

March 2022 – December 2022



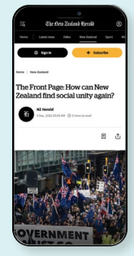
20/8/2021

Covid 19 coronavirus Delta outbreak: Auckland testing centre security staff cop abuse

Source: https://www.nzherald.co.nz/nz/covid-19-coronavirus-delta-outbreak-auckland-testing-centre-security-staff-cop-abuse/Z3CTF4HJXENWVX5QMKRSSYCTWM/

5/12/2022

The Front Page: How can New Zealand find social unity again?



Source: https://www.nzherald.co.nz/nz/the-front-page-how-can-new-zealand-find-social-unity-again/XL4LOV7DQNGHBI2ER2PREIM3HM/

1.2.1 Overall, Aotearoa New Zealand's COVID-19 response was effective

Compared to other jurisdictions, Aotearoa New Zealand's COVID-19 response was effective at both protecting people from the health effects of the virus, and minimising the potential economic, social and wellbeing impacts of a global pandemic. That is not to say the response was perfect; it wasn't, and challenges emerged as the response wore on. We look at these challenges, and other areas where lessons can be learned, in the following chapters.

Pandemics are first and foremost health emergencies, and the public health response to COVID-19 in Aotearoa New Zealand successfully prevented widespread infection until most of the population was vaccinated. In doing so, it is estimated to have saved thousands of lives.[2] Aotearoa New Zealand's health system was never overwhelmed in the terrifying and devastating way those in other countries were, and many of the potentially unequal health impacts on disadvantaged or vulnerable populations – importantly including Māori, given their experience in the 1918 pandemic – were minimised or mitigated.

The benefits of Aotearoa New Zealand's COVID-19 response also went beyond public health. The initial success of the elimination strategy allowed the country to spend less time under strict lockdown conditions than many other parts of the world, meaning daily life and economic activity were able to return to 'normal' much earlier. This was coupled with a swift and generous economic and social response which cushioned many people and businesses from the pandemic's worst impacts.

While these benefits were not achieved without costs – which the coming chapters will also discuss – it is important that we begin this report with an acknowledgement of the success of Aotearoa New Zealand's response on a range of measures. It was praised as an exemplar around the world, especially in the first two years. For a lessons-focused Inquiry like ours, there is as much to learn about preparing for a future pandemic from what went well during Aotearoa New Zealand's COVID-19 response as there is about what could have gone better.

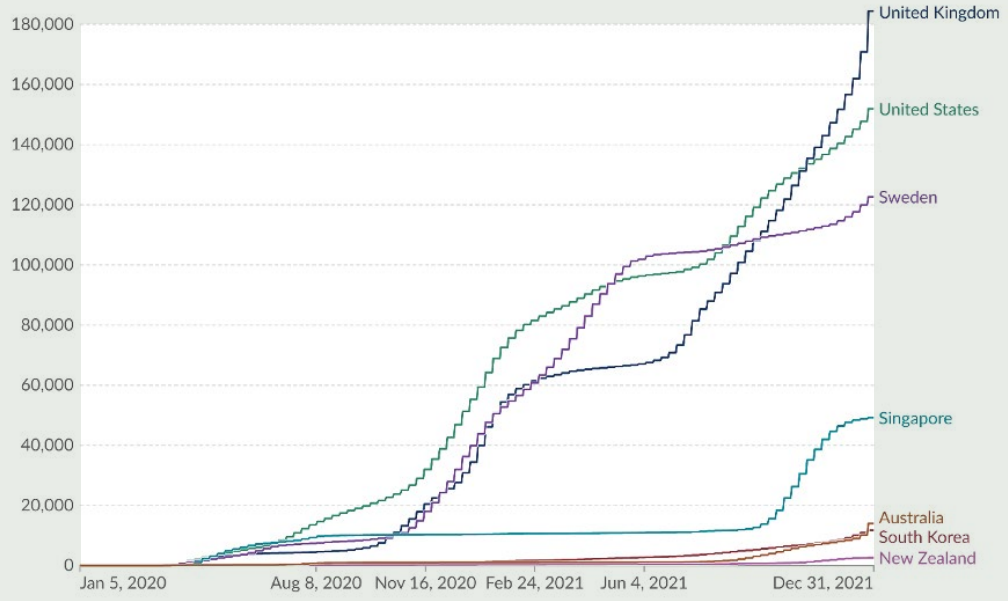
In this chapter, we present some key international comparisons that illustrate the effectiveness of Aotearoa New Zealand's overall COVID-19 response. For more detail and analysis on the topics and issues highlighted, see the corresponding chapter(s) indicated throughout the text.

1.3.1 Low COVID-19 case numbers, hospitalisations and deaths

By preventing widespread COVID-19 infection until the population was vaccinated and the virus had become less deadly, Aotearoa New Zealand's COVID-19 response protected Māori and Pacific communities and also prevented the premature deaths of thousands of New Zealanders – particularly older people, people living in disadvantaged circumstances, and people with co-morbidities, disabilities and/or medical vulnerabilities.

Aotearoa New Zealand's COVID-19 case numbers were much lower than comparable countries in the first two years of the pandemic

Figure 1: COVID-19 cases (confirmed) per million people, 2020–2021



Due to limited testing, the number of confirmed cases is lower than the true number of infections. Detection of COVID-19 cases falls over time as fewer people got tested in the later stages of the pandemic.

Source: Our World in Data, 2024, Cumulative confirmed COVID-19 cases per million people, https://ourworldindata.org/covid-cases

In the first two years of the pandemic, Aotearoa New Zealand had far fewer COVID-19 cases than most other countries. Most New Zealanders were not exposed to COVID-19 infection until 2022, by which time almost everyone had been vaccinated. This meant New Zealand had far fewer hospitalisations and deaths from COVID-19 compared with countries where the virus had circulated widely before vaccination became available.

Aotearoa New Zealand's peak COVID-19 hospitalisation rate was around half the peak in the United States and United Kingdom

Aotearoa New Zealand's COVID-19 hospitalisations peaked in March 2022, at just under three admissions per 100,000 population per day. By comparison, the United States and the United Kingdom experienced peak hospitalisation rates of more than 6 admissions per 100,000 population per day – approximately twice as high as that in Aotearoa New Zealand.[ii] Unlike other countries, New Zealand also recorded very few COVID-19 deaths among people living in residential facilities such as aged care homes.

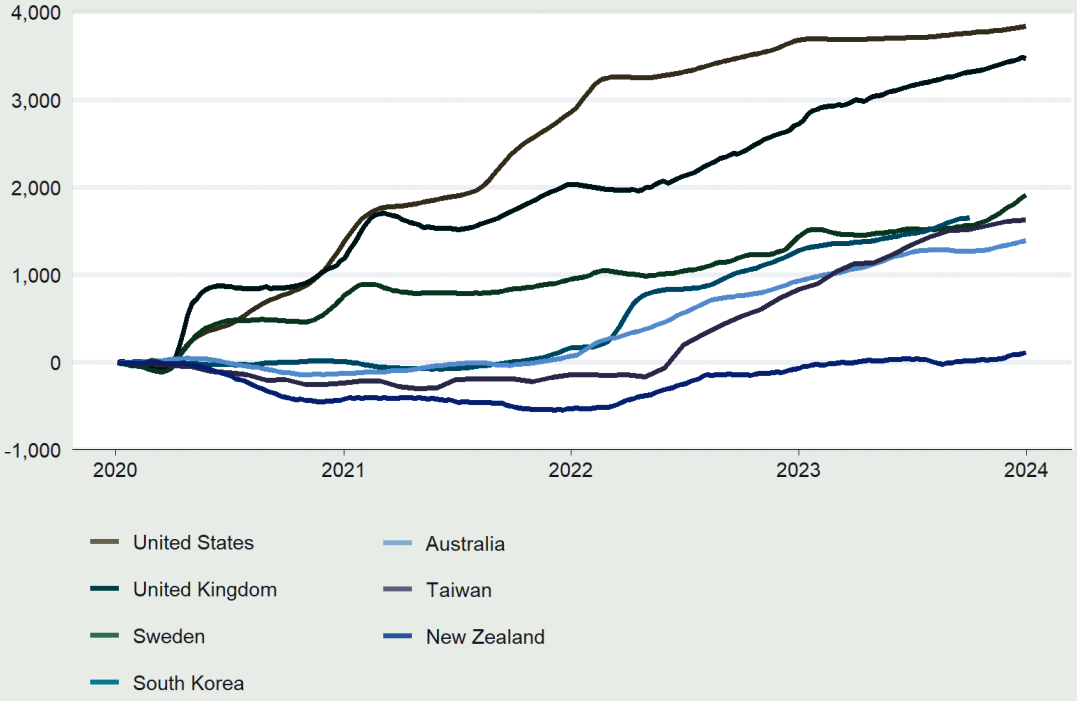
ii Source: Based on data from Our World in Data, 2024, Weekly new hospital admissions for COVID-19 per million, https://ourworldindata.org/grapher/weekly-hospital-admissions-covid-per-million

Fewer people died from COVID-19 – or any cause – in Aotearoa New Zealand than in other OECD countries during the pandemic period

Aotearoa New Zealand experienced fewer COVID-19 deaths per head of population than almost any other OECD country. Moreover, Aotearoa New Zealand experienced 'negative' excess mortality (fewer deaths than would have been expected in a 'normal' year) from early 2020 until early 2023 (Figure 2).[iii]

Figure 2: Excess mortality (all causes) per million people, 2020–2023

The cumulative difference between the reported number of deaths since 1 January 2020 and the projected number of deaths for the same period based on previous years.



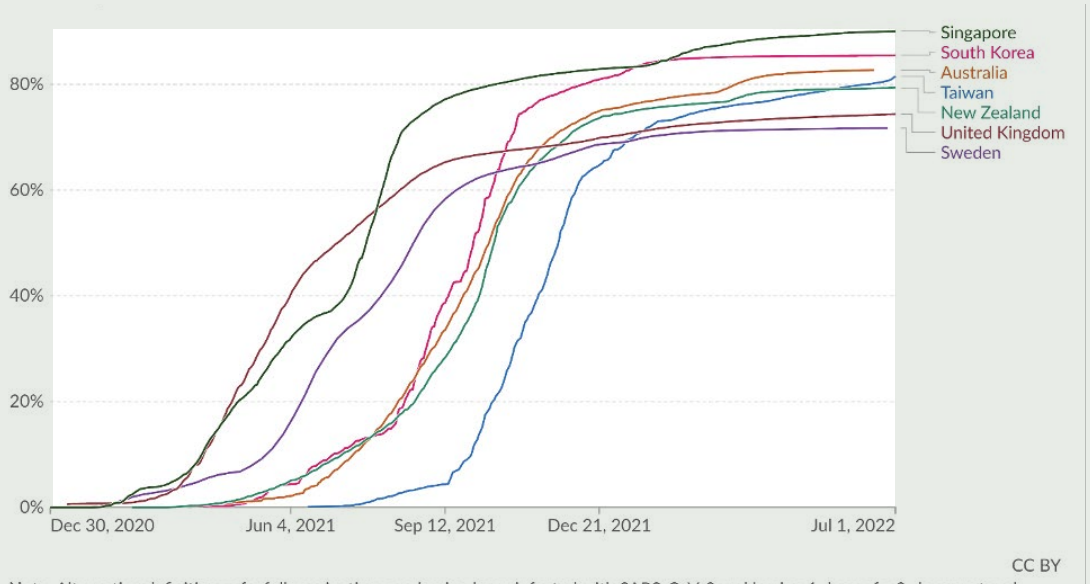
Source: Our World in Data, 2024, Data Page: Excess mortality: Cumulative deaths from all causes compared to projection based on previous years, per million people. Data adapted from Human Mortality Database, World Mortality Database, Karlinsky & Kobak. Retrieved from https://ourworldindata.org/grapher/cumulative-excess-deaths-per-million-covid

iii This fact is attributed to the positive impact of lockdowns and other infection control and public health measures on the transmission of other infectious diseases.

Aotearoa New Zealand achieved a high level of vaccine coverage

Aotearoa New Zealand's vaccination rollout was slightly slower to get started than in some other countries, but achieved a high level of coverage compared to international averages – and did so quickly. By 26 November 2021, 80 percent of the eligible population had received two doses of the vaccine – a considerable achievement given no vaccine rollout of this magnitude and speed had been attempted in Aotearoa New Zealand before.

Figure 3: Vaccine coverage by time for Aotearoa New Zealand and comparator countries, 30 December 2020–1 July 2022



CC BY

Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

Source: Our World in Data, 2024, Data Page: Share of people who completed the initial COVID-19 vaccination protocol. Data adapted from Official data collated by Our World in Data, World Health Organisation, Various sources. Retrieved from https://ourworldindata.org/grapher/share-people-fully-vaccinated-covid

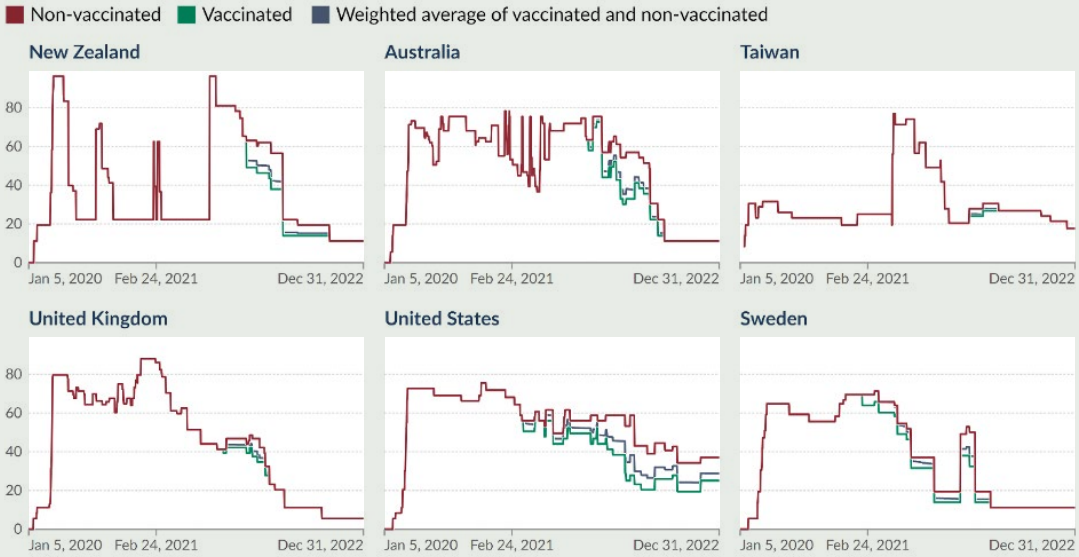
For more on the vaccine rollout, see **Chapter 7**.

For more on case numbers, hospitalisations, mortality and the health system response, see **Chapter 5**.

For more on the use of measures to encourage vaccine uptake, see **Chapter 8**.

Aotearoa New Zealand's lockdown measures were strict, but New Zealanders spent less time in lockdown than many other countries

Figure 4: Oxford stringency index for Aotearoa New Zealand and comparator countries, 2020–2022 inclusive



Source: Blavatnik School of Government, University of Oxford – with minor processing by Our World in Data, 2023, COVID-19: Stringency Index (New Zealand, Australia, Taiwan, United Kingdom, United States and Sweden), https://ourworldindata.org/explorers/

This stringency index compares the levels of restrictions (e.g. closure of schools and workplaces, limits on gatherings, etc.) across countries and over time. Where a country (or a region within the country) is in 'lockdown', the stringency index is higher.

Under Alert Level 4 (full lockdown) Aotearoa New Zealand's control measures were at the top of the stringency scale and stricter than many other countries. But New Zealanders spent comparatively little time under these conditions. After the initial lockdown, Aotearoa New Zealand spent much of 2020 and the first half of 2021 at Alert Level 1. During these periods, people faced far fewer domestic restrictions – apart from border restrictions affecting their ability to travel or, for some, to return home – than many other countries, including those pursuing suppression or mitigation strategies. As a result, New Zealanders were able to enjoy relatively normal lives for long periods of time: for example, people could gather in large numbers again, and travel domestically to visit family and friends.

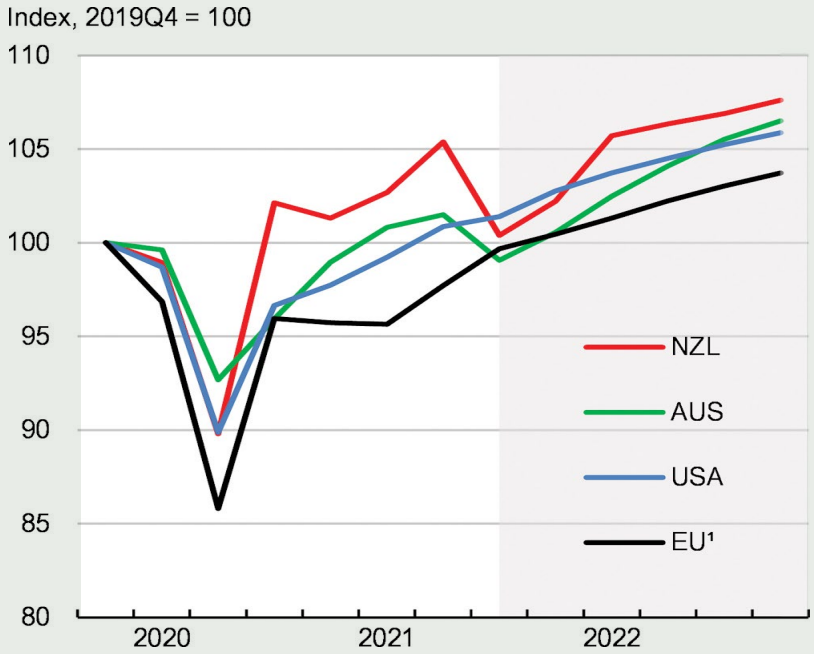
For more on Aotearoa New Zealand's use of lockdowns, see **Chapter 3.**

1.3.2 Strong economic and social outcomes

Aotearoa New Zealand's economy recovered more quickly and strongly than other comparable countries

In Aotearoa New Zealand, as elsewhere, the arrival of the pandemic was accompanied by an immediate dip in GDP, reflecting the global impact of lockdowns on employment and economic activity. While Aotearoa New Zealand's initial GDP fall was similar to that experienced in other OECD countries, the economy recovered more quickly and strongly here than elsewhere. This was due to a combination of factors, including the initial success of the elimination strategy allowing daily life and economic activity to resume quickly in 2020, and the protective effect of Aotearoa New Zealand's generous economic support measures on jobs and incomes. By the third quarter of 2020, the economy regained its pre-pandemic levels – earlier than any other OECD country – and remained above this level through to the end of 2022.

Figure 5: Change in real GDP for Aotearoa New Zealand and comparators during the pandemic



1. EU countries that are members of the OECD

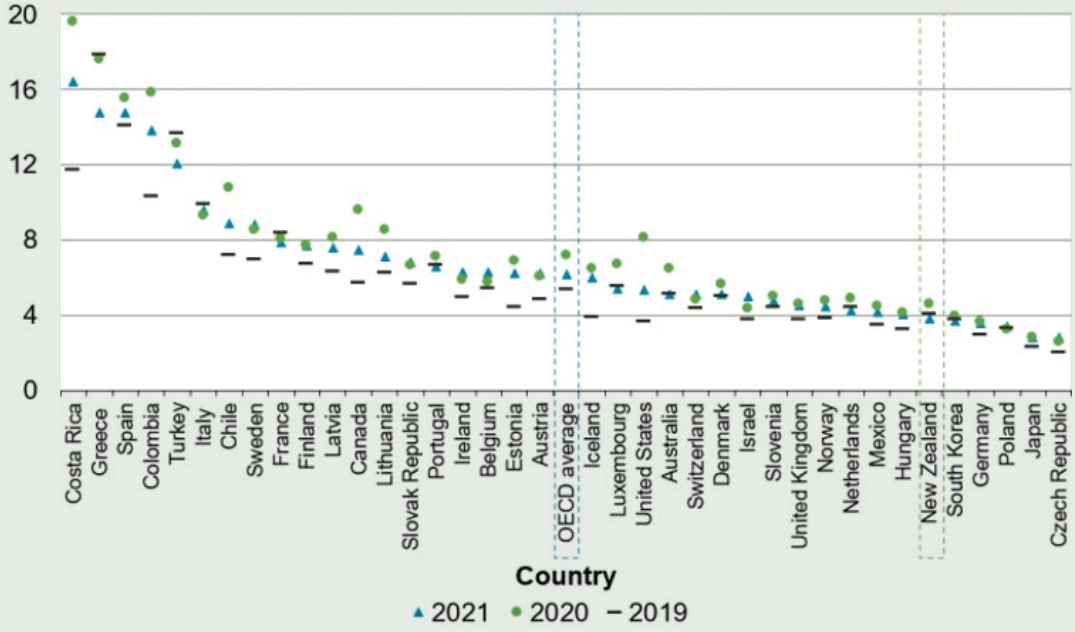
Source: OECD, 2022, OECD Economic Surveys: New Zealand 2022, p 12, https://www.oecd.org/en/publications/oecd-economic-surveys-new-zealand-2022_a4fd214c-en.html

For more on the economic and social impacts and measures during the pandemic, see **Chapter 6.**

Aotearoa New Zealand's unemployment rates remained low

While there was concern early on that the COVID-19 pandemic might precipitate widespread job losses and high unemployment, these risks did not eventuate. Aotearoa New Zealand has consistently had higher employment rates (and lower unemployment rates) than the OECD average, and this remained the case during the pandemic.

Figure 6: Unemployment rate across OECD countries, 2019–2021

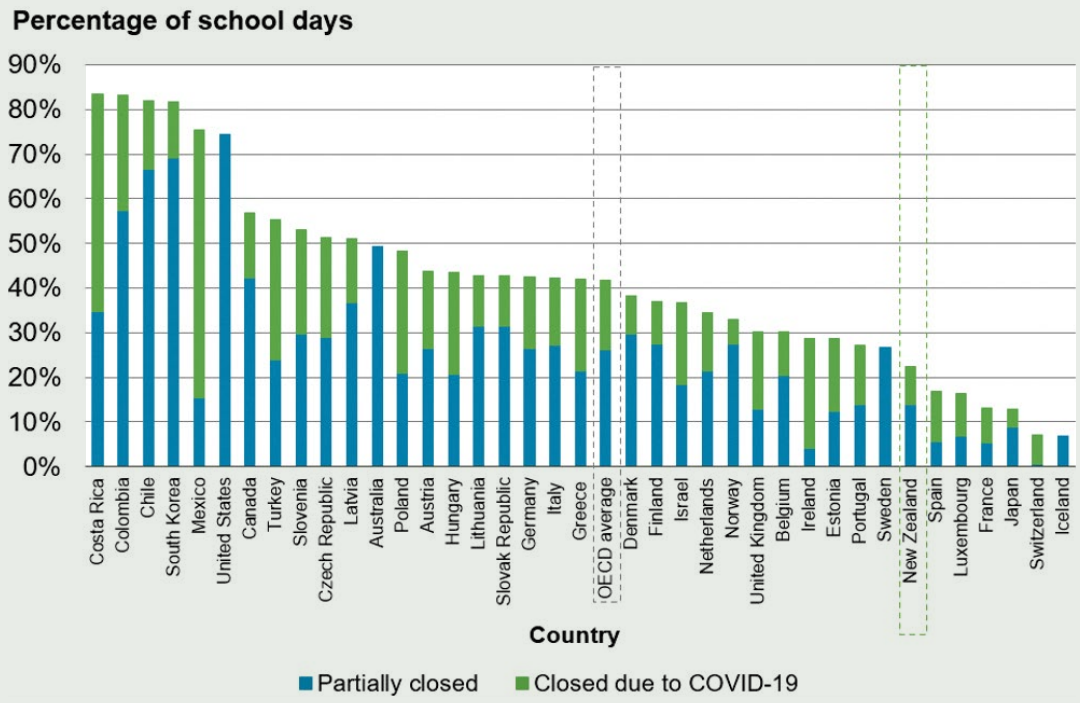


Source: Treasury, 2022, Our wellbeing throughout the COVID-19 pandemic, p 20, https://www.treasury.govt.nz/publications/tp/our-wellbeing-throughout-covid-19-pandemic

Learners missed fewer days of school in Aotearoa New Zealand than in most comparable countries

When compared internationally, the disruption to education caused by the COVID-19 pandemic in Aotearoa New Zealand was less than that of other OECD countries. Relative to other countries, students here missed fewer days of school instruction, largely due to Aotearoa New Zealand's shorter time spent in lockdown. In terms of student learning and achievement, Aotearoa New Zealand maintained its relative position compared to other OECD nations.[3] This suggests that while students around the world experienced loss of learning from the pandemic, the impact here was no more so than in other comparable countries.[iv]

Figure 7: COVID-19 school disruptions, 16 February 2020–31 October 2021



Source: Treasury, Our wellbeing throughout the COVID-19 pandemic, p 77, https://www.treasury.govt.nz/publications/tp/our-wellbeing-throughout-covid-19-pandemic

iv However, this was not the case for all learners, with negative impacts more pronounced for Māori and Pacific students and those from lower socio-economic backgrounds – this is discussed in more detail in Chapter 3.

While the pandemic disrupted learning outcomes worldwide, Aotearoa New Zealand learners continued to perform above the OECD average

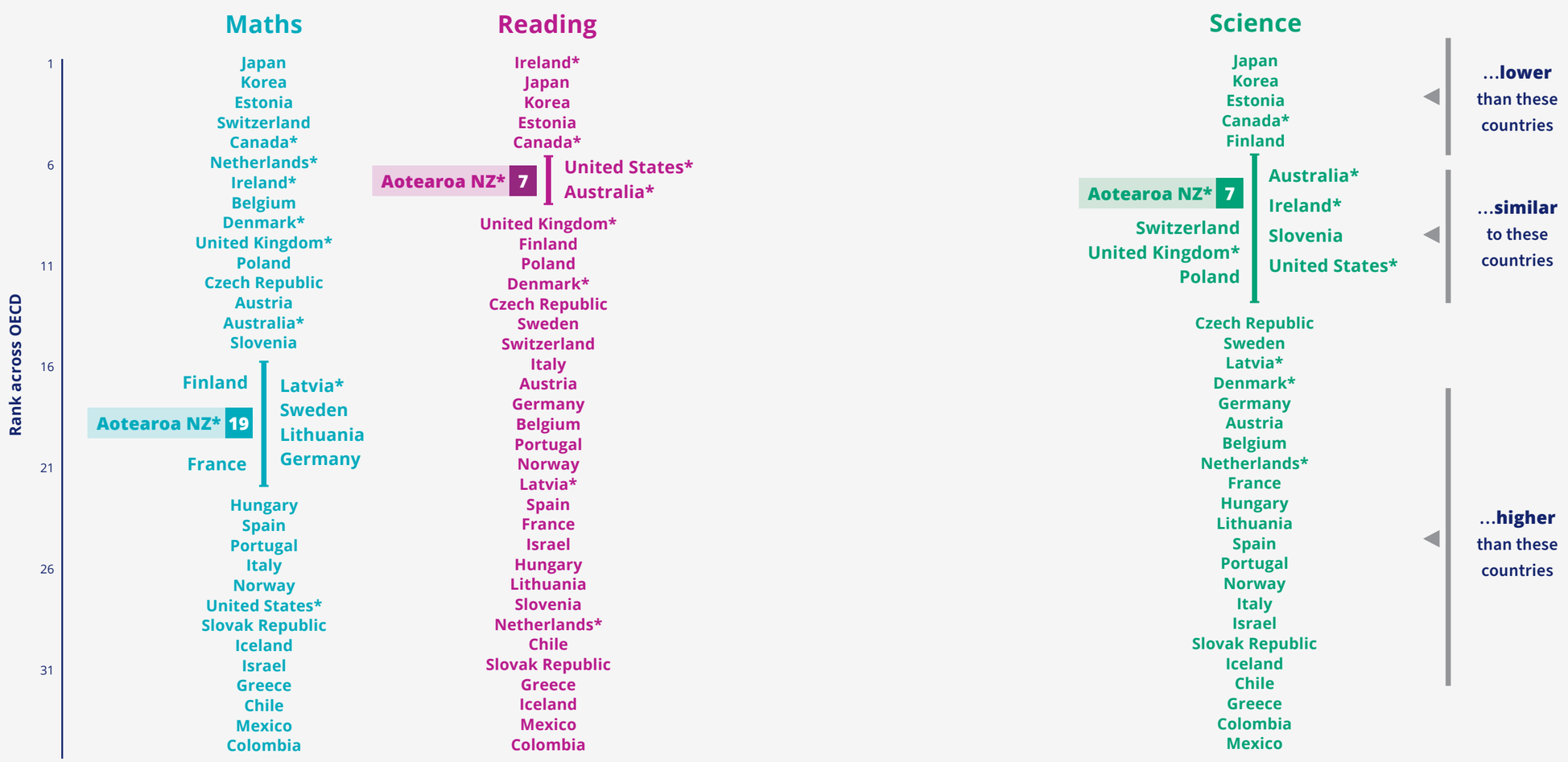
The impact of school closures on student achievement and academic progress during the pandemic is challenging to assess. However, testing by OECD's Programme for International Student Assessment (PISA)[v] in 2022 can be compared with pre-pandemic PISA ratings, especially 2018.

The overall results of the 2022 student testing were mixed.[4] They showed that while student learning outcomes declined in some countries during the pandemic years, others remained steady and some actually improved.[5] Aotearoa New Zealand's maths scores were 15 points lower than in 2018 (as was the OECD average), while reading and science scores were largely unchanged.[6] In all three areas, New Zealand maintained its relative position compared to other OECD nations, suggesting New Zealand students did experience loss of learning from the pandemic, particularly in maths, but no more so than in other comparable countries.[7] Students from low socio-economic backgrounds had a larger drop in maths than more socio-economically advantaged students.[8] Considering the overall disruption experienced by learners across the education system during COVID-19, it is positive to see in this data that New Zealand students maintained their relative position and that the country was broadly in line with others in terms of the impact on learning outcomes.

v The Programme for International Student Assessment (PISA) is an OECD initiative that compares the standardised reading, maths, and science scores of 15-year-old students selected at random from 81 participating countries, including New Zealand. It is undertaken every two years. There were approximately 250,000 participants in the 2022 study, conducted across 2021-22.

Figure 8: Aotearoa New Zealand's mean PISA scores compared with other OECD countries (2022)

Aotearoa New Zealand performs relatively well in reading and science, less so in mathematics. Aotearoa New Zealand's mean PISA score compared to other OECD countries is...



Countries with a * did not meet PISA Technical standards for sampling.
Source: Ministry of Education, PISA 2022: Aotearoa New Zealand Achievement Summary (Summary Infographic pdf), https://www.educationcounts.govt.nz/publications/schooling2/large-scale-international-assessments/pisa-2022-aotearoa-new-zealand-summary-report#:~:text=In%202022%20Aotearoa%20New%20Zealand's,to%20or%20PISA%202018

1.3.3 Conclusion

This brief chapter is not intended to give a comprehensive account of Aotearoa New Zealand's COVID-19 experience – readers will find a more detailed analysis of the key events and decisions that occurred and the array of health, economic and social outcomes they led to in Chapters 2 to 9.

Instead, it has offered a selective snapshot of how Aotearoa New Zealand fared, compared with other countries, on some key measures. Collectively, the data presented here tells the story of a national response that was effective on many counts.

Aotearoa New Zealand, like countries everywhere, was caught off-guard by COVID-19. We were not prepared for a response that had to be sustained for such a long time, nor for a virus that evolved as it did. And we were affected by other problems that were harder-to-measure – among them societal fragmentation, staff burnout in many sectors and the challenges of balancing collective safety with the rights of individuals. We turn now to examine what this meant for the key elements of New Zealand's pandemic response, starting with the plans, systems, decision-making structures and strategies adopted across government.

1.4 Endnotes | Tuhinga āpiti

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CHAPTER 2:

2 All-of-government preparations and response | Ngā whakaritenga me te urupare a te kāwanatanga whānui

2.1 Introduction | Kupu whakataki

This chapter begins at the start of 2020, when the scale of the threat presented by COVID-19 and its possible implications for Aotearoa New Zealand were becoming apparent.

It briefly describes and then evaluates the plans, systems, governance mechanisms, decision-making structures and strategies[i] that were central to the Government's pandemic response over the next two years, and how they were communicated to the public.

The themes running through the chapter – preparedness, decision-making, strategy – are broad and intertwined. They also resurface repeatedly throughout Chapters 3 to 8 and we will return to them again in Chapter 9 where we summarise our high-level learnings after looking back at the entire pandemic response from 2020 to 2022.

What's in this chapter

We begin with some essential context: **section 2.2** provides a brief evaluation of the state of pandemic preparedness and emergency management arrangements across government at the point COVID-19 emerged. This was the base from which the Government's COVID-19 response began.

Sections 2.3 to **2.5** then describe the evolution of key aspects of the response over the course of the pandemic – first governance and decision-making structures (**2.3**), then national pandemic strategies and tools (**2.4**), and finally the use of public information and communications tools to mobilise support for the pandemic response (**2.5**).

Our assessment of all these aspects of the response and their impact is in **section 2.6**.

i A more detailed description of the legislation, emergency plans, systems and structures supporting the COVID-19 response is provided in Appendix A.

2.2 Context: the state of Aotearoa New Zealand's pandemic preparedness and emergency management arrangements before COVID-19 | Horopaki: te āhua o te takatū ki te mate urutā o Aotearoa me ngā whakaritenga whakahaere ohotata i mua o te KOWHEORI-19

National and international preparedness for pandemics has been a high-profile public health issue in recent decades as potent infectious diseases – Ebola, severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), various influenza viruses – have emerged or re-emerged with increasing frequency.

Across the world, numerous pandemic strategies and plans have been drafted, enhanced surveillance and testing regimes adopted, and simulation exercises conducted.[1] Yet the Director-General of the World Health Organization, Tedros Adhanom Ghebreyesus, was frank in his appraisal of what the 'preparedness project' had achieved by 2020:[2]

> "Over the years we have had many reports, reviews and recommendations all saying the same thing: the world is not prepared for a pandemic. COVID-19 has laid bare the truth: when the time came, the world was still not ready."[3]

Faced with a pandemic of this scale and a virus about which so little was known, it was impossible for any country to have made infallible preparations. Quite simply, the World Bank noted, 'there are limits to preparedness'.[4] Any assessment of Aotearoa New Zealand's readiness to respond to the COVID-19 pandemic needs to place it in this global context.

Before COVID-19, Aotearoa New Zealand had in fact scored well in a World Health Organization assessment of its capacity to respond to health security threats.[5] Another assessment of international pandemic preparedness, the Global Health Security Index, had scored New Zealand slightly above the average for high-income countries.[6] But that assessment also revealed that, collectively, international preparedness was weak.[ii] A similar conclusion was reached by the Independent Panel for Pandemic Preparedness and Response, which identified a worldwide failure to invest sufficiently in pandemic preparedness – although what an appropriate level of investment would be, both globally and nationally, has not yet been determined.[7]

Before COVID-19, a range of existing systems, legislation, plans, structures and capabilities were available to support a pandemic response. This put New Zealand in a good position when COVID-19 first emerged. However, there were areas of weakness. In particular, the Civil Defence Emergency Management System was primarily geared towards natural hazard emergencies, the New Zealand Influenza Pandemic Plan 2017 was inadequate for a pandemic like COVID-19, and the risk management system did not work as well as it could have.

For more detail on the various systems, structures, plans and models covered in this section, please see Appendix A.

ii To assess overall preparedness, the Global Health Security Index 2019 studied 195 countries' pandemic readiness across six dimensions/categories – prevention of the emergence of pathogens, early detection, rapid response and mitigation, sufficiency and robustness of the health system, commitment to improving national capacity and financing and a country's overall risk environment and vulnerability to biological threats. However, a major gap has been identified between countries' preparedness levels – as measured in the Index – and COVID-19 death rates. For example, the top-ranked country in the Index was the United States of America whose death rate as at March 2023 was 341 per 100,000 people (according to Johns Hopkins University: see https://coronavirus.jhu.edu/data/mortality). Health researchers say this suggests more accurate ways to measure countries' pandemic preparedness and response capabilities are needed: see Crosby, S, Dieleman, JL, Kiernan, S and Bollyky TJ (2020), All Bets Are Off for Measuring Pandemic Preparedness, Think Global Health, 30 June 2020, https://www.thinkglobalhealth.org/article/all-bets-are-measuring-pandemic-preparedness.

2.2.1 A well-established civil defence and emergency management system was in place

The evidence we have reviewed shows a well-established civil defence emergency management system was in place at the start of 2020. It was led by the National Emergency Management Agency (NEMA) and included 16 regionally-based Civil Defence Emergency Management Groups (collectives of local and/or unitary authorities within each region). Depending on the nature of the emergency, different agencies would be expected to take on the role of 'lead agency' (for example, the New Zealand Police would be the lead agency for a terrorism incident).

In addition, in a significant crisis or emergency, the Officials Committee for Domestic and External Security Coordination (ODESC) system could be activated.[8] ODESC is a group of senior officials, chaired by the Chief Executive of the Department of the Prime Minister and Cabinet. In 2020, its role was to coordinate an all-of-government response to an event and support ministers in developing the strategic direction, policies and resourcing required to deal with a crisis.

In 2020, the emergency management system was practised in dealing with disasters such as severe weather events and earthquakes. Many of the people working within it – and some based in other parts of government – were highly experienced in crisis response and/or trained in using the standardised Coordinated Incident Management System.

Because the Civil Defence Emergency Management System is tasked with responding to emergencies arising from all hazards and risks, it was in principle capable of responding to a pandemic – which was identified as a potential threat to the country in the National Risk Register.[9] Plans drawn up before 2020 by the 16 regional Civil Defence Emergency Management Groups showed many had identified a human disease pandemic as a potential risk with significant national and local consequences.[10]

However, in reality the system was not prepared for a pandemic of the nature and scale of COVID-19, which required a prolonged response and had widespread and complex national impacts. For example, Civil Defence Emergency Management Groups are typically involved in providing emergency welfare support in a particular region or area and for short periods of time only, perhaps a few days or weeks but rarely months – let alone years.

2.2.2 Aotearoa New Zealand had a system for identifying national-level hazards and risks

A National Risk Framework is used across government to drive decision-making that 'advances New Zealand's long-term prosperity, and strengthens our resilience to the most significant hazards and threats we face'.[11] Broadly, it involves identifying, managing and proactively planning for national risks, including by maintaining a National Risk Register of the most significant risks Aotearoa New Zealand faces.[12] In 2020, the register listed 'threat-type' risks (such as terrorism and cyber security), which were overseen by the Security and Intelligence Board (now known as the National Security Board), and a larger group of 'hazard-type' risks, including pandemics.[13] This latter group of risks was overseen by the Hazard Risk Board (now the National Hazards Board).[14]

However, this system had limitations. The Inquiry heard that while the register identified risks, the system did not then actively oversee whether and how those risks were being prepared for across government. There were limited formal oversight or accountability mechanisms to ensure agencies had appropriate plans in place to prepare for (and mitigate if possible) significant national risks. The evidence also showed that the Hazard Risk Board was not functioning optimally in early 2020. As the Auditor-General noted, it had not been meeting regularly and was 'struggl[ing] to carry out strategic governance properly.'[15]

Despite evidence that the New Zealand national risk assessment and management system had little real bite, we recognise that this was also true of other countries.[16]

The system was not prepared for a pandemic of the nature and scale of COVID-19, which required a prolonged response and had complex national impacts.

2.2.3 Legislation was in place which could quickly be built upon

The system was well supported by legislation which set out the initial powers and requirements needed by government and others to manage the emerging pandemic. Appendix A provides a fuller account of the relevant statutes and other instruments, many of which remain in effect today, but in brief they were:

- **The Health Act 1956**,[17] which provided broad powers to manage infectious diseases – including powers to require people to isolate or quarantine, close premises, limit gatherings and undergo medical testing.
- **The Civil Defence Emergency Management Act 2002**,[18] which set out a framework to prepare for, deal with and recover from local, regional and national emergencies. It included powers that can be used to support emergencies such as pandemics. For example, the Act gave the Minister the mechanism to declare the state of national emergency on 25 March 2020, and unlock powers in the Act to support the response, such as requisitioning carparks for testing purposes.[19] The Act also included a permanent legislative authority to assist the Crown in reimbursing local authorities for response and recovery costs in an emergency, without need for a further appropriation.[20] This ability was critical in the first part of the response, enabling agencies to quickly deliver necessary (and sometimes costly) supports such as food parcels until the Budget was passed on 14 May 2020, which provided more specific allocation of funding.
- **National Civil Defence Emergency Management Plan Order 2015**,[21] which set out guiding principles, roles and responsibilities for government agencies, local government, lifeline utilities, emergency services and other groups involved in reduction, readiness, response and recovery from emergencies at the national level. The plan took an 'all hazards, all risks approach' to emergency management and applied regardless of the cause of the emergency – including 'infectious human disease pandemics'.
- **The Epidemic Preparedness Act 2006**,[22] which provided mechanisms to help manage a public health emergency arising from a major outbreak of a highly infectious disease. It complemented the Health Act 1956. It allowed some non-health statutory requirements to be relaxed if they were not able to be complied with during an epidemic, enabling certain activities to continue to be undertaken by people and government agencies.

In addition to these statutes, the COVID-19 Response (Urgent Management Measures) Legislation Act 2020 – an 'omnibus' bill which amended other existing Acts – was passed on 25 March 2020.[23] Later, some new legislation and amendments were considered necessary and introduced as the response evolved; the bespoke COVID–19 Public Health Response Act 2020 was passed in May 2020 (described in Appendix A and section 2.3.2).

Bespoke legislation that had been developed following the Canterbury and Hurunui/ Kaikōura earthquakes,[24] alongside the Epidemic Preparedness Act 2006, provided models that the COVID-19 response could draw on. This enabled bespoke COVID-19 legislation to be drafted and implemented at pace and meant there was a good understanding of the levers, powers, checks and balances required when developing legislation of this kind.

The Legislation Design and Advisory Committee's submission to the Select Committee inquiry into the operation of the COVID–19 Public Health Response Act 2020 (in July 2020) noted that 'bespoke legislation will almost certainly be required' in the case of significant emergencies, particularly where there is concern that existing tools will need to stretch too far to fit the response measures as they evolve. It also noted the role of individual departmental stewardship in maintaining awareness of the tools available in their current legislation and undertaking ongoing reviews with an eye to maintaining operations and responding in an emergency.[25]

However, the Law Commission's 2022 Study Paper on the legal framework for emergencies also noted:

> "The current preference for enacting bespoke legislation to deal with emergencies after they have emerged is perhaps an indictment of the usefulness of the existing standing rules or evidence of a concern about their possible misuse or both. More needs to be done in standing legislation for the reason that it will not always be possible to enact bespoke legislation in time or with appropriate public input."[26]

These issues are discussed further in Lesson 6.

Like other emergencies, bespoke legislation was quickly developed for the COVID-19 response.

2.2.4 The New Zealand Influenza Pandemic Plan was useful at the start of the response

The New Zealand Influenza Pandemic Plan 2017[27] was Aotearoa New Zealand's sole pandemic-specific response plan at the time COVID-19 emerged. Like most national pandemic plans, this Plan was designed principally to respond to an influenza pandemic. However, the Plan noted it 'could reasonably apply to other respiratory-type pandemics (such as severe acute respiratory syndrome – SARS)'.[28]

Aspects of the Plan were useful early on, such as the guidance it provided on organising intersectoral workstreams and information on which public health measures to activate in the initial stages. In the first few weeks of the COVID-19 response, the public health strategy adopted by the Government followed the 'keep it out' and 'stamp it out' phases of the Plan.

In the context of COVID-19, however, the Influenza Pandemic Plan had significant limitations. These limitations were by no means unique to New Zealand, with similar limitations apparent in many countries' pre-COVID-19 pandemic plans. For example, the Plan focused on coordinating the immediate 'emergency' pandemic response and did not set out structures for coordinating or governing an all-of-government response that would be required over a prolonged period.

Perhaps most significantly, the Plan lacked a framework for reviewing the high-level response strategy and adapting it over time as the situation changed. While the Plan recognised the need to anticipate repeated waves of infection, it was expected that these could be managed using a mix of existing approaches (as set out under the 'keep it out', 'stamp it out' and 'manage it' phases), guided primarily by public health indicators.[29] The need for high-level strategic planning and adjustment across all sectors of society, and over several years, had not been envisaged.

Some elements of the Plan might have been useful in the response to COVID-19, but they needed more work. While the Plan emphasised the importance of engaging with Māori 'as tāngata whenua', for example, such engagement was largely envisaged in terms of communicating key messages and ensuring Māori had access to resources. The Plan did not address the role of Māori and iwi in decision-making, or in designing and providing services (including healthcare services), which the Crown's te Tiriti | the Treaty obligations require it to provide for. The Plan did reference the health sector's Māori Health Strategy (He Korowai Oranga), and 'encourage[d] the inclusion of Māori in district, regional and national pandemic planning'.[30]

A senior health official told us the Plan did not sufficiently address the need for government agencies to practise for the pandemic response. The Auditor-General, in his review of the all-of-government COVID-19 response, emphasised the importance of regular exercises to improve readiness and response arrangements[31] and referred to the Ministry of Health's own evaluation of the 2017/18 exercise, which found that the 10-year interval between exercises was too long.[32]

2.2.5 Useful models of collaborative cross-agency work had been established

Before 2020, notable examples of government agencies working together to good effect on common issues included the Justice Sector Leadership Board and Te Puna Aonui, the Joint Venture for the Elimination of Family Violence and Sexual Violence.[iii] When the Public Service Act 2020[iv] was passed in the first year of the pandemic, it confirmed the importance of this collaborative, cross-agency approach. Among other things, it formalised a public service leadership team to provide government-wide leadership.[33]

Initiatives like Te Puna Aonui and others had helped break down existing silos, created mutual goodwill and built strong relationships – all of which were usefully leveraged throughout the pandemic response. As the (then) Public Service Commissioner Peter Hughes told us, the existence of the public sector leadership team 'gave us a real tailwind' going into the pandemic: 'they knew how to work well together already, which gave [us] a team basis for COVID-19'.[34]

The Border Executive Board (established in December 2020 to deliver an integrated and effective border system in the context of COVID-19) was a good example of this collective responsibility in action, in this case through an interdepartmental executive board. The Inquiry heard that less formal arrangements at chief executive level could also be very productive in managing COVID-19. Examples included the justice and transport sectors – where existing strong relationships and clear common objectives enabled chief executives to work together on the significant challenges facing their sectors – and the Caring for our Communities Chief Executives Group, who came together to help with rapid and coordinated delivery of resources to where they were needed, developing innovative ways to work through barriers. These leadership groups also proved invaluable in helping agencies work closely with the private sector. This was critical for implementing some measures; for example, transport agencies needed to work closely with airlines to safeguard the sustainability of supply lines.

iii The former brings together the leaders of six core justice agencies – the Ministry of Justice, New Zealand Police, Department of Corrections, Oranga Tamariki, the Serious Fraud Office and the Crown Law Office – to collaborate on system-wide issues, govern significant cross-agency work programmes and lead agencies with united purpose. Te Puna Aonui brings together nine government agencies and four associate agencies to align whole-of-government strategy, policy and investment to eliminate family violence and sexual violence.

iv Enacted in August 2020, it provided for new system leadership roles and organisational forms that would give agencies greater flexibility in the way they organised around government priorities, and make it easier for them to join-up around complex problems.

2.2.6 New Zealand's public service was flexible, agile and dedicated

The flexibility and adaptability of the public service before COVID-19 paid off during the response. Staff stepped up to develop and deliver a coordinated, novel and innovative government response to COVID-19 – at pace and in the face of considerable uncertainty. As a senior public sector official explained to us, this flexibility was supported by pre-existing mechanisms that allowed for the movement of people across the public service and enabled a range of expertise to come together in a highly informal environment.

2.2.7 Some agencies had strong relationships with communities

There were some areas where government agencies had strong relationships with communities. Where these relationships already existed, there was higher trust in, and devolution of, decision-making at the community level.

As the pandemic response evolved, relationships between government agencies and communities often improved as communities were able to show their effectiveness and government agencies grew in confidence with the approach. We heard from many government and community organisations that there is great value in developing these relationships in advance, for improved commissioning and delivery of services in the present as well as to set the foundation needed to respond to a future crisis.

> "Have the ten thousand cups of tea now, on the day-to-day work, so that when you've got to work at pace, no-one's saying 'let's have a cup of tea. We'll have a think about whether we want to jump on this with you.' Critical thing is how you maintain that relationship and are ready to go."

We heard that when local providers were valued and empowered, it resulted in locally-tailored solutions that are more effective than standard responses. This impact was demonstrated in a compilation of case studies of community action during 2020. This included examples of government agencies working differently during COVID-19, such as seconding staff directly into local organisations, to deliver a more localised response. That report on community-led responses noted the best outcomes were achieved in communities where the strongest existing relationships were already in place.[35]

2.3 What happened: governance and decision-making structures | I aha: ngā hanga mana whakahaere me te whakatau tikanga

The preceding overview of the country's pre-COVID-19 pandemic preparedness and emergency management arrangements indicates the base from which the Government's COVID-19 response began.

It was a mix of positives and negatives. The country had well-established systems for managing both emergencies and risk, which theoretically covered national pandemics; in practice, however, they were mostly geared towards regional natural disasters. Some sound legislation and governance structures were in place, along with a dedicated public service workforce. But, as happened in most other countries, many of these preparations and pre-existing arrangements proved insufficient to meet the scale and duration of a pandemic that required an unprecedented all-of-government response.

While some of the mechanisms needed to deliver a response of this kind were established quickly, many evolved over the course of the pandemic. In this section, we focus on the evolution of governance and decision-making structures.

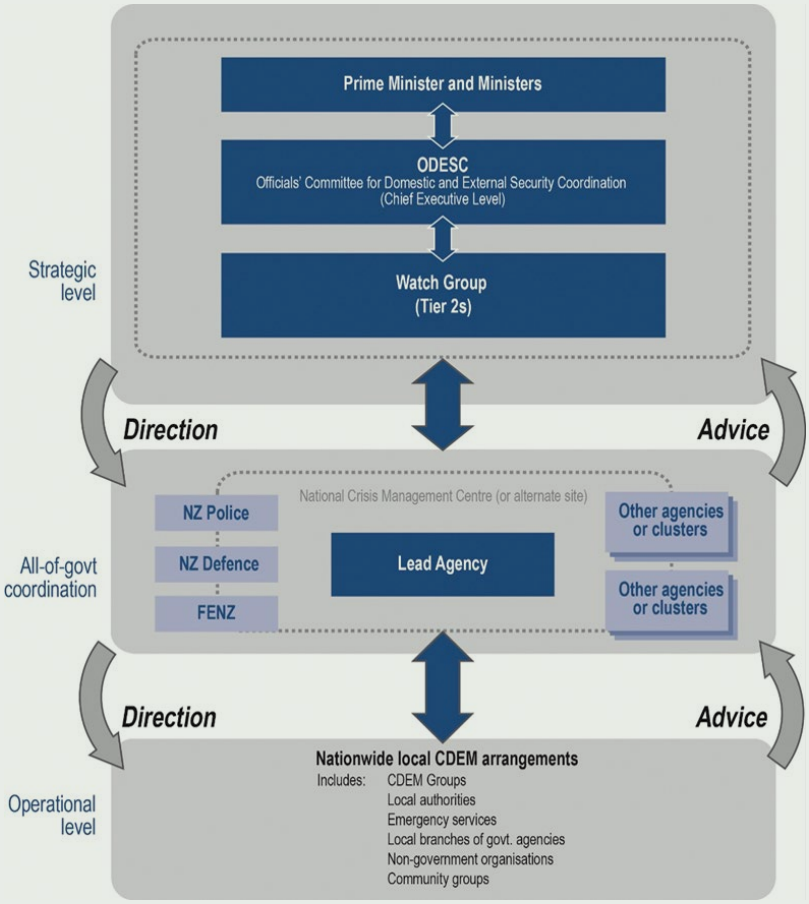
In the first year of the pandemic, three broad approaches to organising the all-of-government response were tried. The first involved the standard 'lead agency plus ODESC oversight' model. Then came a bespoke approach, marked by the establishment of 'the Quin' (discussed further in section 2.3.2). It was followed by an approach designed to support a longer-term response, through a COVID-19 Group established within the Department of the Prime Minister and Cabinet. Originally an informal arrangement, by the end of 2020 this group had been formalised and its mandate expanded. We describe each of these in turn: our assessment of their utility and effectiveness is set out in section 2.6.

The country had well-established systems for managing emergencies, but they were mostly geared towards regional natural disasters.

2.3.1 Government initially adopted the standard 'lead agency plus ODESC' model

The lead agency model, with ODESC providing oversight, swung into action in January 2020 when the chair of ODESC was briefed on system readiness and risks for managing a potential pandemic. The first Watch Group[v] meeting was held on 27 January 2020 and the Department of the Prime Minister and Cabinet activated the crisis response arrangements the same day. ODESC met for the first time on 31 January 2020 to help coordinate a cross-agency response. At this point, the pandemic response was organised in the same way as all-of-government responses to other national emergencies:

Figure 1: The initial pandemic response model – lead agency with ODESC oversight



Source: Adapted from Department of the Prime Minister and Cabinet, 2024, Guide to the National CDEM Plan 2015, p 4, https://www.civildefence.govt.nz/assets/Uploads/documents/publications/guide-to-the-national-cdem-plan/Guide-to-the-National-CDEM-Plan-2015.pdf

v Under the ODESC system, Watch Groups comprising senior officials from relevant agencies are established to monitor potential, developing or actual crises. See Appendix A.

Under this model, the Ministry of Health – identified in the National Civil Defence Emergency Management Plan 2015 as the lead agency for emergencies arising from infectious human diseases – had the 'primary mandate' for managing the COVID-19 response, although it was not expected to work alone. The Ministry's responsibilities included monitoring and assessing the situation, planning for and coordinating the national response, reporting to ODESC and providing policy advice, and coordinating the dissemination of public information.[36]

Meanwhile, ODESC provides the Prime Minister and Cabinet with advice on priorities and mitigation of risks beyond the lead agency's control, and exercises policy oversight. ODESC also helps ensure the lead agency and those supporting it had the resources and capabilities required for an effective response.

This model was quickly deemed by officials at the time as unsuited for responding to the scale of the evolving pandemic. There were several reasons. At the core of the ODESC model is a group of chief executives who work as a collective, not a functioning governance arrangement for delivering the strategic advice and decisions needed for the response over time. ODESC did not have the systems and resources to oversee a crisis as all-encompassing as COVID-19, and outside of ODESC, there was no all-of-government structure that could step in if the lead agency model was not appropriate.[vi] This was the case with the COVID-19 response, which was far more wide-reaching than a single agency could be expected to manage. This meant that, in the early days, the Ministry of Health was trying to fulfil multiple functions – including leading the health system response and associated technical aspects, leading other critical elements of the response such as managed isolation and quarantine (MIQ), providing strategic advice to ministers, and trying to coordinate activities across government.

As one stakeholder told us, 'An everything crisis requires an everything response' – a sentiment we heard from many senior response officials. Accordingly, an alternative all-of-government model was introduced in March 2020[37] and remained in place until the end of June 2020.

vi For example, in situations where the lead agency lacked the capacity or capability to coordinate the response, the response required actions that exceeded what a lead agency could reasonably coordinate, or if the crisis was likely to require a prolonged response.

2.3.2 A bespoke all-of-government approach was developed

An early indicator of a shift in approach came after the Chair of ODESC directed the National Crisis Management Centre to be activated on 6 March 2020. The ODESC Chair created a new position on 11 March 2020, the All-of-Government Controller, to oversee the all-of-government response.[vii] Leadership and governance structures were also modified, including the establishment of a new leadership body, the Quin. It comprised the All-of-Government Controller (John Ombler, as Chair) and four key response leaders: Dr Ashley Bloomfield, the Director-General of Health; Sarah Stuart-Black, the Director of Civil Defence Emergency Management; Mike Bush, head of the Strategic Operations Command Centre[viii] whose role included overseeing and providing direction to cross-agency activities; and Dr Peter Crabtree, the All-of-Government Strategy and Policy Lead.[38]

An all-of-government communications function was also created early in the response. In a standard emergency response, the lead agency (in this case the Ministry of Health) is responsible for the provision of public information. However, it quickly became apparent that the public communications task was going to be more significant than the Ministry of Health could manage alone. In February 2020, ODESC members agreed there was a need for 'more aggressive and direct communications' about COVID-19 and the Chair of ODESC commissioned a review of the Ministry of Health's capacity to deliver the necessary communications functions. This led to the creation of a new All-of-Government National Public Information Management Team within the National Crisis Management Centre, thereby shifting primary responsibility for public communications from the Ministry of Health to the all-of-government crisis management centre.

Alongside these new arrangements – and in another sign of the need for bespoke solutions to support the COVID-19 pandemic response – new legislation was also being developed, including the COVID-19 Public Health Response Bill. When enacted, it would become the lynchpin of the pandemic response, replacing the Health Act 1956 as the primary legal basis for the Government's use of mandatory public health measures.[ix] The Bill's Explanatory Note indicated the Government's rationale for its development: it provided a 'fit-for-purpose legal framework for managing the unprecedented circumstances of the COVID-19 epidemic in a coordinated and orderly way, even if there is no longer a national state of emergency'. It would also establish 'decision-making processes that are more modern and consistent with recommended practice by legal academics and others'.[39]

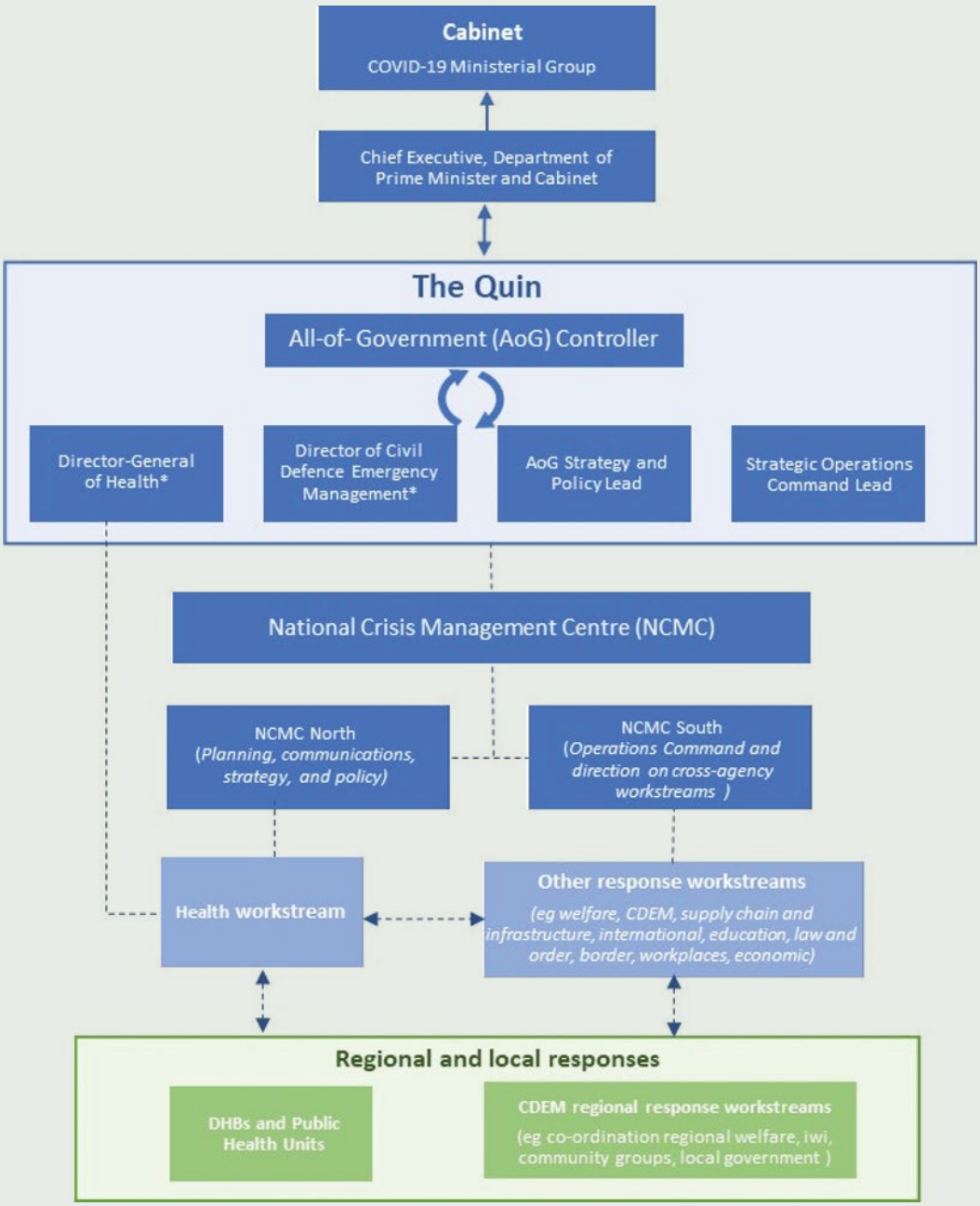
vii Former Deputy State Services Commissioner John Ombler was appointed the All-of-Government Controller and held the role until late October 2020; he was at the same time Deputy Chief Executive of the All-of-Government Response Group in the Department of the Prime Minister and Cabinet.

viii Mike Bush was still the Commissioner of Police when he took up this role and held both roles until 2 April 2020 when his term as Commissioner finished.

ix The Act came into effect just a day after the Bill was introduced to Parliament.

By mid-March 2020, the structure of the all-of-government response looked very different from the arrangements in place only two months earlier:

Figure 2: The bespoke response model as of mid-March 2020



Source: Adapted from Department of the Prime Minister and Cabinet, 2023, National Crisis Management Centre (NCMC) National Action Plan, p 31, https://www.dpmc.govt.nz/sites/default/files/2023-04/rpt-national-action-plan-v2-1april.pdf

2.3.3 The model was refined over time

Rapid reviews of the model were carried out in April[40] and October of 2020[41] to check if it was providing the leadership and coordination necessary for the response.[x]

The aim of the first review, commissioned by the chair of ODESC not long after the introduction of the Quin in mid-March 2020, was to identify what arrangements would best support the all-of-government response into the future. Recognising that 'what got the country through the first phase [of the pandemic] would not be sustainable or fit for purpose in the medium term', the review called for 'a refreshed mandate and simplification of existing structures and accountabilities'[42] going forward.[xi]

Thus, when the National Crisis Management Centre was deactivated on 30 June 2020, many of its functions transferred to a newly-established COVID-19 All-of-Government Response Group within the Department of the Prime Minister and Cabinet. The Group's leadership team effectively replaced elements of the Quin from this point on (noting that the Director-General of Health and the Director of Civil Defence Emergency Management retained their statutory roles, and the Ministry of Health was still the lead agency). As at December 2020, over 80 percent of the staff in the All-of-Government Response Group were seconded from other agencies across the public service.[43]

The Group was charged with developing 'a more forward-looking work programme'. It had four key areas of responsibility: providing Cabinet with strategy and policy advice; operational coordination; data analytics, monitoring, reporting and insights; and public communications.[44] To avoid duplication of effort, it was to undertake only work that other agencies could not do, and some response activities that had been led centrally – such as the managed isolation and quarantine (MIQ) system – were transferred to relevant agencies (in this case, to the Ministry of Business, Innovation and Employment).[45]

The second rapid review of the all-of-government response released in October 2020 recommended 'declutter[ing] the governance landscape'.[46] This led to the establishment of a COVID-19 Chief Executives Board on 17 November 2020. It comprised 12 departmental chief executives,[xii] who were expected to reflect the views of their sectors and stakeholders (which included iwi, the private sector, non-governmental organisations, and vulnerable communities). The Board's role was to ensure that 'the system is informed, is doing what it needs to, at the pace required, and that risks are identified and mitigated.'[47] It met for the first time in mid-November 2020.

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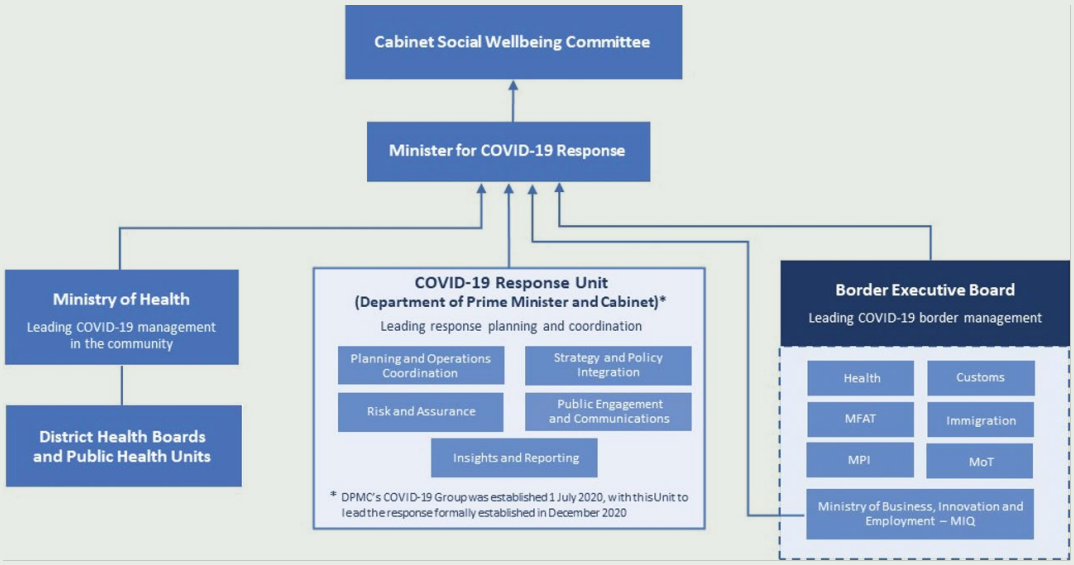
x In line with our terms of reference, we have not sought to replicate the work of these reviews (nor that of the Office of the Auditor-General into the all-of-government coordination in the first year of the response). Rather, we have used their findings, alongside our own evidence, to inform this analysis and our subsequent lessons.

xi The Auditor-General also noted that the new arrangements put in place during 2020 (in particular the Quin) posed challenges for those working in the system. These included strained relationships between the National Crisis Management Centre and the Ministry of Health.

xii Board members were from the Department of the Prime Minister and Cabinet, New Zealand Customs Service, Ministry of Justice, Ministry of Foreign Affairs and Trade, Ministry of Business, Innovation and Employment, the Treasury, Ministry of Social Development, Te Puni Kōkiri, Ministry of Transport, Ministry of Health. The heads of the Crown Law Office, Te Kawa Mataaho and the COVID-19 Group were 'additional members'.

The first year of the pandemic ended with Cabinet approving a recalibrated COVID-19 response system (shown below) and confirming funding for it until the end of June 2022. The new arrangements also recognised that a single agency could not manage the full response alone, and multiple lines of accountability were required. The role of the COVID-19 Group in the Department of the Prime Minister and Cabinet was enhanced, and it was now mandated to provide strategic leadership and central coordination of the all-of-government response. The entire system became accountable to the Minister for COVID-19 Response, a position created in November 2020.

Figure 3: Institutional and governance arrangements (Cabinet 2 December 2020)



Source: Adapted from Department of the Prime Minister and Cabinet, 2020, COVID-19 Response Paper 1 – Overview of Institutional and Governance Arrangements and Funding – CAB-20-MIN-0095

Having described the structures that the Government used to make decisions and run the response to COVID-19, we turn now to the evolution of the response strategy and how it was communicated.

2.4.1 The international context: three main strategic goals

Reviews of global COVID-19 responses describe three main strategic goals that countries adopted to guide their pandemic responses: elimination, suppression and mitigation.[48] Some island jurisdictions were able to adopt an early 'exclusion' goal: namely, they kept the virus out by effectively closing their borders before any cases had occurred in their populations. An elimination goal will normally be time-bound, and at some point would be replaced by measures aimed at the third strategic goal – suppressing and/or mitigating the impacts of the pandemic agent. The three goals can be broadly summarised as follows:

Figure 4: National public health strategies used in response to the COVID-19 pandemic

Strategy*	Public health aim	Specific objectives	Common public health measures
Elimination	Eliminate any community transmission	• Prevent entry of new cases into population • Prevent transmission from any existing cases • Identify and stop any chains of transmission	• Tight border restrictions, quarantine of new arrivals • Strict isolation of cases • Contact tracing, isolation and testing of contacts • Public health and social measures, e.g. physical distancing, use of facemasks, restrictions on movement and gatherings, closure of schools and workplaces. At the most stringent level (including mandatory requirements) these measures are commonly described as 'lockdown'

Strategy*	Public health aim	Specific objectives	Common public health measures
Suppression	Active measures to reduce transmission	• Reduce rate of transmission • Prevent health system from being overwhelmed • Protect vulnerable groups from infection (sometimes called 'shielding')	• Border checks/restrictions • Isolation of cases (usually home isolation) • Contact tracing and testing of contacts • Public health and social measures to reduce peaks in transmission. Where case rates become very high, strict measures (e.g. lockdowns) may be used to prevent the health system from being overwhelmed
Mitigation	Protect vulnerable groups from infection	• Protect vulnerable groups from infection • Minimise disruption to normal social and economic activities	• Self-isolation of cases • Public health measures focused on vulnerable groups, e.g. facemasks for visitors to hospitals or aged care facilities

*In some jurisdictions (e.g. Australia) the term 'aggressive suppression' is used in place of 'elimination'. In some analyses (e.g. König & Winkler, 2021)[49], suppression and mitigation strategies are treated as a single approach.

Source: Adapted from 3 sources: Baker MG, Wilson N, Blakely T. , 2020, Elimination could be the optimal response strategy for covid-19 and other emerging pandemic diseases. BMJ 2020;371:m4907 https://doi.org/10.1136/bmj.m4907; Wu S, Neill R, De Foo C, Chua AQ, Jung AS, Haldane V, Abdalla SM, Guan WJ, Singh S, Nordström A, Legido-Quigley H. Aggressive containment, suppression, and mitigation of covid-19: lessons learnt from eight countries. *BMJ* 2021 29;375:e067508 https://doi.org/10.1136/bmj-2021-067508; Grout L, Gottfreðsson M, Kvalsvig A, Baker MG, Wilson N, Summers J. Comparing COVID-19 pandemic health responses in two high-income island nations: Iceland and New Zealand. *Scandinavian Journal of Public Health*. 2023;51(5):797-813. https://doi.org/10.1177/14034948221149143

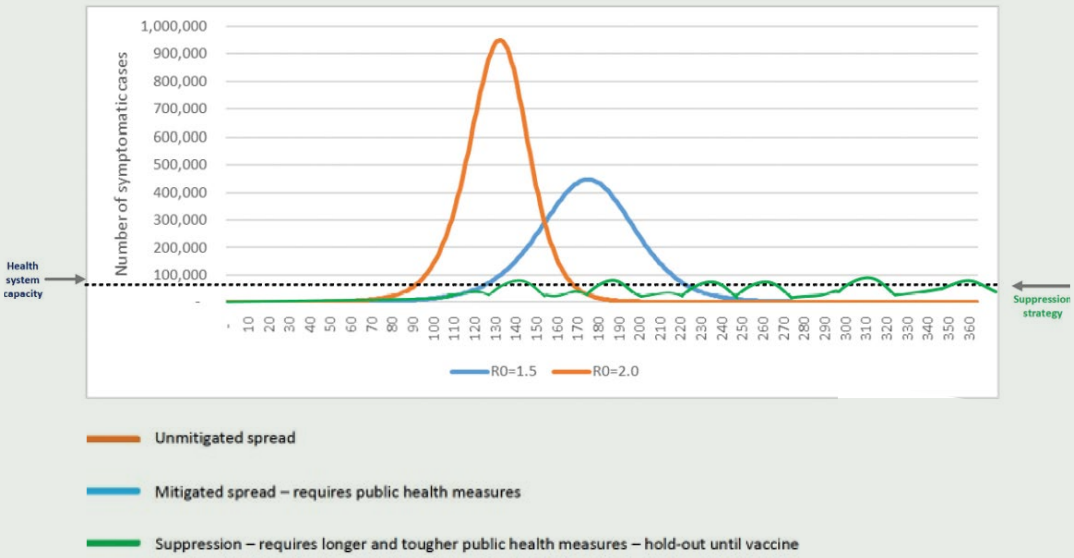
In responding to COVID-19, New Zealand used all three strategies: elimination until late 2021, suppression briefly from late 2021 to early 2022, followed by mitigation. As highlighted in the following sections the transitions from one strategy to the next were fuzzy and not always well-signalled.

2.4.2 Aotearoa New Zealand quickly adopted an elimination strategy when it became apparent that zero transmission was achievable

In the first weeks of the pandemic, New Zealand's public health response drew on elements of the New Zealand Influenza Pandemic Plan 2017,[50] but without articulating a clear overall goal. At the day-to-day level, there was a strong initial focus on 'keeping it out' and 'stamping it out', which (as outlined in the Plan) would buy the time for planning. At this stage, the response was largely based on the assumption that New Zealand would 'flatten the curve' to protect health services using a mitigation strategy or would suppress the virus and repeatedly 'stamp out' outbreaks. This assumption was also reflected in public discussions and information.

By mid-March 2020, a (now locally famous) graph was circulating among decision-makers and politicians:[51]

Figure 5: COVID-19 mitigation versus suppression



Source: Department of the Prime Minister and Cabinet, 2023, Systems architecture (Health System preparedness), p 4, https://www.dpmc.govt.nz/sites/default/files/2023-01/Systems-architecture-Health-System-preparedness.pdf

Two public health strategies were being considered at the time. One was suppression – using public health measures to suppress viral transmission and 'flatten' peaks of infection. The other was mitigation, where 'light touch' to moderate public health measures are used to flatten and make longer the first wave of transmission to lessen the pressure on health services, and simultaneously protect vulnerable people from infection (see section 2.3.1 for further discussion of the different public health strategies). The graph suggested that neither of these approaches would be sufficient to prevent the health system from becoming overwhelmed. With a mitigation strategy (blue line), the peak of infection would be less than if no measures were used ('unmitigated spread' – the orange line), but the number of people becoming sick and needing hospital care would substantially exceed health system capacity (dotted line). Even with a suppression strategy – leading to repeating waves of infection of much smaller magnitude (green line) – the health system might be overwhelmed at points of peak infection.

Seeing this graph was described to us as a 'penny dropping' moment. Many realised that – even under a suppression strategy – there was a risk that New Zealand's health system would be overwhelmed. This realisation was presented to us as the point at which it became clear that decision-makers needed to consider taking extraordinary measures in order to protect the population from a potentially catastrophic scenario.

That the vast majority of decision-makers were not thinking of elimination as a potential strategy before mid to late March 2020[52] reflected WHO's advice *not* to use travel and trade restrictions (which would be necessary if pursuing elimination) as control measures.[53] This aligned with prevailing expert opinion at the time, which held that border controls could delay entry of a pandemic but not prevent it.[54] However, as events evolved in late March, New Zealand – along with other countries in the region – elected to break with this advice.

On 23 March 2020, the country moved into Alert Level 3 (effectively, a 'soft' lockdown) and announced that Alert Level 4 (or a 'hard' lockdown) would start at 11:59 pm on 25 March 2020. Noting what was occurring elsewhere in the world, officials indicated that we had 'a short window of opportunity to take a trajectory more similar to Singapore and others who have taken an early and strong approach to containment.'[55] A 'go hard, go early' approach might avoid the trajectory of Europe where hospitals had been overwhelmed by people sick from COVID-19 infection. At this stage, there was not a consistent view or realisation that elimination was possible or even the goal in Aotearoa New Zealand.

The combination of strict border restrictions and stringent public health and social measures was even more successful than anticipated, and – over the next few weeks – it became apparent that eliminating the virus was a viable possibility.

2.4.3 Elimination

The pursuit of zero transmission (most of the time, knowing there would likely be some occasional incursions) emerged as the goal for Aotearoa New Zealand, to be achieved through an elimination strategy. On 9 April 2020, papers for the COVID-19 Ministerial Group explicitly articulated the elimination strategy for the first time:

> "Our overall approach is to eliminate the virus from New Zealand. We will keep it out of the country with border restrictions and stamp it out wherever and whenever it occurs, minimise its spread and severity with systematic public health measures, [...] and do all this until a vaccine or effective treatment emerges." [56]

New information on the virus – and how to prevent its transmission – was coming in daily. Decisions had to be made quickly, with imperfect information, and at pace.

The strategy was embarked on at a time of high uncertainty. Decision-makers were informed by data and high-level modelling, as well as the international situation, and advice on how Aotearoa New Zealand and our population would be impacted. New information on the virus – and how to prevent its transmission – was coming in daily. Decisions had to be made quickly, with imperfect information, and at pace. Officials attempted to look ahead at what was coming so they could offer advice on what was needed next, but this forward gaze was only able to anticipate events that lay a few weeks ahead.

Advice from this period refers to a future time when 'a vaccine or effective treatment'[57] would be available. However, there appears to have been no explicit forward work programme available to reassess the elimination strategy. Nor was it specified how and when a range of scenarios and policy response options for future strategic directions would be considered as the situation evolved or as new options for managing the virus became available.

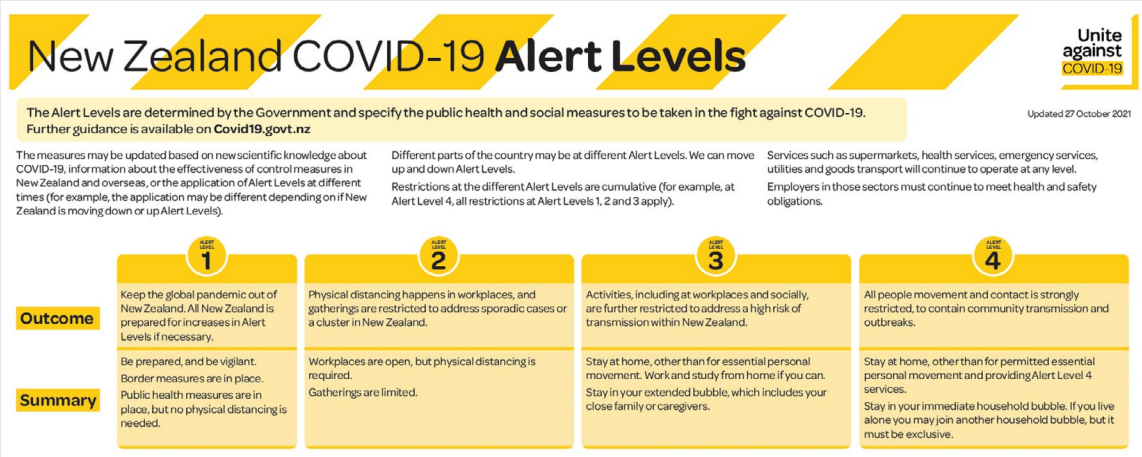
Spotlight:
The Alert Level System | Te Anga Taumata Whakatūpato

In the early stages of its response, Aotearoa New Zealand adopted a graduated set of public health measures or 'alert levels', which was central to the country's COVID-19 response.

Prior to COVID-19 – and consistent with international guidance – New Zealand's planned response to a pandemic did not include the possibility of closing the country's borders and eliminating transmission over a sustained period.[58] The initial strategy was to prevent or delay the virus's arrival ('keep it out') and control any initial outbreaks ('stamp it out') in order to buy time for the country to prepare for widespread transmission and resultant illness (as seen in other countries). This initial strategy was supported by the introduction of a range of public health and social measures intended to limit the spread of infection.

In this early stage of the COVID-19 response, combinations of public health and social measures were grouped into four levels or 'settings' of increasing strictness. The Alert Level System become a central feature of New Zealand's COVID-19 response. It gave decision-makers a simple way of 'turning the dial up' (or down) on infection control measures, and it gave the public a clear set of rules about what measures and restrictions they needed to follow at any point in time.

Figure 6: COVID-19 Alert Levels



Source: Department of the Prime Minister and Cabinet, 2021, COVID-19 Alert Levels detailed table, p 1, https://covid19.govt.nz/assets/resources/tables/COVID-19-Alert-Levels-detailed-table.pdf

At lower system settings (Alert Levels 1 and 2) people were encouraged or required to physically distance from one another, to avoid unnecessary travel, and (later) to wear facemasks on public transport and other shared indoor spaces. Alert Level 2 also included limits on large gatherings. As the risk or scale of transmission grew, higher alert levels and increasingly stringent measures came into effect. Alert Levels 3 and 4 can be understood as 'lockdowns' (and this is how they were popularly known), because they involved closures of schools and businesses, restrictions on gatherings, and stay-at-home orders (see Chapter 3 for more on New Zealand's use of lockdowns during the pandemic).

Cabinet adopted the Alert Level System on 20 March 2020. The country moved to Alert Level 3 on 23 March 2020, followed 48 hours later by Alert Level 4. This marked the beginning of New Zealand's first national COVID-19 lockdown.

Decisions about moving up or down the alert levels, or adjusting the settings at each level, were made by Cabinet, taking particular account of advice from the Ministry of Health (as the lead agency in the state of national emergency) about the public health risk posed by COVID-19, as well as advice on specific non-health factors (such as the impact on the economy, society, and at-risk populations and operational issues). Sometimes Cabinet set the whole country at the same alert level; at other times, different regions were at different alert levels.

Once Cabinet made its decisions, a team of officials in Wellington was charged with developing operational policy. This typically happened at pace and with little or no time for broader engagement – including with those in the public and private sectors who would need to implement the relevant changes. Whenever alert levels changed or the settings at each level were adjusted, people on the ground had to find quick solutions for a raft of unanticipated operational challenges. Putting policy changes into practice become easier as people learned and adapted, but the speed and frequency of change remained a challenge.

2.4.4 Moving from elimination to 'minimisation and protection'

Just as it was difficult to identify exactly when the elimination strategy began, it is difficult to pinpoint exactly when it ended.

In August 2021, Aotearoa New Zealand recorded its first community-transmitted case of the new, and highly infectious, Delta variant. Unlike previous incursions, it was unclear if the resulting Delta outbreak could be brought under control. If not, the result would be established COVID-19 transmission and the end of the elimination phase of New Zealand's COVID-19 response. An immediate nationwide return to Alert Level 4 lockdown was announced. The Alert Level System was again successful for most of the country, and community transmission was prevented in most regions – apart from Auckland, where Delta took hold. While the rest of the country moved back down the alert levels after a few weeks, Auckland spent more than three months in Alert Level 3 or 4 lockdown in the second half of 2021, and case numbers there continued to grow. Outbreaks also took hold in Northland and Waikato, prompting regional lockdowns. (See Chapter 3 for more on the use of lockdowns in this period.)

By October 2021, Auckland had spent seven weeks in a lockdown that had initially been signalled to last for at least one week, and ministers and officials were aware that 'social licence' for compliance was beginning to erode.[59] On 4 October 2021, the Prime Minister noted in a press conference that New Zealand would 'move to a framework that reflects a more vaccinated population', thus transitioning away from the elimination strategy.[60] There had been no lead-in discussion prior to this press conference about when to move from elimination to either suppression or mitigation and the announcement was not prominent in the Prime Minister's remarks, though it was picked up and reported by the news media.[61] The Prime Minister did not clearly identify the strategic goal that would replace elimination, though her description of 'controlling the virus to the best of our ability' is consistent with a suppression strategy.[62]

Other sources support the inference that Aotearoa New Zealand started transitioning to a suppression strategy around this time, although there were no public communications on this transition. On 8 October 2021, the Strategic COVID-19 Public Health Advisory Group recommended the adoption of a 'minimisation and protection' strategy.[63] This advice took account of 'the wish to avoid lockdowns' while still 'minimis[ing] the occurrence of COVID-19 and protect[ing] people as far as possible from the adverse effects of this disease'. In practice, it involved a mixture of 'suppression' and 'mitigation' elements.

Officials had been preparing advice on a new 'COVID-19 Protection Framework' (also known as the 'traffic light' system) to replace the Alert Level System once population vaccination was sufficiently high. Cabinet had agreed to this approach in principle on 27 September 2021; it was confirmed on 18 October 2021[64] and subsequently aligned with the new 'minimise and protect' strategy.[65] The move to the new 'traffic light' system was announced on 22 October 2021 and took place on 2 December 2021.[66] Auckland and several other regions were set at 'Red', and the rest of the country at 'Orange'.[67]

The introduction of the 'traffic light' system and the associated transition away from the elimination strategy were somewhat contentious. The National Iwi Chairs Forum had wanted the transition to be delayed on the basis that more time was needed to ensure adequate vaccination among Māori. Despite significant efforts, vaccination levels continued to be substantially lower in Māori and Pacific communities[68] and were not projected to reach 90 percent across Auckland until mid-December 2021.[69] Similarly, a group of health and science experts convened by the Prime Minister's and Ministry of Health's Chief Science Advisors recommended that the shift to the 'traffic light' system should not take place until vaccine coverage was at least 90 percent, including for Māori.[70] This was also in line with advice from Health officials.

However, representatives of local government and the social sector in Auckland told us that alternative views were also being advanced. There was anger at the ongoing extension of the lockdowns, a belief that Wellington didn't understand what it was like on the ground in Auckland, and a loss of hope at the lack of an end date. Businesses in central Auckland were also calling for a plan and clearer communication on when the Auckland lockdown would end. These issues are discussed further in later chapters in this report.

Official documents from this period also illuminate the challenging situation in which the Government found itself. On one hand, there was clear recognition of 'eroding social licence' among the Auckland population 'who [have] endured a significant time at heightened Alert Levels'.[71] Advice highlights the ongoing and increasing challenges related to financial support and economic, social and wellbeing impacts. General fatigue amongst the public was increasing and willingness to comply with some public health measures was reportedly reducing.[72] On the other hand, officials were also acutely aware of the risks of removing restrictions while vaccination levels remained low in vulnerable population groups. The specific demographics of Auckland were relevant here, with recognition that South Auckland communities in particular 'feature[d] a younger age structure, lower rates of vaccination and [were] likely to be at greater risk of hospitalisation'.[73]

Confirmation that Aotearoa New Zealand was no longer pursuing elimination was hard for some people to adjust to. We heard about reluctance on the part of decision-makers to explicitly announce the end of the elimination strategy because of anticipated public fallout from the health impacts of COVID-19 becoming established. Similarly, the Community Panel cautioned that a move to the 'traffic light' system would 'create a lot of uncertainty and anxiety'.[74]

Spotlight:
Traffic Lights – the COVID-19 Protection Framework | Ngā Rama Ikiiki – te Anga Ārai KOWHEORI-19

The introduction of the COVID-19 Protection Framework was presented as supporting the new strategic goal of 'minimisation and protection'.[75]

The 'traffic light' system had only three levels (compared with the four alert levels) and used less stringent controls (see Figure 7). Significantly, it did not involve lockdowns or the closure of businesses and schools.[76] Another key change was greater freedom for those individuals who could demonstrate they had been vaccinated against COVID-19, although this (and the use of My Vaccine Pass) was removed in early April 2022. Capacity limits were also increased at this point.[76]

The 'traffic light' system was deliberately pitched at a more general level of detail than the Alert Level System on the basis that lead agencies would develop more comprehensive guidance for each sector.[75]

Figure 7: COVID-19 Protection Framework (summary)

Colour setting	Control measures
Green	• Mandatory record-keeping (for contact tracing) • Face coverings mandatory on flights • **With evidence of vaccination:** no gathering limits or mask mandates (except on flights) • **Without evidence of vaccination:** gathering limits of 100, mandatory face coverings and physical distancing in close contact settings
Orange	• Mandatory record-keeping (for contact tracing) • Face coverings mandatory on flights, public transport/taxis, retail, public venues • Physical distancing in public facilities and retail settings • **With evidence of vaccination:** no gathering limits • **Without evidence of vaccination:** gathering limits of 50 at private gatherings; not able to participate in close contact businesses, events or gyms
Red	• Mandatory record-keeping (for contact tracing) • Face coverings mandatory on flights, public transport/taxis, retail, public venues • Physical distancing in public facilities and retail settings • Gathering limit of 100 in public facilities • **With evidence of vaccination:** gathering limits of 100 and physical distancing in most settings outside the home (physical distancing but no specific capacity limit in tertiary education) • **Without evidence of vaccination:** gathering limits of 25 at private gatherings; not able to participate in close contact businesses, events or gyms (online participation only in tertiary education)

Source: Adapted from Department of the Prime Minister and Cabinet, 2021, COVID-19 Implementing the COVID-19 Protection Framework [CAB-21-MIN-0497], p 31, https://www.dpmc.govt.nz/sites/default/files/2023-01/COVID-19-Implementing-the-COVID-19-Protection-Framework.pdf

There were no specific criteria for moving between different traffic light levels, although Cabinet agreed that the following factors would be taken into account in decision-making:

- **Health factors:** vaccination rates, health system capacity, testing and contact tracing capacity, COVID-19 transmission.
- **Non-health factors:** effects on economy and society, impacts on at-risk populations, public attitudes, operational considerations.[77]

The COVID-19 Protection Framework ('traffic light' system) was widely viewed as less clear than the Alert Level System. An expert health group reviewing a draft version was 'near unanimous in its skepticism about this framework in its current form'.[78] (The group was particularly critical of the lack of Māori input or 'codesign' of the framework). Many of the group's recommendations were incorporated into the final version of the framework. Public survey data from late 2021 suggested that the introduction of the 'traffic light' system was associated with significant public confusion.[79] The Human Rights Commission noted that businesses and members of the public had found the 'traffic light' system difficult to understand and implement. The Chief Human Rights Commissioner was also concerned that the system's differential treatment of vaccinated and non-vaccinated people could undermine social cohesion and exacerbate intolerance, noting in March 2022 that 'the 'traffic light' system has caused a lot of distress to some people'.

The 'traffic light' system was retired on 12 September 2022, although related mask mandates remained in place for healthcare and aged care settings.[80]

2.4.5 Retiring the 'minimisation and protection' approach

The phrase 'minimisation and protection' was never widely adopted or understood by the public. Agencies, other stakeholders and submitters to the Inquiry were generally unclear about when the elimination strategy ended and what strategic goal replaced it.

According to the Ministry of Health, the minimisation and protection approach (officially the COVID-19 Protection Framework) was in place from December 2021 to September 2022.

In September 2022 Cabinet agreed to formally retire the minimisation and protection strategy and move to a 'long-term approach to managing COVID-19'.[81] The 'traffic light' system was formally discontinued at this time, signalling the end of Aotearoa New Zealand's COVID-19 pandemic response.

The phrase 'minimisation and protection' was never widely adopted or understood by the public.

2.5 What happened: public information and communication | I aha: ngā mōhiohio tūmatanui me te tuku whakamōhio

Clear, effective, and accurate public information and communication were crucial to Aotearoa New Zealand's experience of the COVID-19 pandemic and the effectiveness of the response. Here we discuss how critical information was conveyed to the public – largely a success story in the early stages, but with challenges as the response progressed over time.

2.5.1 Unite Against COVID-19

It was recognised early on that the success of the response broadly rested on whether the New Zealand public – the 'team of five million'[xiii] – would support the unprecedented health measures being introduced to help manage the threat from COVID-19. It was well understood by both ministers and officials that the quality of public communications would be a critical factor in the success of the response.

The new All-of-Government National Public Information Management Team established in March 2020 within the National Crisis Management Centre (see section 2.3.2) engaged an external agency, Clemenger BBDO, to support the development and delivery of the 'Unite Against COVID-19' campaign.

Launched on 18 March 2020, just five days after it was commissioned, the campaign was designed to be a rallying call to collective action. It aimed to get the whole country to identify as 'on the team' and to follow the 'game plan'.[82] Importantly, the 'Unite' concept also promoted social cohesion, which would be critical for a collective crisis response. The branding was deliberately designed with a focus on empathy, recognising a well-established principle of crisis communications that 'sustained compliance in a crisis relied on not overwhelming people and minimising the sense of hopelessness'.

The campaign's key messages were simple and actionable, and the fonts, colours, and design elements were chosen purposefully to be reassuring, and to avoid alarming or excessively medicalised messages (a striking contrast to the messaging in some jurisdictions, such as 'It's up to you how many people live or die', used in Oregon in the United States).[83] The simple design also knowingly made it easy for other agencies, and even community organisations, to produce their own tailored material aligned with the campaign.

xiii The precise origin of the 'team of five million' is unclear. On the first day of Alert Level 4 lockdown, 24 March 2020, the front page of the New Zealand Herald used the term 'Whānau of 5 million'. The Prime Minister and others began using the phrase 'Team of five million' soon afterwards.

The graphic below[84] (Figure 8) illustrates how these elements were incorporated into the final design.

Figure 8: Unite Against COVID-19 design

Source: Unite Against COVID-19, 2020

The Unite against COVID-19 public information campaign was quickly established as an effective brand achieving high levels of recognition.[85] It later received multiple awards for design and communication.

2.5.2 Digital channels

In addition to traditional channels such as press, television and radio, digital tools were launched. The www.covid19.govt.nz website was intended to be a key source of information for New Zealanders about the pandemic and the Government's response. The new website attracted more than 800,000 visitors within a few days of launch. It was seen as a trusted source of information, especially in the first year of the pandemic.

Social media was also a crucial plank of the communications response. Regular campaign updates were posted to official 'Unite Against COVID-19' accounts via Facebook, Twitter, Instagram and YouTube. In these public forums, thousands of questions received direct responses from the teams handling public information and communications. These comments were also used to identify any common themes that could then inform the key messages developed for the daily 1pm press briefings that became a key feature of the response.

2.5.3 The 1pm daily briefings

From early in the pandemic,[xiv] ministers and senior officials held daily 1pm briefings about case numbers, alert levels, and current settings. The Ministry of Health was responsible for the briefings, which were usually conducted by the Prime Minister and the Director-General of Health.[xv]

Journalists attending the 1pm briefings could ask questions of the speakers at the end of their prepared remarks. The briefings were also live-streamed by multiple media outlets and quickly became routine viewing for many New Zealanders. Stakeholders explained the rationale behind the briefings in the following terms:

> "The decision to concentrate the release of key information to one or two consistent times each day (updates were also provided at 6pm during key phases of the pandemic) was a deliberate decision to create a degree of certainty for people that is best practice in disaster response."

The success of the format saw 'the 1pm' become an important tool for conveying accurate information, mobilising community support for Government measures and generating public trust and confidence in the response. The daily briefings remain a memorable feature of the pandemic experience.

Not surprisingly, the former Director-General told the Inquiry that the 1pm briefings 'took up a large part of my day'. He felt this was appropriate given their importance as a communication tool that was proving very effective for establishing public trust, ensuring compliance with public health measures and ultimately stopping the spread of the disease.

Other ministers and senior officials sometimes presented the briefings, but the public came to expect to see the Prime Minister at the briefings; there would often be calls for her return if she missed one.

Former press secretaries told us that, in their view, the combination of the Prime Minister's corralling of public sentiment to promote unity with the Director-General's factual information made the 1pm briefings work as a public communications tool, with flow-on effects for the early success of the elimination strategy.

xiv The first briefing (although not yet a daily occurrence), was held on 27 January 2020, fronted by the Director-General of Health Dr Ashley Bloomfield, and Director of Public Health Dr Caroline McElnay. The first briefing fronted by the Prime Minister was on 14 March 2020.

xv This phenomenon – and the unprecedented exposure it attracted for the Prime Minister and Director- General – was not unique to New Zealand. A similar 'duo' approach, in which a senior politician and a senior official jointly fronted regular briefings, was used in other jurisdictions including Australia, Canada, the United Kingdom and the United States. The former Director-General told us he did not see the role he played in the briefings as unusual in this regard.

Daily briefings were the most praised aspect of the communications response in the public submissions to the Inquiry and were frequently characterised as informative and reassuring. Submitters often mentioned the former Director-General of Health Ashley Bloomfield and former Prime Minister Jacinda Ardern by name, praising their calm and collected communication style. Reinforcing the psychological advice that informed the briefings, submitters commended their regularity, both as a reliable source of information and for providing context to the pandemic as it evolved.

> "In my honest opinion, the thing that anchored us was the constant flow of updates. The lunchtime press conferences put us at the centre of a shared task of staying home and ending this as soon as possible – hearing from not just politicians, but experts in the public health sphere."

2.5.4 Reaching multiple communities

Key public health information was translated into a wide range of languages and formats to help different communities understand what was being asked of them during the response. For example, a physical copy of 'Our plan – the four Alert Levels; Your plan – for staying at home' was delivered to letterboxes nationwide. It was translated into 16 languages online, and a New Zealand Sign Language version was available. By mid-2022 Unite Against COVID-19 content was available in 27 languages[xvi] and five alternative formats.

Many community organisations worked to ensure the provision of accurate, timely information to their members. We heard that an 'alliance' of community organisations and ethnic community media outlets formed organically to 'collaborate to fill the gaps' through various activities – translating and sharing daily updates and critical information, actively dispelling misinformation, and identifying providers who could meet unmet needs.[86]

Many individuals and groups told the Inquiry that one of their key jobs during the response was to translate the 1pm briefing for their communities. What this involved varied according to need: it could include direct language translation, making the meaning of what was said culturally relevant and/or translating what it meant from a practical viewpoint. Some (particularly representatives of Pacific media) said that communities should have received information that was culturally appropriate and delivered by people who were significant in their own culture. Some public submitters described taking on this role in the pandemic:

> "I reached out to non-English speaking Chinese migrants in my community, setting up zoom meetings to teach them painting in order to help them with their isolation and ensure that they were adequately informed as they didn't seem to be getting sufficient information in Mandarin and Cantonese."

xvi These languages were: Te Reo Māori, Arabic, Chinese (Simplified), Chinese (Traditional), Cook Islands Māori, Farsi, Fijian, French, Gujarati, Hindi, Japanese, Kiribati, Korean, Niuean, Punjabi, Rotuman, Samoan, Somali, Spanish, Tagalog, Tamil, Thai, Tokelauan, Tongan, Tuvaluan, Urdu, Vietnamese. Alternative formats included: New Zealand Sign Language, easy read, large print, audio and braille. Video content with audio description was also available.

Sections 2.1–2.5 have described the evolution of the COVID-19 response strategies that the government pursued, and the governance arrangements, decision-making structures and communications tools used to develop and deliver them. We now turn to consider the utility and effectiveness of these elements of the all-of-government response.

2.6.1 Governance and decision-making: getting the model right

Finding the right structure for the all-of-government response to a rapidly-changing and highly unpredictable crisis like the COVID-19 pandemic was challenging. Throughout 2020, several governance and decision-making models were tried and replaced, or modified. While this showed commendable adaptability, as the Public Service Leadership Team noted, 'it took longer than desired to stand-up enduring arrangements that would enable a strong all-of-government response beyond the ODESC and lead agency model'.[87]

We heard from numerous stakeholders that, up until the end of June 2020, there was confusion about the roles and responsibilities of agencies, oversight groups, teams, and governance bodies. Coordination across agencies was lacking, and while the goal of elimination was clearly established by April 2020, the specifics of how it would be achieved and the role agencies would play were less clear. Without a prior plan for setting up an all-of-government response structure (and instead relying on rapid reviews to identify gaps and ways of improving a bespoke operating model), some core elements were missing – such as a separate function focused entirely on developing forward-looking, longer-term cross sector strategy (see section 2.6.1.1).

Our evidence does not point to any single reason why it took a while to settle on a clear all-of-government strategy, coordination and governance function to lead the response. There was a desire to avoid unnecessary structural change when people were fully engaged in fighting the pandemic, and a wish to ensure such change was deliberate and informed by independent advice (namely, the two rapid reviews in April 2020[88] and October 2020[89]). However, a compounding factor was also that alternatives to the lead agency model plus ODESC arrangement – if a crisis demanded a response that was well beyond the remit of a single agency – had not been considered or prepared for before COVID-19. We note that the United Kingdom COVID-19 Inquiry report on resilience and preparedness also came to similar conclusions. It found that the lead government department model for whole-system civil emergency preparedness and resilience was 'not appropriate'.[90] While the United Kingdom inquiry recommended the lead agency model be abolished, we do not agree with this in the Aotearoa New Zealand context. There are situations where the scale and nature of an emergency may be appropriate for a lead agency model. Rather, we support something more like the approach taken in the recently-revised Australia Government Crisis Management Framework: it retains the lead agency model but recognises that whole-of-government coordination is necessary when dealing with crises that have extreme to catastrophic impact or complexity.[91]

2.6.1.1 The need for a separate strategy function

Best practice in emergency management is to establish a separate strategy function in the early days of a crisis, thereby ensuring a focus on longer-term recovery that is separate from the day-to-day aspects of the response itself. The strategy function's role is to focus on the future (including playing out the current scenario, likely other scenarios, and the best response to these) and look towards an exit from the response or the establishment of a 'new normal'.

Despite attempts, a broader, integrated, long-term strategic planning approach never got underway satisfactorily during New Zealand's response to COVID-19. On paper the first bespoke structure put in place during the response (see Figure 4) included a 'strategy and policy' function. However, we heard that it was impossible for those involved to look more than a few weeks ahead, even though they wanted to do so, because the more immediate demands of the policy response understandably consumed their focus. This was reflected in the priorities of senior leaders, who were expected to concentrate on delivering the immediate response in the context of a changing environment and new emerging issues. Some senior ministers and officials that we spoke to were aware of this challenge, recalling their absorption in the operational details of the response and the struggle to find the time and space to look beyond these immediate priorities.

The early reviews of the all-of-government response also highlighted the absence of, and need for, a separate strategy function. The second rapid review,[92] in October 2020, recommended that the Department of the Prime Minister and Cabinet's COVID-19 Group develop a medium-term strategy and work programme for Cabinet's consideration. The strategy function was eventually given to the COVID-19 Group. But it did not have the mandate to look beyond the elimination strategy to what might come next: rather, it was limited to 'coordinat[ing] an integrated strategic agenda across government, based on the elimination strategy framework'.[93]

The creation of the Red Team within the Department of the Prime Minister and Cabinet was an attempt to create space for alternative thinking.[xvii] Charged with scrutinising and challenging the all-of-government response to the resurgence of COVID-19 in August 2020, it remained in place for four weeks. Senior officials who were there at the time told us that the Red Team struggled to fulfil this function due to a focus on operational concerns. Others suggested that the team might have made more of an impact if it had included more members from outside government. Regardless, there was agreement that a scrutiny mechanism is an important but tricky function to put in place. It needs to be both close enough to the response to understand the challenges, but not too involved to be captured or unable to maintain independence. In this instance, further work was needed to implement this function well, but it did not eventuate.

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xvii A 'critical friend' or red team function is a common part of strategic crisis response – bringing together a group of impartial and experienced experts, with access to data and information to enable impartial analysis to inform strategic decision-making. In this case, the team was initially set up for the purpose of an exercise of the COVID-19 testing and tracing system, but at the beginning of the August 2020 outbreak it provided a focused, accurate and dispassionate view of the initial situation. Further into the response, the scope of the Red Team's work was redefined – it was tasked with, and provided, evidence and questions to influence strategic and operational focus and priorities.

Other evidence we gathered (through interviews with senior officials, and examination of minutes of meetings and advice to ministers) also suggested that consistent strategic governance remained elusive throughout the response, despite the best efforts of ministers and officials. A range of different mechanisms were tried to provide this strategic oversight – the Quin, the National Response Leadership Team,[xviii] and finally the COVID-19 Chief Executives Board established in November 2020 – and met with some limited success. For example, the terms of reference of the COVID-19 Chief Executives Board included providing system leadership as New Zealand navigated the COVID-19 pandemic over the next two to three years.[94] However, meeting minutes show that the Board spent most of its time focusing on operational detail and coordination rather than system leadership.[95] Possible reasons suggested for this emphasis included the composition of the Board (many members were experienced in operational delivery), the Board's limited accountability, a focus on addressing the 1,000 plus recommendations from the many reviews related to the response, timing and commissioning. This is not to say that no one was 'doing strategy' across government. Indeed, officials told the Inquiry about strategic work they were involved in, and there is evidence in Cabinet papers that individual agencies gave advice with a broad focus that included consideration of what was coming next. However, this thinking was happening in discrete areas and was not always connected across agencies or sectors.

> **"No one was thinking about how we would get off the horse ..... everyone was on the dance floor and there was no one on the balcony, looking down at what was happening."**

The Inquiry heard from multiple sources (including ministers, senior officials, external advisors to Government and the public) that the response was ultimately affected by the lack of a protected space for long-term, integrated strategic planning. This gap was described in phrases such as 'no one was thinking about how we would get off the horse' and 'everyone was on the dance floor and there was no one on the balcony, looking down at what was happening'.

We also heard differing accounts from ministers and officials as to why there was a lack of connected advice on long-term strategy. Whatever the cause, our view is that the presence of a dedicated, centralised strategic function with appropriate capacity would have helped provide clarity in driving, and delivering, strategic advice and longer-term planning.

xviii Established in August 2020 the National Response Leadership Team was made up of the Chief Executive of Department of the Prime Minister and Cabinet, Chief Executive of National Emergency Management Agency, Deputy Chief Executive in charge of the Covid-19 Group, Secretary to the Treasury and the Commissioner of Police to provide all-of-government advice to Cabinet or Covid-19 Ministers, and also to provide non-health advice to the Director-General of Health (to inform his use of powers under the Covid-19 Public Health Response Act). See Cabinet Paper and Minute, Implementing a rapid response to COVID-19 cases in the community and refinements of COVID-19 Alert Level settings, CAB-20-MIN-0387, 10 August 2020, https://www.dpmc.govt.nz/sites/default/files/2023-01/SE11-Minute-and-Paper-Rapid-Response-and-Changes-to-COVID-19-Alert-Level-Settings-10-August-2020-.pdf

2.6.1.2 Coordinating advice to decision-makers and ensuring a range of perspectives

Among its other constraints, the lead agency plus ODESC model was not well suited for providing decision-makers with coordinated advice from different agencies. Even the all-of-government governance structure eventually adopted did not fully resolve the challenges of ensuring multiple perspectives were reflected in the advice provided.

Early on in the response, Cabinet appropriately recognised that while they were facing a public health emergency, that was not all: any actions they took to curb transmission and save lives would also have significant social and economic implications.[96] However, they recognised that these actions were also the best response in the initial stages – not only for public health reasons, but to minimise the economic and social costs. As the Minister of Finance, Grant Robertson, told Parliament on 17 March 2020: 'Our first response is a public health one. It is our fundamental duty. It is also the first and best economic response.'[97]

There were requirements for health and non-health factors (such as economic, social, impacts on population groups, operational) to be considered in response decision-making.[98] For example, the COVID-19 Public Health Response Act 2020 required consideration of whether COVID-19 orders were appropriate and proportionate.[99] Advice from other agencies (such as the Treasury or operational agencies) was included in papers to Cabinet, but we were told that the public health advice remained 'front and centre'. On the whole, over the period when the elimination strategy and its zero transmission goal were guiding the response, public health advice and the health risks associated with COVID-19 were the primary driver of decision-making.[100] In the context of a health pandemic, the centrality of health advice early on to ensure we avoided the health system being overwhelmed and rates of deaths as experienced in other jurisdictions, was appropriate.

A review by an independent advisory body in September 2020 identified that this focus presented problems over time:

> "Too often decision-making papers have gone to Cabinet with little or no real analysis of options and little evidence of input from outside health or even from different parts of the health Ministry or sector. While this may have been understandable in the first weeks of the response it should not be continuing eight months into an issue as we are currently facing." [101]

Over time, a wider range of advice was incorporated in Cabinet papers, including advice on the impact of options on specific population groups,[102] as well as more comprehensive advice on economic and social impacts and considerations. However, the range of advice remained variable. We heard from a senior Minister, Members of Parliament and senior officials that a focus on health perspectives continued throughout the response. For example, we were told that before and during the 2021 Delta outbreak, 'Cabinet papers were coming in as DPMC papers, but really were Health papers, and we were bolting on Treasury and social advice.'

Senior officials we met with said both process and cultural factors probably partly accounted for the emphasis on health considerations (over others) in the decision-making process. The Inquiry was consistently told by officials that key policies were developed by a small group of decision-makers and advisers, with little scope for broader input. We also heard that administrative processes also meant health advice was prioritised, particularly in the early days. For instance, the Ministry of Health provided its input to Cabinet papers last so that the information was as up-to-date as possible; however, this meant other agencies were unable to offer their own perspectives based on the latest information. While the situation improved over time, the timing and input to Cabinet advice remained a challenge for operational agencies – who were managing the complexities of implementing health orders at pace across very complex systems and sectors – throughout most of the response.

Other senior officials (both from all-of-government and from the Ministry of Health) talked about agency culture challenges, which likely prevented more holistic advice being developed and may have inhibited greater coordination between agencies. This challenge was also mentioned by some external commentators. Several stakeholders described the early stages of the response as being hampered by a lack of cultural alignment between officials from an 'emergency response' background and senior health officials, who struggled to align a 'command and control' framework with a complex and highly devolved health system. This was exacerbated by a common perception that health officials were reluctant to accept outside advice or input, or to share responsibility with other agencies.

To some extent, this was also a structural problem arising from the reliance on a health-led pandemic response to weigh up all the impacts decisions might have – especially when there were significant information gaps, including real-time data and situational reporting.

The range of advice available had consequences for decision-makers. One senior Minister told us that, without broader advice that took account of wider considerations beyond health objectives, they felt ill-equipped to make any decision not recommended by health experts. This is not to say that advice on the broader impacts was never given, but it was not consistent or prioritised.

One of the reasons this is problematic is that many of the decisions made during the response required significant trade-offs and compromises. This was problematic for several reasons. For one, they required Cabinet to weigh up the impact of a decision (on a matter such as regional lockdowns or vaccine exemptions) on health outcomes, on different population groups, on human rights and treaty obligations and on the economy, not to mention on the need to maintain ongoing social licence. Weighing up so many different impacts required robust advice from a range of agencies and perspectives. In our view, some decisions made in the COVID-19 response had unintended consequences that might have been prevented or mitigated had wider advice been given and acted upon (such as employer vaccine requirements and vaccine passports).

At a practical level, the Inquiry received evidence about many occasions where policy decisions with operational implications were made with limited advice from non-health agencies. As a result, significant implementation or enforcement challenges emerged – examples described elsewhere in the Looking Back chapters include the rapid imposition of regional boundaries, aspects of mask wearing and other personal protective equipment (PPE) requirements (such as requiring children in early childhood education to wear facemasks) and workplace distancing. When implementation or enforcement problems were encountered, it led to delays, rework and people on the ground having to come up with their own workarounds.

That the response's primary focus remained on COVID-19 health outcomes may also have contributed to the system's blind spot when it came to how the response would evolve over time (see previous section). It was certainly reflected in an ongoing tendency for decisions to be made on the basis of a 'zero risk' approach – in other words, always opting for the option with the lowest possible risk of COVID-19 transmission, even if the other costs of so doing might be high.

2.6.1.3 Maintaining quality control and consultation processes in a crisis and beyond

Early in the response, speed was paramount. Cabinet and ministers needed to make complex decisions and relied on officials to provide sound advice, at pace in an environment where information (about the COVID-19 virus and the response of the rest of the world) was changing hourly. Many innovative and adaptive techniques were used to enable this: ministers and senior officials alike told us how effective it was having the right people in the room around a whiteboard. However, the urgent circumstances meant some long-established practices – intended to ensure that advice to Cabinet is robust, high quality, considers a full range of options and has input from a range of perspectives or relevant stakeholders – had to be temporarily suspended.

As with other departures from usual practice during the pandemic, this was justified at the beginning of the response. But the balance should have then shifted back towards more normal practices – albeit recognising there would still be occasions where urgency was essential. However, the nature of the evolving pandemic meant that some aspects of good practice were not reestablished as the 'default' for a long time. For example, requirements for regulatory impact statements for COVID-19-related matters were not reestablished until early 2022. Likewise, the time to consult on changes to COVID-19 orders was often very limited.[xix]

xix Due to increasing transmission of the Omicron variant, there were 25 changes to key COVID–19 orders between January and April 2022 – equating to a regulatory proposal every 3–4 days on average (e.g. Air Border Order, Maritime Border Order, Isolation and Quarantine Order and the Required Testing Order).

Many standard government decision-making processes are designed to ensure an appropriately broad range of inputs are included in advice, so there are risks in retaining the 'emergency approach' for too long. A senior Minister and several senior officials told the Inquiry about the appealing sense of freedom and empowerment that came from having permission to move quickly and suspend normal processes. But while limiting consultation and engagement sped up decision-making, it also increased the risk of 'groupthink', a lack of critical review and full consideration of operational impacts.

The Inquiry heard of many areas where outcomes could have been improved (sometimes significantly) had broader perspectives been sought or considered: among them were the establishment of regional boundaries, the drafting of legislation and regulations, implementation of PPE requirements, and the vaccine rollout (all covered in more detail elsewhere in this report). However, the Inquiry also heard that despite reasonable periods set aside for consultation and engagement – for example, with regional groups to map regional boundaries as part of resurgence planning – decisions ultimately had to be implemented more quickly than anticipated.

We saw some evidence of efforts being made to bring in broader perspectives. Advisory groups were established to give ministers opportunities to engage with particular key stakeholders or seek specific expertise to inform decisions. They included the Business Advisory Council, the Strategic COVID-19 Public Health Advisory Group, and the Community Panel.[103] Likewise, some elements of good practice were retained throughout the pandemic response, including efforts to provide transparency in decision-making. Cabinet papers were routinely released[xx] and agencies were required to continue to meet all their normal obligations under the Official Information Act 1982.

2.6.1.4 Looking after the public service workforce

The Inquiry heard many stories about the efforts of individuals across the public service whose innovation and dedication enabled the delivery of New Zealand's response, often at great personal cost. This enormous effort has been well recognised – both nationally and internationally. Reviews of the initial phase reflected on the public service's role in building a strong foundation for New Zealand's COVID-19 response:

> "The nature of the challenge, its rapid and silent spread and the compressed timeframes within which officials and decision makers were required to operate is unprecedented in modern times..... The urgency, pressure, and timeframes within which people were operating was extraordinary. Overlaying that was an absence of a credible precedent to follow.....nothing of this scale globally and or domestically had been experienced." [104]

> "Many public servants worked extraordinary hours in extraordinary circumstances to help keep New Zealanders safe and to mitigate the pandemic's other impacts. Officials were resourceful and showed initiative. They faced a complex task, prolonged uncertainty, and constant pressure. The ability of public servants to work together under significant stress was, and continues to be, critical to the success of the response." [105]

xx Albeit with much of the Bill of Rights Act advice redacted. Normal practice is for Bill of Rights Act issues within Cabinet papers to be addressed by policy departments, and to be released along with the rest of the paper. However, during the pandemic, advice on Bill of Rights Act issues was often provided by Crown Law, and was thus routinely withheld on the grounds of legal privilege.

However, given the pace of change and the significant uncertainty officials had to deal with throughout the response, it was inevitable that workforce challenges also surfaced. For example, recruitment and retention to service the communications response was challenging. Chief executives of government agencies were reportedly sometimes reluctant to release staff to the central unit and there was no requirement for them to do so. Some other areas of the all-of-government response also struggled to access staff with the skillsets they needed. Others had staff cycle in and out for short periods of time – sometimes as little as six weeks.

We heard often about the immense and unrelenting pressure on many public servants. Working conditions were extremely challenging, requiring staff to operate on an 'emergency' footing for sustained periods. Burnout was common, and we heard from some who were part of the effort that they would not volunteer to repeat the experience.

2.6.2 Pandemic strategy: positive outcomes, challenging transitions

2.6.2.1 The success of the elimination strategy

From April 2020 until October 2021, Aotearoa New Zealand's COVID-19 response was guided by the strategic goal of elimination. During most of this period the pandemic response was widely viewed as coherent and effective, with a clear sense of the overall public health goal and the actions needed to support it. This clarity of purpose sustained the coordinated effort of the many individuals, whānau, iwi, non-governmental organisations (NGOs), councils, agencies and businesses that mobilised to protect the health of their communities. New Zealand was widely praised internationally for having one of the strongest responses to the COVID-19 pandemic.[106]

The initial Alert Level System was an innovative communication and policy tool that proved highly effective in supporting widespread compliance with public health restrictions. It was developed by a team of dedicated officials working at pace. The system drew on established infection control tools, but presented these in a simple and coherent way. It provided an effective means of communicating the risk level posed by the outbreak and the measures required under each level.

During this period, public health and social measures were employed with a clear focus on preventing and eliminating transmission of COVID-19 within the New Zealand population. Strict border controls and quarantine of incoming travellers were in place to prevent entry of the virus into New Zealand, and domestic infection control measures were organised into a settings-based approach via the Alert Level System and used to eliminate any chains of COVID-19 transmission that did make it past the border (although it struggled with Delta in Auckland).

This combination of border controls and domestic alert level settings was effective in achieving the strategic goal of elimination. Community transmission was eliminated on 8 June 2020, and more than 100 days followed with no new cases. Small outbreaks in Auckland in August 2020 and February and March 2021 prompted Cabinet to return Auckland to Alert Level 3 lockdown several times (see Chapter 3). These initial regional lockdowns were relatively brief, lasting between a few days and two weeks, and the package of measures (the regional lockdown, intensive contact-tracing, testing, isolation and other targeted public health measures) were successful in eliminating community transmission, allowing a return to relatively normal conditions (compared with the substantial disruption being experienced elsewhere in the world).

The successful deployment of public health and social measures in service of the elimination strategy involved the coordinated effort of thousands of people around the country. Working together, individuals, whānau, hapū, iwi, NGOs, councils, agencies and businesses deployed infection control measures such as locally-led checkpoints, developing their own protocols for gatherings, tangihanga and funerals, and running or supporting vaccination clinics. These groups and organisations also distributed significant resources, food, equipment and other essentials to support communities and households to enable people to remain safe in lockdown or isolation as required (see Chapters 3, 6 and 7 for more detail).

Many public submissions to the Inquiry expressed support for the elimination approach, associating it with positive health outcomes, lesser economic impacts, feelings of safety, limited disruptions to daily life and protection of the health system from being overwhelmed.

> “The elimination strategy worked and the country benefited from that in health outcomes as well as economically. NZ was able to carry on a normal life for 1.5 years thanks to that strategy while the rest of the world struggled, something too often forgotten now.”

Over time voices became less unanimous and there were growing calls to open Aotearoa New Zealand’s borders.[107]

2.6.2.2 The difficulties of moving on

At the beginning of the pandemic, the Government showed agility in its decision-making, adopting a strategy that was widely endorsed and contributed to good public health outcomes.[108] Through a combination of prompt and bold early decision-making, and some fortunate timing and circumstances, by early April 2020 a clear strategy was in place, and a combination of measures including border closures and the Alert Level System were deployed effectively to support it.

However, despite the opportunity to regroup after this initial success, there was limited integrated, strategic planning as the pandemic progressed. As discussed in section 2.6.1.1, the Inquiry considers that this is partly attributable to the lack of a separate strategy function within the all-of-government response structure. There was comprehensive, cross-agency strategic planning in discrete areas (such as looking to vaccine procurement, resurgence planning, or safe reopening of the border). But once the elimination strategy was established and demonstrated to be effective, other options (including what would replace the elimination goal) received less timely consideration than they could have.

Between April 2020 and September 2021, the implicit assumption appears to have been that the elimination strategy would remain in place until population-level immunity could be achieved through vaccination. This assumption is evident in two key documents from 2020. The COVID-19 Health and Disability System Response Plan (prepared by the Ministry of Health in April 2020) noted that elimination would be pursued 'until a vaccine becomes available to achieve population-level immunity'.[109] A December 2020 report to the Minister for COVID-19 Response noted that 'a vaccine will support a return to a new normal, [but] we need to continue our Elimination Strategy for the next six to twelve months'.[110] However, neither document covers what would be involved in phasing out the elimination strategy, or what public health goal might replace elimination once high levels of vaccination were achieved.

In the following year (2021), the elimination strategy increasingly came to be seen as an enduring goal, rather than a time-limited phase linked to achieving population-wide vaccination. A May 2021 update prepared by the Department of the Prime Minister and Cabinet considered how the COVID-19 response might be strengthened within the parameters of the existing elimination strategy. This report signalled that Aotearoa New Zealand would maintain its elimination strategy even once the border reopened, referring to 'continuing to refine our Elimination Strategy whilst starting to rebuild contact with the world'.[111]

Government announcements over this time (e.g. 'Reconnecting New Zealanders with the World') saw coexistence of selectively re-opened borders as consistent with an elimination strategy – supported by a vaccinated population.[112]

When the tools supporting the elimination strategy were struggling to eliminate Auckland's Delta outbreak starting August 2021, there was no 'Plan B' or threshold at which to move to suppression. While the Associate Minister of Health had sought advice from the Strategic COVID-19 Public Health Advisory Group[xxi] back in June 2021 on whether there was a need to revisit the elimination strategy as the country moved to a highly vaccinated population, she had been told that retaining the elimination strategy at that point in time was the best approach (but that the strategy should be regularly reviewed).

> "In our current view, the elimination strategy is still viable and, indeed, optimal as international travel resumes. It does not mean "Zero COVID", but it does mean stamping out clusters of COVID-19 as they occur. The strategy should be reviewed regularly." [113]

The 'breathing room' created by the successful elimination of community transmission between June 2020 to August 2021 was in our view not used to best effect. The opportunity was missed to review the ongoing optimisation, then exit, of the elimination strategy, consider adaptation for potential new virus scenarios and adequately prepare other response options for changes in circumstances (including the cumulative and shifting impacts across health, social, wellbeing and economic outcomes). Although discussions on future strategic options were being canvassed during mid-2021, ultimately there was no agreed strategic plan on moving out of elimination until after the end of the elimination strategy had been publicly announced in October 2021.

It is important to note the context at the time – Delta was still the dominant strain in October 2021, and the world had not yet learnt about Omicron, with its much higher transmission rates (and therefore probably impossible to manage with an elimination strategy). Despite this, the lack of well-integrated advice on, and an agreed plan for, a post-elimination strategy is surprising. This is especially so given that the elimination goal was originally envisaged as a means of protecting the population until high levels of vaccination could be achieved.

xxi The Strategic COVID-19 Public Health Advisory Group was responsible for providing independent advice and analysis to the responsible Minister and the COVID-19 Ministerial Group on epidemiological modelling and analyses in relation to COVID-19 vaccine rollouts and any changes to the approach to public health protections and border settings.

The Inquiry heard that the early and widely recognised success of the elimination strategy may have made decision-makers reluctant to move on from a 'zero risk [of viral transmission]' approach to COVID-19. A firm commitment to the elimination strategy combined with the centrality of health-focused advice and public pressure meant that, for much of the COVID-19 response, decision-makers were strongly occupied with how to minimise the risk of viral transmission. The Inquiry was told that this tendency to prioritise lowering risk of viral transmission to as close to zero as possible made it difficult for officials to present options based on a more nuanced risk assessment, or for decision-makers to consider whether this approach to balancing health benefits and wider social and economic costs continued to be appropriate.

> "The elimination strategy was a zero-risk strategy – I think this was good, but we didn't concede defeat early enough. Once it was clear we wouldn't get to zero [transmission in the Auckland Delta outbreak] we still tried to pursue something that looked like this. Should have pivoted sooner – i.e. we weren't going to get Auckland back to zero [cases]. – a senior Government minister."

The shift from elimination to suppression ('minimisation and protection') was a hugely challenging transition operationally. For example, where some future plans had been made – such as for a gradual re-opening of the border – they had been consistently positioned as taking place under an implicit scenario in which high vaccination could achieve something approaching herd immunity and it would be easy to keep stamping out small outbreaks. This was not the scenario that transpired.

The lack of integrated planning exacerbated operational challenges for agencies, businesses and communities. It also created confusion across government and the wider public on what the objectives of the new approach were, and their likely consequences. The lack of strategic clarity in the COVID-19 response at this time is well understood publicly and has been acknowledged by many involved. Honourable Chris Hipkins, who was the Minister for COVID-19 Response in late 2021, spoke frankly about this with us:

> "There was no bump free pathway to get from elimination to life as normal – there was always going to be disruption on the way... We needed to have a group of people more removed and planning for the next steps – we had everyone focused on 'right now'. We really needed to think beyond the horizon – we didn't nail that."

We heard similar comments from other senior ministers, and several have expressed such sentiments publicly, including Hon Chris Hipkins.[114]

This understanding was also reflected in the submissions we received. While numerous submitters expressed strong support for the elimination strategy as deployed early in the pandemic, many comments indicated a view that elimination became less viable as time went on.

> **"It seems in hindsight that the last Auckland lockdown was too long. People were pushed too far and became resentful and critical and soon forgot what had been avoided."**
>
> Public submission to the Inquiry

> "During the pandemic I felt that the government did the right thing by immediately closing the borders and putting us in lockdown. However, as time went on and other countries took different approaches to travel and movement, I felt NZ was very blinkered."

People affected by the long lockdowns in Auckland in 2021 were particularly critical of the way the Government held on to the elimination goal without articulating an alternative.

There was also criticism of how quickly the approach changed once the elimination strategy was abandoned, leaving many – especially those with disabilities, chronic health conditions, and compromised immune systems – feeling vulnerable. This was exacerbated by the lack of signalling that New Zealand would need to phase out of the elimination strategy and consider how to live with COVID-19 in the community. It was not well understood or communicated that an elimination strategy was always going to be time-limited, and that high levels of infection might be an unavoidable part of the exit.

> "As someone with a disabled wife, I felt severely neglected by the government when they chose to drop the elimination approach to COVID-19 without developing the proper infrastructure that would allow for us and the other disabled people we know to continue to participate in society at all."

These challenges were by no means unique to Aotearoa New Zealand. Reviews of the COVID-19 response in other countries have highlighted similar challenges in trying to undertake long-term thinking and planning alongside the immediate pressures of responding to a national crisis. A review of the COVID-19 response in the Netherlands highlighted how difficult it was for the government to consider the 'bigger picture' and the possibility of a shift in approach given the demands of having to respond to a continually evolving situation while under intense political scrutiny regarding operational aspects of the pandemic response.[115] An independent review of Australia's response to COVID-19 noted that – despite their early success in responding to COVID-19 – governments (state and federal) were often slow to adapt to changing circumstances.[116]

2.6.3 Public communications

Communications and information are an essential lever of government in a crisis, particularly when the situation is novel or uncertain and where the public risks serious illness or loss of life, as was the case with the pandemic. The need for direct, clear and reassuring public communications was well-understood by those involved as a critical element of the pandemic response and was considered fundamental to the success achieved.

Public submissions to the Inquiry reinforced the value placed on good communication and clear information during an emergency and many endorsed the approach to public communications during the pandemic. Some submitters particularly noted the positive impact on social cohesion of the empathetic approach to public messages.

> "The 'be kind' [message] and caring for the vulnerable rather than just business as usual was vital, with unexpected benefits of time spent getting to know neighbours and wider community better."

During the elimination phase of the pandemic, public communications were highly effective at setting out what actions and behaviours were required by the public to help limit the spread of the disease, and in doing so appealing to collective values and harnessing the energy of individuals, households, whānau and communities behind the response. There was a tangible sense of solidarity among many communities during the first lockdown, and a high degree of compliance with its conditions.

Aspects of Aotearoa New Zealand's approach were emulated by other jurisdictions, such as the United Kingdom's adoption of an alert level system similar to New Zealand's in May 2020. New Zealand's 'empathetic communication' during the pandemic and the Prime Minister's high degree of public engagement were highlighted as an example of best practice by the OECD in 2021.[117] Public submissions to our Inquiry reinforced the value placed on good communication and clear information during an emergency and many endorsed the approach to public communications during the pandemic.

> "Communication about what we needed to do, and why, was very clear and easy to follow."

2.6.3.1 Establishing an all-of-government public communications function

The COVID-19 pandemic was an 'everything, everywhere, all at once' crisis requiring critical, accurate public information and communication on a wide range of topics and to a wide range of audiences at a previously uncontemplated scale. In this context, stakeholders agreed that it was appropriate for the provision of public information to be an all-of-government function led out of the National Crisis Management Centre (and subsequently the COVID-19 Group in Department of the Prime Minister and Cabinet from July 2020), rather than by the lead agency.

Officials from the Ministry of Health told us that the newly devised structure served the early stages of the response well. It was seen as critical to ensuring that public information could be delivered at the scale and level of service required, and the physical location of the new team in the National Crisis Management Centre enabled close collaboration with those leading different parts of the response. The Department of the Prime Minister and Cabinet told us that the value of the centralised COVID-19 public information function cannot be overstated and they saw it as an essential part of the overall success of the COVID-19 response.

There were teething problems with establishing a new communications function in the early stages of the pandemic. There was some initial confusion over the split of roles and responsibilities between the new all-of-government team and the Ministry of Health's existing communications teams. Most of these were worked through relatively quickly with support from staff within the Prime Minister's Office.

However, the fact that the All-of-Government Public Information Management Team did not have specific responsibility for community engagement[xxii] became an issue as the response moved beyond the early days of the pandemic.[118] From March to May of 2020, public messages and channels had to be developed and deployed quickly in order to keep up with the constantly changing nature of the pandemic. There was limited opportunity for widespread community engagement. Efforts were made to ensure messages reached more diverse audiences such as work undertaken with Niche Media[xxiii] and, as the pandemic developed, other steps were taken to improve community engagement, including development of tailored resources, messaging and content for a range of audiences. However, it took too long to establish meaningful engagement with a wide range of communities, particularly with iwi and Māori. As a result, important public information was not always reaching everyone who needed it.

In their engagements with us, members of the all-of-government team recognised that they did not have the capacity to build the partnerships they needed for this aspect of the response, and acknowledged that it was a difficult time to engage with communities because the communities were busy responding to the challenges posed by the pandemic, including keeping their own people safe.

2.6.3.2 Increasing complexity and changing public sentiment

Public communications and messages early in the pandemic response were reasonably straightforward, and were able to be framed positively. This reflected the highly focused nature of the response at the time – while lockdown measures were drastic, the message that needed to be conveyed to the public was simple and easy to follow: 'stay home, save lives'.

xxii A Noting Paper sent to Cabinet establishes the new communications function, setting out its remit but it does not accord any formal responsibility for community engagement to the newly established 'National Public Information Management Team'. Instead, it sets this out as the responsibility of individual agencies who should be carrying out this work with their own stakeholder groups.

xxiii Niche Media are an agency specialising in ethnic communications and multi-cultural marketing, and were contracted to provide cultural advice to the communications team, and helped get messages into communities, deploying advertising with iwi radio stations and also Pacific radio stations during March–April 2020.

However, as time passed, government objectives shifted to gradually allowing people to resume 'normal' activity, with a range of restrictions and caveats to protect public health. This involved a raft of new policy settings that changed frequently and were more complex than the relatively blunt tools of the early lockdowns. The all-of-government communications team often had limited time to prepare to implement decisions that required rapid and clear public information.

As the pandemic wore on, people's attitudes to the Government's messages and policies also changed, and public messaging needed to evolve in response. Social research was used to understand and track this change in sentiment.

The empathetic messaging that was a strong feature of the Unite Against COVID-19 campaign and early communications response came to be seen by some people as condescending. Phrases such as 'team of five million' and 'be kind' were criticised by some public submitters to our Inquiry as patronising or even hypocritical when aspects of the response, such as long lockdowns in Auckland or the introduction of vaccine mandates, felt 'unkind' to some citizens. New Zealanders overseas also found the phrase grating and exclusive:

> "I would echo this; the us and them division came from the top (team of 5 million vs. the "risks" overseas). The lottery made people feel like a number not a person. The amount of abuse I received was very entrenched in New Zealand (e.g. "you left this country, you don't deserve to come back")."

The time pressure and the nature of the single daily briefing also created challenges for members of the press. The briefings were a key opportunity for journalists to ask questions of the people in charge of the response. During lockdowns, attendance was limited, and only Wellington-based reporters could attend, so members of the Parliamentary press gallery often had long lists of questions on behalf of colleagues as well as themselves. The short timeframes, limited presenters and the livestream also created a difficult environment for journalists to ask questions that were technical or nuanced in nature.

It was previously unheard of for government press conferences to generate such high public viewership, and on occasion, individual journalists were subjected to public anger or criticism in response to their questions, sometimes because they were perceived to be too critical of decision-makers, and sometimes the opposite.

The combination of reasonably dispassionate health advice with a 'political message of unity' that senior press secretaries told us made the daily 1pm briefings successful may also have come to undermine their effectiveness. Some public submitters felt that having the Prime Minister and Director-General present the briefings together unduly politicised the information. This was commented on as particularly pertinent in the lead up to the 2020 General Election.

> "Don't grandstand on TV daily etc and make it all about the Government. It should be all about the recommendations of an expert apolitical medical panel."

2.6.4 Diverse communications for diverse audiences?

The lack of ethnic diversity amongst the key spokespeople at the 1pm podium was seen as problematic for some communities we spoke with. Failing to reflect the diversity of New Zealand's demographics became an issue for communities, and in turn whether or not they felt included in 'the team of five million'.

Some mitigations were put in place over time to communicate more directly with these audiences, but the one-size-fits-all response did not adequately address the needs of Aotearoa New Zealand's diverse population. Many Māori and Pacific communities wanted to see their own leaders on the podium and felt this would have helped their communities to feel more engaged, which in turn would have had a positive impact on compliance, especially as the pandemic wore on and many people, particularly Aucklanders, grew tired of the focus on COVID-19.

There were also issues with the quality, speed and cultural appropriateness of some translated content, and producing it at high speed was particularly challenging. Government communications officials acknowledged this in our direct engagements, calling it a 'pain point'.

Expected turnaround times for translated material were extremely tight; often translations were required for changes that had already been announced publicly. Sometimes the information was superseded by the time the translated material was ready. This was no fault of the often small, community-based, and sometimes volunteer organisations who were asked to produce this material. One stakeholder, whose organisation translated many government communications into accessible formats for disabled people, told us:

> "My team were working all hours of day and night. We couldn't have done anything more or differently because of the changing information and how quickly it was evolving."

Despite these considerable efforts by many, we heard from some stakeholders that the constantly changing requirements and messages were hard to keep up with. For some communities this was exacerbated by a lack of timely, accessible information resulting in 'information voids' that were filled by other sources, such as word of mouth from trusted family members or unofficial online sources. In some cases, this led to people relying on inaccurate information or risked their exposure to misinformation and/or disinformation.

Spotlight:
The rise of misinformation and disinformation | Te ara haere mai o ngā mōhiohio parau me te horihori

Misinformation and disinformation related to COVID-19 and the Government's response became an increasing challenge as the pandemic wore on.

Experts told us that conditions were ripe for the spread of misinformation and disinformation going into the pandemic and that during the pandemic there was a marked increase in the volume, diversity of topics and tenor (particularly the severity of language) of disinformation circulating on topics related to COVID-19. In a study commissioned by the Classification Office during the pandemic, the majority of participants (65 percent) believed groups or organisations were intentionally spreading false or misleading information about COVID-19, and three-quarters believed false information about COVID-19 was an urgent and serious threat to New Zealand society.[119]

Disaffection over the introduction of vaccine mandates (and to some extent, other pandemic measures), combined with the increasing circulation of false and misleading information about the pandemic and response, from both domestic and international sources, culminated in the dramatic occupation of Parliament grounds by protesters early in 2022, perhaps the most visible expression of the pandemic's impact on social cohesion and trust. The Chief Human Rights Commissioner viewed the decision by senior ministers and officials not to engage directly with the protestors as detrimental. Meanwhile, from the second half of 2021 at least, some senior ministers were aware of the pandemic's increasing impact on 'social licence', especially the use of extended lockdowns in Auckland, but did not feel that there were viable alternatives at that time.

The characterisation of the Government as the 'single source of truth' also came to be seen by some as unhelpful. Early in the pandemic, the Prime Minister had used the phrase 'single source of truth' to emphasise that the information being conveyed from the government could be relied upon by the public, in response to a question about COVID-19-related misinformation:

> "I want to send a clear message to the New Zealand public. We will share with you the most up-to-date information daily. You can trust us as a source of that information. You can also trust the director-general of health and the Ministry of Health for their information. Do feel free to visit it anytime to clarify any rumour you may hear. COVID19.govt.nz. Otherwise, dismiss anything else. We will continue to be your single source of truth. We will provide information frequently. We will share everything we can. Take everything else you see with a grain of salt." [120]

These comments were an attempt to tackle misinformation and disinformation by encouraging people to access evidence-based material available on the government website. However, the phrase was frequently quoted in submissions as something that contributed to a sense of mistrust.

> "At the beginning of Covid I was very much on board with the lockdowns, but as the mandates started rolling out, followed by the vaccine pass system, and the subsequent divisions and fractures within and amongst families and people, becoming visible, and this, alongside the silencing of highly experienced voices that thought differently to the 'one narrative for all' and the 'single source of truth,' I no longer believed the government was handling Covid in a way that was not harmful."

The damage to social cohesion and spread of misinformation and disinformation during the pandemic impacted the effectiveness of the public health response over time.[121]

Many stakeholders have commented that the breakdown of social cohesion that occurred during this pandemic, particularly the rapid spread of misinformation and disinformation, loss of social licence for the long lockdowns in Auckland, and fractures that developed within and between communities over the mandates, will shape how the population is likely to respond to public health responses like lockdowns and vaccine requirements in any future pandemics. People told us about:

- Impacts of misinformation and disinformation including increased vaccine hesitancy, mistrust of experts and impacts on academic freedom, harm to targeted individuals and mistrust of government.
- Breakdown of personal, family/whānau, community and employment relationships over vaccine mandates and vaccination status.
- Increased public anxiety, antisocial behaviour, stress and violence.
- Anger at long lockdowns and restrictions, especially in Auckland, including a strong sense from Aucklanders that 'Wellington' did not understand what they had been through.
- A sense that people would be very unwilling to comply with lockdown and vaccine requirements in a future pandemic.

The evidence from experts on some of these matters is mixed. We heard a range of opinions from researchers of misinformation and disinformation for example, who, while agreeing that disinformation had been a significant challenge and that the pandemic had exacerbated it, differed on the extent to which it presented an ongoing risk and challenge to trust and social cohesion. Some thought we had largely reverted to pre-pandemic trust levels, while others were more concerned that trust levels would continue to decline.[xxiv] All agreed that those who are already marginalised and with low trust in government (including Māori) are most susceptible to disinformation, and that fostering and maintaining trust and social cohesion is key to countering its impacts. Reports by multiple government agencies support a continued focus on the risk of misinformation and disinformation.[122]

Looking to the future, the Ombudsman suggested that increased transparency and oversight by independent integrity bodies may help take some of the 'sting' out of public disaffection at times of emergency powers in future.

xxiv Data from the 2023 General Social Survey found that trust held by New Zealanders in institutions like the health system, education system, Parliament, media, police and courts has declined since 2021, according to wellbeing statistics released by Stats NZ.

1. Pockets of pandemic preparedness existed at the start of 2020 which helped the initial response. However, all-of-government readiness proved insufficient for an event of the scale, impact and duration of the COVID-19 pandemic.

- Before COVID-19, a range of existing systems, legislation, plans, structures and capabilities were available to support the response. However, many turned out to be insufficient for a pandemic on the scale of COVID-19, which required a prolonged response and had widespread and complex national impacts. Many other countries found themselves in a similar position.
- The New Zealand Influenza Pandemic Plan, last updated in 2017, provided much useful support to the health response in the initial weeks. But, as often happens with plans, it was soon overtaken by events – in this case by factors specific to COVID-19 and the development of the elimination strategy.
- While the pre-pandemic system of risk management was useful in identifying national risks – including pandemics – there was scope for stronger oversight and accountability mechanisms to ensure those risks were adequately prepared for across government.
- As happened in other countries such as Australia and the United Kingdom, Aotearoa New Zealand found the response to the COVID-19 pandemic required more integrated all-of-government coordination than the lead agency model was able to deliver. Governance changes were quickly made to recognise this, although the Inquiry was told that this took longer than desirable. Having an all-of-government model ready to go would have avoided having to develop such a structure during the busy initial response.

2. Government made hard decisions quickly under pressure but, over time, some shortcomings emerged which were not adequately addressed.

- The all-of-government structures set up in the early stages of the COVID-19 response had a clear focus on elimination. They supported the rapid delivery of this strategy which formed the basis of New Zealand's response. Unfortunately, a separate long-term strategy function – that could sit above the fray of the day-to-day response, allow future scenarios to be considered, and deliver integrated long-term planning supporting a smooth transition across later stages of the pandemic – did not evolve.
- In the early stages of the pandemic response, it was appropriate for decisions to be made quickly with a particular focus on technical public health advice. However, over time, the process by which advice was provided (in order to incorporate the most up-to-date health information) meant fewer opportunities for non-health matters to be considered. Opportunities to consider proportionality across health, social and economic objectives were also limited.
- The emergency nature of the pandemic meant some standard policy practices were (appropriately) suspended during the early stages of the response. This included adequate opportunities for stakeholder and agency consultation, and transparent and thorough assessment of regulatory impacts. It took longer than desirable to adequately re-establish all aspects of standard policy practice.

3. Enormous efforts by public servants (supported by individuals from across communities, iwi, academia and the private sector) and the flexibility and adaptability of New Zealand's public service enabled the rapid setup and delivery of an effective response to COVID-19.

4. Aotearoa New Zealand's elimination strategy, and the use of public health and social measures to support it, were highly effective at stamping out pre-Delta chains of transmission when they arose and giving the country long periods without transmission.

- The initial Alert Level System was a world-leading and innovative communication and policy tool that proved highly effective in supporting widespread compliance with public health restrictions.
- The success of the elimination strategy relied on the coordinated effort of thousands of people around the country who supported the deployment of public health and social measures.

5. However, a determined focus to keep pursuing an elimination strategy, and a lack of strategic planning for the longer term, affected the Government's ability to prepare for and respond to new developments and shift direction soon enough.

- Once the elimination strategy was established and demonstrated to be effective, its success resulted in less emphasis on all-of-government, long-term, strategic planning – work that could test options and scenarios on how and when to adjust or move beyond elimination, what would replace the elimination goal, and that could integrate health and social, economic and wellbeing goals.
- This reduced focus on evolving the long-term, strategic focus to guide forward direction added pressure to how the Government navigated the complexities and impacts arising from new events (such as the emergence of new variants), adapting tactics (such as moving from PCR to rapid antigen testing, removing vaccine mandates), and moving beyond, and ultimately exiting elimination (for example, the shift to caring for those with COVID-19 in the community).

6. In the early stages of the pandemic, the public communications response was highly effective and contributed to the success of the elimination response. But communications became more challenging as the pandemic wore on.

- Government messaging was initially very effective, but it became more challenging to convey messages as new settings were announced and government objectives shifted.
- Greater engagement with communities during the response could have improved the effectiveness of communications by ensuring individuals, families and communities better understood how to comply with Government directives.
- The transition out of the elimination strategy was not well signalled or communicated ahead of time. This had an unsettling impact on people, which was compounded by a rise of misinformation and disinformation (both about the virus itself and the Government response).

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CHAPTER 3:

3 Lockdowns | Ngā noho rāhui

3.1 Introduction | Kupu whakataki

The decision to use lockdowns in Aotearoa New Zealand was informed by experience in other countries – both positive and negative.

The first reported case of COVID-19 in Aotearoa New Zealand was detected on 28 February 2020, more than two months after the virus was identified in China, and a week or so after small clusters were identified in Europe and the United States. This delay – attributable partly to geographic isolation, and partly to good luck – meant Aotearoa New Zealand had an important opportunity to assess what was happening in other countries before taking action.[1]

In particular, once COVID-19 started to spread significantly in other countries, decision-makers were able to compare the experience of Italy and parts of the United States (where rapid community transmission had already overwhelmed hospitals and caused many deaths) with that of China, Taiwan and Singapore (where authorities had adopted strong restrictions which somewhat contained the virus).[2] On that basis, Cabinet made an informed decision to adopt 'aggressive and effective containment measures' such as closing the border.[3] As part of this approach, Aotearoa New Zealand, like much of the world, went into 'lockdown' in late March 2020.[i] However the rationale for New Zealand's lockdown – to break chains of transmission – soon diverged from the rationale in most other parts of the world, where lockdowns were used to keep transmission down to an 'acceptable' level.[4] This usually meant a level that did not overwhelm health services.

As the need for such a tool had never been anticipated or prepared for, Aotearoa New Zealand had no apparatus in place for an all-of-society lockdown ahead of the COVID-19 pandemic. The whole public sector – including those working in both frontline and public health roles – was operating without a playbook, as indeed was everyone in Aotearoa New Zealand.

i 'Lockdown' was not an official legal term but was used by Prime Minister Jacinda Ardern in a press release announcing the first lockdown (see endnote 4 for details). It emerged in global use early in the COVID-19 pandemic to describe combinations of public health measures that heavily curtailed people's movement in the interests of stopping the virus. Levels 3 and 4 of New Zealand's Alert Level System can be understood as 'soft' and 'hard' lockdowns, respectively, because they required people to stay at home, closed schools and businesses, and involved heavy restrictions on public gatherings. We use 'lockdown' to describe these aspects of the response, since they were a defining part of the pandemic experience, and most people remember and refer to them this way.

Two key Cabinet papers from this period drew expressly on international comparisons.

The first (recommending the adoption of the Alert Level System) states:

> 'New Zealand has a stark choice. Iran and Italy show dramatically what happens when action is taken too late. Their health systems are overwhelmed which is leading to alarming case fatality rates. The UK appears to be following Italy's trajectory with a two-week lag. The UK only began responding with significant public health measures after the exponential growth in cases occurred. Following the UK may be Australia in 8–10 days. Without further action, New Zealand may follow the path of Australia, where community transmission is occurring in New South Wales. New Zealand needs to act decisively to increase containment measures if we want to stay on the trajectories of Singapore and Taiwan, notwithstanding cultural differences. As an island nation this is feasible.'

The second Cabinet paper (recommending the move to Alert Levels 3 and 4) states:

> 'COVID-19 is rapidly spreading around the world, particularly in Europe and the United States. To date, East Asian countries and territories have been most effective at containing COVID-19 through aggressive and effective containment measures. New Zealand needs to take similar, and urgent, action if we are to avoid exponential growth rates.'

See endnotes 2–3 for details of these documents.

What's in this chapter

We begin by describing the use of lockdowns in Aotearoa New Zealand and their effects – not only on COVID-19 transmission and cases, but on daily life, access to essential goods and services, work, schools (and other places of learning), employment and more. We also describe how agencies and communities everywhere stepped up to mitigate the worst impacts of the lockdowns, especially on those who were most vulnerable. We examine the lockdowns in three distinct stages.

- **Section 3.2.1** describes **the first national lockdown** (Alert Levels 3 and 4) which occurred **between March and May 2020** and lasted seven weeks.
- **Section 3.2.2** addresses the **series of brief Level 3 lockdowns in Auckland during late 2020 and early 2021**, each lasting from a few days to a few weeks.
- The **return to Alert Levels 3 and 4 in the second half of 2021** lasted three weeks for most of the country, but stretched on for **several months in Auckland**, with shorter regional lockdowns for Northland and Waikato; this period of lockdowns is described in **section 3.2.3**.

In **section 3.3**, we set out our assessment. We consider not only what lockdowns achieved as a public health measure, but also their impacts – short-term and more lasting – on people, communities, the economy, education and more. Overall, we find that lockdowns were successful for the immediate task at hand. But Aotearoa New Zealand might have been less reliant on lockdowns to achieve elimination had the country benefited from earlier and greater investment in public health capacity. The success of the elimination strategy meant people in Aotearoa New Zealand spent less time living under stringent public health and social restrictions than populations in many other countries. At the same time, many people felt that lockdowns were kept in place for too long, particularly the final lockdown (focused on Auckland) of 2021.

3.2.1 The first national lockdown, March–May 2020

Aotearoa New Zealand spent seven weeks in Alert Level 3 and 4 lockdown between March and May 2020. The need for lockdown-like conditions was anticipated when Prime Minister Jacinda Ardern announced the Alert Level System on 21 March 2020, and from there things moved quickly. On 23 March 2020,[5] the number of confirmed cases in New Zealand passed 100,[6] and the Prime Minister announced that the country had moved to Alert Level 3, to be followed by Alert Level 4 in 48 hours.[7] From this point, New Zealand was in 'lockdown'.

This decision was informed by concurrent international experience (observing what was happening in countries that had acted swiftly or less boldly) and Ministry of Health officials' assessment that it was highly likely community transmission was occurring in Aotearoa New Zealand. In making this decision, Cabinet considered the many potential implications of the restrictions, including wide-ranging economic impacts (and proposed mitigations), te Tiriti o Waitangi considerations, and the very significant social implications, especially for people who might be disproportionately impacted (including Māori, Pacific communities and older people).[8]

At Alert Level 4, everyone was instructed to stay at home in their household 'bubble' other than for essential personal movement. Gatherings were cancelled and public venues were closed, as were all businesses other than those recognised as essential services like supermarkets, pharmacies, healthcare clinics, petrol stations, and lifeline utilities. Educational facilities were all closed for in-person learning. 'Safe' recreational activity (walking, running, and cycling – but not swimming) was allowed in people's local area, but any travel was severely limited, as were activities where there could be a higher risk of injury. Public facilities, including playgrounds, were closed. Aotearoa New Zealand remained at Alert Level 4 for almost five weeks.

> **"If community transmission takes off in New Zealand the number of cases will double every five days. If that happens unchecked, our health system will be inundated, and thousands of New Zealanders will die … Moving to Level 3, then 4, will place the most significant restrictions on our people in modern history but they are a necessary sacrifice to save lives."**[9]
>
> Right Honourable Jacinda Ardern, 23 March 2020

3.2.1.1 Case numbers fell, enabling Aotearoa New Zealand to move down alert levels

For the first two weeks of the initial 2020 lockdown, case numbers continued to grow, and some people became very unwell from COVID-19. The first COVID-19-related death in Aotearoa New Zealand was recorded on 29 March 2020, a few days after the country entered Alert Level 4 or a 'hard' lockdown.[10] By 5 April 2020, the total number of recorded cases was 1,000.[11]

However, from that peak, case numbers began to fall. This success is not attributable to the lockdown alone, but to the combination of measures that were being deployed in pursuit of the elimination strategy (namely, the evolving international border restrictions and increasing contact tracing and isolation of people infected with COVID-19). Undoubtedly, though, given the context and other available options, lockdown conditions were a key component in the success in eliminating transmission of the virus in Aotearoa New Zealand (for a more detailed discussion of the epidemiology, see Appendix B).

In the last week of April 2020, the whole country moved down to Alert Level 3 – a 'softer' version of lockdown, with less stringent conditions than Alert Level 4. Cabinet had previously agreed to specific factors that would guide decisions on moving between alert levels, a recognition of the difficult balancing of interests such decisions would demand. They would take account of health considerations (level of community transmission, testing and tracing capacity, adherence to border and managed isolation and quarantine (MIQ) measures, and health system capacity), social and economic factors, public attitudes and adherence, and ability to operationalise measures.[12]

The decision to move to Alert Level 3 was informed by the growing social, economic, fiscal and non-COVID-19 health costs of Alert Level 4 restrictions and the Director-General of Health's advice that undetected community transmission was unlikely, that there was sufficient testing capacity and capability, strong processes for managing outbreaks in high-risk settings, robust border measures, and sufficient health system capacity.[13]

At Alert Level 3, people were still instructed to stay at home other than for essential personal movement but were allowed to expand their immediate bubble to connect with close family/whānau, bring in caregivers, or support isolated people (though this extended bubble had to remain exclusive). Schools (up to Year 10), kura and early learning centres re-opened but attendance was voluntary. Businesses were able to re-open, but only if they could operate without physical contact with customers. Workers who could operate from home were required to do so. Gatherings of up to 10 people were allowed, but only for weddings, funerals and tangihanga.[14]

Case numbers continued to fall, supported by the public's high compliance with restrictions and the progress made in scaling up key public health systems (including testing, contact tracing and isolation). The first lockdown ended on 13 May 2020 when the whole country moved to Alert Level 2. (See Appendix B for a more detailed account of case numbers, hospitalisations and deaths at different stages of the response).

3.2.1.2 Most people complied with the first lockdown, there was a strong sense of solidarity, and agencies took a light-touch approach to enforcement

Despite the general uncertainty and lack of preparedness, high public compliance with the strict lockdown settings maximised the chances of rapidly stopping community transmission of COVID-19. People, systems and communities rose to the occasion, and many examples of innovation, collaboration and resilience helped to enable compliance with these challenging measures.

Social cohesion and trust in government stood out as a key enabler of an effective societal pandemic response.[15] During COVID-19, high levels of social cohesion were shown to support greater social licence for action and effective community-led responses, and were associated with lower infection and death rates.[16] According to various measures, levels of social cohesion and trust were relatively high in Aotearoa New Zealand prior to COVID-19.[17] This strong base – mobilised in public appeals to the 'team of 5 million' to 'Unite Against COVID-19' – supported high compliance with lockdowns and other measures, at least in the early stages of the response.[18] (See Chapter 2 for more on public information and official communications, including the Unite Against COVID-19 campaign.)

In keeping with the emphasis on solidarity and kindness in public communications, responsible agencies generally took a principles-based, 'light touch' approach to enforcing lockdown rules where possible (although the Inquiry was told by some people that they considered enforcement to be 'harsh'). Police had significant enforcement powers, first under existing legislation and later under the COVID-19 Public Health Response Act 2020, but chose to use them sparingly, prosecuting only the most serious and persistent breaches. In the first week of the lockdown, they announced they would use a graduated model known as the '4 Es' (engage, educate, encourage, enforce) to support compliance with lockdown rules. This approach drew on pre-existing Police principles of policing by consent and prioritised maintaining the trust and confidence of communities.[19] The '4 Es' became the basis of a wider All-of-Government Compliance Response, agreed between all major enforcement agencies in April 2020, to support a collaborative and consistent approach to compliance and enforcement for the COVID-19 response.[20]

Despite the predominant mood of public solidarity, and agencies' trust-based approach to compliance, there were some early signs of disharmony about lockdown rules, along with some confusion and the perception of some mixed messages. For example, while the dominant messaging was to 'be kind', there was high public interest in perceived breaches of lockdown rules. A few days into Alert Level 4, on 29 March 2020, Police launched an online tool where people could report suspected rule violations. More than 80,000 reports were received over the next month; more than the total number of 111 calls in the same period.[21] (We return to the topic of social cohesion in Chapter 8.)

3.2.1.3 Iwi and Māori, and many communities, provided significant leadership and support

Iwi and Māori and many communities of different kinds – neighbourhoods, cultural groups, online groups, non-governmental organisations (NGOs) and community organisations, religious institutions, families, whānau and aiga – stepped up during the first Alert Level 3 and 4 lockdowns to provide essential local leadership, support each other and address local needs.

There are many well-documented examples of community groups taking charge of the response on the ground. Sometimes in partnership with government, and sometimes independently, they sourced kai, medicine, resources and other essential items, and distributed them to those who needed them. Recognising people needed more than food and medicine, they provided other support too, ranging from making direct donations, offering transport to essential destinations, enabling technology and data connections, and linking individuals, households, families and whānau with government support (see Chapter 6 for more on the social response). Existing hubs such as marae and places of worship (and the relationships and community knowledge that came with them) meant support could be tailored to individual needs. Community organisations, both formal and informal, were also well placed to meet unseen needs such as for fellowship and connection. Many people trusted community organisations to sort, curate, and act as conduits for reliable information. New grassroot groupings, such as community social media groups, were created that enabled people to check on and help each other. Some organisations ran phone trees to check on older people and other potentially vulnerable groups.

Within ethnic and migrant communities, there was strong guidance and engagement from many community leaders. Communication across many languages was particularly important. Within Pacific and Māori communities, clusters of churches, marae, sports clubs, health centres and community support groups provided networks of support and information, connecting people to resources and services and advocating for those who were more vulnerable. Several community organisations networked their personal capabilities to help support the broader pandemic response, such as using their personal 3D printers to make face shields for essential workers.

Pacific churches generally played a strong leadership role in addressing specific challenges faced by their communities. Physical distancing is difficult when families live in multigenerational and often crowded homes. Pacific households have the lowest level of home internet access compared with other New Zealand ethnicities and are over-represented in low-income occupations (such as retail, food supply, and health, disability and aged care), many of which were classified as essential during the pandemic. Churches used their existing relationships and built new ones to ensure the needs of their communities were met. They linked in closely with Government to understand what was happening, and what response was needed from their communities.[22]

In combination with the work of social sector agencies (covered in section 3.2.1.7), these multi-faceted community efforts undoubtedly alleviated many of the potential negative impacts of lockdowns on individuals and groups.

Iwi and Māori leadership

Iwi and Māori played a significant leadership role in mobilising their communities and mitigating the negative impacts of lockdown. Early in the pandemic, iwi, hapū and marae across the motu developed plans that adapted tikanga and kawa to the challenges presented by not being able to interact in person. This included hapū and marae committees temporarily closing marae, restricting papakāinga access, and developing new protocols for tangihanga and tupāpaku under lockdown conditions, despite significant personal, cultural and spiritual impacts.[23]

Iwi and Māori also worked closely with law enforcement in response to COVID-19 to encourage compliance. Māori leaders we engaged with told us that iwi and Māori 'policed ourselves' to follow the rules, and this appears to be borne out by the data: while Māori unfortunately are generally over-represented in Police enforcement action, and this remained the case during the pandemic, this happened at significantly lower levels than usual.

Spotlight:
Te Tiriti o Waitangi partnership in action | Te whakatinanatanga o te hononga Tiriti

Iwi and Māori in Tairāwhiti, Bay of Plenty, Taranaki and Te Tai Tokerau stood up checkpoints to limit the movement of people and control the spread of COVID-19, just as they had done a century before to control the 1918 flu.

Almost 50 roadside checkpoints were established, resourced and led by iwi and Māori, staffed by volunteers, and often operated in partnership with NZ Police. In addition to protecting local residents (both Māori and non-Māori), such checkpoints were valuable for disseminating information and contributed to a sense of trust between Police, Māori, and the wider community, although some parts of the population found them challenging.[24]

Coming out of the initial lockdowns, iwi and hapū representatives have spoken publicly about the positive impact of the partnership between Māori and Police on iwi checkpoints.

Tina Ngata (Ngāti Porou) noted that:

> “like all relationships with the Crown, it has not been without challenges, and it is still a work in progress, but in supporting our protection of our communities, New Zealand Police have stepped into their partnership [with Māori] responsibilities in their fullest sense.” [25]

Rahui Papa (Waikato-Tainui) spoke of how strengthened relationships with Police had seen issues:

> “resolved quickly and efficiently, with cultural considerations at the forefront. The place of tikanga and best practice in these relationships is an example, not just for a pandemic context, but further into the future.” [26]

Police representatives made similarly positive comments. Eastern Bay of Plenty area commander Stuart Nightingale said that the community safety zones provided additional protection to the remote and vulnerable community of Te Whānau-ā-Apanui and had:

> “ clearly achieved what they set out to do. Community policing means working in partnership and building solutions to problems in conjunction with the communities we serve. ” [27]

Other community leaders also expressed gratitude to iwi for the checkpoints. South Taranaki Mayor Phil Nixon said:

> “ I really support what they’re wanting to do to protect our community. They’re going to great lengths to look after us. ” [28]

On the other hand, our Inquiry heard from some public submitters who found the roadblocks challenging.

Shortly after the initial lockdown, the COVID-19 Public Health Response Bill was introduced to Parliament. The original version proposed to make it unlawful for anyone other than Police to run roadblocks, which some felt was ‘tone deaf’ to the rights of iwi to exercise tino rangatiratanga in their own rohe.[29]

3.2.1.4 An essential services category was established to ensure access to critical goods and services while limiting people's movements

Like most countries, Aotearoa New Zealand established an essential services category during COVID-19 lockdowns to ensure continued access to food, critical goods, and lifesaving and preserving services. This largely determined who could leave the house, go to work, and travel locally at Alert Level 4.

Existing legislation and international guidance provided a starting point for the definition of 'essential' services.[30] However, no detailed work had been done in Aotearoa New Zealand pre-2020 to define the scope of essential services, businesses and workers in a pandemic context.

The Alert Level System was announced on 21 March 2020. The strict limitations envisaged at Alert Level 4 meant that a formal definition of essential services would immediately be required if the country moved to that level. As with many other aspects of the response at this time, advice was being developed at pace and without time to refine and test definitions and approaches. An initial list of essential services was appended to Cabinet Papers recommending the move into lockdown (Alert Levels 3 and 4), with an understanding that the list would be continuously reviewed and adjusted.

Cabinet adopted four principles to guide this process: prioritising public health and allowing the Government to scale-up the response, while at the same time ensuring the necessities of life and maintaining public health and safety.[31] These reflected decision-makers' primary focus at the time on reducing community transmission of the virus (discussed in Chapter 2). Notable criticisms of the essential services scheme include that it struggled to keep up with the (often changing) needs of business and the community, and was sometimes applied in what appeared to some to be an arbitrary fashion (for example, supermarkets could open but butchers could not).

As the country moved into Alert Level 4 late on 25 March 2020, the Director-General of Health used existing powers[ii] to close all premises except for 'businesses that are essential to the provisions of the necessities of life and those businesses that support them'.[32] The Ministry of Business, Innovation, and Employment (MBIE) was tasked with administering and regularly updating a definitive list of essential services. Despite the flexibility built into this approach, some essential services, industries and oversight mechanisms that should have been operational were initially excluded (e.g. victim support and court workers), and it wasn't always straightforward to address some of these omissions. In addition, as time went on, some things that were not essential in the short term (like various maintenance activities) became essential. Officials we engaged with told us their advice to Cabinet at the time highlighted that the essential services approach was unlikely to be sustainable over an extended time frame and that a different approach would be needed at lower alert levels.

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ii Under section 70 of the Health Act 1956, for the purpose of preventing the outbreak or spread of an infectious disease, and if authorised to do so by the Minister, in a state of emergency or while an epidemic notice is in force, the medical officer of health may exercise a range of special powers, including to "require to be closed, until further notice or for a fixed period, all premises within a health district (or stated area of a health district) of any stated kind or description." See: https://www.legislation.govt.nz/act/public/1956/0065/latest/DLM307083.html

Approximately half a million people regularly left home to go to work during Alert Level 4.[33]

Formal use of the essential services category to require certain types of premises to close ended when the country moved to Alert Level 3 on 27 April 2020.[34] It was replaced by a requirement for businesses that re-opened to meet specific, strict requirements for physical distancing, contact tracing, and contactless delivery. Businesses accessed by the public (retail, hospitality) could open but only for online or phone purchases, and contactless delivery or collection. This reflected a shift from essentiality to safety. Alert Level 3 settings also required anyone who could work from home to continue to do so.

Around 1.3 million people regularly left home to work during Alert Level 3, about 49 percent of the workforce.[35]

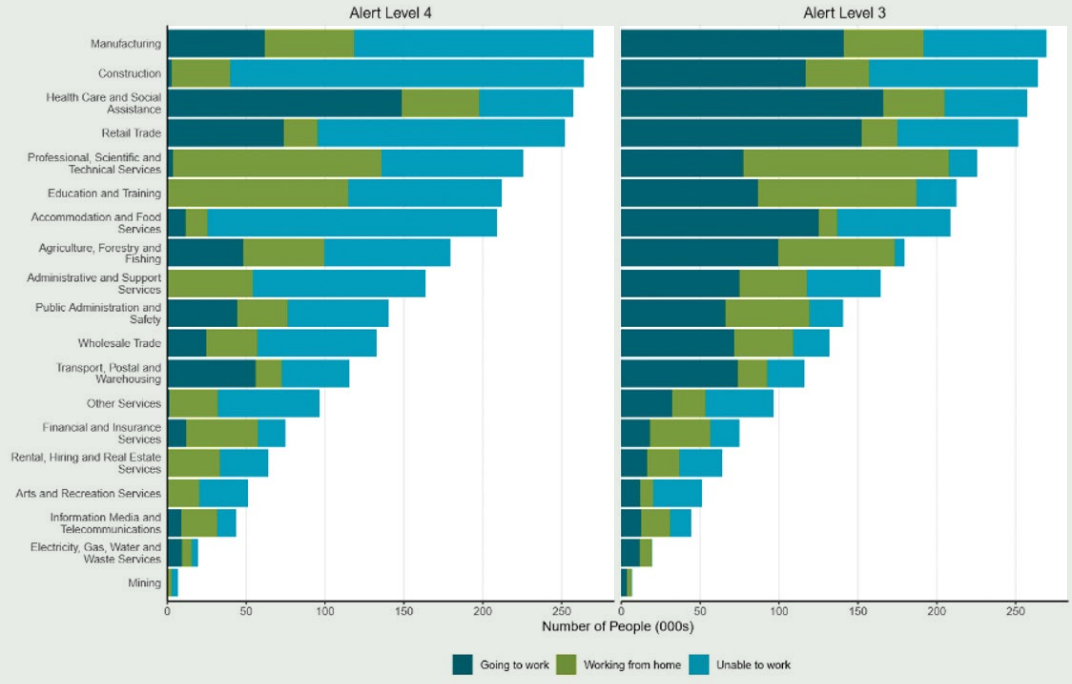
Figure 1: Number of people 'going to work' (essential service workers), working from home and unable to work under Alert Levels 4 and 3

State of the workforce

	Alert Level 4	Alert Level 3
Going to work	510,000	1,364,000
Working from home	769,000	732,000
Unable to work	1,499,000	683,000
Total	**2,779,000**	**2,779,000**

Workforce breakdowns

Breakdown by industry



Source: Ministry of Business, Innovation and Employment, 2020, Essential services workforce fact sheet, p 1, https://www.mbie.govt.nz/assets/essential-services-workforce-factsheet.pdf

3.2.1.5 Many businesses, households, community groups and individuals switched to working, learning and socialising online

Workers who were not employed by essential services (and some who were, whose jobs could be done remotely) switched to working from home during lockdown. Around Aotearoa New Zealand and the world, businesses, schools and community organisations rapidly switched to remote ways of working and connecting. This was critical to the successful use of lockdowns: the World Health Organization's independent panel on pandemic preparedness later found that good digital access was one of three necessary prerequisites for effective stay-at-home orders (along with adequate household income and a high level of trust in government).[36]

The fact that broadband infrastructure had been rolled out to most of the country in recent years proved vital to allow most people in Aotearoa New Zealand to work, learn, socialise, and keep entertained online during lockdown. However, there were some key gaps in coverage, especially in rural areas.[37] Beyond infrastructure, there were other barriers to digital access for some, including affordability of devices and connections, and lack of skills or knowledge. As one stakeholder put it to us:

> "If you're rural you don't have the connection. If you're poor, you don't have the devices. If you're old, you don't know how to use the device."

Those fitting into one or more of these categories were a minority of the total population, but a significant one.

Some sectors and workforces were better prepared for (and better suited to) remote work than others. This reflected a wide variety of factors including pre-existing digital access, varying levels of skills and investment in IT capability, working from home conditions and the nature of the work (if it was desk-based or face-to-face, for example).

COVID-19 provided the catalyst for public sector agencies and workforces to switch to remote working. Many thousands were sent home to work and continued to deliver essential public services in a completely new way. For example, the justice system was able to build on the limited audio-visual links already available in some courts to enable remote participation on a much wider basis. In some cases, as with the Ministry of Social Development, this involved a near-total overhaul of their operating model.

3.2.1.6 Schools, kura, early learning centres and tertiary education providers were closed for in-person learning, and switched to remote learning where possible

Schools, kura, early learning centres and tertiary institutions were closed for in-person learning from 24 March 2020 to 28 April 2020.[iii] Under Alert Level 3, education providers could be open for children up to Year 10 for families that needed them. Their closure for most in-person learning required educational settings to rapidly switch to deliver remote (and later hybrid) learning.

Cabinet authorised $87.7 million to support the switch to remote learning. This sum was to cover connecting the homes of 40,000 eligible learners to the internet, providing schools with 49,000 fit-for-education devices for students, producing English and Māori medium educational television broadcasts, and distributing printed learning resource packs to most schools and early learning centres.[38]

The Government also funded digital access for some tertiary students, increased the course-related costs component of student loans, and provided $56.8 million through the COVID-19 Response and Recovery Fund (see Chapter 6 for more on this fund) in recognition of the loss of international students.[39] This was in addition to the decision to continue to fund tertiary education organisations at the levels set out in their investment plans for on-Plan funds, irrespective of any potential reduction in student numbers (a transfer of the Tertiary Education Commission's grants obligations to 2020 of $1.1 billion).[40]

Budget 2020 also included a $50 million Urgent Response Fund to help early learning services, schools and kura to improve attendance and manage any learning, social, emotional, mental or other wellbeing needs related to the COVID-19 lockdown.[41] This was distributed using the Equity Index to target schools and communities in greatest need. In total, a reported $199 million was invested in new education initiatives in 2020, most in direct response to COVID-19.[42]

During Alert Levels 3 and 4, most schools explicitly prioritised student wellbeing over academic learning, recognising that they could not expect a 'normal' workload under extraordinary circumstances. Despite this, many students and teachers were worried about falling behind.

iii The 48-hour period 24-25 March was designated Level 3 and allowed schools, kura and early learning centres to remain open for the children of essential workers.

Delivering remote learning proved challenging at all levels. It was not practical or appropriate to fully deliver the early childhood curriculum remotely, given the age of these children and the fact that most of their learning is play-based. Nevertheless, most early learning services provided some form of remote teaching and learning, focused on identifying and building on learning opportunities at home.[43] Many teachers and educators worked hard to rapidly upskill and adapt to deliver the primary and secondary school curricula remotely, though the experience of this was variable.[44] The tertiary sector's move online was also patchy and depended on individual institution size and capability. Whilst some pivoted promptly and efficiently, smaller and regional institutions took longer. Many tertiary institutions opted to deliver remotely beyond May 2020, given the volatile environment and repeated alert level changes in Auckland. For staff at all levels, the additional workload associated with the shift was considerable.

Tertiary education providers could return to limited in-person learning at their discretion from 28 April 2020, at Alert Level 3, although the Ministry of Education advised that staff and students should continue working or learning from home where possible.[45] Most providers remained online or delivered hybrid options. From 14 May 2020, schools, kura and early learning centres began a phased return to in-person learning, ahead of the move to Alert Level 2 on 18 May 2020.[46] Strict precautions would be in place, including designated bubbles, social distancing and hygiene routines. Some disruptions continued even once schools reopened, when close contacts were required to isolate, or schools that had been sites of transmission were required to close.

Spotlight:
Life in lockdown | Te ao o te noho rāhui

In some ways, lockdown might be seen as putting everyone in 'the same boat'. But the reality was that the experience across the lockdowns varied greatly depending on individual circumstances, temperament, family situation, income, safety and stage of life.

Snippets from our public submissions give a flavour of the myriad experiences, positive and negative.

> "We took long walks [with] the pram to look at the neighbourhood. We watched the forklift unloading groceries outside the supermarket. And we set our daily routines around the 1pm update, with the sound of voices lulling our toddler to sleep on the sofa. We look back really fondly on these times; they were happy days for our family."

> "I loved how quiet it was. I could hear the birds and nature. Walk in the middle of the road on quiet streets and experience it differently. [...] It was also a really nice opportunity to enjoy recreational activities/hobbies again and felt like I was living again, and not living to work."

> "I felt immense pressure as a mum to deliver/be present with work, as well as present for my son's learning and general entertainment/parenting."

> "The 108 day Auckland lockdown began to take a toll on my mental health with feelings of hopelessness and despondency, lack of energy and overall depression."

> "[B]eing confined to your property all day and night was quite draining on my mental health. [S]omething I didn't realise would be the case until we were in the situation. Living with 4 other adults in a flatting situation at the time. [We f]ound that we all would drink alcohol each evening out of boredom and mental stress from being confined to our property and not having freedom to do what we wanted."

> "It was tough. We have 3 young children at primary school level [and] trying to maintain their schooling online plus both parents working full time, it was a struggle to find space to all work together. In addition, we had 4 pensioners in our bubble. Lockdown in Auckland was overall challenging. Sharing space and devices was also a challenge."

3.2.1.7 The social sector stepped up

In the social sector, the COVID-19 response was a step-change in the way government worked. The sector's initial response to the lockdowns was characterised by high agility, flexibility and collaboration between government, iwi, and community partners together with an immediate injection of (mostly time-limited) funding. As well, there was a strong focus on outcomes.[47] Providers were empowered to tailor their services to the needs and aspirations of the communities they were working with, and commissioning agencies relaxed requirements for outputs and reporting. A range of funding responses was put in place in the early phase of the pandemic, including specific funding tagged for disabled people, family violence and sexual violence, Māori, Pacific people and community solutions.[48]

More so than usual, government agencies operated a 'no wrong door' policy for those seeking support and worked closely with community groups and social service providers to ensure that families in need were able to access what they required, including food grants online, food parcels delivered, housing needs met urgently, and support to access household goods, clothes and appliances.

Service providers – which included NGOs, community groups, iwi and Māori organisations, and volunteers, as described in section 3.2.1.3 – often went above and beyond during this period. Many delivered services without contracts or funding, using their own resources, until government systems caught up. For more detail on the social and community sector response and impacts, see Chapter 6.

3.2.1.8 Immediate housing support was provided to those who were sleeping rough or living in insecure accommodation

The defining characteristic of lockdown was the requirement for people to stay at home. There were many groups for whom this was challenging or dangerous – among them people at risk of family or sexual violence, people living in cramped or overcrowded housing, medically frail or very elderly people who lived alone, and so-called 'marginalised' groups including gang members and people with addictions. Some of the most immediately vulnerable under 'stay at home' conditions were those who had no home at which to stay – people who were sleeping rough, couch-surfing, living in cars, or in highly unstable and unsuitable accommodation.

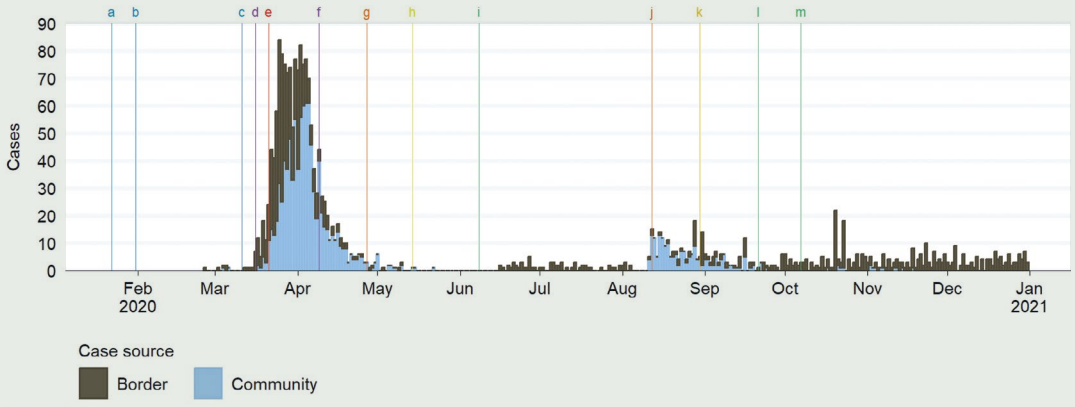
Ministers and officials understood that the transient movement of people living in insecure housing risked undermining the effectiveness of lockdowns as a tool to suppress and eliminate COVID-19, and that there had been little to no pandemic preparation in the housing and accommodation sector.[49] In response, central government agencies worked quickly with community housing providers, social services, iwi and other Māori organisations, and local government to provide temporary and emergency housing support for people who were in insecure housing or rough sleeping. This was enabled by direct, fast communication, the swift adoption of permissive 'high trust' contracting models, and ample and immediate funding. In March 2020, Government instituted an immediate freeze on residential rent increases, and introduced new protections against the termination of tenancies.[50]

3.2.1.9 The first lockdown ended on 14 May 2020

On 14 May 2020, Aotearoa New Zealand moved to Alert Level 2. This marked the end of the first national lockdown, though significant restrictions were still in place. Cabinet delayed allowing social gatherings in public or private venues of more than 10 people, with a view to increasing this limit over time, and it delayed opening bars and clubs for an additional week. People were now permitted to connect with friends and family, go shopping or travel domestically – providing they followed public health guidance, including keeping physical distancing of 2 metres when out in public, and 1 metre in controlled environments like workplaces. Schools and educational facilities re-opened for in-person learning, with strict hygiene measures. Businesses could open to the public, including hospitality businesses, and record-keeping was required to allow contact tracing. Gatherings like weddings, funerals and tangihanga remained limited to 10 people. Masks were required on public transport. Those who could were still encouraged to work from home.[51]

Case numbers continued to fall at Level 2 and by 8 June 2020 when Cabinet met, there were no active community cases left. The country moved to Alert Level 1 on 9 June 2020 based on the high confidence that COVID-19 had been eliminated from Aotearoa New Zealand.[52]

Figure 2: COVID-19 cases and timing of first lockdown, March–April 2020[iv]



Policy changes
a (22 Jan): WHO met to deliberate calling a Public Health Emergency of International Concern (PHEIC) - decide against
b (31 Jan): WHO declared COVID-19 a PHEIC (WHO's highest level of alarm)
c (11 Mar): WHO declared COVID-19 a pandemic
d (16 Mar): Self-isolation requirements for arrivals introduced; then NZ border closed, except to returning New Zealanders (Mar 19th)
e (21 Mar): Four-stage Alert Level (AL) system introduced; NZ to AL2 (21 Mar), then AL3 (23 Mar) then AL4 (25 Mar)
f (09 Apr): Managed Isolation & Quarantine (MIQ) introduced for all arrivals
g (27 Apr): NZ to AL3
h (14 May): NZ to AL2
i (08 Jun): NZ to AL1
j (12 Aug): Auckland to AL3, rest of NZ to AL2
k (30 Aug): Auckland to AL2.5

Source: Based on data from Ministry of Health GitHub data, 2024, COVID-19 data, https://github.com/minhealthnz/nz-covid-data

iv 'Cases at the border' are those detected in incoming travellers in MIQ.

3.2.2 Brief Level 3 lockdowns in Auckland in late 2020 and early 2021

3.2.2.1 Auckland spent two and a half weeks back in Level 3 lockdown in August 2020

On 11 August 2020, after 102 days without community transmission, four people tested positive for COVID-19 in Auckland. Ministers with power to act decided to take a precautionary approach, and – in addition to contact tracing and stepped-up testing – moved Auckland into an Alert Level 3 lockdown, and the rest of the country into Alert Level 2, from midday on 12 August 2020.[53] This was the first use of a regional lockdown.

For two and a half weeks, schools and early learning centres closed again except for those who 'need to attend' – mainly the children of essential workers. Others returned to online learning. Those who could do so went back to working from home.

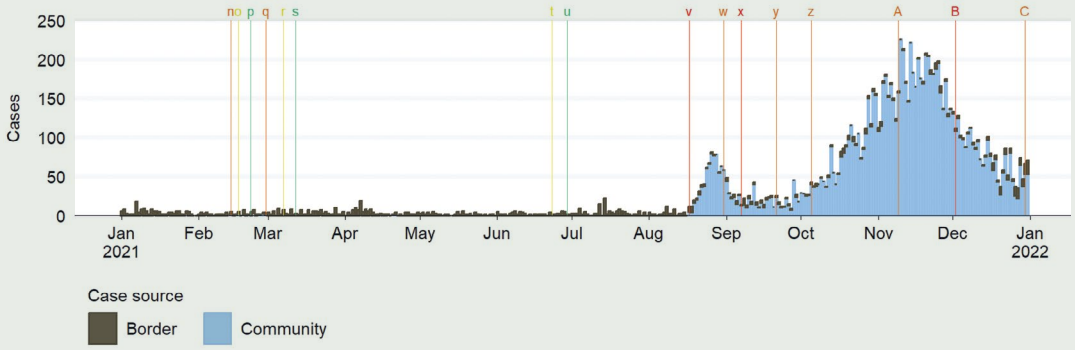
On 30 August 2020, Auckland moved into a newly-created 'Alert Level 2.5'. This was based on advice that, while the number of confirmed cases was increasing, the cluster was under control. Decision-makers were also conscious of the costly nature, both economically and socially, of holding Auckland at higher alert levels, the challenges inherent in implementing regional boundaries, and that Pacific and Māori communities were disproportionately affected by this outbreak.

While this decision ended the first regional lockdown, the new settings were more restrictive than the original Alert Level 2. Social gatherings (including weddings) were limited to 10 people, except for funerals and tangihanga, which were allowed up to 50 people in attendance. Hospitality businesses could not serve groups larger than 10, and masks were mandatory on all public transport in Auckland.[54] Aucklanders were also asked, but not required to, comply with Level 2.5 settings wherever they went (including outside of Auckland), even though the rest of the country was at Alert Level 2.[55] This temporary 'half step' was in place for three weeks and was not used again in the pandemic. By 8 October 2020, the whole country was back at Alert Level 1.[56]

3.2.2.2 Auckland moved in and out of Level 3 lockdown several times in early 2021

For a few weeks in February and March 2021, Auckland again moved in and out of Alert Level 3 lockdown several times, after more community transmission was detected.[57] At this time, the total time spent in Level 3 lockdown was relatively brief – three days initially, and later one week – but it came at a disruptive time at the beginning of the school year. In June 2021, Wellington spent nearly a week at Alert Level 2 after a visitor from Australia tested positive following a short but busy weekend in the city.[58] Aside from these short-lived regional disruptions, 2021 saw Aotearoa New Zealand remaining largely out of lockdown until the arrival of the Delta variant in August.

Figure 3: COVID-19 cases and periods under lockdown/restricted settings (February–March, June and August–December) in 2021



Policy changes
n (14 Feb): NZ to AL2, Auckland to AL3
o (17 Feb): NZ to AL1, Auckland to AL2
p (22 Feb): Auckland to AL1
q (28 Feb): NZ to AL2, Auckland to AL3
r (07 Mar): NZ to AL1, Auckland to AL2
s (12 Mar): Auckland to AL1
t (23 Jun): Wellington to AL2
u (29 Jun): Wellington to AL1
v (17 Aug): NZ to AL4
w (31 Aug): NZ to AL3
x (07 Sep): Auckland to AL4, rest of NZ to AL2
y (21 Sep): Auckland to AL3
z (05 Oct): Auckland to AL3.1 (small gatherings permitted in some contexts)
A (09 Nov): Auckland to AL3.2 (opening of retail and public facilities with face masks and physical distancing, gatherings up to 25)
B (02 Dec): Covid Protection Framework (CPF) replaces AL system; Most of North Island to Red, rest to Orange
C (30 Dec): NZ to Orange (except Northland)

Source: Based on data from Ministry of Health GitHub data, 2024, COVID-19 data, https://github.com/minhealthnz/nz-covid-data

3.2.3 Delta lockdowns in late 2021

3.2.3.1 The entire country spent three weeks back in lockdown in August and September 2021

In 2020 and early 2021, lockdowns had proved to be an effective tool for achieving and maintaining New Zealand's elimination strategy. Their effectiveness had derived from high levels of trust and social cohesion, strong support from communities, social and economic supports, and clear communication. As the use of lockdowns continued in 2021, decision-makers had to make increasingly challenging decisions. These involved weighing up a range of competing considerations – social and economic, as well as public health – which would have different impacts across population groups.

This phase of the lockdowns began after the World Health Organization indicated in June 2021 that the Delta variant was becoming the dominant strain globally. Delta was substantially more infectious than previous variants, making it harder to contain. It also caused more serious clinical illness.[59]

On 17 August 2021, a community case of COVID-19 was detected in Auckland. Officials assumed (correctly) that the case was the highly transmissible and more virulent Delta variant. The sick person had been active in the Auckland and Coromandel regions, and it was considered likely that the virus was already circulating elsewhere, so the Prime Minister announced an imminent Level 4 lockdown for the whole country. While the initial indication was that this would be another short-lived lockdown, the country remained in Level 4 lockdown for the next two weeks, and Auckland for much longer.

For the second half of August 2021, New Zealanders returned to settings and experiences that were largely familiar from the first Level 4 lockdown. This recent experience meant many people and organisations were better placed to respond with systems, processes, policies and technology already in place to manage in lockdown. The essential worker category was revived, online learning resumed, those who could worked from home, and community organisations again stepped up. Schools, kura, early learning centres and tertiary education providers returned to remote and online learning, and for the first time, the Ministry of Education distributed specific learning resources targeted at learners with sensory needs.

After two weeks, all regions except Northland and Auckland moved down to Alert Level 3, with Northland following a few days later. On 7 September 2021, all regions except Auckland finally moved out of lockdown to a strengthened Alert Level 2 (in which mask wearing was required in most public areas and permitted gathering sizes were reduced – see Chapter 8 for more on compulsory mask wearing).[60] While some Delta cases were reported outside of Auckland, the combination of contact tracing and other public health measures was effective in these regions and community transmission did not take hold.

Auckland, however, remained at Alert Level 4.[61] While Northland was theoretically at the strengthened Level 2 from 7 September 2021, the ongoing lockdown in Auckland meant it was effectively cut off from the rest of Aotearoa New Zealand (see also section 3.2.3.3). The Auckland lockdown continued to be extended, although it was stepped back down to Level 3 from 22 September 2021.[62]

3.2.3.2 The Delta lockdowns were much longer for Auckland (and some other regions)

By 4 October 2021, Auckland had spent 49 consecutive days in either Alert Levels 3 or 4. The public health risk remained, but ministers and officials were aware that there was 'eroding social licence for heightened restrictions amongst compliant parts of the Auckland population'.[63] Increasing vaccination rates were added as a further factor in Cabinet decision-making. Cabinet decided the country would transition away from the Alert Level System to the new COVID-19 Protection Framework, which would allow them to retire use of lockdowns as vaccinations provided an additional tool in the control of COVID-19.[64] While the intention just one week previously had been to still control the Delta outbreak and 'get back to zero cases in Auckland',[65] officials now recommended a 'phased approach to step down restrictions over time as part of a gradual transition to the new "traffic light" framework'.[66] This is what happened in practice, as cases in Auckland continued to rise while the costs of a prolonged lockdown accumulated.

By mid-October 2021 it was evident the Delta outbreak would not be easily eliminated. Focus shifted to maximising vaccine uptake in order to allow restrictions to be loosened – including a staged re-opening of Auckland schools.[67] Health officials had previously advised that the transition to the new 'traffic light' system could occur once 90 percent of the eligible population had been vaccinated[68] and the Prime Minister now presented this as the target that would allow Auckland to move out of lockdown.[69] But despite significant efforts in the following weeks, vaccination levels continued to be substantially lower in Māori and Pacific communities[70] and were not projected to reach 90 percent in Auckland District Health Board (DHB) areas until mid-December.[71]

When elimination was no longer possible, the justification for lockdowns shifted to protecting people (particularly vulnerable groups) from the severe impacts of COVID-19 infection, but this shift was not well-communicated to the public (as discussed in Chapter 2). Official documents from this period illustrate the challenging situation in which the Government found itself. On one hand, there was clear recognition of 'eroding social licence' among the Auckland population 'who [have] endured a significant time at heightened Alert Levels',[72] coupled with ongoing economic and social impacts for businesses and families. Advice highlights the ongoing and increasing challenges related to financial support and economic, social and wellbeing impacts. General fatigue amongst the public was increasing and willingness to comply with some public health measures was reportedly reducing.[73]

On the other hand, officials were also acutely aware of the risks of removing restrictions while vaccination levels remained low in vulnerable population groups. The specific demographics of Auckland were relevant here, with recognition that South Auckland communities in particular 'feature[d] a younger age structure, lower rates of vaccination and [were] likely to be at greater risk of hospitalisation'.[74]

In seeking to balance these concerns, officials developed proposals to modestly relax Alert Level 3 settings in Auckland in a staged manner. From 5 October 2021, Auckland was placed at Alert Level '3.1' which permitted small gatherings in some contexts.[75] A subsequent move to 'Level 3.2' on 9 November 2021 allowed the opening of some public facilities (including libraries and museums) with use of facemasks and physical distancing, and gatherings of up to 25 people.

Level 3.3 was never activated, because on 2 December 2021, Cabinet adopted the 'minimisation and protection' approach and Aotearoa New Zealand moved to the 'traffic light' system to manage the COVID-19 response. Auckland was put at the 'Red' level, along with several other regions that were considered to be at greater risk, either because of low vaccination rates or because they were popular holiday destinations.

At the 'Red' traffic light level, Auckland was technically out of 'lockdown', although some significant restrictions remained in place, and schools and early learning centres did not completely re-open for in-person learning until February 2022.

In total, Auckland spent more than six months at Alert Level 3 or 4, compared to 74 days for most of the rest of the country.

There was widespread criticism in our public submissions of the duration of the Auckland lockdown. People spoke about hardships they faced during this time, and about the additional alienation and burden they felt was carried by those in Auckland. We heard this may have had a particular impact on older people, as well as children and young people.

> **"Children being locked out of school, even for a short period, disrupts their relationships, a deeply distressing and potentially damaging thing for children approaching and in their teens."**
>
> Public submission to the Inquiry

We also held direct engagements with bereaved families who were unable to be with sick or dying loved ones or attend their funerals due to the Auckland lockdown and heard of the level of trauma and distress they experienced. For some, these issues impacted on their trust in government, and their willingness to follow the rules.

Alongside this, the Government was also criticised for having transitioned to the new 'traffic light' system before the 90 percent vaccination goal had been reached. In the *Haumaru* report,[76] released in late 2021, the Waitangi Tribunal found the Crown had breached te Tiriti o Waitangi principles in its decision to transition to the COVID-19 Protection Framework without meeting the original vaccination threshold. This decision was regarded as putting Māori at disproportionate risk of Delta infection compared with other population groups, given their lower vaccination coverage at the time of the transition. The Tribunal also noted that this decision was made despite the strong opposition of Māori health experts and iwi leaders.

With the ending of the Auckland lockdown, Māori health providers were under pressure to vaccinate their communities as quickly as possible in order to protect them from the health consequences of COVID-19 infection. The Tribunal found that this undermined their ability to ensure equitable care for Māori.[77]

We will return to what can be learned for the future from the intensity and length of the Delta lockdown in the 'Looking Forward' part of our report.

3.2.3.3 The boundary between Auckland and the rest of the country presented challenges

Regional boundaries, while valuable, were hard to implement – particularly at short notice and with no prior preparation across the system. These timing and preparedness issues caused many challenges for communities, businesses, workers and enforcement.

Implementing a regional boundary around Auckland was extremely challenging – particularly when done at such short notice – and those responsible worked hard to understand and balance the many practical issues this created for those on either side of the boundary line. We heard that policies relating to the boundary were not always based on local advice, and while some challenges were unavoidable, in other cases local input would have helped improve outcomes. Some communities were cut off from essential supplies (such as being able to access their normal pharmacy and medications) and checkpoints were sometimes in impractical locations (some lacked enough space for trucks to queue and had no amenities for checkpoint staff). These issues meant that boundaries were often changing in an attempt to resolve them.

Enforcement of boundaries also proved difficult with thousands of cars crossing the boundary every day, most of them for legitimate, necessary and permitted reasons.[78] People crossing the regional boundaries in the last quarter of 2021 were also required to provide evidence of a COVID-19 saliva test within the last 7 days,[79] which added further stress at the checkpoints, and for those wishing to cross. This requirement was introduced on the advice of Ministry of Health officials[80] to mitigate the risk that essential workers might unknowingly transmit the virus across boundaries (for more on compulsory testing, see Chapter 8).

There were also unique pressures for Northland from the regional boundaries which saw them cut off from the rest of the country, apart from limited channels through Auckland. Businesses in Northland effectively became stranded from the rest of Aotearoa New Zealand, while other businesses throughout New Zealand (for example, the construction sector) were impacted by reductions in supplies of goods and services. We heard from some in Northland that they felt forgotten or overlooked and 'lumped into Auckland's mess rather than being treated as our own region'.

Spotlight:
Beginnings and endings in lockdown | Te tīmatanga me te otinga i te noho rāhui

Welcoming a new baby and farewelling a loved one are two of the most profoundly significant events in many people's lives. They are also events that can rarely be planned or controlled. While most aspects of daily life ground to a halt during lockdown, babies continued to be born, and people continued to die – some from the virus itself.

But the support available to people going through these major life events, and the conditions in which they did so, changed dramatically. These were some of the most challenging and controversial aspects of the lockdowns and featured strongly in our public submissions.

Giving birth

Some submitters described the anxieties of expectant parents facing the prospect of giving birth without their partners or support people, or being unable to access the usual checkups during the perinatal period (pregnancy and the first year after birth). Others described difficulties finding a midwife, felt inadequately supported through post-natal depression or a traumatic birth, or had to stop IVF and other time-critical fertility treatments.

While some had positive experiences of giving birth during lockdown and expressed gratitude for a safe, COVID-19-free birthing environment and extra time together as a family, others relayed traumatic experiences. One submission (which we feel merits quotation at length) evoked the fear, grief and stress experienced by many birthing parents:

> "I birthed my fourth child three days into the March 2020 lockdown. I was still in theatre getting stitched up when my husband was asked to leave the hospital, even though he posed zero risk to the staff or myself. I was in shock from an attempted vaginal birth and then [being] rushed through to theatre for an emergency caesarean. I nearly lost my baby and was at high risk of something going wrong and I needed support. I was drugged up and I didn't feel safe to be left alone. I could not think straight, and I was scared. I spent four nights in hospital, unable to see my husband or three other children who had never really spent a night away from me. I couldn't walk and had nerve damage from my epidural. I could barely move so co-slept with my newborn in a hospital bed as no nurse was checking on me or wanted to help me move my baby from feeding and safely back in the bassinet. This was because they didn't have a protocol for a lockdown situation. I felt unsafe in the hospital. [...] I hate to think what first time mothers experienced during lockdown; I was lucky that I knew what I was doing but the damage has been done. I have needed therapy and counselling and have PTSD from the lockdown experience. It was the most stressful time of [my] life. It is a time I will never get back, birthing a baby is a sacred and 'once in a lifetime' experience, and I am heartbroken that that was my last experience of childbirth."

Farewelling a loved one

Distress at not being able to visit a dying loved one in a rest home, hospice or hospital care was one of the most recurring themes in our public submissions and engagements we held with bereaved families. The limited number of people able to attend funerals and tangihanga during lockdown was another. The predominant view expressed by submitters was that these restrictions were cruel and unnecessary. Some were frustrated that the approach was not flexible enough and failed to take into account unique circumstances, others we spoke to described challenges in accessing the exemption process, a lack of clarity in who could apply, and the unsatisfactory automated response they received. However, where exemptions were granted, such as permission to travel to a funeral, people were grateful. Many people felt their grieving process had been impeded or incomplete, and that this had long-term consequences. Again, here is one submitter whose experience was echoed by many.

> “During lockdown, dad died. [...] We couldn't be with him and had to put a huge amount of trust in staff at the home to care for dad and to love him like we did. Nobody would love him like we did. Nobody would care for him like we did. Nobody could hold him like we could have had we been allowed to be with him when he died. The whole experience was absolutely awful. We weren't able to be together as a family and grieve.”

Some submitters did however express a willingness to forego the ability to farewell a loved one if it meant that, overall, fewer people would die:

> “Not being able to attend funerals or say final goodbyes is hard... But [...] missing out on a funeral, or even three funerals, is a less bitter pill to swallow than being able to attend, but needing to attend twice as many.”

3.3.1 Aotearoa New Zealand's use of lockdowns during the COVID-19 pandemic, while stricter than many countries, was comparatively sparing in terms of time spent in lockdown conditions

We start our assessment of the use of lockdowns by acknowledging that, during the first couple of months of the pandemic response, decision-makers were dealing with very high levels of uncertainty. The situation at that time required a different kind of risk tolerance than later in the pandemic, when developments such as the availability of vaccines and greater understanding of the effectiveness of public health measures had significantly changed the pandemic landscape. This should be taken into account as part of the context within which the use of lockdowns occurred.

How Aotearoa New Zealand's use of lockdowns compared with other countries is demonstrated in the COVID-19 'stringency index', developed by University of Oxford researchers to compare the strictness of national COVID-19 responses across the world.[81] Based on policies in nine areas (public information/advice, gathering restrictions, cancellation of public events, restrictions on movement, stay-at-home requirements, workplace closures, school closures, closure of public transport, and border/international travel controls), countries were given a stringency score between 0 (no restrictions) and 100 (maximum restrictions). Figure 4 shows the changing stringency score for a selection of jurisdictions – including New Zealand, Australia and Taiwan (all of which followed an elimination strategy), the United Kingdom and the United States (which used suppression for much of 2020–22), and Sweden (which pursued a mitigation strategy).[v]

Under Alert Level 4 (full lockdown) Aotearoa New Zealand's control measures were at the top of the scale, stricter than other countries. But New Zealanders spent comparatively little time under these conditions.[82] After the initial lockdown, Aotearoa New Zealand spent much of 2020 and the first half of 2021 at Alert Level 1. During these periods, people faced far fewer domestic restrictions – outside international border restrictions affecting their ability to travel or, for some, to return home – than many other countries, including those pursuing suppression or mitigation strategies. As a result, New Zealanders were able to attend large-scale events such as concerts and sports matches.

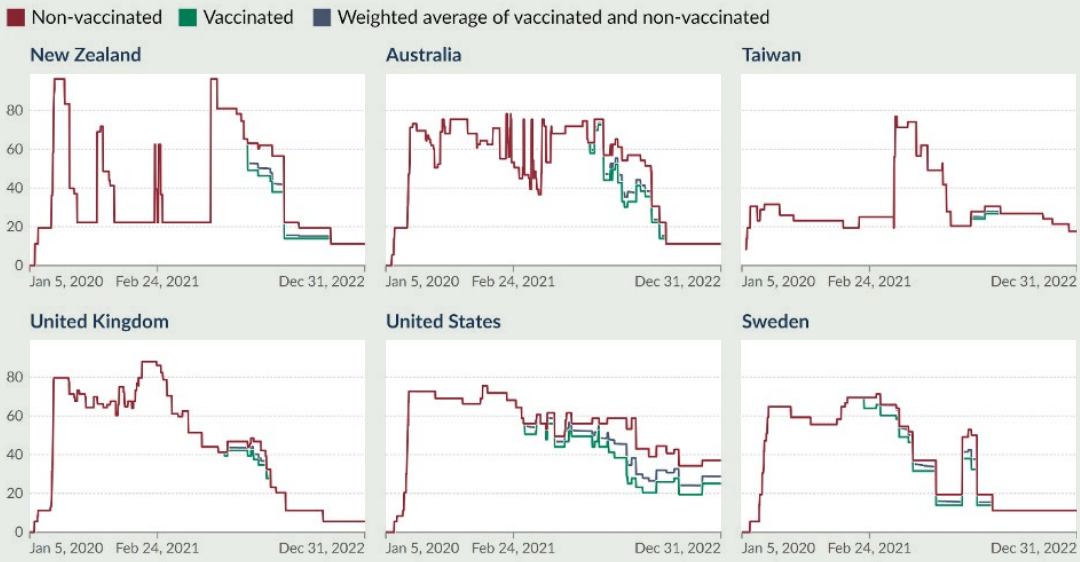
Very few countries avoided using mandatory lockdown-type measures as part of their COVID-19 response. Remarkably, Taiwan managed to eliminate COVID-19 transmission in 2020 without a lockdown by mounting a rapid and highly effective public health response – including strict border restrictions, isolation and contact tracing, alongside widespread use of facemasks.[83] Previous experience with SARS (in 2003) meant mask wearing was widely normalised in Taiwan, which also had well-developed pandemic response capability.

v Note that these graphs reflect the most stringent location in each country. For example, New Zealand's 2021 stringency score largely reflects what was happening in Auckland, with most other regions experiencing comparatively few restrictions.

Taiwan also made use of extensive electronic monitoring – including tracking of people's cellphones – to ensure compliance with isolation and quarantine restrictions.[84] While lockdowns were not mandatory, most people in Taiwan did dramatically reduce their mobility achieving nearly the same effect as a mandatory lockdown.

Several Pacific Island nations – including Samoa, Tonga, the Solomon Islands, Tuvalu and Tokelau – protected their populations by closing their borders before any cases of COVID-19 had reached them (i.e. an exclusion strategy).[85] These countries were able to avoid stringent domestic measures such as lockdowns, since they were cut off from any source of infection. Some of them managed to remain 'COVID free' for several years (for example, Tokelau had still not experienced a single COVID-19 case by June 2022).[86] While border closures protected these islands from the potentially devastating effects of infection, they also carried massive social economic impacts – particularly for those whose economies relied heavily on tourism.

Figure 4: COVID-19 stringency index – New Zealand, Australia, Taiwan (elimination), United Kingdom and United States (suppression) and Sweden (mitigation)



Source: Blavatnik School of Government, University of Oxford – with minor processing by Our World in Data, 2023, COVID-19: Stringency Index (New Zealand, Australia, Taiwan, United Kingdom, United States and Sweden), https://ourworldindata.org/explorers/covid?uniformYAxis=0&country=NZL~AUS~TWN~GBR~USA~SWE&Metric=Stringency+index&Interval=Cumulative&Relative+to+population=true

The stringency index is a composite measure based on nine response indicators including school closures, workplace closures and travel bans, rescaled to a value from 0 to 100 (100 = strictest)[87]

3.3.2 Aotearoa New Zealand would have been less reliant on lockdowns to eliminate COVID-19 infection if there had been greater prior investment in its core public health tools, capacity and capability

As discussed in Chapter 5, Aotearoa New Zealand's health system (as in many other countries) needed to rapidly scale-up its core public health tools – such as contact tracing, case isolation and in-country quarantine – to meet the demands of the COVID-19 response. Likewise, it needed to significantly strengthen the capacity and capability of the public health system. Had there been greater investment in these areas before COVID-19 arrived, decision-makers might have had more options to limit the spread of the virus. Later, uneven implementation of other parts of the pandemic response (such as the vaccine rollout, which took longer to reach different population groups; see Chapter 7) also reduced the range of options available to decision-makers.

With their options limited, decision-makers had to rely more heavily on lockdowns to reduce the spread of the virus than might otherwise have been the case. For example, as outlined earlier, Taiwan – which had well-developed public health infrastructure prior to the arrival of COVID-19 – was initially able to eliminate viral transmission without resorting to lockdowns.[88] In our view, if Aotearoa New Zealand had benefited from similar investment in key public health tools, capacity and capability – and if the uptake of other measures such as mask wearing had been more widespread – it might have been possible to eliminate COVID-19 transmission early in the pandemic with less reliance on lockdowns.

3.3.3 Deciding when to start and end public health and social measures such as lockdowns is challenging and requires difficult trade-offs in the face of uncertainty

Deciding when to end lockdowns was extremely challenging. Decision-makers had to balance the aim of protecting people from COVID-19 against the growing social and economic impacts of requiring large parts of the population to remain under tight restrictions. While vaccination reduced the risks associated with COVID-19 infection, the picture was complicated by the different rates of vaccine coverage across different population groups, particularly the lower levels of vaccination for Māori and Pacific peoples (covered in more detail in Chapter 6).

There was no established methodology or approach to inform decision-makers of the optimal time to move away from using lockdowns as a primary public health management tool – and indeed in a future pandemic, it would be challenging to develop a formulaic approach as there are so many moving parts and the context constantly changes. While the Government had indicated that reaching a target of 90 percent vaccination coverage across each region was the likely trigger for ending lockdowns,[89] subsequent advice placed much greater focus on the need to protect vulnerable communities – including Māori and Pacific communities.

When it came to ending the use of lockdowns, decision-makers were receiving advice on a range of factors, including: vaccination levels, evolving evidence on vaccine protection, reducing social licence and the experiences of other countries[vi] as they relaxed public health and social measures.[90] The advice was also informed by modelling that took account of vaccination coverage, use of public health measures, and the strength of testing, contact tracing and isolation systems. Regarding the Delta outbreak and late-2021 Auckland lockdowns, international evidence was emerging that showed vaccine-related protection from COVID-19 transmission started to wane some weeks following vaccination.[91] Officials were aware of this, and the Inquiry understands that waning immunity was included in models from January 2022 to help inform decisions about management of the Omicron outbreak.[92] From evidence the Inquiry has seen, waning immunity was not included in modelling prior to January 2022.

Time lags are also a factor that needs to be considered when it comes to deciding whether or when to relax public health and social measures. Relaxing them raises the risk that the virus will start taking off (again). But that will take time to happen. Although it is a delicate balancing act, it is possible to relax public health and social measures while still completing a vaccination rollout – and then catch any resurgence as or if it arises. For example, in late 2021 – when Delta was the dominant COVID-19 variant – the Australian states of Victoria and New South Wales released lockdowns with lower population vaccination levels (around 70 percent)[93] without any associated increase in case numbers.

The final decision on when to transition to the 'traffic light' system (and move out of lockdowns) was a judgement call. It was based on a range of considerations, all of which had a degree of uncertainty. In making this decision, Cabinet had to balance many different outcomes and impacts – health, social and economic – as well as equity considerations. While some senior ministers we spoke to thought that, in hindsight, the last round of Auckland lockdowns perhaps went on too long, others felt that the need to protect equity in health outcomes meant they could not have made any other decision.

Ultimately, decisions to lift public health and social measures will always be judgement calls. We consider it essential that the fullest range of information is provided to decision-makers so that they can consider tradeoffs and make decisions based on the best information available at the time. Transparency of this information with the public, and justification of how the decisions were made, is also essential.

vi Countries included Australia, Singapore, Iceland, France, Israel, Denmark, Norway, the United States, the United Kingdom, Canada and Germany.

3.3.4 There was confusion and frustration around the 'essential services' designation, which some felt was discriminatory and unfairly harsh

A theme in public submissions was that the 'essential' designation was sometimes confusing, and that 'essential services' should have been more clearly defined and communicated. We heard similar frustrations[vii] directly from stakeholders. Submitters and stakeholders often reflected a view that central government did not understand the operational realities of essential industries and their workers. A particular concern was that the designation undermined competition and disadvantaged smaller businesses – for example, by allowing major supermarkets to open but not small-scale food providers such as butchers and produce stalls.

There was criticism that the Government was both indecisive and imprecise over what were essential services.

> "Decisions made by the Government need to be substantiated by the evidence and the science which under-pinned those decisions e.g. why was it considered safer for supermarkets serving many people at a time to stay open than for small food supply businesses, which could easily limit customers to one or two at a time?"
> **Public submission to the Inquiry**

At Alert Level 4, the scheme did not allow 'safe' work where there was little risk of viral transmission (for example, people working outdoors on their own, such as bulldozer drivers). There was little flexibility for employers to apply judgement at the margins as to what was essential or safe work. We heard from representatives of the forestry, road construction and non-food manufacturing sectors, for example, that they believed parts of their sector could have operated safely, helping to reduce the economic and social impacts of lockdown. It is likely that such constraints imposed unnecessary economic costs, both immediately and over the long term, for little health benefit.

It is also possible that some businesses misused the 'essential service' designation to require staff to be onsite when this was not necessary or appropriate under Alert Level 4 conditions. Unions (which were confirmed to be essential services when representing their members at work) told us this was a common problem.

vii For example, from Infrastructure New Zealand: 'There was a significant lack of clarity as to the definition of essential services. It was obvious this had not been thought about prior to the lockdown and rules and definitions were being developed under urgency with less than perfect information.'

3.3.5 Essential workers reported challenging experiences

Workers in essential services continued to go to work during lockdown, putting themselves at risk of exposure to the COVID-19 virus,[viii] and sometimes taking extraordinary measures[ix] to protect their families.[94] They encompassed a wide variety of professions, from specialist health providers to sign language interpreters, port workers to checkout operators, prison staff to journalists. Many worked in low-wage or blue-collar jobs in retail, transport or sanitation.[95]

More than a quarter of our public submissions came from essential workers. Some were celebrated and praised for their efforts and sacrifices during the pandemic (particularly healthcare workers, mirroring the daily applause rituals thanking frontline health workers around the world). Leaders from a major supermarket chain told us 'the community respected our staff – we got brought home made baking [...] our staff were proud of their contribution'. One port worker commented that 'it was interesting to be seen as essential – it was a change in perspective compared to most people's view of waterside workers'.

Others though – or even the same workers at different times – faced abuse, anger, fear, discrimination or distress from the public. Incidents of people intentionally spitting at essential workers were reported.[96] One public submitter described the impact in these terms:

> "The first day of the first lockdown we had to call police three times, got spat in the face, called an ambulance and a glazier. That was just day 1."

Essential workers were praised for their efforts and sacrifices. But the Inquiry also heard of essential workers being stigmatised due to fear of infection.

viii Between 17 March and 12 June 2020, 167 health care and health support workers were infected with COVID-19 (11 percent of all cases). Ninety-six or 57.5 percent were likely to have been infected at work. Nine required hospitalisation as a result, two in intensive care (see endnote 94 for source). It must be noted that the cumulative infection risk of essential workers through 2020 and 2021 was considerably less than in other countries, and most essential workers were younger and less vulnerable to serious illness from COVID-19. However, they were still at risk of becoming infected themselves and also of 'taking it home' to vulnerable family and friends. In another pandemic, the risks to essential workers may be greater.

ix Senior Police officers told us that they heard 'stories of our people living in tents at home because families didn't want them to come into the home or stripping off to be hosed down to be entering the house, or relationships strained because exposing greater family potentially to infection'. A union member in an essential workforce told us that: 'I did not see my family for months as I isolated myself so they would not get COVID – we put much effort into following the rules and then saw people not following rules and increasing risks'. See also endnote 94.

Some described fearing for their safety, and a lack of protection and support to manage their risk of COVID-19 infection and transmission. However, we also heard from essential workers who were proud of their efforts and pleased to have been part of the pandemic response:

> “Overall it felt like a privilege to still be working when so many others could not. It allowed us to retain a sense of structure and normality, and to feel as though we were contributing something useful.”

Thanks in large parts to the efforts of these workers, during Alert Levels 3 and 4, the ‘essentials’ of life – sufficient food supplies, functioning lifeline utilities, a sound financial sector, supply chains, health and emergency services, access to courts and public safety – were fundamentally maintained. While international supply chain congestion caused problems, at a national level there were no shortages of food and essential goods (although there was some panic buying and product shortages early on – especially of toilet paper and flour). Lifeline utilities continued to function and there were no concerns about a shortage of fuel.[97] Courts remained open through COVID-19, adapting as required to operate safely while also ensuring that access to justice, fair trial and other rights were maintained as far as possible in the circumstances.

“Overall it felt like a privilege to still be working when so many others could not. It allowed us to retain a sense of structure and normality, and to feel as though we were contributing something useful.”

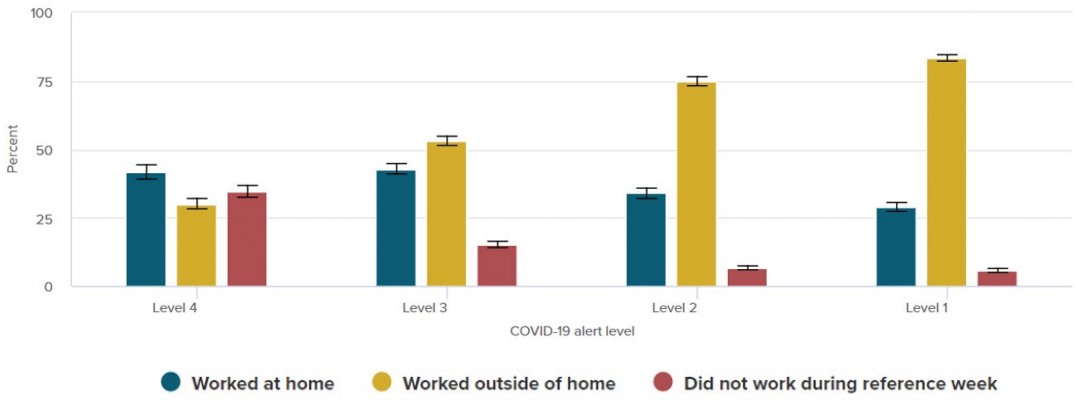
Public submission from an essential worker

Spotlight:
Impact of lockdowns on business |
Ngā pānga o ngā noho rāhui ki ngā pakihi

Depending on the alert level in place, the daily challenges which businesses faced in lockdown could include whether they were allowed to operate at all and if so, under what conditions; whether their suppliers could operate and deliver needed goods and services; whether they still had customers; were staff members healthy and able to work; were they as business operators healthy, and were their families okay.

When the first Alert Level 4 national lockdown started on 23 March 2020, 30 percent of employed people could work outside home while 42 percent of people were able to work from home. Another 35 percent had jobs or businesses but did not work during that week.[98]

Figure 5: Proportion of employed people by work location and COVID-19 alert level

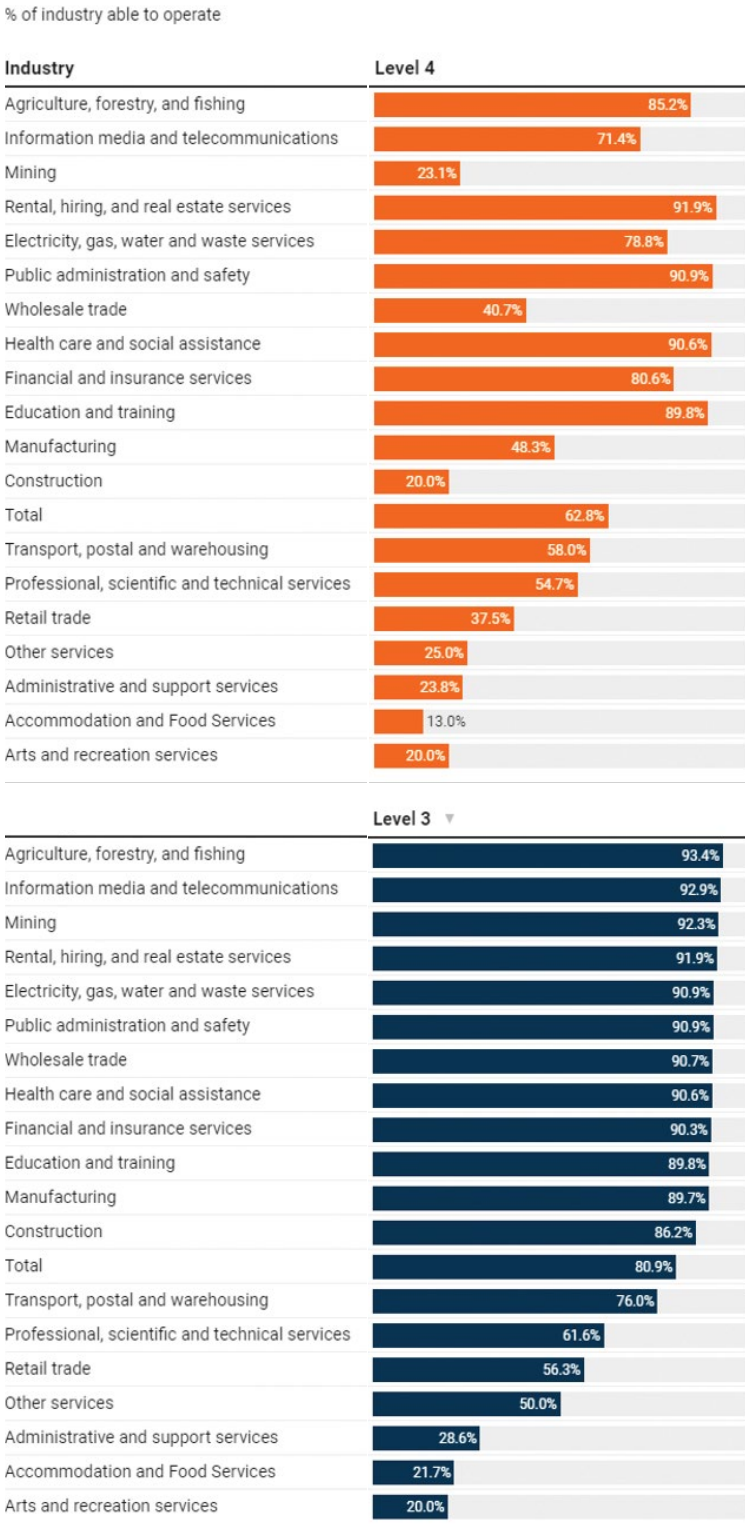


Error bars represent variability in estimates.

Source: Stats NZ, 2020, Four in 10 employed New Zealanders work from home during lockdown, https://www.stats.govt.nz/news/four-in-10-employed-new-zealanders-work-from-home-during-lockdown/

The different levels of lockdown also affected the level of industry activity in ways that varied across sectors. For agriculture, moving from Level 4 down to Level 3 saw normal activity increase from 85.2 percent to 93.4 percent, but for the accommodation and food sector, normal activity grew from 13 percent to 21 percent.[99]

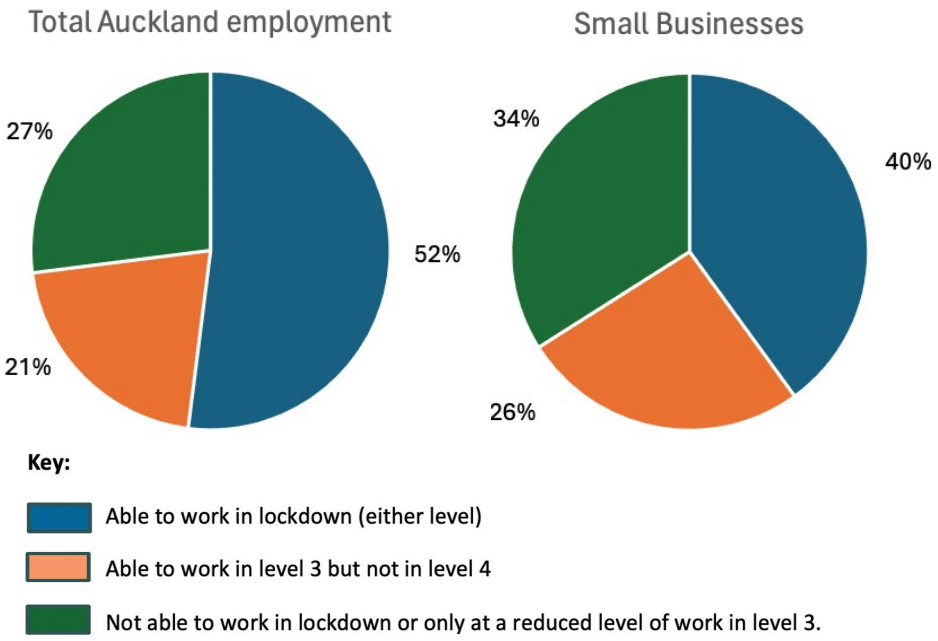
Figure 6: Percentage of industry able to operate at Alert Level 3 and 4



Source: Brad Olsen/Infometrics, 2020, This pandemic is not over yet – not by a long shot, https://www.infometrics.co.nz/article/2020-08-this-pandemic-is-not-over-yet-not-by-a-long-shot

Meanwhile, analysis undertaken for Auckland Council in 2020 showed the impact of different alert levels on specific groups of workers. While overall activity increased with the move from Level 4 to Level 3, 34 percent and 31 percent of small business employees and the self-employed respectively remained unable to work in the Level 3 lockdowns, compared to only 27 percent of all employed people in Auckland.[100]

Figure 7: Impacts of lockdown levels on employment and small business – Auckland



Source: Based on Auckland Council, 2020, Auckland economic update – Covid-19 economic update – groups at level 3 in May 2020, https://www.knowledgeauckland.org.nz/media/1817/05may-2020-covid-19-economic-update-4-groups-in-lockdown-employment-level-3-may-2020.pdf

3.3.6 Impacts on business were mixed

Prominent business leaders were amongst the first to urge, and then support, the lockdowns, and we heard that many parts of the response – including lockdowns – were initially seen as positive by businesses. However, over time some felt that the consequences of lockdowns on businesses were not adequately mitigated (for more on the economic response and impacts, see Chapter 6).

For some businesses the lockdowns, and the rules about who could operate, led to increased debt, mental health issues, and in some cases the closure of their business. We heard frequent reports of hardship for businesses not able to operate during Alert Level 4 – such as butchers, hospitality and restaurants – with this hardship extending to some employees and suppliers. CBD businesses were also hit hard, as were some sectors such as tourism and some parts of hospitality. Many saw the restrictions as unfair (for example, allowing supermarkets to operate but not some of their competition). In general, large businesses were more able to absorb the financial shock than small businesses.

As the different waves of COVID-19 impacted Aotearoa New Zealand with further national and regional lockdowns, business confidence became increasingly shaky due to ongoing uncertainty, and price inflation. Small businesses that had used their reserves during previous lockdowns increasingly wondered if it would remain viable for them to keep operating.[101]

The impact of lockdowns was particularly felt by small businesses, with many sectors impacted, including tourism, retail, hospitality, personal services and trades. We were told that, despite (welcomed) government support measures, many small businesses faced challenges as to their future viability. Small business balance sheets suffered, and many increased home mortgages to keep their businesses afloat.

> “The first lockdowns had many business owners facing complete uncertainty and fear regarding completely losing their business, their customers, their ability to produce, their staff, their personal homes (which most often financially guarantee such businesses), their life’s work, and their future…”

Small business owners noted the mental health repercussions for both the business owners and their employees of not being able to operate during lockdowns. For small business owners from ethnic minorities this was exacerbated by factors such as communication difficulties and a lack of awareness of supports. Other representatives of small business noted the combination of the financial effect of lockdowns and subsequent higher interest rates on business viability. There were concerns about the lack of confidence from the impact of cumulative lockdowns.

While some sectors were well positioned to work digitally during lockdowns (e.g. banking and finance, technology sectors in general), others simply could not operate in this way (e.g. construction). For businesses that were able to continue to function, there were still issues to deal with, including how to keep staff shifts separate, integrating social distancing into operations, and mental health issues for staff.

3.3.7 Some people faced particular difficulties in lockdown

While lockdowns contributed to increased anxiety and stress for many people, there were some for whom this was particularly challenging. For those with existing mental health issues, this increased stress was a significant issue. Women and children at risk of violence due to the heightened stress had reduced opportunities to seek support. Disabled people and older people relying on in-home care faced significant challenges in getting appropriate personal protective equipment (PPE) and maintaining adequate levels of care.[102] See Chapter 6 for more examples.

3.3.8 Working from home posed its own challenges

People who were employed, but not designated essential workers, were required to work from home if they could during Alert Level 3. This posed a different set of challenges. While some workers and employers were well-equipped to make this happen, others were not. We heard frustration from submitters that the Government seemed to assume that most people could work from home comfortably when this was not the case for all. There were issues with adequate technology, internet access, cramped or inappropriate workspaces, distractions and competing domestic demands.

The difficultly of working from home while trying to supervise children and support them with remote learning has been well documented publicly and by researchers.[103] Going into the pandemic, the vast majority of unpaid work was performed by women, particularly caring and community roles. The pandemic placed many with significant caring responsibilities (most often women) under considerable additional stress.[104] During the Alert Level 4 lockdown in 2020, women were more likely to report a significant increase in caring demands.[105] These effects were felt by a range of women, including young women who picked up additional care responsibilities in their household during the pandemic.[106]

> **“Trying to work an 8-hour day, while assisting kids with homeschool was nearly impossible.”**
>
> Public submission from a parent

We heard from submitters that the additional stress placed on working parents (and others juggling significant care demands) was not well acknowledged. This applied to the government response (for example, no provision of childcare at Alert Level 4), and the actions of employers (for example, not adjusting workloads to take into account additional domestic responsibilities). The difficulties of juggling these competing demands, as well as the social disconnection of working from home, took a toll on many people's mental health.[x]

> “Trying to work an 8-hour day, while assisting kids with homeschool was nearly impossible. Essential workers working outside the home could access childcare but parents working from home could not. Finding a way to better support all types of households in the future would be advisable.”

x Mental health impacts are discussed in more detail in Chapter 6.

However, there were also benefits from the increased flexibility of working from home, the availability of new digital tools for work, connection and collaboration, and the normalisation of hybrid work. Some submitters appreciated how the pandemic normalised working from home, while others celebrated the innovation this requirement had prompted.

> "I run my own Personal Training business, the pandemic challenged me to embrace technology and grow my business online which I never would've done otherwise. I've now incorporated that into my business today."

3.3.9 People in informal and precarious work were hit hard

Many people undertake (or commission) some informal work in normal, non-pandemic circumstances: tradespeople do cash jobs, people pay family members to babysit, a stay-at-home parent might clean one or two houses while their children are at school. For some, this supplements their main income, while for others, it *is* their income.

Such informal economic activity is sometimes referred to as the 'grey economy'. Like everything else, much of this kind of work stopped during Alert Level 4 lockdown in the early phases of the pandemic, and people undertaking it were not eligible for the wage subsidy or income relief payments. Because it is informal and undocumented, and operates outside the tax net, it is very difficult to know how many people lost income this way and what the impacts were.

We also heard from some stakeholders and submitters that people in precarious employment were a particularly vulnerable group. This included people whose employment was too inconsistent to qualify for income support, casual sub-contractors, and workers whose employers didn't apply for the wage subsidy but instead closed or laid off staff (for further discussion on economic supports, see Chapter 6).

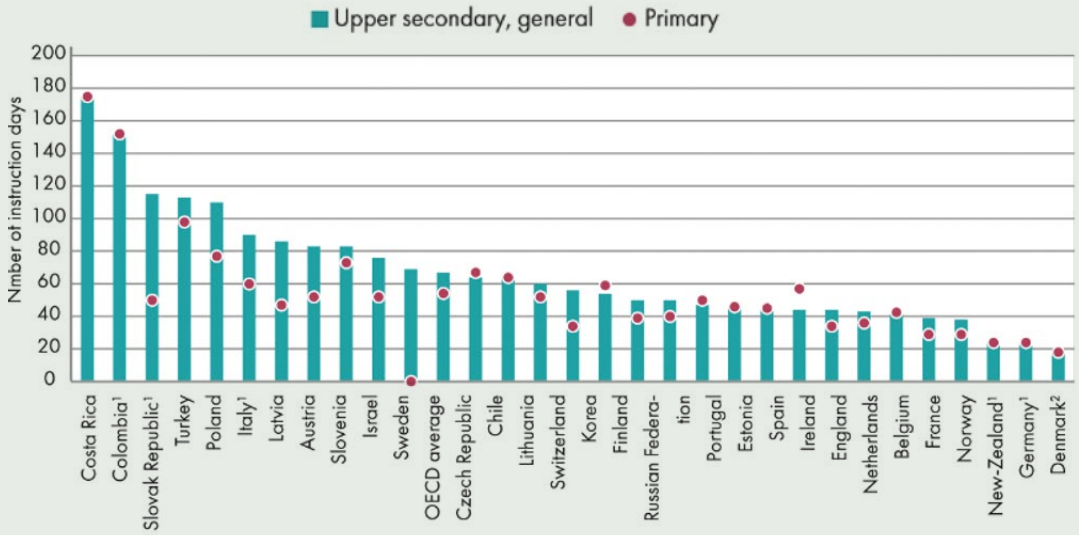
Our engagements with officials involved in designing COVID-19 income protections and employment support suggested little consideration was given to these issues.

3.3.10 There were significant educational impacts, but these were likely in keeping with those experienced worldwide

While the disruption to education for students in Aotearoa New Zealand was less than in most other OECD countries, it still had a significant and negative impact – particularly for Māori and Pacific students, those from lower socio-economic backgrounds, and likely for students in Auckland.

By the end of 2020, and up until mid-2021, the elimination strategy had served Aotearoa New Zealand school students well in terms of minimising the interruption to their education. Relative to other countries, students here missed fewer days of school instruction in 2020, with the third lowest number of days closed in the OECD.[107]

Figure 8: Number of instruction days (excluding school holidays, public holidays and weekends) where schools were fully closed in 2020 – primary and upper secondary, OECD



Source: OECD, 2021, The state of school education: One year into the COVID pandemic, p 9, https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/04/the-state-of-school-education_b929a614/201dde84-en.pdf

The impact of school closures on student achievement and academic progress was not immediately clear, but later, in the first PISA study[xi] since the start of the pandemic, covering the period from 2021-2022, Aotearoa New Zealand's maths scores were 15 points lower than in 2018 (as was the OECD average), while New Zealand's reading and science scores were largely unchanged from 2018 scores.[108] In all three, New Zealand maintained its relative position compared to other OECD nations, suggesting New Zealand students experienced loss of learning from the pandemic, particularly in maths, but no more so than in other comparable countries.[109] Students from low socio-economic backgrounds had a larger drop in maths than more socio-economically advantaged students.[110]

xi The Programme for International Student Assessment (PISA) is an OECD initiative that compares the standardised reading, maths and science scores of approximately half a million 15-year-old students selected at random from 81 participating countries, including Aotearoa New Zealand. It is undertaken every two years.

Looking back at the cumulative impacts of the pandemic, a 2023 ERO report found significant, concerning, and ongoing impacts on learners' progress.[111] These mostly exacerbated existing trends and were in line with global experience. They included:

- A serious impact on attendance. Regular school attendance in Aotearoa New Zealand dropped as low as 40 percent in Term 2 of 2022 and remains low. By the end of 2022, regular attendance had only recovered to 51 percent, suggesting COVID-19 disruptions have led to longer-term impacts on attendance.
- Challenging behaviour – 41 percent of principals reported behaviour was worse than they would previously have expected for the time of year (they were surveyed in March).
- Progress and achievement – nearly half of principals in 2023 said learning was worse than would previously have been expected. Principals in schools serving poorer communities are more than three times as likely as those serving better-off communities to say that their learners are behind by two or more curriculum levels.
- NCEA levels had fallen to below where they were at in 2019.
- Learners in poorer communities, Māori and Pacific students were more impacted.[xii]

In the tertiary sector, qualification, course completion rates and first year retention rates remained fairly stable through the pandemic period, compared to 2019.[112] However, there is evidence that some groups have been more impacted than others. There have also been well-documented impacts on the wellbeing of educators and staff at all levels.[113]

Students in Auckland experienced more significant disruptions to their education than those in the rest of the country. For most of the country, school closures were limited to five weeks in March and April 2020, two weeks in August 2020, and three weeks in August 2021. But Auckland schools were closed for an additional 15 weeks in the second half of 2021. There is no strong evidence about the specific regional educational impacts of Auckland's multiple lockdowns. But there was already emerging evidence in early 2021 that student engagement there was more affected, with 26 percent of Auckland teachers reporting that their learners were engaged, compared to 51 percent outside of the region.[114]

In a report released in June 2021, the Ministry of Education found that, nationally, learning progress in reading and maths for many student groups was 'essentially unchanged or even positive' compared with 2019. When this data was updated in mid-2022, the Ministry said they showed 'that the effects of Covid-19 on learning progress were not severe'.[115]

xii ERO identifies Pacific students as a group whose learning has been particularly impacted. A follow-up report on the pandemic's specific impacts for Pacific learners noted their achievement declined in 2021 after an increase in 2020. The fall was more pronounced for Pacific learners than the general population and Pacific learners continue to sit below the general population for achievement at NCEA levels 1, 2 and 3 and for university entrance. See: *Learning in a Covid-19 World: The impact of Covid-19 on Pacific Learners*.

A considerable number of submissions raised concerns about the disruptions lockdowns caused to children and young people's education, and specifically the impact of this on their mental health. Submitters thought the social isolation caused by school closures had contributed to multiple impacts on young people, including increased anxiety, impaired communication and social skills, and a trend towards disengagement from education. These observations from submitters are supported by other evidence showing a disproportionate impact of the pandemic on child and youth mental health, including surveys of children and young people themselves, academic research, and data about demand and call volumes for child and youth mental health services and support.[116] Not all of this can be directly attributed to the closure of educational facilities, but this was clearly a contributing factor, especially in relation to high rates of loneliness and social isolation among young people. See Chapter 6 for more on the pandemic's impact on mental health and wellbeing.

Some residents felt South Auckland was unfairly stereotyped and that COVID-19 outbreaks occurring elsewhere did not receive the same negative coverage.

3.3.11 Auckland – especially South Auckland – did it tough

The cumulative impacts of repeated lockdowns on Aotearoa New Zealand's largest city were multifaceted, encompassing economic, mental health and wellbeing, educational outcomes and social cohesion.

Maintaining the trust of South Auckland communities was important. These communities – with their high proportion of essential workers, many of whom worked in or around Auckland Airport – were disproportionately impacted by repeat outbreaks and lockdown requirements. There were high levels of fear and anxiety within these communities, and we heard about older people reluctant to leave home and families keeping children away from school even when restrictions were lifted. Public health messaging about 'bubbles' and limiting purchases of grocery items impacted large households with multigenerational families who shared resources or provided care for elderly family members in other households. There was also evidence of children with disabilities left without carer support.[117] None of these challenges were unique to South Auckland, but they appear to have been particularly concentrated there. South Auckland community providers told us that the COVID-19 response did not always anticipate or address unintended consequences such as these.

An unfortunate public narrative also emerged whereby South Auckland was regarded as more likely than other areas to host an 'out of control' outbreak requiring aggressive alert level changes. Community leaders felt this narrative was based not only on population density, but on negative preconceptions about the population in that part of Auckland. Some residents felt South Auckland was unfairly stereotyped and that COVID-19 outbreaks occurring elsewhere did not receive the same media coverage.[118]

1. Lockdowns – in combination with tight border restrictions – proved to be an effective tool for achieving and maintaining Aotearoa New Zealand's elimination strategy in 2020 and early 2021.

- Aotearoa New Zealand's use of lockdowns early in 2020, while stricter than many countries, worked. Aotearoa New Zealand was able to spend large amounts of time in 2020 free from the restrictions experienced by many other parts of the world.
- Lockdowns at least initially were supported by high levels of trust and social cohesion, strong support from communities, social and economic supports, and clear communication.

2. Aotearoa New Zealand would have been less reliant on using lockdowns to eliminate COVID-19 infection with greater preparation of, and investment in, core public health functions.

- Decision-makers' options were initially limited by the capacity and effectiveness of the tools available (such as contact tracing) and how effectively measures such as mask wearing were taken up by the population.
- We note that some Pacific countries (such as Samoa, Tonga and Tokelau) avoided the need for lockdown measures altogether by closing their borders before any COVID-19 cases had occurred, suggesting Aotearoa New Zealand could benefit from earlier border restrictions (in other words, adopting an exclusion strategy) in a future pandemic if the pathogen is particularly infectious and virulent.

3. Deciding when to introduce, and when to stand down, measures such as lockdowns is extremely challenging and requires difficult trade-offs in the face of uncertainty.

- Decisions about when to start and end measures such as lockdowns involve weighing up a range of competing considerations – social and economic, as well as public health – and considering impacts across different population groups.
- During the COVID-19 response, decisions around use of lockdowns were informed by a range of advice and evidence, including modelling that took account of vaccination coverage, use of public health measures, and the strength of testing, contact tracing, and isolation systems. The Inquiry has not seen evidence that waning protection from vaccination was included in modelling to inform decisions around when to end lockdowns in late 2021, although it was used in modelling from early 2022.
- Many members of the public – and some senior ministers – felt that the last Auckland lockdown went on for too long. Our assessment is that the Government's decision-making on when to end the final Auckland lockdown reflected its judgement that allowing more time for Māori and Pacific communities to reach higher levels of vaccination was justified by the benefits they would gain, in the form of greater protection against the severe impacts of COVID-19.
- However, we are of the view that other factors such as waning protection and assessments of likely resurgence could have been considered alongside vaccine coverage. For example, we note that lockdowns in the Australian states of Victoria and New South Wales ended earlier and at lower vaccination coverage levels than that at which the Auckland lockdown was relaxed, without any associated increase in case numbers. In a future pandemic we think these considerations should also be included in advice to decision makers.

4. Some elements of the lockdowns were particularly difficult to implement, especially at short notice.

- Both regional boundaries and the essential worker framework, while valuable, were hard to implement rapidly and with no prior preparation across the government system. These timing and preparedness issues caused many challenges for businesses, communities and government.

5. Lockdowns had disproportionate impacts on some groups.

- While students' education was less disrupted in Aotearoa New Zealand than in most other OECD countries, lockdowns still had a significant and negative impact – particularly for Māori and Pacific students, those from lower socio-economic backgrounds, and students in Auckland.
- The impacts of repeated lockdowns on Auckland were cumulative and multifaceted, encompassing economic, physical and mental health and wellbeing, educational outcomes and social cohesion.

6. Efforts by iwi, Māori and communities of all kinds undoubtedly alleviated some potential negative impacts of lockdowns on individuals and groups.

- Iwi, Māori and many others – neighbourhoods, cultural groups, online groups, non-governmental and community organisations, religious institutions, families, whānau and aiga – stepped up during the first Alert Level 3 and 4 lockdowns to provide essential local leadership, support each other and address local needs. Their pre-existing relationships within their local communities (and, in some cases, with Government) were invaluable in enabling this to happen.

3.5 Endnotes | Tuhinga āpiti

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CHAPTER 4:

4 Keeping the country closed: border restrictions and quarantine | Ka noho kati te whenua: ngā rāhui pae whenua me te noho taratahi

4.1 Introduction | Kupu whakataki

On 19 March 2020 the Government announced that the country's borders would close to all travellers except returning New Zealand citizens and residents from 11.59 pm that night. This was an unprecedented move.

Technically, Aotearoa New Zealand's borders did not in fact 'close', neither then nor later. No legal mechanism was ever in place preventing people or goods from arriving: planes continued to land and ships to dock (apart from cruise ships) throughout the pandemic. But a changing combination of immigration settings and public health regulations – particularly the requirement to quarantine in a designated facility – meant that, for all practical purposes, most non-New Zealanders could not enter the country for two years.

New Zealand citizens and residents, whose legal right to enter was never extinguished, had varying responses to these restrictions. While some were supportive, others felt as if the border had closed to them too.

> "As a New Zealander living in Australia, I felt very proud of New Zealand's response to the pandemic & grateful to the NZ Government of the time for keeping our whānau safe. Although borders were closed and I couldn't return from Australia, the clear communication & leadership from [Prime Minister] Jacinda & [Director-General of Health] Ashley meant I fully understood and supported the reasons why."

> "Restricting people from returning home is incredibly damaging."

What's in this chapter

This chapter examines and evaluates the border restrictions and quarantine requirements that collectively kept the country's borders closed for the duration of the pandemic.[i]

- In **section 4.2.1**, we describe the mechanisms used to close the air and maritime borders, how the borders were managed over the next two years, and the gradual steps towards reopening them. We also look at the regime for granting border exceptions to particular people in certain circumstances, and how the visa system changed over the period in which the borders were closed. The broader economic impacts of the border closure – on the labour market, the supply chain, tourism, the maritime industry and more – are discussed in **Chapter 6**.
- **Section 4.2.2** traces the development of the MIQ (managed isolation and quarantine) system from its rapid establishment in April 2020.
- Our assessment of the utility and impact of the border and quarantine measures adopted during the pandemic response is set out in **section 4.3.** While we consider these measures were effective in stopping the virus from entering the country, and limiting its spread when it did, we also recognise the social, economic and personal costs were very high. How those costs might be mitigated in a future pandemic is something we return to in our lessons for the future and recommendations.

i While it might be more accurate to refer to border 'restrictions', we often use border 'closure' in this chapter since that was the term widely adopted (including by the Government) throughout the pandemic and since.

4.2.1 'Closing' the border, March 2020 – July 2022

From early 2020, Aotearoa New Zealand began amending the Immigration Instructions[ii] to refuse entry to people from certain countries, due to soaring COVID-19 case numbers in certain overseas locations. These instructions were specifically to manage the COVID-19 outbreak. They reflected the advice of health officials, who monitored which locations posed the greatest risk according to their infection and transmission rates and also (to an extent) the effectiveness of the public health systems and measures in place there.

On 2 February 2020, the Government announced the first such ban, which applied to foreigners travelling from mainland China. Returning New Zealand citizens and residents (plus immediate family members) and people already in transit were allowed to enter but expected to self-isolate for 14 days. At the end of the month, travellers from Iran were refused entry, and arrivals from northern Italy and South Korea were required to self-isolate soon after. Another category of travellers was refused entry on 14 March when the Government announced cruise ships could no longer enter New Zealand's territorial waters. Officials kept all such border restrictions under constant review: according to the Ministry of Health, the aim was to ensure they were sufficiently stringent to support the 'Keep it Out' approach (covered in Chapter 2), while remaining proportionate.

However, temporary bans on foreign travellers from high-risk destinations did not succeed in stopping COVID-19 from reaching Aotearoa New Zealand. The COVID-19 virus began spreading in the community between early and mid-March 2020. At that point, events began moving very quickly. Over a 12-day period, New Zealand's first COVID-19 case was reported, COVID-19 became a quarantinable disease under the Health Act 1956, and the World Health Organization declared a global pandemic. On 19 March 2020, Cabinet agreed that the country's borders would be closed to everyone except New Zealand citizens and residents (with case-by-case border exceptions granted in other specific cases).[1] By midnight, these tight border restrictions had come into effect.

Some strong public messages accompanied the Government's announcement. New Zealanders and residents who were currently out of the country were urged to return while flights were still available. Foreign nationals temporarily in Aotearoa New Zealand should leave as soon as possible to be sure of getting home. People living here should avoid travelling offshore. And while these measures were necessary to protect public health, they were temporary and would be regularly reviewed.[2]

For the next two years, the border remained effectively closed to everyone except those qualifying for 'border exemptions':[iii]

- New Zealand citizens and permanent residents, along with their partners, guardians and children (if ordinarily resident in New Zealand, travelling with the person or having a visa based on that relationship);
- Australian citizens and permanent residents ordinarily resident in Aotearoa New Zealand;

ii Immigration Instructions are the statutory mechanism whereby tools associated with visa products are set and give effect to the policy setting. Immigration Instructions are established under s22 and s23 of the Immigration Act 2009.

iii This term applied to categories or people who were exempt from the border restrictions. This group differed from 'border exceptions'.

- air and cargo ship crew;[iv] and
- diplomatic and consular staff.[3]

Border exceptions[v] could be granted to other people on a case-by-case basis if their reason for entering the country was deemed to be critical (the definition of which evolved over time).[4] From 9 April 2020, arrivals were required to enter a managed isolation facility or quarantine facility on arrival and to hold a valid visa (see section 4.2.1.1 for more on exceptions and visas).

The effect of the border closure on passenger volumes was immediate and dramatic. Typically, Aotearoa New Zealand has more than seven million arrivals each year. Between March 2020 and March 2021, just 165,000 arrived. Alongside this 98 percent drop in arrivals was a 96 percent decline in departures. This rupture in the country's connections with the world had major impacts on people's lives and on many sectors of the economy – including international education, tourism and hospitality – and created labour shortages in industries relying on temporary and migrant seasonal labour.[5]

Arrangements for the maritime border, which is dominated by cargo rather than people, were somewhat different from those at the air border. Cruise ships were refused entry for the duration of the pandemic. Under the COVID–19 Public Health Response (Maritime Border) Order 2020 that came into effect on 30 June 2020, most other categories of foreign vessels – including cargo ships, fishing ships and those arriving for humanitarian reasons – were still allowed to berth. However, there were strict restrictions on the movement of crew, the loading and unloading of cargo and catch, and other activities.[6]

In normal times, multiple government agencies share responsibility for controlling the flow of people and goods across the border – Immigration New Zealand (as part of the Ministry of Business, Innovation and Employment), the New Zealand Customs Service, the Ministry for Primary Industries, Maritime New Zealand, the Aviation Security Service, New Zealand Police and the New Zealand Security Intelligence Service. Although the agencies have historically worked closely together, inter-agency collaboration became critical during the pandemic. The Border Executive Board, comprising the six public service departments with border functions,[vi] provided oversight and coordination. And as the job of operationalising new and often untested border measures involved the private sector – airports, airlines, ports, shipping companies and others – maintaining close and collaborative relationships with these stakeholders was also critical.

Over the course of the pandemic, policies and measures for controlling the border – and MIQ (managed isolation and quarantine) – were constantly reviewed, adjusted and added to as circumstances changed, globally and domestically.

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iv Under regulation 25 of the Immigration (Visa, Entry Permission, and Related Matters) Regulations 2010, air crew, some marine crew, and some foreign military personnel were already exempt from having to apply to enter Aotearoa New Zealand.

v This term applied to categories of non-New Zealanders that could be approved, case-by-case, to enter New Zealand.

vi The Border Executive Board was established as an interdepartmental executive board in December 2020 under the Public Service Act 2020 (Schedule 2, Part 3), specifically to support New Zealand's defence against COVID–19 and other risks. It started in January 2021. The member agencies are the New Zealand Customs Service and the Ministries of Business, Innovation and Employment; Foreign Affairs and Trade; Health; Primary Industries; and Transport. It replaced the previous chief executive group (the Border Sector Governance Group), which involved the New Zealand Customs Service, the Ministry for Primary Industries, the Ministry of Transport and Immigration New Zealand.

According to the Ministry of Business, Innovation and Employment, initial measures were 'ad-hoc' and designed 'to manage the risk of COVID-19 reaching and being transmitted here, as the rising threat was identified and as the science on COVID-19 developed in its infancy'. But as it became apparent the pandemic would last for more than a few months, the approach to border management evolved. Pressure built to meet the needs of industry and business for critical workers from overseas and to retain skilled foreign workers already here (alongside keeping COVID-19 out), and new measures were introduced to support these goals.

Work on options for reopening the border began early in the pandemic, and there were short-lived periods of quarantine-free aviation travel with parts of Australia and the Pacific in the first half of 2021. In mid-2021, Cabinet signalled that it was time to plan to progressively change New Zealand's border settings. The elimination strategy had put the country in a unique position, giving it 'choices and options that are not open to other countries', the Prime Minister advised.[7] Under what became known as 'Reconnecting New Zealand to the World', border settings would start moving towards a more sophisticated, risk-based approach for individual travellers whereby 'the restrictions we impose on travellers are proportionate to the public health risk'.[8] The goal was to allow as many people as possible to enter quarantine-free – supported by 'ongoing layers of protection' in the form of vaccination, testing and other measures – until border restrictions could be lifted completely.

The emergence of the Omicron variant at the end of 2021, first overseas and then in Aotearoa New Zealand, significantly impacted this planned approach to reopening the border (see the epidemiological discussion in Appendix B for more detail about the course of the virus during this period). The first step towards reconnection – whereby vaccinated New Zealanders (and others eligible under existing border exceptions) could enter the country from Australia without going into MIQ – took effect on 28 February 2022.

That same day, a briefing to the Minister for COVID-19 Response stated 'public health advice from the Ministry of Health is that the relative COVID-19 transmission risk posed by international arrivals is no longer higher than the domestic risk of COVID-19, and therefore self-isolation and MIQ are not required for public health risk management at this time'. This briefing recommended removing the remaining MIQ and self-isolation requirements for fully vaccinated New Zealand citizens and residents (and others able to enter Aotearoa New Zealand) arriving from countries other than Australia by 5 March 2022, essentially bringing forward the next stage of the 'Reconnecting New Zealand' plan.[9] It also described the operational complexities of rapidly removing MIQ and self-isolation requirements, such as coordinating the release of around 1,450 people from MIQ and informing staff whose positions would be affected.

While the Government did bring forward the dates for opening the border and removing MIQ requirements, some stakeholders we met with criticised it for failing to lift border restrictions more quickly. We will return to this issue, and especially the interconnectedness of health measures and factors weighing against opening the border, in our lessons for the future.

On 31 July 2022, Aotearoa New Zealand's borders fully reopened to all travellers and visa-holders from anywhere in the world. All quarantine and isolation requirements were removed.

4.2.1.1 Border exceptions

Throughout the pandemic, people wanting to enter Aotearoa New Zealand who were not citizens or residents[vii] could be granted a border exception in specific circumstances. Cabinet agreed parameters for making these decisions on 19 March 2020.[10] Border exceptions could be granted in five categories – those travelling for humanitarian reasons, essential health workers and 'other essential workers', citizens of Samoa and Tonga travelling to New Zealand for essential reasons, and people who were partners or dependants of temporary work or student visa holders and normally lived in New Zealand. However, receiving permission to cross the border did not equate to securing a place in MIQ, which remained a stumbling block for many.

By 28 May 2020, 11,842 people had expressed interest in obtaining an exception to border restrictions across the five categories. The bar was high: of those applying, only around 20 percent (2,354 people) were deemed to meet the criteria.[11]

In June 2020, 'essential workers' seeking border exceptions became known as 'critical workers', and Cabinet's original parameters for granting border exceptions evolved into a more specific set of criteria for short- and long-term workers. The threshold for entering the country as a critical worker would remain high, and individuals could not simply apply: their intended employer had to lodge a request first.[12] But with the initial COVID-19 outbreak now under control and the country no longer in lockdown, the Ministers for Economic Development and Immigration advised their Cabinet colleagues it was time to ensure 'our border restrictions are responsive to the needs of businesses. We need to ensure access for essential workers required for significant economic activities, without whom key projects will be delayed or the economy affected.'[13] On 8 June 2020, Cabinet agreed that 6-month border exceptions could be granted to critical workers if their employer could demonstrate:

- they had unique experiences and technical or specialist skills not obtainable in Aotearoa New Zealand; or
- they were doing significant work on a major infrastructure project, a nationally or regionally important event, or a government-approved programme; or if their work supported a government-to-government agreement or had significant wider benefit to the economy; and
- the role was time-critical (in other words, if the worker failed to come, the project, work or event would stop, be severely compromised, or incur significant costs).

In order to respond to the large volume of requests and to streamline the assessment process, Cabinet agreed that Immigration New Zealand would decide exceptions under the 'other essential worker' category, instead of ministers.[14]

vii Or in one of the other four groups exempt from border restrictions – see list in section 4.2.1.

The classes of critical workers granted border exceptions increased and diversified over time, in response to the needs of sectors. Over the course of the pandemic, those granted border exceptions ranged from dairy workers, Recognised Seasonal Employer scheme workers, agricultural machinery operators, silviculturists and shearers to veterinarians, teachers, technology sector specialists and auditors.[15]

Between April 2020 and August 2022, 39,690 workers were granted a border exception and visa (in most cases, a Critical Purpose Visitor Visa; see section 4.2.1.2). Of those, 17,271 were 'other critical workers' and 7,746 were critical health workers. Another 9,924 were workers from the Pacific entering under the Recognised Seasonal Employer scheme. In addition, nearly 11,000 dependants of critical workers were allowed to enter.

However, the number of exceptions granted did not equate to the number of approved workers (and their families) entering the country. As the Ministry of Business, Innovation and Employment acknowledged, the actual arrivals of critical workers and other border exceptions throughout the pandemic remained dependent on MIQ capacity and the speed with which visas could be granted. Border exceptions during the course of the pandemic totalled 71,334 visas approved, with 57,237 people arriving in Aotearoa New Zealand between April 2020 and August 2022.

The border exceptions regime was phased out in stages from April 2022 as border restrictions were progressively removed. Classes of workers who had been entering the country by means of border exceptions could now apply for entry through standard immigration pathways.

Between April 2020 and August 2022,
39,690
workers were granted a border exception and visa.

4.2.1.2 Visas

Under the Immigration Act 2009, anyone who is not a New Zealand citizen needs both entry permission and a visa (or visa waiver) in order to enter the country. Before the pandemic, Aotearoa New Zealand was issuing over one million visitor visas per year.[16] But during the two years the border was closed, the availability of visas was heavily restricted.

Processing of visa applications of all kinds came to a near halt from 19 March 2020, although people could still lodge some applications online. Offshore visa processing offices closed. Operating at significantly reduced capacity, Immigration New Zealand stopped accepting or processing applications for all temporary visas from offshore, such as those normally available to students and visitors. Resident visa applications from offshore were not processed either. New selections of applications for the Skilled Migrant Category Resident Visa were paused until a new visa category was introduced in 2021 that allowed people already in Aotearoa New Zealand on work visas (and who met other conditions) to apply for residency.[17]

With normal processing largely on hold, Immigration New Zealand instead prioritised applications from essential workers and visa-holders already in the country whose visas were expiring. Two new kinds of visas were introduced in 2020 for these groups.[18] In September 2020, the COVID-19 Short-term Visitor Visa allowed people to stay in Aotearoa New Zealand for two months if they were unable to return home because of COVID-19 and their existing visa was about to expire; it meant they could 'remain lawful' while making arrangements to leave. At the same time, onshore visitor visas due to expire in the next two months were automatically extended by five months.[19] In June and October 2021, further automatic extensions were made to some onshore visas (Working Holiday and Supplementary Seasonal Employment (SSE)) for six months.[20]

Public submissions to the Inquiry described the stress and uncertainty some visa-holders experienced over this period. This included those faced with returning to another country where COVID-19 infection rates were high, visa-holders who were out of Aotearoa New Zealand when the border closed and did not know when they could get back in, and some who were in the country and waiting for visa certification but were excluded from government support and welfare while visa processing offshore was on hold. As the border progressively reopened in 2022, normal visa pathways and processing gradually resumed. With the end of the border exemption regime, the Critical Purpose Visitor Visas were gradually phased out. Applications for all work visas reopened on 4 July 2022, and for student and visitor visas at the end of that month.[21]

4.2.2 Quarantine and isolation

4.2.2.1 2020: Establishing and expanding the MIQ system

The first international arrivals to enter a managed facility due to the risk of COVID-19 were repatriated New Zealanders from Wuhan: they spent 14 days quarantining in campervans at a military training centre in Whangaparāoa in February 2020. Over the coming weeks, arrivals from a growing number of high-risk countries also quarantined at New Zealand Defence Force facilities before quarantining at home.

As the global pandemic accelerated, Aotearoa New Zealand's quarantine arrangements became increasingly stringent. Under a health order issued on 16 March 2020, arrivals from all countries[viii] were 'expected' to quarantine at home for 14 days. Once the border closed three days later, a second health order was issued which 'required' all arrivals to quarantine at home (except aircrew who had used personal protective equipment (PPE)). A third order issued on 9 April 2020 required everyone arriving by air (except aircrew and diplomatic staff) to quarantine at a designated facility rather than at home.[22]

viii Except Category 2 countries, namely all Pacific Islands Forum members (apart from Australia and French Polynesia) as well as Tokelau and Wallis and Futuna. Travellers from these countries only needed to quarantine if unwell.

This marked the start of the government-run MIQ system that, within three months, saw all incoming travellers being accommodated in 32 hotels across five regions. Until late 2021, most people in the community who tested positive for COVID-19 also completed their required 14 days of isolation in MIQ facilities.

Initially, the MIQ system was coordinated and resourced by a multi-agency team attached to the National Crisis Management Centre. It was led by the Ministry of Health, assisted by the New Zealand Defence Force and others.[23] As the Ministry of Health's capacity came under increasing pressure, responsibility shifted to the Ministry of Business, Innovation and Employment (partly because of its pre-existing role in providing temporary accommodation in response to civil defence emergencies), which became the lead agency from 13 July 2020, again supported by the Defence Force. However, the Ministry of Health remained in charge of health matters, including overseeing the work of the district health boards whose staff carried out testing, health checks and screening in MIQ facilities. The system also relied heavily on staff from the Aviation Security Service, New Zealand Police, the Defence Force, Customs, the hotels themselves and security firms, working either on-site or in support roles such as transport. Ministerial responsibility for the MIQ system rested first with the Ministers of Health and Housing, before the Minister for COVID-19 Response took over in November 2020 when that role was created.

The 9 April 2020 order making quarantine mandatory for air travellers expired on 22 June 2020 after two extensions.[ix] It was immediately replaced by the COVID-19 Public Health Response (Air Border) Order 2020, which included additional requirements and stipulated some situations in which people could be allowed to leave MIQ, such as for medical care or court proceedings.[24] People might also be permitted to leave if the Director-General of Health (later the Chief Executive of the Ministry of Business, Innovation and Employment) agreed they had an 'exceptional reason', and after an assessment of the likely risk to public health. Permission to leave was rarely granted. Pilots, flight crews and marine crews flying in to join their ships were exempt from quarantine to help keep supply chains and transit routes open.[x]

A similar order setting out isolation and quarantine requirements at the maritime border was introduced in mid-2020. Most people arriving by sea were required to spend 14 days in isolation or quarantine on board their ship. Exemptions included those who had been at sea for at least 29 days and had no contact with anyone other than shipmates (providing none had COVID-19), and crews arriving by air to join a ship leaving Aotearoa New Zealand immediately.[25]

ix This and all subsequent orders relating to quarantine and isolation were issued under the COVID-19 Public Health Response Act 2020, which became effective on 13 May 2020, rather than the Health Act 1956 under which the first orders were made.

x Section 4(1) sets out the full list of those exempted from quarantine requirements (known as excluded arrivals): any aircraft pilots or flight crew members; any maritime crew members transferring to a ship (within the meaning of the Health Act 1956) immediately after their arrival in New Zealand; any medical attendants assisting with medical air transfers; any person designated by the Director-General as critical to providing services to assist with the response to COVID-19; any person who is entitled to any immunity from jurisdiction (diplomats etc); and any member of the New Zealand Defence Force returning from service outside of New Zealand.

At the time the international border closed, an estimated 80,000 New Zealanders were thought to be temporarily overseas, while another 800,000 were living overseas permanently.[26] There was no way of knowing how many of them would return home and need to stay in MIQ facilities, making it very difficult for officials to assess the capacity required or likely demand. This difficulty was compounded by the absence of regular patterns to arriving flights and the delay or cancellation of many scheduled flights.

In the first two months of the pandemic, the number of travellers arriving by air was around 2,600 per fortnight. This number was expected to decline over time.[27] But by mid-2020, demand for MIQ spaces was increasing, particularly from returning New Zealanders. Mechanisms for either managing demand, or growing supply, were needed. An airline quota system was introduced so arrivals did not outstrip capacity, and officials also began working on an MIQ booking system. More hotels were brought into service. By July 2020 – with nearly 6,000 people arriving a fortnight – MIQ facilities could accommodate 6,261 people (or 4,500 rooms, which later became the measurement of capacity).[28]

Conditions at MIQ facilities had changed since the start of the pandemic, particularly after security breaches at some hotels. They now had an increased police presence and extra security staff. From August 2020, the Government further strengthened security arrangements and required MIQ workers to undergo regular COVID-19 testing.[xi] The New Zealand Defence Force became an integral and visible part of MIQ with more than 6,000 personnel eventually working across the MIQ system, including providing security at the facilities. It was the largest commitment of Defence Force personnel to a single response in more than 50 years.[29]

Amendments to the COVID-19 Public Health Response Act 2020 ushered in two significant changes to MIQ operations from August 2020. First, this enabled the Government to recover some MIQ costs by charging users (although New Zealanders entering and staying in the country longer than 90 days were exempt, and waivers could be granted in certain other circumstances).[xii] The primary aim was to make the MIQ system more financially sustainable, but it was also hoped this would lower demand by discouraging brief visits. Arrival numbers did in fact fall to around 5,000-5,500 people per fortnight from August 2020, leaving some MIQ capacity unused.[30]

xi This was done by means of tools including the COVID-19 Public Health Response (COVID-19 Testing) Order 2020 (15 August) and its subsequent amendment (18 August); the COVID-19 Public Health Response (Security of Managed Isolation and Quarantine Facilities) Order 2020 (20 August); and the COVID-19 Public Health Response (Required Testing) Order 2020 (30 August) and its subsequent amendments in 2020 (7 and 17 September, 26 November).

xii The charges – detailed in the COVID-19 Public Health Response (Managed Isolation and Quarantine Charges) Regulations 2020, issued under s33A of the Primary Act – were initially set at $3,100 for the first or only person in a room, plus $950 for each extra adult and $475 for children aged 3 years or older. There was no charge for younger children. Charges for some temporary entry visa-holders increased to $5,520 (for the first person) on 25 March 2021. From 1 June 2021, the period that New Zealanders (and Australians) had to stay in Aotearoa New Zealand before being exempt from charges increased from 90 to 180 days.

Second, the Government could now require people to register to enter an MIQ facility before they arrived in the country. This paved the way for the online Managed Isolation Allocation System (MIAS), introduced on 5 October 2020. Intending travellers were required to obtain either an online or offline MIQ voucher. The Ministry of Business, Innovation and Employment emphasised to the Ombudsman (when he later initiated a review of MIAS) that the online allocation system was a 'minimal viable product booking system', stood up 'under great urgency, during a time of national emergency.' The Ombudsman noted no concerns with the initial rollout of the system, and indeed considered that the Ministry deserved credit for implementing it at speed.[31]

For an online voucher, the traveller would first visit the MIAS website to secure a date on a 'first come, first served' basis.[32] After selecting and temporarily holding a room for specific dates, they would then complete their flight arrangements through their preferred airline. Finally, they would return to the MIAS system to provide flight details and finalise the booking.

An offline emergency allocation system was also created as a way to prioritise urgent and other specific travellers. To obtain a voucher under an emergency allocation, people needed to submit an application to the Ministry of Business, Innovation and Employment, who then assessed the application against criteria set by the Minister.[33] A proportion of MIQ rooms were set aside for each of three allocation categories: emergency, time-sensitive and group (the latter could be used for seasonal workers and visiting and returning sports teams, for example).[34] From data provided to the Inquiry by the Ministry of Business, Innovation and Employment, it is difficult to accurately determine the number of vouchers allocated through the offline system, but it was a relatively small proportion – we estimate they comprised between 5 and 10 percent of all MIQ allocations made from 2021.

Decisions about emergency allocations were some of the most fraught aspects of MIQ.

Decisions about emergency allocations were some of the most fraught aspects of MIQ, and the criteria were amended through the pandemic in response to changing needs and experience. For example, an 'emergency' was initially defined as an imminent threat to life or a serious risk to health. In late 2020, the criteria were broadened to include 'ensuring a child had care, critical care of a dependent person, the provision of critical public or health services, people unable to legally remain overseas, national security, national interest or law enforcement reasons, and visiting a dying close relative in New Zealand'.[35] The impacts of the emergency allocation system are discussed in section 4.3.5.1.

From 3 November 2020, travellers were legally required to have an MIQ voucher before flying to Aotearoa New Zealand.[xiii]

xiii Made under the COVID–19 Public Health Response (Air Border) Order (No 2) 2020. It did not apply to people who were exempt from a requirement to enter a managed isolation and quarantine facility.

4.2.2.2 2021: Pressure mounts

By 19 January 2021, 100,000 returning New Zealanders and other eligible people had entered MIQ facilities (including critical workers and others qualifying for a border exception). For the next six months, demand for MIQ declined. Meanwhile, the Government repeated its calls for New Zealanders travelling overseas to return home.

Quarantine-free travel from (but not to) the Cook Islands began on 21 January 2021, and a similar arrangement with Niue began in March. When two-way quarantine-free travel with Australia – the 'trans-Tasman bubble' – began in April 2021, demand for MIQ spaces fell further. With the prospect of reconnection with the outside world now seemingly on the horizon, an eventual relaxation of MIQ requirements also looked possible.

Officials were also providing advice to the Government on options for risk-based pathways for entry into Aotearoa New Zealand, which would have reduced the demand for MIQ spaces. In July 2021 Cabinet approved a 'Reconnecting New Zealand to the World' work programme, which considered imposing different testing and quarantine requirements on travellers based on the risk status of their country of origin and vaccination status. For example, vaccinated travellers from low-risk countries would be permitted to quarantine for a shorter period at home, instead of in MIQ.[36] Between October and December 2021, home quarantine (instead of MIQ) for a small number of incoming travellers was piloted.[37] However, by the time this pilot was completed, it had been overtaken by events.

From May 2021 onwards, repeated COVID-19 outbreaks in Australia saw quarantine-free travel with specific states paused. On 23 July 2021, amid concerns about growing outbreaks of the Delta variant in Australia, the trans-Tasman bubble was suspended completely. MIQ capacity had to be made available for New Zealanders returning from Australia, reducing the number of rooms available for other travellers. At the same time, the growing number of local people infected with the highly transmissible Delta variant (the first community Delta case was reported on 17 August 2021) was also putting facilities under pressure. Until this point, it had been possible to accommodate almost all domestic COVID-19 cases in MIQ facilities for their 14-day isolation. Now it was feared that community cases might overwhelm MIQ capacity – forcing, for example, the cancellation of vouchers assigned to people arriving from overseas.[38] Despite this concern, community cases who could not safely isolate at home were still required to isolate in an MIQ facility.

Meanwhile, a new approach to allocating MIQ places via the online voucher system was in development. Earlier in 2021, the Ministry of Business, Innovation and Employment had considered switching to a waitlist system. But the view at that time – partly due to the drop in demand caused by quarantine-free travel – was that the cost, complexity and time required to implement a waitlist system outweighed the benefits.[39] In July and August 2021, officials and industry experts again examined alternatives to 'first come first served.' This time, they recommended a 'virtual lobby' system on the basis this would meet requirements in terms of cost, speed of implementation (a solution was needed urgently), and transparency for travellers.

The minister approved the virtual lobby option, which was rolled out in September 2021. The Ombudsman would later question this decision in his 2022 review of the MIQ allocation system, since the virtual lobby was unable to prioritise travellers on the basis of need. While people with an urgent need to travel could be prioritised through the offline emergency allocations process, the Ombudsman was critical of that process.[40]

The virtual lobby system went live on 20 September 2021. In order to hold an available date in MIAS (and thereby obtain a voucher), a prospective traveller had to first get to the front of a randomised queue whenever a virtual lobby was held. In the first virtual lobby, which took place that month, 31,900 people were in the queue vying for 3,200 rooms; many were still queuing when it ended. Seven more lobbies were held, the last on 18 November 2021.[41] The number of people queuing in each dropped off and some rooms remained unallocated, especially after the Government announced its border reopening plans at the end of November 2021.[42]

4.2.2.3 2022: MIQ winds down

Quarantine and isolation settings changed with the transition from the Alert Level System to the COVID-19 Protection Framework (the 'traffic lights') in December 2021, and again when the Omicron variant arrived in Aotearoa New Zealand (as discussed in section 4.2.1). As case numbers grew quickly, the Government announced a three-phase approach to managing Omicron with shorter isolation periods required in each phase.[43] There would be a complete shift to self-isolation for all community cases, with decreasing periods of self-isolation at each phase and wellbeing support for those isolating at home through the Care in the Community programme (see Chapter 6). This was brought into effect on 25 February 2022 by the COVID-19 Public Health Response (Self-isolation Requirements and Permitted Work) Order 2022.

As we have already noted, once Omicron was circulating in the community, international arrivals no longer posed a greater risk of COVID-19 transmission than anyone else; thus, the border restrictions and MIQ were no longer justified from a public health perspective.[44] From 28 February 2022, vaccinated New Zealanders and other eligible travellers from the rest of the world were permitted to travel to Aotearoa New Zealand without entering MIQ. From 5 March 2022, they were no longer required to self-quarantine at home. On 3 May 2022, the Government removed the requirement of the COVID-19 Public Health (Maritime Border) Order (No 2) 2020 for people arriving by sea to enter MIQ.

On 1 July 2023, the health system resumed responsibility for national quarantine and isolation arrangements.[45] The MIQ system was rapidly wound down as demand for spaces fell. Defence Force personnel stationed at MIQ facilities returned to their usual duties and the facilities were closed. All but a few resumed their previous function as hotels.[46]

By the end of June 2022, approximately 230,000 border arrivals and 5,000 community cases (and their close contacts) had gone through MIQ during the previous two years.

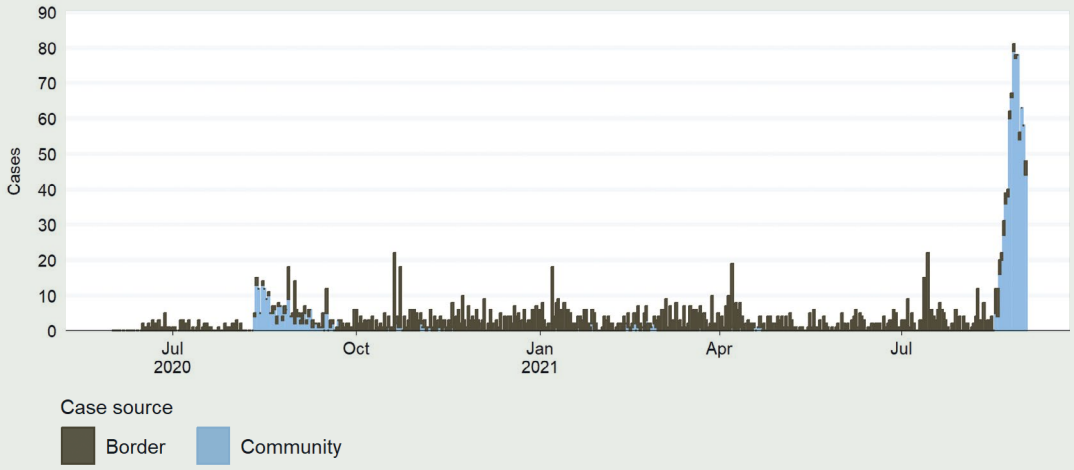
4.3.1 Closing the border and requiring all international arrivals to quarantine/isolate was effective in supporting the elimination strategy

Border controls and quarantine/isolation requirements were two of the four key pillars supporting the Government's elimination strategy. As we have noted elsewhere, the elimination strategy was highly effective in containing COVID-19 transmission until most of the population was vaccinated. The decision to close the border and require all international arrivals to enter managed quarantine was essential to the success of that initial strategy. Both measures undoubtedly saved lives and reduced the burden on the health system in the critical pre-vaccination period.

While the managed quarantine system was effective in keeping COVID-19 out of Aotearoa New Zealand, there were occasional breaches. In the year to June 2021, researchers identified 10 instances where COVID-19 was transmitted from someone in a quarantine or isolation facility to a border worker or (occasionally) the wider community, and an outbreak occurred. In many cases the exact route of transmission was unclear, but most cases were thought to involve aerosol particles carrying COVID-19 into shared spaces (such as common exercise areas or smoking areas).[47] Based on experience in New Zealand and Australia (combined), the researchers estimated the rate of quarantine escape was 5 per 100,000 travellers in the period to June 2021.

The quarantine system successfully prevented the vast majority of COVID-19 infected travellers from seeding infection into Aotearoa New Zealand. As Figure 1 in this chapter illustrates, a small but steady stream of incoming travellers were COVID-19 positive at the point they entered New Zealand, but the MIQ system successfully prevented these cases from giving rise to COVID-19 transmission in the community.

Figure 1: Daily COVID-19 cases detected at the New Zealand border and in the community, June 2020 to September 2021



Source: Based on data from Ministry of Health GitHub data, 2024, COVID-19 data, https://github.com/minhealthnz/nz-covid-data

Rates of quarantine escape depended on a wide range of factors – such as levels of infection in the countries travellers are coming from, the behaviour of the infectious agent (the transmissibility of COVID-19 variants), duration of quarantine/isolation, characteristics of the quarantine/isolation facility, infection control practices among both travellers and border workers, and vaccination coverage and efficacy in preventing transmission.[48] The introduction of additional protective measures provided further safeguards that may have reduced the risk of quarantine breaches. For example, pre-departure testing of people coming to Aotearoa New Zealand from all countries except Australia, Antarctica and most Pacific Islands was introduced in January 2021.[49] Vaccination of border workers began in February 2021 and was mandated from May 2021.[50]

Allowing New Zealanders to return while protecting those already here was a difficult trade-off for the Government to manage. As noted by the authors of the quarantine escape study, 'The most direct way to substantially reduce the risk of SARS-CoV-2 escaping quarantine [was] to reduce the number of arriving travellers from areas with high infection levels'. But limiting citizens' return travel raised complex ethical, human rights and legal issues, and created significant distress for those affected (see the 'Stranded Kiwis' section). The authors noted that New Zealand's quarantine escape rate was higher than that in Australia (although numbers were small and the difference was not statistically significant).

They suggested the quarantine escape rate would be lower if quarantine took place in 'better or purpose-built quarantine facilities in rural locations', citing the success of Australia's Howard Springs facility,[xiv] which had no quarantine escapes.[51]

The operation of quarantine facilities was costly and required the support of a large workforce – covering transport, hospitality, security, cleaning, catering, health care, operations and logistics. Using hotel facilities (which would otherwise have been largely empty) was more cost-efficient initially than building bespoke quarantine facilities, while the location of hotel facilities near Aotearoa New Zealand's international airports had practical advantages.

In our lessons for the future and recommendations, we return to what this means for the development of quarantine and isolation options for a future pandemic.

4.3.2 However, the social, economic and personal costs of the border restrictions and quarantine requirements were very high

While border controls and quarantine and isolation requirements were an essential part of the elimination strategy, we saw evidence that the social, economic and personal costs of these measures were very high. Describing the initial border closure in March 2020, senior managers at Auckland Airport told us of 'a massive financial and operational impact on the airport. We spent the first few weeks working out whether we had a viable business.' A submission from the Royal Australian and New Zealand College of Psychiatrists addressed impacts of a different kind:

> "Border restrictions and the Managed Isolation and Quarantine (MIQ) system caused psychological distress … New Zealanders had no certainty about when they would be able to return home… Some groups experienced lasting distress and trauma due to not being able to come home or leave with certainty of being able to return."

xiv Although not purpose-built for quarantine, this refurbished 'cabin-style style' facility near Darwin shares many of the features of a purpose-built facility. Originally built as mining accommodation, it consists of many cabins with space between them, allowing good natural ventilation and thereby avoiding the risks of aerosol transmission in spaces like hotel corridors.

For those who had found themselves on the 'wrong' side of the border, two years later it was still hard 'to get across how deeply the experience of feeling abandoned and cut off' had affected them, a spokesperson for Grounded Kiwis (a group representing New Zealanders overseas trying to return during the pandemic) told us. Similar feelings were expressed in public submissions; one submitter, unable to see her two daughters for 18 months due to international border restrictions, reflected that: 'As much as I would like to forget the trauma, it's simply not possible – this is time that we can never get back and has changed us individually and changed our dynamics as a whānau.' Other submissions highlighted the plight of international students who were isolated from their families or from their New Zealand universities (if they were offshore when the border 'closed'). Some experienced financial hardship and deteriorating health and wellbeing, adding to the pressure on New Zealand's health system.

In drawing attention to such adverse impacts, we recognise that closing the international border and setting up a nation-wide managed system for quarantine and isolation were extraordinary undertakings – unprecedented, and indeed almost unimaginable before March 2020. The fact that these measures were implemented so swiftly, and provided such a robust line of defence during the elimination phase, is commendable. We acknowledge the hard work of all the agencies, sector groups, businesses and workers who made those achievements possible. As Auckland Airport management said of their employees: 'There was a lot of goodwill with our staff. They were very willing to work long hours to "keep New Zealand open".'

4.3.3 Decisions about closing and managing the borders were made at speed and policy-makers did not always understand the operational implications. This created challenges and frustrations for those putting decisions into practice

As we have already described, the decision to close the border on 19 March 2020 was made very quickly. Putting it into effect was time critical and operationally complex, requiring coordination and cooperation between multiple government agencies, airlines, airports, port and shipping companies and others. Given the pace at which change was occurring, communication between government, agencies and businesses was not always clear, adding considerable confusion and uncertainty. At Aotearoa New Zealand's busiest airport, Auckland, the hours leading up to the closure were frantic:

> "We did not know what flights were in the air or were scheduled to be in the air when the border closure came into effect. Singapore was asking us whether a particular flight should be boarded or not, given New Zealand's border restrictions. We should have said, "Don't board because the border will be closed …" … Instead, we said that the legislation is being reviewed, so go ahead and board, which they did. They arrived and had to fly right back. … Singapore Airline staff on the ground were calling us because they could not get hold of anyone from the Government. So, we were coordinating a three-way conversation between Singapore Airlines, the NZ Government (through the Ministry of Transport), and the Auckland Airport. The Ministry of Transport was trying to talk with other government departments, to clarify the situation."

The need for speed and agility did not abate. For the next two years, border arrangements continued to be monitored and rapidly adjusted as the pandemic changed course, locally and overseas: between January 2021 and October 2022, for example, around 58 changes were made to air border settings alone. While it was positive that rules were adjusted in response to changing circumstances, agencies have also told us it was a challenge to manage the many regulatory instruments (statutes, orders and more) that supported the border settings, which they said 'grew in complexity as the duration of the pandemic extended'.

Throughout, officials from the Ministry of Business, Innovation and Employment engaged with the New Zealand Council of Trade Unions and Business New Zealand on a range of topics. The Ministry also worked with peak sector bodies (such as Retail New Zealand, the Employers and Manufacturers Association, Hospitality New Zealand) and key businesses to support good communications and resolve any emerging issues. Despite these efforts, however, we also heard that the private sector felt it had few avenues for contributing its expertise, leaving some businesses feeling 'disempowered and frustrated'.

The fast-moving environment sometimes meant that policies were introduced without sufficient consultation with the operational agencies responsible for putting them into effect, leading to difficulties on the ground. We heard specific criticism that health officials did not always appreciate the operational complexities their decisions created at the border. For example, there was some variation in how ships and shipping companies were treated across different ports. While acting on the same Ministry of Health guidance, local medical officers of health could implement this differently depending on their local port's preferred response to risk.

Health New Zealand | Te Whatu Ora, when it reviewed its role in the MIQ system in 2022, acknowledged its decision-making processes were affected by capacity constraints, the constant need for speed, and the fact they were working in essentially uncharted territory. It is important to acknowledge that, even if health officials are not experts when it comes to managing the border, infection control and health system expertise will remain essential when decisions are made about using border restrictions in another pandemic. That expertise is vital if those restrictions are to successfully prevent the virus from spreading within quarantine facilities and escaping into the community. We will return to this in our lessons for the future in Part 3.

4.3.4 The border exceptions process evolved in response to changing needs as the pandemic wore on, while the lack of integration between MIQ and visa processes was very difficult for travellers

With the border closed to everyone except citizens and residents, an exceptions process was needed to allow non-New Zealanders who had legitimate needs to enter Aotearoa New Zealand. The list of exceptions was extended as the pandemic continued and as worker shortages, which could be tolerated for a short time, became more problematic. For example, seasonal workers from the Pacific were allowed into the country to fill labour shortages in the horticultural and wine-growing sectors. Exceptions were also granted to critical health workers (and their dependants), specialist agricultural operators for harvesting and processing of crops, veterinarians and many more.[52] The parameters and criteria for exceptions evolved over time based on changing needs and experience.

By the beginning of August 2022, 39,690 workers had been approved a visa under a border exception, and 32,547 had actually arrived in the country.

This gap between those who had been approved to enter and those entering the country points to the impact of limited MIQ capacity. In this case, it was overseas workers with border exceptions who were impacted. But New Zealand citizens desperate to return home also came up against the same barriers (as we discuss in section 4.3.5.1). Frustrations were heightened by the perception that some groups, such as sports teams, were 'taking up' MIQ spots that could otherwise have been available to New Zealanders desperate to come home.

4.3.5 While there was little operational readiness to deliver quarantine on a large scale, the legislation was sufficiently enabling and the MIQ system was rapidly implemented. But as time went on, problems became apparent

Going into the pandemic, the Health Act 1956 gave the Government the power to use quarantine and isolation. However, the legislation was suited more for quarantining individuals, and officials told us it was challenging to apply it at such a large scale.

The government's existing quarantine plans assumed an influenza pandemic. The guiding document, the New Zealand Influenza Pandemic Plan 2017, required the Ministry of Health and district health boards to be prepared to use 'local quarantine facilities'.[53] In practice, this meant the district health boards maintaining contracts with local motels and other accommodation providers for potential quarantine purposes; however, we heard that some of these contracts had lapsed before COVID-19 emerged. The possibility of quarantining entire communities and placing travellers in mandatory quarantine on arrival was canvassed in the plan, but such measures were considered unlikely to be effective and therefore not included in pandemic planning.[54]

Despite the lack of prior planning – and the initial uncertainty as to how long COVID-19 would affect the country – the MIQ system was nonetheless up and running very quickly. Over time, however, the system came under increasing strain, as did the travellers depending on it. Many of the contributing factors have already been thoroughly examined in reviews by government agencies, researchers and independent authorities such as the Ombudsman and the High Court. We have considered their findings and insights alongside other evidence received during our Inquiry, but have not repeated their detailed analyses. The main concerns they raised are outlined in section 4.3.5.1.

4.3.5.1 Managing MIQ capacity and demand

Whether and when most people could enter Aotearoa New Zealand was ultimately determined by MIQ capacity, not by border settings. It is therefore unsurprising that MIQ capacity, and the mechanisms the Government used to manage and prioritise demand, became highly contentious issues. The lingering anger, distress and mistrust they caused were evident in many of the public submissions we received and in our discussions with stakeholder groups (see 'Spotlight' in this section).

From the start of the pandemic, the likely demand for MIQ places and the capacity that would therefore be required were hard to predict. It was unknown how many of the thousands of New Zealanders living overseas would want to return, and when, or how many New Zealanders would choose to leave New Zealand with the expectation of returning.

In the event, demand was higher than the system's capacity, and options to increase the availability of MIQ places were limited. We note that the Ombudsman reviewed the Ministry of Business, Innovation and Employment's actions in managing MIQ capacity and accepted that it had limited ability to significantly increase or free up capacity.[55] We also heard from officials that, despite the perception that MIQ capacity was largely constrained by hotel availability, in fact the main constraints were the need to rotate MIQ facility staff and the availability of the health workforce.

It was in response to the high demand for MIQ spaces that the Ministry of Business, Innovation and Employment – from necessity – created the Managed Isolation Allocation System (MIAS) in October 2020. For users, the system required an anxious wait online to secure an MIQ voucher through what many perceived as a lottery. As one user noted, 'we basically have to spend hours constantly refreshing a screen and as soon as a spot appears and we attempt to click and claim, we are crushed with an "already taken" notice'.[56] At the same time, constraints in MIQ capacity meant there had to be a system for allocating places, and that many prospective travellers would miss out.

The system included an offline allocation mechanism intended to prioritise travellers with urgent or compassionate reasons for entering Aotearoa New Zealand. A set of criteria was developed for emergency allocations with the goal of ensuring fairness and consistency across decisions. Officials spoken to by the Inquiry told us that emergency allocation decisions were some of the most difficult and fraught that they had to make during the pandemic.

In a judicial review application to the High Court, Grounded Kiwis challenged aspects of the MIQ system, which they said operated as unjustified limits on citizens' right to enter New Zealand. The High Court held that while the system did not in and of itself amount to an infringement of New Zealanders' right to enter their country, the evidence indicated that at least some New Zealanders had experienced unreasonable delays in exercising their right to enter. The judge found that:

> "Although MIQ was a critical component of the Government's elimination strategy that was highly successful in achieving positive health outcomes, the combination of the virtual lobby and the narrow emergency criteria operated in a way that meant New Zealanders' right to enter their country could be infringed in some instances in a manner that was not demonstrably justified in a free and democratic society." [57]

The Ministry of Business, Innovation and Employment accepted the Court's findings.[58] Evidence cited by the Ombudsman in his review of the MIQ allocation and booking system shows that officials and ministers were aware of the system's potential limitations when developing it in 2020. In particular, they recognised the system lacked the capacity to prioritise travellers with urgent needs, especially given demand exceeded supply. They were also aware of the potential risk of temporary visa-holders being allocated places ahead of New Zealanders, and of long waits for New Zealand citizens and residents wanting to return home.[59] However, given the urgency as well as challenges in how to assess 'need' in a rapidly changing situation, it was felt other options were not feasible.

In fact, the possible risks which officials identified were exactly what transpired – despite the introduction of the virtual lobby system (which for many people amplified their anxieties and frustrations) and despite the offline allocation system providing an alternative pathway for travellers with the greatest needs. In reality, those seeking an offline allocation voucher – including people dealing with emergencies and hoping for compassionate treatment – had to meet a set of criteria which were 'interpreted strictly and require[d] an inflexibly prescribed form of evidence', according to the High Court.[60] As the Ombudsman found in his 2022 report on the MIQ allocation system, the offline option simply 'did not encompass the situations of many people with a genuine need to travel'.[61] In public submissions to the Inquiry, we also heard that the system felt depersonalised, that people wanted to speak to someone directly, not fill in an application form. As one submitter said of the MIQ system more generally, all the thousands of overseas New Zealanders wanted was 'something like a helpline where they can actually … speak to a real person for counselling or advice and help on their situation'.

This and other public submissions lent weight to the Ombudsman's comments about the shortcomings of the MIQ allocation system as a means of fairly managing capacity and prioritising people with urgent or compassionate reasons for travelling – such as pregnant women, separated families or people visiting relatives who were unwell. Even when the emergency management criteria were at their widest, the Ombudsman noted, '[they] were too limited to capture large numbers of people with a genuine need to travel'.[62]

Spotlight:
Stranded Kiwis | Ngā tāngata o Aotearoa kua raru ki wāhi kē

On 18 March 2020, the Minister of Foreign Affairs and Trade Winston Peters urged the estimated 80,000 New Zealanders[63] thought to be temporarily overseas to 'come home now' if they could: 'If you're travelling, it's very likely you could be shut off very shortly.'[64]

The next day, the Ministry of Foreign Affairs and Trade issued a safe travel notice echoing this message. By now the Ministry was receiving 100 calls a day from anxious New Zealanders, mostly asking for Government assistance with repatriation.[65] On that day alone, 6,700 passengers returned to New Zealand.[66]

By 29 March 2020, some 20,000 New Zealanders had returned.[67] Others would remain effectively stranded overseas for weeks or months, unable to get flights or – once the MIQ system was in place – to secure a spot in MIQ. They were a diverse group: students, young professionals working overseas, seafarers and superannuitants. However, many shared a sense of anxiety, frustration or pain at being unable to get home:

> "It was massive impact wise. I had been made redundant recently and wanted to travel home to NZ, but with the uncertainty around when this could happen, applying for jobs, or rather knowing which country to apply for jobs, made life difficult."

We also heard from submitters left distressed and angered by an MIQ system they considered did not prioritise, or allow exemptions for, people stranded overseas in difficult circumstances, including those wanting to come home to say goodbye to dying relatives.

> "[T]he fact that quarantine spots were made available to entertainers and other non-Kiwis also made me furious. Many friends were unable to attend key family events, and some even missed their parent's last moments, or were unable to attend the funeral."

Among those who managed to get an MIQ spot, there was gratitude for the system that had allowed them to get home – as we heard in the public submissions.

> "We were very impressed by how the entire NZ quarantine system had been set up on relatively short notice and with the cooperation of a huge number of varied organisations and personnel."

Some submitters appreciated that even if Aotearoa's New Zealand's border and quarantine controls meant they could not readily come home, they helped the country avoid the devastating impacts experienced elsewhere:

> "I would like to stress that the closure of the international border did not bother me, and that I understood that stringent border control was necessary to maintain normal life internally in NZ ... [and] prevented a substantial increase in mortality rates over a sustained period of time."

The voluntary organisation Grounded Kiwis, formed in mid-July 2021, helped people make emergency applications for MIQ spots. The group told us that the evidentiary burden fell entirely on applicants, but the evidence needed to support an application was often simply unavailable. 'This system didn't work and wasn't fit for purpose. People in really dire situations could not get spots,' Grounded Kiwis said.

> "We applied for an emergency room allocation through category 5 under financial hardship but we were denied despite supplying endless proof of our situation and sleeping on a friend's couch in Brisbane." [68]

Grounded Kiwis also advocated on behalf of people shut out by the 'virtual lobby' system, writing to the Ministry of Business, Innovation and Employment in September 2021: 'The equity issues of using a lottery style system for what is a fundamental right of citizens, the insufficient MIQ supply to meet demand, and the failure to consider alternatives to MIQ, continue to cause immense concern'.[69] Submissions we received echoed this sentiment, describing the so-called lottery as 'cruel', 'unfair' and 'criminal'. Messages which Grounded Kiwis received during the pandemic from New Zealanders stranded overseas give insight into the despair felt by people who were separated from home and whānau, often under financial as well as emotional pressure, their lives 'in limbo' for an apparently indeterminate time:

> "It's life shattering because my wife is sick in NZ and my two little children are with her. I'm trying to get back to help care for all three of them."

The distress did not always end when the border reopened and MIQ ended. Some public submitters told us that, two years on, they still felt 'hopeless' and 'disenfranchised' from the place they once called home.

> "The treatment of myself, and other overseas citizens, by the MIQ system, and specifically the emergency application request system ... has left me with a profound sense of anger, bitterness, and, at times, a hatred of the country of my birth and the functioning of its government."

4.3.5.2 Facilities and staffing

The use of hotels as MIQ facilities presented challenges for infection control and wellbeing – particularly the lack of outdoor space for physically-distanced exercise, the absence of appropriate facilities for children, and challenges accommodating people with specific needs.

It also raised challenging workforce issues. The more than 3,700-strong MIQ workforce[70] comprised a mix of government employees from multiple entities alongside private sector employees (mostly hotel staff) and subcontractors, all on a variety of employment contracts. Many worked long hours in conditions acknowledged to be demanding; some staff reported being stigmatised at home or in their communities and required 'strong pastoral care'.[71] Alongside these workers, 600 Defence Force staff were deployed at MIQ facilities at any given time. While the Ministry of Business, Innovation and Employment described their presence as 'important in terms of supporting public trust and confidence in the MIQ system',[72] there is also evidence of tensions between the military and civilian cultures.[73] Some MIQ users clearly found the military (and Police) presence confronting. One woman felt they were 'treated like criminals. Our exercise yard was a car park where we were observed by security and managed by military, told to walk in a circle and not speak to anyone.' However, we also heard about MIQ facilities in the Waikato whose operating ethos – mahi tahi, or working together – was borrowed from the Defence Force: public health officials told us of an 'amazing local relationship with the armed forces managing the facilities – they enjoyed working here'.

The fact that MIQ facilities were not purpose-built for quarantine created a range of problems for staff and users. An assessment commissioned in April 2021 found the hotels were 'not optimally configured to manage separation of returnee flows on entry, exit and inside the building', and security and ventilation systems needed remediation.[74] Although the Ministry of Business, Innovation and Employment canvassed the possibility of building dedicated quarantine facilities – or refurbishing existing buildings to the necessary public health standards – the time and cost involved meant these were not seen as realistic solutions to immediate needs.[75] Later, officials developed a business case for establishing future MIQ facilities; with options including a mix of Crown-owned bespoke facilities and hotels. But by early 2022, the situation had changed so significantly that this advice was considered no longer relevant, and the MIQ system was wound down.

Despite all the challenges, it is clear that hotels were made to work as quarantine facilities. The evidence shows that the MIQ system learned from its mistakes and the frequent reviews of its operations,[xv] and made improvements in response. For example, following some well-publicised instances of people spreading COVID-19 into the community after leaving MIQ, procedures were strengthened to ensure thorough cleaning and ventilation, and steps were introduced to minimise the risk of guests becoming infected after their final test (required on day 12 of their 14-day stay).

xv For example, the 'Rapid Assessment of MIQ' commissioned by the Ministry of Business, Innovation and Employment in April 2021, and the Ombudsman's report into conditions in six MIQ facilities he inspected in Oct–Dec 2020.

4.3.5.3 Community cases

From August 2021, as Delta cases were increasing, accommodating community cases in MIQ began to create significant operational and governance challenges for the MIQ system. It was not in fact a new development – providing accommodation for positive cases who could not safely isolate at home had always been one of the functions of MIQ. But the rapid increase in the number of community cases during the Delta outbreak meant that a significant number of MIQ rooms had to be removed from the available inventory for international arrivals to accommodate community cases. By the beginning of November 2021, 360 community cases were in MIQ facilities, along with 25 close contacts in managed quarantine.[76]

According to the review of MIQ governance, 'The evolution of MIQ from a border protection response to a mixed border/domestic response has changed the risk profile for MIQ. … [D]omestic cases are placed in MIQ by way of an assessment under a health order and have little time to prepare. The nature of the circumstances that give rise to the health order can further raise risks.'[77]

Senior MIQ managers interviewed as part of a review of MIQ governance shed more light on those risks. In the past, MIQ had worked well as a border intervention: 'We knew our swim lane,' said one interviewee. Now, 'the most vulnerable and unwell people are being triaged into MIQ by medical officers of health', placing pressure on a system not designed for people who were presenting with 'vulnerabilities, health concerns, addictions or violent behaviour'. There was no over-arching all-of-government plan to help the system adapt to its community care role, and gaps in governance were evident, interviewees reported.[78]

Health officials were also concerned about an increasing emphasis on using MIQ as part of the domestic pandemic response. One told us that apparently little attention had been paid to how increasing community case numbers might impact MIQ capacity. At that time, little work had been done on other options for supporting community cases, such as the Care in the Community programme – despite 'knowing that we were going to run out of managed isolation beds'. Other health officials and MIQ healthcare workers described accommodating domestic cases as operationally challenging. This was not its primary purpose, and the distinctive needs of this particular category of cases presented clinical, social, legal and equity risks. Those ordered into MIQ often arrived with 'high and complex clinical and psychosocial needs' of a kind that the facilities and staff were not prepared for. Many also needed translation services, which were hard to find at short notice.

However, health officials also noted that the profile and needs of the 'typical' MIQ user were already changing by the time the number of community cases in MIQ started increasing. At the start of the pandemic, most returnees 'had been travelling overseas, and therefore generally had low health needs. Over time, a greater proportion of returnees were … returning to Aotearoa New Zealand to get away from challenging pandemic environments overseas, or for challenging family circumstances (e.g. to visit dying relatives, or to attend a funeral). It became more common for these returnees to have higher and more complex health and wellbeing needs – including mental health and addictions needs – than those arriving earlier in the response.'

4.3.5.4 Governance and decision-making

Responsibilities for the MIQ system were split between the Ministry of Health and the Ministry of Business, Innovation and Employment. This may have been the only practical option at the time the system was established, but it led to frustrations and some operational problems.

The split responsibilities also affected governance and decision-making. A review carried out by the Ministry of Business, Innovation and Employment in November 2021 found that some governance elements were working effectively. However, 'the number of different governance entities and lack of a clear point of responsibility for the overall COVID-19 response expose the challenge of coordinating the response and planning at a system level'. That challenge had fallen to the Minister for COVID-19 Response.[79] Among specific concerns the review raised:

- The separation of responsibilities between the Ministry of Business, Innovation and Employment and the Ministry of Health was problematic. '[MBIE] is a recipient of health advice, and largely unable to influence decisions already made by the Ministry of Health (MoH). Whilst MIQ has MoH involvement in its operational governance processes it does not have its own clinical expertise' the reviewers noted.[80] The Minister for COVID-19 Response also expressed frustration with the separation of responsibility, writing on a 2021 Ministry of Health briefing about the implications for the health system of more returning travellers passing through MIQ facilities: 'I'm disappointed that this is not joint advice with MIQ. I would like you to work together to set out a way forward ASAP. This approach is not constructive'.
- The lack of a single point of integration (below ministerial level) for the COVID-19 response made aligning policy and operations more difficult and raised the risk of trade-offs not being fully considered from a system-wide perspective. MIQ leaders interviewed by the reviewers reported 'no clear visibility of an overall COVID-19 response plan' and '[no] significant level of conversation about future direction'. One example was the heavy commitment of Defence Force personnel to MIQ, a potential risk to the Defence Force's capacity to respond had another major crisis or threat arisen during this period.[81]
- While the challenges of getting accurate data from varied sources in a fast-paced environment should be acknowledged, a review carried out in November 2021 found inadequacies in the governance and management of MIQ data.[82]

1. Restrictions on who could enter Aotearoa New Zealand, and compulsory quarantine at the border, were key to the success of New Zealand's elimination strategy.

- Both measures undoubtedly saved lives and reduced the burden on the health system in the critical pre-vaccination period.

2. Aotearoa New Zealand was inadequately prepared to use these measures before COVID-19. While setting up new border processes and MIQ quickly was a significant achievement, both systems had significant shortcomings.

- Before COVID-19, Aotearoa New Zealand had no plans in place for large-scale quarantine, either domestically or at the border. The fact that MIQ was operating so quickly is a huge achievement that deserves to be acknowledged.
- While making use of hotels that would otherwise have stood vacant was an efficient solution, the design of these buildings made it difficult to implement infection prevention and control measures. Supporting people's wellbeing in hotel environments was also difficult.
- While those involved in running the MIQ system should be rightly proud of their achievements, the High Court and the Ombudsman both made findings that speak to the issues with the MIQ system. In particular, the booking system for MIQ had significant shortcomings, the criteria for emergency allocations were narrow and many emergency applicants felt the process was impersonal and lacking in compassion.
- The Inquiry is aware of the difficulties experienced by some people working in MIQ facilities. They included Defence Force personnel and other staff who faced increased exposure to the virus and were sometimes stigmatised.

3. While border restrictions and the MIQ system adapted in response to changing circumstances and new information, the accommodation of community cases and the transition to home isolation was challenging.

- Despite some high-profile incidents of COVID-19 'escaping' MIQ, the MIQ system learnt from these incidents and adapted accordingly. Changes were also made to better support the wellbeing of people in MIQ in response to independent reviews.
- Planning to reopen the border began reasonably early in the pandemic. This work was evident in the experiments with quarantine-free travel with Australia and the Pacific, and the flow of advice to the Government on the 'Reconnecting New Zealand to the World'. The arrangements for border and MIQ exemptions also evolved throughout the pandemic in response to changing needs and pressures.
- Accommodating community cases in MIQ was particularly challenging and inadequately thought through. Rising case numbers during the Delta outbreak threatened to overwhelm MIQ capacity, which partly forced the adoption of home isolation in late 2021.

4. Border restrictions and MIQ took a significant toll on Aotearoa New Zealand, particularly because demand for MIQ spaces outstripped capacity and because of the length of time restrictions were in place for.

- The border closure took a significant toll on New Zealanders both here and overseas. While many public submissions to the Inquiry acknowledged that MIQ kept New Zealanders safe, being separated from family and loved ones was a hugely painful experience for many.
- The progressive lifting of MIQ requirements did not finally begin until the end of February 2022, at which point Omicron was freely circulating in Aotearoa New Zealand (meaning infected arrivals posed little additional risk), and domestic cases were isolating at home. Submissions to the Inquiry emphasised the frustration that this caused for many.
- Ultimately, decision-makers' limited range of options for quarantine and isolation of international arrivals constrained their ability to mitigate some of the negative consequences of the border restrictions. In a future pandemic, having a larger and more flexible range of quarantine and isolation options ready to activate could create more opportunities for decision-makers to use these vital pandemic response tools in a way that has fewer negative impacts.

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CHAPTER 5:

5 The health system response | Te urupare a te pūnaha Hauora

5.1 Introduction | Kupu whakataki

In addition to preventing people becoming sick and dying from COVID-19, part of the rationale for the elimination strategy and the wider response was to ensure the health system was not overwhelmed by COVID-19.[1] By the time the virus reached Aotearoa New Zealand, its potential to do so – and what an overwhelmed health system looked like – was already apparent. Graphic images from hospitals in Italy and elsewhere showed every available bed occupied by COVID-19 cases, operating theatres turned into makeshift intensive care units, and patients being treated in overflowing corridors and administration areas. Meanwhile, the wider health needs of many citizens in those countries went unaddressed due to the cancellation of nearly all 'planned care' (that is, specialist medical and surgical care for people who do not need to be treated right away).

For Aotearoa New Zealand, it was a frightening demonstration of what might lie ahead. If the sophisticated health systems of developed countries like Italy and France could be so quickly swamped by surging COVID-19 case numbers, what would happen here?

As described in the pre-pandemic context chapter in Part One, this country's health system comprised a large and complex network of organisations. In 2020, publicly-funded specialist and hospital care was overseen by 20 district health boards (DHBs), with control of communicable diseases (such as contact tracing) sitting with 12 public health units spread throughout the country.[i] Primary care – delivered by a range of private, non-governmental organisations (NGOs) and not-for-profit providers – sat somewhat apart from hospital-based services. The Ministry of Health provided overall system leadership, including policy and regulation, high-level pandemic preparation, and monitoring. This chapter focuses on the health system response to COVID-19 in relation to these publicly-funded functions.[ii]

If the sophisticated health systems of developed countries like Italy and France could be so quickly swamped by surging COVID-19 case numbers, what would happen here?

i This devolved model has since been replaced with a single planning and funding agency, Health New Zealand | Te Whatu Ora, including a National Public Health Service.

ii From time to time, we touch on – but do not comprehensively address – the pandemic response in other important parts of the health system (like disability support services, oral health care, and ambulance services). We do not cover the parts of the health system that are entirely private. Furthermore, while primary care is a vital part of the health system, data on delivery models and service provision are less accessible for primary care than for specialist and hospital-based services. Discussion of primary care is therefore less prominent in this chapter.

What's in this chapter?

This chapter starts by considering how ready the health system was for the emergence of a global pandemic of the nature of COVID-19.

Then, in the 'What happened' section we focus on three things:

- **The activation of public health services and public health and social measures** to respond to the virus itself – early steps taken, testing, contact tracing and, briefly, vaccination (which is addressed in detail in Chapter 7).[iii]
- **How the wider health system geared up to respond to COVID-19 cases**, including the steps taken by DHBs, hospitals and other healthcare settings to manage potential cases safely, and how services and resources were reprioritised and deployed to be ready for an influx.
- **The provision of non-COVID-19-related healthcare** throughout the pandemic. We look at what was done to ensure people could still access health and disability services, including steps to prevent further outbreaks within services, reorient service delivery and preserve workforce capacity for non-COVID-19 services. We also address disruptions to healthcare delivery resulting from efforts to prepare to respond to COVID-19.

Finally, in section 5.6, we assess how all three areas impacted the health system itself, the population at large, and its most vulnerable members.

iii We do not, at this stage, look at decisions to mandate these measures in certain circumstances or for certain groups of people: vaccine and testing mandates are addressed in Chapter 8.

5.2.1 Pre-existing pressures

Despite its strengths, Aotearoa New Zealand's health and disability system was already facing multiple pressures going into the pandemic. They included:

- The state of healthcare infrastructure. Many facilities were ageing, and a queue of capital investment projects awaited funding.
- Workforce capacity. Shortages existed in many areas of the health workforce for some time before the pandemic. By the start of 2020, staff shortages were affecting wait times and the quality of patient care in some areas, as well as contributing to heavy workloads and staff burnout. As some parts of the health system relied heavily on workers from overseas, maintaining sufficient workforce capacity depended on immigration settings.
- Growing needs associated with an ageing population with increasingly complex health and disability services.
- Fragmentation and a lack of cohesion across and between health system providers, and unwarranted variation in service delivery between regions and social groups.
- Cost pressures were reflected in the growing fiscal deficits recorded by the country's twenty district health boards.[2]
- Some population groups and communities experienced persistently worse health outcomes, often exacerbated by poorer access to healthcare services. They included Māori, Pacific peoples, people in lower socio-economic areas, people with disabilities and some rural communities. Although the Crown has te Tiriti obligations to actively protect Māori health, the Waitangi Tribunal found in 2019 that the health and disability system had repeatedly failed to address many of the intergenerational health problems and inequities Māori faced.[3] Inequities in service provision were also apparent between regions, due in part to complex governance arrangements.[4]

The demands of responding to a national pandemic would only intensify these pre-existing vulnerabilities and pressures. As the Ministry of Health noted in its evidence to our Inquiry:

> "In the event of a pandemic, significant, extraordinary sector wide effort was going to be required."

In this regard, Aotearoa New Zealand was far from alone. Health systems in most comparable countries were also struggling with similar population and workforce challenges, and events in the first wave of the pandemic showed that few health systems were equipped to cope with such an emergency, regardless of their level of resourcing.

5.2.2 Prior assessment of pandemic preparedness

Prior to the arrival of COVID-19, Aotearoa New Zealand was thought to be reasonably well-prepared for a major public health emergency, compared to other countries.

In a 2019 assessment of global health security led by Johns Hopkins University, New Zealand had ranked 35th [iv] out of 195 countries.[5] The previous year, a World Health Organization (WHO) evaluation of capacity to detect, report and respond to acute public health events and emergencies had assessed New Zealand as being reasonably well prepared.[v] In New Zealand's health system, the WHO assessors saw evidence of 'a system and culture of continuous, collaborative improvement through learning from exercises and real-world events that has led to continued investment in preparedness'.[6]

Despite this positive rating, the WHO's assessors had also emphasised that ongoing vigilance and improvements to New Zealand's public health systems were needed in advance of a major emergency. They pointed to weaknesses in surveillance, noting that some public health units 'continue to use paper-based forms for data collection and manually enter the results … leading to a high risk of errors'.[7] They also highlighted a need for stronger cross-agency work on pandemic preparedness, supported by 'a formal communication plan for stakeholder engagement and management, including sharing resources and joint emergency response exercises'. More generally, they recommended relevant agencies work together 'to improve the information and intelligence systems that support decision-making in emergencies'.[8]

Some of the WHO's concerns about information and intelligence capacity were highlighted again by an independent review of New Zealand's wider health and disability system in 2020.[9] That review found gaps in several population health intelligence functions,[vi] including monitoring and analysing population changes, investigating patterns of disease and health, interpreting and providing information to support health and disability service activities, investigating variations in health outcomes, and helping ensure strategic decisions were evidence-based.

iv The United States was ranked first in this assessment, while Australia ranked 4th and Singapore ranked 24th.

v New Zealand top-scored (5 out of 5) for around half the assessment indicators. By comparison, the United States received the top rating for 42 percent of indicators, while Australia and Singapore top-scored on 65 percent. The indicators measure capacity in various areas relating to countries' obligations (under the International Health Regulations) to be able to prevent, detect and respond to acute public health threats such as infectious diseases.

vi Of which infectious and notifiable diseases are just one component.

5.3.1 The early health system response

The Ministry of Health took the first steps in the Government's pandemic response as soon as the World Health Organization sent member states a disease outbreak alert about the situation in Wuhan, China on 5 January 2020. The following day, the Ministry issued its first National Health Advisory to district health boards and general practitioners, setting out advice on how to reduce the general risk of acute respiratory infections. Monitoring teams began following developments. The first media briefing about what was now an emerging global pandemic took place on 27 January 2020, fronted by the Director-General of Health Dr Ashley Bloomfield and the Director of Public Health Dr Caroline McElnay.

As emergency management preparations ramped up across government throughout February 2020 (see Chapter 2), the Ministry established several expert groups to gather information and advise ministers and the health sector about the SARS-CoV-2 virus.

Chief among these was the COVID-19 Technical Advisory Group, comprising 14 epidemiologists, virologists and laboratory science experts. In addition, four sub-groups were established to help the system prepare for the COVID-19 threat.

Health officials engaged closely with international scientific networks and information sources, especially with state and federal agencies in Australia. The relationship with Australia was particularly valuable when COVID-19 testing began: until New Zealand established its own COVID-19 testing capability in early February 2020, the first samples taken here were sent to a Melbourne laboratory for processing.

Health officials engaged closely with international scientific networks and information, especially with Australia.

The Ministry's emergency operations centre, the National Health Coordination Centre, was pivotal in the early part of the health system response. It was activated on 28 January 2020 (as intended in the pandemic plan) and used the Coordinated Incident Management System approach, which Aotearoa New Zealand followed in all kinds of emergencies (see Chapter 2 for more about the wider emergency management response).

With the National Health Coordination Centre in place to coordinate system-wide preparedness and response, the Ministry of Health next established an Incident Management Team[vii] to deal with COVID-19 incidents and outbreaks. If a community case was identified, this team would be activated and became the point of contact for public health units, district health boards, ministers, the Ministry's own leadership team, and other stakeholders.[10]

In light of the escalating public health risk, the Ministry advised Cabinet to make the novel coronavirus a notifiable infectious disease – a legal mechanism that would help with the detection of cases by making it compulsory to report them. This came into effect on 30 January 2020.

By the end of January 2020, there were an estimated 98 cases globally, outside of China. At this stage, officials considered it was very likely one or more imported cases were already in Aotearoa New Zealand, given there were regular direct flights between here and China. Twenty percent of the confirmed cases in China had become severely ill, and the mortality rate there was around 2–3 percent. The Ministry of Health was part of an all-of-government effort to repatriate New Zealanders in China; officials were deployed to Wuhan to help with a repatriation flight on 5 February 2020, and managed the quarantine of passengers once they reached Auckland.

As described in Chapter 2, the New Zealand Influenza Pandemic Plan 2017 was at this point the blueprint for the Ministry's response. Given the potential severity of the threat COVID-19 presented, the focus was now on the 'Keep It Out' and 'Stamp It Out' stages set out in the Plan.

Ministry of Health officials considered at the time (and since) that a precautionary approach was warranted to buy the country some time. In providing evidence to the Inquiry, the Ministry noted that:

> "More time allowed us to gain a deeper understanding of the virus, including the best way to manage the disease, to prepare to mobilise further responses in the health sector and other sectors, and to reinforce public understanding of appropriate hygiene measures."

On 16 March 2020, Professors Nick Wilson and Michael Baker from the University of Otago in Wellington provided the Ministry with a report modelling potential health outcomes if COVID-19 were to spread through the New Zealand population.[11] This was essentially a 'thought experiment' about what might potentially occur if no public health or social measures were introduced to mitigate or suppress the virus. (As the authors acknowledged, the absence of any social measures was unrealistic – people would change their behaviour on a voluntary basis, even if no mandatory measures were introduced – but the modelling was intended to give a sense of the potential health impacts for different levels of infectiousness.)

vii This was different from another group, also called the Incident Management Team, that had operated before the National Health Coordination Centre was activated, to undertake initial planning and coordination activities.

The report outlined two potential scenarios. Under the less severe scenario (if COVID-19 turned out to be only moderately infectious), the model suggested there could be a total of 92,500 hospitalisations, 6,480 people requiring ventilation in intensive care units (ICU) and 8,190 deaths. Under the more severe scenario (i.e. if COVID-19 was highly infectious), the model suggested there could be 124,000 hospitalisations, 8,690 people requiring ventilation, and 10,983 deaths. In both scenarios the vast majority of deaths (87 percent) would be in the 65+ age group. On the basis of these projected health outcomes, the report concluded there was justification for putting 'substantive societal and government resources' into what was then referred to as a suppression strategy.

Suppression of the virus would be insufficient to prevent the health system from being overwhelmed with the burden of illness falling disproportionately on Māori, Pacific people, people with disabilities and older communities.

Along with another modelling study from the United Kingdom, this analysis not only demonstrated the potential impact of COVID-19 on the health system, but also prompted health officials to recognise the need to step up Aotearoa New Zealand's response and make critical decisions quickly.

By 19 March 2020, global case numbers were growing exponentially; it had taken only 12 days for 100,000 reported cases to become more than 200,000. The same thing was happening on a smaller scale in Aotearoa New Zealand, where cases had nearly doubled overnight, from 11 to 20. It was now clear that managing the virus through suppression[12] ('flattening the curve') would not be sufficient to prevent the health system from being overwhelmed. Moreover, as the Ministry of Health noted to the Inquiry:

> "the burden of this failure would fall disproportionately on Māori, Pacific, disability, and older communities. We therefore needed to prevent COVID-19 from escaping beyond the border and into the community as far as possible and eliminate chains of transmission in the community as soon as they emerged."

Border restrictions took effect that night.

5.3.2 Strengthening public health and infection control functions to respond to the virus

With a global pandemic now in full swing, the Ministry of Health and district health boards were responsible for ensuring Aotearoa New Zealand's health system response was effective and coordinated.[13] The actions to be taken by each part of the health and disability sector were set out in the Ministry's COVID-19 Health and Disability Response Plan (published in April 2020), which emphasised the importance of 'strong leadership across the sector'.[14]

The health system's response was two-pronged. First, public health functions necessary to limit and stamp out transmission – testing, isolation of identified cases, contact tracing and quarantine of close contacts – were stepped up. These matters are covered in this section. Second, hospitals and other healthcare facilities implemented changes to help them care safely for COVID-19 cases and prepare for a potentially large influx of patients. (These matters are covered in section 5.4.)

5.3.2.1 Contact tracing

During an outbreak of a notifiable infectious disease, contact tracing can be a key tool to stamp out or slow down transmission. Once a new case of infection has been identified, contact tracing can identify other people who might also have been exposed, and notify them so that they can isolate themselves and/or access treatment. If contact tracing is successful, contacts will be isolated before they have a chance to infect others, thus limiting the spread of an infectious disease.[15]

Importantly, contact tracing is only effective if undertaken quickly (as soon as possible after someone is newly diagnosed with infection), and if there is a reasonable time delay between someone being exposed to infection and becoming infectious themselves (the incubation period).[viii] The initial variant of the COVID-19 virus had an incubation period of about five days. This meant there was sufficient time to identify and isolate 'contacts' of newly diagnosed cases before they became infectious and passed the virus on to others. In other words, effective contact tracing and isolation could prevent further spread of infection.

Contact tracing in Aotearoa New Zealand is generally carried out by public health units.[ix] When someone is diagnosed with a notifiable disease, unit staff trace and interview people with whom the confirmed case has recently been in contact. Under 'normal circumstances', contact tracing happens on a modest, localised scale (for example, to stamp out a measles outbreak in a particular community). But in a pandemic, contact-tracing capacity needs to be scaled-up quickly and expanded to cover multiple locations. The higher the case numbers, the more contact tracers are required, and the bigger their task.

viii The 'incubation period' is the time it takes for a person exposed to infection (that is, having contact with someone already infected) to develop the infection themselves and then to become 'infectious' (i.e. be capable of passing the infection on to those around them).

ix There are twelve such units in Aotearoa New Zealand. They are staffed by public health nurses, health protection officers and Medical Officers of Health who are public health medicine specialists experienced in communicable diseases control. Other agencies – including general practice, family planning, youth and student health services, maternity and prison services – may also conduct contact tracing depending on the disease outbreak and expertise required.

Aotearoa New Zealand's contact-tracing capacity was very limited at the start of the pandemic – the Director-General of Health, Sir Ashley Bloomfield, described it to us as a 'cottage industry'. Its limited capacity was confirmed in April 2020 when a rapid audit by Dr Ayesha Verrall (then a public health academic, and not yet a member of parliament or minister) found public health units would need to scale-up their contact-tracing capacity 'three to four fold' to deal with COVID-19.[16]

Initially, public health units in regions with high COVID-19 case numbers were boosted by extra staff brought in from units in regions with no cases. Then in March 2020, the Ministry of Health established a National Close Contact Service to provide centralised coordination and nationally consistent processes. This service was staffed by a broad range of health professionals, including those who had recently retired, students, or professionals who normally worked in private healthcare. The Service evolved as the Ministry sought to enhance the coordination, consistency and scale of contact tracing: it became the National Investigation and Tracing Centre later in 2020 and the National Case Investigation Service in November 2021.

The national telehealth service provider Whakarongorau Aotearoa was also deployed as part of the effort to rapidly scale-up contact-tracing capacity. It recruited and trained large numbers of contact tracers who would work remotely. (See section 5.5.3.3 for more on the activities of Whakarongorau Aotearoa during the pandemic response.)

As well as rapidly growing the contact-tracing workforce, the Ministry of Health sought to improve contact-tracing capacity by creating a new digital platform. Over the course of a few weeks, the Ministry's digital team developed the National Contact Tracing Solution to store details about COVID-19 cases, close contacts, and their management (what advice they had been given about self-quarantining, for example).

The NZ COVID Tracer app

Developing and piloting a smartphone app to assist with contact tracing was one of the key recommendations made by Dr Verrall in her early capacity audit.[17] The Ministry of Health moved quickly to implement the recommendation, partnering with Auckland-based design company RUSH Digital to develop the NZ COVID Tracer app. Its purpose was to create a virtual diary of people's activities and interactions.

The Privacy Commissioner was consulted during the app's development, and publicly endorsed it as 'a privacy-friendly solution for contact tracing which New Zealanders should feel secure in downloading and using'.[18] It was launched on 20 May 2020 as a voluntary contact-tracing measure. While the app's use was never mandated, the Government later made it compulsory for businesses and event organisers to display QR codes so people could 'scan' into their premises,[19] and for certain businesses and organisers to keep records of who had attended[20] – both of which were most easily accomplished via the app. (These measures are discussed further in Chapter 8.)

The app's functions were built iteratively, with arguably its most useful function – the ability to consent to sharing location data via QR code scanning – added as part of an update in June 2020. Bluetooth capability, which theoretically allowed people to be directly notified when they had been in close proximity with a confirmed case, was added in December 2020. Between 1 July 2020 and 30 June 2021, an average of 807,000 scans were made each day using the app.

5.3.2.2 Testing

Testing is a vital component of any pandemic response, both for identifying who is infected and for confirming who is not. From early in 2020, people with respiratory and other symptoms were encouraged to undergo diagnostic testing to assess whether they were infected with COVID-19. Groups considered to be at higher risk of having contracted the virus – including people entering Aotearoa New Zealand from other countries, workers whose jobs brought them into contact with overseas arrivals, and healthcare workers – underwent regular testing.

Two main types of COVID-19 tests were used in Aotearoa New Zealand at different stages of the COVID-19 pandemic: Polymerase Chain Reaction (PCR) tests,[x] which identified genetic material from the virus in the form of ribonucleic acid (RNA), and Rapid Antigen Tests (RATs), which detected protein from the virus, both via nasal swab.

PCR tests

PCR tests were the first form of testing available in Aotearoa New Zealand, and the most accurate. They had to be administered by health professionals[xi] and processed in laboratories. It could take hours or days to get a result. Workforce and laboratory capacity constraints limited the number of PCR tests that could be carried out.

One response to these constraints was the 'pooling' of samples (when a large number of samples are all tested together). This approach is very efficient if there are very low levels of infection in the population: if the whole 'pool' returns a negative result, a single test provides results for 50 (or whatever the pool size) people. However, if the 'pool' returns a positive result, each sample must be re-tested individually to determine which ones were positive.

While this approach was used effectively through 2020 and 2021, it started to become problematic in early 2022 when the arrival of the Omicron variant led to widespread community infection. Community case numbers soared, severely straining laboratory capacity.

Since testing of 'pooled' samples was no longer efficient, the surge in positivity rates caused by the Omicron outbreak led to an effective reduction in testing capacity just as population testing rates increased. As a result, laboratories were unable to process tests in a timely manner. By late January 2022, PCR test results were taking up to a week to return. By early March, laboratories had a backlog of approximately 30,000 samples more than five days old; these were assigned for destruction due to their reduced clinical relevance.[21]

These capacity issues were eventually resolved by the transition to RAT tests.

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x Previously, this technology had only been used in Aotearoa New Zealand to any significant extent by the Institute of Environmental Science and Research (ESR).

xi PCR testing was usually carried out by rotating a testing swab against the tissues at the back of a person's nose (a nasopharyngeal swab). Later in the pandemic, PCR testing was also conducted using saliva samples – but this approach was not widely used in Aotearoa New Zealand.

RAT tests (or RATs)

While less accurate than PCR tests, RAT tests[xii] could be self-administered and processed and gave results within 15 minutes.[22] From early in the pandemic, RAT tests were widely used overseas to test for COVID-19. But they were not authorised for use (or importation) in Aotearoa New Zealand until early 2022, due to concerns about their lower accuracy.[23] In the context of the elimination strategy, some health experts felt the greater accuracy of PCR tests was necessary to ensure as many cases of COVID-19 were detected and isolated as possible. Officials also had concerns about the poor quality of some RAT test kits available internationally.

With the decision to move out of the elimination strategy in October 2021 (see Chapter 2), the ban on RAT tests was modified to allow importation and use of tests approved by the Ministry of Health.[24] A ministry advisory team had by this time evaluated over 600 different RAT tests, of which 25 were eventually approved for use. The transition from PCR to RAT tests did not go smoothly, however. While importation was now permitted, supplies were limited. The Ministry worked to source and distribute RAT tests to those that needed them,[25] but their ability to do so was impaired by global supply shortages and the time taken for orders to reach Aotearoa New Zealand. An external review later found a lack of forward planning had delayed the transition to RAT testing and necessitated a continued reliance on PCR testing – contributing to testing capacity being overwhelmed in early 2022 (as described in the previous section).[26]

By mid-March 2022, RAT tests were the primary COVID-19 testing modality[27] and were freely available from GPs, pharmacies, schools and other community locations. In its evidence to our Inquiry, the Ministry of Health described 'significant effort' to ensure equitable access to tests, including the establishment of a 'Māori-provider distribution channel' in February 2022 that created 'a network of over 1,000 community partners to ensure that Māori have good access to tests'.

5.3.2.3 Surveillance and wastewater testing

Accurate information about COVID-19 case numbers was a critical input for Cabinet decisions about alert level changes and the addition, removal, or alteration of other public health and social measures throughout the pandemic. The Ministry of Health therefore put significant effort into providing accurate daily counts of newly diagnosed cases throughout the pandemic period.

Early on, this 'surveillance' of the virus was based on individual case notifications. In 2020, surveillance involved routine testing of border workers and new arrivals in managed isolation and quarantine (MIQ), as well as wider efforts prompted by specific outbreaks: comprehensive contact tracing and testing during the initial outbreak in March/April 2020 and focused efforts in response to localised outbreaks like that which prompted a short national lockdown in August 2020. Case identification relied on case PCR testing, while genome sequencing was undertaken on positive tests to identify specific COVID-19 variants.

xii Compared to PCR tests, RAT tests have lower 'sensitivity' – meaning they may occasionally return a negative test result even if the person has COVID-19, especially early in the infection before viral 'shedding' is high. But because RAT tests are much faster and easier to administer than a PCR test, they may be more effective at a population level when infection rates are high and the strategy is to suppress or mitigate the spread of COVID-19.

These efforts were later supplemented with regular wastewater testing, using methods developed by ESR during the COVID-19 response.[28] This involved routine sampling to reveal whether the virus was present in municipal wastewater. If detected, it indicated the presence of COVID-19 infection in the community (possibly without the knowledge of those infected). These approaches were formalised in a comprehensive COVID-19 Surveillance Strategy in January 2021.

5.3.2.4 Facemask guidance

Outside of healthcare settings, the routine use of facemasks as a precaution against catching or transmitting infectious diseases was not normal practice in Aotearoa New Zealand before COVID-19. Nor was there a culture of wearing masks when ill.

This changed dramatically during the pandemic response, in which masks played an important – and sometimes controversial – role. The widespread use of masks was important for protecting people who were vulnerable to the virus. From being rarely seen in public settings in Aotearoa New Zealand before 2020, facemasks became ubiquitous, especially during the second half of 2021 and early 2022. For many, they are now an instantly evocative symbol of the COVID-19 experience.

Evidence about the effectiveness of masks to prevent COVID-19 transmission evolved over the course of the pandemic, and the way they were used as a public health tool varied accordingly.[xiii] On 6 April 2020, the World Health Organization issued guidance recommending workers in healthcare settings wear masks – but only to prevent the transmission of COVID-19 from medical procedures involving infected patients. This was updated on 5 June 2020, and while the updated guidance applied more broadly than just to medical procedures, it was still focused on health workers.[29] It took longer for the World Health Organization to recognise that COVID-19 was spread by airborne particles,[xiv] often but not always between people within 1 metre of each other.[30]

xiii Here we touch on the overall role of masks as a public health tool in the COVID-19 response. Later, in Chapter 8, we address how and when mask use was made compulsory.

xiv Terminology used to describe the transmission of pathogens through the air varies across scientific disciplines, organisations and the general public. This caused considerable confusion during the COVID-19 pandemic because the World Health Organization was reluctant to describe it as an 'airborne' virus. In 2024, the World Health Organization published revised terminology of 'transmission through the air' with sub-categories of 'airborne transmission' and 'direct deposition'. The phrase 'aerosol transmission' is often used to describe the airborne transmission of particles of lesser size than a droplet. In 2020, the (slow) global recognition that COVID-19 could be transmitted via small airborne particles (that is, aerosol transmission) led to delays in introducing measures that would reduce the risk of transmission such as widespread use of facemasks and improved ventilation.

Spotlight on masks:
Effective if worn correctly, consistently and by nearly everyone | Te āta tirotiro ki ngā ārai kanohi – he whaitake mēnā ka tika, ka auau te mau, ā, e te nuinga

It's now well established that mask wearing can reduce the spread of respiratory infections like COVID-19.[31] Wearing masks not only protects people during one-to-one encounters, but also lowers the overall spread of respiratory viruses in the community. Studies conducted during COVID-19 showed that requiring people to wear masks significantly reduced transmission in the population, contributing to 'flattening the curve' of infection.[32]

The protective effects of mask wearing are increased if people wear them correctly and consistently. Protection is also greater with masks that are designed to remove particles from the air – such as respirators or 'N95s' (masks containing particle-removing filters).

The more people wearing masks, and the better the quality of the masks, the more effective they will be in reducing transmission of infection.[33] However not everyone can wear a mask. There are a few conditions where mask use isn't feasible or appropriate, so it is important to have exemptions to any required mask wearing. Wearing your own mask correctly can help protect others who – for reasons outside their control – may be unable to wear a mask.

While masks are not a cure-all, they are an effective public health measure that carries a low cost – both financially, and in terms of their impact on human rights (compared with other possible measures, such as restrictions on movement or vaccine mandates). These factors make masks an essential tool in the public health toolkit.

By August 2020, officials at the Ministry of Health were satisfied there was enough evidence to support mask use for them to play a significant part in the response to the community outbreak of that month. As well as their direct role in preventing transmission, there was evidence that mask wearing enhanced other behaviours that discouraged spread, with studies suggesting people were more likely to follow social distancing guidelines when around a person wearing a mask or if they were wearing a mask themselves. They began to be mandated in some settings from 19 August 2020 (see Chapter 8).

5.4 What happened: preparing the wider health system to cope with COVID-19 cases | I aha: te whakarite i te pūnaha hauora whānui kia tū pakari ki ngā kēhi KOWHEORI-19

Beyond strengthening public health measures to stop the spread of the virus, the health system also needed to prepare for a potentially dramatic influx of people unwell with COVID-19, should community transmission become established. As noted earlier, Aotearoa New Zealand's healthcare infrastructure was under strain in many parts of the country before the pandemic and was not well set-up to care for large numbers of people with contagious respiratory infections, while keeping staff and other patients safe.

As in other parts of the world, prior to the arrival of COVID-19, delivery of healthcare in Aotearoa New Zealand was heavily reliant on face-to-face contact between health workers and sick people. This created additional risk in the context of a pandemic. Hospitals and other healthcare services therefore needed to implement changes that would allow them to care safely for people with suspected or confirmed COVID-19 and prevent the virus from spreading at their facilities. Such changes included upgrading buildings (or changing how they were used), introducing new infection control measures (or expanding existing ones), and managing who came into health facilities.

Several guidelines and frameworks were developed to help health and disability service providers assess their level of risk from COVID-19 and escalate or relax infection control measures (including visitor restrictions) accordingly. These frameworks were also intended to ensure a degree of national consistency in operational decisions, and to inform decision-makers about how much to defer or reprioritise non-COVID-19 healthcare services to manage COVID-19-related demands.

Aotearoa New Zealand's healthcare infrastructure was not well set up to care for large numbers of people with contagious respiratory infections.

5.4.1 Changes in healthcare facilities to provide safe care in a respiratory pandemic

The state of healthcare infrastructure in general, and hospital facilities in particular, was negatively impacting the health system even before the arrival of COVID-19.

In the course of our Inquiry, we heard about a range of pre-existing challenges that made it difficult for healthcare facilities to reduce the risk of cross-infection from a contagious respiratory illness like COVID-19. These included:

- Aspects of building layout that made it difficult to separate potentially infectious patients (for example, emergency departments connected to wards via a single corridor).
- Ventilation systems that were not suited to reducing disease spread via airborne particles.
- A shortage of negative pressure[xv] rooms.
- Single nursing stations that made it hard to keep those working with infectious patients separate from other staff.
- Lack of suitable space near entrances and exits for correctly changing into and out of personal protective equipment (PPE).

While these issues were particularly prominent in hospitals, we also heard that many community health services and primary care facilities were poorly designed for separation of infectious and non-infectious patients and for appropriate ventilation and air flow.

The consequences of these infrastructure challenges for managing an outbreak of a highly infectious disease like COVID-19 became quickly apparent.

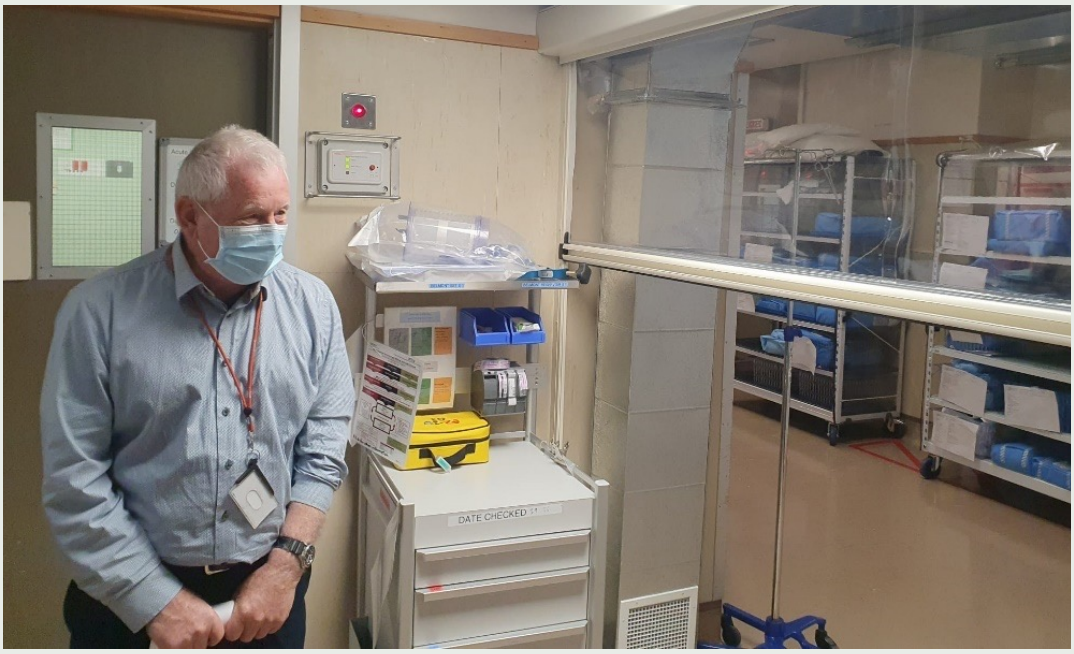
xv Negative pressure rooms have high-flow ventilation systems that continually move air out of the room (and then out of the building), ensuring potentially contaminated air doesn't recirculate back into corridors and other parts of the facility.

5.4.1.1 New patient management protocols and workflow processes

Hospitals undertook substantial work to adjust patient management and workflow processes in order to keep patients with respiratory symptoms (or confirmed COVID-19 cases) separate from others.

Such adjustments included redesigning work spaces,[34] physically separating patients with respiratory symptoms as soon as they entered an emergency department, testing patients for COVID-19 at hospital entrances, setting up separate COVID-19 wards (for example, Auckland Hospital converted two wards for this purpose), and rostering staff to work in separate groups to limit their potential exposure to COVID-19.

How each hospital designed and implemented these changes was shaped by the age and quality of their existing infrastructure. Options for improving ventilation and patient flows were more limited where buildings were outdated, and changes required a mix of pragmatism and innovation. For example, staff at Palmerston North Hospital (which had longstanding issues with outdated facilities)[35] used pull-down screens to create separate 'red' zones for COVID-19 patients in the operating theatre and intensive care unit and retrofitted a substantially improved ventilation system.



Palmerston North Hospital engineer with the pull-down screen used to create a separate 'red' zone in the operating theatre.

5.4.1.2 Shoring up capacity to care for ventilated patients

The ability to care for patients requiring mechanical ventilation (when a machine helps someone to breathe) is an important aspect of health system capability in a pandemic. It was particularly important for COVID-19: people who became very sick with the virus often required ventilation. Sick patients who require ventilation are usually cared for by specially trained staff in a hospital's intensive care unit (ICU), although ventilation can also be provided in other parts of the hospital (such as operating theatres and high-dependency units).

New Zealand's intensive care capacity was lower than in many other countries at the start of the pandemic. A report by the OECD noted the country had 3.6 ICU beds per 1,000 population (compared with an OECD average of 12.0).[36] This was well below the capacity in countries such as Italy and Spain, where hospitals had been overwhelmed in the early stages of COVID-19. Global demand for ventilators was soaring, with orders far exceeding global supply.[37]

Capacity to care for ventilated patients was therefore an area receiving a lot of attention in the early pandemic response. Cabinet agreed to support additional ICU capacity as part of an initial funding boost for the health response on 17 March 2020. On 31 March 2020, the Minister of Health told the Epidemic Response Select Committee that considerable progress had been made in preparing for a surge in COVID-19 admissions, including 'a huge amount of work [...] to determine how we can scale-up that ICU capacity'. This included securing additional ventilators, repurposing operating rooms, and running refresher and new training courses to ensure there was sufficient staff capability to care for ventilated patients.[38]

The importance of capacity to care for ventilated patients was reinforced by the COVID-19 Ministerial Group on 9 April 2020 when it agreed the criteria to be considered when deciding to move between alert levels. These included satisfying the Director-General of Health that there was sufficient general health system capacity, including workforce and ICU capacity.[39]

Weekly situation reports to ministers attempted to track ICU and ventilator capacity. As early as 29 March 2020, it was reported there was 'sufficient' capacity with 533 'ventilated ICU beds' available.[40] An update on 3 May 2020 again reported 533 ventilators in DHBs, with another 357 ventilator machines on order. A further 247 'potential ventilators' were available in private hospitals and other providers.[41] While physical spaces and ventilator units were identified fairly readily, a more challenging issue was training a pool of staff who could provide care for ventilated patients – which is a highly specialised skill. An update from early June 2020 noted that over 500 doctors and 800 registered nurses had been registered as part of a 'surge capacity database' listing around 10,000 people from the wider health sector, although it is not known how many of these were capable of caring for ventilated patients. Of this 'surge capacity', the update noted that 33 had been deployed into roles, but it was not clear whether these roles included this responsibility.[42]

While these reports demonstrate significant effort and at least some potential to surge capacity to care for ventilated patients, the Inquiry saw no evidence of a sustained ability to increase this capacity during the first 18 months of the pandemic response. According to the Ministry of Health, despite the early availability of funding, ICU capacity in July 2022 was similar to that at the start of 2020, with national numbers remaining the same at around 260. In November 2021, Cabinet established a contingency fund to increase ICU capacity, and in February 2022 the Ministry of Health sought to draw on it to increase critical care bed numbers to around 345 beds (including staffing). The Ministry advised us that – by January 2024 – funded ICU capacity was 312.

We were unable to ascertain what number of ventilated patients the health system could have surged capacity to care for, had COVID-19 case numbers and hospitalisations dramatically increased. Certainty about surge capacity will be important for future pandemics.

5.4.1.3 Retrofitting and upgrading hospital facilities

As well as changing patient management and workflow processes to improve infection control, many hospitals also undertook extensive retrofitting to reduce the likelihood of COVID-19 being transmitted between patients. As noted previously, this work typically focused on improving ventilation and managing the flow of patients so people with respiratory symptoms or confirmed COVID-19 could be physically separated from other patients. Many hospitals installed air purification units (also known as HEPA filters or 'scrubbers') to remove airborne particles and reduce the risk of droplet spread.

We heard differing accounts of the extent to which there was central support or guidance for this upgrading work. Health officials told us the Ministry 'played a strong coordination role' by meeting regularly with Chief Medical Officers and DHB chairs to check on progress. In contrast, we heard from some hospital staff that they received limited practical guidance on what was expected by way of retrofitting or what standards were required for building ventilation. The Royal New Zealand College of Urgent Care (the peak body for urgent care medicine) told the Inquiry that there was 'no official guidance available from the Ministry about the mitigation of SARS-CoV-2 transmission by ventilation or air filtration'.

While additional funding ($100 million) was made available to hospitals to support this upgrading work, this wasn't announced until December 2021.[43]

As a result, we were told that hospitals developed their own approaches to upgrading their physical infrastructure and relied heavily on the knowledge of their own staff. As one stakeholder put it, 'each hospital did its own thing'. Not everyone viewed this as a problem. Some staff found it enabling to be allowed to 'just get on with it' and 'not be paralysed by the need for perfection'. According to one: 'We were permitted to take risks, to make decisions without having to go through burdensome processes'.

5.4.2 New infection control practices

In material provided to us in evidence, the Ministry of Health has acknowledged that 'there was no national infection prevention and control capability at the start of the pandemic'.

This was quickly recognised as a gap, with efforts made to embed suitable expertise to review evidence and issue guidance about such matters as hand hygiene, mask use, physical distancing and ventilation. In the context of the pandemic, a range of new infection control practices were introduced – including COVID-19 screening in emergency departments, separate workflows and staff teams to manage patients with suspected or confirmed COVID-19, and dedicated COVID-19 wards.

For health workers, the initial absence of such guidance, and later its frequently changing nature, created additional pressures during an already very challenging period. We heard from numerous professional bodies and colleges representing different healthcare workers about the stresses this placed on their members, especially early in the pandemic when there was limited evidence about the virus, its spread, and what worked to keep staff and patients safe.

There were repeated references in our direct engagements to New Zealand's lack of expertise, capacity and central coordination in infection prevention and control, which was referred to as one of 'the Cinderellas of the health system'. A specialist body told the Inquiry that 'there were not enough trained staff' to ensure adequate infection prevention and control practices across all aspects of the COVID-19 response.

These challenges were evident in primary and community health settings as well as hospitals. We heard that running GP and outpatient clinics under more stringent infection control measures meant patient appointments had to be spaced further apart to maintain social distancing and allow time to sanitise equipment, creating extra workloads for staff and longer wait times for patients.

5.4.2.1 Access to personal protective equipment (PPE)

PPE was an important part of infection prevention and control in healthcare settings, benefitting patients and staff alike and helping to maintain people's access to health services. However, accessing it was a particular pressure point for many health workers during the pandemic.

Under the New Zealand Influenza Pandemic Plan 2017, DHBs were responsible for maintaining PPE stocks. It was assumed at the start of the pandemic response that this equipment would be available (and adequate) straight away. However, it was quickly established that much of the stock had not been well maintained or rotated and was now out of date and unfit for use.[44] We are not aware of evidence that quantifies how serious these stock issues were, but we heard from senior health officials we engaged with directly that they were considered serious enough that they might compromise the health system's ability to prevent or mitigate a COVID-19 outbreak.

The Ministry of Health managed the procurement and distribution of PPE for publicly-funded health workers. Under normal circumstances, the Ministry would spend about $25 million a year on PPE. By 30 June 2020, it had spent approximately $200 million to procure, store and distribute more than 46 million items of PPE, with another 165 million on hand ready to be deployed.

Centralised procurement and distribution were effective in providing PPE to hospitals, but worked less well for community-based services. We heard from many organisations and individuals about health workers in both primary and community care having difficulty getting PPE during the pandemic. Those affected included employees in general practices, hospital and community-based midwives, home care and disability support workers, pharmacists, and aged residential care workers.[45] Difficulties in getting PPE, or the right PPE, also contributed to a slowing down of service delivery. In early 2020, urgent care doctors were so concerned about access to PPE – and a perceived lack of information about whether, when, and what kind of PPE would be made available to them – that some went so far as to source their own, including by importing it directly.

5.4.2.2 Infection control and visitor policies in hospitals and aged residential care facilities

For most of the pandemic period, DHBs had strict policies for those visiting or supporting patients in hospital. In general, no one could enter if they, or the patient they were visiting, had or were suspected of having COVID-19.

At 'red' and 'orange' hospital alert levels[xvi] – alongside other increasingly stringent infection control measures – no visitors were allowed (or could only be permitted by a clinical nurse manager or senior manager on shift; in such cases, only one visitor or legal guardian was granted access).[46] At all levels visitors needed to follow hand hygiene and PPE requirements, participate in contact tracing, and could expect to be turned away if unwell with COVID-19 symptoms.

These strict hospital visiting policies were intended to protect patients, staff, visitors and the wider public against COVID-19 by limiting potential exposure and transmission between patients and their visitors and support people. The restrictions were intended to be adjusted according to the DHBs' own alert level status under the National Hospital Response Framework (see section 5.4.3).[47] However, in practice, there were instances where DHBs diverged from the national approach, with some using stricter policies than it would suggest.[48]

Visitor restrictions were also applied in aged residential care. Aged residential care residents are more vulnerable than the wider population to the adverse impacts of viruses in general, and were at particular risk of contracting COVID-19 due to their close contact with others.[49]

xvi The alert levels were specific to hospitals and (despite the similar terminology) were not the same as the national Alert Level System – see next section.

These risks came into sharp focus early in the pandemic, when several early clusters were located in such facilities in Aotearoa New Zealand. A subsequent review found the sector had reasonable infection control practices and readiness for infectious outbreaks, and these were quickly activated.[50]

Some aged care providers moved their facilities into lockdown-like conditions earlier than the rest of the country. Steps taken within aged care facilities included introducing visitor restrictions, limiting contact between residents, and isolating residents by themselves or within bubbles as required (although this was challenging for some residents with dementia). In many facilities, lockdown-like facilities were maintained for much longer than the time the rest of the country spent at Alert Levels 3 and 4.

By March 2022, the Minister of Health had become concerned about the effects of extended social isolation on aged care residents. By this time, the general population was living with lower restrictions under the new COVID-19 Protection Framework, or 'traffic light' system, but many residents of aged care facilities remained subject to strong restrictions.

In May 2022, the Ministry of Health issued new guidelines for safe visiting and social activities in aged residential care. These outlined a series of principles, including that 'social connection and physical contact with whānau are fundamental to the health and wellbeing' of aged care residents, and that it was essential to enable safe visiting, social activities and outings even during a COVID-19 outbreak or when community transmission was widespread.[51]

...social connection and physical contact with whānau are fundamental to the health and wellbeing of aged care residents.

5.4.3 Prioritising services and redeploying resources in response to COVID-19 risk

As well as making changes to patient management systems, retrofitting and improving hospital facilities, and issuing new infection control guidelines and equipment, hospitals and other health services had to be ready to reprioritise their services and redeploy their resources in readiness for a potential influx of COVID-19 cases; if nothing else, the frightening scenes of overwhelmed hospitals in other countries in early 2020 had shown the importance of this.

As mentioned earlier, several national guidelines helped health services not only to escalate or relax infection control measures in response to COVID-19, but also to make decisions about how much to adjust non-COVID-19-related services.

One key framework was the National Hospital Response Framework, which was developed by the Ministry of Health in collaboration with DHBs in March 2020. This aimed to support DHBs to safely deliver and maximise patient access to non-COVID-19 hospital services (such as in-patient care, surgeries and specialist appointments), while also protecting hospital capacity to deal with COVID-19-related demand as it arose.[52]

The national response framework provided guidance on how to scale infection control measures and clinical services up or down according to different levels of perceived COVID-19 risk, and DHBs' capacity to manage this risk.

There were four 'alert levels' ranging from 'green' (low perceived risk of COVID-19 impact) to 'red'[xvii] (high perceived risk of 'severe' impact).[53] Different hospital facilities within a DHB, or even departments within a single hospital, could be at different alert levels at any given time. Each DHB was required to report their overall alert level to the Ministry on a daily basis, so that 'a national view of escalation' could be compiled.

The framework recognised that, even at times or in regions where there were no active COVID-19 cases, the provision of 'business as usual' care would need to remain prepared for a possible surge during an active pandemic. At the lowest, or 'green' level of risk, hospitals were expected to be ready for any COVID-19 cases that presented, although planned care continued as usual. Specialist clinics were also expected to continue, but remotely – for example by videoconference.

At the highest, or 'red' level of risk, hospitals were encouraged to discharge as many patients as possible and cancel any surgery not considered an emergency. This would ensure all possible capacity was available to respond to people presenting with COVID-19.

In practice, this system came to guide not only hospital-based care, but the overall provision of non-COVID-19 health services during the response. A parallel framework was developed for primary and community health services, which evolved over time.[54] DHBs were tasked with sharing their plans for managing hospitals at different (health) alert levels with primary and community providers,[55] and it was expected that the primary and community sectors would respond to COVID-19 risk 'in sync' with the hospitals.[56]

xvii Note that this traffic light system was distinct from the national Alert Level System and COVID-19 'traffic light' system, as it was unique to the health system. It allowed DHBs to assess localised COVID-19 risks and their capacity to manage those, and also make decisions on service availability and infection control given those circumstances.

5.5 What happened: provision of non-COVID-19 -related healthcare during the pandemic | I aha: te whakaratonga o ngā ratonga hauora ehara mō te KOWHEORI-19 i te wā o te mate urutā

In addition to managing the health system response to COVID-19, the Ministry of Health and DHBs were responsible for ensuring New Zealanders could continue to receive appropriate preventive, diagnostic, therapeutic and supportive care for non-COVID-19 health conditions. This was a challenging task given the need to simultaneously upgrade infection prevention and control settings, scale-up key public health functions, and ensure sufficient health system capacity was held ready in case of rapid increases in COVID-19 infection and illness.

The national response frameworks for hospitals and community care outlined in the previous section were the primary mechanisms used to balance all these considerations. The intent of these frameworks was to allow 'business as usual' health services to be delivered to the greatest extent possible during the pandemic, while still enabling the system to be ready to cope with an outbreak of community transmission, should this occur.

5.5.1 Reprioritising primary care, routine screening, immunisations and hospital-based care

Holding a health system ready for a potential influx of cases during a pandemic will inevitably require the reprioritisation of 'business-as-usual' services. As noted by a senior health official in one of our direct engagements:

> "Even in a context where you don't have any active COVID cases in a hospital, all the other infection prevention and control measures slowed down services. It's quite difficult to measure these impacts and work out what is a reasonable level of planned care."

In practice, it seems most DHBs took a cautious approach to this assessment. As a result, many non-COVID-19-related healthcare services were temporarily suspended or deferred during the pandemic. These decisions were first required during the national lockdown in March and April 2020.

5.5.1.1 Care for non-COVID-19 health issues during lockdowns

Not surprisingly, the delivery of 'business as usual' health services was heavily disrupted in March, April and May 2020.

During this time, we heard that many district health boards around the country assessed themselves as 'red' on the national response framework – at the highest perceived risk of severe impact from COVID-19. At this level, they provided emergency and urgent care only – in order to preserve capacity.

According to a working report by the Ministry of Health in November 2020, inpatient stays in public hospitals declined sharply during the Alert Level 3 and 4 lockdown: in April 2020, the first full month in lockdown, the number of stays fell by almost 40 percent and remained at historically low levels in following months. However, by June 2020, there were signs that hospitals were beginning to reduce the backlog.[57]

The lockdown also affected general practices. The Ministry's report showed general practice consultations declined in late March and April 2020, and had not reverted to pre-lockdown levels by July of that year.[58] Patient experience survey data found one in three (34.4 percent) of respondents reported that the Level 3 and 4 lockdowns in 2020 affected their access to general practice: they felt they weren't supposed to attend or that their health problem wasn't urgent enough, or they delayed or substituted general practice care.[59]

These disruptions prompted some immediate concerns. In a letter to the Minister of Health in April 2020, the Health and Disability Commissioner expressed concern about 'unmet need' that was building in the community due to the reduction in healthcare service activity. He noted that the consequences would be 'particularly serious for those for whom early diagnosis and treatment is the key to success, including cancer and coronary disease', raising 'clear equity issues'.

The Commissioner called for the health system to act now in preparation for the surge in demand that would occur once lockdown ended – including by strengthening coordination between primary, secondary and private providers to ensure 'maximum availability of and access to services'. His letter also highlighted 'inconsistencies across the country in the ways in which DHBs are applying the National Hospital Response Framework', with some DHBs declining primary care referrals and referring other patients back to primary care.[60]

Responding to the Commissioner's concerns, the Ministry of Health noted that while DHBs were 'redesigning workspaces and reassigning workers to ensure preparedness for a possible influx of COVID-19 patients', many non-urgent surgeries were deferred for this purpose. This was consistent with the framework if DHBs had determined they needed to lift the status of their facilities to 'red' or other higher levels. However, 'care will continue to be provided according to a patient's clinical priority. DHBs will actively review waiting lists and manage a patient's risk of deteriorating whilst waiting'. The Ministry said it had been 'clear with DHBs that any deferred patients [...] must not be removed from waiting lists', but also noted that 'limiting the risk of COVID-19 infection remains a key priority'. This reflected the challenge of balancing the health system's response to the pandemic with its responsibilities to provide non-COVID-19 care.[61]

By November 2020, the new Health and Disability Commissioner told the incoming Minister of Health that her office had received 224 complaints related to COVID-19, representing 15 percent of all complaints received that year. Many centred on reduced access to care and delayed treatment in primary, secondary and emergency healthcare.[62]

In 2022 and 2023, the Health Quality and Safety Commission documented numerous pandemic impacts on wider health services, some of which are covered in section 5.6. Relevant to this section, the Commission reported that planned care in hospitals returned to normal levels in mid-2021 after falling sharply during the first national lockdown.

However, the situation worsened considerably following the Delta outbreak and the long regional lockdowns that began in August 2021. Afterwards, planned care remained 'consistently lower' than expected on the basis of earlier years.[63]

5.5.2 Steps taken to preserve wider health system capacity and workforce during the pandemic

Despite the disruptions that inevitably occurred, considerable efforts were also made to preserve wider health system capacity and ensure the health workforce was available to deliver necessary and ongoing care. A number of different strategies were utilised to expand the available health workforce, including recruiting health professionals who were working outside the health system.

When health workers were absent from work with COVID-19 or redeployed into other parts of the sector, there could be flow-on effects for other services. In response to these challenges, steps were taken throughout the pandemic to minimise system capacity disruptions and ensure that health workers could keep coming to work.

5.5.2.1 Deeming health workers 'essential'

When the country first went into Alert Level 4 lockdown, most health services were deemed 'essential'.[64] This was intended to preserve access to essential healthcare during lockdown, and to minimise disruption to the health workforce.[65] See Chapter 3 for more on the definition of essential services.

While the classification of health workers as essential was deliberately quite broad, it did not necessarily correspond to what was understood to be essential in the moment. For example, we heard of some people in preventative or community health roles, who were essential workers, often being redeployed into other areas considered to be more 'essential'. A report for the Well Child Tamariki Ora governance group in June 2020 found that:

> "[...] not all organisations understood that WCTO staff were still providing an essential service and WCTO staff were redeployed to other areas of business. This will have an impact on the work required to catch-up with whānau who may not have received contact during the lockdown period."[66]

...considerable efforts were also made to preserve wider health system capacity.

5.5.2.2 Enabling some health workers to return to work early after a COVID-19 diagnosis

In April 2020, the Northern Regional Health Coordination Centre (supporting Auckland, Counties Manukau, Waitematā and Northland DHBs) developed an evidence-based risk matrix[67] to help make decisions about when staff who had been infected with COVID-19 could safely return to work should staff absences be putting critical (e.g. lifesaving) services at risk. The framework was then adapted in May 2020 by the Royal New Zealand College of General Practitioners for GP services delivered in general practice and in the wider community, including schools, with several versions for different alert level settings.[68]

This practice continued through into 2022, and was supported by the Ministry of Health for all critical health services, and under specific conditions. An order issued in May 2022 allowed the Director-General to make an exemption to stay at home orders, but only if the person was a critical health worker whose work was required to prevent immediate risk of death or prevent serious social or economic harm to significant numbers in the community. If all other options had been exhausted, they were not acutely unwell, and agreed, they could return to work.[69]

As a result, throughout the pandemic, some essential health workers were given special dispensation to return to work early following a COVID-19 diagnosis, subject to specific conditions.

5.5.2.3 Temporarily exempting some staff from vaccination requirements to prevent disruptions to critical services

Later in the pandemic, when vaccination mandates were in place for the health and disability workforces (see Chapter 8), DHBs could apply for temporary exemptions to staff vaccination requirements if there was a risk of 'significant service disruption' to a critical health service due to a lack of available vaccinated workers.[70]

To qualify, the DHB had to show that a critical health service would not be able to be provided, that no alternative option was available, and that the organisation had done all they could to mitigate the risk of COVID-19 transmission from having unvaccinated staff.

5.5.3 Innovation and adaptation in service delivery

Despite significant disruption and pressure, people in the health system worked hard to find ways of continuing to provide care without relying on face-to-face contact. There were many examples of innovation and adaptation that allowed 'business as usual' healthcare to continue as much as possible. These included the rapid adoption of alternative models and methods, such as telehealth and remote delivery.

5.5.3.1 Community and iwi and Māori health providers quick to mobilise

We heard many examples of iwi and Māori health providers quickly adapting, developing new models, and taking a holistic and flexible approach to ensure their communities had ongoing access to essential services, including healthcare.[xviii] The Ministry of Health recognised and supported the strength of this response – as one senior health official told us: 'Māori got the "why" of the protection measures and mobilised rapidly – sometimes ahead, sometimes more rigorously than the national response'.

Examples of iwi and Māori initiatives included:

- A Māori primary health organisation's six general practices partnered with an acute care centre and a local supermarket to deliver food, health and hygiene packages, testing, and later vaccination to their wider community.
- Māori health providers purchased and distributed mobile phones to households they knew didn't have them, ensuring they could maintain communications during lockdown. These providers also stepped up to fill gaps when required – for example, when Police were unavailable to attend mental health crisis callouts.

"Māori got the "why" of the protection measures and mobilised rapidly – sometimes ahead, sometimes more rigorously than the national response."

xviii This was not limited to the health sector – we heard similar evidence about iwi and Māori pandemic responses in general. For more, see section 3.2.1.3 in Chapter 3 on lockdowns, section 6.4.1.2 in Chapter 6 on the economic and social response, and section 7.3.2 in Chapter 7 on the vaccination rollout.

5.5.3.2 Rapid uptake of new technologies

As happened in other sectors, the arrival of COVID-19 and the first national lockdown required the health sector to shift rapidly to using new technologies. Many of these existed already or were being piloted in small pockets, but they were rapidly adopted at scale early in the pandemic.

E-prescribing – whereby medications were prescribed, dispensed, administered and recorded electronically – was one such technology. Because it could be done remotely, it was a useful tool during the COVID-19 pandemic, reducing exposure to the virus among patients and health professionals. It offered other advantages too, such as improving patient access, convenience, and reduced harm from medication errors and adverse drug events.[71]

A gradual shift to e-prescribing had begun before the pandemic, but it was rapidly accelerated in March 2020 – in fact, we were told it was effectively adopted nationwide overnight, two days before the first national lockdown. While some technical barriers affected transmission between general practitioners (GPs) and pharmacies,[72] we heard that the move to e-prescribing was overall a 'superb' example of how the health system can make significant changes when it 'identifies priorities and steps into action'. In the words of one GP: 'We've been talking about the barriers to e-prescriptions for 15 years. Lo and behold, it happened in 48 hours'.

> **"We've been talking about the barriers to e-prescriptions for 15 years. Lo and behold, it happened in 48 hours."**

Similarly, there was a rapid uptake of online systems for communication between health professionals and patients (or 'patient portals') early in the pandemic, as well as an 'extraordinary' increase in the use of phone and virtual consultations. Health staff made videos showing patients the correct way to swab themselves for COVID-19 testing. National telehealth services scaled-up to provide additional support.

The Ministry of Health also took steps to ensure that wherever there were qualified health and disability workers willing and able to work during the COVID-19 response, they would be connected with employers who needed them. To this end, an online portal was established to connect health and disability workers with sector employers. More than 3,700 workers registered an interest to work, and 25 employers used the service.

5.5.3.3 Additional support from national telehealth services

Whakarongorau Aotearoa, the National Telehealth[xix] Service was established in 2015, a consolidation of several existing phone support lines into one entity using the same cloud-based system. At the time of writing, it comprises more than 35 services.[73]

Under 'normal' circumstances, Healthline and the many mental health and addiction phone lines that are part of Whakarongorau can be considered a 'backstop' to primary health services. But during the pandemic, when people's ability to access standard healthcare was significantly reduced, they were critical and became the first port of call for many. This was reflected in increased call and text demand across many of these services:

- Calls to Healthline jumped from an average of 30,000 calls per month pre-pandemic to almost 74,000 calls in March 2020.
- Texts and calls to mental health and addiction support services (depression, gambling support, assistance with alcohol and other drugs) increased. They peaked in March–April 2020, with 20,483 calls received in April alone. Call volumes did not return to pre-pandemic levels until late 2021/early 2022.
- Calls to Plunketline (especially maternal mental health related calls) rose sharply in late 2020, peaking in the second quarter of 2021 at four times the number of calls received before the pandemic.[74]

People contacted these telehealth services about a myriad of issues – including family violence, mental health, lockdown rules, and COVID-19 symptoms and testing. Agreements and operating protocols with other agencies meant health lines were able to refer callers to appropriate alternative services (businesses wanting advice on implementing COVID-19 requirements were referred to MBIE helplines, for example). If necessary, they could also prioritise callers they referred to these other lines, so they were dealt with urgently.

We heard from several sources that Whakarongorau was a pandemic success story. According to one senior health official:

> "Whakarongorau were unbelievably invaluable in the response [...] if they didn't exist, we'd have struggled to build a national workforce as fast as we did to do what they did. They grew from a few hundred people to over 3,000 in a number of months."

Factors in the service's success were described as its 'scalability', its strong pre-existing relationship with the Ministry of Health and the Auckland Regional Public Health Service, a high-trust contracting model, its use of remote technology that allowed people to work from home, and to rapidly recruit, train and surge their workforce.

xix 'Telehealth' refers to health care delivered using mobile and digital technology.

Spotlight:
Delivery of cancer care during the pandemic | Te tuku manaaki mate pukupuku i te wā o te mate urutā

Cancer care is a case study of a highly dedicated sector which responded to the pandemic by mobilising rapidly, remaining focused and coordinated, and exercising good system stewardship – strategies that helped minimise disruption to usual healthcare.[75] Aotearoa New Zealand's cancer care sector performed well when compared internationally.[76]

Initially there were major disruptions to cancer screening, diagnostics, treatment and care. In the rush to protect the health system from the potentially devastating impacts of COVID-19, cancer screening and diagnostics were particularly affected. New cancer registrations fell by 40 percent in April 2020 compared to same month the previous year, meaning one thousand fewer cancer diagnoses.[77] Workforce disruptions, reduced efficiency due to physical distancing and infection control requirements, and difficulties for patients needing to travel were also challenging.

The three national screening programmes (breast, cervical and bowel) were paused temporarily during the first national lockdown in April 2020.[78] They gradually resumed from May 2020 under Alert Level 2 to the point where most eligible people due for screening were able to access it by August 2020.[79]

Also during the lockdown period, thresholds for referring cancer patients from primary to secondary care were raised, and there was a sharp reduction in some diagnostic procedures like endoscopies and colonoscopies.[80] There were grave concerns that this would result not only in system backlog, but preventable harm and mortality.[81]

DHBs had at this point been asked to work to the National Hospital Response Framework (see section 5.3) when making decisions about clinical care prioritisation and service availability, given local COVID-19 risks. As noted in other parts of this chapter, there was variation in how the framework was interpreted. It was 'high level', and clinical leaders needed additional guidance tailored to cancer care.

The newly established Cancer Control Agency – Te Aho o Te Kahu – supported hospitals to maintain cancer-related care during the pandemic, with a strong focus on equity and protecting the vulnerable.

Together with specialty working groups, the newly established Cancer Control Agency – Te Aho o Te Kahu – worked rapidly to develop cancer-specific guidelines aligned with the National Hospital Response Framework. These supported hospitals to safely maintain necessary cancer-related care during the pandemic. The guidelines had a strong focus on equity and protecting the vulnerable and immunocompromised.[82] Māori partners were involved in decisions about which services to prioritise.[83] An Agile Response Team provided rapid clinical support and coordination.

This approach was accompanied by innovations in service delivery which, in combination, ensured patients could continue to receive cancer care. Despite the many disruptions that occurred in April 2020, half of first specialist assessments that month – and 80 percent of follow-up appointments – were held remotely via telehealth platforms.[84] A collaboration with Pharmac allowed patients to maintain access to cancer medicines by providing alternatives that could be given less frequently or administered in the community.[85]

The cancer response was supported by timely monitoring of service provision – a key component of effective health system stewardship. From April 2020, a data response group established by the Cancer Care Agency produced monthly reports on diagnostic testing, new cancer registrations and treatments. This provided the health sector with near-real-time monitoring of cancer care. Clinicians could adapt service delivery and target their public messaging in response, while officials and ministers had up-to-date information to inform decisions about potential interventions.[86]

Despite these very active efforts to maintain cancer care delivery, it was not possible to completely avoid service disruption. Screening for breast cancer was low through 2020 and 2021, and many support services for cancer patients (such as volunteer transport to treatment) were interrupted. The reduction in in-person care also meant many family and friends of patients took on extra responsibilities, such as managing medication and changing bandages. Such responsibilities can increase carers' distress and impact their quality of life.[87]

Overall, though, continuity of cancer services was maintained throughout the pandemic period. In fact, the Health Quality and Safety Commission reported that new cancer registrations actually increased by five percent in 2021 (compared with 2018/19). There were also positive equity trends in the provision of some services, and increased rates of diagnostic procedures for Māori.[88]

5.6.1 Aotearoa New Zealand's health system was not overwhelmed, and most people – especially vulnerable groups – were well protected from COVID-19

It is well established that pandemics (and other kinds of crises and disasters) will have the greatest negative impacts on the parts of the population who are already facing systemic inequities and underlying disadvantages. This is true of both the direct impacts of the pandemic virus or pathogen itself, and of the indirect economic, social and health impacts that can result from a pandemic. Proactive steps can – and should – be taken to mitigate this likely effect as much as possible.

When considering the health system response to the COVID-19 pandemic in Aotearoa New Zealand then, we have been mindful of both historical and international examples. The 1918 influenza pandemic and its devastating impact on indigenous peoples here and around the world, has been a salient consideration (as it was for the Government and for many Māori during the pandemic response). So too have examples of health systems overwhelmed by COVID-19 in Italy, the United Kingdom, India, the United States and elsewhere.

Keeping these 'counterfactual' examples in mind has helped us to interpret the evidence we saw and heard about the wider health impacts of New Zealand's COVID-19 response. It is of course impossible to know exactly what might have happened under alternative circumstances and if different decisions had been made (although Appendix B provides some scenarios to consider).

> **"It was hard. Really hard. But having tens of thousands of whānau and friends die would have been harder."**

We also note that work on major health care reforms was underway while Aotearoa New Zealand was dealing with the COVID-19 pandemic. They were introduced on 1 July 2022.[xx]

There can be no doubt that New Zealand's COVID-19 response – particularly the success of the elimination strategy, and the time this bought to achieve high levels of vaccination coverage – was highly effective at protecting public health, preventing the health system from being overwhelmed, and minimising unequal health impacts for disadvantaged or vulnerable populations, including Māori. Many public submitters to our Inquiry expressed gratitude for how the COVID-19 response protected public health, and the health system.

> "I was so very proud of how our government & public health initially handled the pandemic – protecting the health of the people of New Zealand was at the centre."

> "...the way the Government and government departments and officials handled the pandemic and responded with public health measures absolutely saved lives. It was hard. Really hard. But having tens of thousands of whānau and friends die would have been harder."

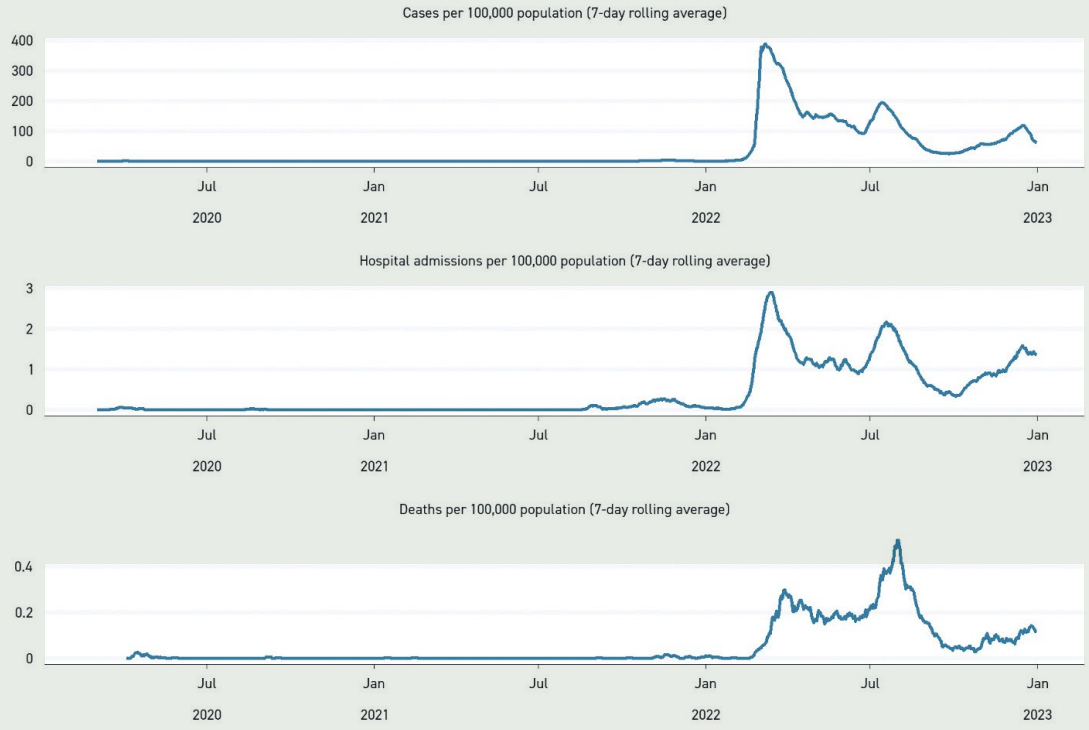
xx These changes increased central governance of publicly-funded hospital and specialist services by replacing 20 district health boards with a new Crown entity, Health New Zealand. A new Māori Health authority, Te Aka Whai Ora, was established to monitor the state of Māori health and commission services.

5.6.1.1 Low infection, hospitalisation and death rates

The public health and infection control measures activated during the pandemic were deployed in service of the overarching elimination strategy that governed New Zealand's COVID-19 response from late March 2020 until late 2021. This strategy, and the measures deployed in support of it, were highly successful in preventing the health system from being overwhelmed and in protecting the health of people living in Aotearoa New Zealand.

COVID-19 was largely absent from the country until early 2022. While the lockdowns of early 2020 and late 2021 were highly disruptive, they also ensured that case numbers were very low. Following the initial success of the first national lockdown in 2020, community transmission was successfully re-eliminated in August of that year. Not until the arrival of the Delta variant in August 2021 did it became re-established – and even then, case numbers, hospitalisations, and deaths in this period were very low – barely visible compared with what came later in 2022. As Figure 1 shows, the first two significant 'waves' of COVID-19 infections in Aotearoa New Zealand only occurred in 2022, the first in March/April and the second in July/August.

Figure 1: COVID-19 cases, hospitalisations and deaths in Aotearoa New Zealand, 2020–2022.



Source: Based on data from Ministry of Health

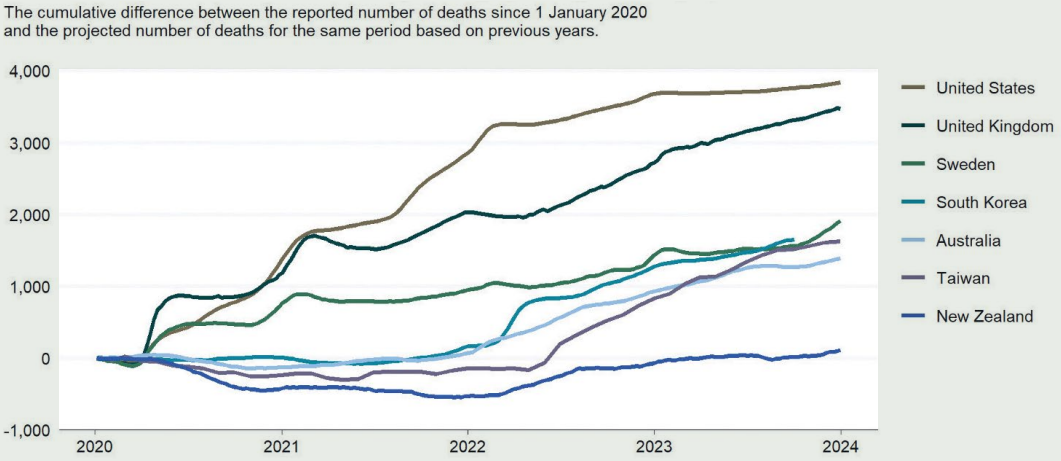
When COVID-19 transmission did eventually become widespread in Aotearoa New Zealand, the population had high levels of immunity from vaccination. Not only did this protect many people from developing severe illness when infected with COVID-19, it also meant that New Zealand's health system was never overwhelmed.

Aotearoa New Zealand's hospitalisations and deaths from COVID-19 have been much lower than those seen in countries where the first waves of infection occurred before vaccination.

New Zealand's COVID-19 hospitalisations peaked in March 2022 at just under three admissions per 100,000 population per day (as seen in Figure 1). While there were challenging moments for New Zealand's hospitals, particularly when COVID-19 waves coincided with high rates of other respiratory infections like influenza and RSV, the system was largely able to absorb these peaks. By comparison, the United States and the United Kingdom experienced peak hospitalisation rates of more than 6 admissions per 100,000 population per day, twice the peak in Aotearoa New Zealand, and their hospital systems struggled accordingly.[89]

Aotearoa New Zealand experienced fewer COVID-19 deaths per head of population than almost any other OECD country,[xxi] as reflected in its exceptionally low excess mortality. (The measure of 'excess mortality' is commonly used to compare the impact of COVID-19 on death rates in different countries.)[xxii] In fact, New Zealand had 'negative' excess mortality (i.e. fewer deaths than would have been expected based on previous years) from early 2020 until early 2023 (see Figure 2), a fact attributed to the positive impact of lockdowns and other infection control and public health measures on the transmission of other infectious diseases.

Figure 2: Excess mortality (all cause) per million people, 2020–2023



Source: Our World in Data, 2024, Data Page: Excess mortality: Cumulative deaths from all causes compared to projection based on previous years, per million people. Data adapted from Human Mortality Database, World Mortality Database, Karlinsky & Kobak, https://ourworldindata.org/grapher/cumulative-excess-deaths-per-million-covid [online resource]

xxi Because the risk of dying from COVID-19 is much higher for older people, the death rate per head of population was much higher for countries with older age structures – as is typically the case in high income countries (such as those in the OECD). Globally, mortality per head of population was lowest for low-income countries (including much of sub-Saharan Africa), and somewhat lower in many middle-income countries.

xxii In this context, excess mortality is the cumulative difference between the reported number of deaths since 1 January 2020 and the projected number of deaths for the same period based on previous years.

5.6.1.2 Effective protection of vulnerable populations

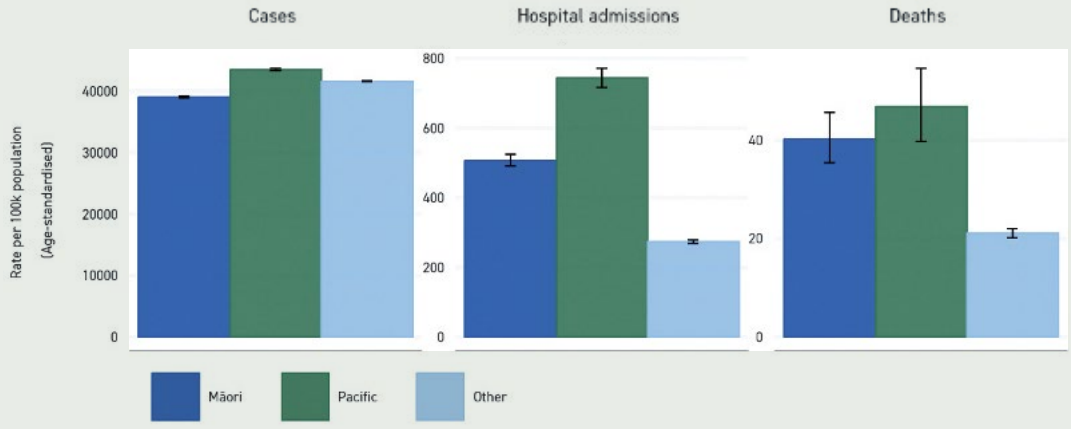
The need to protect vulnerable groups was an important consideration for decision-makers in the decision to pursue an elimination strategy in the early stages of New Zealand's COVID-19 response. The experience of the 1918 influenza pandemic and the Crown's responsibilities to Māori under te Tiriti o Waitangi were prominent considerations in the minds of senior officials and decision-makers, as were the many pre-existing social determinants of health that disproportionately disadvantaged particular ethnic groups, household types, income levels and disabled people.

One senior Ministry leader told us that 'equity underpinned what we were doing from the get-go, even if it wasn't explicitly stated'. According to another, 'We were conscious of the toll of the 1918 pandemic on Māori and wanted to avoid a similar situation. We were also conscious of the need to protect older people, especially those in aged care, Pacific people, people with disabilities, and people in mental health institutions'.

Our assessment of the evidence overwhelmingly supports the conclusion that the elimination strategy (and the public health and infection control measures that enabled it) offered the best protection for the population as a whole, and greater protection for Māori, Pacific people, older people and medically vulnerable people than would have been possible with either a suppression or mitigation strategy.

The story is complicated, however, because these groups *did* experience more severe impacts from COVID-19 than the general population. Severe illness from COVID-19 was more common in less privileged ethnic and socioeconomic groups, who were more likely to be hospitalised and to die from their illness.

Figure 3: COVID-19 case, hospitalisation and death rates by ethnicity, 2020–2022



Source: Based on data from Ministry of Health. Rates are age-standardised to the WHO world standard population.

In Figure 3, the risk of catching COVID-19 was fairly even across Māori, Pacific and other ethnic groups (allowing for some slight differences in case detection rates). However, adjusted for age, Pacific peoples were more than twice as likely to be hospitalised and to die from COVID-19 compared with non-Māori non-Pacific peoples (predominantly Pākehā or European New Zealanders).

Māori were nearly twice as likely to become severely unwell with COVID-19.[xxiii]

In relation to deprivation, people living in the most deprived neighbourhoods were twice as likely to be hospitalised and to die from COVID-19 than those living in the richest neighbourhoods (see Appendix B for more details). Such inequalities are in part a function of different risk factors – such as higher rates of certain diseases, or higher rates of smoking – that often occur together in low-income groups.

While such inequalities are certainly concerning, they are smaller than those seen in previous pandemics.[90] Historical examples including influenza pandemics in 1918, 1957 and 2009[xxiv] suggest that – in the absence of an effective elimination strategy and vaccine rollout – the absolute gap in COVID-19 death rates between Māori/Pacific people and people with European ethnicity would have been even higher.

While these conclusions about Aotearoa New Zealand are not directly comparable with other countries (because of New Zealand's unique population distribution and ethnic make-up), they are consistent with international findings showing COVID-19 was more likely to cause severe infection in people with lower incomes, education and/or poorer housing conditions.[91]

Although the 2021 Delta outbreak had a disproportionate impact on Māori and Pacific communities, most New Zealanders (including Māori and Pacific people) were not exposed to COVID-19 until the less virulent Omicron variant was circulating. By this time, most had been vaccinated. Collectively, these factors – propelled by the success of the elimination strategy – reduced the potential health impacts of COVID-19 for everyone, including vulnerable groups.

Another success factor that helped prevent even greater illness and deaths among at-risk groups was the mobilisation of these groups themselves, including the rapid response by community health providers, iwi and Māori organisations, and ethnic communities (see section 5.5.3.1). Some public submissions praised Māori-led pastoral care and outreach to isolated community members, as well as similar efforts by Pacific communities: according to one submitter, 'Māori and Pacific communities did the right thing by going door to door to people who needed more understanding and assistance of the effects of COVID'.

Finally, it is worth addressing the extreme variation in COVID-19 death rates between different age groups. This was a prominent feature of the pandemic, but is sometimes missed (or treated as too obvious to mention). A global analysis of COVID-19 death rates has found that a 90-year-old person infected with the virus was approximately 10,000 times more likely to die from it than a 7-year-old.[92] In Aotearoa New Zealand, the vast majority of COVID-19 deaths and hospitalisations also occurred among older people, but many more such deaths would have likely occurred had the elimination strategy not been so effective.

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xxiii For the 2020–2022 period, the relative risk of hospitalisation from COVID-19 was 1.85 for Māori and 2.71 for Pacific peoples compared with other ethnicities (predominantly Pākeha/NZ European), while the relative risk of death was 1.91 for Māori and 2.22 for Pacific peoples. Rates are age-adjusted to the WHO world population.

xxiv In the 1918 influenza pandemic, Māori were seven times more likely to die than European New Zealanders of the same age, while in the 1957 pandemic they were six times more likely to die compared with European New Zealanders. Even in the relatively mild 2009 influenza (H1N1) pandemic, Māori had 150 percent higher mortality than European New Zealanders, while Pacific people had more than four times the risk of dying.

5.6.1.3 People staying in hospitals and aged residential care settings were well protected, but there were social costs

Given the greater susceptibility of older people and people who were already unwell or immunocompromised, it was appropriate that hospitals, aged residential care facilities, and other residential care settings should have strong infection control practices in place during the pandemic. Such restrictions were also important to protect staff and prevent these kinds of facilities from becoming sites of 'super-spreader' events or major vectors of transmission back out into the community. The importance of these measures was reinforced by five early COVID-19 clusters in aged residential care facilities, one of which resulted in some of the first deaths from COVID-19 in Aotearoa New Zealand.[93]

Aside from these early clusters, aged care facilities were highly effective in protecting their residents from COVID-19 and New Zealand saw significantly fewer aged care deaths during the pandemic, compared to other countries. Across the two years from March 2020 until March 2022, mortality rates among aged residential care residents were essentially the same as for the two years prior. In 2020 and 2021, very few deaths with COVID-19 were recorded among aged residential care residents, and where they were recorded, they accounted for approximately one percent of monthly deaths. In contrast, by January 2021, it was estimated that 75 percent of all COVID-19 deaths in Australia had occurred among care home[xxv,94] residents.[95]

New Zealand's lower death rates in aged care facilities have been attributed to the strict protective measures that were taken in these facilities (particularly strict visiting protocols) and – from mid-2021 onwards – high vaccination rates among residents. Overall, the aged care sector galvanised effectively to advocate for the needs and interests of its residents, and was proactive in generating nationally consistent and fit-for-purpose guidelines and advice for care homes.[96] Beyond the initial clusters, the overall absence of severe outbreaks in New Zealand's aged residential care facilities was a major success story of the pandemic. However, this was not without harm for residents who lived through long periods of limited contact with their loved ones.

New Zealand saw significantly fewer COVID-19 deaths among care home residents than other countries.

xxv While the country comparisons in the report cited in endnote 94 include different forms of long term care, the 75 percent estimate for Australia is specific to aged residential care, https://www.health.gov.au/resources/collections/covid-19-outbreaks-in-australian-residential-aged-care-facilities-2021

Negative impacts of strict visitor limits and reduced social contact

Prolonged social isolation and visitor restrictions are known to have negative physical and emotional impacts on residents of aged care facilities, as well as their families/whānau, and staff.[97] This may be especially true for people with dementia, to whom it could be challenging to convey the purpose and scope of the restrictions. Other restrictions also took a toll, such as the inability of residents to gather for communal meals, and the increased time involved in staff having to attend to each resident separately. This is illustrated in the following excerpt from a public submitter:

> "I work in a resthome. We have had 2 outbreaks and 2 resulting deaths. [...] Locking the doors to family/friends was awful – I understand the need when we were trying to eliminate Covid from the country, but it seemed inhumane later. Residents had meals in their rooms on disposable plates etc and it was very obvious that the amount they ate was considerably less than when in the dining room. Our dementia patients in particular need prompts of seeing others eating to do the same. Keeping food hot was impossible. The time taken to do tasks increased hugely. Most staff did their absolute best but we felt like we were winging it at times."

The Health and Disability Commissioner received many complaints in 2020 about the impact of the pandemic on the health system, including visitor restrictions.[98] When we met with the present Commissioner, she noted that visitor restrictions are a very strong public health measure, and expressed the view that a more compassionate, risk-based approach could have been applied, particularly later in the pandemic.

Even once vaccination rates were high and Aotearoa New Zealand had transitioned to the minimisation and protection strategy, some aged residential care providers were slow to lower restrictions, despite official health advice that the risks to residents were now lower. In advice to ministers at this time, health officials expressed concern that this constituted an unfair restriction on the rights of aged care residents.

Prolonged social isolation and visitor restrictions are known to have negative physical and emotional impacts on residents of aged care facilities.

Similarly, the inability to visit loved ones in hospital – or be visited – was a source of considerable hurt for many people during the pandemic. We received public submissions that gave moving accounts from affected patients and family members alike:

> “Being rushed to hospital because I had a racing heart [...] My husband was not allowed to come with me. I was so scared that I would die without my husband of 43 yrs plus seeing my sons and grandkids.”

> “In September 2021 my sister was diagnosed with a return of her breast cancer which was now terminal. As she lived in Auckland and I didn't, it was extremely hard to take the fact that I could not be of any assistance to her for her cancer treatment appointments etc. as the border was closed. My sister died the day the Auckland lockdown was ending at midnight.”

A qualitative study of visitor restrictions in cases where people died alone found evidence of deep distress, loss of dignity, and long-term harm. Family members in the study felt as though they had abandoned their dying family member, despite the circumstances beyond their control. Their associated grief was exacerbated by other losses during COVID-19. Both clinicians and family members involved in the study questioned the level of compassion evident in the health system during this time.[99]

> **“My birth experience was lonely. I wanted my mother there but was only allowed one person so I had my partner there who was distraught at being back at the same hospital his father had died at a few months before. It was a lonely, isolating experience to feel so on your own during birth.”**

Senior DHB leaders told us in direct engagements that strict visitor policies were one of the hardest public health protection measures for them to manage. Some told us that these restrictions affected the provision of care to patients, relationships with family and whānau, and expressed a view that they were too restrictive, especially when people were dying and unable to have whānau present. We heard the view that while well-intended, the personal consequences – and, in some cases, trauma – caused by such restrictions will be enduring for many families. This view was also evident in the public submissions we received.

5.6.2 COVID-19 revealed pressure points in the health system that – if not addressed – may present risks in a future pandemic.

The overall story of Aotearoa New Zealand's health system response to COVID-19 is a complicated one. It is simultaneously a story of remarkable success at protecting public health (via the elimination strategy) and a cautionary tale of potentially disastrous pandemic impacts (on an already strained system) that were narrowly averted.

These are two sides of the same coin: had the elimination strategy not successfully prevented the health system from being overwhelmed, the vulnerabilities revealed and exacerbated by the pandemic might have had much greater consequences. To borrow an eloquent phrase from the Health Quality and Safety Commission, the pandemic added to 'a rising tide' of need in New Zealand's health services, rather than causing a 'sudden tsunami' as occurred in many other countries.[100]

The dual successes and challenges in the health system response to COVID-19 provide ample opportunities to learn from what occurred (and from what didn't) and to apply these lessons in preparing for future pandemics. We return to these opportunities in the 'Looking Forward' parts of our report.

Some of the pressure points that COVID-19 revealed in New Zealand's health system – including workforce issues, ageing infrastructure, pandemic readiness, regional inconsistencies and underlying health inequities – are assessed below. They presented some significant risks; while not all of them were realised during the COVID-19 pandemic, Aotearoa New Zealand may not be so fortunate next time.

5.6.2.1 Public health capacity to respond to a pandemic

Testing capacity

Individual diagnostic testing is a critical tool in any pandemic response and underpins the effectiveness of many other response measures. For example, being able to quickly and accurately determine whether or not someone has a virus means that unnecessary quarantine of non-infected individuals can be avoided. Aotearoa New Zealand's capacity to carry out diagnostic testing was limited during the COVID-19 pandemic in two ways: by the limited laboratory capacity to carry out PCR tests, and by the slowness to approve alternative testing options.

PCR tests, which were the primary method of COVID-19 testing in Aotearoa New Zealand for much of the pandemic, must be processed in a laboratory. Most diagnostic laboratories in New Zealand are privately owned by a small number of companies. Many are embedded in hospitals and only carry out work for the public health system; others deliver a range of private laboratory services. While this laboratory network stepped up in the face of COVID-19, the pandemic severely strained New Zealand's diagnostic testing capacity.

In early 2020, laboratories that could deliver PCR tests organised themselves into a voluntary National Laboratory Network Group, which worked directly with the Ministry of Health.[101] Despite their competitive commercial relationship, laboratories collaborated to ensure samples got processed, for example by sending samples to other labs that had capacity.

As the pandemic wore on, the vulnerabilities in New Zealand's diagnostic testing system became more apparent. An article published in September 2020 provides some early examples of the issues this caused:

> "Each individual lab was responsible for its own supply chain. Because global supplies of the components needed for COVID-19 tests were severely constrained, the every-lab-for-itself approach resulted in suboptimal results for the country as a whole." [102]

While many laboratory staff willingly stepped up and worked long hours in challenging conditions, the negative ongoing impacts on the testing workforce have been evident in subsequent strike action, with workers saying they are burnt out from operating under poor conditions during the pandemic.[103]

A review carried out in May 2022 found that the Ministry had not communicated anticipated increases in demand to laboratories, which might have helped ensure sufficient testing capacity throughout the pandemic response.[104] The review also noted a lack of forward planning about how to build the capacity that might be needed in future, since relying solely on PCR testing was only practical when COVID-19 infection was uncommon and tests could therefore be pooled (see section 5.3.2.2). The authors concluded that the Government may not have fully understood the capacity constraints mounting in the laboratory sector in late 2021. Their review said the significance of positivity rates as an 'advance indicator' of PCR capacity was not properly communicated to decision-makers – nor used meaningfully in modelling – despite messaging from laboratories. This meant concerns about rising positivity rates and the effects on testing capacity did not inform decisions about when the shift to rapid antigen tests (RATs) would be needed.[105]

This contributed to the laboratory testing system becoming overwhelmed in early 2022 when COVID-19 began to circulate widely.

The issue of capacity constraints in laboratories was connected with the lack of alternative testing options. As we noted in section 3.2, the Government did not approve the use or importation of RAT tests – which are self-administered and give a result within 15 minutes – until late 2021. The lack of diagnostic testing options outside of PCR tests caused frustrations for many, including business representatives who told us that testing options which returned rapid results should have been available sooner.

Some public submissions described the challenges of accessing PCR tests faced by disabled people or those without access to a vehicle (for drive-through PCR tests).

> "My Aunt sat in her car with 2 masks on for five hours waiting to get a covid test. There's no way I could have gotten my ADHD Autistic son to wait that long, it would be cruel."

> "When I had symptoms & needed to be tested I made repeated enquiries about arrangements for those of us unable to drive [...] My phone call resulted in the suggestion that I hire a taxi. Somehow I don't think a taxi driver would want to wait in a queue with me for hours coughing."

> "Being able to access testing, and later test kits, for free was, I believe, absolutely essential. We live in a low socio-economic area and I'm not sure that families here were really able to afford multiple test kits, not with the cost of living crisis we're currently in."

Once the decision to transition to RAT testing was finally made in late 2021, the rollout of tests was hampered by lack of supply. As imports of RAT tests had been banned for most of 2020 and 2021,[106] stockpiles had not built up in anticipation of a change in testing strategy.[107] Until adequate supplies could be secured, the implementation of other public health measures – such as the use of testing to determine whether people were safe to go to work – was hampered.

Once RAT tests were permitted and freely available, it was much easier for people to take up voluntary testing.

More effective and efficient COVID-19 testing would have been achieved if there had been more pragmatic use of alternatives to PCR tests (alongside PCR testing, when higher accuracy was needed) and earlier planning for the rollout of RAT tests. In planning for a scenario with a highly vaccinated population and less reliance on stringent public health measures, the benefits of RAT testing should have been seen in advance as outweighing their lower accuracy, and planned for by ordering and stockpiling tests in advance of when they needed to be deployed. Approving and acquiring RAT tests earlier may also have mitigated some of the issues with laboratory capacity for PCR testing, ameliorated frustrations experienced by businesses and individuals, and supported more effective implementation of other public health policies.

Issues with COVID-19 testing reinforce the challenges created by a lack of forward strategic planning and an overly narrow approach to risk assessment and management (discussed in Chapter 2).

Under an elimination strategy, it was certainly beneficial to make use of high accuracy PCR tests for suspected cases, close contacts and people working at the border. However, for employers trying to get their businesses back up and running after lockdowns, earlier access to quick, self-administered options like RAT tests would have been very useful. Earlier access to RAT tests would also have assisted with the transition from elimination to the 'minimisation and protection' phase of the response, when priority shifted from very high accuracy to higher availability of COVID-19 tests. As it was, the pivot to RAT tests was hampered by supply chain limitations and global shortages of key products, pointing to additional areas in which future pandemic preparedness could be strengthened.

Contact-tracing capacity

Contact tracing is a vital tool in stamping out or slowing down transmission during a pandemic.

The delivery of effective contact tracing during the COVID-19 pandemic was a success, but also a vulnerability in the early stages of the pandemic.

Contact-tracing capacity was very limited at the start of the pandemic,[108] and it took time to be scaled-up to an effective and integrated service. Once it was in place, central coordination provided for national consistency, but there were concerns that the system wasn't sufficiently flexible or responsive to the needs of vulnerable and high-risk people. We heard that some groups, particularly Māori and Pacific people, were reluctant to engage with 'mainstream' services and were more comfortable discussing who they may have been in contact with when the contact tracer was someone from their own community. Given the critical importance of rapid contact tracing for the effective isolation of positive cases, these issues should be addressed to be better prepared in the future.

The platform developed by the Ministry of Health's digital team in response to COVID-19, the National Contact Tracing Solution, was key to making national contact tracing operate smoothly. Health staff emphasised that such fundamental technology should be maintained so it can be quickly deployed in a future pandemic. We are not aware of a formal evaluation of the quality of contact tracing in Aotearoa New Zealand as it evolved in 2020, driven by the National Contact Tracing Solution. In our engagements we heard that while there were some initial challenges with the IT platform, overall it worked well, and that local efforts to scale-up contact tracing, including bringing in new contact tracers under the supervision of experienced staff, paid off.

The COVID Tracer App was a ubiquitous part of many New Zealanders' experience of the pandemic. We heard through public submissions that many people found the app easy to use and a useful reminder to be conscious of COVID-19 precautions.

> "The use of the Covid app was fantastic and provided a degree of comfort knowing your potential exposure would be notified to you."

However, the app may not have been as useful for contact tracing as was envisaged (see also Chapter 8). Recent research from the University of Otago has concluded:

> "The QR-code-based function of the NZCTA likely made a negligible impact on the COVID-19 response in New Zealand in relation to isolating potential close contacts of cases but likely was effective at identifying and notifying casual contacts."[109]

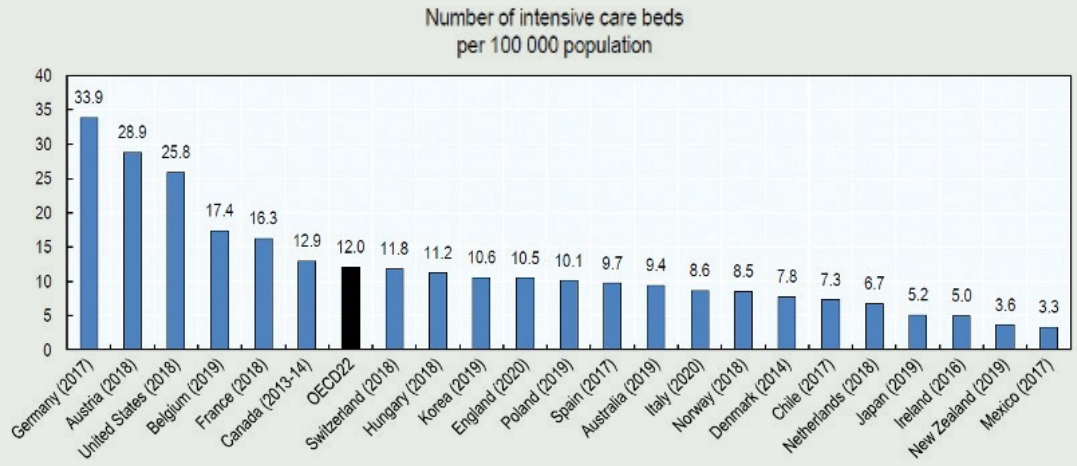
Contact tracing, along with accurate testing and effective isolation and/or treatment options, is a vital tool in any pandemic response. The fact that there was no national contact-tracing capability before COVID-19 exposed this vulnerability in our public health system. In the event, the Ministry of Health was able to rapidly establish the National Close Contact Service and evolve this service as the pandemic progressed. But with better preparation, Aotearoa New Zealand could be more confident that such a system can be quickly scaled-up, and be effective, in another pandemic.

5.6.2.2 Hospital and system capacity to manage an infectious outbreak

Intensive care capacity

As noted in section 5.4.1.2, Aotearoa New Zealand had limited intensive care capacity going into the pandemic. Evidence available to our Inquiry suggests this was not substantially increased during the first two years of the COVID-19 response, although in early 2022, $100 million capital funding and $544 million operational funding was agreed for enhanced ICU capacity.

Figure 4. Capacity of intensive care beds in selected OECD countries, 2020 (or nearest year)



Source: OECD, 2020, Beyond containment: Health systems responses to COVID-19 in the OECD, OECD Policy Responses to Coronavirus (COVID-19), https://doi.org/10.1787/6ab740c0-en.

Health system capacity includes staff, supplies and space.[110] In the case of capacity to manage ventilated patients, the availability of trained staff and suitable hospital accommodation is just as critical as the availability of ventilators. While Aotearoa New Zealand reportedly acquired additional supplies of ventilators in the first year of the pandemic,[111] and non-ICU nurses received some training in preparation for a surge in demand,[112] critical care nurses expressed doubt that there had been a surge in staff training or numbers.[113]

Because of the effectiveness of the elimination strategy and subsequent vaccine rollout, Aotearoa New Zealand never experienced the dramatic peaks in illness that overwhelmed hospitals in many other countries. We were therefore fortunate that our capacity to care for patients needing ventilation was never tested, and the absence of meaningful expansion in 2020 and 2021 did not limit our pandemic response.

Workforce issues

The health system was experiencing many long-standing and destabilising workforce issues entering the pandemic, which complicated both the health system response to COVID-19 and the continuous delivery of 'business as usual' healthcare. The Inquiry heard that – pre-COVID-19 – longstanding budgetary constraints meant the public health workforce (responsible for public health activities such as contact tracing) had limited ability to develop its capacity or to build the kinds of relationships with local communities that would be needed in a pandemic response.

Across the wider health workforce, key challenges included widespread staff shortages, pay equity issues within and between disciplines, high staff turnover and a high incidence of work-related stress, burnout and mental health challenges. The health workforce had not increased in line with growing population health needs, was not representative of the population being served and in parts of the sector was ageing (especially in general practice, aged care and home care). Some services (such as palliative care, home and community support and ambulance services) relied heavily on volunteers, which became a vulnerability where volunteers were older people who were being advised to stay at home.[114] There were persistent staff shortages in many disciplines, including midwifery, sonography, clinical psychology, disability support and community health workers, and healthcare workers in rural areas.[115] These issues were not unique to Aotearoa New Zealand, and will remain a major issue for many countries in future pandemic preparation, response and recovery.

Pandemics can have a severe physical and psychological toll on health workers. In Aotearoa New Zealand, the health system response to COVID-19 stretched the workforce and exacerbated many pre-existing issues. This was despite the elimination strategy preventing substantial waves of COVID-19 infection and hospitalisations in 2020 and 2021, which greatly reduced the pressures on the health system and staff compared to those endured in other countries.

The health workforce had to deal with multiple challenges – including long working hours, difficulty accessing PPE (particularly in primary and community care), fear of the virus or of transmitting the virus, being personally attacked for doing their job,[116] having to adapt to constantly changing information and the sense that the pandemic was relentless. As well as evidence from professional bodies and colleges, we heard direct accounts from health professionals about some of these challenges in our public submissions. Some health workers who made public submissions described working during the pandemic as 'stressful', 'overwhelming', and 'terrifying'.

> "Heading into the initial stages of the pandemic was extremely worrying. We had been viewing colleagues' experiences overseas and had no doubt we were in for the same bumpy ride… not having enough PPE, being overwhelmed with patients, and being at risk of death or morbidity from covid ourselves."

> "As a Registered Nurse it was fundamental to assist in stopping the spread fast [...] Our lives changed, and for a few months we did not see our 14 year old daughter due to us not wanting to make her unwell and vice versa, especially due to my work."

However, submissions and engagements also showed how vital and valuable health workers felt at the beginning of the pandemic. As one health professional told us:

> "I love a good crisis – it was exciting to know we could make a difference. It's what we trained for, and it was great to be able to put my knowledge to work."

Health workforce leads from Health New Zealand |Te Whatu Ora noted that staff turnover at this time was low.

We heard from many sources – in both direct engagements and written evidence – that the health workforce is in a worse position now than before COVID-19, as a direct result of pandemic pressures.[117] While this situation is not unique to Aotearoa New Zealand, it is nevertheless serious, for many reasons – not least for future pandemics. In 2023, Health New Zealand | Te Whatu Ora estimated the health system had a shortfall of around 4,800 nurses, 1,700 doctors (including general practitioners), and 1,050 midwives.[118] The agency acknowledged that the workforce 'has been under too much pressure for too long' with the pandemic contributing to attrition in key roles (such as midwifery).[119] The difficult experience of working through the pandemic – and its impact on staff retention – is highlighted in the following comments from health workers who made public submissions:

> **"I have immense pride for what our PHO contributed, but also total exhaustion. The three plus years of the pandemic has meant so much of our lives have been put on hold."**

> "It was all-consuming – in the PHO backrooms we lived and breathed COVID-19 non-stop, 7 days a week. It felt like we could never get away."

> "Working through the pandemic broke me, as it did many of my friends and colleagues. I am not the same person I was before the pandemic and I can see why many left the profession. We were used as workhorses but we were burnt out from being overworked before the pandemic started and it only got worse."

5.6.2.3 Ability of the wider system to deliver ongoing non-pandemic care

From the evidence we have seen and heard, it seems many DHBs took a strongly and often overly precautionary approach to managing the risk of COVID-19 transmission in healthcare settings throughout the pandemic period.

This led to many services being paused or limited for long periods. Impacts included delayed diagnosis and treatment (including potentially serious conditions such as cancer,[xxvi] diabetes, stroke and heart disease), and missed opportunity for preventive care (such as childhood immunisations). Some of these impacts are still being felt.

Assessing pandemic risk

As set out in sections 5.4 and 5.5 earlier in this chapter, the main mechanism used for scaling 'business as usual' health service provision up or down according to the demands and risks posed by COVID-19 was the National Hospital Response Framework. At 'red' level, hospitals were encouraged to discharge as many patients as possible and cancel any non-emergency surgery to ensure all available capacity was available to respond to COVID-19.

We have requested, but have not received, any evidence documenting how many DHBs assessed themselves at each risk level and for how long throughout the pandemic.

However, we heard from several stakeholders that many DHBs held themselves at 'red' for long periods. Several – including senior officials and former ministers – expressed frustration about this. We heard it called a 'misuse' of the framework, while others expressed the view that too many services were cancelled, for too long. One senior DHB leader put it simply, saying 'We didn't need to defer as much planned care as we did'.

Some public submissions to our Inquiry illustrated the real life – and sometimes tragic – consequences of this deferred care for patients and their family members:

> "I had an injury during covid that needed surgery – it took 9 months to get an MRI to diagnose the issue and 15 months to have the surgery. The delay was because the local health system didn't have capacity to see me to organise a referral, and then hospitals lacked space for me to have surgery."

> "All non-urgent appointments were deferred. This was an urgent and necessary diagnostic appointment that should still have gone ahead. You do not mess with cardiac concerns. Nobody could have foreseen the outcome, but the one month appointment delay was simply more time than my father's heart could take and he died in the street from a massive heart attack, four days shy of his rescheduled angiogram appointment. In my eyes, he is a Covid casualty."

xxvi Though in the case of cancer care, service provision was largely maintained through a range of efforts – see the spotlight on cancer care during the pandemic in section 5.5.3.

Inconsistencies also seem to have occurred in the way the national response framework was applied from region to region, at least in the early stages of the response. In April 2020, the Health and Disability Commissioner wrote to the Minister of Health expressing concern that DHBs were not applying the framework consistently. The letter noted 'unwarranted inconsistencies' between DHBs in how services were accepting GP referrals, which services were being withdrawn, and which planned care was being cancelled:

> "The system needs to operate in a nationally consistent and coherent way. Geographical inequities in services is already an issue I see across complaints to my Office, and I am concerned that this will be exacerbated by current sector behaviour. While I recognise that each DHB will need to respond to its particular service pressures and the complexities and risk profile of its local population, it is my expectation that there is consistent nationally mandated behaviour among DHBs within each alert level." [120]

The letter also pointed to a confusion between the national Alert Level System and the National Hospital Response Framework, noting that 'elements of overlap, and a lack of clarity as to the interaction of these two frameworks, have led to some confusion in service decisions'.[121]

The Ministry of Health subsequently made minor modifications to the decision-making framework,[122] but senior stakeholders we met with still expressed the view that non-COVID-19 care had been disrupted to a greater extent than was necessary during the pandemic response.

The pandemic is thought to have contributed to reductions in childhood immunisations and screening for some cancers – particularly for Māori, Pacific people and families living in poverty.

Impacts of deferred and delayed care

To the extent that it is possible to measure them, the pandemic's disruptive effects on the provision of non-COVID-19 health services have been documented by the Health Quality and Safety Commission in two reports in 2022 and 2023. Among its conclusions are that the pandemic contributed to:

- Reductions in the rate of childhood immunisations, with coverage for six-month-olds falling from 80 percent in 2020 to 66 percent in 2022, and coverage for 24-month-olds falling from 91 percent to 83 percent in the same period. Māori and Pacific babies, and babies in families living in poverty, were particularly impacted.[123]
- Reductions in rates of screening for breast and cervical cancer, with breast screening falling from 72 percent in 2019 to 66 percent in 2020 and remaining at a lower level two years later. Pacific women experienced the greatest change, and coverage for Māori remained the lowest for any ethnicity. Cervical screening rates (which had been slowly declining since 2016) fell more sharply in 2020, and – after a slight uptick in 2021 – were by 2022 at their lowest level in 14 years, at 67 percent.[124]

- A 'clogging' of access to planned care, with the percentage of patients waiting longer than four months for their first specialist appointment increasing substantially, particularly during 2021. Meanwhile, the number of patients who, once seen, were given a commitment to treatment but did not receive it within four months more than doubled from 2021 to 2022.[125]

Monitoring and responding in real time

Early in the pandemic, the Ministry of Health sought funding to address healthcare backlogs occurring as a result of service disruption during the first pandemic lockdown. With $285.5 million of funding over three years, the Waiting List Initiative was intended 'to address the COVID-19 backlog and reduce planned care waiting lists impacted by the response to COVID-19'.[126] DHBs were asked to submit 'Improvement Action Plans' detailing how they would tackle the backlog of deferred care from the initial 2020 lockdown, which the Ministry estimated to have resulted in approximately 114,000 cancelled health appointments.[127] Such plans were expected to include additional clinics and theatre sessions and possible use of private providers.

However, we have not been able to find evidence that the Ministry of Health actively monitored the impacts of the COVID-19 response on provision of non-pandemic care. The Ministry did not publish any follow-up reports on healthcare disruption after an initial one following the first COVID-19 outbreak.[128] We were also unable to find evidence that the Ministry sought to change guidance to DHBs or to increase prioritisation of non-pandemic care in the COVID-19 response.[xxvii]

We acknowledge that health officials and DHB staff were working under extreme pressure through much of the pandemic period and may have lacked the 'bandwidth' to address all of the many unanticipated consequences of the COVID-19 response. It is also unclear to what extent ministers were prioritising non-COVID-19 care in their decision-making or requests for advice. At the same time, the example of cancer care (see Spotlight) illustrates that it is possible to more effectively protect delivery of non-pandemic care, particularly where there is effective real-time monitoring of service delivery and focused innovation to deliver care through alternative models.

xxvii The Inquiry sought evidence on what processes the Ministry of Health had for monitoring the impact of COVID-19 on health care disruption, for reviewing guidelines in response to such information, and on what measures were taken to support the health system in recovering from the disruption resulting from the COVID-19 response. The Ministry had not provided this information at the time of writing.

In direct engagements, Ministry of Health officials told us about their frustrations with the lack of real-time data on health system capacity, underpinned by inadequate IT systems:

> “ … where we were at the start of the response, trying to get numbers out of different parts of the country, e.g. bed occupancy data, we were ringing places, there were calls to wards… a fairly painful process. But the bare bones of the information we needed was there and a whole bunch of reporting was stood up quickly, got into a rhythm that worked. Looking forward, you definitely want to do this in a more robust and reliable way.”

In 2022, the newly-formed Health New Zealand | Te Whatu Ora acknowledged that ‘several thousand people are waiting more than 12 months for access to an array of services, despite a maximal waiting time requirement of four months; and many thousands more are waiting between four and 12 months.’[129] The agency launched a Planned Care Taskforce aimed at reducing waiting times and eliminating ‘the growing inequity of access affecting Māori and Pacific on planned care waiting lists’.[130] The Taskforce Plan described the pandemic as having had ‘a profound adverse effect’ on waiting lists, but noted that waiting times had been increasing even before this occurred.

The intent of the national response framework (and associated guidance) was to balance the need for ‘usual’ healthcare with the need to protect capacity for responding to surges in COVID-19. Implicit in this is an understanding that the extent to which other services were deferred or cancelled would be adjusted in real time in response to the changing level of COVID-19 risk to the health system.

In this respect, the evidence we have heard and reviewed suggests the framework did not work as well as intended. At times when community transmission of COVID-19 was occurring and growing – in early 2020 heading into the first national lockdown, for example, or during the Delta outbreak in late 2021 – it is understandable that many non-COVID-19-related procedures would be deferred or cancelled. However, by mid-2020, the elimination strategy had succeeded and there followed a long period with no community transmission. From our understanding of the evidence we have reviewed and the stakeholders we have spoken to, it seems that during this period, more non-COVID-19-related care could have resumed – and sooner – than it did.

Innovating to ensure continuity

Despite these challenges, many parts of the health system worked hard to ensure that as much care as possible could continue to be delivered during the pandemic. Many primary care practices adapted quickly, for example, by moving to telephone or video conference appointments. While these could be challenging, such innovations also made access easier in some contexts, for example for people who faced long travel times to get to a doctor's office. Healthcare providers adapted to using new channels of communication such as social media to provide information to their patients.

Innovation was also evident in the way the vaccination workforce was expanded. The category of health professionals who could administer vaccines was expanded to include non-regulated healthcare professionals such as healthcare assistants, with training provided. Qualified health professionals with inactive practising certificates were also encouraged to come back to the workforce to support several COVID-19 initiatives.

COVID-19 also provided the catalyst for some changes that had long been needed but not quite made it over the line, such as the introduction of e-prescriptions. Many similar adaptations introduced during the pandemic have continued to be used by healthcare services to provide extra flexibility for their patients.

Healthcare providers adapted to using new channels of communication such as social media to provide information to their patients.

1. Aotearoa New Zealand's health system – like those of other countries – was not well prepared for a pandemic of the scale and duration of COVID-19.

- While the country had done fairly well in recent assessments of pandemic preparedness, meeting the demands of the COVID-19 response required 'significant, extraordinary sector-wide effort'.
- Publicly funded health services faced long-standing challenges with workforce capacity, financial deficits and long waiting lists for some planned healthcare. These issues were exacerbated by the demands the pandemic placed on the health system.

2. The elimination strategy was highly effective in preventing the health system from being overwhelmed and protecting vulnerable groups, although there were notable costs.

- By preventing widespread COVID-19 infection until the population was vaccinated and the virus had become less deadly, the elimination strategy prevented the premature deaths of thousands of New Zealanders – particularly older people, Māori, Pacific peoples, and people living with disabilities or medical vulnerabilities.
- Peak hospitalisation rates in Aotearoa New Zealand (in March 2022) were around half those in the United Kingdom (January 2021) and the United States (January 2022). Unlike other countries, New Zealand recorded very few COVID-19 deaths among people living in residential facilities such as aged care homes.
- While strict public health and infection prevention measures were effective in keeping people safe from COVID-19, this came at a significant human cost. People who were in aged care, in hospital or who were sick or dying were isolated from families and loved ones, causing distress and suffering to many.

3. While many people and organisations worked hard to provide effective public health and clinical care, the pandemic exposed some key vulnerabilities and pressure points in our health system.

- There was a scramble to scale-up public health functions such as testing and contact tracing, which started from a low baseline. Given this starting point, the expansion of these functions was generally done well, although limited forward planning and flexibility caused problems in some areas (such as the shift in COVID-19 testing from PCR to RAT tests).
- Dated infrastructure made it difficult to apply best-practice infection control measures, including air ventilation, in many healthcare facilities. However, innovative approaches and substantial effort by staff produced good results.
- Although efforts were made to expand health system capacity in areas such as caring for ventilated patients, we did not find evidence of sustained increases in capacity during the pandemic.
- While the country's health system was never overwhelmed by people sick from COVID-19 (as happened internationally), the pandemic took a substantial toll on healthcare workers. An already stretched health workforce is now in a worse position because of the pandemic, representing a key vulnerability for the health system going forward.

4. Provision of non-COVID-19 care was substantially disrupted during the pandemic, to a greater extent than was necessary.

- Many parts of the health system – including general practices, Māori and Pacific providers, emergency departments, pharmacies, midwifery, cancer services and others – worked extremely hard to deliver as much care as possible during the pandemic.
- With hindsight, the health system took an overly cautious approach to reducing non-COVID-19 care in order to protect its capacity to provide pandemic-related care. This resulted in avoidable delays or omissions in healthcare, with ongoing consequences for the health of those affected.
- Efforts were made to balance the risk of hospitals being overloaded with the need to continue delivering necessary care, but effective decision-making was hampered by a lack of real-time data on hospital capacity, occupancy and staffing levels. Improving data systems and infrastructure to support smart decisions about the utilisation of resources would be beneficial not only in a future pandemic, but in general.
- Delays in providing healthcare had significant negative impacts on the health of New Zealanders. The Health Quality and Safety Commission found the pandemic contributed to lower childhood immunisations, reduced participation in cancer screening programmes, and increased waiting times for specialist care and planned surgery.

5.8 Endnotes | Tuhinga āpiti

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CHAPTER 6:

6 Economic and social impacts and responses | Ngā pānga me ngā urupare ōhanga me te pāpori

6.1 Introduction | Kupu whakataki

The strict public health measures introduced in March 2020, especially the border closure and national lockdowns, were essential to protect the economy and society from the immediate and devastating effects of the pandemic if the virus had been allowed to spread unchecked. However, they placed significant pressure on the economic and social fabric of Aotearoa New Zealand. Over the next two years and beyond, this pressure affected the incomes of many households and businesses, housing, employment, the supply chains New Zealanders relied on for essential goods and services, and nearly every other area of the economy. The pandemic also highlighted or exacerbated many existing social challenges – including unaffordable housing, high rates of mental ill health, long-standing inequities for Māori and other groups, and the persistent disadvantage experienced by a significant proportion of the population. Even people who were doing well before the pandemic found themselves struggling; financially, emotionally and socially. Some were more susceptible to loneliness and isolation; others suddenly had to get by with less income, while for some, their previously manageable living arrangements became unsafe. The Government's response sought to mitigate many of these factors, although in some cases it may have made them worse (demonstrated by house price increases, for example).

The wide-ranging social and economic effects of the pandemic, and of the Government's response to it, are the subject of this chapter.

What's in this chapter

- The first part of this chapter focuses on how the economy was affected by COVID-19 over time, and the economic and fiscal policies (and other measures) Government introduced in response. After a period of initial uncertainty, the Government's economic response came in three successive waves which are described in section 6.2.1.2. In section 6.2.1.3, we turn our attention to the monetary policy response led by the Reserve Bank of New Zealand, to ensure that financial markets at large, and the banking system specifically, continued to operate efficiently and safely. Our description of the economic response ends with an overview of the steps the Government took to protect international and domestic supply chains (section 6.2.1.4).

- In section 6.3, we move from description to evaluation. We start by assessing the outcomes of the Government's economic response, both positive and negative, and how they affected households, businesses, the workforce and supply chains. We also considered the longer-term legacy of both the pandemic and the response – which, the evidence shows, had a sustained economic tail of higher inflation and living costs that is likely to involve a protracted period of lower productivity, lower economic growth, and widening inequalities in wealth. As we make clear throughout the chapter, these outcomes can only partly be attributed to the pandemic and the nature and timing of Aotearoa New Zealand's domestic policy responses. We provide frequent international comparisons to help clarify the broader global picture.
- In the second part of the chapter, we examine the social aspects of the COVID-19 response. Section 6.4 describes the measures the Government put in place to ensure people had sufficient social support to weather the pandemic's impacts, and to comply with public health measures. Some government agencies made significant changes to their usual operating models, partnering with community groups, and adopting innovative and flexible ways of working. Communities, iwi and Māori, volunteers and other groups also stepped up and often took the lead on the ground, ensuring their people had the support and services they needed. These local responses are described in section 6.4.2.2.
- Having described the social sector landscape, section 6.5 presents our assessment of the pandemic's many social impacts – including on vulnerable groups – and the extent to which the response was effective in addressing or mitigating them.
- Finally, section 6.6 offers some reflections on the long tail of social and economic after-effects which were created or exposed by the pandemic. As of late 2024, many continue to reverberate; others are only just emerging. More are likely to reveal themselves in the years to come, emphasising that – even while we turn our minds to the challenge of preparing better for the next pandemic – the impact of the COVID-19 pandemic is still far from over.

6.2.1 What happened

The COVID-19 pandemic was a global event, and its impacts on Aotearoa New Zealand's economy cannot be separated from global economic conditions that existed when it started or were created by it. We touch on these influences and draw brief international comparisons throughout this chapter.

Broadly speaking, New Zealand's economic response to the pandemic, as well as the trajectory of economic developments that unfolded, were in line with what happened elsewhere.[1] There were some differences that can be attributed to both the relative generosity, and extended duration, of New Zealand's economic response.

Central government borrowed[i] and reprioritised existing spending to fund the key elements of the pandemic response – from scaling-up critical public health functions like contact tracing, to providing wage subsidies for affected workers, delivering housing and social support to help people isolate safely, and offering support for businesses and recovery initiatives. These actions were aimed at supporting strict public health measures including border closures, temporary lockdowns and social distancing, while also cushioning their adverse economic and social impacts.[2]

The Reserve Bank of New Zealand took early action simultaneously with central banks around the world, to address vulnerabilities in global financial markets. It supported the economic response by purchasing debt on the open market, a move intended to lower interest rates and allow financial markets and the banking system to keep functioning. The Reserve Bank also prioritised ensuring households and businesses had ongoing access to credit, at reasonable rates.

6.2.1.1 Initial uncertainty

Very early in 2020, there were perceptions that COVID-19 might be similar to the 2002-2004 SARS outbreak, which had a relatively small economic impact on Aotearoa New Zealand.[3] By late January and early February 2020, however, it became apparent to both the Treasury and the Ministry of Business, Innovation and Employment that the outbreak of COVID-19 in China had already started creating difficulties for New Zealand export sectors that were particularly exposed to the Chinese market (specifically forestry, rock lobsters and tourism) and that these difficulties would likely only increase.

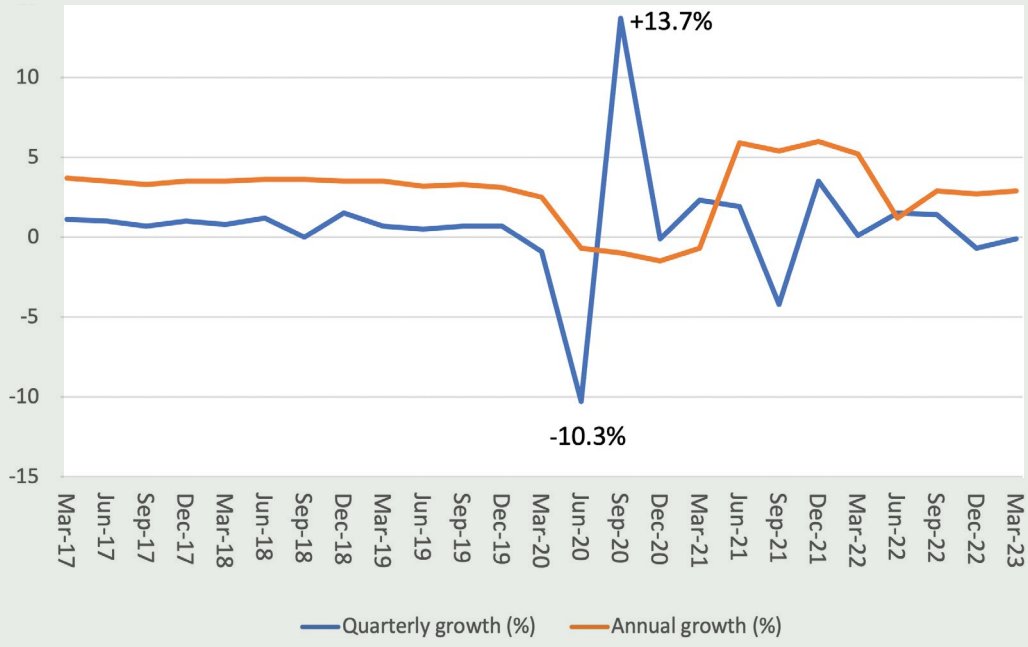
As more information came to light from around the world, the Treasury worked on scenarios and an initial framework for policy responses. In early March 2020, it provided advice to Ministers on an overall intervention strategy for economic policy.[4] The briefing noted that New Zealand was likely to face a long-lasting economic shock and set out potential components of an economic response. They included a targeted wage subsidy scheme, a broader package of options to support economic activity, and a large fiscal stimulus package.

i By issuing government debt.

This briefing suggested a set of principles to guide any economic response: that it should be balanced and proportionate, aligned with the broader Government direction, sustainable, easy to implement and adopt a 'least regrets'[ii] approach.[5] It also advised caution, and referred to potential long-term fiscal sustainability challenges and the need for robust exit strategies.

In these early stages, there was deep uncertainty about the potential economic impacts. Subsequent scenario-based estimates which the Treasury developed in April 2020 suggested that GDP might fall by between 13 and 33 percent, and that the unemployment rate might climb to as high as 13 percent, or even up to 26 percent in the most severe scenario.[6] These highly pessimistic scenarios did not pan out, no doubt partly because of the policy responses Government introduced. In reality, while GDP fell sharply in the first quarter of 2020, as an annual measure it fell by only 2 percent.[7] Unemployment peaked at 5.2 percent in mid-2020, from a pre-pandemic level of 4.1 percent.[8] No doubt, these better-than-scenario outcomes reflected, at least in part, the speed and generosity of the Government response.

Figure 1: GDP 2017–2023, quarterly and annual change



Source: Based on data from Stats NZ, 2024, Gross domestic product (GDP), https://www.stats.govt.nz/indicators/gross-domestic-product-gdp/

ii A 'least regrets' approach to decision-making is one that aims to minimise the risk of the worst possible outcomes.

6.2.1.2 The trajectory of the Government's economic and fiscal policy response

The main economic policy agencies (led by the Treasury and the Ministry of Business, Innovation and Employment) advised an all-of-government approach to developing and managing the Government's fiscal and broader economic policy response to the pandemic. The response was developed with Ministers and agreed by Cabinet.

The Government initially used a '3 waves' model to structure its economic response. The model was based on a standard adverse events recovery framework used by the Organisation for Economic Co-operation and Development (OECD). It was explained to the public by then-Finance Minister Grant Robertson on 24 February 2020.[9] A few days later, he described the successive phases of the economic response – fighting the virus and cushioning the blow (wave 1); positioning for recovery and kickstarting the economy (wave 2); and resetting and rebuilding the economy (wave 3).[10]

As the pandemic continued, and the country moved up and down the Alert Level Framework, the '3 waves' terminology became less useful and eventually fell out of use. The three budgets that followed (2020, 2021, 2022) included initiatives for all three waves. There was some inevitable blurring and overlapping between the waves because the pandemic continued for much longer than initially expected, and changes in alert levels due to community outbreaks made it necessary to return to, or extend, earlier support measures. The discussion of the Government's economic and fiscal policy response that follows is therefore organised around Budgets 2020, 2021 and 2022 rather than the waves as initially defined.

The Government initially used a '3 waves' model to structure its economic response.

Response: March 2020 Economic Response Package and Budget 2020

On 12 March 2020, the Government announced an immediate 'business continuity package' in response to COVID-19. It included a targeted wage subsidy scheme for workers in the most affected sectors.[11] On 17 March, this proposal was expanded into a $12.1 billion COVID-19 Economic Response Package including $5.1 billion in wage subsidies, a $500 million boost in health funding, and $2.8 billion in social supports.[12] A range of business tax measures were also introduced, along with a package of support for the heavily impacted aviation sector.

In May 2020, the COVID-19 Response and Recovery Fund (a notional fund outside the budget process) was announced. In total, $70.4 billion was allocated to COVID-19 response and recovery initiatives, including the initial response package of $12.1 billion (announced 17 March 2020) and $58.4 billion allocated from the COVID-19 Response and Recovery Fund before its closure in Budget 2022. The amount allocated for each initiative was the expected fiscal impact across the forecast period at the time the decision was taken. The Treasury advised Government to focus the support package as much as possible on broad-based, economy-wide measures like wage subsidies and tax relief measures. This advice reflected considerations of efficiency, a wish to avoid targeting support at specific sectors and industries, and the expectation that the shock itself would have widespread effects. While these considerations were reflected in the package, Budget 2020 also funded some more targeted measures. These included specific support for affected sectors (like aviation, tourism and the cultural sector) and direct financial support for specific companies, like that available through the Strategic Tourism Assets Protection Programme.[13] The package also included a range of support measures for education and the social sector at large.[14]

The overall COVID-19 Response and Recovery Fund package represented the second highest additional spending and/or revenue foregone in relative terms by any OECD government in response to COVID-19 (although it should be noted that some countries resorted, substantially in a number of cases, to a variety of less direct supports, including guarantees, loans and equity, that New Zealand used only sparingly).[15] Treasury officials advised the Government that the benefits of this spending would outweigh the possible costs of debt rising above 50 percent of GDP. Treasury considered that the economic supports were proportionate to the health response, given the stringency of the public health measures taken at times during the pandemic.

Some of the people who made public submissions to our Inquiry expressed appreciation for the generosity of this economic response:

> "I was grateful for the economic support from the government so that I could stay in business, keep paying my workers, and continue contributing to the economy."

> "When the government announced a financial support package for people to stay at home, I felt enormous relief as this would be what was needed to allow people to survive financially when they couldn't work."

Spotlight:
The COVID-19 Wage Subsidy Scheme | Te Kaupapa Utu Moni Āwhina KOWHEORI-19

The largest single item of expenditure during the response – $18 billion in total – was the COVID-19 Wage Subsidy Scheme, including its extensions and variations. It supported workers indirectly by enabling businesses (including people who were self-employed) to continue to pay and employ their staff.[16]

The scheme had two core objectives: to maintain employment and keep workers connected to their jobs, and to support workers' incomes during temporary disruption caused by COVID-19. It was available to businesses that had lost at least 30-40 percent of their revenue (the percentage varied during the course of the scheme) due to COVID-19 during specified periods (five in total, usually coinciding with national or regional lockdowns). The eligibility criteria for the scheme were tightened over time.[17]

At its peak, the Wage Subsidy Scheme covered 72 percent of employing firms and supported 59 percent of total employment.[18] Two independent evaluations found that payments generally flowed through to workers from their employers as intended.[19] One found that firms appear to have largely complied with their obligations to pass on the subsidy payments to their workers and to pay them at least 80 percent of their previous earnings when possible.[20]

Many public submitters to our Inquiry commented on the scheme. Their comments reflected gratitude for the stability it provided, complaints about its adequacy, questions about its fairness, and concerns about its long-term economic implications.

> "My company took advantage of the wage subsidy – it was good to be pretty confident we'd keep our jobs."

> "We could pay our staff and not worry about the expense, which would have put our business close to going under [...] It relieved stress in a very fraught time. I was incredibly impressed about how quickly it was rolled out, and how fast the payment was."

> "The subsidy payment [...] was well less than 50 percent of my normal income which left me short for paying my normal outgoings and hence getting behind in payments and therefore into debt."

> "Employers that did not need the subsidy should have been made to pay it back, i.e. those that made significant profits."

> "Be aware that economic decisions made will have impacts into the future (like inflation) which we are now suffering from, while the wage subsidy was necessary at the time, it went on for too long."

The Wage Subsidy Scheme was developed jointly by the Treasury, the Ministry of Social Development, the Ministry of Business, Innovation and Employment, and Inland Revenue early in the pandemic. It was largely based on a previous scheme that the Ministry of Social Development had implemented during earlier crises, including the Canterbury and Kaikōura earthquakes.

Initially it was designed to focus on the sectors most affected; at that stage these were forestry and tourism. As the full implications of the pandemic became clear during March 2020, it was rapidly repositioned as a broad-based scheme and was launched nationally for all sectors on 17 March 2020.[21]

The Ministry of Social Development was the main delivery agency, in part because operational barriers ruled out Inland Revenue. Due to legislative barriers, ACC (which had the required functionality in their system and offered to help) could not deliver it either.[iii]

Implementing such a wide-reaching wage subsidy in a short period of time in March 2020, under extremely testing circumstances, was a great achievement – a workforce had to be trained, while at the same time much of the work and income functions of the Ministry of Social Development had to pivot to online-only delivery. The Ministry used the payment mechanism established for the Kaikōura earthquake response, which limited the ability to apply a greater level of calibration and targeting. It needed to be implemented quickly and by necessity (in the absence of a fully designed system pre-pandemic and the unavailability of the Inland Revenue system), relied on a high-trust model. This inherently came with a risk of fraud.

When the Office of the Auditor-General reviewed the Wage Subsidy Scheme in 2021, it reported that 'many of the steps public organisations took to protect the Scheme's integrity were consistent with good practice guidance for emergency situations',[22] but recommended that 'when public organisations are developing and implementing crisis-support initiatives that approve payments based on "high-trust" they … put in place robust post-payment verification measures'.[23] The Auditor-General also recommended that the Ministry of Social Development carry out further enforcement work'.[24] Later, a Martin-Jenkins evaluation of the Wage Subsidy Scheme noted that the relationship between the policy and operational risks (including integrity) had not been sufficiently explored when the scheme was being developed. Throughout the scheme's successive phases, Martin-Jenkins said agencies had worked to identify and mitigate risks to improve its operation.[25]

During our Inquiry, public criticisms were made of the Ministry of Social Development's approach to compliance through a High Court judicial review, which was dismissed, and an Advertising Standards Authority complaint, which was partially upheld.[26] We are aware of criticisms by the peer reviewer of the methodology used in the Martin-Jenkins evaluation.[27]

iii Inland Revenue was in the middle of upgrading to a new IT system and, under their legislation, Inland Revenue and ACC were not authorised to perform this function. The Ministry of Social Development's system did not have the functionality to achieve more granular targeting/tailoring of the response – it was a blunt tool. Needing to pass legislation would have slowed down getting Wage Subsidy Scheme payments 'out the door'.

Some ineligible businesses were paid the subsidy. As of 27 September 2024, companies had made over 25,000 repayments, totalling $827 million. In addition, 30 people had been convicted of fraud and sentenced, while a further 48 were still before the courts.[28] At the time of writing this report, prosecutions were still ongoing. Civil recovery action was underway against fifty businesses.[29]

It was not always straightforward for employers to implement the wage subsidy. For example, businesses had to try their hardest to pay employees at least 80 percent of their usual wages while receiving the subsidy for them. If that wasn't possible, they had to pay employees at least the subsidy payment rate. Some businesses apparently believed this relieved them of the responsibility of paying more than 80 percent of the wage, even if they could, and the interaction with employment law was complicated. The Ministry of Business, Innovation and Employment managed this aspect of the Wage Subsidy Scheme and provided phone and online support about the scheme. We were told that the situation was sometimes unclear to employers and employees alike, and we consider greater clarity and guidance could have been provided.

Despite these challenges, the subsidy supported millions of workers, including by protecting employment and thousands of businesses at a critical time. We will return to its effectiveness and impacts in the next section.

Recovery: Budget 2021

A year on from Budget 2020, Aotearoa New Zealand was enjoying the fruits of the early success of the elimination strategy. While the international border remained 'closed', there was no community transmission of COVID-19, the entire country was at Alert Level 1, and most people could go about their daily lives relatively unencumbered. The pandemic appeared to be over (in Aotearoa New Zealand at least), vaccinations were on their way, and the Government had reason to believe that the main task for the economy was now recovery.[30]

The May Budget 2021 reflected this focus. It retained the Response and Recovery Fund, but with refreshed policy goals: to continue to keep New Zealanders safe from COVID-19, accelerate the recovery and rebuild, and lay foundations for the future. Key investments included $4.6 billion from the COVID-19 Response and Recovery Fund, mainly focused on accelerating housing construction; $1.5 billion for the COVID-19 vaccine rollout, which was then getting underway; and a $300 million 'green investment fund'. All investments were aimed at supporting the recovery and rebuild from COVID-19.

In the second half of 2021, during the Delta outbreak and the Auckland lockdown, the Government added a further $7 billion to the Response and Recovery Fund, although not all of it was allocated. This extra funding was targeted at further economic support (including for the wage subsidy in the extended Auckland lockdown) as well as building resilience in the health system, supporting the vaccination rollout, and border and managed isolation and quarantine (MIQ) provision. These, and similar initiatives such as Jobs for Nature,[iv] were intended to use the opportunities created by COVID-19 to 'build back better'. We return to this theme with reference to Budget 2022.

Key investments included $4.6 billion from the COVID-19 Response and Recovery Fund, mainly focused on accelerating housing construction.

iv Part of the COVID-19 recovery package, Jobs for Nature was a $1.19 billion programme that managed funding across multiple government agencies to benefit the environment, people and the regions. It was intended to help revitalise communities through nature-based employment and to stimulate the economy post COVID-19.

In total, more than $70 billion of direct funding and tax relief was allocated to the COVID-19 response in Budgets 2020 and 2021, or about 22 percent of 2019 GDP. Not all of it was spent.[31] The largest areas of COVID-19-specific appropriation (as calculated on 31 May 2023) were:

- $18.3 billion on business support subsidies (including variants of the Wage Subsidy Scheme between March 2020 and December 2021).
- $4.2 billion for the national response to COVID-19 across the health sector.
- $2.9 billion for the COVID-19 Resurgence Support Payment (a grant scheme that provided firms with non-repayable support to assist transitions between alert levels).
- $2.5 billion for implementing the COVID-19 vaccine strategy.
- $2.4 billion for the Small Business Cashflow Scheme (advanced as loans to small businesses with a 5-year repayment period).[v] It is too early to know how much of this will be repaid.
- $1.6 billion on isolation and quarantine management.
- $1.6 billion on COVID-19 Support Payments (payments to ongoing and viable businesses or organisations that experienced a 40 percent or more drop in revenue due to public health restrictions, impacts of supply chain disruptions, and lower recreation-related movements – for example, central city businesses that were affected by people working from home).

In addition to these initiatives, the Response and Recovery Fund funded a large number of other support measures, both general and sectoral. These included the COVID-19 Short-Term Absence Payment and the COVID-19 Leave Support Scheme (which provided workers with support to encourage them to self-isolate when they had COVID-19 or were waiting for a test); sectoral support for those areas most affected by the pandemic (including tourism and international education); Jobs for Nature (see footnote iv); and the arts, culture, recreation and sport sectors.

Rebuild: Budget 2022

From mid- to late-2021, some of the medium- to long-term impacts of the economic response to COVID-19 (as well as wider global factors) had started to become apparent, particularly in the form of higher interest rates, increasing costs of living, and continued upward pressure on house prices.

This was reflected in some of the priority spending areas in Budget 2022. By this time, the Response and Recovery Fund had been wound up and the Government's focus had shifted to 'building back better'. This involved investing in infrastructure to make Aotearoa New Zealand less vulnerable to future shocks, cushioning the impact of inflation, improving physical and mental wellbeing, and reducing fuel taxes and road user charges to offset rising energy costs.

v With two years interest free and a below-market interest rate of 3 percent per annum after that.

6.2.1.3 The monetary and financial policy response

'Monetary policy' refers to the actions the Reserve Bank of New Zealand takes to achieve and maintain price stability (and, at the time of COVID-19, to support maximum sustainable employment). For the purposes of this report, 'financial policy' refers to the measures taken by the Reserve Bank to protect and promote the stability of the financial system. The Reserve Bank has operational independence from the government in choosing which policy instruments it will use to pursue these monetary and financial policy objectives.

During the pandemic, the Reserve Bank maintained low short-term wholesale interest rates, put further downward pressure on other interest rates by purchasing government bonds and funding lending for banks, and relaxed lending restrictions on the loan to value ratio.[32] All these measures were intended to soften the impact of the downturn, giving businesses and households access to affordable borrowing if needed. In addition, the Reserve Bank used various means to ensure that the financial markets at large, and the banking system specifically, continued to operate efficiently and safely.

According to the OECD, central banks around the world – including New Zealand's – acted simultaneously in responding to COVID-19 'with scale and speed to stabilize financial markets and cushion the contraction in real activity'.[33]

'Monetary policy' refers to the actions the Reserve Bank of New Zealand takes to achieve and maintain price stability.

Monetary and fiscal policy coordination[vi]

The Reserve Bank of New Zealand and the Treasury are in regular communication, and exchange information through a range of channels to inform their respective monetary and fiscal policy decisions. However, they do so without compromising the operational independence of the Reserve Bank or undermining the sensitivity of the information Treasury provides to politicians to inform fiscal policy decisions. Examples of this ongoing contact include working-level meetings, regular meetings between the Reserve Bank Governor and the Secretary to the Treasury, collaboration on briefings to the Prime Minister and Minister of Finance in advance of the Reserve Bank's Monetary Policy Statements, and pre-Budget Treasury briefings to the Reserve Bank. In addition, a Treasury observer participates in the deliberations of the Monetary Policy Committee[vii] about forecasts and risks in the economy, but does not have a say in decisions. The Reserve Bank and the Treasury have a Memorandum of Understanding (which was in place before COVID-19) formalising much of this working relationship.[34]

During the COVID-19 period, information-sharing and engagements between the two institutions continued. For example, the Treasury representative on the Monetary Policy Committee regularly advised the Reserve Bank about the high-level figures for the Budget (but without providing actual details) to inform its monetary policy decisions. The information the Reserve Bank was given access to was likely to have included the main macroeconomic drivers of the Budget (such as levels of fiscal stimulus (impulse), percentage changes in tax forecasts, estimates of fiscal increase/reduction (as a percent to GDP). This exchange of information would have assisted the Monetary Policy Committee to think about the balance of risks when making monetary policy decisions before the publication of Budget information.

Nevertheless, there was no active *coordination* of monetary and fiscal policy in the economic response to the pandemic, in the sense of having a broad common understanding of how they might interact with each other. Such an understanding can matter enormously in a crisis, where matters are evolving fast. If (for example) both Reserve Bank monetary policy and Treasury fiscal policy are strongly stimulating the economy, they may create too much stimulus. Or, if monetary and fiscal policy diverge, they may unintentionally work against each other. However, we saw no evidence of the Reserve Bank and the Treasury jointly advising the Government in a coordinated manner on the broad pattern of how the quantum and mix of fiscal and monetary stimulus should be provided, and how these should be adjusted as the pandemic evolved.[35]

vi See https://www.treasury.govt.nz/sites/default/files/2024-08/an24-07.pdf for a recent and thoughtful discussion on monetary and fiscal policy coordination.

vii The Monetary Policy Committee was established by the *Reserve Bank of New Zealand (Monetary Policy) Amendment Act 2018*. The new Act replaced the Governor as sole decision-maker with a Monetary Policy Committee (MPC) as the decision-making body. The Remit (under the Act), issued by the Minister of Finance, sets the inflation target and the MPC has operational independence on how the target will be achieved. The MPC has four internal and three external members. The Minister of Finance appoints both internal and external members based on recommendations from the Board of the Reserve Bank.

6.2.1.4 Pressures on supply chains

While Aotearoa New Zealand's geographical remoteness worked in our favour – simply put, our distance from other countries helped keep the virus out – we were exposed to weaknesses in international supply chains[viii] that developed during the pandemic. These weaknesses influenced the way that domestic supply chains operated.

There were several contributing international influences. The availability of raw materials as inputs for manufacturing became more constrained,[36] and some countries 'reshoring' production to promote self-sufficiency and unwind trade integration[37] disrupted trade and supply chains. International shipping delays and supply shortages – along with the impact of other countries' public health restrictions on supply chains, and port congestion in other countries[38] – all created problems and uncertainty for New Zealand. These included delays to incoming shipping services, ships 'bunching' at New Zealand ports, problems with container availability and positioning and over time, substantially higher international shipping freight rates. This led to uncertainty and higher costs for importers and exporters, and their customers. Meanwhile border closures led to large-scale reductions in aviation services and air cargo capacity to and from New Zealand, and higher air cargo freight rates.

These problems were international in origin, but they were compounded by a range of domestic factors. These included the failed automation project at the Port of Auckland,[39] a short-lived requirement that only essential cargo be handled at ports (which led to congestion problems at ports), and the way that businesses had to organise themselves (for example, through completely separate shift crews) to manage infection risks.

Some stakeholders also described a general lack of understanding of key supply chain issues before the pandemic, especially within the public sector. This extended to a lack of understanding about the inputs required by manufacturers of essential goods. As an example, the Ministry of Health initially determined that forestry operations and wood processing at the Kinleith Mill were not essential industries; in fact, the mill is the only New Zealand supplier of chlorine[ix] for drinking water.

viii In simple terms, a supply chain is a sequence of processes involved in the production and distribution of a commodity. Supply chains include – but are also broader than – transport and logistics systems. They describe any chain of processes, businesses and movements by which a product is produced and distributed.

ix Chlorine is a byproduct from the mill's manufacturing process.

The Government took action to protect supply chains

In response to supply chain issues, the Government established a Supply Chain Group and accompanying Ministerial Group in 2022. Also significant was its decision right at the start of the pandemic to ensure the aviation system continued functioning, albeit at a reduced level. Submitters praised the rapid response of the Ministry of Transport in this area.

The Government made payments through the Ministry of Transport to a number of airlines (including Air New Zealand) to maintain air cargo capacity, and to ensure as much as possible that airlines retained a presence in the New Zealand market. That was considered essential for the anticipated 'bounce-back' once the border reopened. The Government ensured through loans and additional funding that Air New Zealand and the Airways Corporation were kept afloat and operating, and that border agencies had sufficient funding streams to keep operating despite the decline in air passengers. Separately, New Zealand Trade and Enterprise underwrote air cargo capacity on Air Zealand flights for exporters.

Being able to exchange crew in New Zealand gave shipping companies one more reason to continue to serve the country.

The Government did not play as direct a role in keeping maritime supply chains open. Chartering or requisitioning ships was briefly discussed as a 'worst-case scenario'[40] but not progressed. The Government did, however, carry out a number of actions that helped facilitate continued trade. The Maritime Border Order of June 2020 – which formalised the Government's approach to maintaining export and import trade while managing infection risk from ships' crew – allowed international crew changes while ships were in Aotearoa New Zealand. Many other countries did not allow crew changes, which led to welfare issues. Being able to exchange crew in New Zealand gave shipping companies one more reason to continue to serve the country.

In general, the provision and efficiency of shipping and related services to Aotearoa New Zealand throughout the pandemic remained in the hands of the sector – with shipping companies, importers and exporters, freight forwarders, logistics companies and port companies.

In some parts of the supply chain, pre-existing relationships between government decision-makers and supply chain operators were limited or entirely absent. Examples included food exports and the local packaging supply sector, food manufacturing and the waste recovery and recycling sector, shipping and building supplies. While these relationships took a while to establish, they became indispensable; stakeholders told us that building them was a positive outcome from the pandemic.

Government agencies and sectors liaised closely to manage supply chain problems as they arose – whether this meant the Ministry of Foreign Affairs and Trade or New Zealand Trade and Enterprise working internationally; or officials, cargo interests and interisland shipping providers working through the availability of space on the Cook Strait ferries. Officials also worked closely with the major supermarket chains. The Ministry of Foreign Affairs and Trade regularly collected and disseminated information to businesses about international trade and supply chain trends. New Zealand Trade and Enterprise set up a supply chain advisory service and increased its ability and capacity to help exporters in the market who were unable to travel. We heard that the ability of the Ministry of Transport to work between the international transport sector and the Ministry of Health was important.

Government agencies and sectors liaised closely to manage supply chain problems as they arose.

6.3.1 The initial package of economic measures was comprehensive and generous, and met its immediate aims

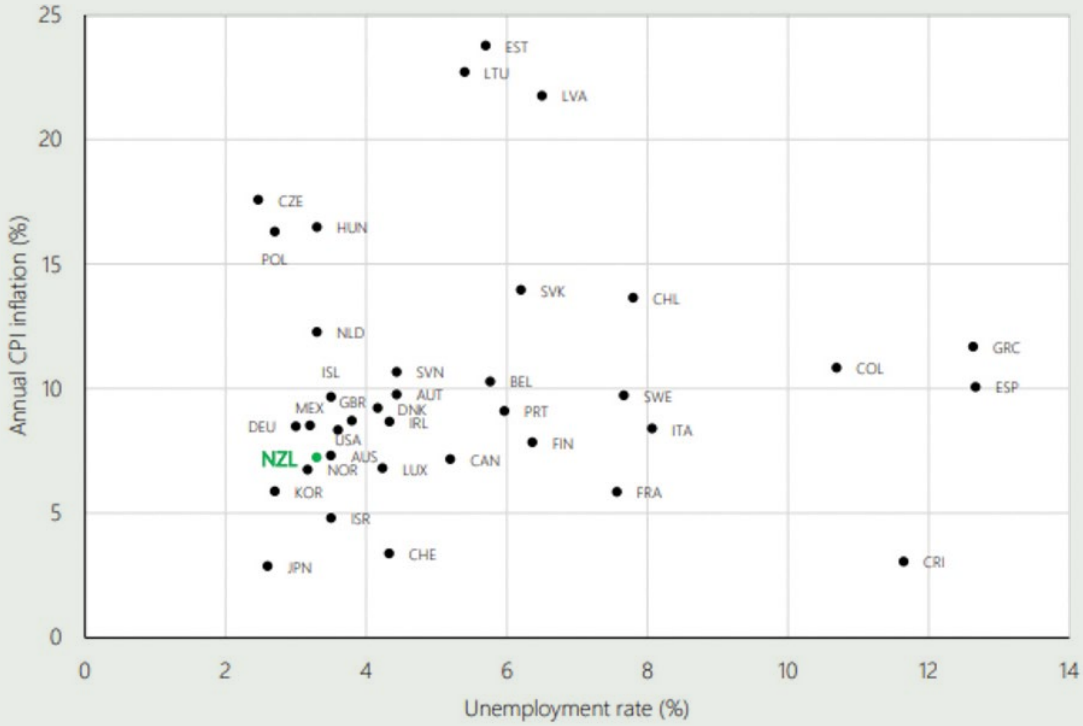
At a high level, this initial package delivered against its immediate aims. These were to support the public health response by maintaining economic activity, sustaining business confidence, protecting employment, protecting incomes, sustaining financial stability, and ensuring that all essential services were accessible. A 2021 OECD report indicated that, in doing so (initially at least), Aotearoa New Zealand had generated better economic and social outcomes than most other OECD countries. Initially, the Reserve Bank and the Treasury were also concerned that the health crisis could develop into a financial crisis. This too was successfully avoided. Moreover, it had achieved these outcomes with restrictions that were of comparatively short duration and, over the course of the pandemic, less stringent on average than in many other countries.[41]

Aotearoa New Zealand had generated better economic and social outcomes than most other OECD countries.

Likewise, Aotearoa New Zealand's monetary policy response was in line with those of other countries that successfully pursued the same intended short-term outcome: cushioning the impact of the COVID-19 pandemic on their people.[42] New Zealand maintained a relatively stable economic position, prevented large scale unemployment, supported people's incomes, and the economy rebounded very fast in 2020 and 2021 – both in absolute terms and relative to other comparable OECD economies.

By and large, in terms of the initial (2020–22) macroeconomic impacts of the pandemic, as well as the economic policy responses to it, Aotearoa New Zealand performed comparatively well.[43]

Figure 2: Inflation and unemployment in mid-2022 – international comparisons



Note: The data is sourced from the OECD database. The latest available data points have been used; unemployment data for 2022Q3 for New Zealand (NZL), Australia (AUS), Canada (CAN), United States (USA), Israel (ISL), Chile (CHL), Mexico (MEX), Japan (JPN) and South Korea (KOR), and 2022Q2 for other countries, inflation data for 2022Q3 for all countries, except Costa Rica (CRI) for which only 2021Q4 data is available. Turkey has been omitted since it is an outlier with an exceptionally high inflation rate of 81%.

Source: Reserve Bank of New Zealand, 2022, In Retrospect: Monetary Policy in New Zealand 2017–22 | Titiro whakamuri kōkiri whakamua, p 10, https://www.rbnz.govt.nz/hub/publications/monetary-policy-statement/rafimp

Figure 2 shows that in mid-2022, New Zealand performed well compared to other OECD countries in terms of both inflation and unemployment. But as we explain in this chapter the early generosity of New Zealand's economic policy response – followed by the start of the reversal in monetary policy from October 2021, in combination with the impact of international events such as the war in Ukraine and ongoing supply shocks – led to deteriorating economic performance in terms of unemployment and real GDP growth.

6.3.2 The generosity of the initial response and the length of time it continued has slowed Aotearoa New Zealand's subsequent economic recovery, and the effects continue to be felt

The success of the initial economic response – including the Response and Recovery Fund, and the monetary and fiscal policies that were adopted – had a flipside. From mid-2021 onwards, both the pandemic itself and the policy responses to it started having economic and social impacts across society, sectors and regions that were strong, unevenly distributed and negative. At the same time, the Government had to act to address the inflationary pressures and the sharp rise in public debt created by the initial response, within tight time constraints. Overall, these factors led to a slow and protracted medium- to long-term economic recovery, the effects of which are still with us in 2024.

To understand how this unfolded, it is necessary to go back to early 2020. Aotearoa New Zealand was then in a relatively stable economic position, with low interest rates and low public debt. Economic institutions were in reasonably good shape, with the independent operation of monetary policy now decades old and well-entrenched. Successive governments had created an ongoing 'fiscal buffer' of internationally relatively low levels of public debt (AAA rated by Standard & Poor's) by the operation of generally fiscally responsible policies as required in the Public Finance Act 1989. As the COVID-19 response began, there was a sharp slowdown in economic activity and a drop in employment, both of which were unevenly distributed across industries and regions, as well as social groups.

This downturn was followed by an equally sharp economic rebound in the second half of 2020, reflecting the generosity and timeliness of the financial support packages put in place (see Figure 1). This reduced the adverse short-term economic impacts of the pandemic, but at the expense of contributing to a gradual climb in the cost of living and broader inflationary pressures including rising house prices. As we note elsewhere in this chapter, these impacts cannot be attributed exclusively to domestic policy responses; global developments (including the war in Ukraine) also played a significant role.

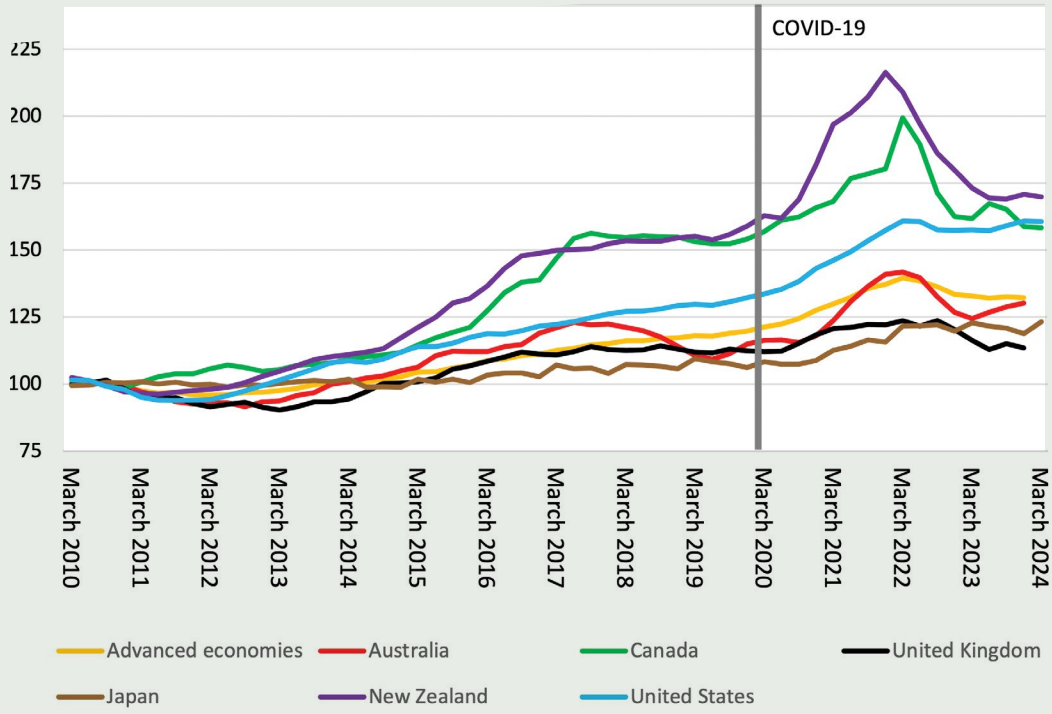
By the third quarter of 2020, real GDP (a measure of total production of goods and services) had already recovered to its pre-COVID-19 level, earlier than in any other OECD country.[44] The unemployment rate fell quickly to a trough of 3.2 percent, its lowest level in 40 years (December 2021 quarter).[45]

Accompanying the strong rebound in economic activity, but also reflecting severe supply-side constraints, were strong inflationary and cost-of-living pressures (including on food and petrol prices). House prices rose strongly throughout 2020 and 2021. Inflation began to rise quickly around mid-2021, fuelled initially by excess demand and pandemic-induced supply chain tensions, and later aggravated by the war in Ukraine.

In response, the Reserve Bank raised the Official Cash Rate by 525 basis points to 5.5 percent between October 2021 and mid-2023.[46] The effects can be seen in increases to the Consumer Price Index during the period: the annual percentage change grew to 7.3 percent in June 2022, but had decreased sharply to 2.2 percent by September 2024.[47]

All these developments – high interest rates, the increase in government debt, sharply rising house prices (shown in Figure 3 in absolute terms and against other advanced economies) – have had adverse effects that are likely to be felt for some time to come. More generally, the arrival of COVID-19, and the policy measures used to manage the health impacts, may have reduced the productive capacity of the economy (causing more inflation for a given level of demand). See section 6.6, which addresses the 'long tail' effects of the pandemic and the policy responses to it.

Figure 3: Advanced economies – selected residential property prices 2010–2024



Note: The figure shows the 'real' (inflation adjusted) cumulative increase in house prices from a base of March 2010 = 100.

Source: BIS Data Portal, 2024, Advanced economies – Selected residential property prices, Real, Index, 2010 = 100, https://data.bis.org/topics/RPP/BIS%2CWS_SPP%2C1.0/Q.5R.R.628

Most of the fiscal impact of the COVID-19 response (including the collateral fiscal effects of monetary policy, positive and negative), as well as the impacts of the economic downturn, are forecast to be absorbed by the Government's balance sheet, via increasing borrowings (that is, through higher debt) and reducing net worth. Net core Crown debt[x] is expected to reach 43.5 percent of GDP by the end of the 2024–25 financial year,[48] having been 19 percent of GDP at 30 June 2019.

> **"New Zealand is doing pretty well in a global context if you're just talking about levels of credit ratings."**

By this measure, the Government's balance sheet is healthier than most other countries, even though Aotearoa New Zealand's fiscal response to the pandemic was relatively generous. Nevertheless, reports on the New Zealand economy by the OECD (cited earlier) and the International Monetary Fund[49] both raised concerns about the fast and significant rise in net government debt, as shown in the top panel in Figure 4. The rise will also be considered in the next review of New Zealand's international credit ratings, although this country's comparatively strong international performance (see right-hand panel in Figure 4) will help counter any immediate threat to our credit rating.

According to Martin Foo, the Director of Sovereign and International Public Finance Ratings for United States-based credit rating agency Standard and Poor's Global Ratings, the agency remained comfortable with the AAA credit rating it upgraded New Zealand to in 2021. 'New Zealand is doing pretty well in a global context if you're just talking about levels of credit ratings,' Martin Foo told the *New Zealand Herald* in August 2024. 'But there is no doubt, the response to the pandemic was costly. It did result in a big expansion in the size of government.'[50] It should be noted that New Zealand enjoys the highest sovereign credit rating from Standard & Poor's Global Ratings and Moody's, while Fitch Ratings rates New Zealand at AA+, which has not changed since before the pandemic. Nevertheless, Martin Foo's statement can be interpreted as a warning that we should be cautious.

x This is the Government's debt, adjusted for its total cash or liquid assets.

Under the Public Finance Act 1989, governments are required to manage their expenditure and revenue policies to maintain prudent levels of public debt. Successive governments have taken the view that public debt needs to be relatively low for several reasons:

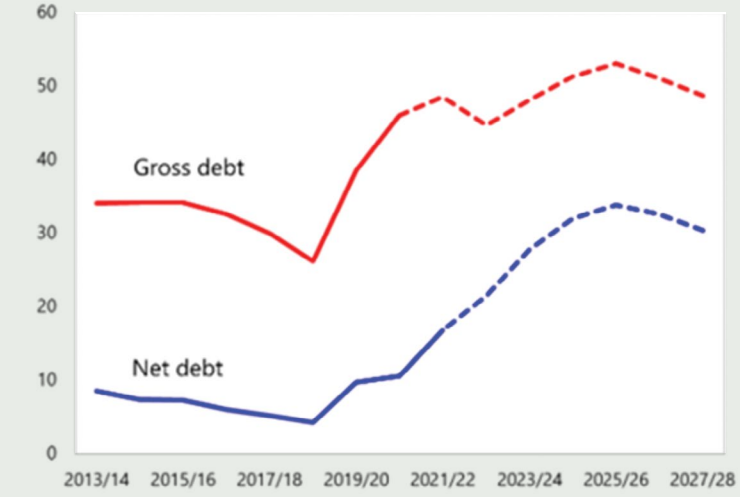
- As a small economy, Aotearoa New Zealand does not have the economic heft to cope with international shocks; much bigger economies have more scope to ride these out.
- New Zealand's economy is not as diversified as many others, meaning that specific shocks may have a much bigger relative effect.
- New Zealand is also relatively highly exposed (as we have seen) to natural disasters such as earthquakes, etc.
- Low public debt offsets relatively high private debt in the New Zealand economy.
- Low debt also reduces the risk margin to be found in interest rates. This provides other benefits to the New Zealand economy, reducing the financing costs of investment and improving our access to international financial markets in the case of financial crises.
- Low debt also – obviously – reduces the fiscal burden of servicing debt.

Fundamentally, all country-specific interest rates carry a risk premium within them. For example, New Zealand's interest rates are typically higher than those for the United States. In part, this is because we are small and the United States is big (and therefore better able to absorb negative developments) and partly also because the $US is a reserve currency – meaning lots of currency players invest in the United States when things internationally look fragile, which keeps their interest rates lower. Internationally, poor economic policies also result in higher risk premiums. Essentially, arbitrage ensures our interest rates adjust to reflect these factors and maintain some stability in our exchange rate.

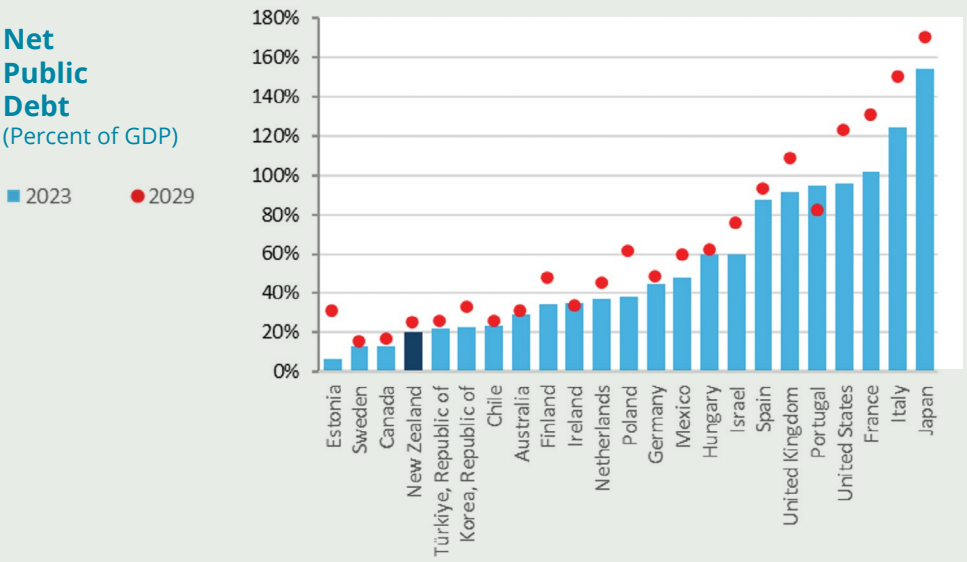
Internationally, poor economic policies also result in higher risk premiums.

Figure 4: Government Debt

General Government Debt
(Percent of GDP)



Net Public Debt
(Percent of GDP)



The government debt ratio is projected to stabilise after peaking in the medium term (figure on top) and is expected to remain low compared to other advanced economies (figure on bottom).

Source: Based on data from The Treasury, 2024, Current and past Budgets, https://www.treasury.govt.nz/publications/budgets/current-and-past-budgets; Based on data from IMF Fiscal Monitor Database 2024 and Royal Commission staff calculations.

The debt figures shown in Figure 4 are calculated using the International Monetary Fund's Government Finance Statistics methodology. This differs from the methodology used by the New Zealand Treasury but is more comparable across countries.

With the benefit of hindsight, we have considered the factors that might lie behind this apparent 'overshoot' of macroeconomic stimulation – the monetary and fiscal expansion being too high for too long during the pandemic. While immediate attention might be drawn to the 'least regrets' stance taken at the beginning of the pandemic by both the fiscal and the monetary authorities, we believe this approach was fundamentally sound. Little was known about the nature and likely impact of the virus at that stage, apart from what might be inferred from the then-severe events unfolding overseas, in Italy and elsewhere.

As we have commented earlier in this report (see Chapter 2), adapting and planning for forthcoming possible scenarios during the 'honeymoon' period created by the undoubted initial success of the elimination strategy was generally slow. There was a tendency to hold on to existing public health and indeed other settings for too long. We think this factor also contributed here. Having said that, we recognise that the Reserve Bank did begin tightening monetary policy from October 2021, eventually raising the cash rate by a full 525 basis points. The Treasury, on several occasions, reinforced the need for exit strategies and recommended some pull-back on fiscal support. The Government did respond to these urgings – for example by changing the criteria for the subsequent rounds of the Wage Subsidy Scheme – but the overall picture was one of being cautious about change for too long.

There may have been other, more technical factors at play also. For example, the initial economic and financial response to the pandemic was largely viewed as a demand shock.[xi] While the fact that there was (and would be) a substantial supply component to the shock was recognised reasonably soon afterwards, it is probably fair to say that the decomposition was not well understood and the focus on demand attracted the main attention from the authorities.

The Treasury and the Reserve Bank have a long-established history of sharing information while ensuring they protect the Reserve Bank's independent operation of monetary policy and the Treasury's own role of providing independent fiscal and macroeconomic advice to the Government of the day. We think this is entirely appropriate,recognising that collaboration of this sort does not – and should not – blur respective accountabilities.

Nevertheless, some gaps in the Treasury and Reserve Bank coordination in an emergency were revealed, despite the fact that it was good by international standards. The pandemic experience has thus provided an opportunity to reflect on how those gaps arose and how they could be avoided in another crisis situation. At present, there is no commonly understood 'playbook' for how (and how much) to coordinate monetary and fiscal policy in future crisis scenarios (including varying pandemic scenarios), including which policies might have the advantage at which stage of the crisis. In addition, those involved need to have a good grasp of the kind of information which might be of value to the other organisation, without overstepping the bounds of what should or should not be disclosed. There may also have been occasions during the pandemic when information from other players (such as the Ministry of Business, Innovation and Employment and the Financial Markets Authority) could have been useful. These gaps in information sharing and coordination of policy could also have contributed to a 'less than smooth' pattern of macroeconomic stimulation and constraint over the period of the pandemic.

In summary, we think the 'least regrets' approach at the beginning of the pandemic was appropriate. Nevertheless, as the pandemic evolved all of the information and tools available to authorities were not used to achieve the right balance between avoiding deflation (and possible financial crisis) and economic depression in the short term and limiting the extent of the unavoidable price that is paid in terms of inflation, debt and lost productivity in the medium to long term.

xi A 'demand shock' refers to a downward adjustment to economic activity due to less spending by the government and/or private sector.

6.3.3 The pandemic's economic impacts put many households and businesses under great pressure, especially during lockdowns

The initial phase of COVID-19 left many businesses unable to operate. The incomes of millions of New Zealanders were thus at risk, creating potentially huge ripple effects that worsened the economic downturn created by the pandemic. However, the Government did provide assistance to lower-income New Zealanders in its March 2020 economic package and in Budgets 2020 and 2021, by means of either benefit increases or the Winter Energy Payments.

The Wage Subsidy Scheme (see spotlight in section 6.2.1.2) was devised to enable businesses to maintain levels of employment and worker attachment to roles, and to provide workers in permanent full-time or part-time roles with continued income. In addition, individuals who lost their employment (including self-employment) because of the pandemic could access the non-means tested COVID-19 Income Relief Payment.[51] Despite the fact that not all income earners received the wage subsidy, these measures were well received and used. Over the five waves of the Wage Subsidy Scheme, 2,026,054 applications were approved (with 340,226 declined).[52]

Alternative mechanisms – such as delivering income support through the income tax system – might have offered some advantages (such as better targeting), but this approach would have been less effective in maintaining levels of employment and worker attachment to roles (one of the primary purposes of the Wage Subsidy Scheme).

While wage subsidy and other supports were available to help those in traditional employment, people in other situations struggled. For example, casual workers whose employers did not apply for the wage subsidy did not receive any wage subsidy payments.

Another group which experienced significant economic hardship during the pandemic was temporary visa-holders. This group included people on two-year work permits, international students and Recognised Seasonal Employer workers: when their employment ended, they were ineligible for most types of support[xii] and were also significantly impacted.[53] It was not until July 2020 – five months into the pandemic – that the Department of Internal Affairs and the Red Cross partnered to provide humanitarian relief to temporary visa-holders. This took the form of food supplies, housing assistance or support to return to their home country.

xii As part of the Community Wellbeing package in Budget 2020, the Government provided funding so foodbanks and community food services could support an estimated additional 500,000 individuals and families impacted by COVID-19 who were struggling to afford food. Access to these supports was not assessed on the basis of residency status. See endnote 53 for more details.

Through the public submissions process, we heard first-hand accounts of the pandemic's economic impacts on many individuals, households and businesses:

> "As an Immigration Officer, I lost my job as the borders were closed so the company that I was working for dropped down to skeletal staff as no one could come into the country."

> "My husband & I are produce growers for the local markets, by closing down the Farmers Market we now had no place to sell our produce which would not stop growing (leading to huge waste) and we had spent months of hard work preparing our crops to sell. This impacted our business financially and myself emotionally."

> "I have had a small business since 2007 and was unable to work due to the lockdowns for almost 7 months. This lost the business and my small team over $150k, which we have never been able to bounce back from, especially now as we head into a recession."

> "I was one of thousands of the uncounted. I lost income due to the lockdown as I was a casual worker. I didn't receive the govt subsidy, I couldn't apply for unemployment benefit as I was in a de facto relationship, so didn't qualify there either."

As we go on to discuss in the second part of this chapter, many social service providers we heard from confirmed that loss of incomes increased the material hardship many households experienced in the pandemic. Despite various new or increased social support initiatives (discussed later in this report), we heard of families with insufficient money for even the bare essentials like heating, internet, food, blankets, clothing, nappies, masks and cleaning supplies. And, as we also discuss later, the burden of these negative impacts was not shared equally across all New Zealanders. Inevitably, those people with existing disadvantages and vulnerabilities at the start of the pandemic[xiii] felt them the hardest. This made it imperative for the government pandemic response to consider equity effects and how they could be mitigated.

Many social service providers we heard from confirmed that loss of incomes increased the material hardship many households experienced in the pandemic.

xiii The population groups that the Ministry of Social Development identified as being at higher risk of adverse social and psychosocial impacts in the pandemic were: older people, disabled people and people with long-term health conditions, lower income households, Māori communities, Pacific communities, children and young people with greater needs, young people (16 to 25 years), homeless, ethnic and migrant communities, the prison population and people on community-based sentences and orders, and women.

6.3.3.1 Businesses experienced the pandemic differently according to their sector, size and location[54]

Many businesses told us that the Ministry of Health had little understanding of the practicalities of implementing many of the health orders in their workplaces. Businesses expressed frustration with the Government on various matters, including:

- The borders around Auckland (and sometimes inconsistent approaches to accessing the road corridor) made business operations around Northland extremely difficult.
- There was a sense that Wellington was disconnected from or lacked understanding of the impacts of various health measures on Auckland businesses.
- Many businesses felt that they had knowledge and expertise that could have helped Government, but they were not used – for example, employment lawyers and professional bodies who were not consulted over the Wage Subsidy Scheme, special COVID-19 leave and other matters that interacted with employment legislation.
- Complex and frequent legislative and regulatory changes made it difficult to understand and keep up with what was required. For example, we heard that after the COVID-19 Public Health Response (Maritime Border) Order 2020 came into force, ships' pilots were initially required to wear full personal protective equipment (PPE) (including goggles) when transferring from one ship to another, often on ladders in pitching seas. This was both a health and safety issue for the pilots, and a legal quandary for their employers: they had to choose between observing health and safety obligations or maritime border orders.
- Businesses had access to data and networks that could have been very helpful to government but were not often accessed.
- There were complaints from businesses about the slowness to allow rapid antigen testing, and about the Ministry of Health objecting to the possibility of the private sector using saliva testing instead.
- Business associations considered the Government could have given them greater advance notice when communicating policy and other changes to businesses.
- Operating business policies relating to requiring workforce vaccination was a key issue for a number of businesses, and of course, for their employees. This is covered in Chapter 8 later in this report.

Exporters

Most visibly affected were those businesses which exported services and relied on an open border to access their markets; the regions they operated in were also hard-hit. Tourism and the international education sector – both high foreign exchange earners and large-scale employers – were the most obvious examples.

For other export sectors, the situation was more nuanced. Not all exporters were allowed to operate during lockdowns. The agricultural sector was one exception for several reasons: animal welfare, the continued health of agricultural production systems (for example, plant health), and the need for food security meant that many rural operations and related production simply had to continue. To allow this to happen, the Ministry for Primary Industries developed (in just two days) a set of rules which the agricultural sector had to comply with, and audited 8–9,000 businesses for compliance in the first two-and-a-half weeks – a considerable achievement. This exemplifies how a *principle* or desired *outcome* can be taken as a starting point, then a sector works out how to achieve it (in this case, how to reduce transmission risk) while keeping other things going as best as possible.

For the duration of the pandemic, many exporters were unable to visit overseas markets due to closed borders and disrupted air travel. Their concerns that this would result in a loss of customers was partly offset by New Zealand Trade and Enterprise scaling-up its overseas presence, thanks to $200 million funding from the Government to build its capacity in overseas markets.

Lockdown-related problems

Other issues affecting businesses related mostly to the impact of lockdowns. For example:

- The closure of butchers, restaurants and other hospitality venues during lockdown caused significant problems for pork producers while pork imports continued. Pigs were unable to be taken off farms for processing, which led to animal welfare risks due to continued breeding cycles and the number of pigs on-farm.
- The requirement for specialist food retailers (such as butchers) to remain closed during lockdown meant people purchased almost all their food through the main supermarket chains. This adversely affected those retailers: the Inquiry heard from a number of groups about the financial and mental health issues faced by small businesses. The closure of small retailers also had the effect of reinforcing the supermarket duopoly. We frequently heard complaints about the perceived unfairness of this situation, and the view that some small retailers providing essential supplies could have operated just as safely as supermarkets.
- Retail, hospitality and other businesses that relied on direct customer interaction were also adversely affected – not only by the lockdowns themselves, but by the shift to people working from home after lockdowns were lifted. From the start of 2020 until October 2022, there was a loss of consumer spending in the Auckland city centre of about $870 million – an average loss of $675,000 per business. Similar effects were felt in other city centres.

Often, large businesses were better able to absorb the shock than small businesses with low capital stocks as they had larger capital reserves to call on.

Some sectors – such as banking, financial services and technology – were well positioned to shift to digital or remote work. But other types of businesses that relied on physical, in-situ, or in-person work (such as construction or personal services) simply could not do so during the initial Alert Level 4 lockdown.

Working with Government

Many businesses and sector groups told us that officials making decisions about public health settings were initially unwilling to consider options which would have allowed non-essential industries to keep working safely – for example, road and bridge construction could have continued because workers generally keep a considerable distance apart anyway. Instead, several major construction projects came to a halt during the initial Level 4 lockdown, triggering force majeure provisions. These led to substantial commercial claims and losses, which are still being heard in the courts in 2024. It also led to key skilled workers leaving Aotearoa New Zealand, which in turn created further delays when those skills had to be re-introduced once construction work began again. We also heard that many of the smaller food providers and non-food manufacturers could also have operated safely, just as the essential food production sector managed to (and which was confirmed by audits such as the Ministry for Primary Industries' compliance audit of agricultural producers mentioned earlier).

Businesses also told us that government agencies were sometimes inconsistent in their approach to public health threats. For example, government workers based at Auckland Airport were given PPE, but employees of Auckland Airport and other private businesses who worked in the same area could not obtain any.

Overall effects

Regardless of size, sector or location, the evidence shows New Zealand businesses were contending with a common set of challenges throughout the pandemic. In summary, they were:

- Worldwide, people's behaviour changed significantly during and after the pandemic. These changes affected how people work, go to school, are entertained, how they shop and what they buy. For businesses, this has meant adjusting to different patterns of demand, providing goods and services in different ways, getting capital to invest in new activity and much more
- COVID-19 response measures profoundly impacted how people spent their money. The largest fall in spending occurred during the initial Level 4 lockdown in late March 2020, when spending dropped by nearly 55 percent.[55] As a result of lower spending, people saved more during the national lockdowns.
- The pandemic caused business confidence and trading activity to decline on many occasions,[56] reflecting the successive rounds of lockdowns.
- Businesses faced labour shortages due to travel restrictions and inflation, making it hard to expand their production to meet demand.
- Although businesses could pass on to customers some of their increased costs (which had risen due to higher input costs as a result of shortages of labour and materials), their profitability was nonetheless negatively impacted.

6.3.4 The pandemic created or exposed numerous workforce challenges, including shortages of workers in some sectors, a reliance on immigration, under-investment in human capital, inflexible legislation, pay inequities and more

At a strategic level, the pandemic presented several labour market challenges. These were seen in, but not limited to, the inability of several business sectors (such as healthcare and aged care) to secure the workers they needed. The pandemic also exposed some vulnerabilities. Lack of addressing them pre-pandemic meant that we were not as well placed in the pandemic as we could have been. Examples included:

- The degree of reliance on immigration to fill shortages of both skilled and unskilled workers.
- A lack of investment in building human capital, especially critical human capital.
- Questions about whether legislation was fit for purpose and agile.
- Health and safety issues.
- Inequitable work conditions, including pay.
- Rigid occupational regulation.
- The black/grey economy.

Some of these topics are covered in other parts of this report. In summary, the Government response only partially mitigated these issues businesses faced.

Generous government financial support, especially through the Wage Subsidy Scheme, ensured that the private sector workforce was largely sustained. The incomes of the public sector workforce were largely unaffected. Nevertheless, a range of influences – some reflecting pre-existing conditions – fueled shortages of both skilled workers (including university staff and specialised health workers) and less skilled workers (some types of farm workers, and hospitality staff) in some sectors. Those pre-existing conditions included workforce capacity and capability gaps, and insufficient income: some workers simply went to other countries where they could be paid more.

The wage subsidy ensured that most employment relationships were sustained ('attachment effect') during the pandemic, with some potential 'long tail' effects on productivity that are briefly covered in section 6.6. Of course, there were some closures and layoffs. For some people, the pre-existing benefit rules meant that they could not go on a benefit if others in their household were working. There were also regional, age, gender and sectoral differences in the take-up of the wage subsidy.

Immigration settings, and the slow response to the needs of business, contributed to workforce shortages though they were certainly not the only cause. Managed isolation and quarantine (MIQ) restrictions also had a negative impact on the health system, which is heavily reliant on the continued supply of international health workers of all different skill levels.

Even though the pandemic intensified global demand for international health workers – and Aotearoa New Zealand's successful containment of COVID-19 may well have made it an even more attractive option – foreign health workers faced several challenges, including securing MIQ places. Other shortages were exposed as border restrictions were put in place (see Chapter 4 for more on the effects of border and quarantine measures on the workforce).

For employers and employees, the employment situation was stressful and hard to navigate. We were told about employers having difficulty finding the underlying legislation, regulations and guidance notes across websites; the introduction of new concepts that were untested by the courts and had to be applied in the new environment; and people finding it hard to quickly seek remedy or clarify the interpretation of law.

Another major issue for employers was the emotional, psychological and health impact COVID-19 had on their staff. Workers in essential industries often experienced stress, some lived in crowded households, and some were reluctant to have close contact with their families and friends – or, conversely, were shunned as possible vectors of infection. Absenteeism at work increased. A fuller account of these impacts can be found in the second half of this chapter.

6.3.5 The supply chain was disrupted by international and domestic developments during the pandemic, but the impacts have not yet been fully analysed; doing so is essential for improving the supply chain's resilience in another such crisis

In general, Aotearoa New Zealand did not experience food shortages or lack essential goods. But supply chain problems nonetheless arose through a combination of global trends, domestic public health measures (such as the need for social distancing in ports and distribution centres) and 'panic buying' of some items such as toilet paper. The two major supermarket chains (Woolworths/Countdown and Foodstuffs) both experienced some product shortages.

There were initial fears that – because New Zealand was at the far end of international supply chains – some shipping companies might choose to drop it from their scheduled services. In the event, this particular risk did not eventuate. However, shipping was nonetheless disrupted throughout the pandemic, which affected export and import trade. Shipping reliability rates (the extent to which shipping lines met scheduled times) to New Zealand ports plummeted, falling from 80–100 percent in January 2020 to 0–20 percent a year later.[57] This created uncertainty for importers about when expected freight was due to arrive, while exporters could not be confident of when they could deliver goods to overseas markets.

Shipping freight rates were also volatile. Global container shipping costs increased by approximately 500 percent during late 2020 and 2021 to a peak in October 2021 but had fallen to pre-pandemic levels by October 2023. Bulk shipping rates also increased sharply (again by approximately 500 percent between April 2020 and October 2021) before falling to pre-pandemic levels by January 2023.[58] Air cargo freight rates increased too, but, despite general disruption to global aviation, the value of cargo imported through Auckland Airport continued to increase throughout the pandemic. This showed that demand for air cargo remained high and that, at least on the surface, the Government's air cargo subsidies had some effect.[59]

While Aotearoa New Zealand lacks data measuring the impact of supply chain disruptions during the pandemic, we note that many other countries experienced slower supplier delivery times.[60] Substantial increases in supply chain disruptions and backlogs were also reported: globally, supply chain disruptions (such as from shipping delays and stock shortages) grew from approximately 25 percent in 2019 to over 70 percent in 2020/21.[61] New Zealand businesses reported similar problems.

In our discussions with businesses, they also identified several domestic sources of supply chain disruption. For example, the Auckland lockdowns restricted the availability of Auckland-manufactured goods (such as building products) elsewhere in the country, while there were also periodic shortages of freight capacity on the Cook Strait ferries. Some stakeholders also cited a lack of understanding among government officials about the interdependencies between internal supply chains – for example, between food exports and the local packaging supply sector, or food manufacturing and the waste recovery and recycling sector.

Combined with the broader impact of public health measures – such as the lack of any provision to allow 'non-essential' industries that could continue to function with a reasonable degree of safety to do so – these supply chain disruptions had considerable economic impacts. For example, the non-food manufacturing sector (which accounts for 69 percent of New Zealand's manufacturing GDP) was unable to operate during the August 2021 lockdown: the effects were felt both by their downstream customers and by many export-oriented businesses that had spent years building up their international customer bases. Their inability to supply customers overseas led to the loss of significant current and future export markets.

From the evidence we have seen, the authorities have not yet comprehensively analysed or assessed the pandemic's impacts on the supply chain. However, we are aware that the Ministry of Business, Innovation and Employment is leading work to implement the Indo-Pacific Economic Framework's supply chains agreement. Through that agreement, countries commit to promoting regulatory transparency; identifying the supply chain stress points the COVID-19 pandemic exposed, and the critical sectors and goods affected; and coming up with practical solutions to the supply chain disruptions that remain in the wake of the COVID-19 pandemic. In our view, managing future risks to the supply chain and ensuring resilience is an important component of Aotearoa New Zealand's preparedness for a future pandemic – a point we return to later in our lessons and recommendations.

6.4.1 What happened

As we set out earlier in this report, some acute social problems were already confronting Aotearoa New Zealand before the pandemic. They ranged from an ongoing housing crisis, hardship for families in low-income households and on benefit support, growing mental health issues, and the long-standing inequalities or inequities faced by Māori, and a range of other groups. A significant proportion of the population was experiencing persistent disadvantage.[62]

For individuals, families and communities facing hardships like these, social services provide a much-needed safety net. During a pandemic, they also play a critical role in minimising the spread of infection. The availability of social services means people can comply with health measures, including staying home safely, while still having their basic needs met.

Pre-pandemic, 697,000 New Zealanders (more than 15 percent of the population) were estimated to be experiencing persistent disadvantage.[63]

International disaster literature, along with lessons from New Zealand disasters including the Canterbury and Kaikōura earthquakes, shows that certain groups are disproportionately impacted during natural disasters and other crises: namely, groups already facing existing disadvantage.[64] That was well known at the start of the pandemic and, looking back from 2024, we can see this is largely what occurred.

During the pandemic, the need for various forms of social support and services increased. They included:[65]

- Food grants and parcels.
- Housing support and emergency housing.
- Family violence support (including refuge, food and other supports).
- Community-based mental health and addiction support.
- Support with meeting basic needs (including blankets, clothing, cleaning supplies, heating and devices/wifi).
- Support for individuals or families to isolate.

In normal times, responsibility for designing, funding and delivering social supports is spread across many organisations. The Ministry of Social Development is often seen as the lead government agency, but many others are also involved.[xiv] During a crisis, the Civil Defence Emergency Management system also has welfare support responsibilities. And while some supports are delivered directly from agencies (such as income support and statutory care and protection), most are delivered through a network of non-governmental organisations (NGOs), social service providers and charities. Local government and philanthropic funders also have key roles.

xiv These other agencies include Oranga Tamariki, Ministry of Health, Ministry of Education, Ministry for Housing and Urban Development, Ministry of Youth Development, Ministry for Disabled People, Te Puni Kōkiri, Ministry for Ethnic Communities and Ministry of Pacific Peoples. Key independent Crown entities include ACC and Kāinga Ora.

6.4.1.1 Investment in social services and supports

Mitigating the pandemic's potential social and wellbeing impacts was a significant component of the COVID-19 response from the start. The initial Government COVID-19 spending package Cabinet agreed to on 26 March 2020 included funding to 'ensure people have access to the food and other goods they need to survive' and 'services that provide a place for people to live' during the first national lockdown.[66] Specific funding was tagged for disabled people, family violence and sexual violence, local community solutions, and for Māori and Pacific peoples. In addition, funding was provided through Te Puni Kōkiri to boost Whānau Ora[xv] and launch a new fund to support whānau, communities, marae and businesses with self-isolation and accessing the essential support needed to remain connected to their communities.[67]

By the second day of the first lockdown, $27 million of targeted social relief funding had been approved.[68] This was increased substantially in May when Budget 2020 earmarked $2.9 billion for COVID-19-related social spending, including a permanent $25 per week benefit increase[xvi] and a temporary doubling of the Winter Energy Payment (intended to help people with the cost of heating their homes).[69]

As 2020 turned into 2021, and it became increasingly clear that COVID-19 was no short-term blip, there was growing recognition of the scale of the investment required for a sustained social sector response matched to community needs.[70] Significant further investment in social services was made in 2022; even though community transmission had become well-established since the arrival of the Delta and Omicron variants, supporting people to isolate safely at home when infected or vulnerable to infection remained critical for the overall success of the COVID-19 response.

Starting from March 2020 and including budget allocation up to the end of June 2023, we estimate that total COVID-19 Response and Recovery Fund expenditure on social response included $2.4 billion used to support community responses, $3.3 billion in additional benefits to individuals and households, and $18 billion to support the Wage Subsidy Scheme.[xvii] Delivering this response involved an exceptional amount of work delivered under heavy pressure and amid rapid change. We acknowledge the collaboration and effort this involved across the entire sector and in local communities.

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xv Whānau Ora is a Government-funded, culturally-based, whānau-centred approach to wellbeing. The Whānau Ora Commissioning Agency works with community-based partners to support whānau in areas including health, education, housing, employment, improved standards of living and cultural identity. See https://whanauora.nz/about-us

xvi Applying to benefits including Jobseeker Support, Youth and Young Parent Payment, Sole Parent Support and the Supported Living Payment.

xvii This estimate is based on an analysis of the COVID-19 Response and Recovery Fund funding decisions that was compiled and published by the Treasury on 14 June 2023. Examples of the inclusions for community responses include: Care in the Community welfare response, public health response in communities, sustainable housing options, and increased demand for family violence services. Examples of additional benefits to individuals and households include: temporary income relief for the COVID-19 job loss payment, COVID-19 leave payment schemes to employees needing to self-isolate, increases to benefits and Winter Energy Payment increases. The Wage Subsidy Scheme estimate includes all payments and administration costs.

6.4.1.2 Delivering social services and support during the pandemic

Coordinating and planning the response

For Government, setting up the range of social services and supports needed to get people through a pandemic, and then communicating the expectations and rules, was very challenging – especially as it had to be done rapidly. Much was achieved in a short period, largely by changing the way supports and services were managed within government and delivered on the ground by providers and community organisations.

The initial response (from March 2020) was patchy and focused on immediate priorities. Most government agencies relaxed the reporting requirements on existing social service and community contracts. The types of support most likely to be needed, and the groups likely to be impacted by the pandemic, were already known.[71] How agencies and the wider sector planned to deliver against these needs and the other demands of the COVID-19 response was less clear.

While there was little evidence of pandemic planning at a social sector level, some agencies, including the Ministry of Social Development, had specific plans for their agency. The Ministry told us that its early responses were guided by the existing New Zealand Influenza Pandemic Plan 2017 and recent regional incidents – the Whakaari/White Island eruption, the Northland drought, floods in Southland and the response to the Canterbury and Kaikōura earthquakes.

Oranga Tamariki had earlier rolled out a new digital platform (completed in February 2020) that enabled frontline staff to switch to remote working and reporting. While this was lucky timing, it was also an important preparation that enabled continuity of essential services (including social work support for children in care) during the pandemic.[72]

Shifting to a collaborative approach

After the first few months, the overall social sector response was characterised by high agility, flexibility and collaboration between government, iwi and community partners – accompanied by an injection of (mostly time-limited) funding. Throughout this period, some cracks were exposed in coordination and approach; for example, instances of different agencies contracting to the same provider for different pieces of pandemic support but taking different contracting approaches.

At the same time, it was realised the response would need to be sustained for an as-yet unknown length of time: months and perhaps even years. In response, the Ministry of Social Development, the lead agency in the sector, changed its operating model significantly to make it easier for people to access support. The change also allowed the Ministry to free up staff to work on new initiatives, including the Wage Subsidy Scheme. It was a 'rapid and near-total overhaul', one senior official told us, and necessary for two reasons: it would allow the Ministry to keep delivering 'business as usual' support under lockdown conditions, and also allow the rapid development and delivery of new supports.

The Ministry of Social Development relaxed many of its standard processes, thresholds, and stand-down times for income support; expanded access to some benefit types, including temporary food grants; and switched from in-person to remote and online service delivery. Along with other government agencies, the Ministry contracted non-governmental organisations to deliver additional social services and support, relaxed many of its compliance requirements, and notified providers that funding would not be held back against existing contracts due to the pandemic. We heard many of the changes made were both effective and appreciated by the clients in the system.

Agencies also adopted new commissioning models which gave greater emphasis to partnering with local providers, and relied on high-trust relationships between agencies and providers.[73] The agencies recognised there was simply no time to develop and negotiate traditional output-based contracts for the services and supports needed across the country – which, in normal times, would see agencies assess needs and specify the volume and type of services the provider would deliver in each period.[74] Under the commissioning model, after the relevant agency and service providers had jointly agreed on the desired outcomes, providers were largely left to determine what services would be provided and how, as circumstances evolved. Commissioning relies on high-trust relationships between agencies and providers.

> “During COVID, we worked with regional teams to ensure they had the right relationships to be able to work with the right people for a community response.”

We heard from many government and community organisations that there was great value in developing these relationships in advance – as a way of both improving commissioning and service delivery in the present, and setting the foundation needed to respond to a future crisis.

With relational commissioning, accountability shifted from documentation of compliance with specific outputs to less onerous accountability. This still provided assurance to Government but gave providers flexibility to adjust how to best fulfil the contract. Government agencies also made changes in governance and coordination, and these are discussed in section 6.4.1.3.

Local responses

COVID-19 social responses were not only directed from central government agencies – they also involved coordinated efforts by thousands of people around the country. Working together, individuals, whānau, hapū, iwi, NGOs, councils, faith communities, agencies and businesses – including many volunteers – ensured the health and wellbeing of their clients, their own people and communities.

> “On the ground, it was community-led responses and action that ensured people and whānau had what they needed to get through the rāhui and stop the spread of COVID-19.”[75]

There was some confusion at the start of the pandemic about what services were essential (see discussion in Chapter 3) and how multiple providers supporting the same communities should work together. But as time went on, the sector became more confident in how it could best support their communities. In some cases, that meant providers delivering services without contracts or funding, using their own resources, until the government systems caught up. One provider of money management services for people who cannot get bank accounts told us that, before COVID-19, they used paper-based systems. 'All of a sudden, we couldn't pay these people the money they live on each week because the bank closed, and these people didn't have bank accounts [to do internet banking]. We found workarounds – e.g. running to various cash machines with organisational credit cards getting out the maximum limit.'

Funding from charitable donations and philanthropy also contributed to the COVID-19 response. New Zealand Red Cross told us that support from donors and corporate partners contributed to their COVID-19 response such as the production of New Zealand Red Cross care parcels distributed to vulnerable families.

One factor that made local service providers so effective in the pandemic response was their well-established and trusted relationships with local communities and families – which, in turn, gave them a deep understanding of the issues facing individual households. While social sector agencies hold data at an aggregate level on the needs of citizens, this is not the same as the intelligence held by on-the-ground providers who know their community's needs first-hand. Many providers we met with told us how the shift to more flexible contracts with Government gave them the room they needed to identify and best support the needs presenting in their communities, using their local knowledge of their clients and communities to provide tailored support.

We also heard that whānau-centred service delivery and support through Whānau Ora formed a bedrock for Māori communities during the pandemic. The flexible arrangements government agencies put in place allowed Māori to deliver the support whānau needed, based on manaakitanga, trust and connections. We talked to many commentators from government and community organisations who specifically mentioned the excellent support that Māori communities and service providers delivered. They knew their communities well and were expert in programmes and support that were Māori-designed, developed and delivered.[76]

> "Iwi understanding of their communities informed the effective distribution of welfare support, including placement of Community Connectors within their regions."[77]

> "Tangata whenua were absolutely superb. Their inclusiveness, the way that they came around the community, distributing fish – so many different things that were so positive."

As we describe in Chapter 3, in relation to lockdowns specifically, iwi and Māori stepped up to lead and deliver many forms of essential social support during the pandemic response. In many rohe, marae became community service hubs.

Local Māori and non-Māori came to marae for food distribution, wifi, testing and vaccinations. In some rural and remote areas, iwi and Māori also helped people access generators and water. According to the Ministry of Health, 'iwi, hapū and marae became centres of excellence for responding to the pandemic'. It was a similar story in many other communities, where places like sports clubs, churches and health centres became de facto social service hubs. We also heard about the importance of schools as hubs, especially in rural areas, and the important leadership role school principals played in the wider community. Similarly, Pacific church leaders generally played a strong role in supporting their communities and advocating Pacific peoples' needs during the pandemic. Government agencies partnered with communities and local providers to deliver support.

The shift by government agencies to new commissioning models[xviii] was also critical in enabling effective local responses. The commissioning gave greater emphasis to partnering with local providers and strengthening provider networks in different regions. This was particularly important in rural areas where there are usually fewer providers. With the need to get funding and support out to communities fast, agencies recognised they needed to leverage local knowledge so that emerging needs could be identified, and then enable local providers to assess and deliver services matched to those needs. According to several agencies we spoke to, and the many providers and community organisations involved in the delivery, this was a much better way of responding to community needs during the pandemic. It had similarities with the Whānau Ora delivery model, which empowers Māori and Pacific providers to develop and deliver services tailored to the unique needs of their communities.

During our Inquiry, we heard many success stories where groups in the community came together to address local needs and shape the pandemic response on the ground. A compilation of case studies of community action during 2020 noted the best outcomes were achieved in communities where the strongest existing relationships were already in place.[78]

> "[T]he experiences of how community-based social service organisations adapted and responded during the COVID-19 lockdowns and alert levels showed the challenges of the current system and offered opportunities for change. Innovation occurred, ensuring communities and hapori were kept safe."

There were also opportunities to improve the social response. We heard of instances where multiple organisations were providing wrap-around services in the same community, leading to some duplication – particularly of food parcels. In a few cases, families used food parcels to barter for cash to cover other bills. We also heard of some challenges arising when agencies and local providers were working out new relationships and systems during the pandemic. Overall, the evidence we received suggested a high degree of integrity in the response, in terms of the assistance reaching the people who needed it. In fact, we heard many cases where providers used their own reserves to support their community, beyond the funding received from Government.

xviii New commissioning models included relational approaches based on high-trust and focused on outcomes, compared with standard contracting for services that can be very prescriptive in how services and inputs and outputs are expected to be delivered.

Overall, central government enabled successful locally-led responses by means of clear messaging and expectations, a strong sense of shared purpose, empowering people to work differently and adequate resourcing. Throughout our Inquiry, we regularly heard government and community stakeholders reflect positively on what the recalibrated approach to social service provision had achieved, and many thought continuing this approach beyond the pandemic response would be beneficial. We heard that the change from contracting to commissioning, and the different accountability mechanisms that were adopted during the pandemic, were well managed by agencies and supported efficient delivery against outcomes.

Flexible ways of delivering support were adopted

The delivery of food parcels to people stuck at home was one of the most visible forms of social support during the pandemic, especially when lockdowns were in force. Food parcels were often accompanied by hygiene packs containing hand sanitizers, medicines, masks and cleaning supplies. Delivery of such essentials meant COVID-19-positive families could stay at home in their bubbles, thereby reducing community transmission. These deliveries were particularly important to families living in poverty, people who had suddenly become unemployed, and to older or immuno-compromised people. They also gave many providers an opportunity to assess the wider situation – who was in the household, what were their needs and whether there were any issues needing action.

Other forms of social service delivery also played an important role in the pandemic response. Online delivery of some services – such as those for youth transitioning out of care, mothers dealing with high-needs children, women and children at risk of family violence, and people receiving support for mental health issues or addiction – became a new tool. However online services only worked when the people using them had devices and internet connections, so those things often had to be provided too. As well as online check-ins and meetings, many providers found innovative ways to support their clients, such as making short videos about key points or techniques they would normally share in face-to-face sessions.

But not all services could pivot to online support. For example, care for disabled and elderly people still had to be provided in-person, and workers depended on the availability and coordination of PPE to be safe. Often the community sector could not get access to PPE, restricting providers' ability to provide safe services to high needs clients (the procurement and distribution of PPE is covered in Chapter 5).

The pandemic also led to many health and social services becoming integrated. This saw social service providers coordinating community pop-up testing and mobile door-to-door testing, making pharmacy deliveries and organising local mask distribution. The integration of services was also visible at vaccination events, which sometimes involved non-medical staff who had been trained as vaccinators. The success of community hubs, including marae, is another example of the integration and coordination of the wider needs of the community.

Spotlight:
Food security during the pandemic | Te rawaka o te kai i te wā o te mate urutā

Pre-pandemic, accessing adequate food was not a concern for most New Zealanders; most people were accustomed to simply stopping at the supermarket and picking up what they needed, when they needed it. But the lockdowns and other pandemic restrictions brought the need for food security into focus.

As discussed in the first half of this chapter, only certain grocery retailers could operate in Alert Level 4. This put stress on households normally reliant on specialty butchers, grocers or markets to meet their needs. It also fuelled worries about food shortages. Retailers did a good job of managing any hoarding or panic buying. And while there were queues and some individuals faced challenges in getting their groceries, overall there were no food shortages. The food supply chains held.

But food security means more than simply maintaining commercial food supply. For some New Zealanders, even before the pandemic, access to adequate food was a daily concern. COVID-19 worsened their situation, as evidenced by increasing use of both foodbanks and hardship grants for food.

Over COVID-19, use of both foodbanks and hardship grants for food spiked. At its peak, the Salvation Army reported that calls to their foodbank increased ten-fold from 800 per week pre-COVID-19 to 8,000. A survey of foodbanks by Kore Hiakai Zero Hunger Collective indicated that they were distributing at least double the amount of food during this period.[79]

The increased demand for food parcels and food grants during the pandemic was largely due to loss of income, as well as more family members being home all day (especially children who would normally receive free breakfasts or lunches at school) and isolation requirements. Ensuring widespread food security in the face of these pressures was one of the success stories of the pandemic response.

It was achieved through the combined efforts of government agencies and community organisations and providers. First, the Ministry of Social Development provided some foodbanks with emergency funding so they could stay open. Later, Civil Defence and Emergency Management groups stepped up to support foodbanks and other community food services to meet the demand for food from the community.[80]

The next step was investing strategically in food security. In May 2020, Government allocated $32 million over three years to this goal, referred to as *Food Secure Communities*.[81] It included funding for national partners (NZ Food Network, Kore Hiakai Zero Hunger Collective and Aotearoa Food Rescue Alliance) to build the capacity and capability of the non-commercial food recovery and distribution network, and $23 million to help local community food banks meet the additional demand created by COVID-19.[82]

In 2021/22 Government support for *Food Secure Communities* increased. Another $150 million was allocated to community food providers over the next three years along with investment in community distribution infrastructure, which created significant efficiencies in procuring and distributing food.[83] Funding was made available to develop food security plans and pilot projects to increase vulnerable communities' access to affordable, nutritious and culturally appropriate kai. Budget 2023 included $24.8 million to continue the programme for two further years[84] and a further $6 million in June 2023 to meet increased demand in 2023/24.[85]

This was the first time that the Government had invested in a strategic approach to building food security, in collaboration with national partners. This initiative can help build and maintain preparedness and the critical food security infrastructure needed in future crises.

6.4.1.3 New ways of working within government

Government social sector agencies improved their governance and coordination

As it became apparent the pandemic was going to need a longer and more sustained response, many government agencies adapted their governance arrangements for the new environment. There were some changes in how government agencies worked together across traditional siloes and took on more of an oversight role across the whole social sector system.

For example, the 'Caring for Communities'[xix] workstream operated at a regional level. In 16 regions, it brought together the local Civil Defence Emergency Management groups with regional leaders from government agencies and local government to guide and support community planning and response activity. This activity was supported by a chief executive group, whose members were drawn from social sector government agencies and chaired by the Ministry of Social Development. The chief executive group helped ensure rapid and coordinated decision-making and allocation of resources from the centre. It used agencies' various networks of providers to get better collective service cover, and quickly resolved barriers and challenges identified.

Another move to improve coordination and collaboration among agencies was the strengthening of the Regional Public Service Leadership model. It had been agreed in June 2019;[86] initial appointments to these positions were made in late 2019 and the first half of 2020. The overall model seeks to strengthen coordination between central agencies and regional counterparts. Designated Regional Public Service Leads were active in the initial COVID-19 response. In July 2021, Government changed their titles to Regional Public Service Commissioners and expanded their scope and mandate.[87] The Commissioners were intended to be conduits for all government agencies into regions. They sought to bridge regional connections and play a part in identifying, resolving or referring on local and regional issues with iwi, Māori, local government, Pacific and other community leaders. While part of the 'Caring for Communities' regional groups, the Commissioners' mandate went beyond social support to include education, training and economic development. In November 2021, they were mandated 'with leading the regional alignment and coordination of the public service contribution' to the COVID-19 Protection Framework, including the welfare approach.[88]

As of 2024, the Regional Public Service Commissioner model is still maturing. As expected with a new initiative like this, we heard of some variability in the way it has been applied across regions. But we believe the model is a promising one that may, in future, support better coordination between local preparedness planning and welfare responses managed by central government agencies.

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xix Despite the similar names, Caring for Communities (C4C) and Care in the Community (CiC) were not the same. The first was a coordinating mechanism for central government agencies, set up in July 2020, with a chief executive group chaired by the Ministry of Social Development. Care in the Community (CiC) was an all-of-government welfare response established in November 2021 and led by Ministry of Social Development to support COVID-19 positive households and others directed to isolate during the Omicron outbreak.

The Care in the Community welfare response formalised the new approach

In the early phases of the pandemic, central government agencies and the network of groups delivering welfare services on the ground all had much to learn about how best to support the community. In November 2021, anticipating a pivot to 'living with the virus', some of the best practices to date were incorporated into the Care in the Community health and welfare response.[89]

It was a package of supports – including health monitoring, food and non-food essentials – for individuals and whānau who contracted COVID-19 and needed to isolate at home. A coordinated approach was used to assess and triage people's welfare needs, make referrals, and ensure they could access virtual consultations with pharmacists and other health professionals, medications such as antivirals, and other forms of health and welfare support.[90]

The initial funding of $204 million included resourcing for Community Connectors to support the welfare needs of individuals and whānau so they could isolate safely, including connecting them to services during and when moving out of self-isolation.[91] The Cabinet paper seeking funding noted that Care in the Community would deliver a 'regionally-enabled and locally-led welfare approach that can respond effectively to people in self-isolation'.[92]

While Care in the Community was primarily intended for those managing their illness and isolating at home, providers could take a flexible approach to what was provided and to whom. Some of the community needs they ended up addressing went beyond self-isolation support. In these cases, after addressing immediate priorities, the Community Connectors and providers focused on linking people to support that could strengthen their independence and protect them against the pandemic's long-term financial, education and wellbeing impacts.[93]

Care in the Community was implemented by Regional Leadership Groups, Regional Public Service Commissioners and Ministry of Social Development Regional Commissioners, working in partnership with community providers and leaders, iwi, Māori, Pacific peoples, ethnic communities, the disability sector, local councils and government agencies. The Ministry of Social Development set up a COVID-19 welfare helpline, national and regional triaging teams, and new IT supports to share information and referrals. It also undertook a real-time evaluation to generate rapid insights and lessons from Care in the Community.[94]

Based on the evidence we reviewed, we think Care in the Community is another initiative that offers a model that should be used in future pandemics, may have utility in other crises, and has lessons for service provision in non-emergency times.

Some challenges remain unresolved

As we have seen in the preceding sections, government agencies made rapid changes to internal operating models, the contracting and commissioning of services, and how they worked together and with providers and communities. All these moves made a positive impact, chiefly by letting local providers rapidly deliver tailored support and services to the communities they worked in. However, several issues were raised in our engagements that may warrant further consideration.

We heard from agencies, providers and local government that the response was complicated by a lack of clarity about social service roles and responsibilities within government agencies during a pandemic. The Civil Defence Emergency Management Plan provides for a welfare response that is separate from the local 'business as usual' social services provision. We were told that the Civil Defence approach may be appropriate in some disaster events. But a pandemic, which will usually require a longer response, needs a different approach – one that leverages existing relationships and knowledge.

Many groups told us that while some of the pandemic's impacts on individuals and groups – particularly those already identified as vulnerable – were predictable, the funding Government provided to mitigate them was inadequate. While agencies worked hard to disperse the funding that was available, they said vulnerable groups and communities were nonetheless disproportionately affected by the pandemic. For example:

- Ethnic communities were grateful for the funding they eventually received, even though it came very late. Many also expressed appreciation for the support given by the Ministry for Ethnic Communities.
- Advocates for women pointed to the considerable economic burden the pandemic placed on women, including being over-represented in sectors with greatest job loss, but the COVID-19 recovery package focused on male-dominated sectors like construction and trades.

Finally, many community groups and providers raised specific concerns about the vaccination rollout, such as the Ministry of Health not engaging with local groups early on, or the fact that some vaccine providers used government funding to provide cash vouchers as incentives to be vaccinated. These and other vaccination issues are covered in Chapter 7.

We heard from agencies, providers and local government that the response was complicated by a lack of clarity about social service roles and responsibilities within government agencies during a pandemic.

6.5.1 The pandemic and the response affected everyone, but some people and groups experienced negative impacts disproportionately – and these often deepened over time

The COVID-19 pandemic had far-reaching consequences for all aspects of our lives, and everyone was impacted in some way by the pandemic and the responses to it. Some impacts were immediately apparent and had clear causation; others emerged later and were the result of multiple pandemic response measures and their flow-on consequences.[95] As disadvantage typically accumulates and intersects in ways that may not be revealed in data, it is possible that the extent of the pandemic's impacts on some people has not yet been fully identified.

As we have already noted, people in at-risk groups and already disadvantaged at the start of the pandemic tended to be those most impacted and had less scope to adjust, particularly when they also had one or more exacerbating risk factors. These included low incomes or material hardship; insecure housing; mental health and addiction challenges; unemployment, underemployment or insecure employment; and experience of family violence or sexual violence. When people belonged to multiple 'at risk' groups, the impacts amassed, and those least able to absorb the shocks faced the most impacts. A few weeks into the global pandemic, the OECD highlighted what all this demanded of governments: 'Vulnerable and disadvantaged groups will be impacted more severely and therefore require particular attention in the policy response.'[96]

These views were echoed in many of our engagements with government and community organisations. For example, Te Pai Ora SSPA[xx] told us:

> "[There were] many inequities before but COVID has had a deepening effect on those. We're only beginning to understand those significant impacts and long tail – especially for tamariki and rangatahi."

The evidence we received makes it clear that, from the start of the pandemic response, government agencies and Cabinet were aware of the risks to many vulnerable groups. Thus, alongside 'across the board' measures aimed at helping everyone withstand the impacts of the pandemic, Government did seek to mitigate the pandemic's harmful effects on vulnerable groups through various targeted interventions (see section 6.4.1). For some groups, these mitigations meant they came through the pandemic better than would otherwise be the case. Other groups did not receive many targeted interventions, but generally came out of the pandemic alright. But there were some groups that experienced negative impacts that were disproportionate to others.[97]

xx Social Service Providers Te Pai Ora o Aotearoa.

We recognise that no government anywhere in the world can fully meet the needs of every group in society; whatever measures are taken, some will be inadvertently left out or disproportionately impacted, and there are limits and opportunity costs to the amount of social welfare supports that can be provided. Nevertheless, based on what we heard and saw, it is incumbent on us to identify some of the pandemic's disproportionate effects that surfaced during our Inquiry. We hope that doing so not only builds awareness of groups who were excluded from or poorly-served by the pandemic response, but also helps Government – or charitable and social support agencies in the community – to better tailor support to these groups in a future pandemic.

The following is a brief survey of the various categories of impacts we saw, and some of the groups affected. It is not intended as a comprehensive analysis of every vulnerable group, nor of all the impacts they experienced. Various agencies, independent organisations and researchers have undertaken such analyses, and their reports and reviews (detailed in the endnotes) should be consulted.

We recognise that no government anywhere in the world can fully meet the needs of every group in society.

6.5.1.1 Some vulnerable groups came through the pandemic better than expected, as a result of targeted mitigations

Older people

When the pandemic began, the group considered to be most at risk of becoming seriously ill or dying from COVID-19 was older people. For example, a University of Otago modelling study published in March 2020 estimated that nearly 89 percent of the deaths[xxi] that would occur under various scenarios would be people aged 60 years and over.[98]

In the event, more older people did die[xxii] (particularly those aged 80 years or more) than people in other age groups.[99] But by other health, economic and social measures, overall this group fared comparatively better than expected – and better than many other population groups.[100] Aotearoa New Zealand's overall low cases and deaths compared to other countries was a major gain for the most at risk, including older people.[101] Economically, the pandemic response contributed to growing housing prices, which tended to disadvantage younger people and benefit people owning houses.

Older people were considered explicitly in decision-making – for example, they were defined as 'a high-risk and prioritised population' in a March 2020 Cabinet paper establishing vaccination priorities[102] – and were given specific attention in COVID-19 communications. As a whole, older people generally fared relatively well financially thanks to superannuation providing income stability. We recognise, of course, that some older people suffered from loneliness and isolation, especially when it was not possible for whānau to visit or support them, and of course some members of this group would not have fared as well as others. We also heard from engagements with groups representing older people that many resented being cast as vulnerable and fragile, and also reacted negatively toward "ageist" attitudes towards the value of their lives.

People experiencing homelessness or insecure housing

People experiencing homelessness are among those most at risk in the face of disasters. During COVID-19, people sleeping rough and those in precarious housing were well supported in the short term. Housing and supports were provided to mitigate the transmission risk to the wider population. As a result of extra resourcing and more than 1,200 COVID-19 accommodation places available during the pandemic, people experiencing homelessness received better support during the pandemic then either before or after. See also Chapter 3.

xxi The authors estimated that between 8,560 and 14,400 (0.17 percent to 0.29 percent of the population) could die in the worst scenarios which assumed the failure of the eradication strategy, high disease reproduction numbers and lower levels of disease controls.

xxii By this, we mean those for whom COVID-19 was officially coded as the underlying cause of death.

Māori

Those Māori who entered the pandemic with existing economic, health and social inequities faced disproportionate impacts from COVID-19 that affected all aspects of their hauora.[103] Despite facing negative impacts, many also had strong positive protective factors. Coupled with targeted mitigation, in our view this meant that they came through the pandemic better than expected.

Māori experienced higher hospitalisation and death rates from COVID-19.[104] However, relative inequalities were less than had been anticipated (given the Māori health inequities entering the pandemic and experience in previous pandemics) due to the elimination strategy.

Entering the pandemic, Māori (alongside Pacific people) already experienced the highest rates of income poverty and material hardship across ethnic groups.[105] While loss of income affected all groups during the pandemic, the Treasury noted that 'periods of sharp and short increases in unemployment during the pandemic period seem to have affected Pacific peoples, Māori and Asian peoples more than other ethnicities'.[106] Higher unemployment,[107] alongside over-representation of Māori in the 'precarious' economy (which was not well covered by Government wage and other support policies: see section 5.3.3 and 5.3.4) points to Māori facing additional financial impacts on top of their pre-existing high poverty rates. In the view of Te Puni Kōkiri, even with mitigations in place, those Māori already in poverty experienced greater levels of material hardship and financial stress during the pandemic.[108]

Māori families are more likely to be larger and multi-generational, which complicated the concept of 'bubbles' and made strict compliance with lockdown difficult. Isolation from their wider whānau and hapū meant some people lacked their usual supports, while young people with lower access to digital devices and connectivity fell behind when learning online.[109] Māori were more likely to experience family violence (see section 5.5.4).[110] Māori also experienced cultural impacts as the need to adapt kawa and tikanga meant important practices like tangihanga (funeral ceremony) caused grief, harm and stress.[111]

But Māori also have unique cultural strengths,[112] and social and institutional infrastructure; for many, these functioned as protective factors in the pandemic. Māori culture is whānau-centric, and in Te Ao Māori, the principles of manaakitanga and whanaungatanga – the ethics of care and kinship responsibility – cement the identity of Māori as tangata whenua. Iwi, hapū and marae provided the social infrastructure that enabled many individuals and groups to respond to the crisis effectively and appropriately.[113] Iwi and Māori also benefited from targeted steps to mitigate the predicted impacts. Government invested more than $900 million in a range of initiatives including strengthening Whānau Ora, growing Māori job opportunities, supporting Māori learners, building the capability of Māori non-governmental organisations and tackling Māori housing challenges.[114]

6.5.1.2 For some vulnerable groups, pandemic mitigations were not well-targeted; these groups experienced variable impacts

Children and young people

Generally, the experiences of children and young people were not given the highest priority in the pandemic response. Cabinet was mindful of the likely impacts of extended lockdowns on children and young people's mental health and general wellbeing, which was already a significant issue before the pandemic.[115] The number of critical incidents reported by Youthline and other mental health support providers rose significantly during the pandemic: 4,371 Youthline helpline incident reports[xxiii] were generated in the 2020/21 year, up by 24 percent from the previous year (see also section 6.5.2).[116]

The full extent of COVID-19's effects on children and young people may not be understood for some time.

Young people held a significant proportion of the low-paying, casual jobs that were impacted in the pandemic, so they were more likely to face employment disruptions. In December 2021, Statistics New Zealand noted 'Youth have been strongly affected by the COVID-19 pandemic … Young people play a vital role in the labour force, but our data shows that they experience much higher unemployment rates than people aged 25–64 and the overall population.'[117]

We discuss how school closures and loss of learning affected children and young people in Chapter 3. While the disruption to education for New Zealand students was less than most other countries, it still had significant negative impact – particularly for Māori and Pacific students, those from lower socio-economic backgrounds, and likely for students in Auckland.

We heard that the rights and interests of children and young people were not adequately considered, and child impact assessments of the COVID-19 policy responses were not routinely undertaken. New Zealand is not the only country to be criticised on these grounds. For example, the Australian Inquiry pointed strongly to the unequal impacts of the pandemic (and pandemic policies) on children, and recommended measures such as a Chief Paediatrician who – along with the National Children's Commissioner – would be involved more actively in decision-making in a future pandemic.[118]

The full extent of COVID-19's effects on children and young people may not be understood for some time.[119]

xxiii Youthline says an incident report is created whenever a Helpline volunteer or staff member has a call, text, webchat or email conversation with a client who is presenting with one or more of the following: (1) any care and protection risk (including physical abuse and sexual abuse), (2) medium to high suicide risk, (3) medium to high self-harm risk.

Rainbow communities

We saw evidence that people in the Rainbow/LGBTQIA+ communities experienced some specific impacts during the pandemic, consistent with the bias, stigmatisation and discrimination they face throughout their lives. Research into the pandemic experiences of Rainbow young people, undertaken for the Ministry of Youth Development in October 2020, found that a third of those who chose to respond to the researchers' survey were 'not managing well or not at all'.[120] The report found that the pandemic had 'amplified their existing mental stress'.[121]

The negative impacts of COVID-19 were not experienced equally across the Rainbow/LGBTQIA+ community, with certain sub-groups within it – young people, disabled people, ethnic minorities, trans people and takatāpui (Māori who identify as LGBTQIA+) – being more likely to be negatively impacted by the COVID-19 pandemic than the overall group. Representatives of Rainbow organisations we heard from identified these sub-groups as those experiencing greater mental health issues.

Ethnic minority communities

Ethnic communities are a large and diverse population group. At the time of the 2018 census, they comprised 941,571 people from an estimated 213 ethnic groups, speaking 170 languages.[122] Collectively, ethnic communities make up almost 20 percent of the population.[123]

They reported experiencing numerous challenges during the pandemic, particularly in getting reliable, accurate information through appropriate mediums and in a range of languages – we heard from stakeholders that new migrants and those with low levels of English were the most likely to be negatively affected by the pandemic. According to a survey[124] undertaken by the Ministry for Ethnic Communities during the pandemic, improving access to services and information was the most commonly reported step that Government could take to improve support for ethnic communities in a pandemic.

6.5.1.3 Despite policies and programmes to mitigate the pandemic's unequal impacts, some vulnerable groups were still disproportionately affected

Pacific people

Pacific people were always likely to be one of the groups worst-affected by the pandemic. The impacts they experienced – social, economic, mental and physical – became notably disproportionate in mid- to late-2021 with the Delta outbreak in Auckland and slower vaccine rollout for Pacific people.[125]

They were over-represented in low-income occupations, many of which were classified as essential: working in supermarkets, food supply chains, and health, disability and aged care. Pacific families were more likely to live in multigenerational and sometimes crowded homes,[126] putting them at greater transmission risk and meaning some health measures (distancing, staying in small bubbles, or isolating away from others at home) were impractical. Pacific families were more likely than the general population to struggle to pay for basic household costs during the pandemic,[127] which led to some young Pacific people leaving school to help support their families.[128] Pacific households had the lowest level of home internet access compared with other New Zealand ethnicities,[129] and this had many consequences – including for online and remote learning (see Chapter 3).

All these factors – and others, including existing health inequities, systemic bias and inadequate targeted support – put many Pacific families under great stress, especially in Auckland.[130] Pacific people were perhaps the most overlooked in terms of cumulative impacts.

In our engagements, we also heard that it was difficult for Pacific peoples (especially those with English as a second language) to access clear and accurate information about COVID-19 and what was expected from them, in their own language or in a format they could easily access. Additionally, spirituality is at the heart of Pacific culture; we heard from many engagements that the important roles churches play in their communities were not well understood or valued.

Women

Women, on average, experienced more economic, health and social impacts during the pandemic. Pre-existing disadvantages were exacerbated by the effect of some COVID-19 response measures.[131]

More women than men lost their jobs, left the workforce, or lost hours and pay and thus experienced greater employment and economic impacts, largely because they were more likely to work in impacted sectors such as tourism and hospitality.[132] Despite this, the wage subsidy was more likely to be used to support jobs held by men,[133] which points to a mismatch between what was occurring and the response.

Women also bore greater pressure to support and care for families.[134] The pandemic placed women under considerable stress – for example, those who were working from home while caring for young children and/or sick or elderly family members.[135] During lockdown in 2020, women were more likely to report a significant increase in caring demands.[136] Mothers parenting alone and balancing childcare and work (or the loss of employment) faced multiple challenges.

Many critical women's health services were disrupted, such as breast and cervical screening, and maternity services, including maternal mental health.[137] Being pregnant and/or giving birth during the pandemic was very challenging for some, especially under lockdown conditions (see spotlight in Chapter 3). Plunket saw a 125 percent increase in maternal mental health-related calls between 2019/20 and 2020/21.[138]

Many women experienced a heightened risk of family violence and/or sexual violence[139] – although the story is nuanced and emerging (see spotlight in section 6.5.4).

And even though some women entered the pandemic with existing inequalities and were a group identified as likely to face increased vulnerabilities,[140] the Inquiry has found limited consideration of gender in targeted mitigation or recovery efforts. This was supported across many of our engagements, including from the National Council of Women of New Zealand:

> "Women are at the core of families and communities. When we call on community resilience, we are calling on women's resilience. For future pandemics, calling on communities requires women to be supported – both in the lead-up, and while they are carrying that heavy load."

Disabled people

Disabled people face many challenges in their day to day lives, with existing inequities across health, economic and social outcomes. The variety of disabilities mean the pandemic produced wide-ranging experiences for disabled people, and for many it exposed and exacerbated existing disadvantage.

The nature of some disabilities meant disabled people with particular medical conditions were more likely to be immuno-compromised and thus were at greater risk from the virus. This contributed to four times the risk of hospitalisation and 13 times the risk COVID-19-attributed mortality for people with disabilities, compared with the rest of the population during 2022.[141] Some disabled people could not wear masks, and this put them at greater risk of contracting the virus, and also subjected them to discrimination and abuse from members of the public who didn't understand the mask exemptions.

Many disabled people rely on ongoing access to regular care and services, and these were disrupted during the pandemic. For example, with staffing shortages, some had their care services cancelled or rationed, leaving them without needed essential care in their homes. A survey of primary care patients found that, from August 2020 to May 2022, 24 percent of disabled people could not always get care from a GP or nurse when they wanted it (compared with 17 percent of non-disabled people). While the results are not directly comparable due to changes in the survey question, this difference was broadly of the same magnitude[xxiv] as before the pandemic.[142]

The impacts people experienced varied according to the nature of their disability. Wearing masks made it difficult for the deaf and hard of hearing communities to lip-read, while the blind and sight-impaired said suitable COVID-19 communications were not produced rapidly enough. We also heard of instances where facilities for testing and vaccination were not physically accessible, nor were the needs for neurodiverse people well-considered in those places. Parents of disabled children faced challenges with school closures, causing disruptions to routines and the loss of extra supports that were available only at school. Disabled people were already among those most lonely and socially isolated pre-pandemic, and the COVID-19 restrictions left some further isolated or marginalised, negatively impacting their mental health and overall wellbeing.[143]

xxiv In the August and November 2019 quarters, 20 percent of disabled people could not always get care when they wanted it, compared with 15 percent of non-disabled people.

Disabled people were identified early on as a group at greater risk.[144] Government took some steps to mitigate risks through tagged funding, but the consensus from our engagements with officials and stakeholders was that these steps were inadequate. Disabled stakeholders told us that in their view, isolating cases and contact tracing was not an adequate way of protecting disabled people from the virus; they felt that the Government should have done more to prevent their exposure. Those in leadership and advocacy roles for disabled people found engaging with and advising government frustrating and ineffective.[145]

> “We consulted and advised 18 government departments during the pandemic – which was a complete waste of our time.”

> “Things went nowhere because there was no expertise in government to be able to take the information and do something with it.”

6.5.1.4 Some vulnerable groups were overlooked in the response

We have already referred to groups who effectively fell through the cracks in the pandemic response (sections 3.3 and 3.4). They included foreign workers and international students on temporary visas and Recognised Seasonal Employer scheme workers from the Pacific. Many lost their jobs but were unable to return to their home countries. They were ineligible for health, social and financial support while in Aotearoa New Zealand, although some eventually received assistance.[146]

People who were precariously employed or operating in the grey or gig economies also remained below the radar, often unknown to social service providers. Prisoners were another category of people who were heavily impacted by the pandemic but remained largely invisible. At high risk of the virus due to their physical environments (large populations living in close proximity with little ability for meaningful distancing, poor ventilation, and high rates of existing health vulnerabilities and co-morbidities), prisoners were subject to particularly stringent infection control measures for the duration of the pandemic. Their situation is described in the accompanying spotlight.[147]

Spotlight:
Prison life in the pandemic[xxv] |
Te noho i te whare herehere i te wā o te mate urutā

By some measures, the prison system's response to COVID-19 was highly successful. Aotearoa New Zealand prisons were free of the virus until 29 September 2021. There were few hospitalisations and no deaths reported due to COVID-19.[148] This contrasted sharply with prisons overseas, which recorded very high levels of illness and death, especially early in the pandemic, and became extremely effective 'superspreading' environments. In the United States, for example, the age-adjusted risk of dying in prison due to COVID-19 (as of 2023) was six times higher than in the general population.[149] New Zealand was also one of a minority of countries to prioritise vaccination for prisoners.[150]

Having witnessed the toll that COVID-19 was taking in prisons elsewhere in the world, the Department of Corrections was determined the situation would not be repeated here. Consequently, New Zealand prisons implemented infection control measures that separated, isolated or quarantined prisoners. Normal services, programmes and activities were suspended and contact with the outside world was minimised. Many prisoners had no visitors for extended periods and limited time out of cells.

While effective, these infection control measures exacted a very high cost on prisoners and their whānau. When the Office of the Inspectorate[xxvi] investigated the use of separation and isolation between 1 October 2020 and 30 September 2021, it concluded:

> "[The suspension of visits] heightened the isolation experienced by all prisoners, and also impacted on families in the community. All non-essential services, across the prison network, ceased from August 2021. This had a profound impact on prisoners, who were unable to complete rehabilitation and reintegration programmes. The focus across the prison network shifted to maintaining minimum entitlements."[151]

In fact, the Inspectorate found, 'Due to the length of the pandemic, there were some prisoners who did not receive their minimum entitlements[xxvii] for prolonged periods of time'.[152]

It was clear from our meetings with prison staff and the Department of Corrections that many working within the system did their utmost to keep prisoners safe and prisons COVID-free. They also recognised that some prisoners' high health needs[xxviii] made them especially vulnerable to COVID-19.[153] As a result, Corrections said, 'we always went the extra mile in taking a cautious approach'.

While that stringency undoubtedly kept incarcerated people safe, it also became embedded and hard to roll back. Some prison managers – who had considerable operational autonomy during the pandemic, within 'guide rails' set by Corrections – took a cautious approach to relaxing infection controls even once the national strategy moved on from elimination. As the pandemic progressed, Corrections began experiencing an acute and unexpected shortage of custodial staff,

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xxv We note that the experiences of young people in Oranga Tamariki youth justice residences were very different (and more positive) than those of the adults in the prison described here.

xxvi The Inspectorate operates under the Corrections Act 2004 and the Corrections Regulations 2005. It is part of the Department of Corrections but operationally independent to ensure objectivity and integrity. Its staff inspect and investigate many aspects of the prison system, including prisoner complaints.

xxvii Under Section 69 of the Corrections Act 2004, prisoners must receive certain minimum entitlements, which include at least one hour of physical exercise a day, and the ability to have at least one private visitor each week.

xxviii They are much more likely than the general population to have mental health and substance disorders, for example, and many other co-morbidities.

reaching the lowest point in January 2022. This placed greater pressure on remaining staff and affected Corrections' ongoing capacity to return to pre-COVID-19 settings. Corrections leaders acknowledged that rolling back the restrictive regime was challenging after 'running quick and hard to introduce controls that rightly kept people safe'.

We were surprised that the option of releasing some prisoners early was not meaningfully explored as a way to reduce COVID-19 risk in prisons. This strategy was consistent with international best practice and adopted by more than 100 countries.[154] Corrections considered some initial options in April 2020, but determined it was not necessary in the Aotearoa New Zealand context. Any early release option would involve challenging trade-offs with public safety and require significant legislative change. Corrections told us it might be a tool the Justice Sector could consider for the future. We agree.

Chief Ombudsman Peter Boshier[xxix] criticised the prolonged use of restrictive measures. Speaking to us in December 2023, he was concerned that many prisoners were still locked down for 23 hours a day. The 'convenience' of keeping prisoners locked down during the pandemic had created a culture among prison staff which persisted, even though there were now better ways to protect prisoners from COVID-19. His comments were echoed when we visited Spring Hill and Auckland Region Women's Prison in early 2024 to hear from prisoners themselves.

> "Didn't see [my kids] for two years. Talking on the phone is not the same as hugging them."

> "There used to be a way to work [in prison] and save up money ... [now] people are getting out with nothing. That impacts society."

> "We got phone cards as the solution to no visits. But this was 80 men to two phones, with only an hour out of our cells."

> "I was grateful for the lockdowns, they saved lives. It's just how they handled the lockdowns [in prisons]."

> "In some units, one person got COVID, so they'd lock everyone down because of bad ventilation."

> "There's a shit ton of repressed anger. People are processing it but it's coming out the cracks."

xxix The Department of Corrections initially discouraged the Chief Ombudsman and his staff from making prison inspections, despite the Ombudsman's statutory role to provide independent oversight. This issue was resolved by late April 2020 once the inspection team received essential worker status.

6.5.2 Mental wellbeing impacts affected all ages, with young people especially hard-hit

The pandemic has had an impact on the mental health of New Zealanders, but this has been unevenly felt across the population, with the most vulnerable bearing the worst impacts.[155]

Like other severe crises, pandemics can have major psychological and wellbeing impacts.[156] For Aotearoa New Zealand, COVID-19 was one of the biggest challenges to our collective mental wellbeing seen in many generations.[157] Most people experienced some level of distress, and for many this was tolerable and short-lived. For others the stress developed into something more serious, often worsening an existing mental health condition. This is of particular concern given New Zealand's already high prevalence of mental health and addiction issues.[158]

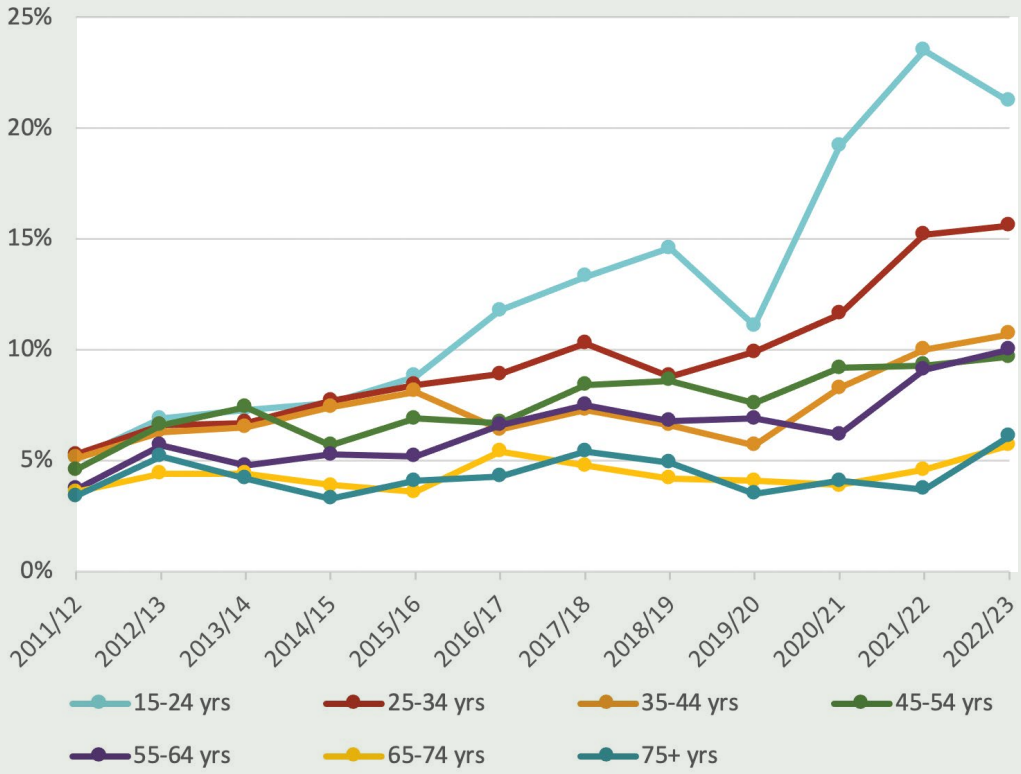
Pandemics can affect mental health in many ways. People may feel anxiety and fear about contracting the virus itself, or about the ever-present uncertainty the pandemic creates.[159] But as we saw in Aotearoa New Zealand (initially at least), a strong sense of unity and a collective focus on protecting each other and saving lives can also run alongside concern, anxiety and fear.

International literature on disasters often describes these periods of unity and collective determination as heroic and honeymoon phases that give way to disillusionment when people start to realise how long recovery is going to take, and what it might take to get there.[160] Some feel overwhelmed by the situation, by the unrelenting stress and fatigue, and by feelings of anger, depression, isolation, loneliness, frustration and grief. Hostility may increase, and financial pressures and relationship problems set in. The fourth stage is reconstruction, or recovery, a gradual return to life. International literature suggests psychosocial recovery can take up to ten years.[161]

Population-level mental health is monitored as part of the New Zealand Health Survey, using the Kessler scale of psychological distress.[162] As the following graph shows, rates of distress among most age groups fell between 2018/19 and 2019/20. In fact, some seemed to plateau in that first year of the pandemic, before growing (by varying degrees) over the next three years. However, the picture was different for younger age groups (15–24 and 25–34 years). Having experienced consistently higher rates of distress since 2015/16, their distress then increased more sharply than any other age group after 2020. Nearly one in four young people (aged 15–24 years) experienced high or very high levels of psychological distress in 2021/22.[163]

Age is not the only factor influencing mental health indicators – living in poverty was also a factor behind these results. From the same survey, we found that people living in the most deprived neighbourhoods were 2.4 times more likely to have experienced psychological distress than those in the least deprived neighbourhoods.[164] All ethnic groups experienced increased rates of psychological distress leading up to and through the pandemic.

Figure 5: Proportion of age group population experiencing high or very high psychological distress in the past four weeks, 2011/12 – 2022/23



Note: adult respondents (aged 15+ years) are categorised as experiencing high or very high psychological distress if they have a score of 12 or more on the Kessler Psychological Distress Scale (K10).

Source: Based on data from Ministry of Health (New Zealand Health Survey), 2024, Annual Data Explorer 2022/23: New Zealand Health Survey [Data File] – [topic – Mental Health], https://minhealthnz.shinyapps.io/nz-health-survey-2022-23-annual-data-explorer/_w_6458d6d4/#!/explore-indicators

Evidence gathered during our Inquiry was consistent with this monitoring data. It too pointed to an increase in mental health issues, especially for young people, and was consistent with some causal effect of the pandemic and pandemic response, in addition to trends before COVID-19 (although the exact partitioning is difficult to know). We also heard about mental health impacts on children below 15 years, a group not monitored by the survey data.

We know that youth mental health issues were increasingly significant before the pandemic, and appear to have become more widespread and acute, especially anxiety, depression, loneliness and fear.[165] There are likely to be many reasons. Children and young people experience the world, and the passage of time, differently from adults – meaning the pandemic probably seemed endless to many, compounded by ongoing uncertainty about when it might end and life would return to normal. Many missed key milestones or significant childhood events during what was a confusing, distressing and unusual time. We saw evidence that while there were positives for some young people – having more free time, family time and opportunities for new activities – they faced disruptions to their education, isolation from their peers and social groups, and greater susceptibility to family violence.[166] Young people with jobs were also more likely to face employment disruptions,[167] contributing further to their stress. Surveys carried out during the Level 4 lockdowns in April 2020 found young people with a previous diagnosis of mental illness fared worse than their peers.[168] We heard that some children in care faced the unique anxiety that their foster family would not want to keep them in their 'bubble' during the pandemic.

These trends were reflected in the demand placed on youth mental health services. Calls to Youthline between 2019 and 2022 showed a 52 percent increase in critical incidents (when a young person presents with serious risk of self-harm or suicide).[169] Calls to the mental health lines of telehealth provider Whakarongorau increased across all age groups during the pandemic, but the largest increase was in calls from young people. While calls later dropped to historic levels for 20–24-year-olds, by late 2023 they still remained high for young people aged 13–19. Since December 2021, Whakarongorau also recorded an increase in calls involving risks of suicide, abuse, harm to others and self-harm, which peaked in August 2023.

Despite this evidence of high demand from young people, the Mental Health and Wellbeing Commission reported that they had the longest wait times of any age group for acute mental health services under the previous district health board system in 2021/22.[170] This suggests they are not being prioritised.

The Inquiry heard that the mental health effects of the pandemic are likely to have a long tail. This view was supported by evidence[xxx] showing significant and maybe even intergenerational consequences for the cohort of young people experiencing high rates of mental distress during and since the pandemic.[171]

xxx For example, data from the New Zealand Health Survey 2022/23 showed that one in five (21.2 percent) young people aged 15–24 years experienced high or very high levels of psychological distress in 2022/23, up from 5.1 percent in 2011/12. See endnote 171 for details.

6.5.3 Locally-led responses were invaluable in addressing the social impacts of the pandemic

Marae, schools, churches, NGOs and other community networks and hubs are crucial points for community connection, leadership, practical support and resilience building. Their value to society as a whole often goes unnoticed, but the COVID-19 pandemic put the spotlight on their good work, if only for a short time.

Through our discussions with stakeholders across the social sector, and other evidence, we have learned a lot about why so many locally-led responses were effective during the pandemic. For one thing, people tended to have higher degrees of trust in the communities and groups that they were part of, or that were immediately accessible to them. Second, we saw that these local responders had well-established strengths they could draw on quickly, including strong leadership, trusted relationships and diverse connections.

...people tended to have higher degrees of trust in the communities and groups that they were part of, or that were immediately accessible to them.

In our engagements, several stakeholders emphasised that those who were trusted were best placed to make and influence decisions on how to support the needs in the community. As one told us:

> “People trust people – and those people now need to influence processes.”

These factors and others made local groups and networks powerful assets in the response to COVID-19.[172] In our view, they must be cultivated and strengthened as part of Aotearoa New Zealand’s preparations for another pandemic. As the Ministry of Social Development noted after a 2022 evaluation of Care in the Community: ‘A locally led, regionally enabled, and nationally supported approach is emerging as a valuable framework for supporting community wellbeing and recovery.’[173] Social service providers too emphasised that this was one of the central lessons of the pandemic:

> “The learning is that community is the place where people get their responses. Whatever that community is you really need to resource and empower it and give it its head.”

6.5.4 Responding to the pandemic has had lasting consequences for some providers and community organisations

COVID-19 created huge social and wellbeing pressures for households and communities, compounding the financial pressures described earlier in this chapter. Right from the start of the pandemic, providers reported increasing demand for social supports and services, and an upsurge in new clients – including many who had not sought charitable support before. The extent and breadth of the pandemic's social impacts was also apparent in the sharp rise in demand for Government support during 2020/21.[174] This was largely associated with the COVID-specific programmes of assistance introduced by the Ministry of Social Development; demand for benefits increased too, but more slowly than expected. Again, a significant proportion of that demand was from people who had never before found it necessary to seek assistance from the benefit system.

The burden of the pandemic's social and wellbeing impacts was not shared equally across all New Zealanders. Similarly, the impacts experienced by providers and community organisations varied. Many lacked the necessary tools and resources to operate in the restricted and uncertain COVID-19 environment. According to the representatives of one provider we met with, these are just some of the lessons the social sector must learn from the COVID-19 response before the next pandemic; by taking them on board, the sector will be better-prepared to meet the needs of communities and those who work alongside them next time.

Initially, many struggled to get their status as essential services approved or clarified, and to work through what the lockdown and other restrictions would mean for them. Other providers that might have been able to operate online lacked the digital infrastructure or staff capability to do so. And for some, the nature of their services – and the fact that clients were unable or unwilling to interact with them online – made it simply impossible to make the switch. For example, see the Spotlight on family and sexual violence.

Many providers and community groups lacked the necessary tools and resources to operate in the restricted and uncertain COVID-19 environment.

During the pandemic, the pressure on small organisations with limited cash flow was immense. In addition, nearly all organisations relying on volunteers noted the strain they faced during and since the pandemic. In particular, they 'lost' older volunteers – who represented a large proportion of volunteers in many organisations – because they were told to stay home to be safe, while many others had additional family care responsibilities. As a result of the pandemic, it is clear that the delivery network of NGOs and community organisations has little surge capacity left. Providers described three years of 'endurance working'. The health and wellbeing – and retention – of frontline staff has become a growing issue since the pandemic, as increased workloads are not sustainable. Staff and volunteer burnout were common themes raised by the NGO sector. This does not bode well for the future. We consider there is a risk that the very same network that was so critical to the delivery of the COVID-19 response may not have adequate capacity or capability to respond to another crisis, without some investment. This view was shared by many organisations we heard from, including the New Zealand Red Cross:

> "Not for profit (NFP) organisations and the NFP sector are core elements of a whole of system response effort. It is important that any Government response recognises the contribution of the sector and makes it as easy as possible for NFPs to dock into and support government agency responses. The Government needs a strong NFP sector to do what the Government cannot do during these times."

Staff and volunteer burnout were common themes raised by the NGO sector.

Spotlight:
What happened to family violence and sexual violence? | I ahatia te whakarekereke whānau me te koeretanga kino?

Aotearoa New Zealand has long had unacceptably high rates of family violence and sexual violence, especially taking into account that these types of violence are often under-reported.[xxxi] In the immediate pre-pandemic period, Government took some major steps to address family violence and sexual violence by establishing a joint venture (now known as Te Puna Aonui) to deliver an integrated, whole-of-government response. However, family and sexual violence remained a significant challenge as the country moved into COVID-19.[175]

National emergencies and crisis situations can trigger an increase in family violence and sexual violence, and this had already happened before the COVID-19 pandemic – for example, during the aftermath of the Canterbury earthquakes.[176] Specialist community organisations and providers, government agencies, and some media outlets were therefore keenly aware of the increased risk of family violence and sexual violence as the country entered Alert Level 4 lockdown in March 2020.[177]

The rules at Alert Level 4 reflected Cabinet's intention to reduce this risk where possible. Leaving an unsafe home environment to stay somewhere else was deemed essential travel, and many specialist support organisations continued operating as essential services. Communications from government agencies and NGOs reflected this, encouraging people not to remain in unsafe 'bubbles':

> "Sometimes it is unsafe for you to reach out for help while you are in the same space as the person who is hurting you. If you can't communicate safely through phone, text, email, or social media, maybe your friends, whānau, or neighbours could help." [178]

However, not everyone who needed to hear this message did. Moreover, lockdown conditions made it especially difficult for people at risk to access help without alerting the perpetrator. Safe places where violence is often reported – like schools, GPs and WellChild clinics – were either not operating or much harder to access.

> "We got quite a few calls re: domestic violence. Often it was situations like, she'd always been in a violent relationship, but when he went out to work it was okay. Now they were [locked down] together it was worse. She said, [to me] 'we're not supposed to leave the house', but I said 'break your bubble next time'."

We heard from stakeholders that, during lockdowns, some people disclosed violence to the only people they could: essential workers like supermarket staff and emergency workers. These workforces were not trained to receive such disclosures and there is no data available to indicate how often such disclosures were made or what happened as a result.

It is hard to know exactly what impact the pandemic had on the frequency of family violence and sexual violence. Some agencies were braced for a large rise in formal reports of violence early in the pandemic, but this did not occur.

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xxxi Family violence is a pattern of behaviour that coerces, controls or harms another, within the context of a close personal relationship, and often involves fear, intimidation, and loss of freedoms. Sexual violence involves a person exerting power and control over another person without their informed consent, or where they are unable to provide consent (e.g., children, vulnerable adults). In Aotearoa New Zealand, on average, Police attend a family violence callout every three minutes. One in 3 women and 1 in 8 men will experience sexual assault in their lifetime, with even higher rates for the takatāpui and LGBTQIA+ community. These definitions and statistics are taken from Te Puna Aonui, see: Definitions and Prevalence Data | Te Puna Aonui

Still, as Police noted in an internal report at the time, a lack of formal reporting does not necessarily indicate a lack of harm.

Many authoritative sources have reached the conclusion that an increase in family violence and sexual violence harm did occur during the pandemic. They note that, because of the nature of this type of offending and the sensitivities involved in disclosure and prosecution, incident data should never be treated as a prerequisite for action on family violence and sexual violence. Based on the evidence we have heard and reviewed, we agree.

Reporting rates aside, there are indicators that the nature and severity of family violence and sexual violence worsened during the pandemic. We heard from specialist providers that in some cases, the pandemic conditions resulted in new or opportunistic forms of violence, such as:

- Perpetrators weaponising lockdown rules to exert greater control over victims' movements.
- Increasing reports of financial abuse and intensive digital surveillance as perpetrators were more easily able to track victims' activities in lockdown.
- Denial of vaccination emerging as a new form of coercive control (which also served to restrict freedom of movement for victims at times when vaccination was a prerequisite for entry to certain spaces).
- Distressing reports of international students being coerced by flatmates or landlords into providing sexual favours in return for housing. This underscored a gap in protection for international students who remained in Aotearoa New Zealand during the pandemic.

It is also likely that some family and sexual violence harm during the pandemic was prevented by the swift actions of officials, decision-makers, specialist providers and community organisations and community members and community members. We heard the safety of children was front of mind for many service providers and community workers during the pandemic.

During the pandemic, a working group on family violence and sexual violence was quickly established and resourced to improve collaboration and response between government agencies and service providers, along with a Tangata Whenua Rōpū specifically for Māori organisations to advance Māori-led solutions.

Emergency funding was provided by both government[179] and the private sector, and providers were able to use this flexibly and creatively. For the most part, government agencies created a supportive, high-trust environment for community organisations and specialist services to respond effectively to the emerging risks of family violence and sexual violence during the pandemic. This was appreciated by the stakeholders in the sector that we spoke to.

6.6 The social and economic 'long tail' | Te 'whiore roa' pāpori me te ōhanga

COVID-19 highlighted community resilience and the power of communities to respond and support their members. However, COVID-19 also exposed emergent weaknesses and vulnerabilities that had been forming in our social and economic fabric for decades – including in our governance systems, institutions, and physical and digital infrastructures. The pandemic thereby created an unintended opportunity to address some of the deficiencies it had surfaced.

When strict public health measures were imposed at the start of the pandemic, the promptness and generosity of Aotearoa New Zealand's economic policy response cushioned the population at large (including many, but not all, businesses) from the immediate negative economic and social impacts. This approach seemed appropriate, given the high levels of uncertainty at this time. Nevertheless, it has left a long shadow on the economy and society[180] – a phenomenon that is certainly not peculiar to Aotearoa New Zealand nor attributable solely to our domestic policy responses.[181]

As both the International Monetary Fund and the OECD confirm, the following factors collectively contributed to high inflationary pressures (including on house prices) and will be the cause of a protracted period of low economic growth:[182]

- Aggressive/generous monetary and fiscal policy responses.
- The extended duration of these generous policy stances.
- The comparably long duration of restrictions on domestic and international movements that have exacerbated supply-side constraints.
- The subsequent decision to tighten macroeconomic policy settings, with some urgency.

As a result of these factors and others, Aotearoa New Zealand's economy has experienced many enduring post-pandemic effects – on output and productivity, employment and migration, cost of living/inflation, the housing market, government debt and delays in much-needed infrastructure investments. The structure of international trade has changed, particularly through the loss of tourism and education income. So too has the overall structure of the economy, with one-off (and sometimes lasting) systemic shifts, regional effects, and sector-specific effects.[183] There is growing international evidence that initiatives such as the Wage Subsidy Scheme – which focused on employment retention and job attachment – have led to a relative loss of productivity through their adverse effects on labour market dynamics (namely, the movement of people between jobs).[184] However, we have no direct evidence of this for Aotearoa New Zealand. For some, the rapid adoption of new digital communications technologies has enabled remote working on an unprecedented scale. This is leading to changing patterns in the structure of the workforce and employee expectations, and flow-on changes in spatial demands in areas where office workers have traditionally been concentrated.[185] At the same time, there is ongoing debate about the productivity benefits of continuing working from home arrangements, compared with requiring employees to return to offices.[186]

Meanwhile, in his analysis of the medium-term effects of this country's monetary and fiscal policy responses to the pandemic, commentator Bernard Hickey[187] drew attention to 'the massive wealth transfers' that had occurred at the housing market peak in September 2021:

> “ Official figures show the stark explosion in inequality since the onset of covid as the Government's interventions to print $58b and give $20b in cash to business owners helped make owners of homes and businesses $952b richer since December 2019. Meanwhile, renters have missed out on that asset growth and have been hammered with real wage deflation and rents rising faster than incomes. The poorest are now $400m more in debt and need twice as many food parcels as before Covid.”

We note that by 2024, some of the asset price inflation referred to had reversed.

Related to the long-tail economic and equity effects of the pandemic, we should also be concerned about the potential weakening of Aotearoa New Zealand's social service delivery system – particularly the NGOs and community organisations providing front-line services on behalf of government. As a result of their efforts during the pandemic and with other sector changes, many are in precarious positions due to financial and workforce (including volunteer) issues which now challenge their sustainability. Our concern is with the fragility of the overall network of providers, and what that might mean for our readiness to respond to a future pandemic.

The analysis quoted above and evidence provided in this chapter highlights the intersection between the economic after-effects of COVID-19 and its social impacts. For many individuals, families, households and communities, the pandemic is not over. They continue to struggle with its consequences – long COVID, loss of learning, mental health issues and more.[188] Those with delayed diagnosis or postponed treatment during the pandemic may now be facing shorter lives, or reduced quality of life (for example, young children who missed Well Child Tamariki Ora health checks are being identified in the B4 School Check as having health issues that should have been screened and treated earlier). We have heard of families separated for years due to the border closures, leading to relationship breakdowns that will impact family members throughout their lifetimes. People who suffered job losses and business bankruptcy could take years to recover.

Some of the pandemic's impacts are only now becoming apparent. There may be others that we are not aware of which will be long-term and intergenerational, with potentially profound consequences for Aotearoa New Zealand and for future human capability more broadly.[189] While the measures taken clearly protected many people, others are likely to suffer from the long-term impacts of the pandemic. For example, the impact on young people on their physical, emotional and mental health from disruption to their development or education during the pandemic will take years to fully understand.

> “ A lot of the impacts for vulnerable whānau would likely be experienced for the decade afterwards [...] It's our job now to avoid this being intergenerational. Our response to COVID is not finished. We were clear there was going to be a long tail. We need to live up to that responsibility.”

Much of the COVID-19-related support allocated to the social sector (both to government and non-government providers) was one-off or time-limited. It has been steadily scaled back and sometimes removed altogether. Many government

contracting arrangements reverted to their previous settings at the tail end of the pandemic, despite the many demonstrable examples from the pandemic of what outcomes-based, flexible contracting arrangements could achieve.[190] In our view, there is a risk that some of the successes of the pandemic – including positive models for Government, communities, NGOs and the private sector to work together – may be lost.

We, like a number of experienced market commentators, are also concerned about a potential for weakening of Aotearoa New Zealand's economic institutions, and whether established principles of good fiscal discipline risk being compromised as a result of the pandemic. One such concern relates to the reduced ability of our fiscal buffers (including access to international credit markets at reasonable prices) to respond to another major crisis.[191] Using the fiscal buffer in an emergency, such as a pandemic, is consistent with its purpose. But its restoration, consistent with what governments consider prudent, is necessary so it can be used when needed in the future. Failure to do so over a sensible period of time (without creating further economic instability or compromising infrastructural investment that promises a good social return) could severely weaken what has previously been an institutional strength.

On the monetary policy side, we heard considerable concern from some expert stakeholders about the use – or, perhaps more accurately, the extent – of the Reserve Bank resorting to so-called 'unconventional monetary policies', particularly the 'large scale asset purchase' programme.[xxxii] In fact, these policies are now well accepted by international organisations (for example, the International Monetary Fund) as part of the international monetary authorities' arsenal and were used extensively by other similar economies during the pandemic when interest rates became extremely low. However, the extent of their use in Aotearoa New Zealand was unprecedented and there is no doubt that they imposed a considerable risk to the Crown's balance sheet and debt position. A Crown indemnity to the Reserve Bank was provided to ensure that the large-scale asset purchase programme could go ahead. As interest rates increased, the Reserve Bank suffered losses on its balance sheet that were covered by the indemnity. Although the indemnity and associated payments between the Government and the Reserve Bank (being transfers among entities included in the consolidated Crown accounts) do not make taxpayers any better or worse off, nevertheless the large-scale asset purchase programme did impose direct fiscal losses to the taxpayer in the order of $11 billion. This arose from the fact that the programme changed the private sector's lending to the Government from bond holdings to settlement cash balances at the Reserve Bank.[192]

At its peak, the Reserve Bank purchases amounted to $54.6 billion (as of June 2021), amounting to approximately 16.5 percent of GDP. We understand that the Reserve Bank's Monetary Committee has elected to follow an accelerated programme of unwinding these purchases, which it considered the best means of meeting its remit; this contrasts with the passive approach generally followed overseas. How this will finally play out in terms of the overall impact on the Crown balance sheet and debt has yet to be determined.[193]

xxxii The Large Scale Asset Purchase Programme (LSAP) aims to lower borrowing costs to households and businesses by injecting money into the economy. It involves the Reserve Bank buying New Zealand government bonds from banks in the secondary market in exchange for electronically created money. It is one of a range of monetary policy tools the Reserve Bank uses to control inflation and lower interest rates.

Overall, though, we agree with the National Bureau of Economic Research[194] and others that the fiscal policy consequences of quantitative easing can only be assessed alongside the prior net benefits of the large-scale asset purchase programme in stimulating demand, their impact on growth and employment, and their impact on stabilising the economy and the financial system. The jury is still out on how this all played out. It is also worth noting that the International Monetary Fund 2023 report on the state of the New Zealand economy found that, overall, the Reserve Bank's large-scale asset purchases during COVID-19 'had favorable effects on the fiscal stance'.[195]

The evidence we reviewed also raised questions about the coordination and assessment of the cumulative impacts of total macro-fiscal support provided during the pandemic.

The allocation and effectiveness of government expenditure was another issue highlighted by the evidence. The initial economic response was shaped by advice from the Treasury and the Ministry of Business, Innovation and Employment; it addressed frameworks, processes, criteria and exit pathways to be used in making expenditure decisions. Once the size of the economic impact caused by public health measures became clear, as well as the number and type of different initiatives that might be needed, the scrutiny of expenditure decisions changed. For Budget 2020, the initial scrutiny was particularly fast paced, with the Treasury having four days to assess over 240 initiatives, seeking almost $30 billion in new funding. The Treasury did carry out some value-for-money analysis which involved asking some essential cost-benefit analysis questions: for example, what the initiative would deliver, how the initiative related to the Government's plans, whether it was critical and urgent, the expected costs, the risks of not funding the initiatives, and distributional analysis. The pace at which decisions had to be made – and ongoing uncertainty over the severity, impact and length of the pandemic – constrained the appraisal of COVID-19 Response and Recovery Fund initiatives undertaken by departments and agencies.

Normally, when government is deciding whether to fund a proposed initiative, any initial concerns about cost effectiveness can be at least partially addressed by ensuring the initiative will be reviewed over time. Some economic support policies were adjusted over time – for example, who qualified for the Wage Subsidy Scheme, and the level of support it provided – but there was little review and adjustment across the portfolio of Response and Recovery Fund initiatives.

For some programmes there were value for money concerns. The Office of the Auditor-General commented on this issue in relation to the selection process ministers used for the Strategic Tourism Assets Protection Programme and the Shovel-Ready Projects Programme. While recognising that the urgency presented by the pandemic meant rapid decisions were needed, the Auditor-General expressed concern that 'significant spending of public money continue[d] to occur without appropriate processes for ensuring value for money and transparent decision-making'.[196]

Finally, perhaps the most difficult long-tail impact of COVID-19 is the damage to mental health and wellbeing.[197] The added anxiety and distress caused by the pandemic, and by some public health response measures, is compounding Aotearoa New Zealand's already high prevalence of mental health and addiction problems. The increase in poor mental health among younger people is particularly concerning. It will likely continue for decades, and possibly intergenerationally.

1. The COVID-19 pandemic disrupted all aspects of our lives, and exposed emerging weaknesses and vulnerabilities that had been forming in our social and economic fabric for decades.

- We acknowledge that it was beyond the scope of a pandemic response to address all long-standing issues.
- While some mitigations provided effective protection for many, including for particular sectors and population groups, others missed out or carried a heavier burden.

2. The initial package of economic measures the Government provided was comprehensive and generous.

- The economic response met its immediate aims: to support the public health response to the pandemic by maintaining economic activity, sustaining business confidence, protecting employment, protecting incomes, sustaining financial stability, and ensuring that essential services were accessible.
- Initially at least, the package of social and economic policies – together with the health response – achieved better social and economic outcomes than most other comparable countries.
- At the time, the generous economic response seemed appropriate and was widely supported. But because of the amount of spending it required over an extended period, the economic response left a long shadow on the economy: the level of government debt increased, and a period of elevated interest rates was required to constrain inflation. The cost-of-living pressures since 2021, the surge in house prices from 2020 to 2021, and higher mortgage interest rates, are in part attributable to the economic response to the pandemic, although international forces have also had a significant effect.
- The pandemic revealed there is still room to improve mutual understanding and coordination between the Treasury and the Reserve Bank when it comes to using monetary and fiscal policy to best effect in an emergency situation.
- We also share some concerns that were raised by others about the duration for which the Government and the Reserve Bank provided substantial economic support in the response. This has led to a range of economic pressures that are taking some time to resolve.

3. When decisions were made about allocating government expenditure during the response, the approach to robustness, transparency and accountability was inconsistent.

- While we recognise that decisions about economic support measures had to be made rapidly in the early pandemic period, the consideration given to effectiveness and value for money was inconsistent. Given the significant amount of tax-payer dollars being spent, wherever possible, sufficient opportunities should have been given to more rigorously scrutinising and assessing these measures, and periodically reviewing and adjusting them. This would have ensured the decision-making process was transparent and accountable.

4. The pandemic's economic impacts put households and businesses under great pressure, especially during lockdowns.

- Government introduced mitigating measures, including the Wage Subsidy Scheme, that supported well over a million workers and their employers. The scheme was necessarily developed very quickly and had some flaws, but it was fit for purpose and an essential support measure.
- Businesses experienced the pandemic differently according to their sector, size and location. They had different abilities to absorb the shock of the pandemic.
- While key goods (including food) remained generally available, supply chains were disrupted by international and domestic developments. It was essentially down to good luck that supply disruptions were not more severe. Aotearoa New Zealand needs to be more actively aware of the risks that can threaten supply chains.

5. The social sector – including government agencies and non-governmental and community organisations – did a remarkable job of ensuring people had their needs met during the pandemic.

- Many positive changes were made in how systems operated, contracts were commissioned, and relationships were built. These new approaches often delivered good outcomes. This capacity, or the ability to rapidly stand it up again, should be maintained to help the sector be better prepared in a future crisis.
- The respective roles of some social sector agencies and groups remain unclear. Resolving these roles and responsibilities, and strengthening regional coordination models, will enable the rapid implementation of local supports, especially during a crisis.

6. A network of non-governmental organisations, iwi and Māori groups, and community organisations provided the frontline services and support that kept families safe and well during the pandemic.

- This network's important role needs to be recognised, valued, cultivated and strengthened so that it can continue to deliver in future crises. It is these organisations that give government the ability to reach families and communities.
- Locally-led responses were invaluable in addressing the social impacts of the pandemic, as they are based on local knowledge, strengths and trust. Their value was particularly apparent in Māori communities. Local responses will likely be critical in future pandemics and central government needs to actively build relationships and trust with communities now to enable a more effective response later.

7. The economic and social response to COVID-19 helped prevent deaths and protected many people. But the pandemic's economic, social and wellbeing impacts on individuals and families were unevenly distributed.

- Some groups came through the pandemic better than expected due to targeted mitigations. But some groups (such as Pacific people, women and disabled people) experienced more negative impacts, especially those who were most disadvantaged before the pandemic.
- In a future pandemic, it is essential that government gives consideration to mitigating harms, including the unintended consequences of response measures. Attention should be given to the cumulative impacts on socially, economically or health-disadvantaged groups.

8. For many individuals and families, COVID-19 is not over, showing that wide-ranging pandemic support measures are needed even after the immediate crisis has passed.

- Many New Zealanders continue to struggle with mental health issues, long COVID, loss of learning, relationship breakdowns, health problems due to delayed diagnosis or treatment, bankruptcy or loss of savings and unemployment. The mental health, educational and social impacts on young people are particularly concerning.
- Other impacts have not yet emerged and may well be long-term and intergenerational. The consequences for Aotearoa New Zealand, and for future human capability more generally, are likely to be considerable.

6.8 Endnotes | Tuhinga āpiti

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CHAPTER 7:

7 Vaccination | Te rongoā āraimate

7.1 Introduction | Kupu whakataki

From the start of the pandemic, the prospect of a safe and effective COVID-19 vaccine provided a beacon of hope in an otherwise bleak global landscape. Government messaging presented vaccination or new treatments as the justification for – and pathway out of – the initial elimination strategy and the restrictions it involved. This message clearly resonated with many members of the public, including some who made submissions to our Inquiry:

> "Lockdowns were totally necessary until such time a vaccine was approved and available. We saw what was happening in the rest of the world and it was horrifying."

Vaccination remained fundamental to the effectiveness of Aotearoa New Zealand's pandemic response, even after the country moved away from the elimination strategy. By the time community transmission became well-established, most of the population had received at least one dose of the vaccine and a large proportion had both initial doses on board. From this point on, optimising population immunity through vaccination was a crucial pillar of the country's long-term approach to managing the virus.

What's in this chapter

- This chapter begins by describing the process of identifying, procuring and approving a suitable vaccine, which proceeded alongside the development of Aotearoa New Zealand's immunisation programme (sections 7.2.1 and 7.2.2).
- In section 7.2.3, we survey how the vaccine was made available to the community (we refer to this as 'the vaccine rollout') and, in 7.2.4, the subsequent provision of boosters. Section 7.2.5 describes steps taken to sustain population immunity once Aotearoa New Zealand had moved away from the elimination strategy to a minimisation and protection approach.
- Our assessment of outcomes and impacts is set out in section 7.3. The evidence we reviewed highlights some positive outcomes: vaccination undoubtedly protected Aotearoa New Zealand from the very high burden of illness and death many other countries faced, and the national rollout achieved high levels of vaccine coverage. However, the evidence also reveals missed opportunities to ensure vaccine uptake and access were equitable across the community – an issue we address in sections 7.3.1.1 and 7.3.2 (which includes a spotlight on the work of Māori and Pacific vaccine providers).
- We also assessed the management of the rollout (in section 7.3.1.2), the way vaccine hesitancy and misinformation affected vaccine uptake (7.3.1.3), and the efficacy of processes for procuring and approving the vaccine (7.3.3 and 7.3.4) before presenting our final conclusions.
- Vaccine mandates are dealt with in Chapter 8, along with vaccine passes.

7.2.1 Securing a vaccine

After the SARS-CoV-2 virus emerged in Wuhan at the end of 2019, international efforts to develop safe and effective vaccines moved at unprecedented speed. But how long it would take to complete trials, scale-up manufacturing, obtain regulatory approvals and distribute adequate supplies to meet global demand was unknown. The risk of failure was high: historically only about 20 percent of vaccines entering human trials resulted in a successful vaccine.[1] Officials therefore advised the Government to adopt a flexible vaccine strategy and pursue 'multiple concurrent approaches' to securing vaccines. The working assumption was that at least 80 percent of the population had to be vaccinated before Aotearoa New Zealand could start moving on from the elimination strategy and its strictures.[2]

The Government announced its COVID-19 vaccine strategy on 26 May 2020. Aotearoa New Zealand would secure access as early as possible to a safe and effective vaccine, which would then be rolled out through a population-wide immunisation programme (whose details were still to be determined). Vaccine procurement would be overseen by a taskforce led by the Ministry of Business, Innovation and Employment. It included representatives from the Ministries of Health and Foreign Affairs and Trade, Medsafe (New Zealand's medicines regulator), and Pharmac (responsible for national vaccine purchasing). Cabinet also allocated an initial $30 million to fund domestic and international vaccine research, and to explore the potential for local vaccine manufacture.[3]

At the end of June 2020, Aotearoa New Zealand formally expressed interest in participating in the COVAX Facility, a global initiative aiming to speed up development of COVID-19 vaccines and promote more equitable global access. At the same time, officials considered that 'purchasing from an overseas manufacturer is emerging as the quickest and most likely route to securing a safe and effective vaccine for use in New Zealand'.[4]

In August 2020, Cabinet agreed to a vaccine purchasing strategy and funding envelope[5] (on top of the initial $30 million investment in vaccine research and manufacturing capacity).[6] Officials from the taskforce would negotiate advance purchase agreements directly with several pharmaceutical companies overseas. To manage the uncertain environment, a portfolio of vaccines would be secured: while this would likely result in greater quantities of vaccine than were actually needed, it offset the risk of some vaccine candidates becoming available later than others – or not at all – and the risk of some vaccines having less than desirable effectiveness or high adverse event rates.[7]

This 'portfolio approach' could be likened to an insurance arrangement, where it was accepted there would be some surplus or 'wasted' vaccine, in exchange for the certainty that at least one of the portfolio options would result in Aotearoa New Zealand having timely access to an effective vaccine. The approach anticipated that some vaccine doses would be sourced through COVAX, although only around 20 percent of the country's immunisation needs were expected to be met from this source. In addition to purchasing vaccines for its own population, New Zealand would also supply vaccines to several Pacific nations including the Cook Islands, Niue and Tokelau.[8]

Meanwhile, the Ministry of Health had been developing a national COVID-19 immunisation strategy to roll out the vaccine across the country.[9] In December 2020, Cabinet endorsed the strategy's purpose: 'to support the "best use" of COVID-19 vaccines, while upholding and honouring te Tiriti o Waitangi obligations and promoting equity'. Since vaccine supplies were likely to be limited until at least mid-2021, Cabinet agreed that immunisation would be prioritised via a sequencing framework 'to ensure the right people are vaccinated at the right time'. Under the framework, the first groups to be immunised would be border and managed isolation and quarantine (MIQ) workers and their household contacts (judged to be at highest risk of COVID-19 exposure) followed by health and other high-risk workers and any high-risk household contacts. The vaccine would then be rolled out to the general population, starting with more vulnerable groups such as older people.[10]

On 12 October 2020, the Government announced the first advance purchase agreement, with Pfizer/BioNTech (Pfizer).[11] The company would supply 1.5 million doses (enough for 750,000 people) of its 'Comirnaty' (BNT162b2) mRNA vaccine (commonly known as the Pfizer vaccine), subject to the successful completion of clinical trials and regulatory approval.

The initial batch of Pfizer vaccines (65,520 doses) arrived in New Zealand on 15 February 2021. Around three weeks later, the Government announced it had purchased another 8.5 million doses, to be delivered in the second half of 2021. Enough Pfizer doses had now been secured for everyone in the country to receive the necessary two shots.[12] The Government subsequently also purchased Novavax, Janssen and AstraZeneca vaccines, but none of these were used as a first-line option in the immunisation programme.

7.2.2 Regulatory approval

Health officials were conscious of the need to conduct a 'robust and comprehensive' assessment of the COVID-19 vaccine that would 'provide assurance to the public and withstand rigorous review'.[13] It was therefore important that the Pfizer vaccine undergo independent assessment by Aotearoa New Zealand's medicines regulator, Medsafe, even though it had already been approved for use in several other countries (including the United States and Australia).[14] In addition to fulfilling regulatory requirements,[i] the approval process allowed experts to assess the vaccine's expected benefits and risks with specific reference to the profile of the New Zealand population. It also allowed regulators to review the most up-to-date evidence on vaccine efficacy and safety – including more recent data that had not been available to regulators in other countries.

In addition to fulfilling regulatory requirements, the approval process allowed experts to assess the vaccine's expected benefits and risks with specific reference to the profile of the New Zealand population.

The Pfizer vaccine was provisionally approved[ii] by Medsafe at the beginning of February 2021,[15] before the first doses arrived in the country. The approval process was undertaken on an accelerated time frame but followed the normal process, including review of company-provided data, requests for further evidence in response to specific questions, expert advice and review by the Medicines Assessment Advisory Committee.[iii] The Pfizer vaccine subsequently received full approval[iv] in Aotearoa New Zealand in November 2023 under section 20 of the Medicines Act 1981. Medsafe continues to monitor the safety of COVID-19 vaccines and to review any adverse events following their use in New Zealand.[16]

Medsafe subsequently gave provisional approval for the use of COVID-19 vaccines produced by Novavax, Janssen and the University of Oxford/AstraZeneca,[v] although only the Novavax and AstraZeneca vaccines were ultimately used as alternatives to the Pfizer vaccine in Aotearoa New Zealand.

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i The Medicines Act 1981 requires new medicines to be assessed and approved by Medsafe before being sold or supplied in New Zealand.

ii Medicine regulators in some countries (such as the United States and the United Kingdom) have emergency authorisation mechanisms that can be used where there is an urgent need for new drugs to be made available. Medsafe does not have an emergency approval mechanism, but can provide time-limited provisional approval in specific circumstances. This mechanism was used to approve use of the Pfizer Comirnaty COVID-19 vaccine.

iii A technical advisory committee that advises the Minister of Health on the risk-benefit profile of new medicines.

iv Full approval of Pfizer's Comirnaty vaccine took account of data on the vaccine's longer-term safety and efficacy. This data was not available at the time the initial (provisional) approval application was made because in late 2020 the vaccine had been in use for only a short period of time.

v The COVID-19 vaccine produced by Moderna was provisionally approved by Medsafe after the pandemic response period and was not used in New Zealand.

International assessments of vaccine effectiveness and safety

Ongoing evidence reviews have continued to evaluate the Pfizer vaccine as effective in substantially reducing the risk of severe illness and death from COVID-19 and safe in terms of carrying a very low risk of serious adverse side-effects.[17] Guidance from the World Health Organization's Strategic Advisory Group of Experts on Immunisation notes that myocarditis (inflammation of the heart) is a 'rare adverse event' that can occur following administration of mRNA COVID-19 vaccines, including the Pfizer vaccine. While noting that myocarditis following vaccination is generally mild and responds to treatment,[18] the World Health Organization advises that people receiving the COVID-19 vaccine 'should be instructed to seek immediate medical attention if they develop symptoms indicative of myocarditis or pericarditis, such as new onset and persisting chest pain, shortness of breath, or palpitations following vaccination'.[19]

7.2.3 The rollout begins

Because vaccine supplies were initially very limited, the vaccine rollout was sequenced to prioritise those considered to be at greatest risk of COVID-19 transmission, infection or illness. The first people to be vaccinated (the frontline vaccinators themselves) received their first doses on 19 February 2021, followed by border workers in both the North and South Islands. In March 2021, Cabinet finalised the sequencing framework that would guide the vaccine rollout. Four population groups would be vaccinated in sequence according to their risk profile:

- **Group 1:** border and MIQ workforce, and their household contacts;
- **Group 2:** frontline workers, medically vulnerable people (people aged 65 years and older, people with underlying health conditions and disabled people) and people living in high-risk environments – including people in long-term residential care, older Māori and Pacific peoples living in intergenerational households and people living in South Auckland (the Counties Manukau district);
- **Group 3:** all other medically vulnerable people (people aged 65 years and older, people with underlying health conditions and disabled people); and
- **Group 4:** the rest of the population aged 16 years (later lowered to 12 years) and older. Vaccinations would be staggered by age group.[20]

From March 2021 onwards, the Pfizer vaccine was rolled out nationwide to each group in turn, with people receiving their first two vaccine doses three weeks apart (later increased to six). The mass vaccination phase started on 28 July 2021 when Group 4 became eligible, beginning with those aged 60 or older.

A rollout on this scale represented a significant operational challenge, particularly given the initial requirement that the vaccine be stored at ultra-low temperatures (-70°C). COVID-19 vaccination 'hubs' were set up in carparks, stadiums and other large sites to cope with the volume. From a starting point of 2,000 doses a day, more than 50,000 doses a day were being administered by late August 2021.[21]

The vaccinator workforce needed to grow to support the rollout as it expanded. Earlier in the pandemic, professional bodies such as the Nursing Council of New Zealand had supported the Ministry of Health to recruit trained health professionals back into the workforce and it did so again now, issuing interim practising certificates to trained nurses who wished to rejoin. An amendment to the Medicine Regulations allowed the Director-General of Health and Medical Officers of Health to authorise others – including non-regulated healthcare assistants and pharmacy technicians – to become COVID-19 vaccinators once they had received appropriate training.

The arrival of the Delta variant in mid-August 2021 prompted a rethink of Aotearoa New Zealand's vaccination settings. Technical health experts[vi] recommended that children aged 12 to 15 years should be vaccinated, noting that lowering the eligibility age would help ensure equitable vaccination coverage among Māori and Pacific peoples: young people represented a greater proportion of those communities (compared with the overall population) and these groups were at higher risk from COVID-19.[22]

The arrival of Delta also prompted a shift away from large-scale vaccination 'hubs' towards a greater number and diversity of vaccination sites to help make access easier for 'harder to reach populations and … those with mobility issues'. People could now be vaccinated in general practices and pharmacies; there was greater involvement of Māori, Pacific and other community-based providers; and many tailored initiatives were launched to improve access for people with disabilities. These efforts supported increased vaccine access and uptake, to the point that Aotearoa New Zealand risked a supply shortage of the Pfizer vaccine in mid-September 2021. Continuity of vaccine supply was secured via agreements with Spain and Denmark, supported by direct engagement between the Prime Minister and her counterparts in those countries.

As the population gained protection from increased vaccination coverage, the Government started preparing for a shift in its approach. This included plans for a gradual reopening of borders and 'more measured domestic restrictions' – in other words, an end to lockdowns. On 22 October 2021, the Prime Minister formally signalled the country would move from elimination to a minimisation and protection approach (and from the Alert Level System to the COVID-19 Protection Framework) when 90 percent of the population in each district health board area was fully vaccinated. The move was later scheduled for 2 December 2021, by which time the Ministry of Health estimated that 86 percent of the eligible population was fully vaccinated.

On 16 December 2021, the Ministry of Health announced that 90 percent[vii] of the eligible New Zealand population had received two doses of the COVID-19 vaccine.[23]

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vi The Ministry of Health established the COVID-19 Vaccine Technical Advisory Group in early 2020. It comprised 14 experts including epidemiologists, virologists and laboratory science experts who provided the Ministry with information and specialised advice. Initially, the group met twice weekly, and then monthly.

vii Real-time estimates of vaccination coverage often differ from rates calculated retrospectively, when more comprehensive data is available (particularly in relation to numbers eligible for vaccination, i.e. the 'denominator'). Based on data provided to our Inquiry by the Ministry of Health, we estimate that 86 percent of the population aged 15 years and over had received two vaccine doses by the end of 2021.

7.2.4 Vaccine boosters

By mid-to-late-2021, evidence was growing internationally that protection against COVID-19 infection and severe disease declined in the months following vaccination. By November 2021, official documents from health officials were speaking to this evidence that the protection against COVID-19 infection and severe disease that vaccines offered appeared to wane in the months following immunisation. On 8 November, Medsafe updated its provisional approval for the Pfizer vaccine to include administration of a third 'booster' dose.[24]

The booster rollout started in November 2021, prioritising those at increased risk of COVID-19 exposure or illness – including frontline health workers, all people aged 65 years or older, Māori and Pacific people aged 50 years or older and those with medical vulnerabilities.[25] In practice, this meant around two thirds of New Zealanders were eligible for a vaccine booster.[26] Sustaining as high levels of population immunity as possible was critical, particularly given the emergence of another highly transmissible COVID-19 variant, Omicron, around this time.[viii]

7.2.5 Sustaining population immunity

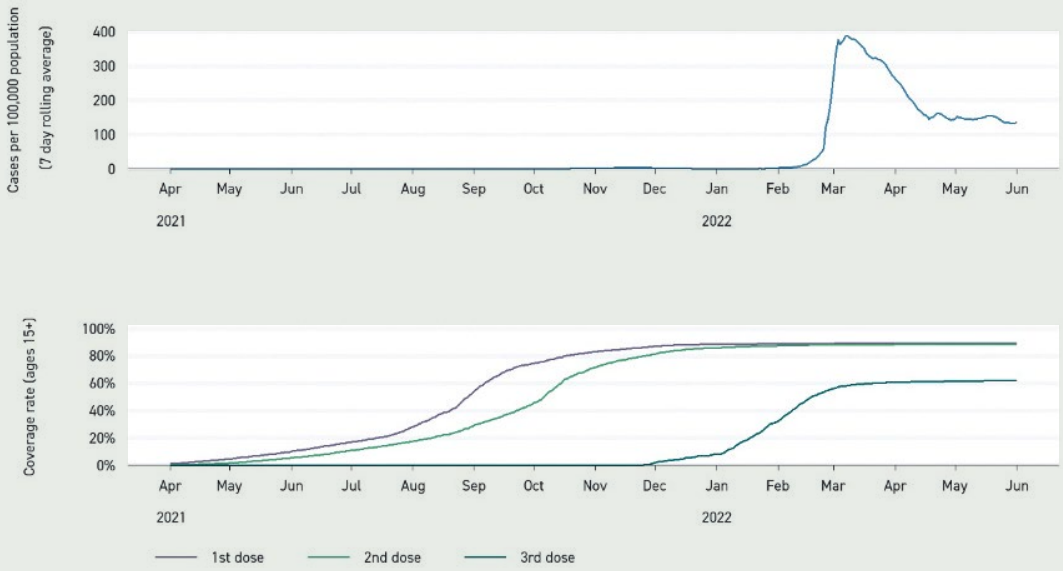
Given the greater social freedom and mobility allowed from December 2021 under the new protection framework, Omicron was seen as presenting a very real threat. With the move from elimination to minimisation and protection (i.e. a suppression and mitigation strategy) and the highly infectious nature of Omicron, it was no longer feasible to avoid widespread COVID-19 transmission in Aotearoa New Zealand. The focus now was on using the COVID-19 Protection Framework to 'flatten the curve' and reduce the peak of infection through maintaining high vaccination levels accompanied by public health and social measures. Over time, population immunity would also be boosted as more people acquired – and recovered from – COVID-19 infection (a situation known as hybrid immunity[27]).

Efforts were made to maximise vaccine protection before Omicron infection became widespread in Aotearoa New Zealand. By early 2022, small quantities of AstraZeneca and Novavax COVID-19 vaccines had been made available for adults unable or unwilling to receive mRNA vaccines like Comirnaty (commonly known as Pfizer)[ix] in order to encourage vaccine uptake. The original vaccine booster interval of six months was reduced to four and then three months.[28] Rapid uptake of booster doses meant population immunity among the most vulnerable groups was high at the point Omicron was peaking (see Figure 1), meaning hospitalisation and death rates were much lower than in other countries (see Chapter 5).

viii Vaccines such as Pfizer continued to provide a high level of protection against severe illness due to COVID-19, although this protection decreased over time. Vaccine-induced protection from transmission of COVID-19 was much less for Omicron than it had been for previous variants. The use of booster doses was intended to reduce transmission as much as possible (albeit less effectively than for previous variants) in order to flatten the peak of Omicron infection. It also provided significant protection against severe illness, reducing hospitalisations and deaths arising from Omicron.

ix mRNA vaccines contain the genetic code for the 'spike protein' present on the surface of the SARS-CoV-2 virus (COVID-19). Once the vaccine is administered, the human body reads the genetic code and makes copies of the protein. The immune system learns to recognise these proteins, enabling it to fight the virus when it encounters it.

Figure 1: Vaccine uptake and COVID-19 case rates, population aged 15 years and over, April 2021–June 2022



Note: Eligibility for the 3rd vaccine (booster) dose was initially restricted to people aged 65 years or older and other groups at increased risk of COVID-19 exposure or illness, consistent with the recommendation of the COVID-19 Vaccine Technical Advisory Group.[29]

Source: Based on data from Ministry of Health

By April 2022, the first Omicron wave was starting to ease. Restrictions were gradually relaxed, and progressive reopening of the border continued. Responsibility for purchasing and managing COVID-19 vaccines transferred from the Ministry of Health to Pharmac in July, although ministers continued to approve final purchasing decisions. The Government was by now developing a new approach for the long-term management of COVID-19, which would treat it more like any other respiratory infection. High levels of vaccination coverage and immunity across the population would be key. With this in mind, the Government announced on 28 June 2022 that everyone over 50 years could now receive a second booster (in other words, a fourth dose). Earlier, it had taken other steps to encourage vaccine uptake by amending the Medicines Regulations to expand the pool of vaccinators and allowing vaccinations to be given in more convenient and accessible places.

On 12 September 2022, the COVID-19 Protection Framework Order was revoked, ending the minimisation and protection approach and the 'traffic light' system. The last remaining vaccination mandates were removed on 26 September 2022.[30] From then on, COVID-19 vaccinations became part of the national immunisation programme, available free of charge to everyone aged over 5 years. The Pfizer vaccine remained the main vaccine, with the number and frequency of recommended doses varying according to age and health status.

7.3.1 Vaccination saved lives and protected Aotearoa New Zealand from the worst impacts of COVID-19

In 2024, the journal *Vaccine* published a study modelling the health impacts attributable to COVID-19 vaccination in Aotearoa New Zealand between January 2022 and June 2023. It estimated that during this period vaccines saved 6,650 lives and prevented 45,100 hospitalisations.[31]

The study also showed the benefits of vaccination were not enjoyed equitably, with Māori having lower vaccination rates and correspondingly higher rates of preventable hospitalisations and deaths.[32] We discuss vaccine equity in more detail in section 7.3.2.

International comparisons of vaccine benefits and coverage are difficult, given significant differences in the pandemic's global trajectory and national responses. In terms of vaccine uptake, Figure 2 shows that by late 2021, a higher proportion of people in Aotearoa New Zealand were fully vaccinated than in some comparable countries that began their vaccine rollouts earlier:

Figure 2: Receipt of initial COVID-19 vaccination (percentage of population) by country

Note: For most countries, the initial COVID-19 vaccination protocol involved two doses

Source: Our World in Data, 2024, Data Page: Share of people who completed the initial COVID-19 vaccination protocol. Data adapted from Official data collated by Our World in Data, World Health Organization, Various sources. Retrieved from https://ourworldindata.org/grapher/share-people-fully-vaccinated-covid

The *Vaccine* modelling study and others emphasise that vaccination complemented other elements of Aotearoa New Zealand's pandemic response; together, they 'delivered one of the lowest pandemic mortality rates of any country in the world'.[33] A group of public health experts writing in the *New Zealand Medical Journal* also highlighted the interdependence of the elimination strategy (which successfully delayed widespread COVID-19 transmission for nearly two years) and the vaccination strategy (which delivered high population immunity before the virus became established).[34] They pointed to the lasting protective effect of these combined strategies: even though New Zealand later experienced high rates of infection and reinfection, especially during Omicron waves, levels of excess mortality were exceptionally low, particularly compared with other countries.[35]

Such findings speak to the significant role vaccination played in protecting New Zealand from the high burden of illness and death many other countries faced during the pandemic. The expectation that vaccines would significantly reduce the threat posed by COVID-19 and help bring the pandemic under control underpinned the initial response. The country's comparatively low rates of COVID-19 illness and death support the decision to pursue elimination until effective vaccines could be developed and administered to the majority of the population.

7.3.1.1

Thanks to an enormous nationwide effort, the vaccine rollout succeeded in achieving high levels of coverage

The rollout of the COVID-19 vaccine was the largest and most challenging immunisation programme ever undertaken in Aotearoa New Zealand. Early estimates showed that for every adult in the country to receive the recommended two doses, 8 million doses had to be administered (by comparison, 1.5 million doses are typically delivered each year as part of the annual influenza vaccination programme).

The rollout achieved the Government's' central objective – ensuring high population immunity before exposure to COVID-19 became widespread. This outcome is testament to the enormous effort of officials, health providers (including primary care providers, pharmacies and Māori and Pacific organisations), communities, local leaders and individuals. Many members of the public who made submissions to our Inquiry acknowledged these efforts. They were grateful that vaccines were free of charge and easily accessible to many, and they commended the rollout's effectiveness and accessibility.

> "Having the mobile vaccination centres was great as it meant we didn't have to travel 45 minutes to the nearest larger town to access this. This was particularly useful with small children as it was less of a logistics mission to accomplish."

> "I found the vaccine roll out to be smooth and I was glad for the prioritisation of vulnerable groups."

> "The vaccination programme prevented people dying and protected those that had health conditions."

According to stakeholder evidence, crucial factors that enabled the rollout included government investment in improving relevant information systems and instances of cross-agency collaboration – such as the Ministry of Health bringing in the New Zealand Defence Force logistical expertise to ensure vaccines were kept at the right temperature during transportation. And we heard again and again that Māori and Pacific health providers were particularly effective in the vaccine rollout, especially with their own populations (although these providers were often frustrated by what they saw as missed opportunities to mobilise earlier and maximise their effectiveness – see section 7.3.2).

> “Pasifika providers and communities got involved and started to organise drive-in events. The Tongans vaccinated 1,000 people in one day. This set the tone… [and] started to turn things around. They created a fun atmosphere to draw people in. Finally, officials started to trust them to organise and provided resources… Had we moved earlier, trusted and engaged the communities and leaders, we would have had a different response. We got there in the end, but why did it take so long?”

The Auditor-General acknowledged the pressure the Government was under to deliver the vaccination programme as quickly as possible in his review of rollout preparations released in May 2021. Public expectations for a speedy rollout were high at the time; it was well-understood that the sooner most of the population was vaccinated, the quicker Aotearoa New Zealand would move on from lockdowns, reopen its borders and begin its economic recovery. This created considerable pressure, the Auditor-General noted: ‘Other countries are moving ahead with their vaccination programmes. In our view, it is important for the Government to maintain public trust and confidence by ensuring that New Zealand does not fall significantly behind’.[36]

In practice, Aotearoa New Zealand’s immunisation programme was very effective in quickly delivering high levels of vaccine coverage at an overall population level. As Figure 2 shows, New Zealand’s vaccine rollout followed a similar timeline to that in Australia, with both countries starting their programmes somewhat later than countries such as the United Kingdom, the United States and Singapore. But vaccine uptake was both quicker and more sustained in New Zealand and Australia. New Zealand achieved 80 percent vaccination with two doses on 26 November 2021,[x] ahead of both the United Kingdom and the United States.

Where the vaccine rollout was less successful was in delivering equitable coverage across different population groups. Consistent with the concerns noted earlier, there were delays in ensuring access to vaccination for some higher-risk groups – including Māori and Pacific peoples.

x Coverage in the population aged 15 years and over, based on our analysis of vaccination data provided by the Ministry of Health.

7.3.1.2 A highly centralised approach to the vaccine rollout meant opportunities were missed to ensure the vaccine reached everyone equally quickly

Despite the evident effort that went into the vaccine rollout, and the high rates of coverage it had achieved by late 2021, opportunities were missed to ensure vaccine access and uptake were optimised for high-risk groups, including Māori and Pacific peoples, at the same time as for the rest of the population. Decision-makers were aware before the rollout began of the potential for unequal vaccine coverage (an issue we discuss further in section 7.3.2).[37] While equity of coverage was a prominent consideration in policy advice, findings from the Auditor-General's report – supported by accounts from community providers – suggest that delivering on the immunisation programme's stated commitments to equity would have required earlier involvement of Māori and Pacific providers and a greater willingness to relax central control in favour of more community-led provision.[38] We heard from senior figures both inside and outside of government that more could have been done to ensure earlier involvement and better resourcing of local health providers (particularly Māori and Pacific organisations), which might have improved early vaccine uptake in some high-risk groups. At the same time, we are conscious that those leading the vaccine rollout were under pressure to deliver a large and complex programme as quickly as possible, and were managing many practical constraints that made it difficult to involve a broad range of providers and locations in the initial stages of the vaccine rollout.[39]

The vaccination rollout was initially designed with a high degree of central control. This reflected the need to quickly deliver a large and complex programme while carefully managing initially limited vaccine supplies. The Ministry of Health had an enormous task in designing the vaccination programme, setting up relevant information support systems (such as the bespoke COVID-19 Immunisation Register) and operationalising key aspects of the vaccine rollout (such as approving and training COVID-19 vaccinators and distributing doses to vaccination sites).[40] District health boards were responsible for the vaccination sites; they were required to use Ministry guidelines, clinical standards and information systems, but had 'some discretion over how they administer the vaccines to best meet the needs of their communities'.[41] The Ministry clearly took its responsibility to steward scarce resources seriously, as is appropriate for the agency leading a public health response of this scale.

Nevertheless, the highly centralised approach to the initial vaccine rollout – including where and how vaccines would be provided, what training vaccinators needed and who should be prioritised for vaccination – frustrated many local leaders and health providers. They told us of burdensome administrative hurdles that had to be overcome before vaccines would be delivered. And they described missed opportunities to meet local needs or overcome access barriers (unless they bent the rules, which some reported doing).

> “Pasifika leaders were advocating for Pacific-led vaccination centres and bespoke training of Pacific vaccinators, ‘but the system just could not respond’.”

> “In this pandemic, we kept telling DHBs and the Ministry of Health … You have to prepare to be mobile. To use trucks for mobile vaccinations. It took too long to get approval, the pandemic was over. It took the length of the pandemic to get it right.”

While there was a clear and justifiable desire to ‘support the “best use” of COVID-19 vaccines’, as the Immunisation Strategy required, the Government’s highly centralised approach unintentionally compromised the second part of that strategic objective: ‘upholding and honouring te Tiriti of Waitangi obligations and promoting equity’. This highlights the challenge of balancing distinct and sometimes competing goals in a complex operational environment. As we describe below, it had serious and damaging consequences for already vulnerable groups and may have also delayed Aotearoa New Zealand’s recovery overall. From the start of the pandemic, Government messaging had presented vaccination as the pathway out of, and justification for, the elimination strategy and the restrictions it involved. A stronger and earlier focus on achieving equity in the vaccine rollout – including through targeted measures to increase Māori and Pacific vaccination rates – would have seen the country reach its immunisation target earlier, allowing lockdowns and other stringent restrictions to be relaxed sooner.

At the same time, centralising the rollout made it easier to ensure the safe and efficient delivery of a new vaccine that was in short supply. Initial requirements meant the vaccine had to be stored and transported at very low temperatures (-70°C), and vaccination at large, central sites was thought to reduce the risk of wastage. Bespoke training of vaccinators was potentially more expensive and time-consuming, but it reflected the importance of administering the vaccine safely. Vaccinators were required who were not just technically competent, but could give people accurate and appropriate information. This was critical, as highlighted by the rare but devastating cases where things went wrong and people suffered as a result.[42] Guidance from the World Health Organization’s Strategic Advisory Group of Experts on Immunisation notes that myocarditis (inflammation of the heart) is a ‘rare adverse event’ that can occur following administration of mRNA COVID-19 vaccines, including the Pfizer vaccine.[43]

See discussion of international assessments of vaccine effectiveness and safety in **section 7.2.2**.

7.3.1.3 Hesitancy and misinformation challenged vaccine uptake

The rollout was challenged by growing vaccine hesitancy – that is, when people delayed or declined getting vaccinated because they lacked confidence, motivation and/or ease of access.[44] This became a major global challenge in the COVID-19 pandemic as vaccine messaging was complicated by the rapid spread of misinformation and disinformation.[45] (Misinformation and disinformation are also discussed in Chapters 2 and 8.) We heard from several stakeholders that lower vaccine uptake among younger people was at least partly driven by their greater exposure to misinformation by the time they were eligible to be vaccinated. This was a particular issue for Māori and Pacific communities given their younger age structure and historically lower trust of mainstream health providers.[46] As one senior Māori health official told us, 'We gave too much of a run-in for misinformation to get out there and take hold … We missed an opportunity to vaccinate our people early, and as a result we saw resistance come in'.

Efforts to boost vaccine uptake included the use of vaccine incentives (such as food or petrol vouchers) by health providers and the introduction of vaccine requirements (such as passes) by the Government (discussed in Chapter 8). Other countries used similar 'carrot and stick' approaches to maximise COVID-19 vaccine coverage, with positive impacts on uptake.

We heard mixed views on the use of vaccine incentives. While generally viewed as effective in the short term, some people felt they were unfair or inappropriate, and we heard anecdotal accounts of people receiving expensive items (such as laptops) or delaying or repeating vaccination in order to receive incentives. But others argued that incentives addressed underlying needs in these communities: in the words of one Māori leader, 'Some people called it a bribe; we call it manaakitanga'.

The Inquiry notes that the use of direct incentives raises complex ethical challenges. Material 'rewards' for vaccination can create perverse incentives – meaning people may delay vaccination (waiting for incentives to be offered before presenting) or seek vaccination when they are not eligible. We also heard from health providers who were concerned that use of incentives for COVID-19 vaccination might create expectations that would impact future vaccination programmes, leading to lower vaccination coverage unless people were offered 'rewards' for vaccine uptake. The Inquiry notes that maximal effort should be put into reducing barriers to vaccine access in order to reduce the need for direct incentives.

We heard from many people about the importance of engaging with community leaders as 'trusted voices' who could encourage and reassure people in relation to vaccination. The Ministry of Health's communications team identified this as an important part of their strategy to counter misinformation and disinformation about the vaccine. They also noted that the introduction of vaccine mandates (discussed in Chapter 8) made it more difficult to maintain a positive framing around vaccination. This point was echoed in engagements with other health stakeholders, who felt the use of mandates had a negative effect on trust in many communities and even reduced some people's willingness to be vaccinated.

We heard mixed views on the use of vaccine incentives. While generally viewed as effective in the short term, some people felt they were unfair or inappropriate.

The issue of vaccine hesitancy is linked with – and complicated by – the fact that vaccines (like most medicines) are not entirely without risk. Where a vaccine has been used for many years, these risks are usually well understood. But COVID-19 vaccines were very new at the point they were rolled out, and – while evidence on their safety was available from clinical trials – it was not possible to fully understand the risk of very rare adverse effects (such as might occur with only one in a million doses) until the vaccine had been administered to much larger groups of people. As this occurred, it became apparent that mRNA COVID-19 vaccines such as the Pfizer vaccine are linked with a small but potentially serious risk of myocarditis, particularly in young men (see section 7.2.2).

The evolving nature of this evidence is likely to have been a contributing factor in vaccine hesitancy, as it may have created the impression that experts and officials were withholding information from members of the public. In practice, both Medsafe and the Ministry of Health issued several communications (from June 2021 onwards) advising vaccinators and the public about the potential risk of myocarditis following vaccination with the Pfizer vaccine.[47] While the frequency and changing content of these updates reflected a desire to communicate the most current evidence, it was challenging for people to keep on top of and process this information. The Health and Disability Commissioner noted the desirability of having stronger mechanisms for providing clear and consistent advice on vaccine risks – a recommendation our Inquiry supports.[48]

7.3.2 Despite an in-principle focus on equity of coverage, vaccination uptake and access were lower for Māori and Pacific peoples than for other groups

As noted earlier, the existence of wide disparities in health and wellbeing was well-known before COVID-19 reached Aotearoa New Zealand. Māori, Pacific peoples, disabled people, people living in poverty, some rural communities and people experiencing mental illness were all known to have poorer health outcomes than the general population. The health and disability system therefore understood that 'existing health inequities would result in the pandemic having a disproportionate impact on these people without equity-focused response measures'.

There were compelling public health reasons for putting equity at the centre of the response (beyond the pragmatic argument that individuals are better protected in a pandemic if all members of society are protected). Memories of the 1918 influenza pandemic's devastating and disproportionate impact on Māori remained front of mind for many communities, officials and Members of Parliament. Prioritising equity was also consistent with the Crown's te Tiriti o Waitangi responsibilities. A commitment to equity was thus prominent in many aspects of the pandemic response, including the decision to adopt an elimination approach and the immunisation strategy – the purpose of which, as we have already noted, was to support the 'best use' of vaccines 'while upholding and honouring te Tiriti o Waitangi obligations and promoting equity'.[49] The COVID-19 Health and Disability System Response Plan warned of the 'potential for equity failure with the exacerbation of existing inequities and the creation of new inequities' and devoted several pages to the need to embed the equity principle in pandemic decision-making.[50]

The evidence we have reviewed suggests the Government was committed in principle to equity and upholding te Tiriti. In designing the vaccination rollout, the Ministry of Health paid particular attention to supporting access for older people, for Māori and Pacific people, and for people with disabilities. These groups were highlighted in advice on the vaccine sequencing framework, and district health boards were encouraged to work closely with Māori, Pacific and disability healthcare providers on plans for the vaccination rollout.[51] Keeping Māori health equity at the heart of the vaccination rollout was also the aim of the COVID-19 Māori Vaccine and Immunisation Plan, which the Ministry of Health released in March 2021.[52] It set out how the vaccination rollout would give effect to the Crown's te Tiriti obligations to ensure equitable health outcomes, including by working closely with iwi and Māori representatives. The plan emphasised the important role of Māori health providers, who had proved critical to the success of the COVID-19 response so far. The recent influenza vaccination programme

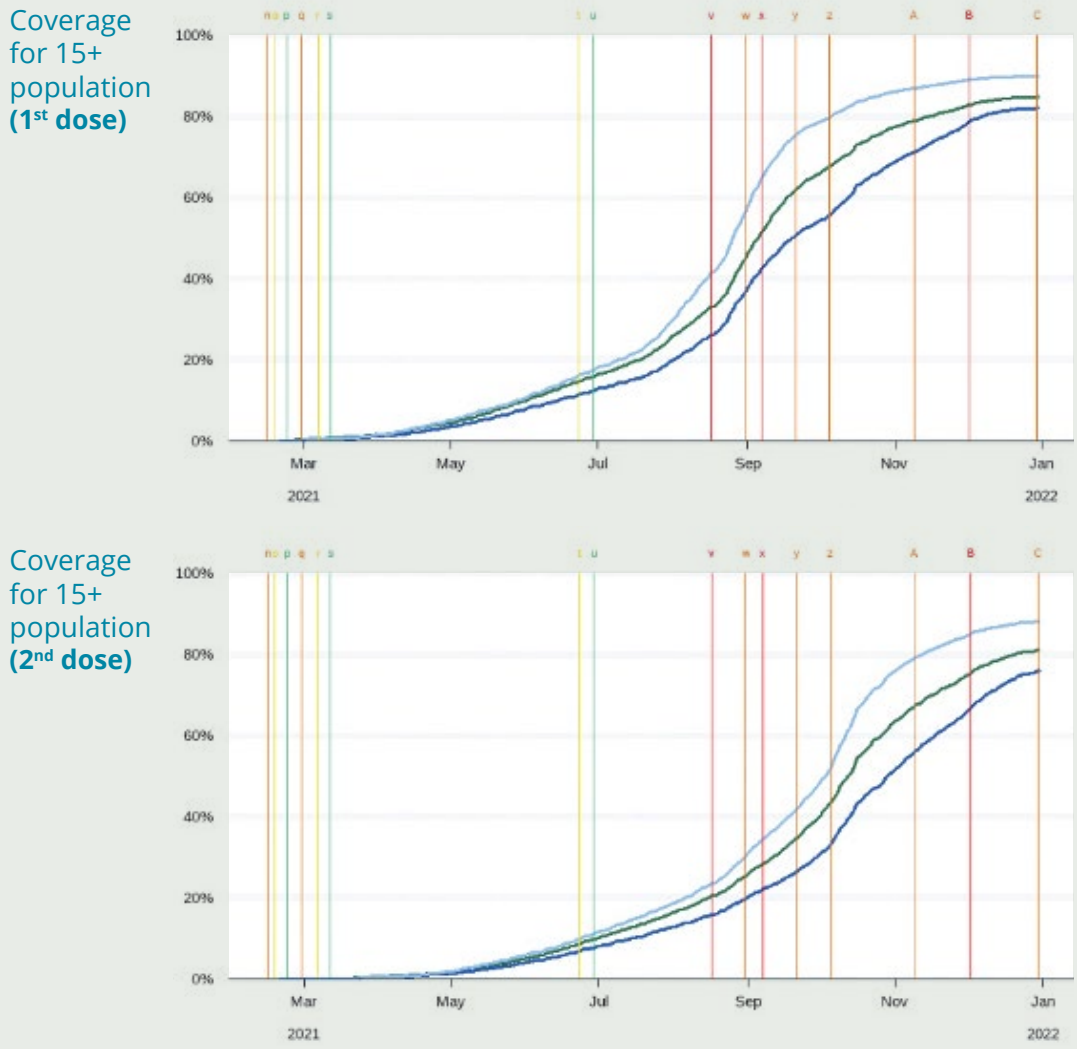
had shown that more equitable outcomes were possible when Māori providers delivered services to Māori in a Māori way. The Ministry had therefore ring-fenced funding for Māori vaccination providers and for a service to 'support and empower whānau' through vaccine information and access.[53]

Particularly after the Delta outbreak, the Ministry of Health, district health boards and providers expanded options for accessing COVID-19 vaccinations, including via general practices and pharmacies (as agreed by Cabinet on 23 August 2021). As part of this expansion, the Ministry of Health contracted Māori and other community providers, seeking to implement what it described as a 'whānau-centred approach' in Māori communities 'so whānau could be vaccinated in groups, for multiple things at the same time where appropriate and in a range of locations to suit [them], including at home and on marae'. Similarly, from August 2021 vaccinations were offered to Pacific communities in places such as churches and community centres. Pacific peoples had been disproportionately impacted by COVID-19 from the start, accounting for 75 percent of active cases linked to community transmissions by August 2020. The Ministry also set up mobile outreach and pop-up sites to meet the needs of remote rural communities.

While evidence from our engagements showed such initiatives were effective in reaching relevant communities, it appears these efforts occurred too late in the rollout to deliver more equitable vaccination rates across the population. As shown in Figure 3, by August 2021, vaccination among Māori and Pacific populations was already substantially lower than for people who were neither Māori or Pacific, and the gap was never closed. It is likely that in the absence of efforts to expand reach to these communities, the disparities in vaccine uptake would have been even worse. It is important to recognise the significant effort invested in improving vaccine reach, and the benefits gained in terms of vaccination uptake in vulnerable communities. But it is equally important to recognise that even greater equity gains could have been achieved by starting the outreach to Māori, Pacific peoples and disadvantaged and rural communities earlier.[xi]

xi In December 2021, the Health Quality and Safety Commission reported that 'once supported to lead their own approaches, significant increases in vaccination rates for both Māori and Pacific peoples have been achieved'. See *A window on quality 2021: COVID-19 and impacts on our broader health system (Part One)*, p 32, https://www.hqsc.govt.nz/assets/Our-data/Publications-resources/COVID-Window-2021-final-web.pdf Health Quality and Safety Commission review).

Figure 3: Receipt of COVID-19 vaccine (1st dose and 2nd dose) by ethnicity among population aged 15 years and over, March–December 2021



Dark blue = Māori, Green = Pacific, Light blue = Other (non-Māori non-Pacific)

Source: Based on data from Ministry of Health

The 2024 modelling study published in *Vaccine* offered further insights into how their lower vaccination coverage affected Māori mortality. It estimated that if Māori vaccination rates had been the same as non-Māori, between 11 and 26 percent of the 292 Māori COVID-19 deaths recorded between January 2022 and June 2023 could have been prevented.[54] The authors noted that other factors – such as poor access to healthcare, lower quality housing and higher rates of co-morbidities – also contributed to the higher Māori hospitalisation and mortality rates.

That up to a quarter of Māori deaths could have been avoided if vaccination rates had been equal is a stark demonstration of the meaning of health equity and what happens in its absence.

This disparity – and likely inequity – is particularly salient given that concerns about equity were raised with decision-makers even before vaccination had started. It also reinforces that the initial approach to the rollout did not facilitate sufficient involvement of Māori, Pacific and other community providers. The Auditor-General's review of preparations found that, as early as February 2021, officials had expressed concern that 'equitable access to the vaccine was not being properly incorporated into the immunisation programme' and that it was unclear where responsibility and accountability for equity lay.[55] The Auditor-General noted that changes to the programme's structure and staffing had since improved matters. Even so, he found evidence of ongoing delays in funding and vaccine supplies for Māori and Pacific providers, noting that much still needed to be done to ensure equity:[56]

> "District health boards are still working out how they will organise aspects of the vaccine roll-out in their communities. Some are well-positioned, but others have a lot of work to do. … Although a lot of thought has been given to ensure that everyone (Māori and Pasifika communities in particular) can access the vaccine in a way that meets their social, linguistic, and cultural needs, it is not yet clear whether this will be fully achieved. At the time this audit was completed, many in the wider health and disability sector were still not clear about what their role will be or when they will know."

The Auditor-General's report recommended that the Ministry of Health keep working with district health boards and Māori, Pacific and disability healthcare providers 'to make sure equity considerations are fully embedded in delivery plans'.[57]

Ministry of Health officials had sought to place equity at the centre of the COVID-19 immunisation programme. In March 2021, the COVID-19 Vaccine Technical Advisory Group advocated prioritising Māori and Pacific peoples (and some other vulnerable groups) for vaccination at a younger age than the rest of the population since they were at greater risk of serious illness.[58] This advice was included in the Ministry of Health's briefing to Cabinet, which recommended including Māori and Pacific peoples over 50 years of age in Group 3 of the sequencing framework.[59] (The proposed approach was referred to as an 'age adjustment' since it sought to 'adjust' the Group 3[xii] age-threshold for Māori and Pacific peoples in recognition of their higher risk of severe outcomes from COVID-19 infection.)

Cabinet did not follow officials' advice to use a younger age threshold for Māori and Pacific peoples in the vaccine rollout. Instead, they sought to ensure equitable vaccine access via other mechanisms – including promoting a 'whānau-centred' approach to the vaccine rollout, enabling household members to be vaccinated alongside older Māori and Pacific people and prioritising of people with co-morbidities (noting co-morbidities are more common, by age, among Māori and Pacific peoples). District health boards were also given a degree of flexibility in how they decided to prioritise the vaccine rollout in their area.[60]

xii Group 3 described those in the general population who were first in line to receive the COVID-19 vaccine. This included older adults (aged 65 years and over) and people with an underlying health condition that placed them at increased risk of severe outcomes from COVID-19 infection.

The intention behind Cabinet's decision was to ensure Māori and Pacific peoples were appropriately prioritised in the vaccine rollout. Unfortunately, this intention was not consistently reflected in the implementation of the complex immunisation programme. As discussed previously, pressure to deliver a fast vaccine rollout while managing scarce vaccine supply initially (and understandably) resulted in a centralised approach. Vaccination centres were strongly focused on careful stewardship of vaccine doses – an approach that was sometimes in tension with equity considerations. As a result, involvement of Māori and Pacific providers was limited until August 2021. This created unintended barriers to vaccine access – and hence an inequity – for many Māori and Pacific communities.

Cabinet's decision not to follow officials' advice in relation to the vaccine sequencing framework was heavily criticised in the Waitangi Tribunal's priority report *Haumaru*, released at the end of 2021. The New Zealand Māori Council, supported by a several Māori health providers, lodged a claim with the Tribunal asserting that the Crown's vaccination strategy and plan (and the COVID-19 Protection Framework, introduced later in the pandemic) were inconsistent with te Tiriti. The Tribunal upheld the claim on several counts. It found that Cabinet's decision to reject advice from officials to adopt an age adjustment for Māori in the vaccine rollout breached the treaty principles of active protection and equity. It also found the Crown breached the principle of partnership and the guarantee of te tino rangatiratanga by failing to jointly design the vaccine sequencing framework with Māori, while its inconsistent engagement with Māori more generally was another breach of partnership.[61] *Haumaru* criticised delays in provision of funding to Māori health providers, which it said had contributed to lower vaccine uptake among Māori, while poor communication and mixed messaging had undermined the potential for a 'whānau-centred' vaccine rollout. These actions and others occurred despite advice that Māori health leaders and iwi leaders were giving the Government, the Tribunal said.[62]

The Government undertook several measures in response to the *Haumaru* report, including providing an additional $140 million for Māori and Pacific providers to support the health response to Omicron and targeted support to improve vaccination uptake for Māori.[63] It also committed to improved monitoring of Māori health outcomes, including through the establishment of the Māori Health Authority | Te Aka Whai Ora.

Since *Haumaru* was released, other equity-related reviews of the Government's pandemic response have highlighted inequities in the vaccination strategy and rollout. One review (commissioned by the Ministry of Health and based on interviews with mostly Māori and Pacific whānau, stakeholders and service providers) concluded that equity had been 'actively discarded as an objective' in the vaccination strategy and that the Ministry needed to do better in any future pandemic response.[64]

It is clear that the Government understood the importance of protecting Māori interests in the vaccination strategy and rollout: the many references to its te Tiriti obligations in guiding documents speak to this. Unfortunately, this clear intention to protect Māori failed to translate into equitable implementation of the COVID-19 vaccine rollout. This implementation risk was flagged by the Auditor-General when the rollout was still in its early stages and later confirmed by the Waitangi Tribunal.[65]

We note that the Ministry of Health sought to respond to the Waitangi Tribunal's findings by working with Māori providers to improve vaccine access for Māori and by strengthening its ability to monitor vaccine uptake by ethnicity. It is not our role to identify breaches of te Tiriti. However, the general thrust of the Waitangi Tribunal's findings are consistent with evidence we reviewed from many sources, showing the significant benefits that were achieved when the Government did undertake genuine te Tiriti-based engagement with iwi and Māori; when it trusted them to lead, organise and deliver vaccination in ways that responded to local needs and barriers and resourced this accordingly. In our view, when responding to a future pandemic, the Government must not only document its responsibility to ensure equitable outcomes for Māori in policy statements, but also give effect to this responsibility in implementation. This comment is not intended to dismiss the significant efforts that were made to ensure the vaccine rollout reached everyone, but to note the opportunity to do better in future by trusting and resourcing community expertise. We return to this in the lessons for the future and recommendations set out later in our report.

The vaccination rollout also fell short of delivering equitable outcomes for Pacific peoples. Like Māori, they too were affected by Cabinet's decision not to adjust the vaccination age threshold for those ethnic groups at greatest risk of severe outcomes from COVID-19 infection. Pacific health providers experienced delays in receiving funding and vaccine supplies, and some told us they were often blocked when they tried to lead or organise vaccination in ways they knew would work for their communities. We do not have quantitative evidence of the likely impact on Pacific COVID-19 mortality (unlike the impact of lower vaccine uptake on Māori mortality, which has been modelled). But as Pacific peoples suffered the highest mortality risk of all ethnic groups (see Figure 3), it is only logical that inequities in vaccine access and uptake contributed to this outcome.

It is a human right to refuse medical treatment such as vaccination, and not all people will be willing or feel able to be vaccinated. There will therefore be variation in vaccine uptake across the population, due in part to differences in people's preferences and beliefs. This variation is not regarded as an inequality if it reflects genuine choice based on sound information. However, vaccine coverage is also impacted by factors other than personal or whānau choice – including geographical barriers, lack of cultural alignment between providers and those receiving vaccines, and historical breaches of trust. It is the Inquiry's view that lower vaccine coverage among Māori and Pacific peoples is primarily due to these broader factors. For example, while lower coverage in Māori partly reflected higher vaccine hesitancy in Māori communities, this was itself driven by delays in bringing Māori providers into the rollout, greater exposure to misinformation and disinformation, and higher mistrust of government.[66] The Inquiry therefore regards lower vaccine coverage in Māori and Pacific peoples as an inequality.

Spotlight:
Māori and Pacific vaccine providers | Ngā kaiwhakarato rongoā āraimate Māori me Ngā Uri Moutere

> "When you left us to deliver the services ourselves, we did an exceptional job."
> **Pacific community healthcare provider**

> "We were getting reports about vaccination rates and seeing there were problems with Māori uptake... In the end, we just ... gave the money to Iwi and community groups, and that worked."
> **Cabinet Minister**

The effectiveness of Māori and Pacific health providers in the vaccine rollout – supported by strong national and community leadership – was a recurrent theme in our Inquiry.[67]

Government agencies acknowledged the value these providers brought. In October 2021, Te Puni Kōkiri told ministers that Māori providers, iwi groups and organisations 'have deep connections and networks into their communities that can reach whānau often on the margins of government responses. Importantly, these providers, groups and organisations are often highly trusted by those whānau in need'.[68] District health boards too highlighted the impact of Māori providers on vaccination rates. Clinical leaders at the former MidCentral District Health Board, where Māori vaccination coverage exceeded the national average, described 'an amazing Māori response... the Māori nurses that worked with them, the iwi, the NGO providers... just the way te Ao Māori engaged with their people'. It was a similar story with Pacific providers, whom the Ministry of Health later praised for providing 'flexible, adaptive, by-Pacific-for-Pacific' vaccination delivery that met the needs of their communities.

For providers at the front line of the vaccination rollout, there was a mix of successes and frustrations. In Ōtautahi, Te Rūnanga o Ngāi Tahu told us of a long wait before the district health board gave their vaccinators the mandate they needed to start 'vaccinat[ing] our communities, in our way, in our spaces'. But once they were up and running, the impact was immediate:

> "Our health and social service organisations stepp[ed] up, our marae stepp[ed] up and work[ed] together... Our Papatipu Rūnanga, we run community vaccinations, kaumātua and whānau from all around the area, no matter what iwi, we just contact everyone in our community and run big vaccination days at our marae, utilising local Māori health and social service agencies to provide support, but also staff from the PHO would come in."

At the other end of the country, Māori health provider Hauora Hokianga said their COVID-19 response was hampered by funding limitations and uncertain availability. Government and district health board funding became available with little notice or discussion about what was needed most on the ground. 'Putea bombs ... came out of the sky', they said, along with an expectation that they would be able to deliver at pace, especially during the Delta outbreak. The pressure took a heavy toll on health workers. On the other hand, the pandemic environment made it possible to secure some long-needed resources, including funding for a van to provide mobile healthcare and vaccinations.

According to Hauora Hokianga, some Ministry of Health directions for the rollout – especially the phased approach to vaccination – simply didn't work for their communities, which were rural, widely dispersed and had a younger age profile than the general population. Older family members were often brought to vaccination sites by younger whānau who weren't yet eligible under the sequencing framework.[69] But as providers told us: 'We weren't going to turn whānau away who came to get vaccinated as they wouldn't come back. We had a little mantra … "one more is one more than we had before".' When vaccinators ran out of supplies, 'we just winged it and other providers supported us with their excess vaccines'. Good relationships and communications with other providers ('the kūmara vine') helped them get through.

In Tāmaki Makaurau, Ngāti Whātua Ōrākei, Whai Māia – which provides cultural and social support for the people of Ngāti Whātua Ōrākei, including through healthcare services – also described developing a bespoke 'outreach' approach. '[That's] when it took off for Māori vaccination rates and it [was] all about engagement. The centre does not attract Māori – you have to go out to the community.' They used five camper vans (adapted to keep the vaccine at the required temperature) and a team of seven vaccinators who could deliver 300–500 vaccinations in a three-hour stint. Ngāti Whātua Ōrākei played a key role in a rangatahi-led mass vaccination weekend held at Eden Park| Ngā Ana Wai in November 2021, targeting young people.[70]

Vaccination clinic run by Ngāti Whātua Ōrākei (Photo supplied by Ngāti Whātua Ōrākei)

In Kaitaia, Māori primary healthcare providers emphasised the need to tailor the rollout for their local communities, where many lacked trust in Government and anti-vaccination sentiment was high. They developed their own resources, interpreting Government requirements and guidance for the local context. The ANT Trust[xiii] – which set up the border control and other protective strategies for the community during COVID-19 – used monetary vouchers to incentivise vaccination uptake. It was effective in the short term, although they considered that 'incentives shouldn't be necessary if whānau were better connected with [the] health system'. Far North providers were generally frustrated by what they saw as a lack of trust and resourcing from central government during the pandemic response; it was very 'top-down', they felt, with few ways for providers to give feedback or contribute to decisions.

Many Māori and Pacific providers were frustrated at not being enabled to lead the vaccination drive for their communities earlier. There were various barriers, including the Ministry of Health's initial preference for centralised vaccination sites. '[Pacific community providers] knew the models that were going to work… family-centred, drive-throughs, community pop-ups and outreach… these were the approaches that we put forward. But they were pushed back because the focus was on setting up fixed vaccination sites.' According to the National Hauora Coalition, the country's largest Māori-led primary health organisation, 'the system didn't give permission or provide for different access options for vaccinations – after hours, drive through or whole whānau. We had to battle the political arguments about mass vaccination sites'.

Others shared providers' frustration at not being brought into the vaccine rollout earlier. Sir Brian Roche, a key independent advisor to ministers and officials throughout the pandemic response, was one.[xiv] He described a failure to unleash 'the power of the community to respond and to lead' – backed by resourcing – as a weakness of the pandemic response overall. In relation to vaccination specifically, he said: 'What a wasted opportunity. When they finally began to use the community to vaccinate, the rates went up exponentially.'

xiii Aupōuri Ngāti Kahu Te Rarawa (ANT) Trust

xiv Among other responsibilities, Sir Brian Roche led the first rapid review of all-of-government arrangements (April 2020) and chaired the COVID-19 Independent Continuous Review, Improvement and Advice Group from April 2021 to June 2022. This group provided regular advice to the Minister for COVID-19 Response.

7.3.3 The procurement process balanced the principles of prudent investment with the need to obtain an effective COVID-19 vaccine in a context of uncertainty

We have already set out the key steps in the vaccine procurement process the Government embarked on in 2020. The portfolio approach (used by many countries) was an appropriate investment that resulted in the purchase of an effective vaccine. As the vaccine taskforce advised ministers in July 2020, 'traditional vaccine procurement approaches are not suitable for securing a product that does not yet exist' and for which global demand would be fierce.[71]

While the possibility of domestic production was initially presented as one of three potential routes to obtaining a vaccine (alongside multilateral agreements such as COVAX and direct purchase from global manufacturers), limited experience with human vaccine production meant local manufacturing was an unlikely option. Aotearoa New Zealand eventually obtained COVID-19 vaccines by entering directly into advance purchase agreements with international pharmaceutical companies. The vaccine taskforce was supported in this endeavour by the provision of high-quality scientific advice to inform decision-making on which vaccine candidates were the most promising.[72]

It took time for vaccine doses to reach Aotearoa New Zealand, adding to the challenge of organising the national immunisation programme. While some accounts suggested New Zealand received lower priority by vaccine manufacturers and distributors in the vaccine supply chain, others rejected this suggestion, and we found no evidence to support it. When potential supply shortages emerged at a critical point in the vaccine rollout, alternative supplies were secured through agreements with other countries (supported by effective relationships at the leadership level). These findings illustrate the importance of international relationships and forward planning in securing essential supply chains in the context of a pandemic.

7.3.4 The regulatory approval process for COVID-19 vaccines was accelerated but still ensured their safety and efficacy were properly assessed

Before any vaccine can be used in Aotearoa New Zealand, it must be approved for use by Medsafe under the Medicines Act 1981. The approval process is intended to be objective and transparent, and to give the public confidence that medicines meet acceptable standards of safety, quality and efficacy, taking into account the specific New Zealand context and population.[73]

Given the urgent need to secure a safe and effective COVID-19 vaccine, Medsafe streamlined its administrative processes so that vaccine candidates could be assessed 'at the earliest possible time', without compromising the integrity of the approval process.[74] Pfizer applied for Medsafe approval for its vaccine in October 2020.

As usual, Medsafe undertook expert review of evidence that Pfizer provided – albeit on a rolling basis, for speed – about the vaccine's efficacy and safety in clinical trials. Again, as it normally does, Medsafe also assessed the vaccine's expected benefits and risks. It granted the vaccine provisional approval on 3 February 2021, three months after Pfizer had applied.

We received a small number of public submissions from people who cited a lack of adequate testing and trialling as the reason they opposed the COVID-19 vaccine (though not necessarily other vaccines): 'I am not against jabs as I have so many but I am against getting the covid jab as it didn't have all the safety stages complete'. Few commented specifically on Medsafe's approval process. One submitter who did said the regulator should 'be free of government and big pharma influence, to enable an unbiased and professional assessment of any future vaccines and medicines'. However, many submitters appreciated that the Government obtained the vaccine it found to be the most effective and safe, and were impressed at the level of research that went into the choice of vaccine.

The evidence we considered indicates Medsafe followed its usual process to properly assess the efficacy and safety of COVID-19 vaccines, albeit on an expedited timeline. Arguably, its review of the Pfizer vaccine was even more rigorous than those of regulators in other countries. At the time, Pfizer had already been approved for use in the United Kingdom, United States and Australia, meaning Medsafe was able to review the most up-to-date evidence on vaccine efficacy and safety – including recent data that had not been available to regulators in other countries. This provided an extra level of reassurance that was welcome, given this was an entirely new product that was developed and trialled under urgency. At the same time, Medsafe's approval process did not delay either procurement or rollout of the vaccine, with immunisations starting as soon as practicable after the first vaccine doses arrived in the country.[75]

We also note that in March 2021, the High Court rejected an application for an interim injunction that would have halted the vaccine rollout.[76] The applicants argued that provisional approvals under section 23 of the Medicines Act 1981 were intended only for new medicines used on a 'limited number of patients'; this provision did not apply to the Pfizer vaccine since the Government intended rolling it out to the entire adult population of Aotearoa New Zealand. In her decision, the judge observed 'it is difficult to see how the assessment process could, in the circumstances, have been more thorough' and that the evidence showed 'a number of layers of reflection and review in addition to those that would ordinarily be expected in a provisional consent assessment'.[77] Parliament later passed an urgent update to the Medicines Act 1981 to remove the legal risk. While the judgment affirmed the integrity of Medsafe's approval process, it also highlighted what we consider a recurrent problem in the response to COVID-19: the risks of applying existing legislation to new and unanticipated circumstances arising in a pandemic. We return to this issue in our lessons for the future.

1. In combination with the elimination strategy, vaccination was fundamental to the effectiveness of the country's COVID-19 response.

1a, From the first weeks of the pandemic response, vaccination was recognised as the likely key measure that would allow Aotearoa New Zealand to reconnect with the rest of the world while protecting the population from the levels of COVID-19 illness and death seen in other countries.

1b, While Aotearoa New Zealand's vaccination programme started slightly later than those in some other countries, it quickly achieved very high coverage: more than 80 percent of adults had received two vaccine doses by the end of 2021. This meant the vast majority of New Zealanders had been fully vaccinated before they were exposed to COVID-19 infection.

1c, The vaccination programme was also successful in ensuring people at highest risk received a third 'booster' dose within a few months of their original vaccination. This meant they benefited from high levels of protection at the point New Zealand experienced its first COVID-19 'peak' with Omicron in early 2022.

1d, In addition to the protective effect of the elimination strategy, vaccination is estimated to have saved more than 6,500 lives and prevented more than 45,000 hospitalisations from COVID-19 in Aotearoa New Zealand.

2. The vaccine procurement process was appropriate and effective. International relationships were important in securing timely vaccine supplies to support the rollout.

2a, Aotearoa New Zealand used a portfolio approach that appropriately invested in several potential vaccine sources to be confident of securing an adequate supply. While this approach eventually resulted in surplus vaccine doses (donated to Pacific countries), it represented a prudent 'insurance' policy given the historical expectation that only one in five candidates being developed results in an effective vaccine.

2b, Advance purchase agreements were obtained for enough doses to immunise the entire population with a single vaccine – the Pfizer vaccine. While other vaccines were subsequently purchased, Pfizer remains the country's first-line vaccine option for COVID-19.

2c, Good relationships with other countries (particularly Spain and Denmark) were important in addressing supply challenges and ensuring Aotearoa New Zealand had sufficient vaccine to support the national rollout.

3. The Pfizer vaccine underwent full assessment and received provisional regulatory approval prior to being rolled out.

3a, Pfizer underwent independent assessment and received provisional approval by Medsafe before being rolled out in Aotearoa New Zealand.

3b, The Medsafe assessment process provided assurance about the quality, safety and efficacy of the vaccine for the New Zealand population. The process also allowed regulators to review the most up-to-date evidence, including data not available to regulators in other countries. An expedited review process meant Pfizer received approval before the first doses arrived in the country.

4. An enormous effort underpinned the vaccine rollout, which achieved very high levels of population coverage. At the same time, some opportunities were missed to ensure the vaccine reached vulnerable people as equitably as desirable.

4a, The COVID-19 immunisation programme was very effective in quickly delivering high levels of vaccine coverage at an overall population level.

4b, The rollout of the vaccine involved difficult trade-offs between the need to manage operational constraints, the desire to vaccinate the population as quickly as possible, and recognition that more tailored approaches would be needed to reach some population groups (including Māori and Pacific communities, and people living in more rural areas). With hindsight, opportunities to ensure more equitable vaccination uptake were missed by not involving Māori, Pacific and community-based providers earlier, in parallel to the main vaccination programme.

4c, Once Māori, Pacific and other community-based providers were brought into the vaccine rollout, they were highly effective in supporting vaccine uptake within their communities.

4d, Faster vaccine rollout and uptake among Māori and Pacific people would have resulted in fewer hospitalisations and deaths during the Auckland Delta outbreak and likely shortened the final Auckland lockdown.

5. Vaccine hesitancy emerged as a growing challenge to the rollout, fed by exposure to misinformation and disinformation and declining trust in government within some communities.

5a, The vaccine rollout was challenged by declining trust and confidence in parts of the population, exacerbated by a proliferation of misinformation and disinformation. The influence of these factors was particularly apparent among younger people, in some Māori and Pacific communities and in rural areas.

5b, Providing direct 'rewards' (such as vouchers) to encourage vaccination was effective in the short term, but raises ethical challenges – including the impact of perverse incentives and the risk that future vaccination programmes may be less successful if they do not provide such rewards. A better approach is to improve vaccine access and address the root causes of vaccine hesitancy in vulnerable communities. In a future pandemic, direct incentives to boost vaccination should be used with caution.

5c, All vaccines have the potential to cause harm to a small number of individuals. While Medsafe and the Ministry of Health sought to keep people up to date with emerging evidence of rare complications, the Inquiry understands there is potential to strengthen the communication of risk at the time people are vaccinated. Doing so would support both informed consent and awareness of any subsequent symptoms that require medical attention.

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CHAPTER 8:

8 Mandatory measures | Ngā whakaritenga whakature

8.1 Introduction | Kupu whakataki

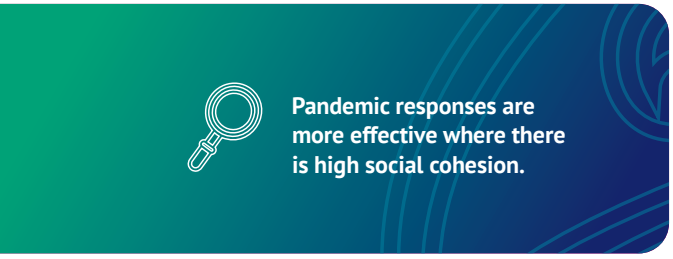
Each of the chapters so far in this 'looking back' section of our report has covered a key element of the COVID-19 response in Aotearoa New Zealand: strategy and decision-making, the use of lockdowns, border restrictions and quarantine, economic and social supports, the health response, and the vaccine rollout. In each of these areas, the Government took extraordinary steps. Requiring everyone to stay at home, spending unprecedented amounts on wage subsidies, quarantining new arrivals in hotels, rapidly rolling out a new vaccine to the entire population: all of these would have seemed unthinkable prior to the pandemic.

For many people, the most unsettling of the extraordinary steps taken in response to COVID-19 were those that restricted people's freedoms (including their freedom of movement and ability to congregate) or strongly directed them to undergo testing and vaccination. We have already discussed several mandatory measures that formed a key part of Aotearoa New Zealand's COVID-19 response, including the use of lockdowns (in Chapter 3) and border and quarantine restrictions (in Chapter 4). In this one we consider the use of mandates and orders to make public health measures – testing, contact tracing, mask wearing and vaccination – compulsory under certain circumstances.[i]

In considering whether to make certain measures mandatory, ministers (and their advisors) had to weigh up the need to protect the public from the worst impacts of the virus (especially vulnerable population groups), the available evidence about whether each measure would be effective at doing so, and the fundamental importance of upholding individual freedoms and rights. These were not easy decisions. In relation to each of these measures, at some point in the pandemic, ministers judged that the additional protection offered by making them compulsory under certain circumstances justified the temporary curtailment of individual freedoms. They also empowered others to make similar judgements in certain contexts, for example by enabling employers to set workplace-specific vaccine requirements. Many governments around the world reached similar conclusions.

i To compel someone is to oblige, force, or irresistibly urge them to do something; a mandate is a judicial or legal command issued by a superior or ordered by a legislative body. In common usage, terms like 'mandatory' and 'compulsory' are often used interchangeably to describe something that somebody *has* to do, whether because it is a legal requirement, or because there is no alternative. In the context of the COVID-19 response in Aotearoa New Zealand, the term 'mandate' was used to describe a range of public health measures that people were obliged to undertake under certain circumstances, including testing, contact tracing, mask wearing, vaccination, and showing proof of vaccination before entering a venue. These may not have met the formal definition of 'compulsion', since in each case, individuals retained the ability to decline, but the consequences of doing so (such as having their employment terminated or not being able to enter a public space) made some affected individuals feel that they had no meaningful 'choice'. In this chapter, we tend to use 'compulsory' and 'mandatory' in line with this common usage, in the same way that we use 'lockdown' throughout the report even though it was never an official term. When we are referring to a specific mandate or legal requirement, we make this clear.

It was clear from our public submissions that the rules and mandates promulgated during COVID-19 (particularly vaccination requirements) were among the most controversial aspects of the pandemic experience, and prompted a strong response from many people. While many opposed the imposition of masking and vaccine requirements, others were in favour of what they saw as necessary measures to protect public health and safety, particularly in workplaces. Many public submitters expressed concern about the long-term impact this period may have had on social cohesion, trust and community solidarity in Aotearoa New Zealand.



In Aotearoa New Zealand – as in many other countries – resistance to mandatory COVID-19 measures dovetailed with broader anti-vaccine and anti-government sentiments, prompted in part by rising levels of misinformation and disinformation and the proliferation of COVID-19 related conspiracy theories on social media.[1] These distinct but overlapping groupings culminated in the 28-day occupation of Parliament grounds in early 2022[ii] – the most significant instance of civil unrest in New Zealand since the 1981 Springbok tour.

These are important issues for an inquiry like ours focused on future pandemic preparedness. There is sound evidence that during a pandemic, high levels of social cohesion support greater social licence for action, effective community-led responses, and are associated with lower infection and death rates. Indeed, Aotearoa New Zealand's relatively strong levels of social cohesion and trust prior to the COVID-19 pandemic have been cited as a key factor in the success of the elimination strategy.[2]

However, pandemics (and some of the measures taken in response to them) can damage and erode social cohesion and trust. Having just weathered one, Aotearoa New Zealand (and many other countries) would start from a different place if another pandemic broke out next week – an observation also made by the Australian COVID-19 Inquiry.[3] Fostering trust and cohesion will therefore be an important part of future pandemic preparedness, as will thinking ahead about how to balance the use of 'compulsion' to protect public health against the need to uphold individual rights and avoid marginalising people. Understanding the role of mandatory measures during COVID-19, and why they proved controversial, is a good place to start. There is much to learn.

ii The Inquiry acknowledges that those at the occupation raised a wide range of issues, not only concerns about the response to COVID-19.

What's in this chapter?

There are three main sections in this chapter. In the first, we look together at **compulsory testing, contact tracing and mask wearing**, and consider how these measures were mandated, how these requirements were implemented, and what the effects were.

The second section considers the most controversial measures – **vaccination requirements** – of which there were three categories: Government-issued vaccine mandates for certain occupations, workplace-specific vaccine policies (enabled by legislation but set by employers), and vaccine passes for entry to certain locations and social gatherings. We consider the case for such measures, the evidence available to decision-makers, how this changed over time, and some of the direct social and economic consequences.

In the third section, we look at **how controversy about these matters played out,** including a condensed account of the Parliamentary protest and occupation in early 2022.

We conclude with some comments about the impact of these events – and the pandemic in general – on **social cohesion and trust** in Aotearoa New Zealand, and what this might mean for future preparedness.

8.2 What happened: testing, contact tracing, and masking requirements | I aha: ngā whakaritenga whakamātautau, whaiwhai i te pātanga, me te mau ārai kanohi

During an infectious disease outbreak, testing, contact tracing, and the use of masks in high-risk environments are useful public health tools that can often be deployed – depending on the specific nature of the pathogen – to help reduce the spread of infection. In the case of the COVID-19 pandemic, all three were important components of the response that contributed to the overall success of the elimination strategy.

Throughout much of 2020 and 2021, testing at the border (together with mandatory quarantine of overseas arrivals) reduced the risk of new COVID-19 cases entering Aotearoa New Zealand; routine testing of wastewater and of people in the community at higher risk of infection provided assurance that the virus had not entered the country; rapid contact tracing of confirmed cases stopped potential chains of transmission from taking hold; and mask wearing in public spaces made it less likely that any undetected cases would result in an outbreak. For each of these measures to be effective at providing population-level protection, they needed to be taken up on a large scale.

Encouraging widespread uptake was therefore very important. This was largely achieved via effective public messaging encouraging people to voluntarily take up these measures, both from official channels via the 'Unite Against COVID-19' campaign, and within communities to their own members (see Chapter 2 on public communications).

At certain points though, for each of these measures, the Government determined that an extra 'push' was required to achieve uptake of the encouraged behaviour (none of which was common or established practice in Aotearoa New Zealand prior to the pandemic) at the scale required for them to be effective. They were therefore each – at different times, and for different groups – made compulsory under certain circumstances.

For each of these measures to be effective at providing population-level protection, they needed to be taken up on a large scale.

8.2.1 Testing requirements

The overall role of testing during the COVID-19 response – including the types of tests used, procurement matters, and laboratory capacity to process results – have already been discussed in Chapter 5. Here, we focus on how testing was made compulsory for some groups of people, which began from mid-2020.

Mandatory testing – primarily regulated via the COVID-19 Public Health Response (Required Testing) Order 2020, which first came into force from 30 August 2020[4] – was seen as a key control measure in the broader COVID-19 Surveillance Strategy. Such testing was intended to detect and isolate any cases of COVID-19 infection to prevent further seeding of transmission in the community.

8.2.1.1 Overseas arrivals

As outlined in Chapter 4, 'closing' Aotearoa New Zealand's borders, testing travellers and border workers for COVID-19, and requiring all international arrivals to quarantine were important components of New Zealand's COVID-19 response and elimination strategy. Compulsory testing at the border began early in the pandemic. From April 2020, it was required of all international arrivals under section 70 of the Health Act 1956.[5] Once the COVID-19 Public Health Response Act was in place, bespoke Air and Maritime Border orders were enacted requiring compulsory testing of anyone arriving in the country by air or sea.[6]

Air arrivals

From June 2020, anyone entering the country by air had to test on arrival and to undergo further testing during a 14-day quarantine period.[7] From early 2021, an additional requirement was added for travellers from the United Kingdom and the United States to undergo a pre-departure test.[8] From March 2022, when managed isolation and quarantine (MIQ) requirements began to be lifted, post-arrival testing remained compulsory. All incoming travellers were required to undergo a rapid antigen test (RAT) on the first/second and fifth/sixth day after arrival and report the results online. Any positive RAT results had to be followed up with a PCR test.[9]

Maritime arrivals

With 99 percent of Aotearoa New Zealand's trade transported by sea,[iii] continuing safe maritime operations during the pandemic was seen as very important. The Maritime Border Order restricted which vessels could arrive in Aotearoa New Zealand and established isolation, quarantine and testing requirements for anyone arriving by sea, disembarking temporarily, or transferring between ships.[10] Existing requirements for vessels arriving in Aotearoa New Zealand to provide health declarations were extended to include pre-departure testing of people on board and reporting of any symptomatic or confirmed COVID-19 cases.

iii By volume; 90 percent by value.

8.2.1.2 Border workers

During the pandemic, the New Zealand Customs Service estimates that approximately 20,000 people were working at Aotearoa New Zealand's air and sea borders, and a further 4,500 at managed isolation and quarantine facilities.[11] These workers routinely encountered people arriving in from countries where COVID-19 was circulating widely. They were therefore considered a potential vector by which the virus could enter the community. To reduce the risk of this happening, a majority of these 'border workers'[iv] were required to undergo routine COVID-19 testing (as well as regular symptom checks) as a condition of their work between late August 2020 and late June 2022.[12]

Initially, this mandatory testing was targeted at workers considered to be at 'high risk' at Auckland International Airport, the ports of Auckland and Tauranga, and in MIQ facilities. These workers were all required to have weekly nasal or oral swab tests, temperature tests and other symptom checks. Later, mandatory testing was extended to all border workers.

The initial testing order placed primary responsibility on the worker to be tested.[13] In November 2020 this was amended to place responsibility on the owners/managers of border-related businesses or organisations (known as 'persons conducting a business or undertaking') to ensure their workers were regularly tested.[14] These people were expected to identify workers subject to the order, notify them, ensure they were able to meet their testing requirements within working hours, and keep records of the test results.

The Ministry of Health developed an online tool called the Border Workforce Testing Register to help the responsible parties meet their record-keeping requirements. The system matched workforce data (from business owners/managers) with National Health Identifier numbers, allowing the Ministry to check that the required testing had been completed and reported. The register went live in November 2020,[15] sending automated text reminders about upcoming and overdue tests.

In response to some ministerial concerns about compliance with the order, a Monitoring and Compliance Framework was introduced in May 2021 to help give assurance that workers were being tested regularly in accordance with the order.[16] While the online register supported this assurance function, it had initial limitations which frustrated some businesses and organisations – including delays in recording of test results, the need to manually resolve cases of duplicate identification numbers, and some business owners/managers being unable to make changes to the system.[17] A review of border testing arrangements in December 2021 noted that these issues improved over time as the systems matured.[18]

iv 'Border workers' included customs workers, biosecurity and aviation security staff, frontline port workers and other 'border facing' workers (as defined in Cabinet papers about the COVID-19 Surveillance Plan and Testing Strategy).

8.2.1.3 Health workers

After community transmission of COVID-19 became established in August 2021, the risk of health workers being exposed to the virus substantially increased. While hospitals and other healthcare settings had been following strict infection control procedures since early in the pandemic (see Chapter 5), the near absence of community transmission had meant the actual risk of health workers contracting and spreading the virus was very low. But with the virus now circulating in the community, health workers were much more likely to encounter positive cases in the course of their work. Health workers were therefore made subject to the same testing, symptom checks and record-keeping requirements as border workers. These requirements remained in place until the Required Testing order was revoked on 30 June 2022.[19]

8.2.1.4 People crossing regional boundaries

The first regional lockdown occurred in August 2020 when community transmission was detected in Auckland. Auckland was put into Alert Level 3 lockdown while the rest of the country was moved to Alert Level 2. This created a regional boundary for the first time, but this lockdown was of such a short duration that the issue of mandating testing for people crossing the regional boundary did not arise.

The story was different a year later, however, during the Delta outbreak. Auckland spent several months in a regional lockdown from August 2021, while other regions had several shorter localised lockdowns; these necessitated processes to manage boundary crossings. Public health officials thereby hoped to prevent Delta from spreading beyond Auckland (then at Alert Level 4) and the other affected regions into the rest of Aotearoa New Zealand (then at Alert Level 2).[20]

To this end, mandatory testing was introduced for workers crossing regional boundaries in September 2021. People crossing boundaries for personal travel were also required to provide evidence of testing (a saliva test within the last seven days), where practicable.[21] The boundary testing requirement was modified in December 2021 to require evidence of either vaccination or a negative test, before being lifted in early 2022.

All COVID-19 testing requirements were lifted from 30 June 2022.[22]

8.2.2 Contact tracing requirements

During an infectious disease outbreak, 'contact tracing' is the process of identifying and notifying people who may have been in contact with an infected person. The aim is twofold. First, contact tracing aims to identify anyone else who has been infected so they can be offered treatment and advice; and second, to locate people who have been exposed to the disease and may be incubating infection, so that they can isolate (technically quarantine) and thus prevent further onward transmission of infection.[23]

The broader role of contact tracing in the pandemic response is addressed in Chapter 5. Here we focus on the aspects of contact tracing that were mandatory during Aotearoa New Zealand's COVID-19 response. There were two categories:

- pre-existing requirements (under the Health Act 1956) for people to provide information for public health contact-tracing purposes, and
- new requirements introduced during the COVID-19 pandemic for people to register attendance at various locations, and for business owners to collect customer information and display QR codes.

8.2.2.1 Pre-existing contact-tracing requirements

Prior to the COVID-19 pandemic, it was already compulsory for people to supply information for contact tracing in certain situations. These requirements are set out in the Health Act 1956 (Part 3A, subpart 5).[24] The purpose is to protect the population from the spread of notifiable diseases by empowering public health officers to collect information from people who have been in close contact with someone known to be infected. If an authorised contact tracer[v] deems it necessary, they may require someone diagnosed with a notifiable disease to provide information about what they have been doing and who they have been in contact with (including personal information and contact details). If appropriate, they may also go around the person in question to obtain information directly from their employer or an event organiser. Failure to comply with a contact-tracing request or provision of false information can result in a fine of up to $2,000.

There are some caveats around how contact tracing can be done, including obligations on contact tracers to provide reasons, take account of someone's ability to comply, and deal with the parents or legal guardians of people under 16. Under the Privacy Act,[25] contact tracers also have a duty of confidentiality not to disclose the names of people who may have been a vector of transmission, and not to use the information gathered for any other purpose than for public health.

Since COVID-19 was made a notifiable disease in late January 2020, the above requirements for members of the public to comply with contact-tracing requests applied throughout the pandemic response.[26]

v Namely, a medical officer of health, health protection officer, or person suitably qualified in health or community work who is nominated to undertake contact tracing by Health New Zealand or medical officer of health (see s92ZZA(1) of the Health Act 1956).

8.2.2.2 COVID-19-specific requirements

The methods and systems used for contact tracing evolved considerably during the COVID-19 pandemic. 'Manual' contact tracing (that is, direct questioning of people diagnosed with COVID-19 and their identified contacts) remained the key approach throughout the pandemic. It was supplemented by other methods, however, including publication of 'sites of interest' and the development of digital tools.

Additional requirements to support contact tracing for COVID-19 were enacted under the COVID-19 Public Health Response Act 2020, which created an order-making power to require people to 'provide, in specified circumstances or in any specified way, any information necessary for the purpose of contact tracing'.[27] Such orders were used to make it mandatory for businesses, event organisers and public transport operators to display QR codes (for contact-tracing purposes), and for businesses and event-organisers to ensure records were kept of people who had attended their premises.

Displaying a QR code

The NZ COVID Tracer smartphone app was initially developed as a voluntary contact-tracing measure (see section 5.3.2.1 in Chapter 5). In August 2020, with Auckland back in lockdown, the COVID-19 Public Health Response (Alert Levels 3 and 2) Order 2020 made it compulsory for businesses to display QR codes at Alert Level 2 or higher.[28] Later that same month the COVID-19 Public Health Response (Alert Level Requirements) Order 2020 extended this requirement to all levels.[29] In September 2020, it was also made compulsory for all public transport vehicles to display QR codes.[30]

Compulsory scanning?

In 2021, the Government was seeking ways to strengthen the available tools for contact tracing. Consideration was given to making it mandatory for members of the public to record their presence at indoor public and business locations using the NZ COVID Tracer app or other means (paper records).

A briefing from senior officials indicates the Government initially favoured a 'dual obligation' system where both businesses and individuals attending them would be required to ensure their presence there was recorded.[31] However the Privacy Commissioner – when consulted about the possible measures – had indicated he had 'significant concerns' about the privacy impacts of mandating record-keeping for contact-tracing purposes.

Officials subsequently advised ministers that an obligation on individuals 'would create significant privacy, compliance monitoring and enforcement issues'.[32] Cabinet therefore chose to locate responsibility for record-keeping with business owners and event organisers, but not with individual members of the public.[33] In presenting advice on these options, officials were aware that ministers would need to consider the benefits of making record-keeping mandatory against any perceived encroachment on people's right to privacy and any potential risk to the maintenance of social licence for the COVID-19 response overall.[34]

While Cabinet responded to the Privacy Commissioner's concerns by not requiring individuals to scan into premises or otherwise record their presence, this distinction may not have been well understood by members of the public. There was also very limited capacity to enforce record-keeping requirements on the part of business owners and event organisers (see section 8.3.2.2). Again, it is unlikely that most members of the public were aware of this, feeding a perception by some that scanning-in or recording their details was 'compulsory' at this time.

Paper-based records

As well as displaying a QR code, businesses and organisers of events where people gathered in close-confined settings were now required to actively keep records of attendees for contact-tracing purposes. Such businesses included indoor public and event facilities, aged care and health facilities (for visitors), exercise facilities, hairdressers, hospitality venues and social gatherings (including weddings, funerals, faith-based services and gatherings held at marae, but not at private residences).[35]

8.2.2.3 Lifting of requirements

The first case of the Omicron variant was detected at the Aotearoa New Zealand border in December 2021,[36] and the first community transmission of Omicron was reported on 18 January 2022.[37] Omicron was more infectious than previous strains, and by December 2021, international evidence was starting to emerge that vaccines were less effective at preventing its spread (see also section 8.4.5).[38] With this evolving situation came the realisation that Aotearoa New Zealand's 'opening up' might not involve stamping out a series of localised outbreaks as anticipated in late 2021, but rather a large wave of infection across the whole country. Indeed, that is what occurred. By early February 2022, case numbers had surged into the hundreds, and by March 2022 there were thousands of new cases every day.[39] Omicron was now firmly established as the dominant COVID-19 variant circulating in New Zealand.

This had many implications. One was that the intensive approach of actively tracing the contacts of all cases was no longer feasible: Aotearoa New Zealand's contact-tracing capacity, despite having recently been significantly expanded, would quickly be overwhelmed. Over the first quarter of 2022, the approach therefore shifted to a more 'hands-off' model in which people who had tested positive for the virus were encouraged to alert potential contacts themselves.[40] From 4 April 2022, all requirements to keep records of attendance or display QR codes were lifted.[41] The NZ COVID Tracer app was eventually removed from smartphone app stores in August 2023.

8.2.3 Mask requirements

It took some time for a scientific consensus to emerge and for consistent guidance to be issued from the World Health Organization about the effectiveness of masks at reducing the spread of COVID-19 (see Chapter 5). Mask mandates therefore did not feature prominently in the early stages of Aotearoa New Zealand's pandemic response.[vi]

By August 2020, however, it was well-established that COVID-19 was spread by airborne particles, and that mask wearing was an effective tool for reducing its spread. That month, Cabinet considered advice from the Ministry of Health to include mandatory mask wearing in the response to the next outbreak. Masks were subsequently required for all passengers on public transport and domestic air travel at Alert Level 2 and above.[42]

Mask requirements were expanded in the second half of 2021 in response to the Delta outbreak. Mask wearing was required for a wide range of indoor settings at Alert Level 2 or above.[43] Although businesses were never legally tasked with enforcing mask wearing on their premises, many chose voluntarily to make mask wearing a condition of entry as a way of supporting the public health response and protecting their staff and customers.

8.2.3.1 Mask requirements under the COVID-19 Protection Framework

Under the COVID-19 Protection Framework or 'traffic light' system (in place from December 2021), mask requirements varied at the different levels.

- **At 'Red'**, masks were required for everyone at most indoor places including flights, public transport, at retail, events, schools (years 4 to 13), tertiary education, close-proximity businesses, food and drink businesses (except when eating or drinking), and in public facilities.[44]
- **At 'Orange'**, masks were required in many indoor locations including on flights, public transport, retail, public facilities and for workers at gatherings, events, and other hospitality businesses including cafes and restaurants.[45]
- **At 'Green'**, masks were not required except on flights. However, masks were encouraged indoors along with maintaining healthy habits such as handwashing and staying at home when sick to keep whānau and others protected.[46]

The entire country was at 'Red' from 23 January 2022 until 13 April 2022, and then at 'Orange' until 12 September 2022.[47]

vi It is possible that this made the imposition and tightening of later mask mandates more challenging, because there was a perception among some members of the public that advice and evidence about mask use had been inconsistent.

8.2.3.2 Mask exemptions

Some people could not wear facemasks for reasons of physical or mental impairment or illness. This was recognised in the orders mandating their use, which allowed anyone who had a physical or mental illness or disability that made wearing a face covering unsuitable to be exempt from the requirement to do so.[48] The Government implemented a facemask exemption scheme in late 2020, which was coordinated by disability providers.

On 31 May 2022, the Government launched a new process for providing evidence of a person's facemask exempt status.[49] This involved the person making an online self-declaration that they met one or more of the criteria for exemption. The downloadable digital exemption card was personalised so that it could not be used by someone other than the person to whom it was issued, and the corresponding COVID-19 Order made it a requirement for businesses to accept these exemption cards.

By August 2022, there were 45,363 people with facemask exemptions.

8.2.3.3 Lifting of requirements

On 12 September 2022, the Government retired the COVID-19 Protection Framework, removing most facemask requirements.[50] However, many people remained vulnerable to severe impacts of a COVID-19 infection. Accordingly, facemask requirements were retained for healthcare settings, including for in-home and disability support and aged residential care. These were eventually revoked on 15 August 2023.[51]

By August 2022, there were
45,363 people
with facemask exemptions.

8.3 Our assessment: testing, contact tracing and mask requirements | Tā mātau arotake: ngā whakaritenga whakamātautau, whaiwhai i te pātanga, me te ārai kanohi

During the pandemic, routine COVID-19 testing, extensive contact tracing and widespread mask use were all important tools used to mitigate the spread of the virus. The combination of testing and contact tracing ensured that positive cases and their close contacts could be identified, then isolated or quarantined until they were no longer contagious or at risk. Mask use reduced the likelihood of a community outbreak from cases that had not been detected by these methods.

There is good international evidence that testing, contact tracing and mask wearing all reduce the risk of COVID-19 transmission.[52] It is more difficult to quantify the benefit of making these measures mandatory, although cross-jurisdictional comparisons show that protection from infection is greater where mask wearing is compulsory (rather than voluntary).[53] Nevertheless, given the effectiveness of these measures depends on them being widely adopted, we are confident that making them compulsory contributed usefully to the success of the elimination strategy during 2020 and 2021. In our view, making testing, contact tracing and masking compulsory resulted in meaningful benefit that outweighed the 'cost' to New Zealanders (e.g. the discomfort of wearing masks and impingements on individual human rights and privacy).

Making testing, contact tracing and masking compulsory resulted in meaningful benefit that outweighed the 'cost' to New Zealanders.

While we are satisfied that these requirements were reasonable, we identified some practical issues with their implementation that provide useful learning opportunities for future pandemics.

8.3.1 Testing requirements

8.3.1.1 Compulsory border testing was useful for keeping COVID-19 out of the community

Mandatory testing for groups at higher risk of exposure made it more likely that cases would be detected and could be isolated. This was particularly relevant at the border and in MIQ, to reduce the risk of the virus spreading from overseas arrivals to border workers, their families and the wider community. It appears to have been effective. Between June 2020 and September 2021, a small but steady stream of positive COVID-19 cases were detected at the border. The vast majority of these cases did not result in, or coincide with, any community transmission.

8.3.1.2 Compulsory testing orders were challenging to implement

Operational realities at the border

While the mandatory testing system provided assurance, some government agencies were reluctant to implement mandatory testing for people working at the border and did not know how best to do so, as was noted in a 2020 review.[54] Further, there were practical issues in some cases with mandatory testing, especially when testing could not be performed onsite.[55]

The 2020 review of the implementation of the COVID-19 surveillance strategy, including mandatory testing, found that there was 'a lack of appreciation of operational implications of directives', leading to border directives that were difficult to understand and implement.[56] The review also suggested that testing regimes were poorly targeted in terms of which workers were at highest risk of COVID-19 exposure, especially at the border.[57]

The view that central government lacked operational awareness about how such requirements would work in practice was echoed by some stakeholders the Inquiry engaged with directly. One major port company criticised what they regarded as 'unworkable instructions' for testing of border workers:

> "There was an order for immediate testing [...] issued Friday 9am with a deadline for midnight the following Monday. Every person had to be tested in that time. It covered 5,500 people who worked at our port. MoH had no idea about the number of people and the practicalities of testing. [...] People showed up at the testing facility which could not cope. The timeframe was eventually amended to focus on those with higher risk (720 workers) [...] It impacted workers locally – there were unworkable instructions with the threat that if they didn't follow them, they were breaking the law."

'Testing fatigue'

Nasal swabbing – the principal method used in mandatory testing for COVID-19 – is an unpleasant and somewhat invasive procedure.[58] Some public submitters who were subject to frequent testing requirements found these intrusive and unpleasant.

> "Expecting people to have their nasal passage scratched every day they worked is cruel and should be illegal."

> "Crossing the [Auckland] border I was subjected to regular PCR tests so I could cross the imaginary 'border' that separated my home from my work. I still feel sick in my stomach every time I come up to that bit of the road that marked the 'border'."

There was some concern that 'testing fatigue' could undermine the effectiveness of the regime. In April 2021, ministers were briefed about reports of increasing resistance to repeated nasal swab testing among border workers, noting:

> "There is a risk that ongoing use of invasive testing methods could create testing reluctance or fatigue, and compliance with the testing regime could reduce given this." [59]

Border workers were subsequently given the option of saliva testing in recognition of the challenges of taking frequent nasal tests.[60]

Record-keeping and assurance

The mandatory testing regime placed significant requirements on people running border-related businesses or activities to ensure staff were being tested as required.

An online register helped with record-keeping requirements, but had some significant limitations. It was not a real-time system; there was a lag between when swabs were taken and when results appeared in the register.[61] There were also issues with duplicate health identification numbers, which meant the system might struggle to match border workers with their test results, exacerbated in cases where businesses were unable to correct errors in the system.[62] A submission from an organisation working at the air border highlighted these challenges:

> "Managing testing mandates was resource intensive and system poor… 14,000 records were uploaded into BWTR [the Border Worker Testing Register], every person who had ever worked in the facilities from inception. There was little consultation with PCBUs [persons conducting a business or undertaking], and current staffing lists were not sought. This created significant discrepancies in the records, names spelt wrong, incomplete, and incorrect records, multiple records for one person, and in one instance, a […] staff member had five records with five different NHI numbers. His tests were assigned to multiple records […] this created ongoing noncompliance [issues] for this staff member when in fact he was compliant."

From February 2021, the Ministry of Business, Innovation and Employment rolled out a visitor management system for staff at MIQ facilities that improved and automated the register and addressed some of these issues. Despite this, concerns remained about the quality of data the system generated,[63] as well as more general concerns about the level of compliance with the border testing regime.[64]

8.3.2 Contact-tracing requirements

8.3.2.1 Mandatory contact tracing was an important element of Aotearoa New Zealand's COVID-19 response

Requiring people to comply with contact tracing is a key element of infection control, particularly during a pandemic. International evidence shows that contact tracing reduces the risk of COVID-19 transmission.[65] As noted in Chapter 3, contact tracing in Taiwan was so effective in identifying cases that – together with isolation and widespread masking – it enabled Taiwan to successfully eliminate COVID-19 transmission in 2020 without the need for lockdowns.[66]

Details of contact tracing and how this was carried out are discussed in more detail in Chapter 5. Mandatory contact tracing was an important component of Aotearoa New Zealand's COVID-19 response – particularly during the early stages of the elimination strategy, when it successfully enabled chains of COVID-19 transmission to be identified and closed down (through quarantine of people with infection and isolation of their close contacts).

While the discussion here focuses on implementation challenges with the NZ COVID Tracer app, the Inquiry is confident that contact tracing more broadly was an important and necessary part of Aotearoa New Zealand's COVID-19 response.

8.3.2.2 The NZ COVID Tracer app made contact tracing easier, but it was not as effective as hoped at identifying contacts of cases

During COVID-19, many countries introduced digital technology to supplement 'manual' (person-based) contact tracing. Digital apps allowed people to record or scan their location while out and about, creating a database that could be used to inform people if it became apparent they had been in proximity to someone who was subsequently diagnosed with COVID-19.

User experiences with the NZ COVID Tracer app

Some people found the NZ COVID Tracer app useful and reassuring. There were positive comments about the app in our public submissions, generally expressing views that it was easy to use and had a beneficial impact.

> "The use of the Covid app was fantastic and provided a degree of comfort knowing your potential exposure would be notified to you."

> "I think the app was a great idea – allowing people to scan into various locations and it meant you got a warning when you might have been in contact with someone else. This information allowed people to make informed decisions e.g. not visiting a newborn baby or grandparent if there is risk of covid. The main goal should be keeping people safe."

However, others found the app inaccessible or confusing, as the following quotes indicate. It may have been particularly challenging for older or disabled people.

> “Many elderly or those without smartphones couldn't use COVID tracing app. Businesses often didn't have log in sheets.”

> “I wanted to follow the rules but wasn't able to do so. How could they help? Could they design alternative systems and still ensure privacy? They tried but I don't think they succeeded.”

These concerns were later reinforced in academic research exploring barriers to digital contact tracing in Aotearoa New Zealand. Focus group participants pointed out how older people, lower socio-economic groups, and some disabled people encountered barriers in using or accessing smartphones. Disability sector participants pointed out that the app could have been improved by following smartphone accessibility guidelines and noted many issues that prevented disabled people from scanning in (for example, QR posters located too high for people in wheelchairs).[67]

Privacy concerns

Some people held strong privacy concerns about the NZ COVID Tracer app, despite the Privacy Commissioner's supportive assessments.[68] Discomfort about the Government's ability to 'track' people's movements via the app was one of the main objections to its use expressed by public submitters to our Inquiry. Some felt this was government overreach – or worse, a 'hidden agenda' to gather and exploit data about individual citizens' movements.

An academic study of barriers to the uptake of digital contact tracing also identified privacy as a common concern. Such concerns were particularly evident in population groups with low historical trust in government, the study found. Māori participants expressed distrust of the Government's motivation for gathering data about people's contacts and movements, reflecting Aotearoa New Zealand's history of colonisation, and in particular, the disproportionate number of tamariki Māori[vii] being taken into state care.[69] Similarly, a Pacific community participant noted that:

> “Some of our community don't have permanent residency ... [They] weren't comfortable in disclosing or downloading anything like that [app] as much as they wanted to, because they're scared for their immigration status.”[70]

vii An issue that was prominent during the COVID-19 response and subsequently raised by the Royal Commission of Inquiry into Abuse in State Care.

Some of the stakeholders we engaged with reflected on the impact of such privacy concerns. One senior official involved with commissioning and rolling out the app told us that a key lesson from the pandemic was to think carefully about privacy concerns and keep data from contact tracing separate from other parts of the health system:

> "People generally don't trust the government, or are not comfortable with tracing functionality … when we talked to people, understood what's worrying people in the community… this [lack of trust] was a big lesson. So I think it [tracing function] needs to be kept separate from apps that are used in peacetime, but be kept ready."

Impact of mandatory QR codes on uptake of the app

Use of the NZ COVID Tracer app rose considerably in August and September 2020 following the re-emergence of community transmission and the Government's decision to make the display of official QR code posters mandatory.[71] After this decision, the number of users grew from about 600,000 to 2.2 million, while the number of posters displayed rose from 87,000 to 381,000 by late September 2020. A later review of the NZ COVID Tracer app's effectiveness suggested around 45 percent of the population used it to scan their locations (considered a high rate of uptake for a tool of this nature).[72]

Effectiveness of the app at identifying contacts of cases

Unfortunately, the app wasn't as effective as hoped as a public health tool. The same review that found uptake to be 'high' at 45 percent also found that the QR function of the app was not effective in detecting close contacts of cases (though it was good at identifying casual contacts). The authors concluded that the app 'likely made a negligible impact on the COVID-19 response in relation to isolating or testing potential contacts of cases'.[73]

Challenges with enforcement

Evidence suggests it was challenging to ensure that members of the public participated in record-keeping activities (such as QR scanning) without placing impossible or unworkable requirements on business owners or enforcement agencies. An internal report indicates the New Zealand Police saw their role as one of supporting businesses to implement record-keeping rather than attempting to enforce compliance.

8.3.3 Mask requirements

8.3.3.1 Mask requirements provided actual and perceived protection from COVID-19

The evidence that mask wearing decreases the rate of transmission of COVID-19 (and other airborne respiratory viruses) is substantial (see Chapter 5).[74] However, for masks to have a significant impact on community transmission, they need to be both worn correctly, and used by most people. Making masks compulsory in a wide range of public and high-risk settings at different stages of the pandemic was an effective – if blunt – tool to encourage their use at the scale required.

Many of our public submitters supported the use of masks as a protective measure. We heard that they made people feel safe, by providing a perceived added layer of protection for themselves, their family, or for others who were immunocompromised. Some told us that they have continued to use masks, and expressed a view that they should be used more as a tool for general health management.

> "The lockdowns, mask usage and vaccine passes made me and my family feel as safe as we could do under the circumstances, especially with immune compromised family members."

> "That masking does work and should be practised when sick regardless of pandemics and encouraged. This should be normalised so it isn't pushed against so hard."

Some submitters who were immunocompromised or had other medical vulnerabilities described feeling 'relieved' that mask measures were enforced to help them feel safe.

> "As someone with chronic medical conditions, I was grateful for the mask and vaccine mandates as the pandemic progressed, as this meant I felt more safe as I carried out my daily living."

Some submitters expressed the view that mask mandates should have been introduced earlier.

> "My only concern, being a nurse was how long it took the MOH to realize that masks should be mandated. In the beginning they even said they weren't required."

8.3.3.2 But mask mandates were challenging for some

Mask requirements were also criticised by a substantial number of submitters, many of whom questioned the rationale for mask mandates. These submitters tended to cite the changing evidence about mask use over the course of the pandemic as proof that masks 'did not work' against COVID-19 and found the evolving guidance about mask use confusing.

Particular frustrations were expressed about the perceived illogic of mask requirements in enclosed spaces such as cafes, restaurants, on flights and in cars.

> "The idiocy of having to wear a mask into a cafe and then take it off when you sat to eat was nonsensical."

> "Why did we have to wear masks on a plane but then it was ok to take them off to eat. Did the COVID hide in the toilet while we were eating?"

Some submitters shared negative personal experiences of wearing masks, and expressed concerns that masks caused social harms, including fear, isolation, impeding socialising and making it difficult to read facial expressions.

> “This has caused damage to those wearing them.”

> “The mask mandates making you feel trapped and silenced, a useless piece of cloth covering your mouth to keep you quiet, to stop you speaking out, giving people anxiety and [making them] feel like they couldn't reach out at the risk of being disowned by family and friends.”

The compulsory use of masks may have created difficulty for some disabled people, including deaf and hard of hearing people, who rely on lip reading to communicate. A 2021 report on the impact of the COVID-19 response on disabled people's rights outlined the negative experiences of some disabled people who rely on lip-reading to communicate. Some reported that health workers refused to remove their masks, even at a distance, and refused to try alternative ways of communicating (such as writing) to convey important information.[75]

We also heard that mask requirements were difficult to carry out in practice in some settings, particularly in schools. While some public submitters expressed distress about children having to be masked at school, we heard in direct engagements that obtaining sufficient masks to uphold these requirements was also difficult. An education union told us that it took 'far too long for masks to arrive, and when they did, they were no longer needed'.

Issues with exemptions

Mask exemptions caused ongoing issues for some members of the disability community. We heard in direct engagements that the process for issuing mask exemptions was poorly managed, and that some of the disability organisations contracted to issue mask exemption certificates had minimal notice about taking on this function and were overwhelmed with requests.

We also heard that many businesses did not trust the integrity of mask exemption certificates, and that the purpose and criteria for these were not well-communicated to the general public. This led to some disabled people who could not wear masks feeling subjected to discrimination and abuse.

> “We had calls from people who were being arrested for trespass in their local supermarket because the police were refusing to acknowledge the exemption tool that had been provided by the Ministry of Health. The situation was denying disabled people access to essential services and food, and our reputation was negatively impacted.”

Some retail workers and members of the public found it difficult to distinguish between people who were legitimately exempt from mask requirements, and people who refused to wear a mask for other reasons, including as a point of protest. In attempting to verify whether people were genuinely exempt, some workers, especially in retail settings such as supermarkets, experienced escalating and unsafe behaviour from some customers.

8.4 What happened: Vaccination requirements | I aha: Ngā whakaritenga rongoā āraimate

Many countries began to introduce vaccine requirements for certain workforces as part of their COVID-19 responses during 2021. For example, the Italian government made it mandatory for healthcare workers to be vaccinated from April 2021, while Australia introduced a vaccine mandate for residential aged care workers in September 2021.

In Aotearoa New Zealand, the term 'vaccine mandate' was mostly used to describe this same type of occupational mandate, specifically government orders that required people working in certain professions (such as education and healthcare workers) to be vaccinated against COVID-19 if they wanted to continue working in those roles.[76] Several Government-issued occupational vaccine mandates were introduced in New Zealand between May and November 2021, using order-making powers under the COVID-19 Public Health Response Act 2020.

As well as mandating COVID-19 vaccination for certain occupations, the Government also introduced a Vaccination Assessment Tool to assist employers with the health and safety assessments required to introduce their own workplace vaccination policies. While not set by central government, these policies operated as de facto vaccine 'mandates' within certain workplaces or sectors. Finally, in December 2021, Aotearoa New Zealand introduced a series of more stringent restrictions for people who were not vaccinated against COVID-19. These included additional masking and physical distancing requirements, and stricter limits for gatherings with unvaccinated people.[77] Such restrictions were able to be implemented and enforced by the introduction of government-issued COVID-19 vaccination certificates, commonly referred to as 'vaccine passes'.[78] These were in place from late 2021 until April 2022.

The term 'vaccine mandate' was commonly used to describe workplace-specific vaccination policies and vaccine pass requirements, as well as the Government-issued occupational mandates. For ease of reference, when we use the term 'vaccine mandates' in this section, we are referring mainly to Government-issued occupational mandates (and we try to make this clear in the text of this report). We refer separately to 'workplace-specific policies' and 'vaccine passes', and when a catch-all term is helpful, we use 'vaccine requirements'.

Many countries introduced vaccine mandates for certain workforces as part of their COVID-19 response.

8.4.1 The case for requiring vaccination

Much of the rest of this section documents what vaccine requirements were introduced, and when, as part of the COVID-19 response. It is also important to understand *why* such requirements were considered necessary, if we are to draw lessons for future pandemics. We begin, therefore, by setting out what we understand to have been the overarching rationale for introducing various vaccine requirements, based on the evidence available to our Inquiry.

Decisions about vaccine requirements involved complex trade-offs. Decision-makers were aware of the need to protect vulnerable population groups from the virus, but were also under pressure in late 2021 to reduce reliance on stringent public health measures after the long regional lockdown in Auckland. They needed to balance the public health benefits of higher vaccination coverage, the social and economic imperative to return to something like 'normal' life, and the importance of upholding people's individual rights and medical autonomy. Cabinet decisions to issue occupational vaccination mandates, simplify the process for employers to set workplace-specific vaccine policies, and require vaccine passes for certain locations and gatherings were all attempts to strike an acceptable balance between these arguably competing imperatives.

8.4.1.1 Reducing COVID-19 transmission

Until November 2021, the rationale for making vaccination compulsory in a range of settings was usually described in terms of its potential to reduce transmission of COVID-19. This is a very significant benefit, as it means vaccination can reduce the size of outbreaks and the speed at which they spread, as well as protecting vulnerable people from infection. This rationale was evident in early advice to Cabinet from February 2021, which discussed the need to balance the anticipated benefits of requiring vaccination in certain settings against the constraint this would place on individual freedoms and human rights. The expectation that vaccinating one person would provide protection for *other* people (including vulnerable individuals) was an important consideration when imposing constraints on individuals that would not have been considered justifiable under 'normal' circumstances.

Decision-makers had to balance the benefits of vaccine mandates (such as preventing spread of infection and protecting vulnerable people) against the limitation these placed on people's individual freedoms.

8.4.1.2 The New Zealand Bill of Rights Act and the right to refuse medical treatment

In weighing up the public and personal health benefits of making vaccination compulsory in certain settings, ministers needed to consider whether any of the rights and freedoms affirmed by the New Zealand Bill of Rights Act 1990 would be engaged. One potentially applicable provision is 'the right to refuse to undergo any medical treatment'.[79] Another potentially applicable provision is the right to freedom from discrimination 'on the grounds of discrimination in the Human Rights Act 1993.' Importantly, however, the New Zealand Bill of Rights Act also recognises that the rights and freedoms it affirms may be subject 'to such reasonable limits [...] as can be demonstrably justified in a free and democratic society.'[80] Ministers therefore needed to consider whether any interference with fundamental rights and freedoms was 'demonstrably justified' despite the elementary principles of freedom and democracy under which we normally live in Aotearoa New Zealand.

The risk of legal challenge

Decisions and actions of Government that are in breach of the New Zealand Bill of Rights Act can be subject to judicial review. Cabinet's decisions about the use of order-making powers under the COVID-19 Public Health Response Act 2020, to introduce vaccine mandates, would have taken Bill of Rights Act compliance into consideration. The Minister would need to be satisfied that the introduction of vaccine mandates represented a justified limit on individual rights and freedoms.

Justification for infringement

Cabinet received detailed advice on the conditions that would need to be met for vaccine mandates to be justified under the New Zealand Bill of Rights Act. This advice recognised vaccination as a medical treatment and set out the basis on which the Government could be 'demonstrably justified' in requiring people to undergo vaccination in order to work in certain roles. The original wording of the COVID-19 Public Health Response Act 2020 linked the use of such orders with preventing the spread of COVID-19.

From the evidence we have reviewed, it seems clear that – for the introduction of most vaccine requirements – the basis on which ministers were satisfied that they were justified in limiting people's right to refuse medical treatment was that these requirements would substantially reduce community transmission. This is evident from one briefing we have seen – concerning the extension of vaccination mandates to cover booster doses on 22 December 2021 – in which health officials gave the following advice:

> "Vaccination plainly constitutes medical treatment and therefore engages the right of every person to refuse it if they choose. Compulsory vaccination of whatever sort, and by whatever means will be inconsistent with that right unless it can be demonstrably justified. The state has a legitimate interest in impeding community transmission of the virus. If the Minister of COVID-19 Response is satisfied on the basis of credible evidence that compulsory vaccination of affected workers will have that effect or make a substantial contribution to it that cannot be otherwise achieved, it will be justified."

8.4.1.3 The importance of emerging evidence

Early advice to ministers on the use of vaccine requirements acknowledged that scientific evidence about the effectiveness of COVID-19 vaccination would continue to evolve. Officials advised ministers that they would need to monitor evidence on the effectiveness of vaccines at preventing COVID-19 transmission when considering the ongoing appropriateness of requiring vaccination in certain settings:

> "The Ministry of Health will continue to monitor emerging evidence on the effectiveness of COVID-19 vaccines at preventing transmission to ensure that any options appropriately respond to the most recent scientific evidence. Up to date scientific evidence will provide a good foundation for any changes in approach to the public."

The implication was that policies might change in response to 'emerging evidence', and that health officials would proactively update advice on the use of vaccination mandates and requirements in response to such evidence.

8.4.1.4 Te Tiriti | Treaty of Waitangi and equity considerations

The same early advice noted that mandatory vaccination might undermine the Crown's obligations in relation to te Tiriti, with respect to both self-determination and equity of treatment, noting:

> "if a decision to mandate vaccination was not made in partnership with Māori this would mean that Māori would not be supported to self-determine whether to undergo this medical treatment, which is likely contrary to the Te Tiriti principle of Tino rangatiratanga (which in a health context, provides for Māori self-determination and mana motuhake in the design, delivery and monitoring of health services)."

The advice also noted that Māori (and Pacific peoples) would be 'more likely to be adversely impacted by compliance measures, such as redeployment and dismissal' given their greater likelihood of not receiving a COVID-19 vaccine – reflecting higher rates of underlying health conditions (which might preclude vaccination) and their historically lower vaccination coverage.

Later, the potential for disproportionate impacts on Māori was specifically acknowledged in advice on use of vaccine pass requirements (where people were required to show evidence of vaccination to access certain venues and events). A Ministerial briefing described Māori as having 'higher levels of structural disadvantage', noting:

> "... there are ongoing and increased concerns and anxieties among some Māori and other population groups around surveillance and low trust in government agencies... This is why transparent and outward facing engagement is likely to be critical to successful adoption of [vaccine passes]."[81]

8.4.2 Occupational vaccine mandates

8.4.2.1 Early mandates for specific workers

Border workers were the first group for whom vaccination was made a requirement of their employment. These workers had been prioritised for vaccination since February 2021 due to their role on the 'front line'. At that time, officials presented Cabinet with a range of options for encouraging border workers to get vaccinated, ranging from paid time off to attend vaccination to directly issuing vaccine mandates.[82] At that early stage, encouragement was preferred over compulsion, but Cabinet requested further advice on legislative or regulatory levers that might be needed if a mandatory approach was favoured in future.

Even at that early stage, it is clear that officials and ministers were aware of the potential for mandatory vaccination to have unintended impacts, including a potential loss of trust among some members of the public:

> "Mandating vaccination for particular workforces will likely have flow on impacts on the perception of the COVID-19 Immunisation Programme and may have unintended consequences, such as reducing trust in the Programme among some groups…"

> "The precedent impacts of a decision to make vaccination mandatory for specific workforces is most likely to have an impact on the health workforces and other frontline public sector workforces in the future."

Section 11 of the COVID-19 Public Health Response Act 2020 contained a broad power allowing the relevant minister to issue orders that could 'require persons to take any specified actions, or comply with any specified measures, that contribute or are likely to contribute to preventing the risk of the outbreak or spread of COVID-19'.[83] This was the mechanism by which the Government issued occupational vaccine mandates.

The COVID-19 Public Health Response (Vaccinations) Order 2021 came into force in May 2021, stipulating that specified high-risk roles should be undertaken only by vaccinated individuals.[84] From May 2021, it applied to a small group of border workers; from July, it was extended to most maritime and aviation workers.[85] The order also applied to Police and Defence staff working in border or quarantine settings.

According to the Ministry of Health, the rationale for these early mandates was to reduce the risk of COVID-19 entering Aotearoa New Zealand through the border. The expectation was that vaccination would reduce the chance of border workers and their families catching the virus and in turn passing it onto others.[86]

8.4.2.2 Widening of mandates to health, disability, education and prison workers

The emergence of the Delta variant precipitated a widening of occupational vaccine mandates to include health, disability, education and prison workers. This was intended to reduce the risk of COVID-19 transmission, particularly to vulnerable groups, as reflected in a 2022 letter from the Strategic COVID-19 Public Health Advisory Group to the Associate Minister of Health:

> “ The main purpose of these mandates has been to reduce the risk of workers becoming infected and transmitting the virus to groups of people who may be either unable to be vaccinated themselves (e.g. young children), particularly vulnerable to infection (e.g. sick patients or residents in aged care), or at risk of large outbreaks (e.g. inmates in prisons)’. ” [87]

By August 2021, most health workers had already been vaccinated, but some had not. The emergence of the Delta variant, which began to circulate in Auckland that month, refocused attention on the potential for the healthcare system to be overwhelmed. Health workers were at greater risk of being infected and of passing COVID-19 on to patients. There were also potential system capacity implications if health workers had to isolate in large numbers. The Minister of Health directed the Ministry to start working on extending the vaccination order to certain groups of health workers.

In October 2021, Cabinet duly agreed to extend the vaccination order to workers in the health and disability sector. (The order also applied to Police and emergency services staff working as or alongside health staff.) Cabinet also agreed to apply the order to aged care workers, prison staff, and teachers and other education workers.[88] The Ministry of Business, Innovation and Employment estimated that Government-issued vaccine mandates for workers in border, health, education and correctional settings would cover roughly 15 percent of the country’s total workforce.[89]

Again, the rationale for extending the order to these other sectors appears to have been to prevent the spread of infection. A Cabinet briefing from the time emphasises the importance of vaccination in the prevention of COVID-19 transmission – particularly in ‘high-risk settings’ such as prisons:

> “ Mandating vaccination for work that takes place in prisons is an important step to protect the health of workers and people in prison. People in prison are some of the most vulnerable to COVID-19, due to the ease of transmission that COVID-19 can have in prisons, and the existing health vulnerabilities of the prison population. ” [90]

We have not seen direct evidence on the specific rationale for applying vaccination orders to teachers and other education workers. However, a subsequent High Court ruling (in response to a legal challenge to the mandates) described the purpose of these mandates as preventing schools from becoming a source of community transmission that might pose a risk to vulnerable people (including parents and grandparents of students).[91] We also heard from education stakeholders we engaged with directly that schools wanted stronger guidance from government on whether staff should be required to be vaccinated, and how to keep teachers employed.

Affected workers who were likely to have contact with children were required to have their first vaccine by 15 November 2021 and be fully vaccinated (i.e. two doses) by 1 January 2022. Subsequent decisions and orders in late 2021 and early 2022 extended the requirement for MIQ, border and health workforces to include booster doses within six months of their second primary dose.

It was possible for workers to obtain a medical exemption from the vaccine requirement, but access to these was highly restricted. Those who were eligible included people already infected with COVID-19, people who had had a serious adverse reaction requiring hospitalisation (such as anaphylaxis and myocarditis) to a previous dose, and people with pre-existing heart conditions or who had experienced inflammatory cardiac illness in the previous six months. Otherwise, it was expected that most people could be safely vaccinated, although some might require extra precautions.[92]

While exemption certificates could initially be issued by any registered medical practitioner, there were concerns that exemptions were being granted in situations where they were not warranted on clinical grounds. From November 2021, such exemptions were issued centrally under the authority of the Director-General of Health.[93]

The decision to apply vaccine mandates to health and education workers occurred at a difficult period in the pandemic response when there was 'confusion [… over the] ambiguity of what New Zealand's overall COVID-19 strategy is'.[94] Ministers were aware of 'mixed reactions' to the mandate announcement, with some people reassured by their introduction – and the prospect of further vaccination requirements – while others saw their introduction as a breach of trust:

> "Some people expressed happiness and a desire for the mandate to be expanded to other sectors, with others perceiving the decision as a backtrack on Government's word not to mandate vaccinations in New Zealand. At the same time, others are discussing vaccination [passes], with some noting that they booked their vaccination in anticipation of their introduction."[95]

8.4.2.3 Broadening the potential basis for future mandates

As set out in section 8.4.2.1, the original wording of the COVID-19 Public Health Response Act 2020 allowed ministers to make orders requiring people to comply with specific measures, *if these would contribute (or be likely to contribute) to preventing the spread of COVID-19*. That is, premised on vaccines reducing the risk of between-person transmission, and not premised on vaccines protecting against serious illness. This was the basis on which the earlier Government-issued occupational mandates were set.

In October 2021, Cabinet agreed to amend the COVID-19 Public Health Response Act 2020 to expand the basis on which workers could be required to undergo vaccination.[96] The changes allowed Government to introduce vaccine mandates (via Section 11AA and Section 11AB orders) on 'public interest' grounds. Public interest was defined as 'ensuring continuity of services that are essential for public safety [...] supporting the continued provision of lifeline utilities and other essential services: maintaining trust in public services: [and] maintaining access to overseas markets'.[97] These changes came into force on 25 November 2021,[98] having been passed under urgency and without referral to a Select Committee.

Cabinet papers recommending these changes noted that several government agencies wanted to ensure 'key public services and essential services should only be delivered by vaccinated workers' and made the case that mandatory vaccination would help ensure continuity of essential services, critical national infrastructure, and access to overseas markets.[99] The changes were recommended to:

> "enable Government to mandate vaccination for these categories of work in future, particularly if public interest arguments are stronger than public health reasons for requiring vaccination."[100]

This shift in the grounds for requiring vaccination is subtle but important. It meant that the Government could require vaccination on the grounds that it would help prevent workers in essential services from becoming sick (whereas before they could only require vaccination on the grounds that it would help limit transmission of COVID-19). This might be helpful if it substantially increased vaccination rates among essential workers, notably reducing the number of staff sick and off work due to sickness from the pandemic pathogen and compromising the delivery of key public and essential services.

Government powers to issue orders on public interest grounds were eventually repealed on 26 November 2022.[101]

8.4.2.4 Inclusion of paid and volunteer firefighters

According to the Ministry of Health, Fire and Emergency New Zealand considered their frontline to be covered by the vaccine mandates for health workers since they were frequently in direct contact with patients and other health staff (as firefighters are often involved as first responders in emergency situations).[102]

This took some time to confirm, meaning there was a delay between vaccine mandates for health workers being announced, and firefighters (both paid staff and volunteers) being informed that it applied to them. The Vaccination Order therefore was amended on 12 November 2021 to extend the dates which by which firefighting personnel had to comply. Firefighters were required to have their second vaccination by 14 January 2022 in order to continue in their roles.[103]

8.4.2.5 New mandates for Police and Defence Force staff

As noted previously, many Defence Force staff were covered by mandates requiring vaccination of staff working in border settings; while many Police were covered by mandates for staff in border, health and education settings. Occupational mandates covering remaining Police and Defence Force staff were issued on 16 December 2021.[104] A month before, Cabinet had agreed to apply vaccine mandates to these roles in line with the expanded 'public interest' grounds introduced via changes to the COVID-19 Public Health Response Act 2020.[105] The case was made that mandatory vaccination would ensure continuity of the 'essential services' provided by these workforces in relation to public safety, national defence and crisis response.

8.4.2.6 Removal of occupational vaccine mandates

Most government-ordered COVID-19 vaccination mandates were in place for between six and 12 months in 2021 and 2022.[viii] Ministers requested periodic reviews of the advisability of continuing vaccine mandates during this time, and officials and expert groups provided advice in response to these requests.[106]

In March 2022, the Strategic COVID-19 Public Health Advisory Group told the Associate Minister of Health that the case for retaining occupational vaccine mandates was now:

> "more finely balanced, because of our relatively high vaccination coverage and increasing natural immunity, as well as the apparent lowering of vaccine effectiveness against transmission of the Omicron variant." [107]

The Government-issued vaccine mandates for workers in education, Police and the Defence Force were accordingly revoked in April 2022. However, other occupational mandates remained in place beyond this time. Advice to Cabinet suggests there was a particular desire to maintain vaccine mandates for workers who were in contact with vulnerable people (including people in healthcare settings, aged care residents and those in prison facilities), and for border workers who were at risk of exposure to new COVID-19 variants.[108]

The remaining occupational vaccine mandates were removed progressively from July (border workers, workers in prisons, and Fire and Emergency staff) to September 2022 (workers in health, disability and aged care settings) in accordance with advice from officials.[109]

We return to how the Omicron variant changed the case for vaccine requirements in Aotearoa New Zealand in section 8.4.5.

viii Though the mandates for Police and Defence were in place for less than four months.

8.4.3 Workplace-specific vaccination requirements

8.4.3.1 Expectations around workplace vaccination policies

Once vaccines were readily available in Aotearoa New Zealand, some businesses and unions sought clarity over the circumstances in which workplaces could – or should – require staff to be vaccinated.[110] In April 2021, the Institute of Directors published an article by MinterEllisonRuddWatts which showed the situation was complicated. From an employment law perspective:

> “Whether an employer could lawfully compel an existing employee to be vaccinated (or redeploy them or take disciplinary action if they refuse) does not have a clear-cut answer.”[111]

The advice noted that in most situations, it would not be permissible to introduce a workplace vaccination requirement under existing legislation (‘because it would amount to the employer unlawfully imposing a new employment condition without the employee’s agreement’). However, the Health and Safety at Work Act 2015 created an obligation for an employer or business ‘to ensure as far as reasonably practicable the health and safety of its workers’. In the context of COVID-19, the article advised that this obligation required employers or business owners to carry out ‘a careful risk assessment and [ensure that] reasonable safeguards are in place to reduce the risk of exposure to COVID-19’. In certain circumstances, as a result of this assessment, the employer could require that a specific role had to be undertaken by a vaccinated person.[112]

8.4.3.2 Enabling workplace COVID-19 vaccination policies

The issue of workplace vaccination requirements became more salient in late 2021 as the country began transitioning away from the elimination strategy and it became inevitable that COVID-19 would start to circulate in the general population. This was quite a challenging idea for many people, having just spent almost two years successfully keeping COVID-19 out of the country. Against this backdrop, many employers, workers and members of the public were concerned about potential exposure to COVID-19 in the workplace and in wider social life.

Workplace-specific vaccine requirements offered one option for employers to assuage some of these fears. Employers already had the ability under employment law to terminate an employee’s employment (following a procedurally fair process) where that employee failed to comply with a vaccination requirement.[113] But many employers were concerned that they might be exposed to legal challenge if they attempted to require staff to be vaccinated under existing regulations.[114] The workplace health and safety regulator, WorkSafe, told us there were ‘high levels’ of community expectation in late 2021 and early 2022 that employers would set workplace-specific vaccination requirements and that WorkSafe – with the Health and Safety at Work Act 2015 as a ‘backstop’ – would enforce them.

In October 2021, the Minister responsible for the Ministry of Business, Innovation and Employment proposed changes to existing legislation to support the introduction of broader vaccination requirements in the workplace.[115] Advice to Cabinet emphasised the need to 'provide a much greater degree of certainty and support to employers' who were struggling to determine whether they had grounds to introduce vaccine requirements for their staff, and cited 'widespread and persistent calls from employers, sector groups and unions for greater clarity' on workplace vaccination requirements.[116]

In response to these concerns, the Government introduced a regulatory framework (aligned with the Health and Safety at Work Act 2015) that simplified the process for employers and business owners to assess the risk of COVID-19 in the workplace and require workers to be vaccinated to continue working there.[117] The Act also amended the Employment Relations Act 2000 to provide those employees who were terminated in these circumstances with a minimum of four weeks' paid notice.[118] In line with the Minister's proposal, WorkSafe was empowered and funded to both support businesses with these activities, and enforce any resulting requirements. The changes were supported by the Council of Trade Unions and Business NZ.[119]

The new regulatory framework was introduced in late November via the COVID-19 Response (Vaccinations) Legislation Act 2021, which also amended the COVID-19 Public Health Response Act 2020 to broaden the range of reasons for which the Government could issue occupational vaccine mandates (see section 8.4.2.3).[120] The new Vaccination Assessment Tool was introduced on 15 December 2021.[121] This significantly simplified the process by which employers could introduce a requirement for workers to be vaccinated in line with the Health and Safety at Work Act 2015.

The Vaccination Assessment Tool simplified the process for employers to require workers to be vaccinated.

8.4.3.3 Demand for and uptake of work-related vaccination requirements

The new regulatory arrangements achieved what was perhaps their main purpose: making it easier to ensure that workers in settings where members of the public were required to show a pass for entry would also be vaccinated themselves.[122] The Ministry of Business, Innovation and Employment estimated that this would represent around 25 percent of the country's workforce.[123]

The regulatory changes simplified the health and safety risk assessment that employers were required to undertake to make vaccination a requirement for their staff. We do not have information on how many employers set such policies for their workers. But based on accounts from the businesses and employers we engaged with directly, and evidence that there was strong demand for such policies, it appears some business and other organisations did take up the option to set such policies.

Many public sector agencies placed a strong emphasis on vaccination. In November 2021 the Public Service Commission issued guidance to agencies (including Crown entities and a variety of other Crown organisations) noting 'an expectation that all employees in the public service should be vaccinated'. Agencies with 'at-risk workforces' were encouraged to 'consider introducing a requirement for new employees to be vaccinated into employment agreements'.[124] While many agencies followed suit, others resisted or sought to delay finalising requirements.

8.4.3.4 Removal of workplace-specific vaccine requirements

In April 2022, WorkSafe issued updated guidance for employers regarding risk assessments in relation to COVID-19 transmission in their workplaces.[125] This guidance noted that setting vaccination requirements might be justified for health and safety purposes but that such requirements 'should be used carefully and are not a suitable first response for managing COVID-19 in most workplaces'. WorkSafe's senior leaders told us that the organisation now sees vaccination primarily as a public health issue rather than a workplace safety issue.

Regulations allowing employers to introduce workplace vaccination policies based on the Vaccination Assessment Tool were revoked in May 2022.[126] Advice to the Cabinet Legislation Committee noted that 'the risks of contracting and transmitting COVID-19 have materially shifted… [and] the factors in the [Vaccination Assessment] Tool are no longer an appropriate reflection of the current public health advice'.[127] Public health advice was cited as stating that 'vaccination requirements may continue to be appropriate in some circumstances' but that such requirements should be 'specific to roles and the organisation's circumstances'.[128] The paper noted that employers could continue to require staff to be vaccinated but would 'now need to undertake a full work health and safety risk assessment to determine whether this is an appropriate COVID-19 control for their circumstances'.[129] In other words, the expedited process offered via the Vaccination Assessment Tool was no longer in place.

8.4.4 Vaccine passes

The population-wide vaccination rollout was well underway by the time Government-issued occupational vaccine mandates were being developed and announced. Once vaccination had been offered to everyone aged 65 and over, it was made available to the wider population (in descending age cohorts) from August and September 2021. Various initiatives were undertaken to encourage uptake, such as a 'National Day of Action' (including several mass vaccination events and a 'Vaxathon' broadcast) on 16 October 2021 (see Chapter 6 for more on the vaccine rollout).

8.4.4.1 Initial policy work on vaccine passes

By August 2021, a growing number of countries were investigating or implementing COVID-19 vaccination certificates (also known as vaccine passes) to support international travel, restrict access in domestic settings, or both. Around this time, Ministry of Health officials started work on a digital certificate for people vaccinated in Aotearoa New Zealand, primarily to support international travel. Relevant ministers were kept informed.

In September 2021, policy work on COVID-19 vaccination certificates was extended to include the possible domestic use of certificates to make vaccination a condition of entry for certain settings.[130] Advice from the Ministry of Health and Department of the Prime Minister and Cabinet appeared to focus on their potential role in reducing the risk of COVID-19 transmission, but other benefits were also suggested.[131] While vaccination rates were not yet optimal, the rationale given for vaccine passes was that:

> "requiring proof of vaccination using a certificate for large high-risk events would support the public health response to COVID-19 by reducing the risk of super spreader events and potentially encouraging those not yet vaccinated to get vaccinated."[132]

Officials recommended the 'targeted application of vaccine certificates to high-risk events and venues' as providing the 'best balance of risk mitigation, public acceptability, and feasibility to implement'.[133] It was proposed that vaccine certificates should be required at 'large high-risk events' such as music festivals and concerts.[134] Officials also recommended prohibiting the use of vaccination certificates for other types of venues – including essential businesses and life-preserving services, schools and community facilities – so as to ensure unvaccinated people could retain access to essential services.[135]

Ministers were aware of the risk to social licence and cohesion from the use of vaccine passes

In developing advice for senior ministers, the Department of the Prime Minister and Cabinet had undertaken consultation with a range of other agencies.[136] In response, several government agencies raised concern about the potential risks associated with domestic use of vaccine certificates (or 'passes'). Some agencies noted the potential for such a system to cause unintended harms – including further marginalisation of some groups, adverse impacts on vaccine uptake, and erosion of social cohesion.

On 16 September 2021, in feedback on the inter-agency consultation, Treasury officials questioned the rationale for introducing a vaccine pass system if vaccine coverage was already high, noting that – in this case – the public health benefits would be smaller and likely outweighed by the costs.[137]

Advice to senior ministers emphasised several of these concerns – including potential impacts on equity, social licence and cohesion, and the risk that vaccine pass requirements were inconsistent with the Crown's obligations to uphold self-determination, partnership and equity for Māori.[138] The paper noted that targeting vaccination pass requirements at high risk events could 'provide sufficient public health benefits while balancing human rights, equity, social licence and cohesion and operational considerations'.[139] In September 2021, ministers were advised that:

> "...the introduction of [vaccine certificates] will have an impact on social cohesion that will need mitigation... There is also a risk that restrictions on where unvaccinated people may go could negatively impact the trust that has been built around the COVID19 vaccination rollout and to address vaccine hesitancy that is linked to a wider mistrust of the health system."[140]

An appendix to this paper noted that the introduction of vaccine pass systems in other countries (including Canada, France and Finland) had been associated with public protests, although they were also credited with helping to increase vaccination rates in France.[141]

Subsequent work focused on the use of vaccine pass requirements in 'high-risk' settings – where people would be in close proximity to one another – on the basis that this provided an appropriate balance between public health benefit and risks around equity, social division and compliance.[142] Officials identified the need to continue weighing the potential benefits of vaccine requirements against the potential damage they could cause to social licence, noting that:

> "The more that vaccination is seen as mandatory, for example by requiring [vaccine passes] for access to a wide range of venues (even if considered high risk by public health officials) the greater the risk of loss of social license for vaccination overall."[143]

These issues were much less prominent in the initial advice that went to Cabinet on vaccine passes.[144] This advice considered the vaccine pass system as part of the new COVID-19 Protection Framework and envisaged their use in fairly limited settings (such as gatherings of 500 or more people at the lowest setting, entry to cafes and restaurants at the highest setting). Cabinet was advised that vaccine pass requirements 'could exacerbate existing inequities in the coverage of vaccination among different groups' – particularly Māori and Pacific peoples.

At the point Cabinet was asked to approve their implementation (in late October 2021), the proposed use of vaccine pass requirements had been expanded to a much broader range of settings (gatherings of 100 people or more at the lowest settings, and entry to cafes and restaurants at any other setting).[145] Cabinet was advised that the introduction of these requirements was 'likely' to have an impact on social cohesion since:

> "... those without [vaccine passes] will potentially be excluded from a much wider range of social settings. This risks isolating the unvaccinated and increases the likelihood that we will see large-scale protests similar to those experienced in other countries that have introduced vaccine requirements."

> "There is also a risk that restrictions on where unvaccinated people may go could negatively impact the trust that has been built around the COVID-19 vaccination rollout and to address vaccine hesitancy that is linked to a wider mistrust of the health system. Targeted funding, programmes, communication and education could be important in mitigating this risk..."[146]

The paper also acknowledged that vaccine pass requirements could exacerbate lower vaccination levels for Māori, noting the risk that they 'could negatively impact the trust that has been built for the COVID-19 vaccination rollout and could enhance vaccine hesitancy'.[147] It noted that a communication strategy could help reduce this risk.

Note that the above advice to Cabinet preceded any knowledge of Omicron, and in particular preceded the realisation in late 2021 and early 2022 that vaccines offered poor protection against getting infected by Omicron; the policy was made with Delta in mind.

8.4.4.2 Vaccine pass requirements under the 'traffic light' system

Domestic use of vaccine passes was introduced as part of the new COVID-19 Protection Framework. This followed the Prime Minister's announcement on 4 October 2021 that the country would move out of the elimination strategy. The Delta outbreak was in full swing, Auckland's lockdown had not been successful at eliminating community transmission, and officials were working at speed to devise new settings that could allow Aucklanders to come out of lockdown while continuing to protect public health as much as possible.

In this context, the Government decided to move ahead with the domestic use of vaccine passes. People would be required to have proof-of-vaccination when entering settings in which they would be in close proximity to others and where face coverings and social distancing might be impractical or difficult to enforce.[148] The specific rationale for this requirement (as outlined by officials) was 'to reduce the risk of super-spreader events, at least until vaccination rates are well over 90 percent across all (eligible) age and ethnic groups)'.[149] That is, the rationale was based on the vaccine's ability to reduce transmission – which it did reasonably well for Delta. In a briefing to Cabinet on the introduction of this requirement, the Minister for COVID-19 Response described it as:

> "a tool to help support the broader public health response to COVID-19... and an additional measure to ensure people in certain settings can demonstrate that they are either fully vaccinated, or medically exempt from vaccination."[150]

Vaccine passes were introduced as part of the new COVID-19 Protection Framework (or 'traffic light' system) on 3 December 2021.[151] In this context, vaccine pass requirements were seen as part of a suite of public health measures that would help contain COVID-19 transmission without resorting to lockdowns.[152] This might have been a plausible expectation pre-Omicron: in early December, the world was only just becoming aware of Omicron (the first global cases were reported in South Africa on 24 November 2021)[153] and knowledge about its notable escape from vaccine protection against infection was nascent at best. Exemptions from vaccine passes were made only on medical grounds, and to children under 12 years and 3 months of age.

The introduction of vaccine passes as part of the 'traffic light' system created what was effectively a dual system, under which people who did not have a pass were subject to stricter limitations than those who had one (or an exemption). Specific restrictions varied by both traffic light level, and vaccination status, as summarised in Figure 1.[154]

Figure 1: Restrictions based on traffic light settings and vaccination status

Traffic light setting	With vaccination pass	Without vaccination pass
Green	No gathering limits or mask mandates (except on flights)	Gathering limits of 100, mandatory face coverings and physical distancing in close contact settings
Orange	No gathering limits	Gathering limits of 50 at private gatherings; not able to attend close contact businesses, events or gyms
Red	Gathering limits of 100 and physical distancing in most settings outside the home	Gathering limits of 25 at private gatherings; not able to attend close contact businesses, events or gyms

Source: Adapted from Department of the Prime Minister and Cabinet, 2021, COVID-19: Implementing the COVID-19 Protection Framework [CAB-21-MIN-0497], https://www.dpmc.govt.nz/sites/default/files/2023-01/COVID-19-Implementing-the-COVID-19-Protection-Framework.pdf

'My Vaccine Pass'

To support these dual requirements, the Government needed a practical system by which people could easily identify who had been vaccinated (or had a medical exemption). Vaccination certificates – formally known as 'My Vaccine Pass' or just the 'vaccine pass' – were issued by the Ministry of Health in a digital format that people could download and display on their phones (non-digital options were also available). My Vaccine Pass was rolled out during the first week of the transition to the traffic light system. By 9 December 2021, the Ministry of Health had issued more than four million passes (representing about 90 percent of people who had been double vaccinated by that point) and just under 100,000 temporary exemptions.

The 'traffic light' system remained in place until 12 September 2022, but the vaccine pass system was retired on 4 April 2022.[155]

8.4.5 Changing evidence and its impact on the case for vaccine requirements

As discussed in section 8.4.1 above, the original case for introducing vaccine mandates was based on their ability to reduce COVID-19 transmission and thus confer broader protection.

Officials sought to keep updated on the effectiveness of COVID-19 vaccines and to reflect this information in their advice to decision-makers. International evidence on vaccine effectiveness was continually evolving, complicated by the emergence of new variants. Given the evolving nature of this evidence, it is difficult to pinpoint exactly what information officials were aware of, and when this information was presented to decision-makers.

By September 2021 officials were aware that vaccine-induced protection against COVID-19 infection – and thus transmission – declined over time (in other words, waning immunity). In a September 2021 memo, the COVID-19 Vaccine Technical Advisory Group noted that the Pfizer vaccine was less effective in preventing COVID-19 transmission than in protecting people from severe disease or hospitalisation.[156] On 10 November 2021, the group noted that vaccine-induced protection from infection waned over time, 'particularly from 6 months after a primary vaccination course', referencing studies from the United States, Israel and Qatar.[157] They recommended the introduction of a third 'booster' vaccine dose 6 months following the primary vaccination course.

This evidence was referenced in a 22 December 2021 briefing recommending that border and healthcare workers receive a third 'booster' vaccine dose four months following their initial vaccine course. Officials noted that:

> "Current evidence… indicates the antibody levels against COVID-19 wane over time following a second dose of the Pfizer COVID-19 vaccine. There is a reduction in protection against infection from the Delta variant, particularly from six months after a primary vaccination course."

The potential for vaccines to reduce COVID-19 transmission was substantially reduced once Omicron became the dominant variant in Aotearoa New Zealand. Community transmission of Omicron was first detected in January 2022. By February, Omicron was sweeping through the population and causing hundreds and then thousands of new COVID-19 infections every day (as shown in Chapter 1).

There was growing international evidence that vaccination was less effective in preventing transmission of Omicron compared with previous variants. In December 2021, a preprint[ix] version of a United Kingdom study reported that – following two doses of the Pfizer vaccine – protection against infection from Omicron fell from 88 percent in the first few weeks to around 35 percent at 15 weeks post vaccination.[158] This was around half the level of protection observed for Delta. The full version of this study (published in the *New England Journal of Medicine* in early March 2022) gave even lower figures, with protection from infection dropping from 66 percent at 2–4 weeks to 8.8 percent at 25 weeks following vaccination.[159]

A Cabinet briefing from 22 January 2022 suggested officials were aware that vaccination offered lower protection against transmission of Omicron compared with Delta. The briefing summary notes that 'vaccines show reduced effectiveness against the Omicron variant compared to Delta. This means that more vaccinated people are likely to become infected and that the number of COVID-19 cases occurring each day will be far greater than at any other time during the pandemic'.[160] From this point on, advice to ministers and Cabinet made frequent reference to vaccination providing reduced protection against Omicron transmission.[161] However, protection was generally characterised as 'reduced' rather than minimal or absent. For example, a Cabinet paper from 16 March[162] refers to evidence from the United Kingdom showing that protection against symptomatic infection was over 50 percent following two doses of the Pfizer vaccine and 'remain[ed] above 50 percent in those that had received a booster more than 10 weeks prior'.[x]

The potential for vaccines to reduce COVID-19 transmission was substantially reduced once Omicron became the dominant variant.

ix That is, an early version of a research article that is made available online ahead of going through full checks (including peer-review) and being formally published in an academic journal.

x The Inquiry is not aware of the specific study to which the Cabinet paper refers. The footnote expands on the evidence as follows: 'Vaccine effectiveness (VE) against infection with Omicron is around 55 percent or more soon after two doses of Pfizer, which represents an epidemiologically important reduction in transmission. VE against infection with Omicron wanes to levels unlikely to reduce transmission within 5–6 months of the second dose. VE against infection with Omicron is around 55–69 percent after a booster dose of Pfizer. This also represents an epidemiologically important reduction in transmission'.

8.5 Our assessment: Vaccination requirements | Tā mātau arotake: Ngā whakaritenga rongoā āraimate

We start our assessment of vaccination requirements with an overview of the basis on which the Government introduced them, including the central trade-off between protecting and looking after the public (by advancing the goals of the pandemic response) and infringing people's right to refuse medical treatment.

We set out the Inquiry's assessment of whether the Government got this balance right overall and in some specific instances in section 8.5.1. We try to make these assessments based on knowledge that was available at the time.

In section 8.5.2 we extend our assessment to consider the impact of vaccine mandates – including evidence on their effectiveness in increasing vaccine coverage and public health protection, challenges in their implementation, and the wider social and economic impacts of requiring people to be vaccinated. The Inquiry acknowledges that the discussion in section 8.5.2 draws on material and evidence that was not always available to decision-makers at the time. The purpose of this discussion is to draw out lessons to help inform future pandemic responses where use of vaccine mandates may be considered.

The purpose of this discussion is to draw out lessons to help inform future pandemic responses where use of vaccine mandates may be considered.

8.5.1 Assessment of the case for vaccination requirements

Requiring people to be vaccinated in order to work or be present in particular settings is a significant decision. The Government recognised that such a requirement represented a limitation on people's right to refuse medical treatment, and that any benefits needed to be carefully weighed against this infringement. It was also advised about the wider risks of requiring vaccination and the potential for discrimination, erosion of trust and social cohesion, and disproportionate impacts on Māori.

There are two benefits of vaccination invoked to justify vaccine requirements. First, *vaccination reduces transmission of COVID-19 from one person to another*. This means that:

i) for a highly effective vaccine, one may achieve herd immunity – meaning only sporadic outbreaks occur among unvaccinated pockets of the population. Herd immunity was most unlikely for Delta (due to incomplete and waning protection against infection), and impossible for Omicron;

ii) partial or moderate vaccine protection against transmission, and moderate to high vaccine coverage, will dampen transmission, and reduce the peak of waves (in a mitigation strategy) and make it easier to contain any outbreaks (in a suppression strategy); and

iii) other people, particularly those with co-morbidities and who were medically vulnerable, would be protected from becoming infected with COVID-19.

Second, *vaccination protects the vaccinated person from illness* (even if it does not reduce the risk of them passing the virus on to others). This is a weaker ground for vaccine requirements than the above transmission rationale, as one is now compelling people to be vaccinated for their own benefit against their own judgement, not for the benefit of others. However, in the peak of a serious wave of infection, a requirement of people in public and essential services to be vaccinated may reduce the number off sick at any one time, with a 'spill over' benefit to others. Indeed, from November 2021, legislative changes broadened the legal grounds on which vaccination could be required to include such 'public interest' goals such as to assist continuity of essential services.

Requiring people to be vaccinated in order to work or be present in particular settings is a significant decision.

Embedded in this reasoning is the assumption that making vaccination mandatory (or requiring it for people to work or be present in particular settings) will result in a meaningful increase in the number of people being vaccinated, over and above what would be achieved via voluntary vaccination. To put it another way, the benefit of *requiring* people to be vaccinated depends on people taking up vaccination who otherwise would not have done so. Turning to our assessment, given the importance of keeping COVID-19 out of the country, there was a strong case in 2021 for requiring border workers to be vaccinated (in the same way that they were the first group to be prioritised in the vaccine rollout). With the Delta outbreak proving hard to contain, there was also a good case for mandating vaccination for those working with vulnerable people or in high-risk settings – including health, aged care and disability settings and prisons.

It was also reasonable for the government to introduce a simplified health and safety risk assessment tool in late 2021 that employers could use if they were intending to introduce workplace specific vaccination requirements as the country moved away from use of lockdowns and sought to find a way of 'living with' established COVID-19 transmission.

Similarly, we consider it was sensible to introduce a vaccine pass system in December 2021 with the intention of reducing the risk of Delta 'superspreader' events and protecting vulnerable groups, while reducing reliance on more stringent public health and social measures. These decisions were made in a difficult context where people were having to shift their understandings of risk and adjust to a very different approach to that of the elimination strategy.

The case for requiring vaccination became less clear in 2022 with Omicron. The public health benefit of most vaccine mandates depended on vaccination meaningfully reducing transmission of COVID-19 from one person to another. By late 2021, it was clear that protection against transmission waned in the weeks and months following vaccination. By early 2022, there was evidence that vaccination offered significantly lower protection against transmission of Omicron (now the dominant COVID-19 variant in Aotearoa New Zealand) and that this more modest protection also waned in the weeks following vaccination.

The addition of a booster dose to occupational vaccine requirements arguably meant there was still some potential benefit from requiring people to be vaccinated in order to work in certain settings. But this benefit was smaller than previously since vaccination offered lower protection from transmission with the Omicron variant, although boosting certainly helped. Vaccination rates were also now very high in relevant occupations. The added benefit of vaccination being mandatory in these groups was therefore smaller, given there was little scope for additional people taking up the vaccine who had not already done so.

In section 8.4.5, we established that health officials would have been aware of emerging evidence that vaccination offered very low protection against transmission of the Omicron variant.[163] While this evidence weakened the case for vaccine requirements, officials are likely to have been cautious in recommending the removal of vaccine requirements that might offer even modest additional protection. This is illustrated in a High Court ruling from February 2022 concerning occupational mandates.[164] An expert witness expressed the opinion that vaccination did not prevent transmission of the Omicron variant. In contrast, the Chief Science Advisor for Health, Dr Ian Town, was more circumspect in his assessment of the evidence, noting that – in relation to Omicron – vaccination was thought to provide 'some protection against symptomatic disease', albeit at lower levels than for previous variants.[165] Dr Town noted that officials were cautious about placing too much emphasis on early studies, but were continuing to monitor the evolving evidence in this area:

> "The information in respect of Omicron is still in its infancy and is evolving. Many of the studies are either in pre-print (have not yet been subject of peer review) or have significant limitations. The Ministry of Health constantly reviews and makes publicly available on its website the most up to date and relevant scientific information."[166]

Based on the evidence provided in this case, Justice Cooke concluded (on 25 February 2022) that 'vaccination may still have some effects in limiting infection and transmission, but at a significantly lower levels [sic] than was the case with the earlier variants'.[167]

The March 2022 Cabinet paper we discussed in section 8.4.5 stated that the Pfizer Comirnaty vaccine provided 'an epidemiologically important reduction in transmission' of Omicron.[168] Referencing advice from the Ministry of Health and the Strategic COVID-19 Public Health Advisory Group, the paper took a mixed view on continuing vaccine requirements, recommending the retirement of some (the vaccine pass system, workplace vaccine requirements for staff in associated venues, and occupational mandates for teachers and educators) and the retention of others (occupational mandates for border workers, health workers and prison staff).

As noted previously, by March 2022, the Strategic COVID-19 Public Health Advisory Group assessed the case for vaccine mandates as 'more finely balanced' due to a combination of high vaccination coverage and 'the apparent lowering of vaccine effectiveness against transmission of the Omicron variant'.[169] The Group advised the Government to remove vaccine mandates for workers in Fire and Emergency services, the Police, the Defence Force and educational settings, but to retain those for workers in border, healthcare and prison settings. It seems that advisors felt that even a small potential gain in protection from vaccination warranted the retention of mandates in these settings.

A precautionary approach to removing mandates is understandable in the context of growing rates of infection from Omicron after previously stringent public health and social measures were removed. Nevertheless, the case for retaining vaccine mandates became less clear once the peak of Omicron infection had passed (in March 2022), when it was apparent that measures under the COVID-19 Protection Framework were sufficient to manage infection peaks and prevent the health system from being overwhelmed. While many occupational mandates were rolled back in April 2022, mandates for prison staff and border workers were retained until July 2022, and those for workers in high-risk settings (healthcare and prisons) remained in place until September 2022.

The decision to require vaccination involved a careful weighing up of people's right to refuse medical treatment against the benefits decision-makers believed would result from making vaccination mandatory. This is a judgement call. Decision-makers may reach different views on the most appropriate balance at different times and in different contexts, particularly as evidence of both the costs and benefits of mandates becomes clearer.

It is the view of this Inquiry that the retention of many occupational vaccine mandates until well into 2022 was too long. Once the peak of Omicron had passed, in March 2022, the Government could have confidence that the new COVID-19 Protection Framework was effective in preventing the health system from being overwhelmed and protecting vulnerable groups as far as was possible. It was also becoming clear that vaccination offered limited protection against transmission of Omicron, and that – rather than seeking to control COVID-19 outbreaks – the approach going forward would rely on other measures (including the development of stronger or 'hybrid' immunity from people getting infected on top of already being vaccinated) to reduce the severity of infection.

The Inquiry is also of the view that the extension of vaccination requirements into a broad range of workplaces went too far – although we also acknowledge that these requirements were introduced by employers and businesses (under regulatory guidance) rather than the Government, and that many of these employers were responding to expectations on the part of their staff.

It is the view of this Inquiry that the retention of many occupational vaccine mandates until well into 2022 was too long.

On vaccine passes, our Inquiry's assessment is that there was a case for using passes in the context of Delta infection (in late 2021) as they would have helped lessen superspreader events and outbreak frequency and severity. In practice, however, Omicron was the dominant COVID-19 variant when Aotearoa New Zealand 'opened up' in early 2022. Epidemiologically, vaccine passes in the face of Omicron provided only marginal benefit in terms of reducing the spread of infection – although they may have helped somewhat to reduce the peak of the first wave of Omicron infection.[xi] Those making decisions in January and February 2022 would have had considerable uncertainty about how big the first wave of Omicron infection was going to be and whether it would put pressure on health services. It is understandable that vaccine passes were left in place for the first Omicron wave, albeit it was a decision that could reasonably have gone either way. Notably, vaccine passes were removed promptly after the peak of the first Omicron wave.

The move from encouraging to compelling vaccination was a significant one that affected how many people felt about the pandemic response overall. While vaccination requirements offered a level of reassurance to many in the short term, the long-term impacts of these decisions had negative social and economic impacts (discussed further in section 8.5.2) which – for many people – have been deep and lasting.

The Inquiry notes that vaccine requirements were used in many other countries as part of their COVID-19 responses.[170] Decision-makers in these countries would also have considered the trade-off between the increased protection gained from vaccine mandates and the associated constraints on personal freedom. Many of them judged the cost to be 'worth it', although some did not. This was a difficult judgement to make. As one summary of international experience notes:

> "It is hard to accurately quantify the consequences [of vaccine mandates] such as [loss of] social exclusion, loss of public trust, or inequitable outcomes. Numerous other factors are at play, such as the way a government handled the pandemic overall, wider political campaigns against vaccination or mandates, or frustrations with the way that a mandate was implemented. Another crucial aspect of whether mandates are successful is the political skill and messaging used to introduce them."[171]

Many of these factors are discussed further in following sections.

xi There was also a positive synergy from vaccination that was theoretically known at the time. In addition to providing a modest reduction in a person's chance of becoming infected with Omicron (as was shown in studies available in early 2022), vaccination was also likely to modestly reduce the chance of an infected person passing the virus on to someone else (a benefit that was expected at the time, but not demonstrated until later in 2022). The combination of these two mechanisms meant that vaccination would still have had some impact in dampening Omicron transmission.

8.5.2 Assessment of vaccination requirements – impacts and implementation

8.5.2.1 Effectiveness of vaccination requirements in protecting public health

Having reflected on the justification for vaccination requirements (in terms of whether the Government had sufficient grounds for limiting people's right to refuse medical treatment), we now turn to the impacts of these requirements – including their effectiveness in supporting the COVID-19 response, issues with their implementation, and their broader social and economic impacts.

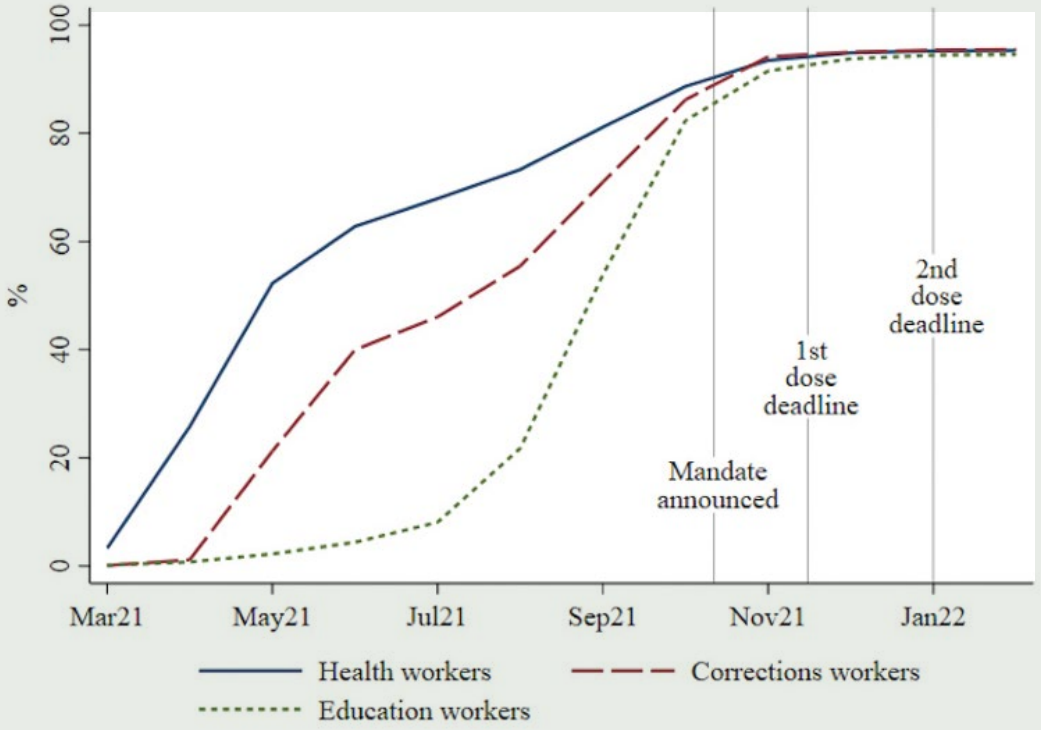
Vaccination requirements had limited impact on vaccination coverage

Aotearoa New Zealand was one of at least 75 countries to use vaccine mandates as part of its COVID-19 response.[172] How far these were applied, and to which workforces, varied widely around the world. For example, while in New Zealand it was seen as important to mandate vaccination for the health workforce to protect both workers and patients, in the United Kingdom, frontline health workers were not required to be vaccinated, due to concerns that this would deplete the workforce to critical levels.[173]

International evidence suggests COVID-19 vaccine mandates had a small positive impact on population-wide vaccination coverage, although this varied widely from country to country and depended on a many factors such as the level of voluntary vaccine coverage achieved without mandates.[174] In Canada, where population-wide vaccination mandates were introduced when voluntary coverage was already over 80 percent, they are estimated to have boosted first-dose coverage by 2.9 percentage points, which the researchers call a 'sizeable increase [...] considering the relatively short period in which it was achieved'.[175]

A 2024 evaluation concluded that Aotearoa New Zealand's occupational vaccination mandates are likely to have had limited impact on population protection from COVID-19.[176] The authors noted that vaccination levels in relevant workforces were already very high at the point the mandates were introduced. While vaccination levels continued to rise, the relevant increase appeared as 'a continuation of an [existing] upward trend rather than a jump in uptake' as shown on Figure 2.[177]

Figure 2. Proportion of relevant workforces that had received two doses of COVID-19 vaccine



Source: Dewar J, Wilson D, Pacheco G, Meehan L, 2024, Unintended consequences of NZ's COVID vaccine mandates must inform future pandemic policy – new research, https://theconversation.com/unintended-consequences-of-nzs-covid-vaccine-mandates-must-inform-future-pandemic-policy-new-research-222989

The report concluded that – since the vaccination mandates had little discernible impact on vaccine coverage – they would not have meaningfully increased population protection from COVID-19:[xii]

> "Overall, the results suggest that in the context of already-high vaccination rates, workforce vaccine mandates may not have provided much benefit in terms of increasing vaccination rates among mandated workers."[178]

Specific to the health workforce, the review further found that Aotearoa New Zealand's vaccination mandates negatively impacted healthcare workers' employment, and that this may have had wider consequences by exacerbating existing skills shortages in the health sector.[179] We discuss workforce implications further in section 8.5.2.3.

xii For some infectious diseases (such as measles), even a modest increase in vaccination coverage can significantly reduce the risk of sustained community transmission and prevent outbreaks from occurring. Unfortunately this is not the case for COVID-19 since immune protection (from either vaccination or previous infection) wanes fairly quickly. This means a proportion of the population will be susceptible to infection at any given point in time, even if total vaccine coverage is high.

Vaccine requirements supported the elimination strategy and protected vulnerable people from COVID-19

While there is limited evidence that vaccination requirements produced substantial increases in vaccination coverage, the Inquiry recognises that – in 2021 – it made sense to require vaccination for workers at higher risk of being exposed to or passing on COVID-19.

The rationale for requiring vaccination was particularly strong in the case of border and health workers. For the first group, the rationale was similar to that for mandatory COVID-19 testing. Border workers were at higher risk of being exposed to COVID-19 – including new variants – due to their contact with people arriving from overseas. As long as Aotearoa New Zealand was pursuing an elimination strategy, requiring border workers to be vaccinated made sense in terms of reducing the risk of new chains of COVID-19 transmission entering the population. We cannot know how many 'breaches' of New Zealand's border may have been prevented through such requirements, so it is not possible to evaluate the effectiveness of this measure.

Similarly, there is a clear case for requiring vaccination for workers interacting with medically vulnerable people – including those working in health and disability care and in residential aged care facilities. Again, it is not possible to assess how many cases of COVID-19 may have been prevented by these requirements. But it is clear that a key part of the rationale for health worker mandates was to protect vulnerable people from COVID-19 infection – including those who may not have been able to receive the vaccine themselves (due to medical contraindications).

8.5.2.2 Implementation issues

Medical exemptions to vaccination requirements were difficult to obtain

When occupational vaccine mandates were introduced in early 2021, workers could be exempted from the requirement on the basis of a certificate from a registered medical practitioner. This meant workers could continue to work in a role covered by a Government-issued vaccine requirement providing they presented a letter from their GP stating that there were valid medical reasons for them not being vaccinated.

This situation changed in early November 2021, when access to medical exemptions was tightened considerably. By this time vaccination mandates had been extended to the education and health and disability sectors, as well as frontline Police, Defence, and Fire and Emergency staff. From 7 November 2021 onwards, medical exemptions were issued centrally, under the authority of the Director-General of Health, on the basis of very limited criteria.[180]

Health officials recommended the exemption process be centralised in order to avoid people obtaining or demanding exemptions from healthcare practitioners in situations where they did not meet the relevant criteria.[181] A small proportion of medical practitioners were known to have concerns about the safety of COVID-19 vaccines, and a group called New Zealand Doctors Speaking Out on Science (NZDSOS) had been vocal on this issue since April 2021.[182] In August 2021 a general practitioner had contacted their patients noting that they did not support COVID-19 vaccinations (the doctor's actions were found to be in breach of professional standards[183]). In the absence of a centralised system, it was not possible to monitor how many medical exemptions (appropriate or otherwise) were being granted, but the Ministry of Health had received complaints about practitioners allegedly issuing inappropriate exemptions.

It is possible that officials underestimated the scale of demand for medical exemptions that would arise with the expansion of vaccine requirements. A Cabinet briefing from October 2021 discusses the possibility of applications for vaccine exemptions being processed centrally by the Ministry of Health. The briefing states that '*Provided the total number of exempted persons in the country remains in the low hundreds,* the processing of the exemptions would not be overly administratively burdensome' [italics added].[184]

In practice, 6,410 individual temporary medical exemptions were granted from vaccination requirements between 15 November 2021 and 26 September 2022.[185]

A considerable number of public submitters to our Inquiry expressed frustration about being denied a medical exemption, either on their own behalf, or someone else's.

> "I have two sisters that have health conditions and should not under any circumstance receive the vaccine, they were denied an exemption and told they should get their jab at the hospital in case they react and need to be revived. This is totally unacceptable from our government."

> "I worked in a school office and lost my job because I wouldn't take the vaccine. [...] I got a medical exemption only for the government to change the law on exemptions."

Exemptions to prevent 'significant service disruption' were also possible, but controversial

Along with medical exemptions in very limited circumstances, it was also possible for employers to obtain temporary exemptions from vaccination mandate requirements on behalf of their staff. This measure was intended to prevent 'significant service disruption' to a critical health service where there were insufficient vaccinated workers available to allow the service to continue.

These temporary exemptions were applied for by employers (mostly district health boards), who had to show that a critical health service would not be provided unless they employed unvaccinated staff; that no alternative option was available; and that the organisation had done all they could to mitigate the risk of COVID-19 transmission from having unvaccinated staff.

According to information released by the Ministry of Health under the Official Information Act, a total of 478 applications for significant service disruption exemptions were received by the Ministry. Of these, only 103 were granted, covering approximately 11,005 workers.[186] These were all for health services, and were temporary, the longest lasting eight weeks.[187]

This '11,000 exemptions' figure featured prominently in the minds of some public submitters, perhaps reflecting a misconception that exemptions had been granted selectively, or a misunderstanding that these exemptions were some form of 'medical' exemption:

> "I read that he [the Director-General of Health] thought there were less than 100 people in the whole of NZ that may be eligible for an exemption YET he approved 11,000 fellow MOH workers from it – how is this justified?"

It fell to employers in affected sectors to uphold Government-issued vaccine mandates

While central government issued occupational vaccination mandates by public health orders for border, education, health and disability, and frontline Police and Defence workers, it fell to employers in these sectors to enforce them. This involved notifying staff of the requirement, obtaining proof of vaccination from those who met it, and entering into an employment review process with any who did not.

While it is likely that some employers reached an accommodation with unvaccinated staff members through this process (such as keeping them on but requiring them to work from home), in many instances this would not have been possible. For example, with students back to full-time, in-person learning, it would not have been practical to ask teachers to work from home; nor was it feasible for frontline health or Corrections staff to work remotely.

Many employers in these sectors were ultimately required to terminate the employment of unvaccinated staff. The Inquiry has not seen figures on how many employees lost their jobs because of vaccine mandates, but representatives from many organisations and sectors told the Inquiry they had lost staff because of the vaccine mandate. This was challenging for many, as we heard from some of the stakeholders we engaged with directly. School principals and boards (usually made up of parent volunteers) may have found this particularly challenging.

> “ It came up often in peak body meetings. Many times we were asking for central direction because every individual school was having to interpret, based on often quite scant knowledge and limited understanding of compliance. Principals felt really vulnerable in that space because beholden to their communities, wanting to support workers, but equally keep their school operating. Quite big decisions.”

Occupational mandates were the subject of several High Court challenges in 2021 and 2022.[188] While the Court upheld the mandates (except in the case of Fire and Emergency, New Zealand Police and New Zealand Defence Force staff), one of the judgments noted that ‘a more flexible approach to exemptions under employment arrangements may be more appropriate’.[189]

Arguably, some of the unintended social and economic harms arising from the Government’s occupational mandates (as detailed in the following sections) might have been reduced had the mandates allowed a ‘more flexible approach’ (for example, to reassign roles or grant extended periods of unpaid leave) as suggested by the Court.

8.5.2.3 Social and economic impacts

Some people lost income or employment as a result of vaccination mandates

We are not aware of any comprehensive data quantifying how many people lost their jobs because of non-compliance with a vaccination requirement (whether Government-issued or workplace-specific) during the COVID-19 response. However, a study undertaken by the New Zealand Work Research Institute in 2024 found workplace mandates had negative labour market impacts, including on unvaccinated workers’ overall employment rates and their earnings.[190]

Although the number cannot be quantified, people did lose employment due to vaccine mandates. A substantial number of public submitters to our Inquiry addressed this topic. Some shared first-hand experiences, while others talked about the impacts of mandate-related job losses more broadly. Many felt it was unfair and unnecessary for people to lose their jobs because they chose not to get vaccinated:

> “ I lost two jobs I loved, one being in healthcare and the other in hospitality. The stress and anxiety was very debilitating and not knowing what was going to happen as it progressed was so unsettling I nearly broke.”

> “ Devastation does not begin to cover what these people went through. The stories of loss were overwhelming. I spoke with couples who faced both earners losing their employment, rendering them unable to afford the basics, including food on the table and a roof over their children’s heads.”

Others did not have their employment fully terminated but still faced mandate-related consequences, such as being assigned different work or losing relationships with colleagues.

> “My job was put at risk and I had a tense meeting with the directors and was no longer allowed onsite or to associate with my colleagues of 6 years.”

> “I was reinstated in my job for a Government ministry, but the treatment by them has meant [I] no longer feel loyal or valued.”

Vaccination mandates exacerbated staff shortages for some sectors

We are not aware of any sources documenting how many people lost their jobs as a direct result of vaccination mandates. Nevertheless, we heard in many direct engagements that occupational mandates exacerbated existing staffing shortages in several key areas – including healthcare.

One district health board told us they had ‘lost 38 staff, including two doctors’, as well as ‘the only qualified audiologist’ they had. Following that person’s departure, a trainee audiologist saw patients, supervised remotely by a qualified audiologist based overseas. Similarly, a nursing organisation told us they had lost ‘about 35 people’ as a result of the mandates, noting ‘we couldn’t shift them to backroom functions as they still needed the vaccine [...] there was nowhere for them to go’. Other health sector bodies talked about the disproportionate impact of vaccine mandates on small and remote communities, if the sole practitioner in that area was unable to work. We heard similar reports from other sectors, including early childcare.

Some of our public submitters also claimed particular sectors and professions – in health and education especially – had been damaged as a result of mandate-related job losses. Workers with much-needed skills had been ‘mandated out … at the very time when the country needed all hands on deck’, one wrote. We heard a number of direct accounts from submitters who were affected:

> “I was mandated out of my 30 year nursing career, which led to the sale of my home.”

> “My wife worked for [an ambulance service] and was mandated out of her job as she did not want to take a vaccine. This put further stresses on us financially, our family life, and I suspect pressure on the already understaffed [ambulance] service.”

Some submitters felt the mandates had undermined their long-term employment prospects. We heard from people who had undergone mandate-enforced termination and been re-employed once the mandate was lifted, but who now felt disillusioned and socially ostracised from their workplace.

Vaccine requirements provided assurance to some members of the public, although this reassurance may not always have been well founded

Aside from any impact on COVID-19 transmission or illness, vaccine mandates may have been seen as supporting the country's economic recovery and a return to something approaching daily normalcy. In information supplied to our Inquiry about the evolution of the public health response, the Ministry of Health pointed out that one of the key benefits of vaccination certificates (and, by extension, other vaccine requirements) was the reassurance they provided to members of the public that it was relatively safe[xiii] to return to indoor venues like bars and restaurants, hold gatherings of more than 100 people, and make use of close-proximity businesses like hairdressers and gyms. (We note, however, that from early 2022 this perception did not strongly align with the reality that vaccination offered limited protection from transmission, given Omicron was now the dominant variant.)

Some public submitters to our Inquiry supported this view:

> "I supported having vaccines and agreed with the mandates, although I acknowledge the difficulties faced by those who chose not to be vaccinated and were unable to work. However, I was concerned for my own health and safety, so did not want an unvaccinated person to be at my place of work or at any of the services that I required (e.g. hairdresser, bus driver)."

Public reassurance may have been seen as particularly important during Aotearoa New Zealand's transition away from an elimination strategy and towards the 'minimisation and protection' (suppression and mitigation) strategy. Given the scale of public concern at that time, it is understandable the Government sought to use vaccination requirements as a form of insurance as the country 'opened up'. It is also understandable that the Government wanted to support employers in responding to staff concerns and managing the risk of COVID-19 transmission in the workplace.

At the same time, the justification for introducing vaccine mandates, and the associated limiting of people's right to refuse medical treatment, focused on the role of vaccination in reducing COVID-19 transmission. While vaccination offered meaningful protection against transmission of Delta, protection was much weaker for Omicron. It seems likely that public understanding of this distinction was limited at the time, which may have contributed to the expectation that workplace vaccination requirements were protecting people from infection with COVID-19. Some stakeholders felt that vaccine messaging was slow to explain the evolving evidence (i.e. that vaccination was no longer particularly effective in limiting COVID-19 transmission), and told the Inquiry that this 'disconnect' fuelled distrust in Government. The Inquiry notes that – should a similar situation arise in a future pandemic (i.e. that vaccines become less effective in reducing transmission) – it will be important for public messaging to be agile in reflecting the changing science.

xiii We say 'relatively' safe because it was clear from early in the rollout that the available vaccines could not eliminate the risk of contracting or passing on COVID-19, nor guarantee that a vaccinated person would not become seriously unwell if they contracted the virus. They could – and did – however, reduce the risk on both scores (waning effectiveness against the Omicron variant notwithstanding).

Some unvaccinated people felt ostracised, lost relationships and/or were unable to access certain locations and services, including some types of healthcare

The public submissions we received gave an insight into the experience of being unvaccinated during the pandemic. As well as being unable to use many public places and services, submitters described unvaccinated people feeling shunned by their communities, workplaces and even their families due to their unvaccinated status.

> “ It was ridiculous to not be able to take my grandchildren to the public library as well as other places. I was definitely discriminated against for not being vaccinated.”

> “ [Vaccine mandates] destroyed the latter years of my family’s life. Mandated out of RSA. Bars, Car and Motorcycle clubs, visit to retirement homes and family around country. Can’t even get coffee and cake at cafe in town…”

In some cases, submitters said unvaccinated people were effectively ostracised by society – treated as if they were selfish, responsible for spreading COVID-19, and to be avoided. At a personal level, being unvaccinated could strain and even destroy family relationships. Submitters described couples divorcing, unvaccinated grandmothers being prevented from seeing their grandchildren, and lifelong friends who would no longer speak to them.

> “ Due to mandates I was excluded from my family Xmas, not allowed to attend my sisters 50th or my father’s 80th birthday. This has had a devastating and lasting effect on my relationship with my family.”

Other submitters reported difficulty accessing healthcare during the pandemic because they were not vaccinated.[xiv] It is important to note that it was *not* permitted for essential services (including primary healthcare) to require vaccination certificates for entry. However, the strict protocols adopted by many services, such as seeing unvaccinated patients in their cars or delaying routine visits, made some people feel as though they could not access basic services.

> “ I was basically trespassed from my doctor’s office which meant I was not able to receive my healthcare needed for my own disability. I was told that face to face was impossible because of my decision. I was denied healthcare. When I did see someone it was in the car park. I pay for these visits I am entitled to healthcare.”

> “ Unable to have a breast ultrasound [and] checkup with my private surgeon. Nevertheless 2 months later, she saw me in the public hospital! What was the difference?”

xiv Most were commenting on primary healthcare (GP visits or routine screening) or dental care.

For some, the consequences of not being vaccinated or having a vaccine pass – threatened or actual job loss, social ostracism, being unable to enter certain places – left them feeling they were being coerced (by employers or the Government) to get vaccinated. While vaccination was voluntary (in that people had to consent to receive it), some submitters clearly felt as though this 'choice' was not a real one.

> "I felt bullied into taking the COVID 19 vaccine in order to keep my job and to be treated like a sensible, law abiding, caring, normal person in NZ society and to be able to receive and use basic services."

> "When the previous Prime Minister Chris Hipkins said recently 'there was no compulsory vaccination, people made their own choices' is an absolute insult. My husband's choice was to resign as he was forced out of his employment."

> "I felt pressured in to getting the vaccine even though I didn't feel comfortable [...] For a long period of time [it] felt like our country was and government was a dictatorship."

While many public submissions describing the negative impacts of vaccine mandates were from people who told us they had chosen not to get vaccinated, we also heard from people who had themselves been vaccinated but who lamented the harm the mandates had caused by stigmatising others and damaging relationships. Many people who submitted to the Inquiry expressed grief and anger over divisions they said the mandates had caused, describing families and friends who were 'torn apart' or 'split' over the issue, and strained relationships that had never been repaired.

> "I found the division between my friends and colleagues astounding."

> "It caused fractures between our families and friends that have yet to mend."

> "The division created between vaccinated and non-vaccinated was cruel and unusual [...] There is anger and trauma still remaining to this day and distrust in authority is evident."

Workplace specific vaccination policies caused some confusion

We saw evidence suggesting employers were concerned about their legal risk if employees were exposed to COVID-19 in the workplace and were inclined to put vaccination policies in place as a result.[191] Some businesses (as well as unions) were also concerned about the risk to other employees who might be obliged to work alongside unvaccinated colleagues.

All this led to considerable uncertainty about what employers – and public sector agencies that had not been deemed essential services – should do. In our engagements, some said they wanted directives and clarity from Government, rather than guidance that put the onus on them to make their own assessments and policies. We also heard that some employers and governance bodies were concerned about their exposure to potential litigation if they did (or didn't) require employees to be vaccinated, and sought legal advice.

Vaccination mandates contributed to a loss of trust in some communities

The Inquiry heard from a range of stakeholders that vaccine mandates had undermined trust in some communities, particularly among Māori. Many stakeholders (including health and education providers) spoke about how they were 'still feeling the effects of the mandate' in terms of a loss of engagement and trust among whānau.

Health providers felt the mandates had caused many people to disengage from the system and had even decreased the likelihood that some groups would take up vaccination. Several spoke of Māori experiencing this as a loss of their agency, exacerbating mistrust of the health system:

> "We need to rebuild trust between Māori and the health service… People were wanting to maintain mana Motuhake and self-determination. The vaccine mandate meant people left the health sector and some people are reluctant to re-engage with health services. We need to create and rebuild trust with communities, trust with services."

Several stakeholders linked the vaccine mandate with decreased uptake of childhood vaccinations since the pandemic. A member of a hospital senior leadership team said:

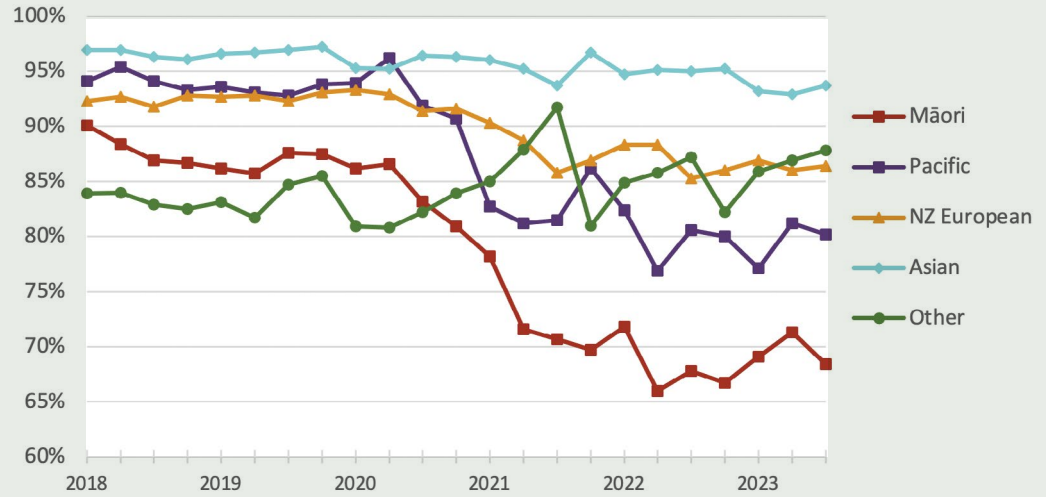
> "The COVID vaccination journey has left an enduring bruise on vaccination for New Zealand, moving forward… [the result of people] being forced to [undergo vaccination], versus "let's have a conversation". There was a loss of trust. The vaccine mandates caused lasting harm."

Another member of the same leadership team talked about the 'unintended cost' of vaccine mandates in terms of decreased uptake of key childhood vaccines and a consequent increase in the risk of diseases such as measles and whooping cough. The team made a direct link between the vaccine mandate and a loss of social cohesion and trust within the community they served, particularly among Māori. Other team members talked about a 'huge erosion of trust' among many whānau that would continue for years to come:

> "There's a whole generational impact. A whole generation that won't trust [the health service], as a result of the mandates."

Official data confirms a drop-off in childhood vaccination levels since the pandemic, with pronounced declines among Māori and Pacific children – for whom vaccination coverage at 2 years has declined from over 90 percent in the pre-pandemic period to 80 percent (for Pacific) and 68 percent (for Māori)[xv] (see Figure 3). These changes reflect several pandemic-related factors, including decreased access to WellChild visits during the pandemic. Other countries have also experienced declines in uptake of childhood immunisations, due in part to reduced healthcare contact during the pandemic.[192] There is global evidence of falling public confidence in vaccines, which may be linked to the spread of vaccine misinformation and disinformation during the COVID-19 pandemic.[193]

Figure 3: Immunisation coverage by 24 months of age, by ethnicity



Source: Based on data from Immunisation Advisory Centre

We note there are particular risks to social cohesion and trust from the use of vaccine passes that create a 'dual system' of entry to spaces and social gatherings. While these risks were known and communicated to decision-makers at the time, they were perhaps even more pronounced than was understood prior to the COVID-19 response. We return to these matters in the next section.

xv The most recent estimates of coverage are from September 2023

8.6 Controversy over compulsory measures | Te wenerau mō ngā whakaritenga whakahauanga

As noted in the introduction to this chapter, the use of mandates and orders to make various public health measures compulsory under certain circumstances were among the most controversial aspects of the COVID-19 response, in Aotearoa New Zealand and elsewhere – particularly vaccination requirements.

In this final section, we depart from our standard 'What Happened' and 'Outcomes and Impacts' format and take a step back to consider how this controversy played out over the course of the pandemic, culminating in the 28-day occupation of Parliament grounds by a broad coalition of anti-mandate protestors in early 2022.

Dramatic images from those events – and in particular the scenes that unfolded on 2 March 2022 during the Police operation to end the protest – remain etched in the minds of many people almost three years later. Many of our public submitters expressed concern about the protest, the divisions that emerged between many people over COVID-19-related matters, and the potential long-term consequences of these. While the full legacy of these events will not be known for some time, we offer some reflections on them here.

The use of mandates and other compulsory public health measures were among the most controversial aspects of the COVID-19 response.

8.6.1 The Parliamentary occupation

8.6.1.1 Protest activity began to cohere from mid-2021 around mandatory COVID-19 response measures

Opposition and disquiet about elements of the response had been present throughout the pandemic, but began to cohere from about mid-2021 in the second half of the year. Several groups formed to organise protest activities focused on aspects of the Government's response:

- The Freedom Alliance was a coalition of Wellington-based groups that believed 'the Government's COVID-9 response was never designed to protect the health of New Zealanders, but rather to push a global political agenda'.[194] It carried out protest activity focused on use of mandates in the COVID-19 response.
- The Freedom and Rights Coalition formed in September 2021 in response to perceived government 'overreach' in the COVID-19 response. It began to organise protest actions around the country from October 2021.
- Voices for Freedom, a not-for-profit advocacy organisation, was founded in December 2020, focused on the view that 'all freedoms (were) under attack from an overzealous and oppressive Covid-19 response' (particularly freedom of speech and health and medical freedom).[195]

8.6.1.2 A 'Freedom Convoy' converged on Parliament on 8 February 2022

In late January 2022, a 'Freedom Convoy' formed in Canada in opposition to vaccination mandates and other aspects of the Canadian government's COVID-19 response. This protest attracted considerable international attention and emulation.

On 29 January 2022, a 'Convoy 2022 NZ' Facebook page was created. It proposed a New Zealand-based protest convoy, modelled on the Canadian one, with the following objectives:

- 'Stop all mandates and end all COVID-19 imposed restrictions,
- Reverse COVID-19 introduced legislation and cease proposed legislation,
- The immediate restoration of our universal inalienable human rights,
- Medical professionals to follow the Principals [sic] in the NZMA Code of Ethics, and
- All media to have freedom without censorship.'

In the first week of February, the New Zealand Police became aware of a plan for two convoys – one from Cape Rēinga and one from Bluff – to converge in Wellington, culminating in a potential occupation at Parliament.[196] The two convoys set out on Sunday 6 February 2022 – Waitangi Day.[197]

The 'Freedom Convoy' arrived at Parliament on Tuesday 8 February 2022. More than 150 convoy vehicles blocked streets around Parliament and approximately 2,000 protestors had assembled on Parliament grounds by midafternoon. More than 50 tents were erected that day on Parliament's lawn. Parliament's Speaker, Trevor Mallard, asked for Police assistance to remove these, but was advised that Police did not have the resources available to take enforcement action that evening. Around 500 protestors stayed on Parliament grounds overnight.[198]

8.6.1.3 Initial attempts to disperse the protestors were unsuccessful

The occupation lasted 23 days, attracting a range of people with diverse views that loosely coalesced around a distrust of government. Protestors blockaded the surrounding area with their vehicles and covered Parliament lawn with tents, portaloos, and other temporary structures. At peak times, there were up to 3,000 people in attendance – the highest estimated day being Monday 14 February. Because there were so many people, the occupation spread beyond Parliament grounds to cover a large part of the surrounding Thorndon and Pipitea areas, and some also camped on private property such as the driveways and gardens of nearby homes.[199]

In the first few days, the Speaker, Parliamentary security, and Police attempted to disperse the protestors. On 9 February, Speaker Trevor Mallard asked for Police to accompany Parliamentary staff to issue trespass notices to protestors, but they were only able to approach three tents before Police assessed that the situation had become unsafe.[200] The next day, on 10 February, he officially closed Parliament grounds, and loudspeaker announcements informed protestors that they must leave. One hundred and fifty Police officers were deployed to enforce this, and made more than 100 arrests, but the next morning a second wave of protestors arrived, including more children and young people. That night, the Speaker activated Parliament's lawn sprinklers and played music and COVID-19 vaccination messages over a loudspeaker until 10pm in an attempt to disperse the protestors. This was done against Police advice.[201]

A severe weather event – Cyclone Dovi – hit Wellington on 12 February. Protestors dug trenches and laid out straw to deal with the combination of rain and sprinklers. They arranged security, a medical tent and food distribution, forced open the gates of Parliament, and cut power to the electronic bollards that had been preventing vehicle access to the grounds themselves.[202]

At the end of the first week of occupation, six protest groups associated with the occupation[xvi] sent a letter to ministers outlining their objective:

> "Until the end of the mandates, participants are determined to maintain their presence."[203]

Prime Minister Jacinda Ardern refused the letter's request 'for an urgent meeting with senior cabinet ministers to start a conversation', pointing out that some of their signs called for the 'death of politicians.'[204] She solidified this position on 16 February when she formally advised the Police Commissioner that she would not meet or engage with the protestors.[205] While some other politicians did engage with protestors at this time, a few days later on 17 February, leaders of all the Parliamentary political parties signed a statement indicating that they would not engage further with the protestors until they stopped breaking the law.[306]

xvi These groups were the three already mentioned – the Freedom Alliance, Freedom and Rights Coalition, and Voices for Freedom – along with Convoy 2022NZ, The Outdoors Freedom Movement, and NZ Doctors Speaking out with Science.

8.6.1.4 Significant Police resource was required to manage and contain the protest

Throughout the 23-day occupation, significant Police resource was required to manage – and ultimately disperse – the protest.

On 13 February, a specialist Police negotiation team started work to liaise with the protestors. At that stage, around 200–300 protestors remained, amid torrential rain and gale-force winds.[207] Numbers surged again early in the second week of the occupation. On 15 February, Police began a national operation to respond to the protest, establishing a Major Operations Centre to support the Wellington District's local response.[208]

Police presence peaked in the weekend of 19–20 February, when 600 officers were rostered on in three shifts over a 48-hour period, with 200 more on standby. Around this time, an increased gang presence was observed at the occupation. Also at this time, Police officers who had been deployed at the protest began to test positive for COVID-19. Police were now of the view that de-escalation was the only safe way to deal with the protest.[209] On 21 February they began a two-day workshop to plan a response to end the occupation.[210]

8.6.1.5 City leaders, Police, mana whenua, and the Human Rights Commission met with protestors to hear their concerns

On 22 February, the Chief Human Rights Commissioner met with several protest group leaders to listen to their concerns and discuss 'rights and responsibilities'. The next day, the Mayor of Wellington and Deputy Police Commissioner also met with several protestors.[211]

On 23 February, some protestors forced entry to nearby Pipitea Marae and attempted to 'trespass' tangata whenua there. On 24 February the Deputy Police Commissioner again met with protestors at the marae, along with two church leaders, to try to reach a resolution.[212]

There was increasing sickness among protestors, as the conditions in the encampment became increasingly unsanitary, with reports of sewage from portaloos being discharged directly into stormwater drains. On 23 February, a confirmed COVID-19 case was reported among protestors for the first time. By 24 February, Police had serious concerns for the health and wellbeing of about 30 children at the protest.[213] They were also observing increased discord between different groups of protestors.[214]

On Monday 28 February, Taranaki Whānui ki Te Upoko o Te Ika led a dawn ceremony at Pipitea Marae to deliver a unified message from North Island iwi condemning the aggressive and violent behaviour of some protestors.

Significant numbers of protestors, tents and structures, and vehicles remained in place up to the end of the protest.

8.6.1.6 On Wednesday 2 March 2022, Police undertook a large-scale operation to end the protest

Early in the morning of Wednesday 2 March 2022, Police began a large-scale operation to clear protestors, vehicles and structures from the protest site. This was brought forward by one day due to concerns about available Police resource (including having many officers unwell with COVID-19).[215] The graduation of recently trained Police officers was brought forward by several days to enable the new recruits to be deployed in the operation.[216]

In total, around 600 officers were involved.[217] Starting at the outer edges of the occupation, they worked progressively to remove vehicles, arrest protestors, and establish a progressively tighter Police line around the core location of Parliament grounds itself.

The operation was successful, but dramatic and volatile scenes played out over the course of the day and late into that evening. There were many instances of violence. Protestors lit fires, set explosives, and used bricks and fire extinguishers as weapons against Police.[218] The slide in Parliament's relatively new playground was burnt down.[219]

By 10pm, Police had established a cordon close to Parliament. Around 40 protestors remained, and about 40 officers held the line into the early hours of the morning. The remaining protestors either dispersed or were arrested. In total Police made 95 arrests on 2 March, predominantly for trespass and obstruction, and later charged 54 more people after further investigation.[220] Ambulance staff ended up treating 82 Police officers for injuries and six required hospital treatment.[221] Some protestors and bystanders were also injured in the operation. An extensive clean-up operation began the next day. Public areas that had been cleared in the operation, particularly Parliament grounds, were treated as a crime scene.[222]

8.6.2 Impacts of opposition on trust in institutions and social cohesion

The occupation of Parliament grounds – prompted by disaffection over the introduction of vaccine mandates (and to some extent, other pandemic measures), combined with the increasing circulation of false and misleading information about the pandemic and response – was perhaps the most visible expression of the pandemic's impact on social cohesion and trust. However, the challenges to trust, social licence and social cohesion were recognised by some senior decision-makers from at least the second half of 2021.

During a pandemic, high levels of social cohesion support greater social licence for action, effective community-led responses, and are associated with lower infection and death rates.[223] Conversely, pandemics can also damage social cohesion and trust in ways that – at their most extreme – threaten the rule of law, public safety and provision of essential services.[224] This meant social cohesion and licence were salient factors for decision-makers when considering whether to implement mandatory measures. While the purpose of such measures was to increase the uptake and effectiveness of public health measures like vaccination, contact tracing and masking, use of mandates could actually undermine these goals if they resulted in decreased trust in government or eroded goodwill for the response.

Many public submitters and stakeholders we engaged with felt that aspects of the pandemic response – particularly mandatory measures – had damaged social cohesion. We heard, for example, about breakdowns of personal, family/whānau, community and employment relationships over vaccine mandates and vaccination status, and increased public anxiety, antisocial behaviour, stress and violence.[225] The Department of the Prime Minister and Cabinet has also reflected that the damage to social cohesion and spread of misinformation and disinformation during the pandemic may have impacted the effectiveness of the public health response over time.[226]

Looking to the future, many stakeholders commented that the loss of social licence and breakdown of social cohesion that occurred during this pandemic may shape how the population is likely to respond to public health responses like lockdowns and vaccine requirements in any future pandemics. Some stakeholders also reported increased hesitancy about non-COVID-19 vaccines, consistent with evolving international research.[227]

The evidence we heard from experts on the role of misinformation and disinformation was mixed. While agreeing that misinformation and disinformation are a significant global issue which the pandemic has exacerbated, experts we engaged with differed on the extent to which they saw it as an ongoing risk to trust and social cohesion. Some thought Aotearoa New Zealand had largely reverted to pre-pandemic trust levels, while others were more concerned that trust levels would continue to decline.

Regardless, all agreed that misinformation and disinformation present an increasing global challenge, and that those who are already marginalised and with low trust in government (including Māori) are most susceptible. This evidence, as well as reports by multiple government agencies, supports a continued focus on the risk of misinformation and disinformation.[228] Repairing, fostering and maintaining trust and social cohesion will be key to both countering the impacts of COVID-19-related misinformation and disinformation, and ensuring Aotearoa New Zealand is in a good position to respond effectively to a future pandemic.

Repairing, fostering and maintaining trust and social cohesion will be key to ensuring Aotearoa New Zealand is in a good position to respond effectively to a future pandemic.

1. The use of compulsion was one of the most controversial aspects of the COVID-19 response.

- In deciding whether to mandate various public health measures, ministers weighed up the need to protect public health (especially for vulnerable populations) and individual freedoms and rights. These were not easy decisions, and ministers were aware they would carry a social and economic cost.
- In addition to restrictions on movement and gatherings (such as 'lockdowns') and quarantine and isolation requirements, ministers judged it necessary to mandate COVID-19 testing, contact tracing, masking and vaccination in particular circumstances at various points in the COVID-19 response.
- Vaccine requirements were a major source of tension and social division, and there were strongly held views both for and against their use.
- Organised opposition to mandatory measures contributed to the 28-day occupation of Parliament grounds in February and March 2022.

2. Testing, contact-tracing and masking requirements were reasonable, but their implementation could be improved in a future pandemic.

- Testing, contact tracing and mask wearing were all important components of the COVID-19 response. Given the need for widespread uptake and how they were mandated (i.e. in limited circumstances), we consider it appropriate that these measures were compulsory for periods during the pandemic response.
- There were practical issues with the implementation of testing, contact tracing and mask mandates that could be improved on if similar requirements are deemed necessary in a future pandemic.

3. It was reasonable to introduce some targeted vaccine requirements based on information available at the time.

- Based on the information available at the time (in 2021), it was reasonable for the Government to issue orders making vaccination mandatory for specific occupations (for example, border and health workers).
- It was also reasonable in late 2021 (when Delta was the dominant variant) to design a system where people were required to show a vaccine pass as a condition of entry to spaces and events where they would be in close proximity with others in confined conditions, because of the high risk of viral transmission. Having done so, it was logical to ensure that workers in such spaces were also vaccinated.
- Based on information available in late 2021, it was reasonable for the Government to introduce a simplified health and safety risk assessment tool to support employers who wanted to consider setting workplace-specific vaccine policies in contexts where people would be in close proximity in confined conditions.

4. Some vaccine requirements were applied more broadly than originally envisaged.

- Vaccine requirements were initially targeted and based on a clear expectation of public health benefit.
- However, over time, widespread concern about the risks of COVID-19 fuelled expectations that a wide range of settings and workplaces would be subject to vaccination requirements.
- This led to some vaccine requirements being applied more broadly than originally envisaged.

5. The case for vaccine requirements became weaker in 2022 once Omicron became the dominant COVID-19 variant.

- The case for vaccine requirements of all kinds weakened in early 2022 with the arrival of the Omicron variant since vaccination was now much less effective in preventing COVID-19 transmission and immunity waned over time. While beneficial to the individual concerned, vaccination now offered less protection to others and the public health case for requiring it was weak.
- In our view, some workplace, occupational and other vaccine requirements were applied too broadly and remained in place for too long, which caused harm to individuals and families and contributed to loss of social capital.

6. While some people found vaccine requirements reassuring, they had wider social and economic consequences.

- Vaccine requirements may have helped facilitate a return to in-person work and social activities, by making people feel safe. Many workers were also in favour of vaccine requirements and made strong demands for employers to introduce them.
- However, vaccine requirements also had significant negative impacts, including exacerbating workforce issues and shortages in some sectors.
- Some people who chose not to get vaccinated lost employment, and many experienced stigma, or were unable to access important places and events. There were also difficult social consequences for some people who did choose to get vaccinated, such as the breakdown of family, work and personal relationships.
- Vaccination requirements (occupational mandates, workplace requirements and vaccine passes) reduced trust in government for some and probably contributed to lower uptake of other vaccines (such as childhood immunisations) in some communities, particularly among Māori.
- In hindsight, vaccine requirements had substantial long-lasting impacts – particularly for Māori and Pacific peoples – that would need to be taken into account in any future decisions around their use in a pandemic response.

7. The use of mandatory measures – and other aspects of the COVID-19 pandemic – affected trust and social cohesion in ways that may make future pandemic responses more difficult.

- The occupation of Parliament grounds in protest against a range of matters, including mandatory measures (especially vaccine requirements), represented the most significant civil unrest in Aotearoa New Zealand for some time. It is likely to have far-reaching social consequences.
- The COVID-19 pandemic was associated with declining levels of public trust in government (as occurred in other countries), particularly in some communities. Many of our public submitters expressed concern about the ongoing effects of the pandemic period on social cohesion, trust and collective identity in Aotearoa New Zealand.
- These are important matters for our Inquiry, because during a pandemic, high levels of trust and social cohesion support greater social licence for action, effective community-led responses, and are associated with lower infection and death rates.
- Pandemics can also damage social cohesion and trust in ways that – at their most extreme – threaten the rule of law, public safety, and provision of essential services.
- Fostering, rebuilding and enhancing trust and social cohesion following the unsettling events of the COVID-19 pandemic should be a key part of preparing for any future pandemic.

8.8 Endnotes | Tuhinga āpiti

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CHAPTER 9:

9 Taking stock | Te whakaaroaro: he kōrero mō te urupare ki te mate urutā

9.1 Introduction | Kupu whakataki

At the start of this 'Looking Back' section, we said it would not be a detailed chronological account of the entire pandemic and the Government's response. Instead, it has focused on some elements of both that affected people particularly deeply, presented the biggest challenges to decision-makers, and had lasting consequences (both unavoidable and avoidable) for individuals, whānau, society and the economy.

We have therefore assessed the use of lockdowns, the closing of the border and the introduction of compulsory quarantine and isolation. We have examined how the health system functioned throughout the pandemic, and the care available to those affected by (or vulnerable to) COVID-19 as well as people needing treatment or services for other health issues. We have looked at the acquisition and rollout of vaccines, and the use of compulsory measures to achieve public health benefits. We have assessed the management of the economy and the provision of economic and social supports, as well as the engine that drove the entire response: the Government's pre-pandemic preparations and the plans, systems and strategies it formulated over time.

These are the areas where we think we can most usefully put our insights to work, in the form of the lessons for the future and recommendations set out in the next section. While consistent with our overall assessment that Aotearoa New Zealand's response (enabled by the hard work and sacrifice of many individuals) was among the best in the world, they also reflect our conviction that the response to the next pandemic must be even better.

But before turning to the future, we want to take stock of our learnings looking back. Our analysis and assessment of what happened in the period 2020–2022 has – inevitably, but artificially – uncoupled the elements of the pandemic response from one another. But if we consider them collectively, what are they telling us? If we were to explain Aotearoa New Zealand's pandemic response to a future generation who did not live through it, what story would we tell? We think it would unfold something like this.

Although the rapid spread of COVID-19 around the world had caused concern since the start of 2020, the magnitude and pace of events in March shocked Aotearoa New Zealand. The global pandemic was no longer happening elsewhere and to other people: it had reached our doorstep. Things that had been unimaginable only a few weeks earlier quickly became reality – international borders were effectively 'sealed', businesses and schools closed, and the nation was locked down.

Initially, it was thought Aotearoa New Zealand's best hope was to try delaying COVID-19's arrival and suppress any outbreaks for as long as it could – a goal made more achievable by the country's natural advantages as an island nation distant from its nearest neighbours. Delay and suppression would give the country time to prepare, especially the health system which (as had happened in Europe) would otherwise be rapidly overwhelmed.

But, encouraged by the example of countries like Singapore, Aotearoa New Zealand instead chose a more aggressive path: a complete national lockdown accompanied by stringent public health measures, with the possibility of eliminating the virus until a vaccine was available. Early signs of success prompted decision-makers to move away from suppression as the backstop strategy and instead fully embrace the elimination strategy. With the initial shock passing, Aotearoa New Zealand resolved to keep going hard.

9.2.1 The pursuit of elimination

Once the elimination strategy was formalised in early April 2020, it provided a coherent, easily understood national goal that was clearly communicated and found widespread acceptance. So too did the ground-breaking Alert Level System supporting it, which set out four levels of increasingly restrictive public health measures. At Alert Levels 3 and 4, when 'soft' and 'hard' lockdowns were required, these measures were undoubtedly stringent and created significant stresses that escalated over time. But – in combination with border restrictions and other tools – they were highly effective at preventing the virus from entering the country and, when it did, stamping out chains of transmission. By the start of June 2020, community transmission had been eliminated, at least for the time being. This was a remarkable achievement.

People took heart from this initial success. And, despite the difficulties of lockdown, they drew a sense of common purpose and collective achievement from the knowledge that – by complying with the restrictions until most of the population was vaccinated – Aotearoa New Zealand could return to normality more quickly. This community solidarity was one factor in the effectiveness of the elimination strategy throughout 2020 and much of 2021. Strong leadership was another. Ministers and public health officials, most notably Prime Minister Jacinda Ardern and Director-General of Health Ashley Bloomfield, were exceptional in their public communications, something that was acknowledged domestically and internationally.

The success of Aotearoa New Zealand's elimination approach during 2020 and into 2021 has earned global praise, and deservedly so. It stopped widespread COVID-19 infection until most of the population was vaccinated and the virus became less deadly. It prevented the premature deaths of thousands of New Zealanders and ensured the health system was never swamped.

The success of Aotearoa New Zealand's elimination approach during 2020 and into 2021 has earned global praise.

Importantly, the response's benefits went beyond public health. Holding fast to the elimination strategy allowed Aotearoa New Zealand to spend less time in lockdown than many other parts of the world. It allowed society and the economy to function comparatively well at a time when many other countries were facing extreme disruption. The elimination approach was buttressed by economic and social support measures that were rolled out quickly, generously and on a 'least regrets' basis, effectively cushioning many people and businesses from the pandemic's worst impacts while normal life remained on hold. These supports meant that, once the initial shock had passed, economic activity and growth bounced back quickly. There was no large-scale unemployment and workers largely stayed connected to their jobs and workplaces, despite the lockdowns. The potentially devastating effects of the pandemic on individuals and families – both those already facing significant disadvantage and others who had never needed to rely on social services before – were mitigated by government-funded supports and services, and by the efforts of the network of agencies, non-governmental and local organisations, iwi and Māori groups, volunteers and many others who took them out into their communities. There is much to be proud of.

However, as we discuss further, the longer-term human, social and economic cost of pursuing elimination was high. With the benefit of hindsight, it is possible to see that some harm might have been avoided or at least reduced if things had unfolded differently. While of course we cannot be certain how other response scenarios would have played out, they are worth reflecting on as we look to the future. For example, had there been a higher level of preparation before the pandemic, the goal of elimination might still have been achieved without such a long and stringent initial lockdown.

9.2.2 The all-of-government response

Before COVID-19, Aotearoa New Zealand had a well-established civil defence and emergency management system, led by the National Emergency Management Agency. The Officials' Committee for Domestic and External Security Coordination could be activated in an event where all-of-government coordination was required, and legislation was in place that gave the Government appropriate powers to respond to an emergency.

However, while in principle this system was capable of managing the response to a pandemic, in practice most agencies' previous experience, tools and plans were geared towards natural disasters and were not suitable for a national emergency of the scale or duration of COVID-19. At the start of the pandemic it quickly became apparent that the crisis was too big and multi-faceted for the Ministry of Health to manage as the lead agency, and that a new all-of-government response structure would be needed.

Ministers and officials, working at pace to put in place an all-of-government response to COVID-19 in March 2020, described feeling as if they were flying a plane at the same time they were building it, at speed and under extraordinary pressure. While the pre-existing influenza pandemic plan[i] had some useful elements, there was no manual for dealing with something like COVID-19, and little in the way of 'muscle memory' that could be activated.

Despite this, officials and agencies were remarkably quick in standing up the systems, services and supports that would allow Aotearoa New Zealand to pursue elimination. This is a particularly impressive achievement given that before 2020 New Zealand had not fully prepared all the measures that would be needed for responding to something like COVID-19. For example, New Zealand lacked large-scale contact-tracing and testing capacity, options for quarantining and isolating large numbers of people, adequate building ventilation standards, and sufficient capacity in hospitals to care for many sick people and patients on ventilators. While some economic and social support schemes had been set up for previous crises, they were not sufficiently developed – especially in terms of targeting, delivery and accountability – for a response on the scale the COVID-19 pandemic required.

i The New Zealand Influenza Pandemic Plan 2017.

In the event, the Government succeeded in maintaining the supplies and services needed for life in lockdown. A generous wage subsidy scheme was announced even before the borders closed. The first managed quarantine facility opened within hours of compulsory quarantine for air travellers being ordered. The contact-tracing workforce – from a low starting point – was rapidly scaled-up into a national operation, equipped with a digital contact-tracing system, database and trained staff.

Throughout the pandemic, decisions had to be made and implemented at pace, in rapidly-changing and stressful circumstances, often with limited information and little time to consult stakeholders and other agencies. In ensuring decisions were informed by the latest public health intelligence, there was often limited time to integrate other perspectives into advice. Agencies that needed to operate collectively did not always have strong pre-existing relationships and had to build these as the response was underway. Responding to COVID-19 required ministers and officials to draw on unprecedented levels of commitment, effort and fortitude – not just once, but repeatedly over many months.

The quality of agencies' relationships with groups outside government was also critical. The effectiveness of the response depended not only on public servants and politicians, but on the private sector, iwi and Māori, Pacific and other ethnic communities, non-government social service and health providers, volunteers and many more. They could often do what central government could not. They were known and trusted; they understood local or sector-specific needs; they could reach individuals and families who might otherwise be overlooked. Yet these groups were not always adequately consulted or relied on by government, especially early on. The strength, leadership and capacities found within these groups cannot be over-stated as prime enablers of the 'government' response.

The effectiveness of the response depended not only on public servants and politicians, but on the private sector, iwi and Māori, Pacific and other ethnic communities, non-government social service and health providers, volunteers and many more.

9.2.3 Human impacts

A pandemic like COVID-19 affects everyone and every aspect of life in some way. Negative consequences can never be entirely avoided, although their impacts may be anticipated and mitigated to some degree.

Aotearoa New Zealand's pandemic experience bore this out. Despite the success of the elimination strategy, despite the evident effort within and beyond government, and despite the introduction of measures to cushion the pandemic's effects, there was undoubted harm. In the first two years when COVID-19 infection rates were low, this harm came less from the virus than from the pandemic response itself. While delivering many benefits, the response had negative impacts on the economy, society, individuals and families that were significant, cumulative and unevenly distributed.

The pandemic had different impacts for different groups of people. Some were impacted unequally and in ways that have been deep and lasting. Those who went into the pandemic already experiencing health, economic or other inequities were often disproportionately affected, such as Māori and Pacific peoples. Others, were impacted in unique ways or suffered specific disruptions to their life plans, such as essential workers, New Zealanders overseas or people needing treatment for non-COVID-19 medical conditions. Some people fell into multiple of these groups, such as those living in South Auckland, working in essential industries (including managed isolation and quarantine (MIQ) and the border), and with higher co-morbidities. Groups such as children and disabled people were particularly impacted by certain restrictions. Aucklanders did it particularly tough, spending more than twice as long in lockdowns as the rest of the country.

The elimination strategy was the best way to protect all New Zealanders and look after those at highest risk from a pandemic. By delaying widespread transmission until most people had been vaccinated, the elimination strategy prevented thousands of premature deaths from COVID-19 – particularly among the elderly, those with existing health problems and those living in disadvantaged circumstances.

9.2.4 Challenging transitions

The elimination strategy was one of the major strengths of the pandemic response, and moving away from it was one of the biggest challenges. Once Aotearoa New Zealand reached the point when elimination was no longer required or viable – because the population was largely vaccinated, and the arrival of more easily spread variants made elimination infeasible – a new strategy and set of public health measures was needed. However, in the event, developing and communicating a new goal post-elimination, and transitioning to a new way of managing COVID-19 that did not involve a 'zero-risk' approach to transmission, was not discussed or 'socialised' early or well enough. This proved to be one of the most challenging periods of the pandemic.

For much of 2020/21, planning for recovery, preparing exit strategies and considering possible future scenarios received less attention than they should have. Complex and urgent operational decision-making absorbed the time and energy of ministers and officials. The focus on ensuring the most up-to-date public health intelligence and processes for providing advice under urgency meant there was less scope for Cabinet to consider the trade-offs and longer-term impacts that would normally form a key part of the decision-making process, or to consider possible new pandemic and response scenarios.

The health system experienced similar challenges. The need to preserve capacity in case of a surge of COVID-19 cases – and the increased demands of new infection control measures – made it difficult to judge when there was scope to resume more non-COVID-19 services (surgeries, other planned care, screening). In managing the risk posed by COVID-19, the health system reduced provision of services for other health issues – with consequences for those whose care was delayed or missed.

Once the more virulent Delta strain reached Aotearoa New Zealand in August 2021, the country returned to lockdown. In most regions, it lasted a matter of weeks. But Auckland (and sometimes neighbouring regions) stayed locked down for months. In a city with the largest Polynesian population in the world, Māori and Pacific peoples were hit especially hard. They were more likely to live in overcrowded housing and work in essential industries (including MIQ), and they had lower vaccination rates than other groups – all factors that increased their vulnerability and made it hard to eliminate Delta transmission by means of the usual public health measures. The decision to keep Auckland locked down until all population groups had adequate vaccination coverage was laudable in intent, but the costs (individual, social, economic, educational) were high and they were borne by all Aucklanders and some in neighbouring regions.[ii] In addition to thinking about coverage as a target for ending lockdowns, decision-makers needed to be considering other matters at the same time – including waning immunity and what that meant for average immunity across the population, and the impact of time lags (given vaccination coverage can still be increasing once a lockdown finishes and 'catch' any resurgence of infection rates).

ii Continuing Auckland's lockdown until 90 percent vaccine coverage was reached was not necessary on epidemiological grounds, although other considerations were also relevant.

As the economic and social costs mounted across the country, community support for continuing restrictions began to wane. Businesses and families were struggling, children's learning was impacted, and people's mental health was affected. Many who had been quick to get vaccinated and had always complied with restrictions now felt their efforts counted for nothing: they were still in lockdown and a return to normal life seemed as far away as ever.

Even though the pandemic response was losing social licence, and eliminating transmission of the virus was becoming more challenging, the Government remained publicly committed to the elimination strategy. The discussion started to change in early October 2021 when the Prime Minister suggested the elimination strategy might be phased out – although without indicating what could replace it or when. Then on 22 October, the Government announced that Aotearoa New Zealand would shift to a suppression strategy in December, which it described as 'minimisation and protection'. Alert levels would be replaced by a traffic light system.

This unheralded announcement was contentious, for many reasons. People felt unprepared to start moving in a new direction, and the goals of the new strategy were less clear (unsurprisingly, as suppression is an inherently messier strategy than elimination). Many people who had felt protected by the elimination strategy were now anxious about the health risks if COVID-19 was allowed to become established, and there was not good information about what 'living with' the virus might look like for people. Some criticised the timing of the shift. Vaccination coverage among Māori and Pacific peoples was still below the 90 percent level which the Government's health advisers had recommended should be reached before adopting the 'traffic light' system.

After the transition to the suppression strategy, the pandemic response never regained its initial clarity of purpose or the public support it had earlier enjoyed. There was also increasing resistance to compulsory public health measures – face masks, vaccine passes and especially the Government-issued occupational vaccine 'mandates' and employer-issued vaccine rules. These rules were expanded to cover more categories of workers, with new guidance assisting employers in setting their own workplace vaccination policies. Earlier in the pandemic, there had been clear public health reasons for making certain measures compulsory for specific settings or occupations, even though doing so constrained individual rights. But vaccination was now being required in sectors or workplaces where the public health benefit was less clear but where many employers and employees considered them necessary for workplace health and safety.

The case for vaccine requirements (employer policies, vaccine passes and some Government-issued mandates) became more finely balanced once the highly transmissible Omicron variant became New Zealand's dominant COVID-19 strain in early 2022. International evidence was starting to show that vaccination, including the Pfizer Comirnaty vaccine specifically, was considerably less effective in preventing transmission of Omicron compared with previous variants, meaning it was unclear how much vaccine requirements were increasing people's protection from being infected with COVID-19.

In light of this evidence, the Government might have considered removing vaccine passes and mandate requirements in January and February 2022. However, like most decisions made in a pandemic, this move would not have been risk-free. Even if vaccines were not as good at stopping the transmission of Omicron as other variants, it is likely they would have helped to flatten the first wave to some degree. Vaccine requirements would also have helped dampen down any outbreaks of the Delta variant, which it was feared could return.

Occupational vaccine mandates were updated to include a third dose, in line with the Government's decision to rapidly roll out vaccine boosters as Omicron was arriving – a decision that saved many lives and relieved pressure on the health system.

While some people were anxious about 'living with' the virus, for others the persistence of measures such as vaccine requirements had a corrosive effect. People became increasingly outspoken about the consequences they or others were suffering – unemployment, loss of income, fractured relationships and more. For some, the requirements became a symbol of a pandemic response that had lost its way, becoming increasingly heavy-handed and devoid of compassion. These sentiments partly fuelled the Parliamentary occupation that ended violently in March 2022.

By this stage, core measures that had long scaffolded the pandemic response were already being dismantled. Border restrictions and MIQ were gradually reduced starting in February 2022. Employer vaccine policies, vaccine passes and occupational vaccine mandates were progressively rolled back from April 2022.

9.2.5 The long tail

By the time most pandemic response measures were removed, Aotearoa New Zealand was in a significantly different place from where it had started in March 2020. Collectively, the global pandemic and additional shocks like the war in Ukraine left a legacy of economic, health and social after-effects, many of which remain with us – cost increases, global supply chain problems, the high cost of living, loss of learning, long COVID, poor mental health, loss of income, business failures, broken relationships and widening inequalities among them.

From an international perspective, Aotearoa New Zealand's pandemic response was comparatively a positive one. New Zealand had one of the lowest health losses from COVID-19 and fared comparatively well economically and socially, at least in the short term. But the response could have been better still, thereby preventing or lessening some of the long tail of consequences which this country is still reckoning with. This provides the impetus for the lessons for the future and recommendations we set out in Part Three Moving Forward.

New Zealand had one of the lowest health losses from COVID-19 and fared comparatively well economically and socially, at least in the short term. But the response could have been better still.

9.3 Moving on | Te neke whakamua

The story we have just sketched out is not simply a recital of events: like all narratives, it invites us to draw meaning from what happened, to see patterns and themes, and to recognise the significance of things that may not have been noticed at the time. As commissioners charged with understanding the past so the country is better prepared for the future, we have been immersed in this story for the past two years. In essence, this is what it tells us should happen in an effective pandemic response:

- put people at the centre of the response, protecting them as much as possible from the pandemic's direct harms while also minimising negative impacts on other aspects of their lives;
- make good decisions that look after people – while also weighing up different options, considering a range of factors, and being transparent about necessary trade-offs;
- build resilience into the country's health, economic and social systems to ensure there is sufficient capacity to respond to the increased demands of a pandemic;
- work in partnership – build, nurture and deploy strong relationships and partnerships that make the best use of diverse skills, experience, leadership and connections;
- get the fundamentals in place – ensuring there is effective all-of-government preparation and planning for responding to pandemics and other national risks.

With these high-level 'takeaways' in mind, we turn to the lessons for the future and the recommendations which give effect to them.

NZ ROYAL COMMISSION
COVID-19 LESSONS LEARNED
TE TIRA ĀRAI URUTĀ

Part Three:

Moving forward | Te anga whakamua

PHASE ONE

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CHAPTER 10:

10 Lessons for the future | Ngā akoranga mō ā muri ake

10.1 Overview | Tirohanga whānui

Having reflected on what can be learned from looking back at Aotearoa New Zealand's response to the COVID-19 pandemic, we now turn to the future. This chapter outlines six thematic lessons that we believe should be learned from and acted on before the next pandemic.

Before outlining these lessons in detail, it is worth pausing to reflect on how much the global context from which they are drawn has been fundamentally shaped by the events of the COVID-19 pandemic itself. The pandemic was a transformative and disruptive worldwide event. It expanded what the world knows about pathogens, their origins and spread, and how science and data can help us prepare for and combat future pandemics. It graphically demonstrated the extraordinary reach pandemics can have in a highly mobile and connected world. COVID-19 touched nearly every aspect of people's lives, producing social and economic effects of great breadth, severity and duration. And it also brought home the challenges of responding well to such an event.

What's in this chapter?

This chapter consists of two sections. In the first, we make **eight big-picture observations about how the global context has shifted** as a result of the COVID-19 pandemic, shaping the context for the lessons we draw for the future. These observations, in brief, are:

- COVID-19 expanded international understanding of pandemic pathogens.
- Pandemics require a different kind of response from most other emergencies because of their scale and duration.
- Resolute, clear and strategic leadership is a formidable asset during a pandemic emergency, coupled with strong social cohesion and trust.
- The increasing challenge of misinformation and disinformation is an issue for pandemic responses.
- Pandemics require anticipatory governance, and long-term planning and investment.
- A highly connected world has changed how pandemics are experienced; this creates both risks and opportunities when managing them.
- COVID-19 expanded the strategic response options that can be deployed in a pandemic.
- There are many ways to respond to a pandemic, even within a single strategy.

In the second section, we present these **six thematic lessons for the future**. These describe the **high-level elements** we think are necessary to ensure Aotearoa New Zealand is better prepared for the next pandemic ahead of time, and **ready to respond** in ways that take care of all aspects of people's lives. These lessons, in brief, are:

Lesson 1: Manage pandemics to look after all aspects of people's lives. In practice, this means:

- **1.1** Put people at the centre of any future pandemic response.
- **1.2** Consider what it means to 'look after all aspects of people's lives' from multiple angles.

Lesson 2: Make good decisions. In practice, this means:

- **2.1** Maintain a focus on looking after all aspects of people's lives in pandemic preparedness and response.
- **2.2** Follow robust decision-making processes (to the extent possible during a pandemic).
- **2.3** Use appropriate tools when developing and considering policy response options.
- **2.4** Be responsive to concerns, clear about intentions and transparent about trade-offs.

Lesson 3: Build resilience in the health system. In practice, this means:

- **3.1** Build *public health* capacity to increase the range of options available to decision-makers in a pandemic.
- **3.2** Enhance the *health system's capacity* to respond to a pandemic without compromising access to health services.

Lesson 4: Build resilience in economic and social systems. In practice, this means:

- **4.1** Foster strong economic foundations.
- **4.2** Use economic and social support measures to keep 'normal' life going as much as possible.
- **4.3** Ensure continuous supply of key goods and services.

Lesson 5: Work together. In practice, this means:

- **5.1** Work in partnership with Māori.
- **5.2** Work in partnership with communities.
- **5.3** Work closely with the business sector.

Lesson 6: Build the foundations. In practice, this means:

- **6.1** Anticipate and manage the risks posed by a future pandemic (alongside other risks).
- **6.2** Have key components of an effective national response in place and ready to be activated

These lessons for the future lay the groundwork for our final recommendations, which follow in the next chapter.

10.2 The context for our lessons for the future | Te horopaki mō ngā akoranga mō ā muri ake

Our collective experience of COVID-19 may have brought challenges and loss, but it also gave us some valuable resources – new knowledge and tools, a renewed awareness of the things we value most as individuals and societies, deeper understanding of the systems and services we will rely on in a crisis, and a broader portfolio of response and support options.

As a result, the national and international context within which the next pandemic arises will be different from the start of 2020. In particular:

COVID-19 expanded international understanding of pandemic pathogens.

We may never know the source of the COVID-19 virus. Whether it arose from the virus spilling over from bats or another mammal to humans, or – less likely but still possible – from a pathogen leaking from a virus research facility.

Both scenarios can be prevented – or at least the probability of either occurring again can be reduced. Prevention is the best form of pandemic preparedness, and Aotearoa New Zealand actively supports many of the key international pandemic prevention efforts now underway. They range from reducing risks at wet markets and discouraging incursions of human settlement into high-risk areas, to improving global surveillance systems so cross-species jumps can be stamped out as early as possible. Work is also underway to build strong and effective mechanisms that encourage countries to report worrying outbreaks early, and fully, to the World Health Organization (WHO) and the global community.

COVID-19 also significantly changed the world's understanding of how respiratory viruses spread. Before COVID-19, it was not entirely certain which of the three main forms of transmission (droplet, aerosol and fomite or surface transmission)[i] was the most significant. But definitive evidence emerged during the pandemic that SARS-CoV-2 (and probably other respiratory viruses as well) is mostly spread through aerosol transmission. Aotearoa New Zealand and Australia played an important role in demonstrating this phenomenon, providing compelling evidence from MIQ facilities of international arrivals in hotel quarantine becoming infected by 'air' wafting from one room to another via hotel corridors when doors were opened.

This knowledge underscores the critical role of ventilation and air flow in a pandemic and has implications for the design of many indoor environments – including schools, hospitals and quarantine facilities. It demands that more attention is given to limiting aerosol transmission in high-risk settings, from doctors' waiting rooms to hospitality venues.

i Fomite transmission occurs when someone touches a surface on which particles have been deposited; droplet transmission is when a large infectious particle is expelled directly from one person's airway into that of another in close proximity, and aerosol transmission occurs when small infectious particles 'float' in the air after being expelled until they are inhaled by another person (who may have been some time or distance away).

Here again, COVID-19 reinforced the growing understanding that, if worn properly, masks are effective in limiting the spread of respiratory viruses. Even if the next pandemic pathogen has a shorter incubation period (making contact tracing less effective), decision-makers now know that masking, ventilation and air filtration will go a long way towards dampening transmission. Much can be done ahead of time to ensure these measures are in place and ready to use.

Finally, the pandemic was a powerful reminder of the ability of pathogens to change their stripes. What we saw from 2020 onwards was a virus being constantly selected for a fitter variant that could infect people more easily, spread faster and evade immunity (due to previous infection or vaccination). The extraordinary capacity of the COVID-19 virus to mutate had consequences; the arrival of the highly transmissible Omicron variant saw immunity from vaccination begin to wane just as high levels of population coverage were achieved. Luckily the Omicron variant was less virulent than earlier strains. But Aotearoa New Zealand should not rely on lucky breaks in the next pandemic: we need to be prepared for a similarly sophisticated future pathogen, and one that is more deadly.

The mutability of the COVID-19 virus points to the importance of scenario thinking in pandemic preparations and response. Drawing on all the new and enhanced knowledge about pathogens now available, experts need to identify a range of potential pandemic scenarios and their likelihood so decision-makers can consider the implications and possible mitigations. In addition, there must be open public discussion of possible pandemic scenarios, what response options are feasible and cost effective – and what trade-offs may be required. Our lessons draw on this insight.

Pandemics require a different kind of response from most other emergencies because of their scale and duration.

Aotearoa New Zealand is well practised in responding to natural disasters like earthquakes or severe weather events. Our civil defence and emergency management system has been designed to provide an integrated approach to managing emergency events at any local or regional size. The system is underpinned by the Coordinated Incident Management System (CIMS), allowing all those involved to use a common tool and 'speak the same language'.

But responding to a global pandemic has differences, in terms of both scope and scale. While a pandemic may present as a public health crisis, it has ripple effects across many aspects of society that the response needs to address. In Aotearoa New Zealand, this meant the response involved a much broader range of agencies, non-governmental and community groups than was typical of other emergencies; including many people who were unfamiliar with CIMS and other practices.

Moreover, unlike other emergencies, people are usually the vector in a pandemic. As we saw with COVID-19, stopping the spread of an infectious disease may require protective measures that affect the whole population – whether or not they are sick or symptomatic yet. A precautionary approach in the next pandemic may require blanket restrictions to be put in place before fuller information about how the virus spreads becomes available.

This situation puts decision-makers in something of a bind. Successful pandemic responses rely on high levels of social trust and cohesion. When they are present, people are more likely to comply with public health measures, trust decision-makers and evolving scientific evidence, support each other through lockdowns and other challenges, and accept their own freedoms being restricted in order to protect others. Yet if a pandemic response requires measures that are all-encompassing and drastic, these are likely to erode trust and cohesion over time. During COVID-19, Aotearoa New Zealand experienced both high social cohesion and then its gradual erosion. The country's starting point for a future pandemic will be different as a result.

It is important to act fast at the start of a pandemic and adopt a 'least regrets' approach – but it is also important to keep an eye on the long-term social and economic consequences of decisions.

Throughout a pandemic response, governments must constantly balance the short- and long-term effects of their actions and policies. Keeping people employed and maintaining their incomes so they can feed and house their families is obviously an immediate goal in a people-centred pandemic response. *Underdoing* initial economic and social support can impose unnecessary costs and losses that risk creating longer-term harms for people, business and communities: at this stage, a 'least regrets' approach is justified.[ii] However, *overdoing* the level of support will create long-term costs (in the form of debt, cost of living increases and productivity losses), and may require longer-term consolidation or even austerity – with all their associated hardships. In the early days of a pandemic, it is hugely challenging to make the right decisions that ensure the response is neither underdone nor overdone.

Governments will be judged not only on how many lives they save in a pandemic or how well they achieve their initial strategic objectives (very well, in the case of the early success of New Zealand's elimination strategy) but also on the country's long-term economic and social health – including whatever scars the response may have caused (or exacerbated). Decision-makers must therefore distinguish between short-term and long-term priorities when formulating policies; they should not let the urgent and immediate undermine the important and long-term.

ii As we explained in Chapter 6, a 'least regrets' approach is one that aims to minimise the risk of the worst possible outcomes.

Decision-makers should also be prepared to adjust their thinking about risk as the pandemic response evolves. As the initial uncertainty diminishes, it makes sense to move away from a default precautionary and near-zero risk tolerance for infection to a more balanced approach to risk. Knowledge about the characteristics and risks of the pathogen (for example, how easily it transmits through the air, or who is most at risk of dying if infected) will continuously evolve. This will change how the effectiveness of potential policy response options is assessed (for example, whether masks and ventilation reduce transmission risk, or whether contact tracing will be effective). As more time passes, the risks associated with the supporting economic and social measures will start to increase. Even in the shorter term, various 'non-essential' activities – such as horizontal construction, certain outdoor activities and access (albeit regulated) to a wider range of retail outlets – may be able to operate in relative safety as more is learned about managing the risk for a new pandemic pathogen.

It is of course important that the pandemic response avoids causing harm to key areas of the economy and society. This makes good long-term sense. Similarly, as the pandemic and the response evolve, some adjustments should be considered to reduce potential harms including, for example, impacts on productivity and disengagement of learners from the education system.

Resolute, clear and strategic leadership is a formidable asset during a pandemic emergency, coupled with strong social cohesion and trust.

Aotearoa New Zealand's unified collective response to COVID-19, especially in the first year, was a source of strength and a significant factor in the success of the elimination strategy. It was made possible by strong, consistent and clear leadership, combined with deep reservoirs of social cohesion and trust in government and experts that had built up over time. Other countries that lacked this kind of social capital and trust in institutions did not fare as well.

Our country's experience of COVID-19, and the international evidence available, together suggest that going into a pandemic with high stocks of trust and social cohesion may be just as important as large stockpiles of PPE and a strong national balance sheet. But equally, the New Zealand experience showed the extent to which a pandemic can erode trust in institutions within sections of society, and cause polarisation. The extent and speed of that erosion could be held in check if decision-making during the response is transparent, seen to be fair by the majority, and respectful and accommodating of the minority. This is where strong leadership and effective communication – about decisions, their objectives and the trade-offs involved, as well as listening carefully to those affected – is paramount.

Even so, leaders and decision-makers everywhere face real challenges when it comes to establishing and maintaining social trust and cohesion. Unsurprisingly, the COVID-19 pandemic confirmed the extent to which societies have changed since the last major global pandemic in 1918. Attitudes to authority, public trust in governments and public institutions, faith in science and religious institutions, the proliferating sources of information people rely on, and even the fundamental concept of truth – all have been shaken or changed profoundly.

Populations are now vastly more diverse and heterogenous, meaning one message or form of communication may work well for one group but not for another. Trust levels vary hugely between population groups, as do attitudes to compliance. Some people like to be told precisely what to do, while others want to know the desired outcome and find their own way to best achieve it. Such factors have major implications for regulation and sequencing.

The increasing challenge of misinformation and disinformation is an issue for pandemic responses.

The way that people share and consume information has been transformed over the past 20 years. While the rise of digitalised media has offered considerable benefits, it has also propelled the spread of false or misleading information across the world. This comprises both misinformation (incorrect information which is shared by those who honestly believe it is factual) and disinformation (false information which is deliberately shared, sometimes by state actors, to cause harm or achieve a particular aim). In Aotearoa New Zealand, the circulation of false information – whether on direct pandemic matters such as vaccines, or other societal issues – added to the social fractures we saw developing over the course of the pandemic.

Of course, this dynamic is not unique to pandemics. The contexts in which it occurs, and the underlying causes are many and varied.[1] So too are potential ways to counter it, and technology companies, the education system (which can equip citizens to be more discerning) and experts all have roles to play.

At the same time, it is vital to preserve freedom of speech – including the freedom to express views that may run counter to what the Government of the day is proposing – and the ability to robustly critique knowledge. The value of both was repeatedly underlined throughout the COVID-19 pandemic. For example, it was important for experts and citizens to 'speak up' on issues like vaccine mandates, which were opposed by some school principals and healthcare providers. Similarly, it was vital for experts to help inform the public on important issues relating to COVID-19.

No society has yet 'solved' the problem of misinformation and disinformation. In our Inquiry, we discussed the issue with many people and heard a wide range of views. We have no definitive solutions to propose. But we do think it is important that society keeps working to tackle the issue – including by listening empathetically to those who take this information seriously and by disagreeing respectfully if others hold to different views from ourselves. In another pandemic, it is also important that decision-makers balance whatever response measures and restrictions they are considering against the value of free speech and valid scientific and expert debate.

Pandemics require anticipatory governance, and long-term planning and investment.

Like climate change, a pandemic is an example of what is sometimes called a 'wicked' policy problem: unclear, complex, cutting across different systems, underpinned by unclear causal relationships, and liable to result in unanticipated consequences.

COVID-19 amply demonstrated the difficulties of responding to problems like these. The lack of straightforward (and politically palatable) solutions is perhaps one reason why so many countries were ill-prepared. Before 2020, many countries had already categorised pandemics as a highly probable risk. Yet, globally, there had been little consideration of plausible scenarios or the potential ripple effects that restrictive public health measures could have across wider society and the economy.[2]

Responding better to the 'wicked' problems which pandemics raise will require a shift in thinking towards what the OECD terms 'anticipatory innovation governance' – taking a proactive approach that embeds foresight, innovation and continuous learning into policy and investment decisions.[3] Such an approach means decision-makers preparing for a range of future pandemic, economic and social scenarios, helping to stress-test response options, identifying vulnerabilities and opportunities, investing wisely and cost-effectively for the long term, and being prepared to respond swiftly and flexibly as required.

Tools are available to help decision-makers make these difficult judgements – particularly scenario thinking, planning and modelling. Before and during the next pandemic, we think these should play a much stronger role in preparation and decision-making.

We also believe we need to shift the default thinking (among experts and across society more broadly) from 'we do not know when the next pandemic will occur and what it will be like' to 'we can assign probabilities to future pandemic scenarios and the frequency with which they might occur; therefore we can quantitatively prioritise investment and planning before the next pandemic and optimal response options during it.' While there will always be uncertainty about the next pandemic – where it will come from, how severe it will be – we can still quantify scenarios, response option costs and consequences, and therefore *manage* risk.

One tenet of anticipatory governance which is especially relevant for future pandemics is the value it places on managing crisis and strategy in tandem:

> "One excellent technique is to **manage chaos and innovation in parallel**: The minute you encounter a crisis, appoint a reliable manager or crisis management team to resolve the issue. At the same time, pick out a separate team and focus its members on the opportunities for doing things differently. If you wait until the crisis is over, the chance will be gone."[4]

Elsewhere in this report (see especially Chapter 2), we have described what this 'separate team' would look like in a pandemic response. We envisage a strong, strategically-focused group which – while others deal with immediate and operational matters – is thinking ahead, considering scenarios, and developing options to respond to them. It will also be using dynamic learning techniques, and documenting response lessons as it works. The need to have and protect this strategic function has been highlighted in other countries'[iii] COVID-19 inquiries.[5]

A highly connected world has changed how pandemics are experienced; this creates both risks and opportunities when managing them.

As we have already acknowledged, since the world last experienced a pandemic on a similar scale to COVID-19, global connections between people, institutions and markets have grown exponentially. We have become accustomed to living in a world in which capital, goods, knowledge, people, cultures and trends cross borders at dizzying speed – even for countries like Aotearoa New Zealand, which are geographically isolated.

The COVID-19 pandemic confronted us with a virus that could travel round the world far faster than ever before. This brought home to us the many consequences, positive and negative, of New Zealand's isolation and reliance on international connections. We also saw the importance of connectedness at a national level, and what could happen when vital connections were disrupted. For example, an industry not designated as essential may have to stop making a by-product required by another industry that **is** considered essential, significantly affecting that industry's ability to operate until a solution can be found.[iv]

Our size and geographic isolation were undeniable assets when it came to stopping the virus, giving us response options that were not available to other countries. However, the same factors also created vulnerabilities. The pandemic exposed Aotearoa New Zealand's heavy reliance on international supply chains that were long, thin and complex. New Zealand has a small, open economy that depends on trade and the easy movement of people (workers, students and others) and goods and (increasingly) services in and out of the country. We are often at the furthest end of the supply chain: something we use every day might have been designed in Italy, funded in London or New York, machined in Thailand and finished in Australia before it reaches New Zealand. With borders effectively closed, and delays to ships being able to unload their cargo and manufacturing scaled back or completely halted, we saw the fragility of that chain. Disruption to just one part was shown to have consequences for the whole.

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iii This includes, for example, the Dutch Safety Board (which emphasised the need to take a broad approach and invest in scenario-based thinking) and the UK COVID-19 Inquiry (which has recommended the development of a UK-wide whole-system civil emergency strategy and the adoption of new scenario-based approaches to risk management).

iv In Chapter 6, we described what happened when the Kinleith Mill's forestry and wood processing operations were not initially considered essential, despite the fact the mill is Aotearoa New Zealand's only supplier of chlorine (which it produces as a by-product) for drinking water.

Aotearoa New Zealand's supply chain vulnerability was heightened by its use of 'just in time' delivery which, though efficient in normal times, meant goods that were essential in the pandemic (PPE, for example) were sometimes in dangerously short supply or had to be used past their expiry date. We return to the challenges of maintaining strong supply chains in a pandemic in Lesson 4.

People's ability to move freely across international borders – a routine expectation in our highly-connected world – was also a casualty of the pandemic. In 2021, only 800,000 traveller movements were recorded across New Zealand's border, the lowest in 50 years, and only around 5 percent of the 14.2 million movements in 2019. The curtailment of international travel inflicted considerable damage on sectors like tourism and hospitality, and highlighted New Zealand's economic reliance on the international trade in services. Moreover, it exposed the fragility of the rights of New Zealanders living overseas to return home, and the ability of foreign nationals in this country to return to their country of origin.

On the plus side, however, it was thanks to greater global connectedness that the latest scientific knowledge and research about COVID-19 became available almost immediately. The speed with which it was disseminated meant it could inform countries' pandemic responses and planning, while also helping to counter misinformation and disinformation. In addition, international relationships and collaboration were instrumental in the development and distribution of effective vaccines. And since the worst of the pandemic has passed, we have seen multilateral efforts to better prepare the world for future pandemics – such as the revised International Health Regulations, ongoing work to forge a global pandemic accord and various initiatives to improve poorer countries' access to vaccines. Developments like these demonstrate how international connectedness can be a force for good when it comes to building resilience to future pandemic shocks.

COVID-19 expanded the strategic response options that can be deployed in a pandemic.

COVID-19 demonstrated that countries – especially island states, which enjoy the additional benefit of geographic isolation – have options about how to respond to pandemics, including pursuing elimination ('stamp it out') or exclusion ('keep it out') strategies. Until COVID-19, it was assumed that in a global pandemic, the pathogen would inevitably sweep through all countries and could not be kept at bay. 'Keep it out' was a relatively short-term tactic to buy time to plan and prepare for the inevitable, and not envisaged as a strategy to create enough time for the population to be vaccinated before opening up. This assumption was reflected in New Zealand's pandemic plan,[6] similar plans in other countries, and in WHO guidance. But the COVID-19 experiences of Aotearoa New Zealand and some other countries, such as Australia and Taiwan, showed otherwise. Providing they act early and fast enough, countries can opt to keep the pathogen out or (repeatedly) stamp it out. They can keep doing so until they are ready to let the virus in and exit from an elimination strategy on their own terms and at the time of their choosing.

This option is especially feasible when the pathogen in question sits in what might be called the 'goldilocks' zone – when it is sufficiently virulent and infectious to have major adverse effects if a country aims only to mitigate or suppress it, but not so infectious that it cannot be eliminated or stamped out when outbreaks occur. The COVID-19 virus was in that goldilocks zone.

However, such an approach comes with costs – particularly the economic and social impacts of shutting down or severely restricting the flow of people across borders, which need to be carefully weighed up when deciding to pursue either elimination or exclusion approaches. Nonetheless, the COVID-19 experience has empowered governments to at least *consider* the option of imposing tight border restrictions. Not only was that prospect almost unimaginable before COVID-19 – it also contrasted sharply with WHO's initial view that keeping border restrictions in place for the medium term was unfeasible and too much of a barrier to international trade and mobility.

Is it really feasible to exclude a pandemic pathogen like the COVID-19 virus by effectively closing the borders before any infection has the chance to become established? We argue 'yes', if it has been carefully considered and planned for in advance. Aotearoa New Zealand's experience in 2020 and for much of 2021 demonstrated that an elimination strategy is an effective medium-term strategic option for pandemic pathogens of sufficient severity; with the right combination of public health measures, and high levels of public support, we saw that such pathogens can be eliminated even after they have gained a foothold in the country.

From there, it is only a small step in counterfactual thinking to consider what could have happened if we had restricted entry at the international border earlier and more stringently. If the WHO's declaration of the novel coronavirus as a 'public health emergency of international concern'[v] on 31 January 2020 had come a week earlier, and if Aotearoa New Zealand had planned for the possibility of closing borders faster, the COVID-19 virus might not have entered New Zealand at all in February and March – and we could have avoided the first national lockdown entirely. Even if we did not completely stop the virus from arriving, with well-prepared contact tracing, quarantine and isolation systems in place, it would have been possible to 'stamp out' the odd outbreak (though the occasional soft or hard lockdown might still have been needed).

v Note that the WHO has now defined a *pandemic emergency* within the International Health Regulations that will trigger more effective international collaboration in response to events that are at risk of becoming, or have become, a pandemic. This change was agreed on 1 June 2024.

In the next pandemic, rapidly deploying an exclusion strategy early on may well be a viable option for Aotearoa New Zealand – providing the necessary plans and investment decisions are made in advance. Implementing such a strategy in the uncertain initial days of a pandemic would not be easy. There is inherent risk in deciding to close the border swiftly – namely, that the pandemic pathogen turns out to be less severe than originally thought, and neither exclusion nor elimination strategies are warranted. But such risks do not lessen the need to engage in scenario thinking, planning and modelling before the next pandemic. Decision-makers need to be better-equipped to gauge the likely balance of benefits and harms of such a strong precautionary approach.

There are many ways to respond to a pandemic, even within a single strategy

The tools and tactics at Aotearoa New Zealand's disposal in a pandemic include vaccines, therapeutics, public health and social measures (ranging from encouraging physical distancing through to mandating hard lockdowns), masks, contact tracing, isolation of cases, quarantine of contacts and international (and even inter-regional) arrivals, regional borders, school closures, restricted gathering sizes, and better ventilation and filtration of air in buildings. The global experience of COVID-19 showed that the better these tools and tactics are prepared – and the greater the willingness of the population to collectively implement them – the more likelihood that our chosen strategy will succeed and deliver greater benefits with less harm.

For example, if excellent contact-tracing, isolation and quarantine capacity and capability are in place before the next pandemic (providing the virus in question is amenable to such things), there will be less need for New Zealand to use measures such as lockdowns that people found more unpalatable or were more harmful in the COVID-19 pandemic. Likewise, decision-makers may choose next time to prioritise people attending tangi and funerals – which we know was a contentious and distressing issue for many during COVID-19 – and 'offset' that risk via another response measure (such as encouraging and requiring more high-quality mask wearing). Or they may choose to take a little more risk by allowing schools to stay open more and offset it by encouraging as many adults as possible to work from home.

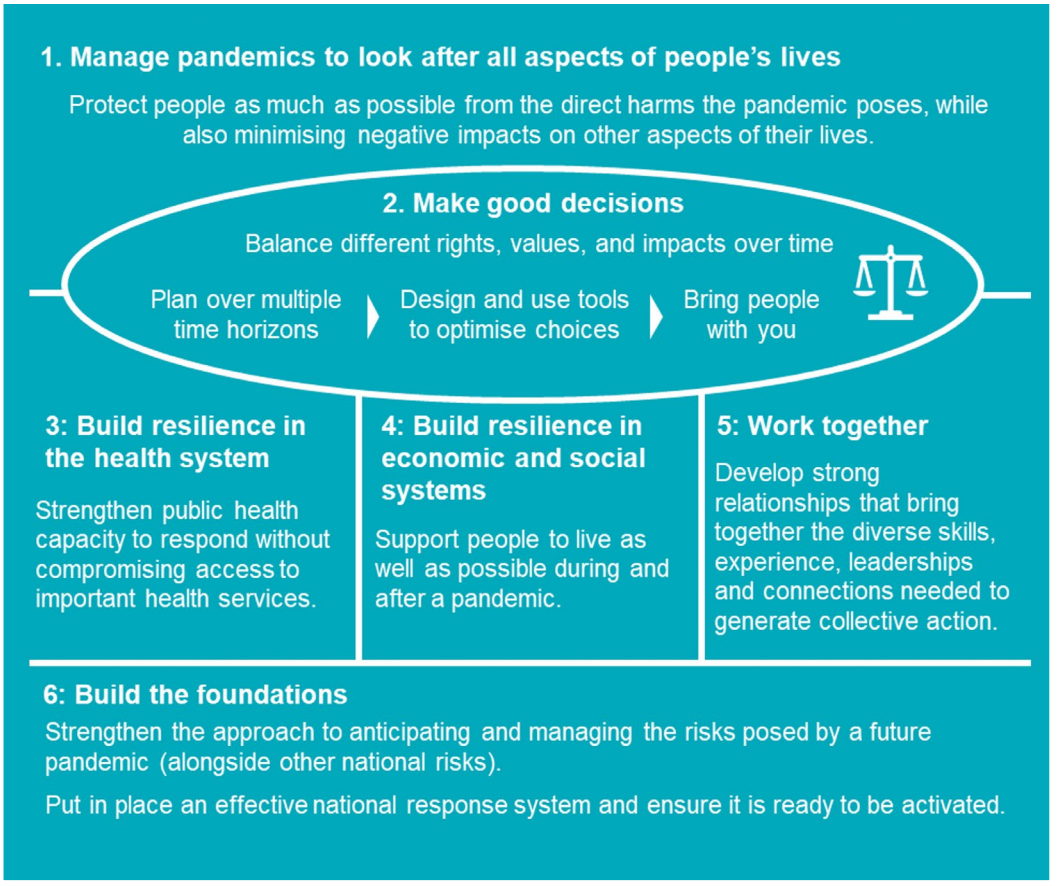
Given the array of tactical choices which leaders can use in various combinations to achieve their chosen strategy, the challenge will be to arrive at the 'sweet spot' that maximises the benefits and minimises the costs. Developing better understanding of the choices to be made, the impacts of each and the settings required to implement them should be part of Aotearoa New Zealand's preparations for the next pandemic (see also our discussion of anticipatory governance).

Overview | Tirohanga whānui

With the fundamental global observations and context from the previous section in mind, we now turn to the specific lessons Aotearoa New Zealand can learn for the future. These lessons describe the high-level elements we think are necessary to ensure the country is fully prepared for the next pandemic ahead, and ready to respond in ways that take care of all aspects of people's lives. In our earlier chapters and reflections, we have been looking at COVID-19 through the rear-view mirror. Now we turn our attention to the road ahead.

The overarching lesson from COVID-19 (**Lesson 1**) is that we need to **manage pandemics to look after all aspects of people's lives**. This means recognising the broad range of impacts that a future pandemic may have on all aspects of people's lives in Aotearoa New Zealand – and balancing the responses to minimise both immediate and long-term harms. The remaining five lessons for the future flow from the first. Figure 1 shows how the lessons work together.

Figure 1: Lessons for the future and how they fit together



Lessons 2 to 6 reflect what we have learned about what it would mean to prepare for and respond to a future pandemic in a way that looks after all aspects of people's lives.

Lesson 2: Make good decisions. In order to look after people in a pandemic, decision-makers need to keep sight of the overall purpose of the response while being adaptable in how this is achieved. They also need advice and evidence that helps them weigh up different options and strike a balance between different priorities and values. What is needed to 'look after people' will change as the pandemic evolves and the balance of benefits and harms of various policy options shifts over time.

Lesson 3: Build resilience in the health system. Looking after people's health is a core part of any pandemic response. Strengthening *public health* capacity will expand the tools available to reduce the risk of pandemic infection. This can reduce their reliance on more restrictive measures (such as lockdowns). Capacity is also needed in the *healthcare* system so this can meet the demands of safely caring for those who become infected while also delivering other essential health services.

Lesson 4: Build resilience in our economic and social systems. Any pandemic response needs to look after the social, economic and cultural aspects of people's lives. In order to do this, New Zealand's social and economic systems need to be resilient and have the capacity to 'step up' during a crisis. People are the most important resource, but we also need tools and processes for identifying and reaching those who need support during a pandemic.

Lesson 5: Work together. Looking after people in a pandemic means all parts of society need to be involved. Communities, businesses, faith groups, NGOs and tangata whenua are able to reach people and do things beyond the scope of government agencies. Building relationships and recognising the value of others' approaches are important preparation for working together in a pandemic.

Lesson 6: Build the foundations for future responses. Looking after people means thinking about what would be needed in a future pandemic response and acting now to ensure this is in place ahead of time. It's not possible to predict the exact nature of the next pandemic, or the economic and social situation in which it might occur, but there are tools (such as scenario planning) that can give a sense of the range of challenges a future government might need to respond to. These should inform what's prioritised in the work of pandemic preparation and where Aotearoa New Zealand should focus its resources – including the tools and systems needed to look after all aspects of people's lives.

1 Lesson 1: Manage pandemics to look after all aspects of people's lives | Akoranga 1: Te whakahaere mate urutā hei tiaki i ngā āhuatanga katoa o te ao o te tangata

In brief: What we learned for the future about looking after all aspects of people's lives

In preparing for and responding to the next pandemic:

- **Lesson 1.1** Put people at the centre of any future pandemic response
- **Lesson 1.2** Consider what it means to 'look after *all* aspects of people's lives' from multiple angles

Overview

While pandemics are first and foremost public health emergencies, Aotearoa New Zealand's COVID-19 experience demonstrated that managing a pandemic is also about much more than controlling an infectious disease. The pandemic – and the Government's response to it – affected every part of people's lives – health, social, economic and cultural. Preparing effectively and responding well to a future pandemic will therefore require involvement from across both sectors and society.

The COVID-19 pandemic was also a reminder of what matters most for people. Humans are social beings whose lives are made meaningful by the strength and value of our relationships and connections. Physical health and wellbeing matters, of course, but so do whānau and family, friendships, livelihoods and the freedom for individuals and communities to choose and pursue what is important to them, even during a crisis like a pandemic.

These insights are an important reminder of the core purpose of pandemic preparedness and response – ***looking after all aspects of people's lives***. In practice, this means:

- **Looking after all aspects of people's health** – protecting them from infection, while also looking after their wider physical, mental and emotional health.
- **Looking after the broader aspects of people's lives** – looking after their social, economic and cultural interests.
- **Looking after people in the future as well as the present** – making sure that actions and decisions in the moment take account of what may be needed in times to come.

What's needed to 'look after people' may change over time. Sometimes, multiple objectives may be in tension with each other. Recognising and responding to this will require decision-makers to weigh up different options and balance potentially competing priorities and values. This is covered in more detail in Lesson 2.

When it is understood that the purpose of pandemic management is looking after all aspects of people's lives, it becomes clear that pandemic preparedness and response need to take a broad approach. The centrality of this purpose was encapsulated by the Chair of our counterpart inquiry in the United Kingdom, Rt Hon Baroness Hallett DBE, in the introduction to her Inquiry's first report: 'The primary duty of the state is to protect its citizens from harm'.[7] While it will be up to future governments to determine exactly how to prepare for, approach and respond to a future pandemic, and what weight to put on different forms of harm, it is hard to imagine any pandemic scenario in which protecting and supporting people through the crisis is not the primary focus.

Lesson 1.1 Put people at the centre of any future pandemic response

Many people, groups and organisations in Aotearoa New Zealand draw inspiration from the well-known whakataukī: *He aha te mea nui o te ao? He tangata, he tangata, he tangata* (What is the most important thing it the world? It is people, it is people, it is people). Embedded in this whakataukī is a challenge – before taking an irreversible action, consider: what will it mean for people?

Early in the COVID-19 pandemic, many people in Aotearoa New Zealand had a strong sense that the response was intended to look after them. While daily life was fundamentally changed by the introduction of border restrictions and lockdowns, strong messaging to 'Unite against COVID-19' and 'be kind' gave many people a sense that the Government was acting in their best interests. Many of our public submitters expressed gratitude for this decisive and empathetic approach, drawing attention to the contrast between the quiet streets in Aotearoa New Zealand during the first Level 4 lockdown in 2020, and images of the devastating impact of COVID-19 in parts of Europe and North America.

Over time, however, this sense of being looked after began to fade for some people. Measures such as gathering restrictions that were intended to keep people safe from the virus became a cause of distress and harm. We heard from some submitters that, in minimising the risk of infection, it sometimes felt as though people were being denied the things that made their lives worthwhile. Some New Zealanders who were overseas felt forgotten or abandoned by their home country.

The challenge for future governments will be to ensure that people – and all the things that make their lives meaningful – are kept at the centre of any pandemic response. Pandemic policies and measures should be evaluated not only for their efficacy in minimising infection, but also for the impacts they have on people's lives. There will be times when it is necessary to use measures that come with significant costs or restrictions. But COVID-19 has underscored the importance of fully considering the impacts of pandemic response measures on all aspects of people's lives – both short- and long-term – and taking this into account as much as possible when deciding when and for how long to deploy such measures.

Lesson 1.2 Consider what it means to 'look after all aspects of people's lives' from multiple angles

It is important to take a broad perspective on what looking after all aspects of people's lives means during a pandemic, and to embed this across all elements of the response. This is partly acknowledged in the recent interim update to New Zealand's Pandemic Plan, which sets the following 'key objective':

> "The key objective of this plan is to minimise deaths, serious illness and significant disruption to communities, the health system and the economy arising from a pandemic associated with a respiratory infection." [8]

As we learned during COVID-19, people's lives and quality of life can be threatened not only by a pandemic pathogen, but by the response itself. Mental health may be challenged by long periods in lockdown. Jobs and incomes may be lost. Families may be painfully separated or exposed to damaging stress and violence. Delays in accessing 'business as usual' healthcare may lead to people dying or becoming seriously unwell from other illnesses. There may even be longer-term, intergenerational impacts, such as loss of learning from school closures, or lack of housing affordability from response measures accelerating existing economic trends.

There are numerous models and frameworks that future decision-makers and officials can use to inform their understanding of what matters to people and what it means to look after all aspects of their lives during a pandemic. These include (but are not limited to):

- Aotearoa New Zealand's human rights framework, comprised of a mix of domestic laws and various United Nations treaties and rights declarations which New Zealand has ratified. Te Tiriti o Waitangi is also part of this framework.
- Outcomes frameworks developed by agencies to inform their work, such as Treasury's Living Standards Framework.
- Models developed for specific population groups, such as children and young people, Māori, Pacific peoples and other ethnic communities.
- Holistic models of mental and physical health, such as the outcomes framework developed by Mental Health and Wellbeing Commission | Te Hiringa Mahara.

Using such models and frameworks can give decision-makers confidence that they have identified a wide range of potential impacts from various pandemic response measures and support sound decision-making about which measures to use and in different circumstances.

Aotearoa New Zealand's COVID-19 experience demonstrated that a pandemic's impact will be unevenly distributed – especially if efforts to mitigate unequal impacts are insufficient. As set out in the 'Looking Back' section of the report, especially in Chapter 6, even with a proactive policy response, the COVID-19 pandemic and associated response measures disproportionately affected Māori, Pacific people, women, disabled people and others, even with a proactive policy response.

Many actions by policy makers and communities helped to reduce these impacts. For example, food parcels and other forms of grassroots support were part of the tremendous wraparound support provided to many communities during the first lockdown. But some efforts could have been more effective through, for example, earlier engagement of Māori and Pacific providers in the vaccine rollout (see Chapter 7).

Making use of the kinds of models and frameworks set out in this lesson can also help to flush out how different individuals and groups may experience a pandemic differently. Recognising that it will never be possible to completely mitigate every potential negative or unequal impact with an optimal policy response package, a people-centred future pandemic response should nevertheless aim to anticipate these were possible, consider the overarching purpose of the response, apply ethical principles to guide decision-making including trade-offs, and augment population-wide or universal policies with targeted policies as appropriate. Making use of a wide range of models and tools can inform effective planning for how to do this in a way that looks after all aspects of life for a wide range of people – recognising a pandemic is still going to see 'losses' in many domains. This will also help to ensure that underlying inequities and existing disadvantages are not exacerbated during a future pandemic.

Aotearoa New Zealand's COVID-19 experience also demonstrated that a pandemic's impact will be unevenly distributed.

2 Lesson 2: Make good decisions | Akoranga 2: Te tuku whakatau pai

In brief: What we learned for the future about making good decisions

In preparing for and responding to the next pandemic:

Lesson 2.1 Maintain a focus on looking after all aspects of people's lives in pandemic preparedness and response. In practice, this means:

- **2.1.1** Consider and plan for multiple time horizons simultaneously
- **2.1.2** Make more explicit use of ethical frameworks to balance different rights, values and impacts over time

Lesson 2.2 Follow robust decision-making processes (to the extent possible during a pandemic). In practice, this means:

- **2.2.1** Seek out a range of advice and perspectives
- **2.2.2** Make use of times when the situation is stable to look ahead and plan for what might come next
- **2.2.3** Anticipate and plan for burnout

Lesson 2.3 Use appropriate tools when developing and considering policy response options

- **2.3.1** Identify a wide range of possible policy response options
- **2.3.2** Compare the impacts of different policy response options to make good decisions
- **2.3.3** Use modelling and scenarios to inform decision-making

Lesson 2.4 Be responsive to concerns, clear about intentions and transparent about trade-offs

- **2.4.1** Engage stakeholders, partners and the public in key decisions, to the extent possible in the circumstances
- **2.4.2** Be transparent about how different considerations have been weighed against one another.
- **2.4.3** Clearly signal in advance where the response is heading, to help people navigate periods of uncertainty and transition.

Overview

In the early days of the COVID-19 pandemic, the Government made many hard decisions (such as imposing border restrictions and quarantine requirements) quickly and under pressure. The elimination strategy, once adopted, provided a clear purpose and touchstone for such urgent decisions. However, as the pandemic wore on – especially in the second half of 2021 – the goal of (re)eliminating community transmission began to move out of reach. This made pandemic decision-making more challenging, especially because there had been limited capacity to consider and plan for other options and scenarios (including how to move on from a zero-transmission target).

Good pandemic decision-making must be responsive to changing circumstances and take account of cumulative effects. In a future pandemic, it will be important for decision-makers to keep sight of the overall purpose of the response, while also having a degree of flexibility about how this is achieved.

Depending on the situation and context, the decisions necessary to look after all aspects of people's lives may need to shift over the course of a pandemic response. For example, the kinds of actions taken in a situation where no vaccine is available will differ from those required in a situation in which nearly everyone is fully vaccinated. Good decision-making processes that can anticipate and accommodate a changing context, lead discussions with the public to keep them abreast of likely scenarios, and maintain focus on people's economic, social and cultural interests become crucial in such situations.

The role of a lessons-focused Inquiry such as ours is not to stipulate exactly what decisions should be made in a pandemic (either in the now-past COVID-19 pandemic, or in any future pandemics). Rather, our role is to identify factors and processes that will ensure strong options and robust analysis and advice are available to future decision-makers.

Good pandemic decision-making must be responsive to changing circumstances and take account of cumulative effects.

Depending on the situation and context, the decisions necessary to look after all aspects of people's lives may need to shift over the course of a pandemic response.

A critical tool in the pandemic decision-making toolkit is identifying and planning for a range of likely pandemic scenarios.- This can support good decision-making *before* a pandemic by helping governments prioritise investment to manage the most likely pandemic-related risks (discussed further in Lesson 6), and *during* a pandemic by helping decision-makers predict how the pandemic may evolve and plan for changes or transitions in the response. It can also be used to estimate the impact of different measures or policy responses at specific points in the pandemic, helping decision-makers evaluate different options and their likely benefits and harms.

Lesson 2.1 Maintain a focus on looking after all aspects of people's lives in pandemic preparedness and response

Consider and plan for multiple time horizons simultaneously

At the start of any future pandemic, decision-makers will need to react to the immediate threat and do whatever is necessary to protect people from imminent harm. At the same time, however, they should ensure that planning for the longer term – including for the recovery phase – gets underway as soon as possible. Without this dual focus on both the immediate situation and the longer-term picture, there is a risk that the response remains in a reactive mode for too long, or fails to effectively identify, anticipate or mitigate wider impacts.

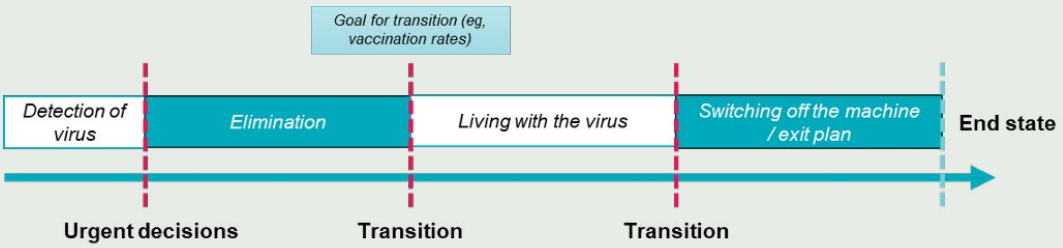
An effective pandemic response requires dedicated, future-focused planning to be carried out separately from (but in parallel with) the immediate operational response. Our 'Looking Back' analysis suggests that a separate strategic function responsible for keeping the evolving 'big picture' in mind as the COVID-19 pandemic evolved would have strengthened Aotearoa New Zealand's response. This needs to be staffed by people with the right skills and attributes – preferably identified in advance.

An effective pandemic response required dedicated future focused planning to be carried out separately from (but in parallel with) the immediate operational response.

Both before and during a future pandemic, there may be value in mapping out the overall pathway the Government expects to follow in managing the response. Achieving the goals of the response is likely to involve several distinct phases, each with its own strategy and specific aims. Mapping the likely stages on this pathway ahead of time may help decision-makers to prepare to transition between response phases. Such mapping could also help to identify potential indicators or targets that might trigger a change in strategy (see Figure 2 for an indicative example for COVID-19), and help the public, stakeholders and experts to understand the overall direction of the response and prepare accordingly.

Of course, such mapping needs to be alive to the possibility that the anticipated trajectory of the pandemic may change – due (for instance) to changes in the pathogen, shifts in public compliance with control measures, or the early, late or unexpected arrival of a new tool to combat the virus. In Aotearoa New Zealand's COVID-19 response, for example, the Government had to adapt its strategy when it became apparent that the Delta variant was unlikely to be eliminated. Continually adjusted scenario planning will help the strategic part of the response consider and plan for the medium- and long-term time horizon.

Figure 2: An indicative pathway through the pandemic response (based on COVID-19 experience)



Make more explicit use of ethical frameworks to balance different rights, values and impacts over time

In our view, Aotearoa New Zealand's leaders generally did well at juggling the ethical complexities during the COVID-19 response. It was clear from our engagements and evidence that ministers and officials were aware when ethical principles were at play and took a thoughtful approach to considering and balancing them. However, it seems the use of ethical principles to inform decisions during the COVID-19 response was largely intuitive.

We think there is value in making more explicit use of ethical principles that can consistently and transparently guide decision-makers. These principles could be applied at all levels of the response – from the allocation of clinical resources to individual cases, through to Cabinet level decisions about prioritising vaccination rollouts, or balancing public health measures, such as lockdowns, against their wider impacts. While the same principles apply to both pandemic planning and pandemic response, the relative importance of each principle may shift. For instance, greater weight may be placed on protecting health and wellbeing in the early stages where there is less information about the virus.

It is generally much easier for people to accept difficult decisions when they understand (or even endorse) the principles and values that sit behind them and see how they have been used to arrive at a decision. As the World Health Organization (WHO) has commented, without such discussion response efforts could be hampered:

> "A publicly-discussed ethical framework is essential to maintain public trust, promote compliance, and minimize social disruption and economic loss. As these questions are particularly difficult, and there will be insufficient time to address them effectively once a pandemic occurs, countries must discuss them now while there is still time for careful deliberations."[9]

Several existing ethics frameworks have been specifically designed for this purpose. One of the most globally influential is promoted in the *Oxford Handbook of Public Health Policy*.[10] Based on a Canadian model,[vi] the guiding values from this framework are intended to be useful in any jurisdiction. As this was published pre-COVID-19, and has a strong focus on healthcare settings, it is likely that it will soon be updated to reflect learnings from COVID-19, including the much wider range of impacts a pandemic can have. This approach distinguishes between **substantive values** (values that guide *what* decisions are made during a pandemic) and **procedural values** (values that guide *how* decisions are made during a pandemic).

Table 1: Values to guide ethical decision-making in a pandemic

Substantive values (values that guide *what* decisions are made in a pandemic)	
• Individual liberty	• Reciprocity
• Protection of the public from harm	• Equity
• Proportionality	• Trust
• Privacy	• Solidarity
• Duty to provide care	• Stewardship
Procedural values (values that guide *how* decisions are made during a pandemic)	
• Reasonable	• Responsive
• Open and transparent	• Accountable
• Inclusive	

Source: Based on Oxford Handbook of Public Health Policy, 2019 and University of Toronto Joint Centre for Bioethics, 2005, A report of the University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group, https://jcb.utoronto.ca/wp-content/uploads/2021/03/stand_on_guard.pdf

In 2007, the National Ethics Advisory Committee had also published a set of ethical guidelines for epidemics and pandemics for use in Aotearoa New Zealand.[11] After COVID-19, the National Ethics Advisory Committee began updating its pandemic guidance, holding extensive public consultations in 2022.[12] There was strong support for a pandemic response that prioritised people's health and wellbeing, and moderate support for efforts to protect the most vulnerable – including by providing greater support to those with greater needs (such as disabled people, older people and Māori). Submissions highlighted the public's strong expectation that, in a pandemic, freedoms should be protected as much as possible, and the Government should justify the use of restrictive measures. Responses also emphasised the importance of transparent decision-making and clear communication about the principles and evidence used in making decisions.

The National Ethics Advisory Committee's guiding principles for a pandemic (shown in Figure 3) are specific to Aotearoa New Zealand and offer localised and culturally relevant guidance. At the time this report was completed, an updated (post-consultation) version of the Committee's pandemic guidance was due to be published (Figure 3 reflects this latest version).

vi Published in 2005, the Canadian framework was developed by researchers at the University of Toronto following the Severe Acute Respiratory Syndrome (SARS) outbreak in 2002-2003. The table produced here is a summary only. For a full version including a description of each value, see the sources listed in endnote 10.

Figure 3: National Ethics Advisory Committee's updated guiding principles for an epidemic or pandemic

Manaakitanga: implementing measures that are intentioned, respectful, and demonstrate caring for others. Establishing mutually beneficial communication and collaboration pathways.
Tika: implementing measures that are 'right' and 'good' for a particular situation, through being open and transparent. Cultivating trust between decision-makers and the people they impact.
Liberty: implementing measures that uphold human rights, including liberty and privacy.
Equity: implementing measures that eliminate or reduce unjust inequities in health outcomes for different groups of people and achieve Pae Ora for all.
Kotahitanga: implementing measures that strengthen social cohesion through empowering local government, leaders and communities to be active participants in the planning and response.
Promoting health and wellbeing: implementing measures that protect and uplift the four cornerstones of Te Whare Tapa Whā health model: whānau health, mental health, physical health and spiritual health. Healthy individuals and whānau turn into healthy communities and a healthy population.

Source: Based on information from the National Ethics Advisory Committee (Ministry of Health), 2022, Ethical Guidance for a Pandemic (Draft report) https://neac.health.govt.nz/

Both the Oxford Handbook and the New Zealand frameworks set out core values and principles that can guide decision-makers towards a people-centred pandemic response. It is important that the principles and processes used by decision-makers during the crisis are visible to the public, both before the next pandemic for discussion and input, and during the next pandemic as a framework to progress decisions. It will be important for future governments to regularly engage with the public about what it is that they value, to ensure that decision-makers explicitly consider and communicate these trade-offs in an empathetic and accessible manner.

Lesson 2.2 Follow robust decision-making processes (to the extent possible during a pandemic)

An emergency response often requires decisions to be made quickly and with limited information or consultation. Normal decision-making processes may need to be modified, abbreviated or (in situations of extreme urgency) temporarily set aside to enable a rapid response. For example, in urgently deciding to introduce very tight border restrictions to prevent or exclude the arrival of a new pandemic agent, decision-makers may need to act without receiving comprehensive advice on alternative options or hearing from a broad range of stakeholders.

But there are risks to suspending these processes, and these risks increase over time. Without comprehensive advice and consideration of diverse perspectives, decision-makers may become overly focused on a particular set of objectives.

They may also be less aware of changing public concerns and expectations, or the unanticipated consequences of the decisions they make. This narrowing in focus

and awareness is often referred to as 'group think' – a situation in which alternative options or important evidence may be overlooked.

A key lesson from the COVID-19 response is therefore the importance of following robust decision-making processes and actively encouraging the expression of diverse points of view, to the extent that circumstances and time allow. When decisions must be made quickly, the range of processes and tools will be limited to those that can be employed by a small group of decision-makers and advisors. Whenever possible, however, more comprehensive consultation, advice and discussion should be brought to bear. What this looks like will depend on the urgency of the situation and is likely to require a degree of pragmatism. But decision-makers must be aware there may be a trade-off between speed and robustness. More comprehensive consultation and advice takes time, but also protects against the risks of poor decision-making, group think and loss of social licence.

While they may sometimes feel slow, the decision-making processes normally followed within Government – including the time needed for comprehensive consultation and the development of advice – are designed to support good decisions. They should be truncated during a crisis only to the extent necessary, and resumed as early and fully as possible to ensure decision-makers have the best advice to inform their decisions.

Whenever possible more comprehensive consultation, advice and discussion should be brought to bear in decision-making.

Seek out a range of advice and perspectives

While the breadth of input will be determined by the time available, Governments should still seek out advice and perspectives on what is happening, what might happen and how they might adjust their approach to meet changing pandemic circumstances. It is important to create a culture where both advisors and decision-makers feel empowered to contest the advice and present different views on how to achieve the best outcomes.

In both preparing for and responding to a future pandemic, decision-makers (and their advisers) should therefore actively seek out:

- Advice from different public sector agencies, including local government, on policy options for dealing with a range of plausible scenarios.
- Data and intelligence (including emerging scientific evidence, modelling, qualitative and quantitative data, and international experience and insights).
- Wide-ranging expertise from many disciplines and sectors – biomedicine, science, economics, behavioural and social sciences, Te Ao Māori, businesses, human rights organisations and more.
- Input from stakeholders and key partners, including iwi and Māori and other community groups who play key roles in designing, operationalising and delivering the response.
- Public opinion data which tracks people's attitudes to the pandemic and response and indicates how they may respond to future decisions.

Make use of times when the situation is stable to look ahead and plan for what might come next

In the early stages of a pandemic response, when little is known about the pandemic pathogen, a precautionary and risk-averse approach is likely to be the most appropriate. But once the immediate threat has been addressed, and as more information becomes available, decision-makers may find some breathing space where they can consider if the initial approach is still appropriate – and what might come next.

Such a breathing space was available to New Zealand decision-makers in mid-2020, when the combined effect of national lockdowns, border restrictions, quarantine requirements and other public health measures eliminated COVID-19 transmission in the community for 100 days. This was a significant opportunity to regroup, take stock and look ahead – but (as set out in Chapter 2) it may not have been used to full effect.

While it is important to keep the possibility of changing scenarios in mind all the time, in a future pandemic, decision-makers should be alert to opportunities presented by periods of relative stability and ensure they are used well. At these times, decision-makers have more opportunity to take in the 'big picture', and review the medium- to long-term strategy to check that the response is still on track to achieve its overall goals.

Anticipate and plan for burnout

Throughout our Inquiry, we were constantly reminded of the extraordinary effort and commitment of leaders, officials and others who – under great pressure – set up the initial response to COVID-19 and enabled the success of the elimination strategy. However, they paid a heavy price. As we saw in Chapter 2, the pressure was relentless, the situation was constantly changing, and people were working for long stretches in unfamiliar and sometimes difficult environments. Burnout was common.

It is difficult for decision-makers to remain adaptable and innovative – and to juggle managing the day-to-day pandemic response with planning for the next phase – when they are exhausted. Based on our findings, this was one reason why leaders struggled to develop and communicate a forward-looking plan for moving on from the elimination phase, despite the breathing space that opened up in mid-2020 when Aotearoa New Zealand was COVID-19-free.

Decision-makers should be alert to opportunities presented by periods of relative stability and ensure they are used well.

The next pandemic response is likely to be no less challenging and the demands on decision-makers will be similarly unrelenting. For this reason, it is vital to embed workforce resilience and sustainability, and plan workforce capacity ahead of time.

Lesson 2.3 Use appropriate tools when developing and considering policy response options

The COVID-19 pandemic presented complex and dynamic problems, and the possible policy responses were numerous. For decision-makers in Aotearoa New Zealand and elsewhere, coming up with bespoke policy options under pressure, and then understanding and comparing the costs, benefits and trade-offs between these options was a constant challenge. Much can be done now to ensure this process is easier in the next pandemic.

Identify a wide range of possible policy response options

Having just experienced the COVID-19 pandemic, we expect many agencies will be better prepared with a set of potential response options ahead of a future pandemic. It is important not to be complacent about this, and to ensure that the lessons learned and future policy options developed in response to COVID-19 are well-documented and regularly reviewed and updated. Preparing options for a future pandemic should be part of the ongoing work of all government agencies, including:

- identifying potential policy and response options (for example, are contact tracing, isolation and mask wearing sufficient to eliminate transmission or do we need to impose lockdowns?)
- anticipating design and implementation considerations (for example, how should geographical boundaries be determined and implemented if regional lockdowns are used?)
- considering the potential flow-on implications for other systems (for example, what implications will border restrictions have for New Zealanders overseas, the labour market and supply chains?)
- estimating the potential impacts on people (for example, what are the health benefits of lockdowns versus the impacts on other aspects of people's lives – employment, relationships, education, mental health?), and
- identifying potential vulnerabilities and gaps that should also be addressed (for example, how will supply chains for essential medicines and products be maintained in the context of dramatically limited global transportation?).

This work should draw from a range of policy tools and frameworks, including human rights frameworks and te Tiriti o Waitangi. It is important to prepare options with reference to multiple potential pandemic scenarios (considering factors related to the pathogen, as well as economic and social factors), to test how they may perform under different circumstances.

Compare the impacts of different policy response options to make good decisions

With a clear and comprehensive list of options available, it is important to then consider the relative impacts of each option against the goals sought – just like any other business case. Two common tools for systematically weighing up the costs and benefits of different options are:

- **Cost Benefit Analysis** (CBA) which offers a structured approach to evaluate the economic pros and cons of various options. By quantifying benefits and costs, it supports informed decisions to achieve agreed objectives.
- **Multi-Criteria Analysis** (MCA) which can accommodate a wider range of criteria, making it suitable for complex decisions involving diverse factors. This method can help to make trade-offs between the different visible outcomes and support options being explicitly assessed against ethical principles.

These tools – and others – can support decision-makers to select optimal combinations of policies by weighing the financial investment in a policy against its likely success at reducing harmful impacts of the pandemic, while also considering the risk of new or 'unintended' consequences of the policy itself. Such tools require good data inputs and integrated epidemiological, social and economic modelling alongside expert analysis and advice on qualitative aspects like the impact on people's freedom and human rights, or likely outcomes for specific groups.

Spotlight:
Making complex decisions in a pandemic | Te whakatau tikanga matatini i tētahi mate urutā

While more than 80 percent of people in Aotearoa New Zealand had received two doses of the COVID-19 vaccine by November 2021, it was known that protection from vaccination generally waned over time.

Cabinet was therefore asked to consider rolling out COVID-19 booster doses alongside the continuing drive to get more people to have the initial course. Since the pandemic began, the Government had been clear that maximising vaccine uptake was essential to allow the country to move on from repeated lockdowns and stringent public health measures.

Ministers had to weigh up multiple factors – including the cost of administering additional doses, evidence of booster effectiveness, whether requiring the vaccination programme to roll out booster doses might detract from its efforts to maximise overall vaccination coverage, and the possibility that new COVID-19 variants might emerge just as the country was beginning to open up. Ministers were also conscious that Māori and Pacific people had lower vaccination coverage and were at higher risk of severe COVID-19 disease compared with other groups.

Cabinet received advice from the Ministry of Health, the Treasury, and the Ministry of Foreign Affairs and Trade on the complex factors they needed to weigh up. The advice included explicit consideration of vaccine supply issues and of the implications for Māori, children and young people and older people if boosters were rolled out.

Cabinet ultimately decided to proceed with a targeted booster rollout which prioritised those at highest risk of exposure and illness (including health workers, everyone aged 65 years or over, Māori and Pacific people aged 50 years or over, and people especially at risk from the virus due to other health conditions). It began in late November 2021. The booster rollout accelerated in the new year as Omicron got closer, with the required time to wait between having the second dose and the booster reducing to five months, and then four months, and becoming available to a wider age range. This successful booster rollout ensured those groups most vulnerable to the virus had high levels of protection when the country's first substantive COVID-19 'wave' arrived in March 2022. This probably saved hundreds of lives and reduced pressure on the health system.

This example illustrates many of the elements of good decision-making we consider essential in the next pandemic response:

- Leaders remained committed to the objective of maximising vaccine-related protection while adapting how this was achieved as the situation changed.
- With support from advisors, they reviewed evolving evidence (on levels of primary vaccination, the duration of protection and groups at greater risk from COVID-19 infection) and weighed up potentially competing objectives (maximising overall population coverage, compared with optimising protection for the most vulnerable).
- While the extent of broader consultation is unclear, as is the use of tools such as cost-benefit analysis, input was sought from several government agencies and explicit attention was paid to the needs of particular groups.
- Finally, the decision to proceed with the booster programme, and the reasons for it, were communicated to the public clearly and transparently.

Use modelling and scenarios to inform decision-making

Modelling and scenario thinking can be particularly useful tools to support good decision-making in a pandemic response. Indeed, they will likely be essential to underpin the tasks set out in this lesson. Modelling can be used to indicate how key indicators (such as rates of infection or hospitalisations) are likely to evolve in response to specific interventions or policy options, helping decision-makers evaluate different options and weigh up the trade-offs involved. The World Bank, OECD and WHO have all recently emphasised the importance of modelling that integrates epidemiology, health and economic domains as part of future pandemic preparedness.[13]

Modelling was a useful input in many key decisions during Aotearoa New Zealand's COVID-19 response. Modelled projections of COVID-19's health impacts under different approaches were a key catalyst for the initial decision to 'close the border' and place the country in lockdown, while later decisions about moving up and down alert levels were also informed by modelling. The Inquiry heard that modelling evidence was particularly helpful when it combined projected impacts across multiple domains (for example, economic as well as health indicators). The potential uses of modelling are also expanding rapidly as technology advances, making it faster and easier to test sensitivity to different inputs.

While modelling is a useful input, it is not a panacea for selecting optimal policy responses. Models rely on assumptions about the impact of particular measures and can only give an approximation or estimate of what may happen if they are implemented. Moreover – and especially in the context of a pandemic – the sheer complexity of many policy options and their associated trade-offs cannot be captured in a single quantitative framework. It is therefore important that modelling is treated as a guide and considered alongside other inputs, including the views of key partners, stakeholders, experts and the wider public.

While modelling is a useful input, it is not a panacea for selecting optimal policy responses.

Spotlight example:
Responding to changes in risk and vaccine-related protection | Te urupare ki ngā huringa o te mōrea me te ārai ā-rongoā āraimate

A key consideration in any pandemic response is the availability and impact of vaccines.

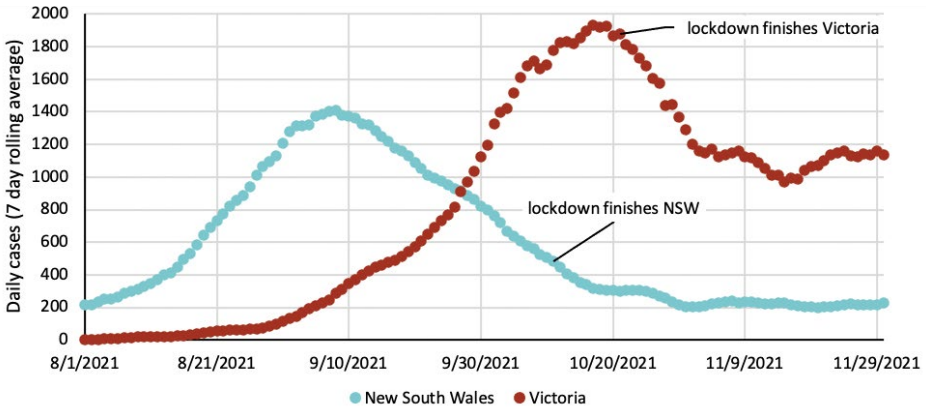
Based on experience with COVID-19, vaccination rates are likely to be an important consideration in decisions about if and when to use and/or relax strict measures such as lockdowns. But it will be critical to monitor emerging scientific evidence on the effectiveness of vaccination, especially if the pandemic pathogen mutates frequently and/or protection from vaccination wanes over time (as was the case with COVID-19 on both counts).

In situations where the protection from vaccination does wane over time, it is not vaccine coverage that should be the 'target' for when to loosen public health measures, but the estimated immunity in the population (see Appendix D). As such evidence on waning emerges, it should be factored into any modelling alongside other variables as soon as possible.

Time lags also matter for decisions about when to introduce or stand down public health restrictions. Experience during COVID-19 in a range of jurisdictions is that it can take several weeks – if not months – for a new epidemic wave to gain momentum after restrictions are relaxed.

While information about vaccination levels often informed decisions about when to end stringent COVID-19 public health measures, different jurisdictions used this information in different ways. In Australia, for example, the states of New South Wales (NSW) and Victoria both moved out of lockdowns when their populations reached 70 percent vaccination coverage on 11 and 22 October 2022, respectively[14] – about six weeks before the Auckland Delta lockdown ended. Daily case numbers for Victoria and NSW are shown in Figure 4, and demonstrate that case numbers did not surge following the lifting of restrictions.

Figure 4: Daily cases of Delta in New South Wales and Victoria, and end dates of their lockdowns



Source: Based on data from COVID LIVE Australia, 2024, COVID LIVE, https://covidlive.com.au/

Deciding when to relax public health restrictions is a delicate balancing act. The experiences in New South Wales and Victoria suggest it is possible to remove lockdown restrictions before completing a vaccination rollout without this leading to an immediate resurgence of cases. While there is some risk involved with lifting lockdowns at lower levels of vaccine coverage, relying on a lag in case rate resurgence to 'bridge over' to higher vaccination coverages is something that could be considered in a future pandemic response. Appendix D provides further analysis of how consideration of such factors could provide evidence to support decisions about lifting stringent public health measures in future.

Lesson 2.4: Be responsive to concerns, clear about intentions and transparent about trade-offs

While an effective pandemic response requires strong leadership, it also requires a high degree of confidence and trust in public institutions and decision-makers from the general public, Māori, communities of all kinds, businesses, and key partners and stakeholders the Government works with. Decision-makers are more likely to retain this kind of confidence and trust when the reasoning behind their decisions is transparent and clearly communicated, when their decisions are open to scrutiny and debate, and when they demonstrate willingness to revisit and (if necessary) modify decisions as circumstances change. It is important for people to see leaders being responsive to their needs, concerns and recognising the impact of decisions on people's health, social, economic and cultural interests.

Engage stakeholders, partners and the public in key decisions, to the extent possible in the circumstances

As COVID-19 demonstrated, opportunities for direct discussion are often limited during a pandemic for logistical reasons. This makes it more difficult and time-consuming for government to undertake meaningful engagement with stakeholders, partners and the public. While urgent pandemic decisions can (and often should) be made quickly without broad consultation or engagement, in the longer-term this approach can create the impression that decision-makers are unaware of – or unresponsive to – people's concerns. It also increases the risk that decision-makers and advisers may misread public sentiment, underestimate the strength of feeling around particular issues, or lapse into 'group think'.

Taking time to engage the public, Māori, communities, businesses and key partners ensures decision-makers are aware of important concerns and receptive to suggestions about how they might be addressed. It also helps build trust in government and can support better public understanding of the need for decision-makers to balance potentially competing objectives or values. This is likely to be particularly important in a pandemic, when the needs and priorities of different groups must sometimes be explicitly weighed against each another.

Meaningful engagement is more likely to occur when the Government has already built relationships and processes for dialogue. Decision-makers and advisors should draw on these established connections as much as possible to support decision-making in a pandemic. Lesson 5 explores wider lessons about working together with Māori, communities and business to achieve shared goals.

Aotearoa New Zealand's COVID-19 experience showed that when decisions need to be made quickly, pre-existing approaches to engagement might not be suitable. In such instances, it may be necessary to develop more rapid and pragmatic forms of engagement such as the creation of advisory panels (including representatives from relevant groups). In periods of greater stability, more comprehensive forms of engagement should be undertaken ahead of major decisions, such as changes in public health strategy and longer-term recovery options.

In our engagements with groups who felt alienated by the Government's response, or who had major concerns with some of the approaches taken during COVID-19, we encountered a wide range of views and some common themes. Some of the points raised with us seemed reasonable (such as calls for greater consideration of and engagement with New Zealanders finding it difficult to return home). In future situations, there could be opportunities to avoid or mitigate some of these concerns.

In our view, some more direct government engagement with groups voicing disquiet at aspects of the response would be valuable during a future pandemic. Perspectives should be listened to openly as this can help with weighing up the benefits and harms of policy options. Even when agreement cannot be reached about the preferred overall policy response, such engagement can give people confidence that their point of view or opposing position has at least been listened to, and that their concerns are being considered when weighing up trade-offs as part of the decision-making process. This can in turn reinforce and support social cohesion to some degree. However, such engagements should be carefully considered on a case-by-case basis – we are not advocating that busy leaders should meet with groups that have no real interest in being constructive.

In other jurisdictions, innovative approaches such as citizens' juries and other deliberative formats are being used to engage members of the public on complex policy issues. Ireland, for example, uses Citizens' Assemblies to help the government address important challenges. Approaches like these can allow decision-makers to take account of public views and values when assessing options and considering trade-offs.[15] However, they take considerable time (including for preparing and selecting participants) and for this reason are unlikely to be feasible during the emergency phase of a pandemic response. As part of the Government's preparation for a pandemic, such approaches could offer useful insights into how the public want their leaders to make decisions in an emergency.

More direct government engagement with groups voicing disquiet at aspects of the response would be valuable during a future pandemic. Perspectives should be listened to openly as this can help with weighing up the benefits and harms of policy options.

Be transparent about how different considerations have been weighed against one another

During the COVID-19 response, governments around the world had to repeatedly weigh up different objectives and values, and then judge how best to balance them. This was especially important when making decisions that placed constraints on people's human rights (such as restricting the return of citizens from overseas, limiting domestic movement, and using vaccine mandates). In Aotearoa New Zealand – as in other countries[16] – the judgements underpinning these decisions were not always made public (or done so explicitly and with clarity). This meant people did not always understand why particular decisions were made, or how introducing or removing measures might affect the risks facing specific groups.

Decision-makers often had good reasons for not wanting to advertise how they were choosing to balance different priorities in the COVID-19 response. For example, the decision to protect Pacific communities and Māori – who were at greater risk from the Delta variant – was a key factor in the decision to maintain the Auckland lockdown in late 2021; however, leaders were reluctant to make this reasoning public in case of a public backlash against these communities. But deciding not to share the reasons behind such decisions came at a cost. Over time, some people lost trust in the Government or felt it didn't care about the harm caused by restrictive public health and social measures. Others started to feel the Government was withholding information from them or making decisions based on a hidden agenda.

COVID-19 showed us that governments need to be willing to share information with the public, however difficult or uncomfortable, in order to retain their trust in government, public institutions and the response. This means being upfront with people about the level of risk different groups may face, and why this may influence certain trade-offs. It also means acknowledging that decisions may change or be reversed as the situation evolves and relevant trade-offs are revisited. In the longer term, it is essential for maintaining social licence as the response, and the process of balancing objectives and risks, continues to evolve.

COVID-19 showed us that governments need to be willing to share information with the public, however difficult or uncomfortable, in order to retain their trust in government, public institutions and the response.

Clearly signal in advance where the response is heading, to help people navigate periods of uncertainty and transition

Experience with COVID-19 – in Aotearoa New Zealand and elsewhere – shows how challenging it is for leaders to retain public confidence through difficult transitions in the pandemic response. While such transitions and changes of direction due to new events – such as a new variant – cannot be avoided, it is easier to retain people's confidence when they have had prior warning and understand why they are necessary. Failure to do so risks undermining people's confidence in government in the longer term.

It is important that, at regular intervals, leaders describe their long-term response plans and the steps they anticipate as the country moves towards a new post-pandemic 'normal'. This involves being honest about the challenges to be navigated in likely future phases of the response (such as learning to live with the virus), and proactively outlining new scenarios that might arise. While noting their intention to carefully plan and manage the transition between these phases, leaders should be clear that the exact timing will depend on many factors and will therefore require a degree of flexibility.

Communicating changes in direction during a pandemic response can be difficult. This is especially true if they involve reintroducing restrictive measures such as lockdowns, or accepting risks that were previously presented as unacceptable. But despite the communication challenges, it is important that leaders move quickly to change direction when circumstances require it. Being transparent about the rationale for a change will help people accept and support it, as will explaining that – even though some may experience temporary hardship or inconvenience as a result – the decision will ultimately support the overall goal of the response: looking after all aspects of people's lives as much as possible.

3 Lesson 3: Build resilience in the health system | Akoranga 3: Te whakatipu kia tū pakari te pūnaha hauora

In brief: What we learned for the future about building resilience in the health system

In preparing for and responding to the next pandemic:

Lesson 3.1 Build public health capacity to increase the range of options available to decision-makers in a pandemic. In practice, this means:

- **3.1.1** Make scaling-up effective testing and contact tracing part of core public health capability
- **3.1.2** Plan for a flexible range of quarantine and isolation options
- **3.1.3** Be ready to quickly implement infection prevention and control measures

Lesson 3.2 Enhance the health system's capacity to respond to a pandemic without compromising access to health services. In practice, this means:

- **3.2.1** Build the capability of the healthcare workforce
- **3.2.2** Strengthen intelligence, monitoring and coordination of healthcare to enable adaptability
- **3.2.3** Improve health system infrastructure
- **3.2.4** Strengthen resilience in primary healthcare

Overview

Before COVID-19, Aotearoa New Zealand's public health system was assessed as moderately well-prepared for a pandemic. With the arrival of the virus, however, it became clear that greater public health capacity was needed. Thanks to impressive effort and innovation, key tools such as contact tracing and testing were quickly scaled-up. But capacity limits remained a challenge, and systems for large-scale isolation and quarantine had to be developed from scratch.

Aotearoa New Zealand's health system was never overwhelmed by COVID-19, thanks to the success of the elimination strategy (and a degree of good luck). However, the pandemic highlighted and exacerbated the health system's underlying fragility, with long-standing capacity constraints affecting core areas, including workforce, physical infrastructure, supply chains. These long-standing and underlying issues should be addressed before the next pandemic, as much as it is possible to do so.

A key aspect of pandemic preparation is to build resilience into Aotearoa New Zealand's health system. The OECD describes resilience as:

> "the ability of systems to prepare for, absorb, recover from, and adapt to major shocks. It is not simply about minimising risk and avoiding shocks: resilience is also about recognising that shocks will happen."[17]

Having better public health capacity will enable a rapid initial response to any future pandemic, increasing the likelihood that the pandemic virus (or other infectious agent) can be excluded or eliminated before it becomes established. The ability to rapidly scale-up key public health functions such as contact tracing will also give decision-makers more options, potentially reducing the need to use blunt measures like lockdowns.

A resilient health system is one equipped with a strong workforce, secure supply chains (including for medicines and medical equipment) and good infection prevention and control processes (which require well-maintained stocks of PPE and excellent ventilation systems). Having these resources in place before a pandemic arrives will better enable the health system to continue meeting other health needs during a pandemic response, ensuring support for all aspects of people's health.

Lesson 3.1: Build public health capacity to increase the range of options available to decision-makers in a pandemic

COVID-19 demonstrated the importance of core public health functions such as testing and contact tracing, isolation and quarantine, and infection prevention and control measures. These will provide the first line of defence in the next pandemic, preventing or slowing transmission of the virus and protecting people from serious illness and death.

Importantly, the greater the capacity to deliver these tools and functions (especially at the start of a pandemic), the more options decision-makers will have at their disposal. For example, if testing and tracing systems are ready to be rapidly scaled-up when the first cases of a new pandemic disease are detected, it may be possible to eliminate chains of transmission without the need for national lockdowns. Higher uptake of infection control measures (such as masks) in public spaces may also reduce the need to restrict people's movement.

The public health response to a pandemic is interconnected with its economic and social impacts. Building public health capacity in key areas can create options for mitigating the health impacts of a pandemic without having to resort to more stringent measures that have high economic and social costs. For example, Taiwan was able to eliminate COVID-19 transmission in 2020 without using lockdowns, due to its well-developed testing and contact-tracing capacity and very high levels of mask wearing in its population.

Of course, even the best-prepared country may need to resort to lockdowns in a future pandemic, and we cannot rule out their use in Aotearoa New Zealand again. However, our analysis of the response to COVID-19 has shown that the need to use more stringent measures such as lockdowns may be reduced by building the capacity and resilience of core public health services and tools.

Make scaling-up effective testing and contact tracing part of core public health capability

Testing and contact tracing are core functions that form part of the day-to-day toolkit used by public health services in Aotearoa New Zealand. In a pandemic response to a pathogen that is amenable to contact tracing, these functions will need to be rapidly expanded to detect and contain new chains of transmission across the population.

For these capabilities to be 'kept warm' in case of a future pandemic, planning and investment is needed so they can be rapidly and effectively scaled-up when needed. This includes:

- **Investing in the public health workforce, including training and capacity building for the specific skill of contact tracing.**
  Contact tracing requires a skilled workforce, experience in interacting with members of the public to obtain potentially sensitive information and familiarity with digital record-keeping platforms. COVID-19 showed how contact-tracing capacity can be quickly expanded via recruitment and short-course training of non-public health personnel – but provision of training, oversight and quality control all rely on existing expertise, especially for the core team that will train others.
- **Enabling public health services to develop and maintain relationships with local communities.**
  Contact tracing is most effective where public health workers have good relationships with the communities they serve. People can be reluctant to discuss where they have been, and who they have been with, particularly in stressful circumstances such as having been exposed to a virus. Navigating this requires skill on the part of the contact tracers, and trust on the part of those they are speaking with. COVID-19 demonstrated the importance of effective relationships between public health services and the communities they serve – including different ethnic minorities, faith groups, business leaders and Māori.
- **Maintaining digital platforms, information systems and supporting capability.**
  The development of effective digital platforms to support contact tracing was one of the successes of the COVID-19 response. It will be important to maintain and strengthen this capacity so that health information can be safely coordinated and shared, both in the context of normal public health activities as well as in a pandemic. Investing in digital and data capacity is a key form of insurance in case of future public health crises.
- **Establishing mechanisms to facilitate rapid scaling-up of testing capacity.**
  Testing is an essential complement to contact tracing. It enables people who are infected to be isolated – preventing further spread – and allowing those without infection to go about their daily lives. COVID-19 showed the importance of being able to rapidly scale-up testing capacity but also the difficulties encountered when access to testing is limited. With most of the country's testing capacity located in private laboratories, it will be important for government to consider how to ensure it has access to additional testing when needed.

Plan for a flexible range of quarantine and isolation options

Border restrictions and quarantine, lockdowns (national and regional) and home isolation were core parts of Aotearoa New Zealand's response to COVID-19. However, a more flexible range of quarantine and isolation options could give decision-makers more choices for using these measures effectively, while minimising negative impacts – for example, when someone with a right to enter the country struggles to do so because of a shortage of quarantine capacity. Flexible options could include allowing low-risk travellers the possibility of isolating at home, if feasible.

While officials and agencies learned a lot during COVID-19 about how to make hotels work as quarantine facilities, they were not ideal sites for infection control or isolation of community cases. Memoranda of understanding and other arrangements are required to ensure ventilation is of high quality and that facilities can easily be reconfigured to keep cohorts and people separate in hotel facilities. Other options – ranging from a blend of facilities and home-based quarantine, to bespoke facilities and more hospital-level care facilities – should be investigated ahead of the next pandemic so that decision-makers have a flexible range of quarantine and isolation approaches to consider, depending on the nature of the pandemic.

Be ready to quickly implement infection prevention and control measures

Infection control measures such as the use of PPE, masks and physical distancing were often highly effective in responding to COVID-19. However, Aotearoa New Zealand's ability to use these measures quickly and to good effect was constrained by shortcomings in procurement and distribution systems, infrastructure and information and advisory systems.

These problems were not confined to this country. Globally, the COVID-19 pandemic created both a supply and demand shock for key equipment and materials essential to the response. It created urgent, worldwide demand for things like PPE, tests, medical devices and vaccines, but at the same time, disrupted the national and international supply chains and workforces that provided those goods and services.

As the next pandemic may well be very different from COVID-19, different infection prevention and control measures may be needed. However, some key equipment is always likely to be required – such as PPE – whatever the next pandemic's characteristics. Ideally, Aotearoa New Zealand would secure, distribute and manage (for example, by rotating) sufficient stocks of such equipment ahead of time so it is ready to use as soon as required.

The need for other equipment and tools such as bespoke tests and specific vaccines cannot be determined in advance as that will be dictated by the specific pathogen. Therefore, ensuring Aotearoa New Zealand has access to what it needs will depend on having established networks of advice and expertise, strong international relationships and good procurement processes in place.

Lesson 3.2: Enhance the health system's capacity to respond to a pandemic without compromising access to health services

COVID-19 revealed the intense pressure a pandemic can exert on the health system and its resources. It also demonstrated the importance of maintaining non-pandemic health services while simultaneously responding to both the immediate and long-term effects of a virus or other pathogen. Aotearoa New Zealand needs its health and disability system to be sufficiently resilient to meet both of these competing demands.

Building resilience ahead of a pandemic will ensure that, during the response, decision-makers can be more confident in the ability of the health system to cope with the demands placed on it. This gives them more response options, including adopting a different risk tolerance when it comes to using public health measures such as lockdowns and gathering limits. It will also probably provide substantial benefits for non-pandemic health services. What this might mean in practice is addressed further in our recommendations.

Priority areas that should be addressed are:

- Building the capability and flexibility of the workforce so health workers can be more readily redeployed in a pandemic while other health services are kept going.
- Strengthening the systems that allow for services to be prioritised if necessary. This includes the data, intelligence and monitoring systems that enable decision-makers to understand what capacity is available, and the governance and coordination mechanisms needed to make decisions and ensure capacity is utilised as effectively as possible.
- Improving infrastructure so that the health system can continue safely caring for patients during a pandemic (for example, by improving building ventilation and ensuring capacity to separate potentially infectious from non-infectious patients) and can surge additional capacity where needed (for example, by repurposing facilities for pandemic-specific services or by increasing capacity to care for patients needing ventilation).
- Strengthening resilience in primary health care (that is, general practice and community-based care). Discussion of health system capacity often focuses on specialist services such as intensive care and surgery, but primary health care – while less easily measured – is the foundation of the system and the first line of delivery. During the COVID-19 response, primary care was essential in both the vaccine rollout and dispensing antivirals during the Omicron waves, which likely saved many lives. Strengthening the primary health care workforce, data and intelligence systems and other infrastructure, including building design and ventilation, will enhance Aotearoa New Zealand's ability to respond well to a future pandemic.

4 Lesson 4: Build resilience in economic and social systems | Akoranga 4: Te whakakaha i te pakaritanga o ngā pūnaha ōhanga me te pāpori

In brief: What we learned for the future about building resilience in the economic and social systems

In preparing for and responding to the next pandemic:

Lesson 4.1 Foster strong economic foundations. In practice, this means:

- **4.1.1** Continue to build strong relationships between economic agencies
- **4.1.2** Prepare better for economic shocks
- **4.1.3** Strengthen fiscal reserves and maintain fiscal discipline

Lesson 4.2 Use economic and social support measures to keep 'normal' life going as much as possible. In practice, this means:

- **4.2.1** Deploy economic and social measures to support key health measures
- **4.2.2** Design key tools in advance to save time and resources
- **4.2.3** Build on the improvements to social sector contracting and partnership
- **4.2.4** Maintain well-functioning labour markets, including by providing financial support to workers

Lesson 4.3 Ensure continuous supply of key goods and services. In practice, this means:

- **4.3.1** Build greater resilience into supply chains
- **4.3.2** Maintain food security for a future pandemic
- **4.3.3** Maintain access to government and community services throughout a pandemic
- **4.3.4** Allow the 'essential' category to change over time

Overview

The COVID-19 pandemic and associated policy measures impacted all sectors and parts of society, over a prolonged period. This created demands beyond what could be managed via 'business as usual'. Thanks to extraordinary effort, innovation and investment – and the success of the elimination strategy – Aotearoa New Zealand did not face the kinds of crises experienced in many other countries. But while the country avoided such predicaments as fuel shortages or running out of essential equipment, the stark risks posed by a pandemic (or other emergency that exceeds the limits of essential systems and infrastructure) were very much apparent.

There were also some positive lessons. Overall, Aotearoa New Zealand's pandemic experience underscored the importance of strong economic and social institutions that have built up reserves and capacity during 'normal' times. This gives decision-makers much better options for responding to a crisis. Because Aotearoa New Zealand went into the COVID-19 pandemic in a relatively strong economic position built up over a number of years, the Government was able to provide swift and generous supports that helped with the success of the elimination strategy and protected many people from the pandemic's worst impacts. Among other things, the Government funded vaccines, provided generous wage and business support subsidies, arranged short-term accommodation support for people who had been homeless or in unstable housing, and ensured air freight capacity was maintained so that time-sensitive and essential goods could still arrive in the country. Where capacity and infrastructure were already in place, it was easier to manage pandemic risk while minimising disruption to essential activities. The reasonably good availability of internet access across most of the country, for example, made it possible for many people to shift to online learning and working.

The interconnected nature of people's economic, social, physical and mental health means resilience in any one area will have benefits in others. A prepared and resilient education system, for example, that enables children and young people to continue to attend school in person as much as possible, will be protective of their mental health and social development. Avoiding or minimising the use of lockdowns will reduce people's exposure to stress, loneliness and – for some – violence. Ideally, in a future pandemic, better overall preparation will mean decision-makers have more options that reduce the need for more restrictive measures such as lockdowns and school closures.

A resilient economy and social support systems are important to reduce disruptions to 'normal' life as much as possible, during and after a pandemic. These sectors provide essential scaffolding of daily life that becomes even more critical – and comes under greater pressure – in times of crisis. Building resilience into this scaffolding is a key part of future pandemic preparedness. While some degree of disruption and adverse impact is inevitable in a large-scale crisis, this can be lessened if core systems and infrastructure are more robust. This can also act as insurance against other types of shocks and stressors.

A resilient economy and social support systems are important to reduce disruptions to normal life as much as possible, during and after a pandemic.

Lesson 4.1: Foster strong economic foundations

Ensuring the economy is sufficiently resilient to handle major shocks is critical for looking after people through a pandemic. Strong economic foundations and institutions will enable a greater range of options to respond to a future pandemic and reduce the risks of pandemics causing other crises – in the financial sector, for example.

Continue to build strong relationships between economic agencies

The COVID-19 response benefited from the prior existence of strong working relationships between the main economic agencies. These agencies responded promptly and effectively as developments unfolded although – like their overseas counterparts – they were clearly not prepared for the economic implications of an all-of-society crisis on the scale of a global pandemic.

While respecting the Reserve Bank's independence in the operation of monetary policy and the Treasury's ability to provide ministers with fiscal and economic advice in reasonable confidence, the two agencies have developed useful forms of collaboration over many years which serve them well in normal times and up to a point proved valuable during the pandemic. We suggest building and strengthening these key relationships, as well as those with other agencies as appropriate, such as the Ministry of Business, Innovation and Employment, Inland Revenue, the Ministry of Transport and the Financial Markets Authority. Good and well-directed engagement can ensure access to a wider range of data, insights and skills when they are most needed.

Having these agencies work collaboratively on preparing possible economic response options based on different pandemic scenarios would be valuable. This would pick up on and capture accumulated experience gained through past crises (such as the Global Financial Crisis, earthquakes, floods and now COVID-19). As such experiences are documented and developed, they help to build 'muscle memory' for effective response design in the future.

Prepare better for economic shocks

Determining the appropriate initial macroeconomic response to a pandemic is extremely challenging. As the COVID-19 experience demonstrated, it is not safe to assume that the economic shock from a pandemic primarily works through demand. The economic shock associated with the advent of COVID-19 has emphasised the importance of developing greater understanding of supply shocks and how to respond to them. In this and other areas, Aotearoa New Zealand is not alone. Both the Reserve Bank and the Treasury have built up their relationships with international counterparts and institutions. Continuing to share information and experience on these matters should help us to understand better how to respond.

On the demand side, judging the mix, size and duration of any expansionary policies is an extraordinarily sensitive matter – undershooting can result in lasting damage to people's and business wellbeing, while overshooting can lead to a long tail of economic aftereffects, including cost of living and inflationary pressures and expanding national debt. Complicating this is the fact that demand is influenced by both the Government (acting on advice from the Treasury) and the Reserve Bank (operating monetary policy independently). Developing a shared understanding or 'playbook' between the two agencies of when and how different fiscal and monetary interventions might best be deployed in a pandemic (or similar crisis) would enable them to collaborate effectively while safeguarding their separate roles and accountability. We understand that the two agencies have already embarked on this process and we are confident that this will not compromise either Reserve Bank independence or the Treasury's ability to provide advice confidentially to government when this is needed (for example, during a Budget process).

Strengthen fiscal reserves and maintain fiscal discipline

Because Aotearoa New Zealand went into the COVID-19 pandemic with low levels of public debt (by international standards) and a strong national credit rating, decision-makers had options to finance a range of health, social and economic measures. Providing a fiscal buffer is one of the intended benefits of running responsible fiscal policies over time, and its use in a pandemic is entirely appropriate, but building fiscal resilience in preparing for future pandemics goes beyond simply building a buffer. Prudent levels of net debt need to be backed up by a strong balance sheet, a sound financial sector and economic settings that encourage productivity and efficient investment – including in research, science and infrastructure that produces positive social returns.

The fiscal reserves that provided important support during COVID-19 now need to be restored. This should be achievable at a sensible pace that does not drive the economy into negative territory.

Some experts we spoke to commented on the current strength of Aotearoa New Zealand's fiscal responsibility institutions. We heard that a range of proposals for strengthening these have been discussed in policy circles for some time. These matters go beyond our terms of reference, except to suggest that if consideration is given to these proposals at some stage, the implications for pandemic readiness should be factored in.

A pandemic also carries the risk of generating a financial crisis. Keeping relevant financial markets operating smoothly during the COVID-19 pandemic was a direct objective of some of the Reserve Bank's policy moves. Authorities were generally alert and well-prepared to respond to any looming crises of this sort. This responsiveness illustrates the value of the sort of preparation this report argues for more generally.

Lesson 4.2: Use economic and social support measures to keep 'normal' life going as much as possible

Deploy economic and social measures to support key health measures

Mitigating the pandemic's potential social and economic impacts was a significant component of the COVID-19 response from the start. Similarly, the public health response to any future pandemic will need to be supported by a suite of economic and social support measures. Such measures seek to reduce disruption to people's lives and to enable compliance with public health measures. This includes specific pandemic tools and support measures developed in advance and ready to use when the situation demands, as well as broader economic and welfare support to keep 'normal' life and activity going as much as possible. This will be challenging, because – as occurred with COVID-19 – a future pandemic is also likely to generate an initial and ongoing shock to Aotearoa New Zealand's economy and society. The best way to deal with the shock is to prepare for it in advance.

A key benefit of financial support for workers, whānau and households and businesses is that they help keep a semblance of daily life going as much as possible. These schemes, appropriately targeted and designed, can substantially assist with living costs, keep people attached to the labour force, and help otherwise viable businesses to continue to operate (or at least survive in the meantime). A strength of the schemes initiated during the COVID-19 response is the positive effect they had on confidence (both personal and business).

Economic and social supports can make the implementation of public health measures more bearable, while public health measures ultimately work to support a healthy economy. The longer a pandemic persists, however, the greater the economic and social costs and the more the costs of financial support accumulate. It is impossible, as time progresses, to avoid significant trade-offs between economic costs and the full suite of pandemic responses, and these trade-offs therefore need to be constantly re-evaluated (see Lesson 2).

Design key tools in advance to save time and resources

It is essential to think in advance about how to ensure economic and social support measures will reach everyone they need to, and that their effects will be fair and proportionate. Viable compliance frameworks and exit strategies should be developed for various measures that are likely to be deployed in a future pandemic, to avoid the risk of them being mis- or over-used, and to ensure reasonable levels of cost-effectiveness. Good use can be made of existing knowledge from previous crises about where impacts are most likely to fall. Such information can support the development of options that target known needs early in a future pandemic and may help to more accurately anticipate wider social and economic challenges that the pandemic may exacerbate.

COVID-19 demonstrated that setting up programmes and initiatives under urgency can sometimes lead to less efficient or effective spending of limited resources. For example, there were limited options for rapidly rolling out the Wage Subsidy Scheme in a more targeted way, because Inland Revenue did not have the systems functionality at the time to deliver it (see Chapter 6). The ability to target funding to different groups, or have a more tailored approach to timing, is dependent on having suitably flexible payment and delivery systems.

Resolving in advance the delivery agency and system requirements required for the range of policy options being developed for delivering support could save considerable time and money in the future and serve the fundamental purpose of looking after people in a crisis. For example, a prepared and resilient education system should have methods and tools in place to deliver effective online education, if necessary, alongside measures that can be implemented to help keep schools open as much as possible, such as improved classroom ventilation, mask wearing protocols and flexible classroom desk arrangements.

Part of designing good tools and options in advance is learning from past experiences. For example, the evidence we reviewed suggests that some, but not all, of the sectoral business assistance provided during the COVID-19 response represented reasonable value-for-money. Relevant agencies should thoroughly review the various supports provided during the COVID-19 pandemic, including sectoral business support, the Wage Subsidy Scheme, and social support packages such as Care in the Community. Based on analysis of what worked well and what could be improved, agencies should identify and develop a range of options that would support a future pandemic response.

Resolving in advance the delivery agency and system requirements needed for the range of policy options for delivering support could save considerable time and money in the future.

Build on the improvements to social sector contracting and partnership

A critical element of Aotearoa New Zealand's COVID-19 response was the work done by various community groups, service providers, iwi and Māori organisations and social sector agencies to respond to emerging needs in communities. Many government agencies adapted their operating and contracting practices to enable delivery organisations to focus on flexibly meeting the needs people presented with. Generally, these changes were viewed positively. Agencies identified that they should still be in a position to manage appropriate oversight of this more flexible outcomes-based contracting, and the flexibility improved the ability of providers to respond and adapt to the changing needs in their communities.

These adaptations and other positive experiences can be built on in a future pandemic. Agencies contracting in the social sector should review their approaches to cross-agency coordination and governance, and standardise more streamlined contracting arrangements so that these can be put in place quickly. A key improvement would be to ensure that all contracting agencies adjust their reporting requirements at the same time, to reduce confusion and burden on providers who need to focus on demand for their services during a prolonged crisis. This will ensure the good practices developed during COVID-19 can easily be continued or improved, while maintaining effective oversight.

Maintain well-functioning labour markets, including by providing financial support to workers

It is in the shared interests of government, employers and workers to minimise disruption to employment and working conditions caused by a pandemic and its restrictions. The COVID-19 experience highlighted the importance of maintaining depth and flexibility in labour markets for both economic and social reasons. The potential impact on labour markets was a major driver of the economic response to the pandemic and should also be a major focus of future pandemic preparedness.

Minimising disruption allows people to maintain their employment and wellbeing, while ensuring workforce supply. However, there is also a downside to this necessary support, beyond the fiscal cost. Labour mobility is likely to reduce as people hold on tightly to their means of support in very uncertain times. Long periods of subsidisation carry a risk of maintaining unproductive businesses and can reduce the natural forces of change within the economy, gradually eroding productivity. This reinforces the need to adapt over time to ensure shorter-term benefits are balanced against longer-term risks.

Financial support for workers, whānau, households and businesses is critical for the overall success of public health measures. These supports can be very expensive fiscally, depending on the extent to which border measures, lockdowns or other highly impactful measures are implemented and for how long. Nevertheless, international evidence suggests that the economic (and possibly financial) costs of not deploying such measures could be even greater.[18]

Lesson 4.3: Ensure continuous supply of key goods and services

Build greater resilience into supply chains

Despite the very challenging circumstances, Aotearoa New Zealand was able to sustain domestic and international supply chains and ensure continued access to necessary goods and services for its citizens and to international markets during the COVID-19 pandemic. The government and private sector worked collaboratively to enable this and to respond and adapt to changing circumstances. There were of course still some shortages and disruptions to supply chains but despite early fears, these limits did not have systemic consequences.

The evidence we reviewed on this matter indicated a widely held view (outside of government, at least) that central government agencies did not have a strong understanding of how key supply chains work, prior to the pandemic. COVID-19 highlighted how vulnerable Aotearoa New Zealand is to disruptions in international supply chains (for example, the potential loss of international shipping services, or the reduction in passenger flights reducing light cargo options).

Knowledge was also variable in the private sector, and we heard evidence of a wider lack of thinking about security of supply chains and how this could be strengthened. Domestically, the use of regional boundaries during the Auckland lockdowns also had unintended impacts, reducing the flow of some goods across the boundaries to and from the rest of the country.

Overall, Aotearoa New Zealand was relatively fortunate in terms of supply chain disruptions during the COVID-19 response but should not rely on the same happening again. Government cannot build resilience to these potential disruptions by itself and, in relation to international supply chains, may have limited direct influence. Joint work by government and the private sector to understand and reduce supply chain risks will be an important part of strengthening economic foundations ahead of a future pandemic or other national crisis.

Overall Aotearoa New Zealand was relatively fortunate in terms of supply chain disruptions during the COVID-19 response but should not rely on this happening again.

Maintain food security for a future pandemic

Food is a critical good that people need daily, and it was a topic of great interest during the COVID-19 response. Retailers did a good job of managing hoarding and panic buying, and while there were queues and some people faced challenges in getting their groceries, overall, there were no food shortages. The food supply chains held.

But food security means more than simply maintaining commercial food supply. During the pandemic, there was a significant increased demand for food parcels and food grants. In our view, ensuring widespread food security in the face of these pressures was one of the success stories of the pandemic response.

This was achieved through the combined efforts of government agencies and community organisations and providers. First, the Ministry of Social Development provided some foodbanks with emergency funding so they could stay open. Later, Civil Defence and Emergency Management groups stepped up to support foodbanks and other community food services to meet the demand for food from the community. As the pandemic progressed, the Government also invested strategically in building the capacity and capability of the non-commercial food recovery and distribution network (see Chapter 6). This enabled certainty of supply and a more flexible and sustainable approach to the distribution of emergency food to the social services sector.

Maintaining capability for this support for food security infrastructure will be of significant benefit in a future pandemic (or other crisis). It is important, therefore, that the Government maintains good engagement with and support for the charitable sector which provides the bulk of services in this area.

Maintain access to government and community services throughout a pandemic

As well as access to essential goods and services, such as food, housing and lifeline utilities, a good pandemic response needs to maintain people's access to government and community services as much as possible. During COVID-19, lockdowns, gathering limits and physical distancing all disrupted people's ability to access some government and community services, including services that have a significant impact on people's lives, such as court processes, education and healthcare.

Maintaining accessibility to critical services and supports during a future pandemic will be an ongoing challenge. We heard many examples where the efforts of a few individuals were critical to ensure the continuity of essential services and functions. This worked, but in future such responses should not be reliant on individuals. Key government delivery agencies, such as the Ministries of Social Development and Justice, should review their operational responses to COVID-19 and develop plans and processes based on potential pandemic scenarios, to ensure that they can shift approach and maintain services during a future crisis.

The ability for many sectors, services and communities to switch to remote and online operations was an impressive aspect of the COVID-19 experience. There were many examples of innovation and adaptability in moving the provision of core education, health and justice services online, among others. But we also heard concerns about inequitable access to devices, connectivity and capability being barriers to some people's participation in these activities. Continual efforts to reduce the digital divide will be important considerations for a future pandemic.

We heard many examples where the efforts of a few individuals were critical to ensure the continuity of essential services and functions. This worked but in future such responses should not be reliant on individuals.

Allow the 'essential' category to change over time

The COVID-19 pandemic highlighted that the delineation between activities that are 'essential' and those that are not, is seldom clear. A key lesson is that the passage of time significantly impacts what is considered necessary and/or essential. For example, during a crisis of a few days or weeks duration, replacement parts and repairs for plant and machinery may not be considered essential, but over the course of months or years, some equipment will begin to wear out and fail. Without changes to the 'essential' category to enable repair or replacement, some businesses may not be able to operate.

The temporary closure of businesses and services during a pandemic can also cause long-term social and economic damage. There are some activities where closure – even for a short period of time – will make it very difficult to recommence business. The costs of preventing businesses from operating can mount up quickly, as can the social costs of missing access to education, childcare and mental health support. These difficulties reinforce the desirability of limiting the use and extent of more restrictive measures such as lockdowns, as much as possible. However, it is likely that some use of the 'essential' services category will be necessary in a future serious pandemic.

We think there is scope in future (and depending on the nature of the pathogen) to designate some activities (such as civil construction or outdoor activities in the primary sector) as 'safe enough to continue' rather than 'essential'. These may well be able to operate safely in a future pandemic (with appropriate requirements in place), reducing some of the social and economic costs of public health restrictions, such as the triggering of force majeure provisions.

Similarly, some of the requirements set by Health Orders during the COVID-19 pandemic were very prescriptive and impractical to apply in the workplace. We suggest agencies give consideration, in advance of a future pandemic, to how principles-based settings that provide for greater flexibility could be used in some cases as an alternative to prescriptive operational settings.

The temporary closure of businesses and services during a pandemic can also cause long-term social and economic damage.

The costs of preventing businesses from operating can mount up quickly as can the social costs of missing access to education, childcare and mental health support.

The 'everything everywhere all at once' aspect of the COVID-19 pandemic also reinforced that some sectors make a crucial contribution to a well-functioning society both during and after a pandemic, for example mental health services, childcare and construction. In a future response, deliberate steps should be taken to ensure these services can operate effectively to the greatest extent possible.

Lesson 5: Work together | Akoranga 5: Mahi ngātahi

In brief: What we learned for the future about working together

In preparing for and responding to the next pandemic:

Lesson 5.1 Work in partnership with Māori

Lesson 5.2 Work in partnership with communities. In practice this means:

- **5.2.1** Work with the community to deliver necessary supports
- **5.2.2** Make use of both locally-delivered initiatives and standardised national approaches
- **5.2.3** Ensure public information is accessible and use trusted networks to help deliver key messages

Lesson 5.3 Work closely with the business sector

Overview

Everyone has a role to play in responding to a pandemic, and success will rely on people's collective commitment to each other to get through it together. An effective response therefore needs strong and trusting relationships that bring together the diverse skills, experience, leadership and connections needed to generate collective action. These relationships need to be built and fostered during quiet times so that they can be quickly activated in a crisis.

Government agencies of course have overall responsibility for the oversight and delivery of a pandemic response. To do this well, they need to have established strong external relationships in advance, particularly with the community and business sectors, and to collaborate effectively with each other.

Aotearoa New Zealand's COVID-19 experience reinforced the critical role of relationships and a culture of collaboration in a successful pandemic response. Time and time again, the evidence we gathered showed that the quality of working relationships at all levels was central to ensuring an effective, efficient and equitable response.

Before and during another pandemic, government agencies need to strengthen and maintain their relationships with communities, iwi and Māori, businesses, researchers, experts and non-governmental organisations – and also with one another. Not having established such relationships in advance will mean the response to another pandemic will start on the back foot and may delay effective action in those crucial first days.

The Government should also ensure that it upholds te Tiriti o Waitangi in preparing for and responding to another pandemic. This requires enabling Māori to participate in decisions consistent with the exercise of tino rangatiratanga, with potential benefits as well to wider communities beyond those in Te Ao Māori.

Lesson 5.1: Work in partnership with Māori

In Lesson 1, we emphasised that the core purpose of pandemic preparedness and response is to look after all aspects of people's lives. In addition to this overarching responsibility to the whole population, central government also has distinct obligations to Māori under te Tiriti o Waitangi. Indeed, the Waitangi Tribunal has observed that the relationship considerations and partnership responsibilities flowing from te Tiriti were actually heightened during the pandemic:

> "given the expansive kaawanatanga powers exercised in this emergency and the need for agile decision-making by the Executive, the Crown's obligation to actively protect tino rangatiratanga and partner with Maaori is, in fact, intensified."[19]

In addition, pandemics – which are known to exacerbate pre-existing inequities[20] – have historically had a greater impact on Māori. This was true of the COVID-19 pandemic, although the elimination strategy and a range of deliberate policies mitigated its unequal impacts to a large extent, and represented a significant improvement from previous pandemics and epidemics. Minimising disproportionate impacts on Māori during a future pandemic will require nuanced understanding of likely impacts, and for the response to be designed accordingly. Supporting iwi and Māori organisations to deliver tailored responses in their communities helped reduce the impact on whānau during the COVID-19 response and is an example of practice that is consistent with te Tiriti o Waitangi.

The National Ethics Advisory Committee has described te Tiriti partnership in a pandemic context as 'ensur[ing] iwi, hapū, whānau, and Māori communities are active partners in preventing, managing, and recovering from the impacts of an epidemic or pandemic'.[21] Working closely with iwi and Māori is the best way for the Crown and its agencies to enact this vision of partnership. In planning for and responding to a future pandemic then, government should:

- Work in partnership with Māori in the development, design and delivery of any response.
- Enable iwi and Māori to exercise tino rangatiratanga in both preparing for and responding to a future pandemic (while recognising the right of the Crown to govern).
- Work towards equitable outcomes for Māori as part of an effective pandemic response for everyone in Aotearoa New Zealand.
- Ensure the national pandemic plan, and any future pandemic response, is delivered in a culturally appropriate way.

One important way of ensuring any future pandemic response is consistent with te Tiriti will be ensuring that any ethical principles and decision-making tools used in the response (as discussed in Lesson 2) are developed with Māori so that such tools and principles are applied in ways that help the Crown uphold its te Tiriti obligations.

Lesson 5.2: Work in partnership with communities

Responding effectively to a pandemic (and keeping people safe during any type of national emergency) is a critical function of central government. But – as the COVID-19 response clearly demonstrated – government cannot and should not do this alone. Delivering the range of supports and services people need during a pandemic requires close partnership between government agencies and communities of all kinds. And clearly communities and whānau will draw on their own relationships and partnerships to support people through a pandemic.

During COVID-19, we saw that when strong, trusting relationships were already in place before the pandemic, things worked well. When relationships were patchy, or had to be developed fresh, this often impeded the effectiveness of the response. One way to maintain and strengthen good working relationships is through joint participation in pandemic exercises and other civil defence and emergency management activities.

COVID-19 highlighted how reaching, looking after and communicating with people – including those in the 'hard-to-reach' category – requires a wide network of trusted community groups and organisations that are ready and able to respond in a pandemic. This network will include iwi and Māori organisations, community groups, NGOs and business networks. To muster collective action in a future pandemic, the government will need to know this network well.

Work with the community to deliver necessary supports

Most social support services in Aotearoa New Zealand are delivered by tens of thousands of non-government service providers and community organisations. Delivering social supports during the COVID-19 response required government to trust and flexibly resource community providers. This trust and flexibility should be maintained for the future, and will enable providers to be confident that resources will be available when required in an emergency.

Building and maintaining strong relationships between government and communities for a future crisis also requires system oversight by the lead social sector agencies. These agencies can identify gaps in the network to be addressed in advance of an emergency, including funding to local organisations that face ongoing challenges. Trying to address those gaps during a pandemic risks delaying the response and compromising delivery. There were examples where this was done well during the COVID-19 response: when it became clear that some ethnic minority (including migrant) communities were not receiving important information and support, social agencies worked through the Ministry for Ethnic Communities to support community leaders and groups and ensure support reached those who needed it.

Delivering the range of supports and services people need during a pandemic requires close partnership between government agencies and communities of all kinds.

Make use of both locally-delivered initiatives and standardised national approaches

People and groups working in local communities generally have better understanding than central government of what those communities need, want and are likely to struggle with in an emergency. This means they are mostly better placed to design and deliver support. Community-led approaches using local knowledge and leadership often delivered the most effective local solutions during the COVID-19 response. As the Ministry of Social Development has observed:

> "A locally-led, regionally-enabled, and nationally supported approach is emerging as a valuable framework for supporting community wellbeing and recovery."[22]

Some of the most remarkable success stories of Aotearoa New Zealand's COVID-19 response involved iwi and Māori organisations exercising tino rangatiratanga as well as Te Ao Māori values like whakapapa, manaakitanga and kaitiakitanga to support not only their own people but the community at large. Many iwi and Māori organisations were well-placed to respond to their communities' needs and could draw on their cultural protective factors. For example, in Northland, we learned how Māori health providers used their existing knowledge and relationships to meet the unique challenges whānau in rural and remote areas faced during the pandemic.

The key lesson then is that ahead of the next pandemic that strong relationships are fostered, embedded or built and that options for how to respond reflected in sector plans should be developed in partnership or consultation with the community sector.

Ensure public information is accessible and use trusted networks to help deliver key messages

During a pandemic, it is vital that accurate information about what people need to do reaches as wide an audience as possible. This is a significant challenge; the forms of communication that work for some groups will not work for others, and information needs to be culturally appropriate, accessible and rapidly translated into multiple languages. As we discussed in section 10.2, a particular challenge during the COVID-19 response was the rise of misinformation and disinformation, and – among some groups – an accompanying drop in trust in government and willingness to comply with public health measures.

The key lesson then is that ahead of the next pandemic that strong relationships are fostered, embedded or built and that options for how to respond reflected in sector plans should be developed in partnership or consultation with the community sector.

The COVID-19 pandemic demonstrated the importance of working with trusted intermediaries to translate, interpret and disseminate vital information in ways that would work best for their communities. These communication channels should be two-way, allowing questions and feedback to be brought back to government agencies as well as information being pushed out. One example from the COVID-19 pandemic that showed the benefits of trusted organisations relaying important information to their communities was 'Malu'i ma'a Tonga' – a vaccination drive set up by the Tongan Health Society and the local community, located on church grounds, attended by prominent Tongan leaders and delivered in the Tongan language. Identifying and working with trusted individuals and organisations should be an element of planning and preparation for a future pandemic.

Lesson 5.3: Work closely with the business sector

When government agencies worked closely with the business sector during the COVID-19 response, this allowed important aspects of 'normal life' to continue – in particular, the flow of essential goods and services (including lifeline utilities), ongoing employment and economic activity.

As we saw during COVID-19, businesses were affected differently depending on many factors. In another pandemic, government decision-makers will need to understand the potential impacts on businesses for different-sized operations and various sectors. Business can also have information and networks that are very useful to public servants, if used with discernment.

At several times during the COVID-19 pandemic, Aotearoa New Zealand was short of the skills and capabilities needed for various economic and other activities to keep going. The shortages included some highly specialised engineering skills, many kinds of health workers, primary sector seasonal workers and more. While it is of course essential to ensure appropriate health safeguards are followed in a pandemic, immigration procedures need to be well-tuned, efficient and responsive – without imposing too heavy a compliance burden.

The key lesson then is that ahead of the next pandemic, it is important to look back at the role of partnerships between the public and private sector in the COVID-19 response and reflect on what worked well and what did not. Reviewing what worked well in the past is the starting point for developing effective strategies and understanding needed for the future. There are also opportunities for further learning by looking at sectors that were particularly impacted by the pandemic (such as international education, tourism and hospitality) to better understand the pressure points and problems they faced – and how they could be avoided in the future.

Lesson 6: Build the foundations | Akoranga 6: Hangaia ngā tūāpapa

In brief: What we learned for the future about the foundations of a sound pandemic response

In preparing for and responding to the next pandemic:

Lesson 6.1: Anticipate and manage the risks posed by a future pandemic (alongside other risks). In practice, this means:

- **6.1.1** Establish an effective national risk management system
- **6.1.2** Ensure central oversight of pandemic preparation across the whole of government
- **6.1.3** Base planning on robust pandemic scenario planning and modelling

Lesson 6.2: Have key components of an effective national response in place and ready to be activated. In practice, this means:

- **6.2.1** Establish an effective all-of-government national response mechanism
- **6.2.2** Ensure strong cross-agency leadership
- **6.2.3** Prepare fit-for-purpose legislation
- **6.2.4** Build strong international connections

Overview

Aotearoa New Zealand delivered one of the most successful COVID-19 responses of any country. Like most of the world, however, the country was not ready for an event of the scale, complexity and duration of the COVID-19 pandemic, and notwithstanding the successes, there was harm and distress for a significant range of people, some of which may be possible to avoid in the future.

The need for more purposeful pandemic preparation and risk management was a recurring theme in our engagements and evidence. The strong global emphasis on influenza as the likely cause of the next pandemic meant that, prior to COVID-19, the preparation that was in place did not consider all options that might be relevant for responding to a different type of infection. The fact that pre-existing emergency response models were not suitable for a crisis of the scale and duration of COVID-19 meant that much of the all-of-government response had to be built while also responding to the crisis. The lesson from these experiences is that more robust foundations of preparedness and resilience need to be in place before the arrival of the next pandemic.

Usefully, the COVID-19 experience has provided specific, real-life examples of where Aotearoa New Zealand can enhance its preparedness by building stronger foundations for assessing, planning for, and managing the risks associated with pandemics and other national crises. COVID-19 highlighted the importance of having a range of options and tools decision-makers might want to reach for in future to keep people safe while minimising disruption to daily life as much as possible. It also highlighted the need for investment in preparation – and governance and accountability mechanisms to ensure this – to mitigate the risks posed by future pandemics. While significant work is needed to increase the capability and resilience of key agencies and sectors, investment made in preparing for a pandemic will also be valuable in relation to other national risks.

Lesson 6.1: Anticipate and manage the risks posed by a future pandemic (alongside other risks)

Establish an effective national risk management system

Pandemics require a highly coordinated approach to preparedness and risk reduction. Just as many businesses and organisations maintain hazard and risk registers as part of ongoing governance, central government needs to strengthen its preparation for pandemic risk – and other national risks – ahead of time. Once such risks are identified, they need to be managed and mitigated with appropriate plans and policy options, and there should be accountability mechanisms in place to ensure this takes place.

While our brief as an Inquiry was to consider future pandemic preparedness, in practice, it makes sense to consider and address the risks of a future pandemic alongside other national risks. To prepare better for future pandemics and other types of emergencies, current and future governments should therefore invest in a strong national risk management system.

Ensure central oversight of pandemic preparation across the whole of government

We learnt that in an 'all of everything' crisis, responsibility should be allocated centrally to oversee, coordinate and evaluate ongoing pandemic planning and preparedness across all relevant government agencies. This will not only ensure that pandemic plans are in place where they are needed, but also that they are coordinated, and that any gaps in pandemic preparedness within or between agencies are identified and addressed. As part of this oversight, scenario planning and pandemic modelling should be used to guide and regularly test Aotearoa New Zealand's readiness for a future pandemic, including by undertaking regular cross-agency practice exercises, evaluating these, and building key learnings into both national and sector-specific pandemic plans.

Base planning on robust pandemic scenario planning and modelling

The next pandemic Aotearoa New Zealand faces might be nothing like COVID-19. We do not know when the next pandemic will occur, what the characteristics of that pandemic pathogen will be (such as its infectiousness and virulence), or what the social and economic context will be at the time of the next pandemic. However, as outlined in Lesson 2, governments can use a range of evidence and estimates to model what a future pandemic might look like in terms of both the behaviour and impacts of the infectious agent and the social and economic context in New Zealand at the point a pandemic occurs. They can also assess which of these potential pandemic scenarios are more likely, and what specific risks they pose.

In addition to anticipating the range of pandemic scenarios the country may need to respond to, scenario planning helps to ascertain the optimal mix of preparation and response options, so that governments can prioritise investment and capacity-building accordingly. For example, consideration of potential pandemic scenarios will help future decision-makers identify what should be prioritised in terms of preparatory investments (such as strengthening the ventilation of buildings, stockpiling PPE, ensuring standing laboratory and testing capacity and the best mix of quarantine facilities, including whether to invest in purpose-built facilities).

This kind of modelling and scenario planning has been used by the Treasury, the Reserve Bank[23] and the Ministry for Primary Industries[24] to inform preparation for an outbreak of Foot and Mouth disease (an infection affecting cows, sheep and pigs), which could have serious impacts on Aotearoa New Zealand's economy. Modelling work helped demonstrate the importance of prevention and the scale of investment that would be needed to support New Zealand's farmers, rural communities and primary industries if such an outbreak occurred. Despite this, the use of modelled scenarios was not a key input in New Zealand's pandemic preparedness prior to COVID-19.

Ongoing investment in modelling capacity across multiple disciplines – coupled with the development of pandemic scenarios – is essential to building the foundations for a future pandemic response. See Appendix C for a more detailed discussion of the potential uses of pandemic, economic and social scenarios.

Investment in pandemic preparation: an example from South Korea

Aotearoa New Zealand's state of preparedness can be usefully compared with South Korea's. Unlike New Zealand – which, before COVID-19, had not encountered a major pandemic since 1918 – South Korea had dealt with significant outbreaks of severe acute respiratory syndrome (SARS) in 2003 and Middle East respiratory syndrome (MERS) in 2015. Following the MERS outbreak, South Korea reformed the way it prepared for and responded to pandemics.[25]

South Korea learnt from MERS the importance of having strong national leadership and coordination models ready to go. Between the 2015 MERS outbreak and the emergence of COVID-19, South Korea made significant changes to its national infectious disease prevention and management system.[26] Key changes included: amending legislation to set out coordination models; improving early detection systems; and investing in their public health system capacity, infection control and public health tools, and surge capacity to handle outbreaks. Pandemic legislation was also amended to provide for stronger governance arrangements, with clear roles and responsibilities across all levels of government and private institutions.[27]

South Korea's preparedness activities and investment helped to slow the spread of COVID-19 when it arrived, despite the country's high-density cities and proximity to China. For example, the availability of universal testing and contact tracing enabled health officials to identify clusters, ensure infected persons isolated and maintain a low rate of infection within hospitals.

Lesson 6.2: Have key components of an effective national response in place and ready to be activated

Establish an effective all-of-government national response mechanism

At the beginning of 2020, Aotearoa New Zealand did not have an all-of-government emergency response mechanism that was suitable for a crisis of the nature, scale and duration of COVID-19. A key learning from this experience is the need to have a structure in place that can be quickly activated to provide oversight, leadership, and coordination of the response. For some types of emergencies, such as earthquakes or floods, this leadership function may be best undertaken locally, or by a specific relevant agency. A pandemic response, however – as we learned during COVID-19 – is likely to require an all-of-government approach, because of the wide range of social, economic and cultural impacts that can occur beyond the pandemic pathogen's immediate health impacts.

When the next severe pandemic occurs that requires more than just a health-led response, a pre-agreed all-of-government coordination and leadership mechanism should be ready to be activated. Key roles and responsibilities of different agencies should be identified ahead of time, along with appropriate governance arrangements.

The immediate function of this mechanism during the early days of a pandemic should be to lead and coordinate the response and provide immediate intelligence and advice during a fast-moving and evolving situation. Critically, it should lead and coordinate the multi-agency response, and coordinate provision of advice to decision-makers on the impacts of policy response options across multiple criteria (see Lesson 2). At the same time, it should also be prepared to provide long-term strategic analysis and advice on matters such as how a pandemic could evolve over time, and how and when a response might adapt or change course. Even from the early stages of a future response, the coordinating body should have an eye on long-term recovery, how and when the response will end, and possible exit strategies. As we heard regularly during our engagements with stakeholders, those coordinating the response to a future pandemic need to be able to give decision-makers both the detailed view of what is happening on the ground now, as well as the big picture scenarios that may play out in the future.

Ensure strong cross-agency leadership

As COVID-19 made clear, responding to a pandemic requires effective leadership and coordination across government agencies. Core aspects of the response – such as managing international borders, securing vaccine doses, and providing social and economic support – require agencies to work together. While officials worked hard to do what was needed, Aotearoa New Zealand's ability to quickly stand-up key pillars of a pandemic response would be substantially strengthened if agency leads worked together ahead of time to collectively plan for, coordinate and lead an all-of-government response.

A recurring theme in the Inquiry's engagement was the value of trust in a crisis response. By engaging in cross-agency dialogue and preparation for a pandemic response, agency leads have the opportunity to build trust with one another. Clarity around roles and responsibilities, and an understanding of how different agencies will work together, will help enable an effective and coordinated all-of-government response. The importance of working together is discussed in Lesson 5.

When the next severe pandemic occurs that requires more than just a health-led response, a pre-agreed all-of-government coordination and leadership mechanism should be ready to be activated.

Prepare fit-for-purpose legislation

At the start of the COVID-19 pandemic, standing response legislation (the Health Act 1956, Epidemic Preparedness Act 2006 and Civil Defence Emergency Management Act 2002) was sufficient to provide an initial response. This legal framework was supplemented with bespoke COVID-19 legislation, developed at pace and passed under urgency in May 2020, and other legislative changes to mitigate and address the COVID-19 experience.

In a 2022 Law Commission assessment of the legal framework for emergencies, Professor Janet McLean KC noted a number of areas where improvements to the Health Act 1956 and other emergency legislation should be factored into a review of the legislation to respond to a pandemic.[28] The Law Commission's report notes, for example, that the operation of the Epidemic Preparedness Act 2006 should be assessed for its effectiveness and to determine whether more provisions should be embedded in advance to be activated by an epidemic notice.

We agree with the need to refresh aspects of legislation to respond to a pandemic. While the legislation in place in March 2020 was sufficient to support the initial response, a key lesson arising from our Inquiry is that there is value in developing an improved legal framework ahead of time to cater for a national public health emergency. Any work to improve the legislative framework should specifically address lessons learned from using the legislation during the COVID-19 response.

Given the likely wider-ranging impacts of a future pandemic, in our view it is key that there is central oversight to ensure the readiness of emergency pandemic legislation based on the experiences of COVID-19. In particular, any future work should review or modernise the Health Act 1956 and the Epidemic Preparedness Act 2006 to ensure they are fit-for-purpose in supporting the immediate response to an emerging pandemic in the future.

Given the likely wider-ranging impacts of a future pandemic, in our view it is key that there is central oversight to ensure the readiness of emergency pandemic legislation based on the experiences of COVID-19.

For example, and based on the experience during COVID-19, it would be useful to consider the overarching principles in Part 3A of the Health Act 1956 as part of this review. A review of the Health Act should also determine any changes required to the powers of medical officers of health to deal with an immediate threat from an unknown virus and to act on a quickly emerging pathogen that has not yet been identified. The appropriateness of officials exercising powers to make orders that affect national populations, essential services and enforcement provisions should be a focus, to ensure relevant powers are available given the circumstances and timeframes, with the appropriate accountability arrangements. Another aspect for review is the thresholds for modification orders under the Epidemic Preparedness Act 2006.

We recognise that it will be difficult to ensure public health legislation can be refreshed and reformed to address all possible eventualities for a future pandemic, given the way pathogens, public health measures and treatments evolve. It is neither possible nor desirable to try to comprehensively legislate for every future pandemic scenario – this risks legislation that is too wide-ranging and complex and insufficiently flexible to accommodate the 'unknown unknowns'.

In its 2022 study, the Law Commission noted in relation to writing emergency law that:

> "Ensuring that legal frameworks provide governments with sufficient powers to cope with future emergencies while at the same time including effective political and legal constraints on such powers is a difficult balance to achieve."[29]

It is important that the existing legislation be updated to provide sufficient legal grounds to enable a speedy and effective *immediate* response to a pandemic, thus providing adequate time for any bespoke pandemic legislation or legislative amendments to be developed and considered by Parliament. It was beyond the scope of Phase One to identify a comprehensive, specific set of legislative amendments to the existing standing pandemic provisions in the Health Act and Epidemic Preparedness Act, or to the legislation of other agencies who have to modify their operations, or put in place measures, to support a pandemic response.

In addition to updating existing standing legislation, the Inquiry heard evidence that it would be useful for 'model' pandemic legislation to be developed and consulted on, but not enacted. This 'model' legislation would set out key safeguards, checks and balances for implementing and reviewing the use of various public health measures and ensuring that any limitations on human rights are proportionate and support the rule of law (by providing clear, accessible and enforceable laws). This ensures there is ready-to-go 'model' legislation available, which can be modified to ensure it meets the bespoke needs of an emerging future pandemic.

There is an alternative view, however, that such 'model' pandemic legislation should in fact be considered by Parliament and enacted. If a future pandemic required specific new bespoke powers or provision because of the nature of the new pathogen, the legislation could be quickly amended at that time to address the emerging pandemic. Ultimately the choice between an enacted or 'ready-to-go' model pandemic legislation will be a political decision, but as a first step, development and consultation on potential pandemic legislation should begin right away.

One issue with the bespoke COVID-19 Public Health Response Act 2020 was the number of COVID-19 orders and how often they were changed. Trying to ensure guidance aligned with orders proved challenging, limiting the ability of the public, businesses and even the legal profession to keep up-to-date with their understanding of the emerging law.

It will be important for the development of 'model' pandemic legislation to carefully consider which aspects of future pandemic management should be in primary legislation (for example, key health response measures or border restrictions, vaccine or treatment mandates, isolation and quarantine requirements) and what should be in more flexible and nimble secondary legislation (for example, where and how roadblocks would operate, which and how essential businesses will operate, use of mask wearing, and requirements for contact tracing). For example, with regards to border restrictions, the primary legislation needs to provide the ability to quickly restrict the movement of people or craft from particular locations to address the immediate risks of a pandemic or an infectious disease outbreak. In addition, the grounds for longer term, ongoing restrictions governing the movement of craft and/or people across the border should be set out in primary legislation alongside built-in review mechanisms or relevant restrictions incorporated.

Regulatory stewardship means that each agency needs to take responsibility for ensuring their own emergency response legislative frameworks and existing key statutory legislation are fit-for-purpose to meet the challenges of a future pandemic. There is an ongoing need for agencies to continue to consider the application of existing legislation to new and unanticipated circumstances that may arise during a future pandemic. For example, an urgent amendment to the Medicines Act 1981 in 2021 was required relating to ministers' provisional consent for approval of new medicines such as vaccines.

While individual agencies are responsible for keeping their legislation up-to-date for a future pandemic (or other emergency), there is a role for central oversight and coordination — for example, supporting an omnibus bill for changes across multiple legislation relating to facilitating electronic and online activities that may be necessary during a pandemic.

There is also a role for central coordination to support agencies to reconcile the interface between their key foundational legislative frameworks and the use of public health measures and policies that supported those measures (such as the wage subsidy). For example, determining the extent that legislative change or improved guidance may be needed to clarify the interaction between employment law and public health, or wider fiscal support measures such as the payment of wage subsidies in an emergency, or how sick leave provisions are used when public health requires individuals to self-isolate. Another example is the degree of separation that should be maintained between the health and safety legislative framework (performance-based regime that is flexible and tailored to individual circumstances of risk) and public health legislation in managing a pandemic (rule-based system that sets clear requirements for managing evolving risks across a multitude of settings).

Build strong international connections

The pandemic showed the importance of developing and maintaining strong international connections, not only at the ministerial and official level, but also with (and between) businesses, scientists, policy advisors and academics.

During the COVID-19 pandemic, Aotearoa New Zealand was able to leverage existing international connections and alliances in several important ways. Early in the response, strong diplomatic relationships helped with the repatriation of New Zealand citizens from overseas. Later, health officials and politicians were able to liaise with drug manufacturers and other countries to ensure a continued supply of medicines and secure timely and stable supplies of COVID-19 vaccines. Scientists and academics drew on collegial networks with international colleagues to ensure their advice on the virus and the public health response was accurate and up-to-date. Economic advisors and operatives had international relationships they were able to leverage off effectively. Many New Zealand businesses, despite travel restrictions, maintained strong trade and commercial relationships with overseas partners and suppliers.

International connections were also useful for maintaining key supply chains. Trade officials engaged with other governments, for example Singapore, to remove trade blockages for several essential products. Aotearoa New Zealand's strong Pacific relationships meant the New Zealand Government was able to provide concrete support for Pacific nations before and during COVID-19.

As these examples from COVID-19 show, many of the foundations are already in place to enable Aotearoa New Zealand to draw on strong international connections in a future pandemic. It is important that these are maintained and, in some areas, they need to be strengthened. In particular, New Zealand should build on the Indo-Pacific Economic Framework for Prosperity initiative as part of broader efforts to improve international and domestic supply chain resilience. Ministry of Foreign Affairs and Trade officials should also explore opportunities to work with other countries (such as Australia and Singapore) to improve collective capacity to respond to the needs of a future pandemic. This could include research partnerships or collaborating on the production of vaccines. In particular, as Australia establishes its new Centre for Disease Control, there will almost certainly be opportunities for New Zealand public health officials to collaborate across the Tasman on pandemic preparedness activities that are mutually beneficial to both countries.

Aotearoa New Zealand should also look to support multilateral efforts to strengthen global pandemic preparedness and responsiveness. This includes initiatives led by the WHO to improve intelligence and technology sharing, to build international coordination and collaboration and to promote global equity in protecting people from the impacts of pandemics.

The pandemic showed the importance of developing and maintaining strong international connections, not only at the ministerial and official level, but also with (and between) businesses, scientists, policy advisors and academics.

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CHAPTER 11:

11 Recommendations | Ngā tūtohutanga

11.1 Overview of the recommendations[i] | Tirohanga whānui o ngā whakaaturanga

Group 1: Strengthen all-of-government coordination and accountability for pandemic preparedness

Establish a central agency function to coordinate all-of-government preparation and response planning for pandemics and other national risks.
Strengthen oversight and accountability for pandemic preparedness.

Central agency function

- Lead all-of-government pandemic planning
- Coordinate and drive preparation activities across agencies

Oversight and accountability

- Chief Executives Group
- Ministerial oversight
- Parliamentary scrutiny
- Public transparency

Group 2: Ensure an all-of-government pandemic plan, response structure and supporting processes are developed and ready for a pandemic response

Planning
Develop and practise an all-of-government response plan for a pandemic, covering the national-level response and integrating sector-specific plans.

Response structure
Ensure an all-of-government response structure is ready to be activated if needed in a pandemic, supported by adequate staffing and the provision of comprehensive advice under urgency.

Group 3: Strengthen the public health measures that may be required in a pandemic

Health system pandemic planning
Refine the health system pandemic plan and link it with the all-of-government pandemic plan.

Plans in place for scaling-up and implementing significant public health measures in a pandemic:

- future options for quarantine and isolation
- plans for rapidly scaling-up testing and contact tracing
- implementing border restrictions and lockdowns, and managing impacts
- vaccination.

i This overview provides a summary of the high-level recommendations included in the table of recommendations (see section 11.4). It does not include the supporting detail, and the table itself should be regarded as the definitive statement of the Phase One recommendations

Group 4: Ensure all sectors are prepared for a pandemic and are ready to respond

Ensure each sector has a pandemic plan and considers what they would need to do to support activity within their sector to keep going safely in a pandemic.

Health
Build resilience to ensure continuity of non-pandemic health care.

Improve ventilation in hospitals and other public spaces.

Economic
Ensure plans are in place to address the way that the economy functions during a pandemic – including economic and fiscal policy, the labour market, management of supply chains, the operation of lifeline utilities, and the provision of financial support.

Social sector
Strengthen coordination at local, regional and national levels.

Ensure access to welfare support, food and housing.

Justice sector
Maintain access to services and ensure the rights and wellbeing of prisoners are protected.

Education
Plan to keep educational facilities open as much as possible.

Maintain access to education through remote learning.

Group 5: Ensure enablers are in place

Improve the way public sector agencies work with iwi and Māori during a pandemic, to support the Crown in its relationship with Māori under te Tiriti.

Review legislation to ensure it is fit for purpose for a future pandemic.

Ensure core infrastructure is fit for purpose to support each sector's pandemic response.

Group 6: Implement these recommendations

Assign a minister to lead the response to the recommendations, ensure six-monthly progress reports, and report to Parliament within 12 months of this report being completed.

This chapter sets out what we recommend the government and its agencies do to ensure Aotearoa New Zealand is pandemic-ready and resilient.[ii]

The Looking Back chapters of this report demonstrate that the challenge of responding well to a pandemic does not fall on central government alone – communities, iwi and Māori, non-governmental organisations, local government and the private sector all contributed enormously to the COVID-19 response and will doubtless do so again in another pandemic. These groups and others may well find aspects of our recommendations relevant to their own pandemic planning. However, our recommendations are directed at central government.[iii]

The recommendations give practical effect to the lessons learned from the COVID-19 pandemic, but they are not specific to that event. As we know, the next pandemic could well originate from a different pathogen that spreads and affects people quite differently, and it could require other response measures altogether. Our recommendations have therefore been designed to meet a range of possible pandemic scenarios. Some are also relevant to other kinds of national risks and emergency situations.

Like the lessons from which they arise, our recommendations are grounded in the evidence gathered during the Inquiry, including what we learned about other countries' COVID-19 responses. The recommendations take account of what worked well and also what did not. Some recommendations reflect the views and suggestions of stakeholders we engaged with directly or who provided submissions. When we heard good ideas for improving pandemic preparedness and resilience, we took note and used them to inform our recommendations.

Our Inquiry confirmed the extent to which Aotearoa New Zealand is still reckoning with the impact of COVID-19. Regardless of its continuing shadow, the country may need to respond to another global pandemic at any moment; just in the period spent preparing this report, we have seen growing fears of avian flu pandemic and the spread of mpox[iv] to countries with no previous documented transmission (including Aotearoa New Zealand).

ii See section 5 of the Terms of Reference: 'Matters upon which recommendations are sought: The inquiry should make recommendations on the public health strategies and supporting economic and other measures that New Zealand should apply in preparation for any future pandemic, in relation to the principal matters within the inquiry's scope, by applying relevant lessons learned from New Zealand's response to COVID-19 and the response from comparable jurisdictions.'

iii We have used the term central government as the decisions and actions associated with the recommendations will require ministerial or Cabinet decisions and do not sit solely with officials to implement.

iv Avian flu (or 'bird flu') is an illness caused by an influenza virus that normally affects birds but can cross over to infect humans (as in the case of the H5N1 influenza virus). Mpox (previously known as monkeypox) is an illness caused by the monkeypox virus, a type of Orthopoxvirus.

We cannot predict whether the next pandemic will be triggered by a virus known to us or by an entirely new pathogen, whether it will be more deadly than COVID-19 or less, and whether it will be short-lived or protracted. What we can do is be ready for a range of possible pandemic scenarios. We therefore urge the Government to consider and implement these Phase One recommendations as soon as practicable. The minister charged with leading this work should receive regular progress reports on how the recommendations are being implemented at the all-of-government level and by individual agencies, and keep Parliament informed.

What's in this chapter

Readers can engage with the recommendations in two ways. For those wanting a general overview of their intent and scope, section 11.3 groups and summarises the recommendations under six thematic headings.

Readers wanting to review the recommendations in full should consult the complete table of recommendations provided in section 11.4. This should include the officials who will need to consider, implement or monitor them. **That table should be regarded as the definitive statement of the recommendations arising from Phase One of this Inquiry.**

11.3 In brief: what the recommendations say | Te kōrero poto: he aha ngā tūtohutanga

The 39 recommendations set out in the definitive table of recommendations at the end of this chapter call for action across many areas of government (see section 11.4). All support a common overall objective: ensuring pandemic preparations and the response itself have a clear purpose and are people-centred. As we commented in our lessons for the future (Chapter 10), such an objective should be adopted and regularly articulated throughout any pandemic response. Doing so will give the Government and the people of Aotearoa New Zealand a clear sense of direction, a benchmark against which response decisions can be measured and decision-makers held accountable, and a lodestar when the going gets especially tough.

Our recommendations are organised into six groups. The broad intention behind each group is described below.

Group 1: Strengthen all-of-government coordination and accountability for pandemic preparedness | Rōpū 1: Te whakakaha i te whakariterite o te kāwanatanga whānui me te noho haepapa mō te takatū mō te mate urutā

This first group of recommendations aims to strengthen the coordination of, and accountability for, all-of-government pandemic preparedness. Our analysis of the response to COVID-19 showed that Aotearoa New Zealand – like many other countries – would benefit from stronger assessment of the risks posed by a future pandemic (and potentially other national risks), and stronger coordination of government preparedness to mitigate that risk.

The scale, complexity and duration of COVID-19 reinforced the need for all-of-government coordination of and support for pandemic preparedness and response. We therefore recommend that a specific function be established within a central agency to carry out this role. The term 'central agency function' is used because, while it is clearly a function that needs to be carried out by a central agency in government (with assistance from other agencies), we see the breadth and capacity of this function as extending beyond the role of any one existing agency. Something new and expanded is needed. Its functions should include considering the risks posed by a future pandemic (using tools such as scenario planning), evaluating potential options for mitigating those risks, supporting cross-agency preparations for a pandemic response and coordinating pandemic response exercises.

This new centralised function needs to be supported by relevant expertise and capacity. Both scenario planning and modelling (not only epidemiological modelling, but also health, social and economic) should be routinely used to support decision-making, planning and all other preparedness activities. So too should specialist advice on issues including safeguarding human rights and democratic principles in a pandemic response, and the Crown's te Tiriti obligations. External expertise should also inform pandemic preparations and response.

As we set out in Chapter 2, the risk management system in place ahead of the COVID-19 pandemic had limitations. In particular, it had few formal oversight or accountability mechanisms for ensuring adequate planning and preparation was underway across government. As was the case in many countries, Aotearoa New Zealand's risk management system lacked real 'bite' – a factor that we consider affected national preparedness for an event of the scale, duration and complexity of COVID-19.

This group of recommendations also therefore sets out how the Government can ensure stronger oversight and accountability for the preparation for pandemics and other national risks. As we conducted the Inquiry, it became clear that it would be both illogical and inefficient to consider pandemics in isolation from other national risks. Evidence presented to us reinforced the need for a broad approach. Our recommendations therefore situate pandemics within the broader context of national risks. We recommend actions that will improve oversight at many levels – by Parliament, at the all-of-government level, by the public sector collectively and within government agencies. Their scrutiny should include what actions are being taken to address national risks and how gaps in preparedness are being addressed.

Group 1 recommendations at a glance

Strengthen all-of-government coordination and accountability for pandemic preparedness.

- Establish a central agency function to coordinate all-of-government preparation and response planning for pandemics and other national risks, supported by strengthened scenario planning, modelling capability, and external expertise.
- Strengthen oversight and accountability for pandemic preparedness, and make it more publicly transparent, with preparedness being sustainably funded.

Group 2: Ensure an all-of-government pandemic plan, response structure and supporting processes are developed and ready for a pandemic response | Rōpū 2: Te whakarite ka hangaia tētahi mahere mate urutā, anga urupare me ngā hātepe tautoko i te kāwanatanga whānui, ā, e rite ana mō tētahi urupare mate urutā

An all-of-government pandemic plan is an essential element of a coordinated and effective response. It should integrate the individual response plans prepared by sector groups (for example, justice or social sector agencies) and also align closely with the pandemic plan produced by the Ministry of Health, the agency with core competency in public health emergencies.

We saw early on in the response to COVID-19 that the pre-existing 'lead agency' model, supported by Officials Committee for Domestic and External Security Coordination (ODESC), was not adequate for the scale of the pandemic. An all-of-government response structure was needed. While arrangements were quickly established, they had to be modified several times during 2020. Things might have been different if an all-of-government response structure had been developed and practised in advance. To ensure the all-of-government approach works effectively, there should be processes in place to quickly secure adequate staffing and rotate staff to prevent burnout. Processes for developing advice under urgency, while still taking account of critical considerations such as human rights issues, are also needed. Strengthening decision-making will be particularly important in relation to public health measures, like lockdowns and vaccine mandates, which involve careful weighing of competing considerations.

Group 2 recommendations at a glance

Ensure an all-of-government pandemic plan, response structure and supporting processes are developed and ready for a pandemic response.

- Develop and regularly practise an all-of-government response plan for a pandemic, covering the national-level response and integrating sector-specific plans.
- Ensure an all-of-government response structure is ready to be activated if needed in a pandemic, supported by adequate staffing and the provision of comprehensive advice under urgency.

Group 3: Strengthen the public health measures that may be required in a pandemic | Rōpū 3: Te whakakaha i ngā whakaritenga hauora tūmatanui ka hiahiatia pea i tētahi mate urutā

The Influenza Pandemic Plan that Aotearoa New Zealand had before COVID-19 had some useful elements but was inadequate for COVID-19. A more comprehensive pandemic plan is needed for the health system that sets out how public health measures can be used to respond to a range of pandemic scenarios. The Ministry of Health has developed a health system pandemic plan since the COVID-19 pandemic, and we make recommendations for how this should be refined. These refinements include plans for health communication, which is critical in any pandemic.

There is a core set of public health measures that need to be part of the available toolkit given the range of potential pandemic scenarios. Along with the health sector pandemic plan, specific plans should be made for how this set of public health measures can be rapidly implemented and scaled-up as required. These include quarantine and isolation, national or regional lockdowns, testing, contact tracing, border restrictions and vaccination.

Lockdowns are measures of last resort, and our view is that with better preparation of other core tools, the likelihood that they will be needed again can be reduced. However, they should stay as part of the toolkit, as a scenario involving a virus that is even more infectious or deadly than the COVID-19 virus is possible; even with good preparation and a good policy response we may still need to reach for lockdowns. Government-issued occupational vaccination requirements should similarly stay in the toolbox, though the bar for their use should be very high. Employer-set vaccination policies for staff under occupational safety and health legislation should only be used with caution, with good information available to employers and employees on the likely benefits and harms. Vaccination certificates or passes – for example, for incoming travellers – cannot be ruled out either, but should only be used when the marginal benefits relative to other policy responses such as mask wearing outweigh the potential harms.

Our groups of recommendations work together. Good decision-making about when to use lockdowns and vaccination requirements will be strengthened by recommendations in Group 2. The recommendations in Group 3 and Group 4 then strengthen our ability to use such tools in a way that minimises their negative consequences, when it is decided they are needed.

Group 3 recommendations at a glance

Strengthen the public health measures that may be required in a pandemic.

- The Ministry of Health should refine the health system pandemic plan and link it with the all-of-government pandemic plan.
- Plans in place for scaling-up and implementing significant public health measures in a pandemic.

Group 4: Ensure all sectors are prepared for a pandemic and are ready to respond | Rōpū 4: Te whakarite kei te takatū ngā rāngai katoa mō tētahi mate urutā, ā, e rite ana ki te urupare

The COVID-19 pandemic and associated response measures impacted all sectors and parts of society over a prolonged period, to a degree that had not been anticipated. Wide ranging impacts are inevitable in a future pandemic too, given the interconnectedness of our economic, social, health and government systems, and the range of possible responses that might be needed. This group of recommendations is aimed at lessening the breadth, severity and duration of those impacts to the greatest extent possible next time.

Aotearoa New Zealand has learned that being prepared for a pandemic is not just a matter for the emergency management system, or for the health system, the responsibility falls on all sectors to be ready to respond and remain resilient, for however long the response is needed. We therefore recommend that each sector has its own pandemic plan which aligns with the overall all-of-government pandemic plan.

Agencies must invest in and maintain working relationships and partnerships with a broad range of stakeholders in their sectors. They should seek to develop a shared understanding of the likely impacts of another pandemic and what preparations are required. Regional and international relationships that will be beneficial next time (for example, by ensuring access to vaccines and essential products like personal protective equipment (PPE)) should also be fostered.

We also include specific recommendations for the health, economic, social, education and justice sectors. For each, we set out how these sectors can prepare and build the resilience needed to keep necessary goods and services going as efficiently as possible in a pandemic and beyond.

In the health system, we recommend taking steps to strengthen its resilience and readiness to deal with the multiple demands of a national pandemic: it needs access to a greater capacity to treat a possible surge in pandemic-related illness without compromising non-pandemic health and disability services. We also recommend that health and other agencies investigate ways to improve ventilation and airflow in buildings which we now know play a significant role in limiting the transmission of respiratory viruses.

In other sectors, we make recommendations aimed at ensuring they can play their role in responding to a pandemic. These include minimising disruption to supply chains, making sure that households have sufficient income and food security, and ensuring access to services like courts and education is maintained as much as possible.

Group 4 recommendations at a glance

Ensure all sectors are prepared for a pandemic and are ready to respond.

- Ensure each sector has a pandemic plan and consider what they would need to do to support activity within their sector to keep going safely in a pandemic.
- Ensure the health, economic, social, education and justice sectors are prepared to keep necessary goods and services going as much as possible in a pandemic, without compromising the long-term capability to continue delivering these services in the future.

Group 5: Ensure enablers are in place | Rōpū 5: Te whakarite kua rite ngā kaihāpai

This group of recommendations focuses on the enablers that must be in place to underpin any future pandemic response. Government agencies and appropriate iwi and Māori organisations should review successful examples of Crown-Māori partnerships in the COVID-19 response – some of which are documented throughout this report – and make any changes that will embed te Tiriti relationships, frameworks and partnerships in a future pandemic response.

It is also essential that fit-for-purpose legislation is in place, and that all agencies have the core infrastructure they need to carry out their role in any pandemic response.

Group 5 recommendations at a glance

Ensure enablers are in place.

- Improve the way public sector agencies work with iwi and Māori during a pandemic to support the Crown in its relationship with Māori under te Tiriti.
- Review legislation to ensure it is fit for purpose for a future pandemic.
- Ensure core infrastructure is fit for purpose to support each sector's pandemic response.

Group 6: Implement these recommendations | Rōpū 6: Whakatinanahia ēnei tūtohutanga

Almost two years have passed since the COVID-19 pandemic response formally ended, and the risk of a future pandemic remains high. While this Inquiry will not be complete until the Phase Two report is presented in early 2026, the lessons and recommendations in this Phase One report have been drafted with an eye to their immediate applicability and implementation.

We therefore recommend that a minister should be appointed to lead the response to, and implementation of, the Phase One recommendations. Responsible agencies should report to this minister every six months on their progress towards implementing the recommendations, and a report summarising all agencies' progress should be tabled in Parliament within 12 months of the Phase One report being released.

Group 6 recommendations at a glance

Implement these recommendations

- Consider and implement Phase One recommendations as soon as practicable.

11.4 Complete table of recommendations | Te tūtohi me ngā tūtohutanga katoa

This section has a complete list of the Inquiry's recommendations.

To avoid repetition in the recommendations themselves, we note that:

- Unless otherwise stated, all recommendations are directed at central government and public sector agencies.
- While our recommendations focus on pandemic preparedness, they should also be read as applying to other national risks and emergencies as appropriate.
- In developing the plans and advice set out in the recommendations, we expect that agencies will work in collaboration (including with population agencies where relevant), carry out appropriate consultation and engagement (including with iwi and Māori, community groups, businesses, local and regional government, and internationally) and consider how their plans give effect to te Tiriti.
- Pandemic response planning should be informed by scenario planning and modelling.

Group 1: Strengthen all-of-government coordination and accountability for pandemic preparedness

A central agency function should be established to coordinate all-of-government preparation and response planning for pandemics and other national risks, supported by strengthened scenario planning, modelling capability, and external expertise.

Recommendations	Responsible agency / agencies
1 Establish a central agency function to coordinate all-of-government preparedness to respond to pandemics (and other national risks). The function should: a. Develop, monitor and produce reports on the National Risk Register (see also Recommendation 5a). b. Support the Chief Executives Group (see also Recommendation 4) to oversee a cross-agency work programme to prepare for and respond to pandemics. c. Coordinate the development of a range of pandemic scenarios to guide preparedness and response planning (see also Recommendation 2). d. Develop an all-of-government response plan (see also Recommendation 7) and lead associated preparatory work. e. Coordinate national pandemic response exercises at least once every three years and report on those exercises to the Chief Executives Group and ministers.	Central government[v]
2 Ensure the central agency function has access to appropriate scenario planning and modelling capability to support pandemic preparedness and response. That capability should: a. Be drawn from public sector agencies, non-government institutions and the international community. b. Include health, economic and social modelling to allow for the interaction of these components. c. Determine the data and monitoring systems that are needed over the longer term. d. Be able to be surged during a pandemic response.	Central government
3 Establish a pandemic expert advisory group, including expertise from both the public and non-government sectors, to support pandemic preparedness and provide strategic advice during a pandemic response.	The central agency function, in consultation with the Ministry of Health and other relevant agencies

v We have used the term central government as the decisions and actions associated with the recommendation will require ministerial or Cabinet decisions and are not something that sit solely with officials to implement.

Oversight and accountability for pandemic preparedness should be strengthened, and made more publicly transparent, with preparedness being sustainably funded.

Recommendations	Responsible agency / agencies
4 To strengthen oversight and accountability for public sector agencies' preparedness for pandemics (and other national risks): a. Establish a Chief Executives Group to have strategic oversight of national preparedness for pandemics (and other national risks) and associated cross-agency work, including the development and delivery of a work programme to address gaps in preparedness. b. Create an oversight mechanism such as a Cabinet Committee or Ministerial Group chaired by a senior minister to proactively review national preparedness for pandemics (and other national risks) and oversee a work programme to address gaps in preparedness. c. Require the Chief Executives Group to regularly update the Cabinet Committee or Ministerial Group on the extent of preparedness. d. Invite Parliament to establish a mechanism to proactively review national preparedness for pandemics and other national risks, on a regular basis. e. Set expectations for pandemic preparedness via public service chief executive performance agreements, and via Ministerial direction to Crown entities, including a requirement to work collectively on preparedness. f. Invite the Office of the Auditor-General to establish a review and a public reporting programme on the public sector's readiness to respond to pandemics (and potentially other national risks), that includes how they would deliver business-as-usual activity during a pandemic of extended duration.	• Central government • Te Kawa Mataaho/ Public Service Commission for part of Recommendation 4e
5 To ensure public transparency: a. Publish the National Risk Register and report on actions being taken to address risks, every three years. b. Require public sector agencies to include an assessment of pandemic preparedness in their annual reports.	Central government
6 Provide advice on options for sustainably funding the necessary preparation activities and associated systems improvements, as outlined in the recommendations in this report.	The Treasury

Group 2: Ensure an all-of-government pandemic plan, response structure and supporting processes are developed and ready for a pandemic response

An all-of-government response plan for a pandemic, covering the national-level response and integrating sector-specific plans, should be developed and regularly practised.

Recommendations	Responsible agency / agencies
7 Develop an all-of-government pandemic response plan that includes: a. A statement of the overarching objective of a pandemic response (to be adapted as appropriate depending on the nature of the pandemic). b. Roles and responsibilities for delivering an all-of-government pandemic response. c. Criteria, thresholds and processes for when an all-of-government response will be triggered, instead of a health-led response. d. Key considerations to guide the initial and urgent response, including whether/when to introduce stringent measures that may be required urgently. e. Guidance on how to develop and ensure there are pathways and transitions through all stages of the response through to exit. f. Mechanisms for communication with different communities (including Māori, Pacific and other ethnic communities, disabled people and other groups with specific communication needs). g. Mechanisms for monitoring the social, economic and cultural impacts of a pandemic response, and feeding this back into advice on policy responses. h. A statement of how the pandemic response plan will support the Crown to meet its te Tiriti o Waitangi obligations. i. An explanation of how individual sector plans will work together to ensure a comprehensive response.	The central agency function
8 Update the all-of-government pandemic plan following each national pandemic response exercise (see also Recommendation 1e).	The central agency function with input from other agencies as required

An all-of-government response structure should be ready to be activated if needed in a pandemic, supported by adequate staffing and the provision of comprehensive advice under urgency.

Recommendations	Responsible agency / agencies
9 Develop an all-of-government response structure that can be quickly stood up in a pandemic where the lead agency does not have the capacity and capability to coordinate the response. Its functions and capabilities when activated should include: a. Leading the all-of-government response. b. Coordinating the development of new legislation. c. Coordinating the provision of expert advice. d. Information systems and processes to support the development of advice to decision-makers (see also Recommendation 11). e. Public communication and engagement during the response. f. Processes to rapidly review and strengthen key response arrangements to ensure they remain fit for purpose and can be adjusted to changing circumstances, including operational issues. g. A separate strategy function that has the capacity to lead high-level planning for different phases of the response, including planning for transition and exit.	The central agency function
10 Develop a plan to enable the movement of public sector capability and capacity during a pandemic response, including bringing in specific expertise where needed and ensuring that staff can be rotated to reduce the risk of burnout.	Te Kawa Mataaho/ Public Service Commission

11 Prepare guidance and templates for producing advice under urgency that takes account of: a. The overarching strategic purpose of the response and the ethics frameworks that will be used to balance different rights, values and impacts in decisions. b. The impacts on the wider health system and non-health sectors. c. The cumulative impacts of decisions to limit the New Zealand Bill of Rights Act 1990 rights and other human rights over time, and how those impacts are assessed. d. How long-term implications are considered. e. The Crown's obligations under te Tiriti o Waitangi. f. The use of tools such as multi-criteria analysis, value for money, and cost benefit analysis to weigh up the relative costs and benefits of choices in a consistent manner.	The central agency function
12 Establish processes and accountability mechanisms to protect democratic and human rights during a pandemic response, including: a. Enabling cross-party consultation and input, as well as mechanisms that ensure parliamentary scrutiny during a pandemic. b. Balancing quick decision-making with transparency, accountability, and maintaining trust and social licence. c. Inviting entities with oversight and accountability responsibilities[vi] to develop, after consultation with relevant public sector agencies, processes that will enable them to exercise their functions during a pandemic of extended duration.	• Central government for Recommendations 12a and 12c • The central agency function on Recommendation 12b

vi Including the Offices of Parliament (the Office of the Auditor-General, the Office of the Ombudsman and the Parliamentary Commissioner for the Environment), the Electoral Commission, and entities identified as designated National Preventative Mechanisms under the Optional Protocol to the UN Convention Against Torture (listed on www.justice.govt.nz as the Human Rights Commissioner (oversight responsibilities for the National Preventative Mechanisms), Independent Police Conduct Authority, Mana Mokopuna|Children and Young People's Commission, Inspector of Service Penal Establishments and Office of the Ombudsman).

Group 3: Strengthen the public health measures that may be required in a pandemic

The Ministry of Health should refine the health system pandemic plan and link it with the all-of-government pandemic plan.

Recommendations	Responsible agency / agencies
13 Refine the current health system pandemic plan so that it: a. Complements the all-of-government plan (see also Recommendation 7) and other public sector agencies' planning, and helps identify some of the requirements for both. b. Sets out a range of public health strategies (such as elimination, suppression, mitigation), objectives and associated public health and social measures that can be used in responding to a pandemic and provides guidance on how they might be deployed. c. For the initial response, identifies key public health considerations to guide advice on whether or when to introduce border restrictions and other strict measures aimed at excluding or eliminating the infectious agent. d. Identifies indicators of capacity and mechanisms for surging capacity when needed (in areas such as testing and quarantine). e. Provides for pandemic preparedness and resilience in the wider health system, including plans for maintaining access to non-pandemic healthcare (see also Recommendation 22). f. Includes plans for health communications in a pandemic response – including communication with the government, other government agencies, across the health system (such as healthcare providers) and with healthcare users. These plans should consider mechanisms for communicating effectively with different communities (including Māori, Pacific and other ethnic communities, people with disabilities, and other groups with specific communication needs), as well as business groups and not-for-profit bodies. g. Indicates how the health system will support the Crown to meet its te Tiriti obligations in a pandemic response, consistent with the existing frameworks and policies of health agencies, services and providers.	Ministry of Health

Plans should be in place for scaling-up and implementing significant public health measures in a pandemic.

Recommendations	Responsible agency / agencies
14 Develop a comprehensive plan for quarantine and isolation measures, that includes: a. Identifying a range of quarantine and isolation options, including a cost-effective and scalable mix of purpose-built, hotel contracts and other facilities, the associated investment required, and how different approaches could work together as an integrated system. b. Options for the allocation of quarantine and isolation capacity in case of limited supply that take account of need and legal rights, and provide for user-friendly and compassionate processes. c. How current and new technology, such as location monitoring of people in home isolation and quarantine, could be used, including as a complement to facility-based quarantine. d. Information-sharing protocols. e. Alignment and integration with the financial support measures to meet welfare and business support needs (see also Recommendation 30).	Ministry of Health together with Health New Zealand | Te Whatu Ora
15 Ensure the health system can rapidly scale-up key public health functions in line with the health system pandemic plan. This includes preparedness to deliver contact tracing, testing, vaccination and guidance on infection prevention and control measures.	Ministry of Health, together with Health New Zealand | Te Whatu Ora
16 Ensure the health system has the information and data capability to deliver a pandemic response by prioritising work to implement the recommendations of the Health and Disability System Review (March 2020) calling for connected and shared health systems, data and information.[vii]	Ministry of Health, together with Health New Zealand | Te Whatu Ora

vii See pp 227-228, https://www.health.govt.nz/publications/health-and-disability-system-review-final-report

17 Develop a comprehensive plan for the use of international border restrictions which includes consideration of how to manage the impacts on people affected by border restrictions, including: a. Any necessary changes to immigration settings to support foreign nationals in New Zealand. b. Provision of timely social, welfare and financial support to foreign nationals in New Zealand and New Zealand citizens offshore. c. Provision of relevant social, financial and health support to the New Zealand Government's offshore workforce in a future pandemic.	Border Executive Board and Ministry of Social Development
18 Develop a comprehensive plan for the use of national and regional lockdowns which includes consideration of: a. The thresholds and circumstances that might justify their use. b. How the impacts on people can be managed, including the work done under Recommendations 30 and 32. c. A process for establishing and managing regional boundaries, if required.	Ministry of Health, together with other relevant agencies
19 Identify the circumstances in which vaccination requirements (such as occupational requirements, mandates, vaccine certificates or passes) might be recommended as part of a package of public health measures, and key considerations for how the negative impacts of the requirements might be mitigated.	Ministry of Health

Group 4: Ensure all sectors are prepared for a pandemic and ready to respond

Each sector should have a pandemic plan and consider what they would need to do to support activity within their sector to keep going safely in a pandemic.

Recommendations	Responsible agency / agencies
20 Develop and maintain sector pandemic plans that: a. Complement other sector plans and the all-of-government pandemic response plan (see also Recommendation 7). b. Incorporate input from sector stakeholders on gaps or vulnerabilities that need to be addressed ahead of a future response. c. Identify sector-specific key considerations that need to be taken into account when making decisions on the initial response. d. Set out the strategies and options that can be used over the short and longer term, including how they might be deployed. e. Identify roles and responsibilities within each sector for responding to a pandemic. f. Provide mechanisms for surging capacity when needed. g. Identify the workforce needed to support a pandemic response, within a specific sector. h. Include mechanisms to allow sector stakeholders' connections, intelligence and ideas to feed into any response. i. Enable communication with different communities during a pandemic response (including Māori, Pacific and other ethnic communities, disabled people, and other groups with specific communication needs), as well as with business groups and not-for-profit bodies. j. Indicate how they will support the Crown to meet its te Tiriti obligations in a pandemic response.	All public sector agencies

21 Alongside the development of their pandemic plans, each sector should consider what activities within their sector might be able to be kept going in a safe way even when public health restrictions are in place, and how such safe activities could be enabled. They should also consider: a. What activities might in limited circumstances need to be designated 'essential' during a pandemic response, and what would need to be in place to enable these activities to continue. b. How the right balance might be struck between prescriptive rules and flexibility for devolved decision-making for the agencies, businesses and other bodies within their sector, and what guidance and safeguards would be needed to support this.	All sectors

The health, economic, social, education and justice sectors should be prepared to keep essential services going as much as possible in a pandemic, but without compromising the long-term capability to continue delivering these services in the future.

Health

Recommendations	Responsible agency / agencies
22 Plan and ensure system resilience and readiness for continuity of health and disability services during a pandemic, including through: a. Guidance on how to prioritise non-pandemic health services in a pandemic and mechanisms to regularly review prioritisation decisions during a pandemic. b. Mechanisms for monitoring and reporting on health system performance and capacity to inform decisions during a pandemic. c. Planning for, and investment in, workforce capability and resilience for a pandemic. d. Building health system resilience into operational policy, commissioning frameworks, service contracting, monitoring and reporting. e. Planning for how providers can be supported to adapt their service delivery models in a pandemic to minimise disruption to the ongoing provision of healthcare. f. Identifying possible supply chain issues for key pandemic-related products (such as reagents, ventilators, medical products, personal protective equipment) and medicines or medical products, that might arise during a pandemic and prepare a plan that addresses sources of supply, procurement mechanisms, management protocols and contingency measures. g. Planning for how to secure adequate physical capacity to meet healthcare needs in a pandemic (such as through the allocation of public hospital capacity, the use of ad hoc and private facilities, management protocols, and other contingency measures).	• Ministry of Health, together with Health New Zealand | Te Whatu Ora, Ministry of Social Development as required • Ministry of Health, Health New Zealand | Te Whatu Ora, Pharmac and Ministry of Business, Innovation and Employment on Recommendation 22f

23 Determine the costs and benefits (and associated funding priorities) of improving ventilation in all or parts of hospitals and other healthcare facilities, alongside other interventions designed to manage infection risk in those facilities.	Ministry of Health, Health New Zealand | Te Whatu Ora and Ministry of Business, Innovation and Employment
24 Review and develop options for improving ventilation and filtration in buildings generally accessed by the public, other than healthcare facilities. This work should consider: a. The relative priority and costs and benefits for improving ventilation in different building types (or parts of buildings) – for example, schools, prisons, aged care facilities. b. The costs and benefits of improving ventilation across existing buildings, compared to new buildings. c. The incremental costs and benefits of improving ventilation over and above alternative interventions that may be cheaper and easier (such as masking). d. The use of standards, guidance and voluntary codes. e. The benefits that accrue outside pandemics (such as reduced respiratory disease transmission, and improved workforce productivity and student performance) because of improved air quality. f. Reviewing and improving building standards and codes, given the above considerations.	Ministry of Business, Innovation and Employment

Economic

Recommendations	Responsible agency / agencies
25 Determine appropriate governance arrangements and responsibilities for a coordinated economic response to a pandemic, in both short- and long-term scenarios, by: a. Clarifying relevant principles and the respective roles and responsibilities of economic agencies to ensure the coordinated delivery of an economic and fiscal response. b. Ensuring a forward-looking view during a pandemic on likely evolving scenarios and exit strategies. c. Developing a shared Treasury and Reserve Bank of New Zealand playbook aimed at obtaining a common understanding on how the appropriate level, sequencing and composition of monetary and fiscal support might play out in a pandemic, and the arrangements needed to ensure appropriate monetary and fiscal policy collaboration in an emergency. d. Ensuring that principles of sustained good fiscal, and sound monetary and financial system management are not compromised when implementing Recommendation 25c. e. Ensuring the ongoing supply of essential financial services. f. Providing, and publishing, advice on prudently rebuilding fiscal buffers to ensure that there is fiscal headroom for responding to future emergencies. g. Establishing mechanisms that can fast-track effectiveness, 'reach', and value-for-money assessments to ensure high quality and targeted public expenditure.	• All economic sector agencies on Recommendations 25a and 25b and 25g • The Treasury and Reserve Bank on Recommendations 25c and 25d • Reserve Bank, Financial Markets Authority and the Treasury on Recommendation 25e • The Treasury on Recommendation 25f and oversight of 25g

26 Develop a labour market plan for responding to a pandemic that: a. Identifies possible labour market gaps and vulnerabilities that might arise during a pandemic, and which skill and labour shortages are likely to need prioritising to maintain necessary goods and services. b. Explores how these gaps and vulnerabilities might be addressed, including through training settings; identifies the key skills that might need to be sourced from overseas; and proposes how these skills can be obtained. c. Identifies how quarantine and isolation management and allocation systems can assist in meeting urgent labour market needs.	• Ministry of Business, Innovation and Employment • Ministry of Business, Innovation and Employment and Ministry of Health on Recommendation 26c
27 To ensure ongoing operation of supply chains: a. Continue to work with international partners to develop ways of minimising future supply chain disruptions during a pandemic, including through the Indo-Pacific Economic Framework work on supply chains. b. Build on existing work programmes to improve the government's knowledge of domestic and international supply chains (including through improved government data collection and use of international and domestic supply chain information) and the inputs Aotearoa New Zealand manufacturers and producers rely on and how these could be affected in a pandemic. c. Improve and maintain relationships and information-sharing between government agencies, shippers and supply chain operatives, with the aim of increasing resilience and enabling better preparation against supply chain threats. d. Establish a programme to improve private sector knowledge of supply chain trends and practices, and how to mitigate performance problems to improve commercial resilience to a pandemic.	Ministry of Business, Innovation and Employment with Ministry of Transport and other relevant agencies

28 Assess what steps are needed prior to and during a pandemic to maintain port performance, and assess trends in international trade, aviation and shipping leading to a plan to mitigate the risk of transport shortages or bottlenecks.	Ministry of Transport
29 Ensure the ongoing functioning of lifeline utilities, and continued provision of necessary goods and services during a pandemic, by: a. Working with providers to assess and understand the risks that both short-lived and protracted pandemics pose for the lifeline utilities they are responsible for. b. Considering what measures the government should take to ensure the continued provision of necessary goods and services.	Ministry of Business, Innovation and Employment
30 Develop a comprehensive plan for financial assistance schemes during a pandemic to support people and businesses and maintain employment. It should include: a. Options that are proportionate, suitably targeted, and take account of the needs of different people (with particular regard to those groups that are already most vulnerable). b. Clear agency responsibilities. c. Where pre-existing economic and social supports may be inadequate in a pandemic, and options to address gaps. d. How measures would be monitored, reviewed and assessed for quality and effectiveness of spend, and could be adapted over different phases of a pandemic. e. Indicative exit strategies. f. Compliance systems to ensure the effectiveness of support measures.	The Treasury, Inland Revenue, Ministry of Social Development, Ministry of Business, Innovation and Employment and other agencies if required

Social sector

Recommendations	Responsible agency / agencies
31 Determine appropriate governance arrangements and allocation of responsibilities for a coordinated welfare response in both short- and long-term pandemic scenarios, including: a. Identifying agencies that need to be involved and the leadership and governance mechanisms to enable a collective response that is ready to be activated urgently at the start of a pandemic. b. Strengthening regional structures to ensure improved coordination among agencies and between agencies and local delivery organisations. c. Building internal capability to partner effectively with community agencies and iwi.	Ministry of Social Development with other relevant agencies
32 In any future pandemic, ensure policy response options and funding mechanisms are in place to: a. Address the housing, income, food security and safety needs of people and households to enable them to manage through a pandemic. b. Target the needs of people who are hardest hit during emergencies. c. Address additional mental health issues that arise during and after a pandemic.	Ministry of Social Development, Ministry of Housing and Urban Development and the Ministry of Health with other relevant agencies after engagement with emergency services and other providers
33 Plan and coordinate cross-sector approaches to commissioning delivery of community services in a pandemic so that: a. Mechanisms are in place to allocate and distribute funding quickly and efficiently in a future pandemic or emergency to ensure providers have the resources to respond to immediate community needs. b. Any gaps in coverage are identified and addressed (including by developing new capability and relationships in underserved communities). c. Flexibility in delivery approaches is supported, balanced with appropriate accountability arrangements. d. There are clear processes and communications for winding down resources so this is signalled to service providers and community organisations receiving funding.	Ministry of Social Development with relevant social sector agencies

Justice

Recommendations	Responsible agency / agencies
34 Develop a sector pandemic plan that balances the need to maintain a functioning prison system with the wellbeing and human rights of the prison population, including: a. Identifying and anticipating the range of options, tools, and settings that could be applied in a pandemic, and ensuring that operational implementation is consistent with human rights and te Tiriti compliance across all sites. b. Having plans to maintain staffing during a pandemic, to mitigate as much as possible restrictions such as reduced outdoor and physical activity time. c. Providing mitigations to lessen the impact of necessary restrictions, support technology and transportation options, ensure transparency and enable the role of oversight bodies.	Department of Corrections	Ara Poutama Aotearoa working with other relevant justice sector agencies

Education

Recommendations	Responsible agency / agencies
35 To ensure access to education can be maintained during a pandemic: a. Continue to coordinate planning work within the schooling sector (including peak bodies) which will allow schools and places of education to remain open as much as possible in a pandemic – by, for example, pivoting to remote learning, flexibility of the curriculum, teacher capability for teaching in online and hybrid learning environments, and planning for student access to digital devices and connectivity. b. Plan support for the early childhood sector which can be urgently activated, so that early childhood education can continue as much as possible in a pandemic of extended duration. c. Plan support that can be urgently activated for the international education sector, including consideration of financial implications and pastoral care for international students.	Education agencies

Group 5: Ensure enablers are in place

Public sector agencies need to improve the way that they work with iwi and Māori to support the Crown in its relationship with Māori under te Tiriti.

Recommendations	Responsible agency / agencies
36 Review how public sector agencies supported the Crown in its relationship with Māori under te Tiriti in the COVID-19 pandemic. This should include: a. Identifying good experiences and practices in the use of existing te Tiriti frameworks and partnerships in the COVID-19 response and considering how these can be supported to continue. b. Identifying and changing any structures, behaviours and practices that prevented existing te Tiriti relationships, frameworks and partnerships from being used in the COVID-19 response or might prevent them being used in another pandemic. c. Using the results of reviews to establish better relationships, protocols and partnerships with iwi and Māori to work towards outcomes for Māori that are equitable, culturally appropriate and consistent with te Tiriti.	Public sector agencies, in conjunction with Te Puni Kōkiri and Te Arawhiti, and in partnership with appropriate Māori organisations

Legislation should be reviewed to ensure it is fit for purpose for a future pandemic.

Recommendations	Responsible agency / agencies
37 Ensure all relevant legislation is fit for purpose in a pandemic, including: a. Ensuring the Health Act 1956 and other relevant health legislation provide sufficient powers for an initial response to a pandemic, including updating the definitions to include the provision for a quickly emerging and unidentified pathogen, modernising language, ensuring the appropriateness of powers for the enforcement and making of orders, and ensuring the legal framework for large-scale, centralised contact tracing is appropriate. b. Reviewing the Epidemic Preparedness Act 2006, including the threshold for modification orders. c. Developing 'model' bespoke pandemic legislation that considers the strengthening of standing legislation (as per Recommendations 37a and 37b) and the provisions provided by the COVID-19 Public Health Response Act 2020 framework, as well as feedback from relevant consultation with stakeholders. This should include consideration of what should be in primary and secondary legislation, and whether the model legislation should be left dormant or enacted as soon as possible. d. Any legislative changes arising from policy reviews by individual agencies which identify changes in legislation needed to effectively respond to a future pandemic and/or ensure they can continue to provide services. e. Reviewing Aotearoa New Zealand's fiscal responsibility policies and legislation (within the Public Finance Act 1989) to identify whether further measures are required to protect our fiscal resilience and ability to respond as the need arises to future pandemics (as well as other potential crises with a significant fiscal impact).	• The central agency function and Ministry of Health with other relevant agencies • The Treasury on Recommendation 37e

Core infrastructure should be fit for purpose to support each sector's pandemic response.

Recommendations	Responsible agency / agencies
38 Provide for the management and review of the infrastructure needed to support each sector's response to, and specific role in a pandemic, such as information communication technology, data systems, payment systems, contracting and operational systems, to ensure they are fit for purpose and ready for deployment.	All agencies

Group 6: Implement these recommendations

The Phase One recommendations should be considered and implemented as soon as practicable.

Recommendations	Responsible agency / agencies
39 Ensure timely implementation of the recommendations of Phase One of this Royal Commission of Inquiry, by: a. Assigning a minister to lead the response to, and implementation of, the recommendations arising from Phase One as soon as practicable. b. Requiring progress against the Phase One recommendations to be reported to the responsible minister, at least every six months. This should include an overall view of progress against all recommendations by the central agency function, as well as reporting by individual agencies on applicable recommendations. A summary of these reports should be made publicly available. c. Tabling a report in Parliament on progress against the Phase One recommendations within 12 months of this report being completed.	Central government

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Appendices | Apitihanga and Glossary | Rārangi kupu

PHASE ONE

NOVEMBER 2024

APPENDIX A:

An overview of legislation, emergency plans, systems and structures supporting the COVID-19 response | Āpitihanga A He tirohanga whānui o te ture, ngā mahere ohotata, ngā pūnaha me ngā hanganga tautoko i te urupare ki te KOWHEORI-19

This appendix supports and expands on the material and analysis presented in Chapter 2 on the all-of-government pandemic response.

1.1 The first legislative framework

Acts of Parliament that could be used to manage a pandemic were already in place well before COVID-19: the Health Act 1956, the Civil Defence Emergency Management Act 2002 and the Epidemic Preparedness Act 2006.[i]

While some new legislation and amendments were needed later as the response evolved (see section 1.2), the combination of the following three statutes broadly gave the Government the key initial legislative powers it needed.

1.1.1 Public health legislation

Health Act 1956[1]

The Health Act 1956 sets out the public health functions of the Ministry of Health, its officials and other parts of the health system. Between 1956 and the outbreak of the SARS-Cov-2 virus here in 2020, several amendments were made to the 1956 Act,[ii] including some that were made in conjunction with the enactment of the Epidemic Preparedness Act 2006 (discussed in section 1.1.2).

One of the most significant sets of provisions in the Health Act 1956 is Part 3, in particular section 70, which gives medical officers of health broad powers to manage infectious and notifiable diseases, including:

- Requiring people to 'report themselves' or submit for medical examinations at specified times and places;
- Requiring persons, places, buildings, ships, aircraft, animals and things to be isolated, quarantined or disinfected;
- Forbidding people, ships, vehicles, aircraft, animals, or things to come or be brought to any port or place in a health district from any port or place which is, or is supposed to be, infected with any infectious disease;
- Requiring people to remain in a health district or the place in which they are isolating or quarantining until they have been medically examined and found to be free from infectious disease, or have undergone preventive treatment that may have been prescribed;
- Closing any premises within a health district; and
- Forbidding the congregation of people at various outdoor places of amusement or recreation.

Part 6 section 117 (1) provides for the introduction of public health regulations to manage people who have (or are thought to have) an infectious disease; for the vaccination of people to prevent quarantinable diseases; the contacts of infected people to be identified; and for a range of other purposes important in a pandemic.

i All three Acts are still in effect at the time of writing, although some provisions were repealed or amended during and after the pandemic.

ii It is beyond the scope of this report, and unnecessary, to traverse the various amendments made during this period except to record that some significant amendments were made in this period including in 1988 and 1993.

These special powers of section 70 of the Health Act 1956 were activated in early March 2020 when COVID-19 was formally recognised as a quarantinable disease giving rise to an epidemic.[iii] The Prime Minister issued an Epidemic Preparedness (COVID-19) Notice 2020 on 25 March 2020, which was repeatedly renewed and remained in force until October 2022. It enabled medical officers of health to use section 70 and 71[iv] powers throughout this period and authorised the New Zealand Police to enforce those powers to control the virus's spread.[2]

Part 4 of the Health Act 1956 also provides extensive statutory powers in relation to subjecting ships and aircraft (and people on board) to quarantine and inspection requirements.

Section 70 was amended in 2006 as part of the wider package of legislation reform in response to concerns of a pandemic. This package also included what became the Epidemic Preparedness Act 2006. The Minister of Health's first reading speech noted:

> "The primary amendments in the bill are to the Health Act. The amendments clarify, modernise, and, where necessary, close gaps in the law relating to public health emergencies and quarantine powers. The current provisions are old and were made in the days when ship travel was the most common way in which people arrived in New Zealand. The amendments will ensure that the Act is more responsive to current epidemic and pandemic influenza scenarios."[3]

The Health (Protection) Amendment Act 2016

The Health (Protection) Amendment Act 2016 originated from a Bill first introduced in 2014. A key concern at the time was the emergence of infectious diseases that were not sufficiently catered for in the Health Act 1956. The amendments increased the range of infectious diseases that would be notifiable, improved management of individuals with infectious diseases that put other people at risk, and strengthened contact-tracing provisions. As the then-Minister of Health, Dr Jonathan Coleman, said in the first reading debate: '[The Health Act 1956] is a very longstanding piece of legislation, but, although excellent in many respects, in some areas it has not kept up with the times'.[4]

iii Some initial measures – such as quarantine of incoming travellers – were initially activated via ministerial authorisation. The first was used to legally require passengers who had been onboard a flight from Wuhan on 5 February to quarantine for 14 days on arrival in Auckland. Subsequent orders were made under an epidemic notice. On 30 January 2020 an Order in Council was made to add 'Novel coronavirus capable of causing severe respiratory illness' but it was in March 2020 that an Order was added specifically for COVID-19.

iv Under section 71 of the Health Act 1956, a medical officer of health has powers to requisition premises, land or vehicles, including for the purpose of disposing of bodies, which can only be exercised for managing an outbreak.

The main amendment to the Health Act 1956 was the enactment of a new Part 3A which concerned the management of infectious diseases (with a focus on improving the measures to manage and protect the public from sexually transmitted diseases). The amendment also established a clear legal basis for the principles applying to medical officers of health and the courts in exercising their disease management powers, as well as providing for:

- Overarching human rights principles to be taken into account by decision-makers.
- Directions that could be given to individuals who pose a public health risk (and others).
- Directions to undergo medical examinations.
- Directions to close educational institutions.
- Offences for failing to comply with directions.
- Authority to make public health and medical examination orders, including orders relating to contacts of infected persons, as well as procedural provisions for court hearings and appeals; and
- Provisions authorising contact tracing and imposing duties on people involved in that process.

The amendments sought to recognise and balance the tension between disease surveillance and prevention on the one hand and human rights on the other. However, the focus of the amendments was the control of infected or potentially infected *individuals* and their contacts, particularly for sexually transmitted diseases.[v] While efforts were made to anticipate governance requirements of the kind that might arise in a future public health emergency, the need to provide for broadscale governance measures was not the focus at the time.

1.1.2 Civil defence legislation

Overlapping with the development of public health legislation was the incremental development of civil defence legislation in Aotearoa New Zealand.[vi] The Civil Defence Act 1962 and Civil Defence Act 1983 provided public protection in civil emergencies – definitions were sufficiently broad to include epidemics and pandemics, but they did not purport to address exigencies of that kind[vii] and sections 70 and 71 of the Health Act 1956 were not affected.

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v The Middle East respiratory syndrome (MERS) epidemic is not mentioned in the Parliamentary debates, despite a Ministry warning about MERS being issued in 2015, while the Bill was still before Parliament. However the Ebola virus outbreak in West Africa, an issue in the media at the time, was mentioned in a number of first reading speeches in November 2014.

vi For a more in-depth discussion of the history of civil defence in New Zealand see: https://www.civildefence.govt.nz/assets/Uploads/documents/publications/reports/Short-History-of-Civil-Defence.pdf. Evident from this historical analysis is that civil defence was not originally conceived as a form of protection in relation to public health, in general, or epidemics/pandemics in particular.

vii There is, of course, an inevitable overlap between emergencies that engage civil defence arrangements and those that engage public health arrangements. Both can involve large numbers of people requiring medical and/or hospital treatment. The overlap can be observed in various amendments made to s 71 of the Health Act 1956 over the years: the power to requisition property for medical and hospital purposes might arise from civil defence emergencies or from medical emergencies or both.

This changed, however, with the enactment of the Civil Defence Emergency Management Act 2002 (CDEM Act) which replaced the older civil defence legislation. In the CDEM Act, an 'emergency' was broadly defined to include those emergencies arising from 'infestation, plague or epidemic', thus falling within the scope of both the civil defence legislation and the public health legislation. The link between civil defence and public health legislation was strengthened with the CDEM Act amending the Health Act 1956 to allow the powers under section 70 to be activated by a declaration of a state of emergency under the CDEM Act.[viii]

Civil Defence Emergency Management Act 2002[5]

This Act sets out a hazard risk framework encompassing all '4 Rs' – reduction, readiness, response and recovery[ix] – to enable emergencies to be managed at the local, regional and national level (using a devolved accountability approach).

The Act encompasses emergencies caused by hazards such as earthquakes, weather events as well as epidemics, chemical leakages, technological failures and more. For this reason, the Act is said to take an 'all hazards' approach to emergency management and the recovery from local, regional and national emergencies.

The Act authorises the Minister for Emergency Management to declare a state of national emergency in situations where:[6]

- An emergency has occurred or may occur (this could be due to a natural hazard or something else like a technological failure); and
- The emergency is, or is likely to be, 'of such extent, magnitude, or severity' that the civil defence emergency management necessary or desirable is likely to be beyond the resources of the Civil Defence Emergency Management Groups whose areas may be affected.

For a declaration to be made, certain legal tests must be met – such as the definition of emergency which includes that the emergency causes or may cause 'loss of life, injury, illness or distress or in any way endangers the safety of the public or property …' and 'cannot be dealt with by emergency services, or otherwise requires a significant and co-ordinated response under this Act [the Civil Defence Emergency Management Act 2002]'.[7] Parliament must meet whenever a state of national emergency is declared. Declarations can be extended for as long as the test in the Act can be met and is required. Once a state of emergency ends, the minister can then put in place a national transition period to support recovery activities, and this too can be extended if necessary. In some circumstances, powers in the Act can be used to support emergencies, such as a pandemic, as long as they are not in substitution for powers in other enactments (e.g. the Health Act 1956).

viii A similar amendment was made to section 71 of the Health Act 1956.
ix For more on the '4 Rs' approach to emergency management, see the Schedule to the National Civil Defence Emergency Management Plan Order 2015, especially section 2.

The Act sets out the duties and planning obligations of central government agencies, local authorities, the emergency services, and lifeline utility providers. Section 39 of the Act provides for a national civil defence emergency management plan that addresses 'the hazards and risks to be managed at the national level' (we describe the plan more fully in section 2.2).

After the Canterbury earthquakes in 2010/2011, Parliament's Regulations Review Committee had examined what kind of legislative response was best suited to dealing with national emergencies. Its 2016 report found that the Civil Defence Emergency Management Act 2002 was sufficient, supplemented by bespoke legislation that could be developed if necessary: generic national emergency legislation was not needed.[8] In 2023, an Emergency Management Bill was drafted to replace the 2002 Act and introduced to Parliament in June 2024. After the general election, the incoming Government decided not to proceed with it and to introduce a new Bill later.[9]

Epidemic Preparedness Act 2006[10]

This Act was introduced to give the Crown adequate statutory powers to 'properly respond to and manage a major public health emergency, such as the threat or actual outbreak of a highly infectious disease, whether occurring in Aotearoa New Zealand or overseas'.[11] Developed amid growing concerns about an imminent bird flu epidemic, it addressed gaps that had been identified in the Crown's powers under the Health Act 1956.[12] It had become clear that the machinery of government in Aotearoa New Zealand, including a wide range of statutory powers, might need to be modified in an epidemic or pandemic. The purposes of the Epidemic Preparedness Act 2006 were summarised as follows:

The principal purpose of this Act is to ensure that there is adequate statutory power for government agencies: a) to try to prevent the outbreak of epidemics in New Zealand; and b) to respond to epidemics in New Zealand; and c) to respond to certain possible consequences of epidemics (whether occurring in New Zealand or overseas).

This Act also has the following purposes:

a) to ensure that certain activities normally undertaken by people and agencies interacting with government agencies can continue to be undertaken during an epidemic in New Zealand;

b) to enable the relaxation of some statutory requirements that might not be capable of being complied with, or complied with fully, during an epidemic.[13]

The machinery by which the legislative purposes were intended to be effected was found difficult to follow at the time.[x] It is beyond the scope of this report, and unnecessary for present purposes, to deconstruct the Epidemic Preparedness Act in granular detail.[xi]

The Act allows the Government to use special powers in the event of a quarantinable disease outbreak likely to significantly disrupt essential government and business activity. To activate these powers, the Act requires the Prime Minister to first issue an epidemic notice, in the following terms:

> "With the agreement of the Minister of Health, the Prime Minister may, by notice in the Gazette, declare that he or she is satisfied that the effects of an outbreak of a stated quarantinable disease (within the meaning of the Health Act 1956) are likely to disrupt or continue to disrupt essential governmental and business activity in New Zealand (or stated parts of New Zealand) significantly (section 5, Epidemic Preparedness Act)."

The notice is effective for three months and renewable if required. If necessary, it can be supported by an epidemic management notice, enabling provisions in existing laws to be modified if the epidemic makes complying with them impossible or impractical. However, modifications can go no further than what is reasonably necessary in the circumstances. Core constitutional legislation such as the New Zealand Bill of Rights Act 1990 and Electoral Act 1993 cannot be modified. No modification can be made to a person's custody or detention, and under section 12 of the Act, the minister with responsibility for the legislation being modified has to recommend the change to be made.

Section 15 of the Epidemic Preparedness Act authorises the Governor-General to make secondary legislation (Order in Council) to amend an Act of Parliament (an Immediate Modification Order), with some exceptions (for example, as noted above, the Bill of Rights Act cannot be modified). The ability to amend or suspend primary legislation by an Order in Council,[xii] allows the Governor-General (on recommendation of a minister of the Crown) to override Parliament and is therefore subject to strict controls (for example, by ensuring epidemic notices are self-terminating or subject to ongoing review, and that any immediate modification orders are presented to the House as soon as practicable and can be disallowed).

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x This is reflected in some of the speeches in the House of Representatives during the passage of the legislation. For example, National MP Brian Connell said: 'The Law Reform (Epidemic Preparedness) Bill is complex legislation, and it has been quite difficult for colleagues to navigate their way through the bill to put in place something that is meaningful and pragmatic. I say it is complex legislation because it is part crystal-ball gazing – what if scenario planning – and part pragmatism and plain old common sense'.

xi For an analysis of the Epidemic Preparedness Act, see the Court of Appeal's judgment in *Idea Services Ltd v Attorney-General* [2022] NZCA 470, @ justice.govt.nz/courts/decisions/jdo/).

xii Commonly referred to as a Henry VIII clause – for discussion of this type of clause see the Court of Appeal's judgment in *Idea Services Ltd v Attorney-General* [2022-NZCA 470 @ justice.govt.nz/courts/decisions/jdo/) and High Court [2022-NZHC-308.pdf (courtsofnz.govt.nz)].

The triggering of special powers in the Health Act 1956 to address an epidemic in Aotearoa New Zealand could be authorised by three different mechanisms:

- Authorisation by the Minister of Health;
- A state of emergency has been declared under the Civil Defence Emergency Management Act; or
- An epidemic notice (declared by the Prime Minister) under the Epidemic Preparedness Act.

A combined legislative approach for civil defence and public health emergencies results in statutory provisions that must necessarily cater for a vast array of inherently unpredictable exigencies.

1.1.3 Other Acts of Parliament

The COVID-19 Response (Urgent Management Measures) Legislation Act 2020 was passed on 25 March 2020, the same day it was introduced to Parliament.[14] It was an 'omnibus' bill which amended the Education Act 1989, the Epidemic Preparedness Act 2006, the Local Government Act 2002, the Local Government Official Information and Meetings Act 1987, and the Residential Tenancies Act 1986. These amendments were needed so that COVID-19 Alert Level 4 measures could be implemented, or to make the response more effective – for example, the amendment to the Epidemic Preparedness Act 2006 added district court judges to the list of those who could modify court rules when an epidemic notice was in force, while the change to the Residential Tenancies Act 1986 introduced rent freezes and restricted the termination of tenancies.[15]

Other statutes that were subsequently used or amended to support the COVID-19 response were the Immigration Act 2009 (for example, regulations were added making it easier for Immigration New Zealand to refuse entry to cruise ship passengers and crew) and the Medicines Act 1981 (one amendment, for example, allowed a fourth dose of the Pfizer vaccine to be administered without prescription). The COVID-19 response was subject to both the New Zealand Bill of Rights Act 1990 and the Privacy Act 2020.

Other legislation was relevant to the pandemic response because it contained provisions enabling the government to quickly activate or modify certain processes in an emergency.[xiii] For example, Section 13A of the Parole Act 2002 allowed the Parole Board to follow different procedures than usual when an epidemic notice was in place – such as determining whether to release an offender on parole solely on the basis of documents rather than through a hearing.

xiii The triggers for such provisions were generally a state of emergency, an epidemic notice, or the authorisation of the relevant minister or the Prime Minister.

The COVID-19 Response (Further Management Measures) Legislation Act 2020[16] was another omnibus bill that made amendments to a wide range of personal, property, commercial, construction, insolvency, gambling, financial services, food, waste disposal, local government, fire and emergency and other legislation. The Act sought to enable businesses, local government and others to manage the immediate impacts of the response, and to mitigate unnecessary and potentially longer-term impacts on society. Among other things, it provided for existing statutes to be amended to overcome 'impracticability issues' to address situations where legislative compliance was difficult because of public health measures in place, and to extend access to mechanisms for financial support.[17]

1.1.4 Secondary legislation

An array of secondary legislation – Orders in Council, regulations, rules, notices and other instruments – was used to implement public health measures at different times during the pandemic. The measures applying during the first national lockdown were individually introduced by means of orders made under section 70 of the Health Act 1956 (section 70 orders). But from late April 2020, combinations of infection control measures or powers started being collectively introduced via single orders, which simplified the process of getting Cabinet agreement to changes.

Between January and May 2020, three significant section 70 orders affected the general public:

- Order 1 (25 March 2020), which closed premises and forbade 'people to congregate in outdoor places of amusement or recreation'.
- Order 2 (3 April 2020), which required all people to isolate or quarantine at home and to maintain physical distance from others.
- Order 3 (27 April 2020), which revoked and reissued Orders 1 and 2 and added clarifications.

Later in 2020, the legality of the early lockdowns was challenged in the High Court (*Borrowdale v Director-General of Health*).[18] The Court found that, for the 9-day period between 26 March and 3 April 2020, the Government's requirement that New Zealanders stay at home and in their bubbles was 'justified, but unlawful'.[19] However, the Court ruled that Order 2, which came into effect on 3 April 2020, provided for the legality of the lockdown. It also found that the Orders 1 to 3 were lawful.

The quantum of Orders was high (over 230 Orders in total) and during the alert level phases Orders were being regularly adjusted to reflect the evolving risk. When looked at by topic and considering the timeframe of the pandemic, the orders are spread across a range of areas. There were 195 COVID–19 Orders made over the period 2020-2022, covering:

Table 1: COVID-19 orders made during 2020–22

Orders and Notices	2020	2021	2022	Total
Alert Levels	9	37		46
Protection Framework		4	12	16
Air Border	4	15	7	26
Maritime Border	3	3	2	8
Quarantine Free Travel		18		18
Quarantine and Isolation	6	11	5	22
Self Isolation and Permitted Work			8	8
Testing	6	6	1	13
Vaccination		14	6	20
Masks			1	1
Contact Tracing			2	2
Infringement Offences		1	1	1
Exemption for RSE workers		2		2
Election and Referendum	1			1
Miscellaneous (revocation and commencement orders)	1	3	7	11
Total	**30**	**114**	**51**	**195**

Source: Based on secondary legislation orders and Royal Commission staff calculations, https://www.legislation.govt.nz/

In addition, 24 Orders were made under Health Act 1956 (section 70)[20] and 12 Orders were made under the Epidemic Preparedness Act 2006.

There has been some commentary on the urgency and pace of some of the orders (often associated with alert level changes or border management) that raised challenges for implementation and enforcement (as noted in Chapter 2).

1.2 The second legislative framework: the COVID-19 Public Health Response Act 2020

In May 2020, Parliament passed the COVID-19 Public Health Response Act 2020 (CPHRA) under urgency. It became the new linchpin of the pandemic response, replacing the Health Act 1956 as the primary legal basis for the Government's use of mandatory public health measures. The Bill's Explanatory Note indicated the Government's rationale for developing this bespoke piece of legislation to establish a 'fit-for-purpose legal framework for managing the unprecedented circumstances of the COVID-19 epidemic in a coordinated and orderly way, even if there is no longer a national state of emergency'. It would also establish 'decision-making processes that are more modern and consistent with recommended practice by legal academics and others'.[21]

The Act's purpose was to support a public health response that prevented and limited the risk of outbreak or spread of COVID-19; avoided, mitigated or remedied the adverse effects of an outbreak; and was 'coordinated, orderly, and proportionate' and had 'enforceable measures, in addition to the relevant voluntary measures and public health and other guidance that also supported that response'. An amendment made in August 2020 acknowledged that the public health response the Act supported would also 'allo[w] social, economic, and other factors to be taken into account where it is relevant to do so' and be 'economically sustainable' (section 4).

Sections 9 and 10 of the Act gave the Minister of Health and the Director-General of Health (with some limitations) the ability to make orders on a wide range of infection control measures, subject to prerequisites and requirements being met.[xiv] The range of orders could cover isolation and quarantine, travel restrictions, COVID-19 testing and reporting, masking requirements, physical distancing and closure of businesses and services.[xv] The subsequent COVID-19 Response (Vaccinations) Legislation Act 2021 broadened the scope of these section 11 orders so that people could be required to produce a vaccination certificate to enter certain premises. Section 70 orders, made under the Health Act 1956, continued to be used occasionally.[22]

xiv An order can only be made if either an epidemic notice is in force for COVID–19, a state of emergency in respect of COVID–19 is in force (or a subsequent transition period); or the Prime Minister has authorised the use of COVID–19 orders (if satisfied there is a risk of an outbreak or spread of COVID–19). In addition, the minister must have regard to advice from the Director-General of Health and may have regard to any decision by the Government; be satisfied that the order does not limit, or is a justified limit, on the New Zealand Bill of Rights Act 1990 rights and freedoms; and that the order is appropriate to achieve the purpose of the Act; and consult the Prime Minister, Minister of Justice, Minister of Health (and may consult any other minister) before making the order.

xv The Director-General could only make orders that applied to a single territorial authority district and were, in the Director-General's opinion, 'urgently needed to prevent or contain the outbreak or spread' and were the most appropriate way of addressing those matters (section 10).

Section 13(1) of the CPHRA provided that a section 11 order could not be held invalid for specified reasons. Significantly, though, section 13(2) provided that section 11(1) did not limit or affect the application of the Bill of Rights and section 13(3) provided that nothing in the Act prevented the filing, hearing or determination of any legal proceedings in respect of the making or terms of any section 11 order. This meant courts expressly retained their inherent supervisory jurisdiction to rule that the exercise of a statutory power, seemingly conferred by section 11(1), could be invalid if it was not 'demonstrably justified in a free and democratic society'.

The CPHRA had built-in Parliament scrutiny of any Orders made under the Act with section 16 of the Act providing that a COVID-19 order was revoked if not approved by the House of Representatives within the longer of 10 sitting days of Parliament or 60 days after the Order was made.

Courts expressly retained their inherent supervisory jurisdiction to rule that the exercise of a statutory power, seemingly conferred by section 11(1), could be invalid if it was not 'demonstrably justified in a free and democratic society'.

A.2 Emergency plans

Generic (function based) emergency management plans and specific plans for public health emergencies were in place at the start of 2020. In theory, the emergency management plans addressed all kinds of potential hazards and risks. They had been shaped largely by Aotearoa New Zealand's history of emergencies resulting from natural hazards, which had recently included frequent flooding and two large earthquakes. Health emergency plans included the New Zealand Influenza Pandemic Plan 2017, the result of what the Ministry of Health called a period of 'accelerated' pandemic planning that had begun in 2005 when global outbreaks of new infectious diseases (such as severe acute respiratory syndrome (SARS), avian influenza (bird flu), and Middle East respiratory syndrome (MERS) were recognised as potential threats to this country).[23] The key plans which decision-makers relied on in early 2020 are set out in the following sections.

2.1 National Civil Defence Emergency Management Plan Order 2015[24]

Section 39 of Civil Defence Emergency Management Act 2002 provides for the development of a National Civil Defence Emergency Management Plan by Order in Council.

This plan sets out the hazards and risk to be managed at a national level. At its broadest level the plan sets out how the civil defence emergency management sector will coordinate in a national emergency. The plan is supported by a detailed guide setting out the arrangements, roles and responsibilities of agencies involved in the national management of emergencies, or supporting local management. They include the National Emergency Management Agency, Civil Defence Emergency Management Groups, Police and the Defence Force, health and disability services, lifeline utilities and others.

Consistent with the 'all-hazards, all-risks approach' to emergency management which Aotearoa New Zealand adopted in 2002, the plan applies regardless of the hazard or threat causing the emergency. It lists eighteen hazards and risks that 'either singularly or in combination, have the potential to cause emergencies that may require coordination or management at the national level' – including 'infectious human disease pandemics'.[25]

The plan also addresses the responsibilities of government departments and other organisations in the National Civil Defence Emergency Management Plan 2015 in an emergency, in addition to whatever hazard-related activities their own legislation might require of them. The Civil Defence Emergency Management Act 2002 requires departments and other organisations to ensure business continuity by 'functioning to the fullest extent possible during and after an emergency to meet their statutory responsibilities'.[xvi]

xvi This requirement reinforces section 58 of the Civil Defence Emergency Management Act, which says departments and interdepartmental ventures must prepare plans to continue functioning during and after an emergency (an interdepartmental venture is a distinct organisation within the Public Service, much like a department, but rather than a chief executive at the head, it has a board of chief executives – see https://www.publicservice.govt.nz/guidance).

The plan also described the crisis management responsibilities of the Officials Committee for Domestic and External Security Coordination (ODESC) and the National Security Committee[xvii] – the groups responsible for governance and decision-making within central government – and the lead agencies mandated to head emergency responses. Which agency leads the response is determined by the nature of the emergency itself. The plan names the Ministry of Health as the lead agency in the event of a pandemic.

2.2 National Health Emergency Plan (2015)[26]

The Ministry of Health developed this plan as a strategic framework to guide the health and disability sector 'in its approach to planning for, responding to and recovering from health-related risks and consequences of significant hazards in New Zealand'. When it was released in 2015, it was seen as an important step in the ongoing development of the sector's emergency management capability and capacity. It was supported by several guidance documents and actions, which in 2020 included the New Zealand Influenza Pandemic Plan 2017 (described in section 2.3).

Echoing the language of the Civil Defence and Emergency Management Act, the plan addressed the sector's role in leading or supporting the '4 Rs' of emergency management: reduction of risks, readiness, response and recovery. The specific risks it focused on were the same as those identified in the National Civil Defence Emergency Management Plan and the *National Hazardscape Report* (2007),[27] including pandemics. The plan defined and described the Ministry of Health's all-of-government coordination role as the national lead agency in such emergencies. It also set out a formal structure for liaison between the Ministry, district health boards, and national and local response agencies in emergencies.

xvii Although this Committee was not being used at the time of COVID-19.

2.3 New Zealand Influenza Pandemic Plan 2017[28]

This was Aotearoa New Zealand's sole pandemic-specific response plan at the time COVID-19 emerged, and it served as the guiding document in the first weeks of the response. It set out the all-of-government measures to be taken before, during and after a pandemic in order 'to protect New Zealand's people, society and economy'. While focused explicitly on an influenza pandemic – considered at the time to be the most likely event to cause a large-scale public health emergency – the approach underpinning the plan was said to be applicable to 'other respiratory-type pandemics' whether mild or severe.

The plan focused on containing or suppressing infection, although it also referred to social and economic goals. It described an influenza pandemic consisting of six sequential phases, which the country would move between according to changes in cases and transmission rates: 'Plan for it', 'Keep it out', 'Stamp it out', 'Manage it', 'Manage it: Post-Peak' and 'Recover from it'. The plan specified public health measures and other actions to be taken in each phase. As with most countries' pre-COVID-19 pandemic plans, the approach taken in the Influenza Pandemic Plan was consistent with guidance from the World Health Organization's 2017 Pandemic Influenza Risk Management document.[29]

A large part of the Influenza Pandemic Plan was devoted to describing key public agencies and their responsibilities in a pandemic response. It emphasised the importance of regular inter-agency exercises and training to test the plan, to integrate the efforts of individual agencies, and to ensure staff could function effectively in an emergency (see section 3.4 for more on these exercises).

The plan noted the very significant impact of the 1918 influenza pandemic on Māori (who died at between five and seven times the rate of non-Māori) as well as the 2009 influenza A (H1N1) pandemic, which hit both Māori and Pacific people very hard.[30] The plan emphasised the need for effective communication of key messages to Māori and Pacific communities, the inclusion of Māori in district, regional and national pandemic planning, and other forms of 'active engagement'.[31] District health boards were also urged to engage with Māori and Pacific communities in their regions to understand their priorities. The plan noted that 'Māori communities often [had] important resources to contribute in terms of health emergency planning for a pandemic'.[32] It did not refer to te Tiriti o Waitangi or address the Crown's te Tiriti obligations in a future pandemic response.

A.3 All-of-government systems and structures

At the start of 2020, responsibility for preparing for and responding to national emergencies lay with multiple systems, entities, functions and teams across central and local government. They were:

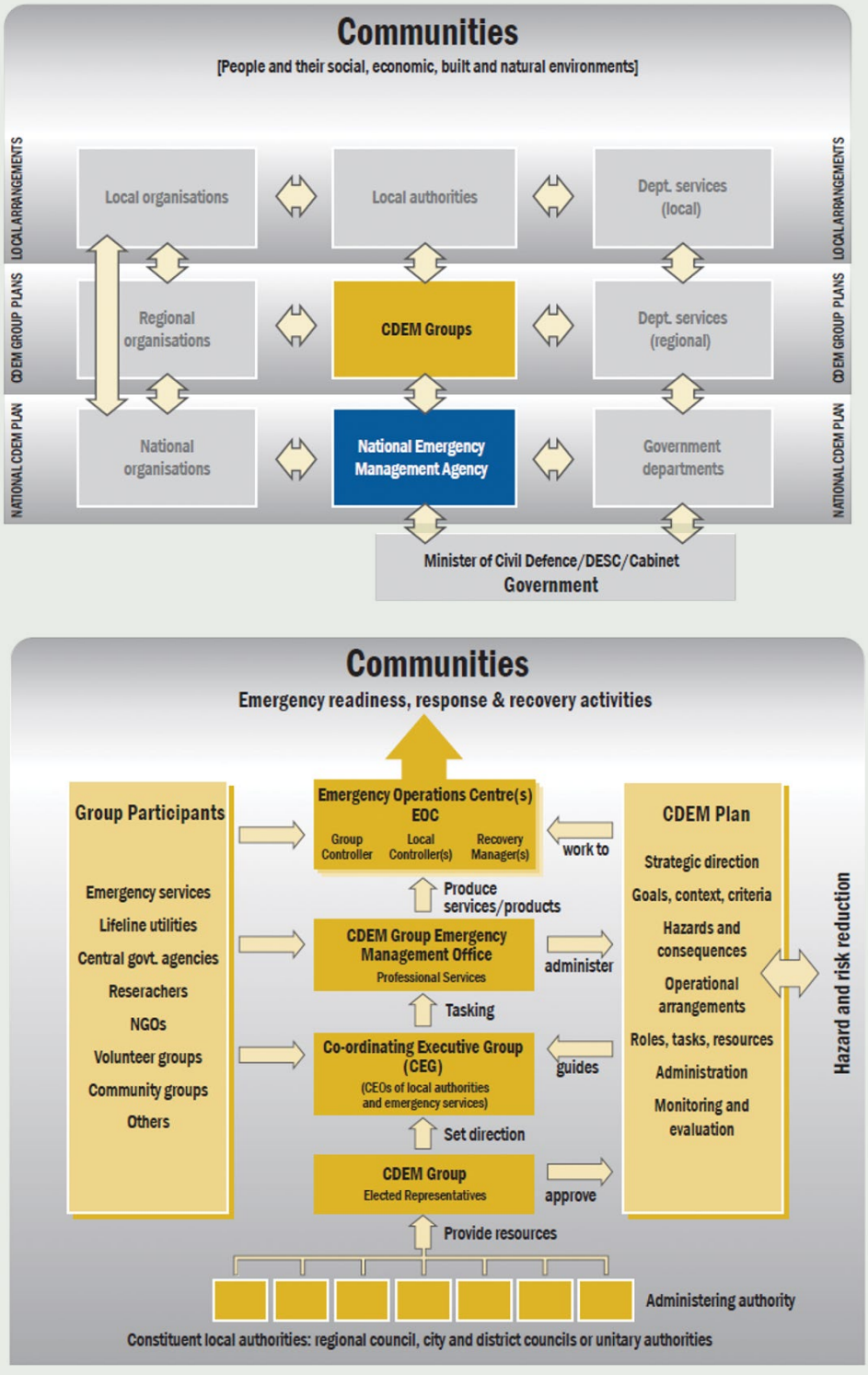
3.1 The civil defence emergency management system

This system sets the framework to reduce risk, prepare for, respond to and recover from national and local emergencies and is part of the wider national security system (see section 3.2). It is led by the National Emergency Management Agency (NEMA), whose role is to support the Director of Civil Defence Emergency Management to carry out the functions and duties required of them under the Civil Defence Emergency Management Act 2002. NEMA oversees the '4 Rs' of emergency management – reduction, readiness, response and recovery. It is an autonomous agency hosted by the Department of the Prime Minister and Cabinet.

While NEMA provides leadership and stewardship, the civil defence emergency management system is a devolved accountability model. There are 16 regionally-based Civil Defence Emergency Management Groups (collectives of local and/or unitary authorities within each region with membership made up of elected officials) that provide the most visible face of the system on-the-ground. Because they are usually required to swing into action quickly, and sometimes to take life-saving measures, they operate with a degree of autonomy; for example, they can appoint someone to declare a state of emergency or a mayor can. All parts of the system use a common operating framework (Coordinated Incident Management System or CIMS) to ensure they work consistently and effectively. Civil Defence Emergency Management Groups are supported and advised by a group of senior representatives from the local authorities, emergency services and health and disability service providers in their region.[xviii]

xviii These groups are known as Civil Defence Emergency Management Coordinating Executive Groups.

Figure 1: Structure and key relationships of the Civil Defence Emergency Management system



Source: Adapted from National Emergency Management Agency (NEMA), 2024, Guide to the National CDEM Plan 2015 Section 6, pp 4-5, https://www.civildefence.govt.nz/assets/Uploads/documents/publications/guide-to-the-national-cdem-plan/Guide-to-the-National-CDEM-Plan-2015-Section-06.pdf

Even though the civil defence emergency management system was set up to address 'all-hazards, all-risks', its experience has been largely with natural hazard events. More than 100 state of emergency declarations have been made since 2002, and the COVID-19 pandemic declaration is the only one to have been triggered by something other than a natural hazard or fire.[33]

3.2 The national security system and its supporting structures[34]

The national security system deals with all risks to national security, ranging from terrorism incidents to natural hazards and public health emergencies, and has a strategic and coordinating role across government. It is led by the Department of the Prime Minister and Cabinet.

When events occur that require strategic all-of-government coordination in line with pre-identified triggers, the ODESC system is activated alongside the emergency management system. This was the case with the COVID-19 pandemic.

The national security system has both a response role and a strategic/governance role. The arrangements for the first are well-established, remaining essentially unchanged since 1987. When the national security system is in response mode, the key players are:

- **The Officials Committee for Domestic and External Security Coordination (ODESC)** chaired by the Chief Executive of the Department of the Prime Minister and Cabinet, the committee comprises chief executives from a range of relevant agencies who work together as a collective. ODESC's role is to provide strategic direction and coordination for the all-of-government response to an emergency or security event, and to advise the Prime Minister, Cabinet, and Cabinet's External Relations and Security Committee[xix] (when activated). It ensures the lead agency has the resources and capabilities it needs and gives advice on risks outside the lead agency's control.[35] ODESC meets only during an emerging or actual emergency or event.
- **Red Teams**, which can be established by the chair of ODESC to carry out 'semi-independent real-time review[s]' of specific response activities. These short, focused reviews are intended to 'assure ODESC that the full range of actions is being considered for a response' and to identify 'undetected vulnerabilit[ies]'.[36]
- **Watch Groups** which are formed to monitor potential, developing or actual crises. They usually comprise officials from relevant agencies with sufficient seniority to commit resources and agree actions on behalf of their organisations. Watch Groups are responsible for ensuring ongoing high-level coordination between agencies, and for the provision of assessments and advice to ODESC.[37]
- **The lead agency** (see section 3.3).

xix In 2024, this committee was renamed the Cabinet Foreign Policy and National Security Committee.

The national security system's strategic/governance role is concerned with risk management and building national resilience across government, comprising:

- **The Security and Intelligence Board (now the National Security Board)**, another grouping of agency chief executives which focuses on external threats to national security and intelligence issues.
- **The Hazard Risk Board (now the National Hazards Board)**, chaired by the Department of the Prime Minister and Cabinet's Deputy Chief Executive for Security and Intelligence. It includes the Department's Chief Executive and the Chief Executives of New Zealand Police, the Ministry of Health, the Ministry for Primary Industries, the Ministry of Transport, the New Zealand Defence Force, the Ministry of Foreign Affairs and Trade, the New Zealand Fire Service, and the Ministry of Civil Defence and Emergency Management. The *National Security System Handbook* (2016) described the Board's purpose as building 'a high performing and resilient National Security System able to manage civil contingencies and hazard risks through appropriate governance, alignment, and prioritisation of investment, policy and activity'.[38]
- **The Strategic Risk and Resilience Panel**, an independent group whose members have expertise in many areas and are drawn from both the public and private sectors. Its role is 'to provide a rigorous and systematic approach to anticipating and mitigating strategic national security risks'.[39]

3.3 The lead agency model

This is a common international model whose use in Aotearoa New Zealand is set out in the National Civil Defence Emergency Management Plan 2015 and accompanying guide. Under this model, the lead agency's role in emergencies at the national level is to:[40]

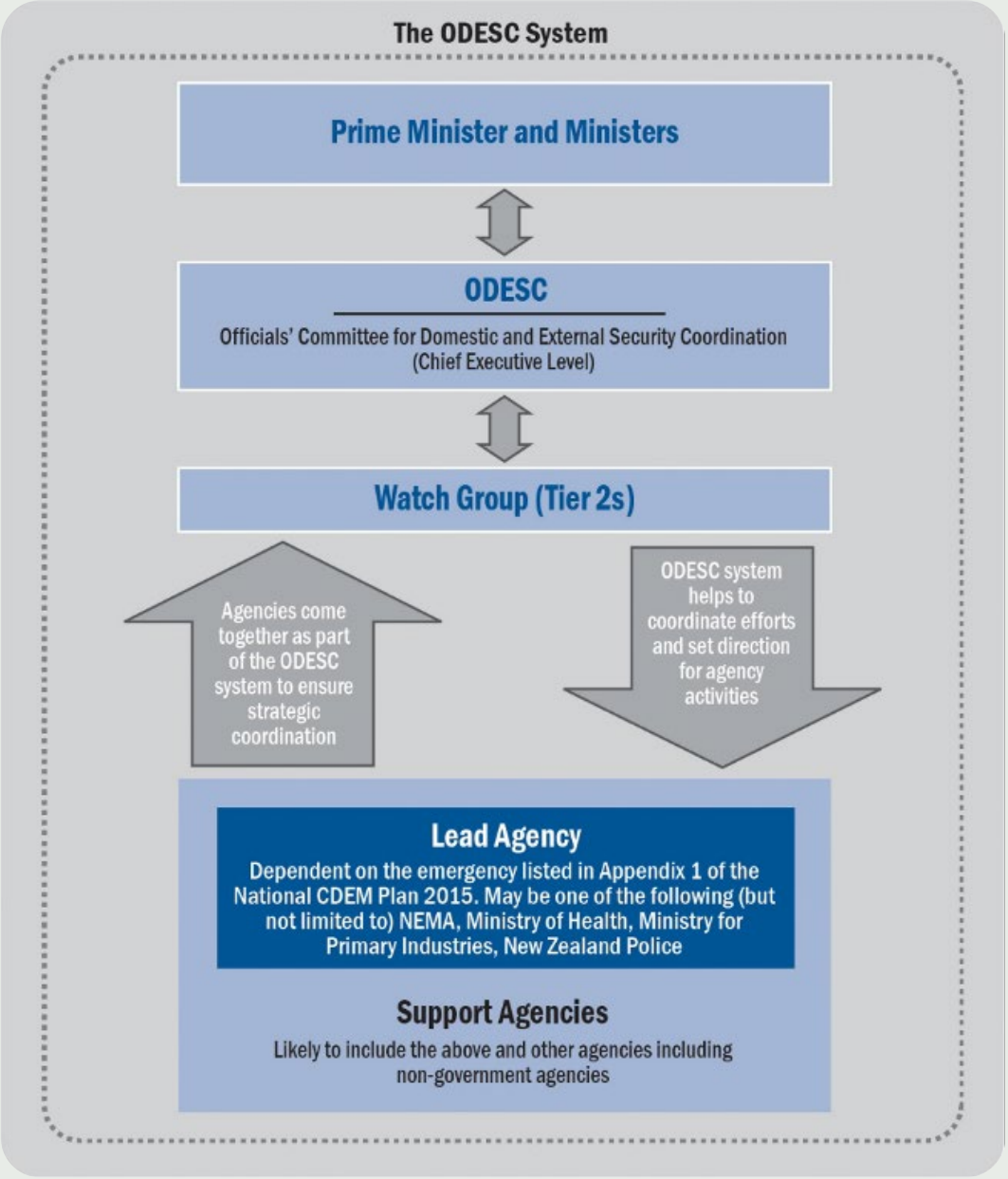
- Monitor and assess the situation.
- Plan for and coordinate the national response.
- Report to ODESC and provide policy advice.
- Coordinate the dissemination of public information.

Agencies that have lead agency responsibilities are required to develop and maintain the necessary capability and capacity to undertake the role.[41]

As noted earlier, the National Civil Defence Emergency Management Plan lists the agencies that are 'mandated through legislation or expertise' to carry out the role of lead agency, according to the hazard involved. NEMA is the lead agency for emergencies involving meteorological or geological hazards and infrastructure failures. The Ministry of Health is the lead agency for emergencies arising from infectious human diseases under the National Civil Defence Emergency Management Plan.[42]

Although the lead agency has the 'primary mandate' for managing the response, it does not work alone. NEMA has specific responsibilities, and other government and non-government agencies may be expected to provide support. The lead agency reports to ODESC and provides policy advice.

Figure 2: The relationship between the lead agency and ODESC in a national emergency



Source: Adapted from National Emergency Management Agency (NEMA), 2024, Guide to the National CDEM Plan 2015 Section 3, p 3, https://www.civildefence.govt.nz/assets/Uploads/documents/publications/guide-to-the-national-cdem-plan/Guide-to-the-National-CDEM-Plan-2015-Section-03.pdf

3.4 The risk management system

3.4.1 National Risk Register

Government's primary tool for helping inform the management of nationally significant hazards and risks is the National Risk Register, which is led and maintained by the Department of the Prime Minister and Cabinet.[43] The register lists the most significant risks that Aotearoa New Zealand faces at any given time, identified on the basis of evidence and expert advice.

In 2020, the register listed both 'threat-type' risks (such as terrorism and cyber security) and a larger group of 'hazard-type' risks, including the risk of a pandemic. All risks on the register were overseen by either the Security and Intelligence Board (threats) or the Hazard Risk Board: the latter oversaw 30 hazard risks, including pandemics. Individual agencies were expected to support the work of these two governance boards, alongside managing specific risks in their areas of operation.

3.4.2 Emergency Exercises

The Hazard Risk Board (now the National Hazards Board) is responsible for oversight of the National Exercise Programme – this includes monitoring the results of mock 'system readiness' exercises aimed at building capability across government by bringing agencies together to respond to various simulated emergency scenarios (hazard and threat-based). Three all-of-government national pandemic exercises had taken place before 2020; Exercise Virex in 2002, Exercise Cruickshank in 2006-2007 and Exercise Pomare in 2017-2018. All were based on influenza infection scenarios. Such exercises provided opportunities to build public sector capability and test emergency plans for a national pandemic. Exercise Pomare had a specific goal of familiarising senior leaders and managers with long-term emergencies, and was also intended to inform ongoing work on the Influenza Pandemic Plan.[44] The Hazard Risk Board was to consider the outcomes and any lessons to be learned from such exercises.

3.4.3 National Security Intelligence Priorities

First developed in 2012 and subsequently updated on several occasions, this list of Cabinet-approved priorities provided another national risk management mechanism. It was intended to help agencies involved in the national security system focus their risk-monitoring and intelligence-gathering efforts; however, it was not designed to guide day-to-day operational or longer-term strategic decisions. At the start of 2020, the National Security Intelligence Priorities comprised 16 equally-weighted priorities. One was 'threats to biosecurity and human health', including pandemics.

A.4 Human rights frameworks

As the human, environmental and economic costs of large-scale natural disasters have grown in recent times, so too has awareness of the significant human rights issues they can create or reveal.

The Human Rights Commission described the Canterbury earthquakes of 2010 and 2011, for example, as not just an unprecedented natural catastrophe but 'one of New Zealand's greatest contemporary human rights challenges'.[45] Similarly, public health crises can also result in people's human rights being impacted, both by the event itself and by the response.

Whatever their cause, it was known prior to the pandemic that national emergencies test not only the laws, institutions and mechanisms designed to protect people's lives but also those intended to safeguard their human rights. Typically, the rights of the most vulnerable members of society are especially challenged. As the Human Rights Commission said of natural disasters, although they are 'indiscriminate in the devastation they cause to whole populations, [...] the poor, the vulnerable and the marginalised suffer most.'[46]

A number of key principles, which were part of Aotearoa New Zealand's existing human rights framework, were impacted by new enactments and the exercise of statutory powers during the COVID-19 pandemic. The general human rights landscape has recently been painted in *Ko tō tātou kāinga tēnei: Report of the Royal Commission of Inquiry into the terrorist attack on Christchurch masjidain on 15 March 2019*.[47] While the ultimate focus of the Christchurch terrorist attack report was very different from this one, the underlying human rights framework is essentially the same for both inquiries, and we respectfully agree with and adopt the outline of Aotearoa New Zealand's international and domestic human rights framework provided by the Commissioners for that Inquiry[xx] in Part 2 of their report.

Aotearoa New Zealand's human rights framework before COVID-19 looked much as it does today – a mix of domestic laws (with supporting regulations), international laws, and United Nations human rights treaties, declarations, resolutions and other instruments which New Zealand has adopted. Te Tiriti o Waitangi also forms part of the framework, and the Human Rights Commission has stated that te Tiriti is 'New Zealand's original human rights declaration'.[48] Encompassing both universal and indigenous rights, te Tiriti aligns with many of the international human rights instruments that bind Aotearoa New Zealand.

xx Hon Sir William Young KNZM, former president of the New Zealand Court of Appeal and, more recently, a judge of the New Zealand Supreme Court together with Jacqui Caine (Ngāi Tahu, Kāti Māmoe, Waitaha), formerly New Zealand's Ambassador to Chile, Colombia, Peru, Ecuador and Bolivia.

As *Ko tō tātou kāinga tēnei* observes, the New Zealand Bill of Rights Act 1990[49] was a vital part of the legal context in which the events in question took place. The same point applies to the management of the COVID-19 pandemic in Aotearoa New Zealand. Fundamental rights and freedoms affirmed by the Act were engaged in a variety of ways in the period under inquiry, including:

- The right not to be deprived of life (section 8), not to be subjected to medical or scientific experimentation (section 10), and to refuse to undergo medical treatment (section 11).
- Freedom of expression (section 14) and the right to manifest religion and belief in community with others (section 15).
- Freedom of peaceful assembly (section 16), freedom of association (section 17), and freedom of movement (section 18).
- The right to be secure against unreasonable search or seizure (section 21), and the right not to be arbitrarily detained (section 22).

Each of these rights has its own sometimes complex jurisprudence and caselaw. It is beyond the scope of this report to delve into the detail. A point of vital significance, though, is that the rights and freedoms affirmed by the New Zealand Bill of Rights Act 1990 are not absolute. They may be subject to other Acts of Parliament (section 5) and 'such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society' (section 5). And, unlike rights protected by the constitutions of certain other countries,[50] the rights and freedoms affirmed in New Zealand's Act can be overridden by ordinary laws passed by a simple majority in the House of Representatives. In this sense, New Zealand's Bill of Rights is not 'entrenched'[xxi] and can be modified with relative ease by a simple parliamentary majority. Whether this is a strength or a weakness in our constitutional arrangements may legitimately be the subject of debate; but that is the situation under our current law. With only a few exceptions,[xxii] Aotearoa New Zealand's human rights framework is therefore moderately flexible.

xxi See: Barber, *Why Entrench?* International Journal of Constitutional Law, Volume 14, Issue 2, April 2016, Pages 325–350, https://doi.org/10.1093/icon/mow030

xxii Some rights are said to be so fundamental they cannot be subject to derogation, for example the right to life and the right to a fair trial.

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Appendix B

B

An epidemiological overview of COVID-19 in Aotearoa New Zealand | He tirohanga mātai tahumaero whānui mō te KOWHEORI-19 i Aotearoa

B.1 Introduction

The purpose of this appendix is to present an epidemiological overview of COVID-19 and its health impacts in Aotearoa New Zealand, focusing on the period from 2020 to 2022.

This overview illustrates the trajectory and evolution of the pandemic in Aotearoa New Zealand and the timing of key policy interventions, including the application of major public health and social measures (such as lockdowns) and the rollout of the national COVID-19 vaccination programme. Several figures from this appendix are also presented in the findings section of the main report. The account here provides greater technical detail and a more comprehensive range of figures and tables to complement the evidence used in the main report.

A note on the graphs: The terms of reference for this Royal Commission of Inquiry are for the decisions, actions, policies and programmes to October 2022. However, it takes time for the impact of decisions up to October 2022 to play out in terms of health and social impacts. Therefore, where possible, the timeline for these graphs extends to the end of 2023.

B.2 Data and methods

The majority of data used in this appendix was provided to the Inquiry on an anonymised and aggregated basis by the Ministry of Health and Health New Zealand | Te Whatu Ora. Key measures included in these datasets – and their sources – are outlined in Table 1.

Table 1. Key measures used in epidemiological overview

Measure	Data source	Notes
Population	Health Service User 2022 population	This dataset includes all people enrolled with a primary healthcare provider or who received services from a healthcare provider in New Zealand in 2022. While it covers a very high proportion of the population living in the country at that time, it does not include individuals who had no contact with the health system in that year. It may also have included some people who were not living in New Zealand but who had received healthcare in the country at some point during the year.[1]
COVID-19 cases	EpiSurv (national notifiable disease surveillance database), National Contact Tracing Solution	Until February 2022, new cases of COVID-19 infection were detected via PCR tests conducted by health workers. From late February 2022, most new COVID-19 cases were detected through self-administered rapid antigen tests (RAT tests) with members of the public asked to self-report any positive test via an online portal. The proportion of COVID-19 infections being detected and reported declined under the new testing regime – meaning new cases are likely to be underestimated from March 2022 onwards, with possible differences in detection by age, ethnicity, deprivation and other characteristics.
COVID-19 hospitalisations	National Minimum Dataset (hospital events)	Hospitalisation for COVID-19 was determined retrospectively based on the diagnostic codes relating to the specific hospital admission. It does not include people admitted to hospital for other reasons who were found to also have COVID-19 infection, unless that infection subsequently became a contributing reason for their hospital stay.
COVID-19 deaths	National Health Index database, national mortality data	Deaths attributed to COVID-19 are deaths where COVID-19 was listed as either the underlying or a contributing cause of death.
COVID-19 vaccination	National Immunisation Register	While eligibility for COVID-19 vaccination was initially limited to those aged 16 and older, the age-threshold had been expanded to include 12–15-year-olds by the time the vaccine rollout had reached younger age-groups (in the latter part of 2021). Calculating vaccination coverage is complicated by younger individuals becoming eligible during the period under study (so moving from outside to inside the eligible population). For this reason, vaccination coverage in this appendix is usually calculated for the population aged 15 years and older, based on the age people were at the beginning of 2022.

Categorisation of demographic factors (age, sex, ethnicity and socio-economic deprivation) is based on information recorded in the National Health Index dataset.[2] Age was calculated at 1 January 2022, based on a person's date of birth. Sex is recorded as male or female.[i] Ethnicity is self-identified and has been categorised as prioritised ethnicity[ii] (Māori, Pacific and non-Māori non-Pacific or 'Other') for consistency with analyses undertaken by the Ministry of Health.[3] Deprivation refers to neighbourhood socio-economic deprivation, based on a person's residential address (on 1 January 2022) linked to the 2018 New Zealand socio-economic deprivation index.[4] For presentation purposes, deprivation is categorised in three groups (least deprived/New ZealandDep deciles 1–3, mid-range deprivation/ deciles 4–7, most deprived/deciles 8–10) or as quintiles (from quintile 1/least deprived to quintile 5/most deprived).

Data on COVID-19 cases detected at the border versus in the community were sourced from the Ministry of Health's public COVID-19 data website.[5] Dates of policy changes regarding border restrictions and application of 'lockdowns' (that is, settings-based restrictions) were sourced from the official COVID-19 timeline developed by the Department of the Prime Minister and Cabinet.[6]

Data for cross-national comparisons (of COVID-19 deaths, excess mortality and the stringency of policy measures) was obtained from Our World in Data.[7] Data on other major causes of death in New Zealand was obtained from the Global Burden of Disease Study 2021.[8]

Most figures present numbers (of COVID-19 cases, hospitalisations or deaths) as an incidence rate or numbers per head of population for a given time period. Where incidence rates are compared between population groups (defined by ethnicity or deprivation), the data is standardised for age. (This is in order to filter out any differences due to the different age-structures of the groups being compared.) Rates were standardised to the World Health Organization World Standard Population. The majority of data visualisations presented in this appendix were undertaken by the Inquiry secretariat using R statistical software.

i The National Health Index records sex with categories limited to male, female, unknown and indeterminate (this last is largely used in relation to newborn babies). At the time of writing, it does not include a category for gender.

ii 'Prioritised ethnicity' means that – for presentation of data on ethnicity – people are assigned to a single ethnic group in a given order of priority, even if they identified with more than one ethnic group. The priority commonly used in Aotearoa New Zealand is Māori, Pacific Peoples, New Zealand European and other ethnic groups.

Comparison of Years of Life Lost (YLL) to different diseases / under different counterfactuals (Figure 7) was undertaken by Professor Tony Blakely using Microsoft Excel. YLLs to different diseases for the population of Aotearoa New Zealand were taken from the Global Burden of Disease Study 2021.[9] YLLs for COVID-19 deaths were estimated based on Datta et al (2024)[10] and Milkovska et al (2024).[11] For the counterfactual scenario of New Zealand having no vaccination, figures generated by Datta et al (2024) from standard lifetables were used to estimate that each person dying from COVID-19 would have had an average of 11.2 years of remaining life had they not become infected with COVID-19 (i.e. 74,500 YLL divided by 6,650 deaths).[12] We scaled this estimate to account for the greater prevalence of co-morbidities in people dying from COVID-19 – meaning they would have fewer years of remaining life expectancy compared with the average person of the same age. Milkovska et al (2024)[13] estimated that a person dying of COVID-19 had on average 30 percent fewer remaining expected years to live compared with someone of the same age who did not die from COVID-19. Based on this estimate, we adjusted Datta et al's estimate of 11.2 years down to 7.8 YLLs per COVID-19 death. The burden of morbidity due to COVID-19 in New Zealand was estimated using the ratio of YLDs to YLLs from Howe et al (2023),[14] who estimated the burden of disease from COVID-19 in an Australian study. Findings from Datta et al (2024) were also used to estimate YLL under the counterfactual of New Zealand having had no COVID-19 vaccination but otherwise the same strategy and timeline for moving out of elimination and removing border restrictions.

Comparison of risk for COVID-19 hospitalisation and death (Tables 2 and 3) was undertaken by the Public Health Agency, Ministry of Health. Risk ratios and 95 percent CIs were estimated using Poisson regression with robust standard errors. Analyses were undertaken using STATA MP/18.0 (StataCorp, LLC) statistical software. Data presented here is preliminary but was shared with the Inquiry in order to inform its findings.

B.3 Cases, hospitalisations and deaths across 2020 to 2022

In big-picture terms, Aotearoa New Zealand's COVID-19 experience was one of very limited viral transmission or disease in 2020 and 2021, followed by significant waves of transmission from the Omicron variant in 2022 (Figure 1). This trajectory reflected the success of the elimination strategy in successfully keeping case rates (and thence hospitalisations and deaths) as low as possible, and often zero, through 2020 and most of 2021. Thus New Zealand did not experience substantial COVID-19 transmission until 2022, by which time the population had very high levels of protection from vaccination coverage.

In 2020 and for much of 2021 we did not know what the circulating pandemic virus variant would be when Aotearoa New Zealand opened up to the rest of the world. One plausible scenario was that the pandemic agent would not mutate much, and that vaccines afforded strong and enduring protection not only against severe illness but also against the chance of getting infected – meaning that we would have experienced much lower case, hospitalisation and death rates than we actually did. Another plausible scenario was similar to what transpired, but that the circulating variant in 2022 was just as infectious as Omicron but with the virulence of Delta or worse, meaning we would have experienced much higher hospitalisation and death rates in 2022 than we actually did – but still, in all likelihood, a considerably lower cumulative morbidity and mortality burden over the whole 2020 to 2022 period compared to a scenario where we had not used an elimination strategy with SARS-CoV-2 freely circulating in New Zealand from 2020. A third plausible scenario – if we were in 2020 and thinking ahead – was that the vaccines would have offered less protection than they did against Omicron, and the morbidity and mortality burden would have been worse.

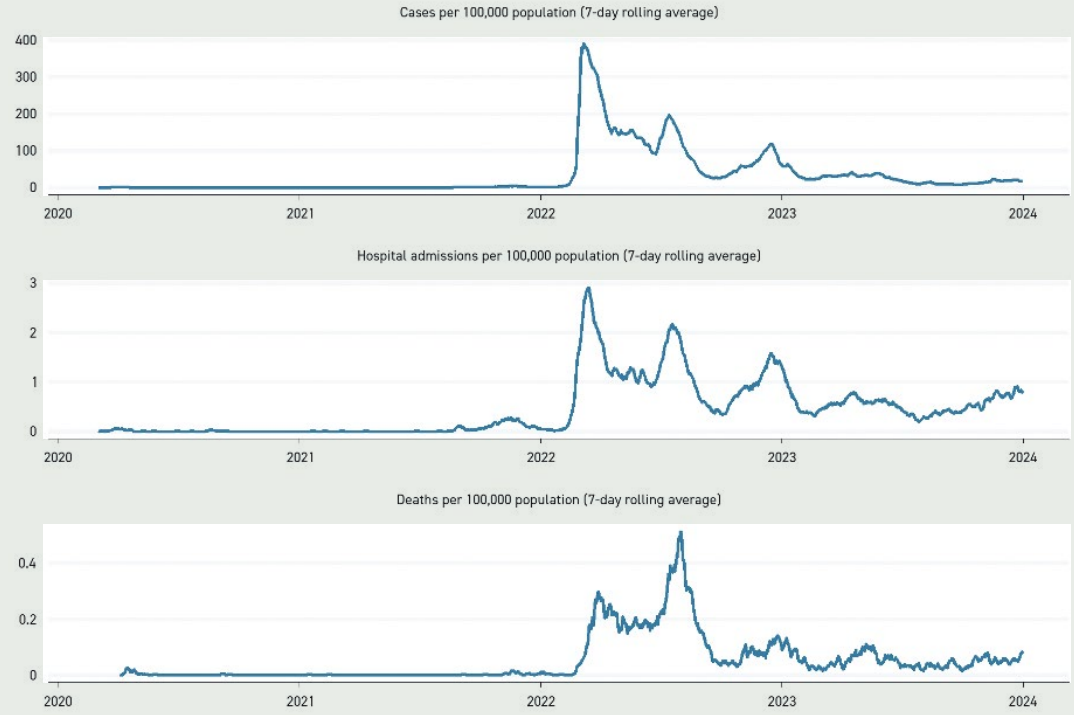
The scenario we actually experienced, as shown in Figure 1 – whilst not the best scenario we might have hoped for – was a pretty good one. Namely, the elimination strategy worked to keep the virus largely out of Aotearoa New Zealand in 2020 and 2021, and due to widespread vaccination a much lesser cumulative mortality burden than we would have experienced had we allowed the virus in during 2020. (Note, here, we are just considering the health impacts of the pandemic – we consider social and economic impacts in depth elsewhere in the Report.)

Figure 1 shows two major waves in 2022, one peaking in March, the other around July. The second peak features higher hospitalisation and death rates relative to case rates compared to the first wave. This reflects decreasing case ascertainment (as 'pandemic fatigue' resulted in fewer people getting tested for COVID-19 and thus lower case reporting) as well as the higher likelihood that people in the second wave would have more severe disease (since the second wave featured higher case rates in older age groups). We now examine outbreaks in 2020 and 2021 in detail.

Cumulatively, Aotearoa New Zealand had 2168, 12,032 and 2,101,473 COVID-19 cases in 2020, 2021 and 2022, respectively. The total number of infections would have been somewhat greater in 2020 and 2021 due to 'missed' asymptomatic cases, and considerably greater in 2022 due to 'pandemic fatigue' and incomplete reporting of cases (and many more asymptomatic or mild cases that people hardly registered, due to both vaccination and the less virulent nature of Omicron.) No seroprevalence survey was conducted in New Zealand in late 2022 or early 2023, but we know from many such surveys internationally that most of New Zealand's population would have been would have been infected by late 2022, due to the partial-only and waning protection vaccines offered against infection.

Regarding hospitalisations, Aotearoa New Zealand had 95,851, and 20,920 hospital admissions for COVID-19 in 2020, 2021 and 2022, respectively. And New Zealand had 26, 24 and 2,776 deaths from COVID-19 in 2020, 2021 and 2022, respectively.

Figure 1: Case notifications, hospitalisations and deaths



Source: Based on data from Ministry of Health

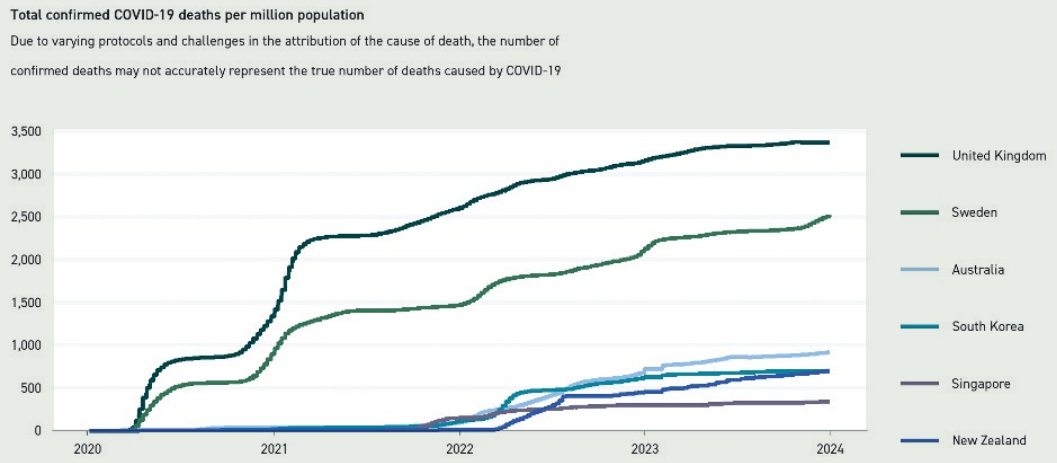
The 3,276 COVID-19 deaths in Aotearoa New Zealand from 2020 to 2022 equated to about 3 percent of all deaths in that period – a burden that would have been substantially higher if New Zealand had not followed an elimination strategy. These deaths tended to be among older people. Thus, thinking of these deaths in terms of years of life lost (YLL) is useful, whereby we tally up the expected remaining life expectancy for all people dying. The YLLs due to COVID-19 across 2020 to 2022 were about 1.3 percent of all YLLs from all other deaths in that period.

YLLs only measure the mortality burden of COVID-19. There is also substantial health loss due to morbidity, including symptoms at the time of initial infection, any long COVID, and any sequelae (such as possible increased rates of other diseases after SARS-CoV-2 infection). The morbidity for the acute illness and long COVID components, quantified in years lived with disability (YLDs), might be about 20 percent of the magnitude of the YLL loss.

Aotearoa New Zealand compared favourably with other countries on confirmed COVID-19 death rates (Figure 2).

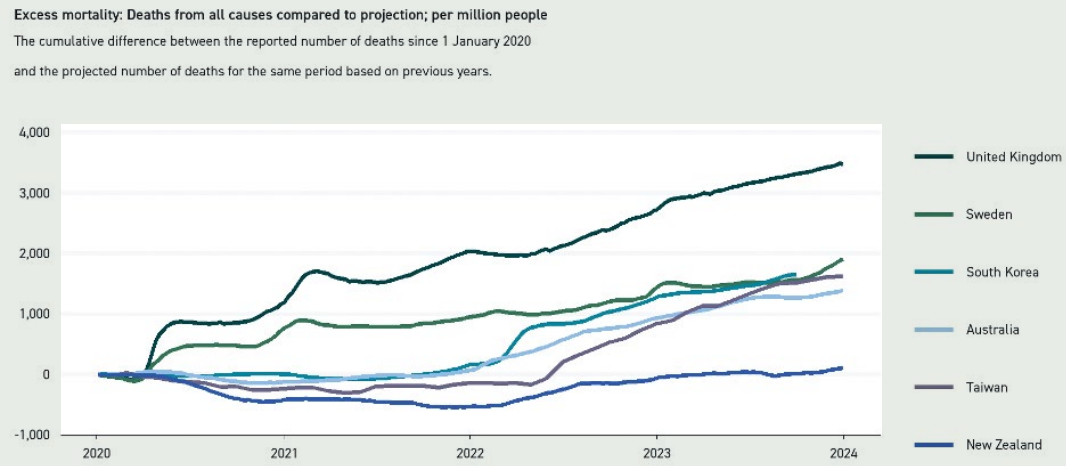
Because public health and social measures are effective in preventing a range of infectious diseases, and death rates from other diseases can also change in a pandemic (e.g. fewer injury-related deaths during lockdowns), another useful way to look at the death burden of the pandemic is excess mortality. Here one uses death rates in the years leading up to the pandemic, and 'predicts' what they will be in 2020, 2021 and 2022. These predictions are then compared to the actual total number of deaths occurring. Compared to other countries, Aotearoa New Zealand experienced lower than expected death rates in 2020, and only saw a 'kick up' in excess death rates in 2022 (when Omicron washed through), such that by the end of 2022 New Zealand had one of the lowest cumulative excess mortality rates of any country (Figure 3).

Figure 2: Cross-national comparison of total confirmed COVID-19 death rates



Source: Our World in Data, Edouard Mathieu, Hannah Ritchie, Lucas Rodés-Guirao, Cameron Appel, Daniel Gavrilov, Charlie Giattino, Joe Hasell, Bobbie Macdonald, Saloni Dattani, Diana Beltekian, Esteban Ortiz-Ospina, and Max Roser, 2024, https://ourworldindata.org/covid-deaths

Figure 3: Cross-national comparison of cumulative excess mortality rates per million people



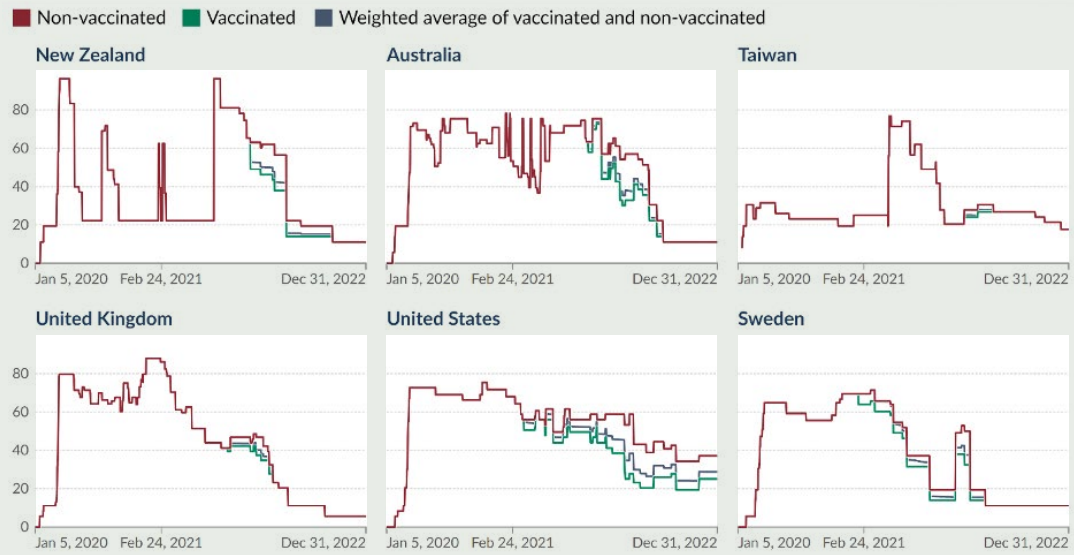
Excess deaths were found to be a more reliable indicator of the total COVID-19 burden, due to under ascertainment of COVID-19 caused deaths and knock on effects of the pandemic onto other service provision and other disease and death rates. However, for countries like New Zealand the recording of COVID-19 deaths was reasonably reliable

Source: Our World in Data, 2024, Data Page; Excess mortality: Cumulative deaths from all causes compared to projection based on previous years, per million people. Data adapted from Human Mortality Database, World Mortality Database, Karlinsky & Kobak. Retrieved from https://ourworldindata.org/grapher/cumulative-excess-deaths-per-million-covid

B.4 Stringency of public health and social measures

What we experienced, whilst low in terms of morbidity and mortality impacts through 2020 and 2021, was not without costs. International borders were closed – other than arrivals through managed isolation and quarantine (MIQ). Liberties were curtailed and lockdowns were used. The Oxford Stringency Index was developed during the pandemic to compare levels of restriction (e.g. closure of schools and workplaces, limits on gatherings) across countries and over time. Where a country (or a region within a country) is in 'lockdown', the stringency index is higher. Figure 4 shows the stringency index for Aotearoa New Zealand and comparator countries through 2020–2022. New Zealand stands out in two ways. First, New Zealand had notably high stringency when lockdowns were in place (national lockdowns in March/April 2020, and August 2021 and regional (mostly Auckland) lockdowns in August 2020, February 2021 and August to December 2021[iii]). That is, New Zealand took a 'go hard' approach to enacting an elimination strategy. Second, New Zealand had long periods of very low stringency between lockdowns. Moreover, compared to all other jurisdictions except Taiwan the average level of stringency over time, and the amount of time at high stringency, was less in New Zealand. This lesser overall stringency for New Zealand was even more the case outside of Auckland.

Figure 4: Oxford stringency index for New Zealand and comparator countries, 2020 to 2022 inclusive



The stringency index is a composite measure based on nine response indicators including school closures, workplace closures and travel bans, rescaled to a value from 0 to 100 (100 = strictest).[15] Stringency index data at Our World in Data is not available beyond 2022.

Source: Blavatnik School of Government, University of Oxford – with minor processing by Our World in Data, (2023), COVID-19: Stringency Index (New Zealand, Australia, Taiwan, United Kingdom, United States and Sweden), https://ourworldindata.org/metrics-explained-covid19-stringency-index

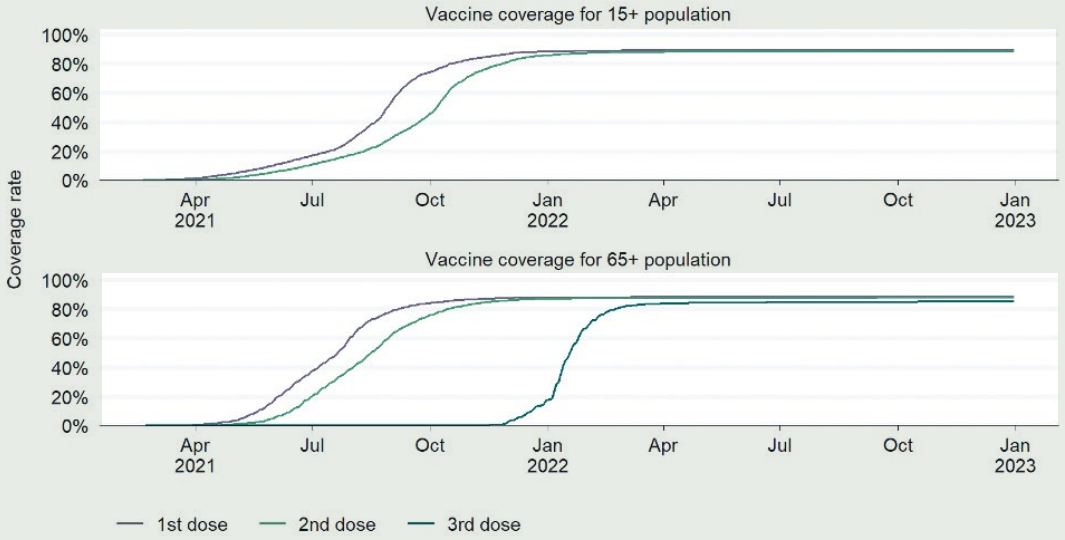
iii For convenience, we equate the Alert Levels 3 and 4 that New Zealand used as equivalent to soft and hard lockdowns, respectively.

B.5 Vaccination rates

Aotearoa New Zealand's vaccine coverage for first, second and third doses is shown in Figure 5, and cross-national comparisons of completion of the (usually) two dose primary course is shown in Figure 6. We consider vaccination in depth, from many perspectives, elsewhere in the Report. Suffice to say here:

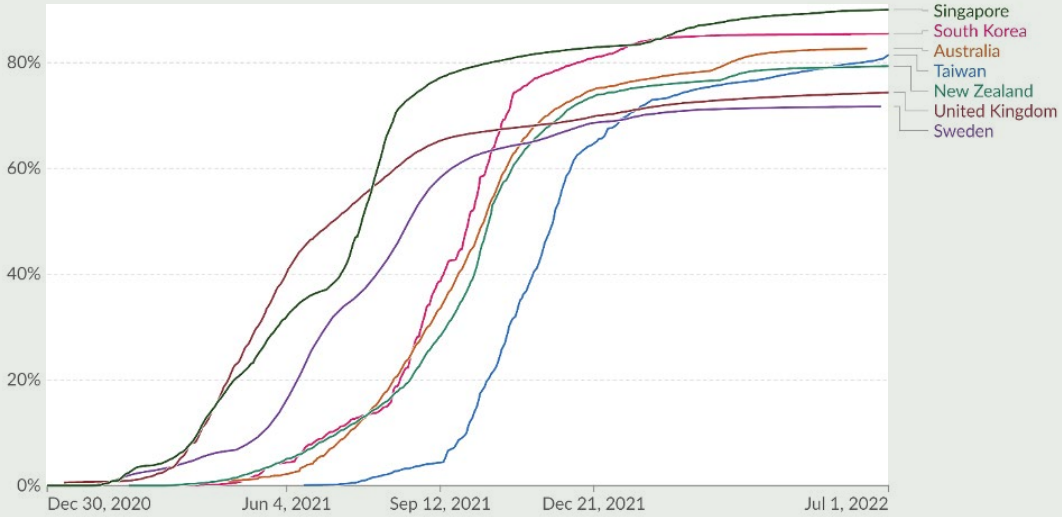
- New Zealand achieved high vaccination rates, but rollout started a bit later than in many comparator countries.
- Whilst New Zealand's vaccine levels initially lagged behind some other countries, coverage levels eventually exceeded those of countries such as Sweden and the United Kingdom.
- New Zealand achieved 60 percent coverage of completed vaccination (that is, two doses of Pfizer) on 29 Oct 2021. (The population denominator is all ages, so 60 percent coverage here – for New Zealand – is equivalent to 74 percent coverage among 15+ year olds.) The equivalent coverage was achieved 88 days earlier in Singapore, 76 days earlier in the United Kingdom, 40 days earlier in Sweden, 17 days earlier in South Korea, 4 days earlier in Australia – but 38 days later in Taiwan.
- New Zealand's rollout of the third dose (first booster) was very rapid, going from 10 percent to 80 percent of 65+ year olds in 64 days, from 20 Dec 2021 to 22 Feb 2022. This rapid rollout was enabled by reducing the time that citizens had to wait after their second dose to receive their third dose, from six to four months, in early 2022 as the Omicron wave was approaching and hitting. This rapid rollout of a third booster dose – boosting people's immunity to overcome waning after the second dose – undoubtedly saved many lives and reduced the morbidity impact of the Omicron wave.

Figure 5: Cumulative vaccine coverage 2020 to 2022 (all of New Zealand)



Source: Based on data from Ministry of Health

Figure 6: Vaccine coverage by time for New Zealand and comparator countries



Source: Our World in Data, 2024, Data Page: Share of people who completed the initial COVID-19 vaccination protocol. Data adapted from Official data collated by Our World in Data, World Health Organisation, Various sources. Retrieved from https://ourworldindata.org/grapher/share-people-fully-vaccinated-covid

B.6 Additional COVID-19 deaths and YLLs had New Zealand not pursued an elimination strategy, or not vaccinated

It is conceptually challenging to understand COVID-19 health loss, whether it is small or large, and how it compares to other causes of health loss.

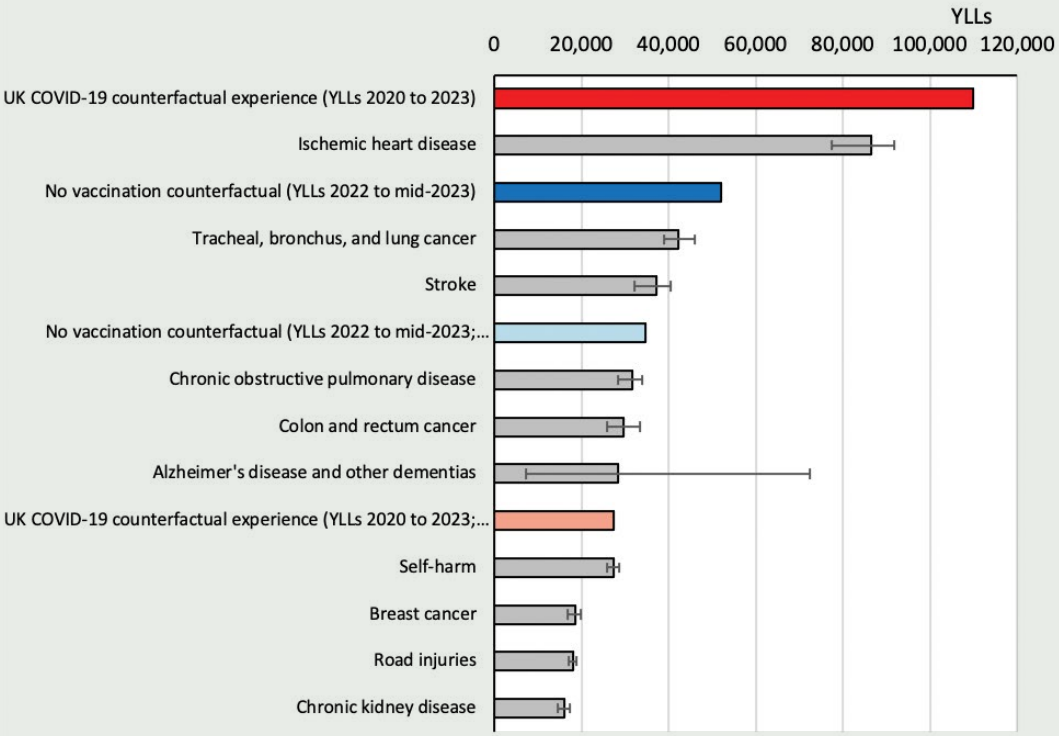
Moreover, many early models of COVID-19 estimated the deaths that might occur for a completely unmitigated pandemic, compared to no pandemic. Neither scenario is plausible: all countries employ measures to mitigate or reduce deaths compared to an unmitigated 'let it rip' pandemic, and no country could avoid COVID-19 entirely.

One useful thought experiment is to ask, 'What would have been the additional health loss for Aotearoa New Zealand if the country had followed the approach the United Kingdom took (a mix of suppression and mitigation), compared to the elimination strategy New Zealand actually took?' An approximate estimate of the increased deaths that New Zealand might have experienced is to apply the difference in cumulative COVID-19 death rates for 2020 to 2023 inclusive for the United Kingdom compared to New Zealand and multiply that into the New Zealand population. Using numbers from Our World in Data,[16] this calculation gives 14,000 additional deaths in New Zealand, or about 41 percent additional deaths, for the four year period (2020-2023). This equates to approximately 10 percent additional deaths in each of the four years from 2020 to 2023, which is sizeable.

However, these deaths are more likely to be among the elderly and the frail, meaning a conversion of these deaths to years of life lost may be more meaningful. When we do this, we estimate that the United Kingdom's approach applied to Aotearoa New Zealand, compared to the New Zealand experience as it actually happened, might have resulted in an additional 110,000 years of life lost over the four-year period 2020 to 2023. This equates to about 4 percent of all years of life lost from other deaths over the 2020 to 2023 period.

Another way to understand the health gains of an elimination strategy as run in Aotearoa New Zealand, compared to the suppression or mitigation strategy as run in the United Kingdom, is to compare the additional YLLs New Zealand would have incurred if it had run the United Kingdom strategy (dark red bar, Figure 7) to the top ten ranking non-COVID-19 YLLs in 2021 (grey bars). The YLLs from COVID-19 deaths over the four years 2020 to 2023 exceed the top cause of death, ischemic heart disease. But once annualised and spread over the four years (light red bar), the YLLs reflecting the United Kingdom versus New Zealand's experience rank between the sixth (Alzheimer's disease and other dementias) and seventh (self-harm, suicide) causes of annual YLLs.

Figure 7: Comparison of years of life lost (YLL) for different conditions and COVID-19 scenarios



Bars show YLL for New Zealand population for different conditions and COVID-19 scenarios – including if New Zealand had the same COVID-19 mortality rate as the United Kingdom (red) and if New Zealand had no COVID-19 vaccination (blue). Error bars for YLL due to specific condition are 95 percent uncertainty intervals as published by the GBD study. Estimates for counterfactual scenarios (red and blue bars) have considerable uncertainty but this has not been quantified.

Source: Based on data from Institute for Health Metrics and Evaluation, Global Health Data Exchange: Global Burden of Disease Study 2021 (GBD 2021) Data Resources, https://ghdx.healthdata.org/gbd-2021

How does one judge whether the health gains from running an elimination strategy, versus having run a suppression or mitigation strategy (as in the United Kingdom), were worth it? This is a challenging question to answer as we must weight differential impacts across health, economic and social domains – and such weighting is inherently value-based, with no technocratic 'right' answer. What we can say, here, is that:

- An elimination strategy, compared to a suppression or mitigation strategy used in the United Kingdom, gains a substantial amount of health as measured by metrics such as excess deaths (Figure 3) or YLLs (Figure 7).

- Some of the social impacts of Aotearoa New Zealand's strategy were less than the United Kingdom's strategy if we use the PHSM stringency index as a metric (Figure 4). However, this is just one of many social impacts. For example, international border closures in New Zealand kept family and loved ones separated for two years unless they went through MIQ. New Zealand's elimination strategy was also accompanied by vaccine mandates that the United Kingdom did not have (although New Zealand could have run its elimination strategy with lesser mandates), with resultant breakdown in social cohesion and marginalisation for many. There are many other such social considerations we cover in this report.
- The economic impacts were variable. The initial GDP impact in New Zealand was less than in the United Kingdom, but the fiscal cost to the New Zealand Government of wage subsidies to allow stringent lockdowns was large and the long tail of harder to quantify economic costs due to border closures was substantial.

Timing also matters. Counterfactually, it's possible that Aotearoa New Zealand could have opened up earlier (or later) with little impact on net health loss – but with marked differences in social and economic impacts.

It is beyond the scope of this report, and our terms of reference, to undertake full-blown cost-benefit analyses for alternative ways Aotearoa New Zealand could have managed COVID-19. But these types of thinking – weighing up health, social and economic impacts of policy choices, considering small or large changes that could have been made to New Zealand's approach to COVID-19 – imbue our report. And we apply this type of thinking not only to COVID-19, but to scenarios of what a future pandemic might look like.

Also shown in Figure 7 are the additional YLLs for another counterfactual, namely if Aotearoa New Zealand had not administered any vaccine but run the same elimination strategy and border reopening timing as actually occurred.[iv] Datta et al (2024) undertook modelling of this very question and estimated that 74,500 YLLs were gained by vaccination. Their YLL estimate is likely to be somewhat generous since it assumed that people dying of COVID-19 had the same remaining life expectancy as other people of the same sex and age who did not die of COVID-19. This is unlikely since deaths from COVID-19 were more likely where the infection occurred in people with co-morbidities who would therefore have lower remaining life expectancy than healthy people of the same age. We therefore discounted Datta et al's YLL estimates by 30 percent, based on Milkovska et al's[17] estimate that – on average – YLLs due to COVID-19 are about 30 percent less than estimates derived from standard lifetables. This gives an estimated additional 52,150 YLL if New Zealand had not administered any vaccine (dark blue bar). If we annualise the YLLs prevented by vaccination over the 18 months of 2022 to mid-2023 (34,767 YLL – light blue bar), we can see that the vaccine gains ranked between the third (stroke) and fourth (chronic obstructive pulmonary disease) leading annual causes of YLL health loss in New Zealand.

iv While such a counterfactual is somewhat unlikely – i.e. New Zealand would probably not have continued running an elimination strategy through to late 2021 if vaccines were not forthcoming – it does help to answer the question 'what was the impact of vaccines?'

B.7 Close ups of 2020 and 2021: cases and hospitalisations, alert levels and key policy events

There were three notable outbreaks in New Zealand in 2020 and 2021.

The first of these was in early 2020 (when SARS-CoV-2 first arrived in Aotearoa New Zealand) and involved cases throughout the country (initially, mostly people who had recently travelled overseas). The second occurred in Auckland and was focused on a group of cool store workers; this outbreak was stamped out with the assistance of genomic sequencing supporting contact tracing which helped identify linked cases. The third was the Delta variant outbreak of late 2021, which was mostly confined to the Auckland region (with some reported cases in Northland and the Waikato) and was primarily concentrated among Pacific and Māori communities. The Delta variant is more virulent than the SARS-CoV-2 strains that came before it and the Omicron variants that followed it, which is why the Delta outbreak is more easily visible in the hospital admission and death trends in Figure 1 than the case trends.

B7.1 March to May 2020 outbreak

Figure 8 shows the case numbers by day with superimposed policy events (coloured vertical lines; AL = alert level). There was a total of 1,505 cases between February 28 (the first case in Aotearoa New Zealand) and May 22 (the last known community acquired case in the tail of the first outbreak). Of these cases, 38 percent were detected at the border or among recent international arrivals (detected in home isolation that was in place from 16 March to 9 April, and after that detected in MIQ facilities). The border cases were – as expected – dominant at the beginning of the outbreak.

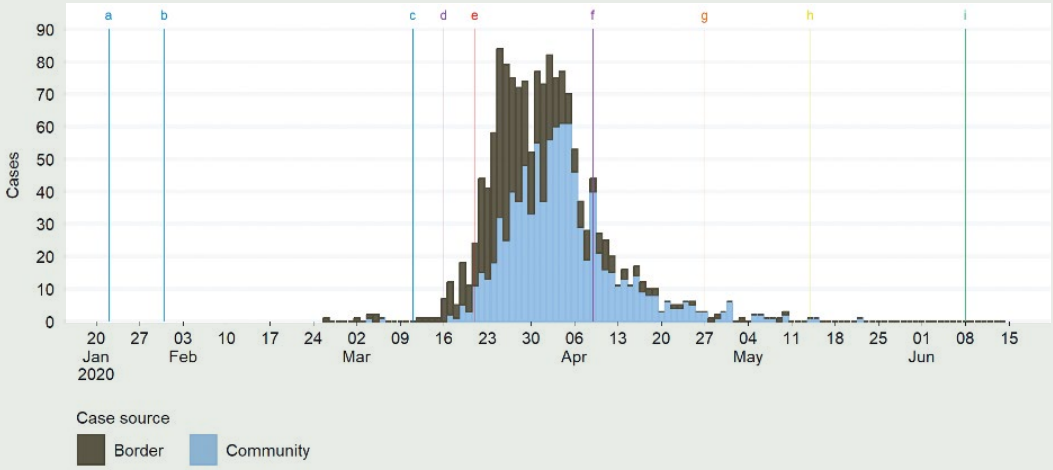
The first reported case on 28 February was a recent arrival from Iran, precipitating an extension of the ban on arrivals from China (instituted on 3 February) to also include arrivals from Iran – although New Zealand citizens could return from either country with self-quarantine. This ban was extended on 2 March to include non-New Zealand citizens having travelled in northern Italy and South Korea.

Aotearoa New Zealand's second, third and fourth notified cases were reported on 4, 5 and 6 March, respectively.

From 16 March, all international arrivals (except from Pacific Island countries and territories) were required to self-isolate/quarantine for 14 days. Gatherings were limited to a maximum of 500 people, excluding schools and universities. On 19 March, total notified cases were 28, spread across Aotearoa New Zealand. Indoor events were limited to a maximum of 100 people.

On Saturday 21 March, the Alert Level System was introduced, and Aotearoa New Zealand set at Alert Level 2. The alert level was escalated to Alert Level 3 on Monday 23 March, and Alert Level 4 on Wednesday 25 March, putting New Zealand in an unprecedented 'lockdown'.

Figure 8: March to May 2020 outbreak community and border cases, and key policy events



Policy changes

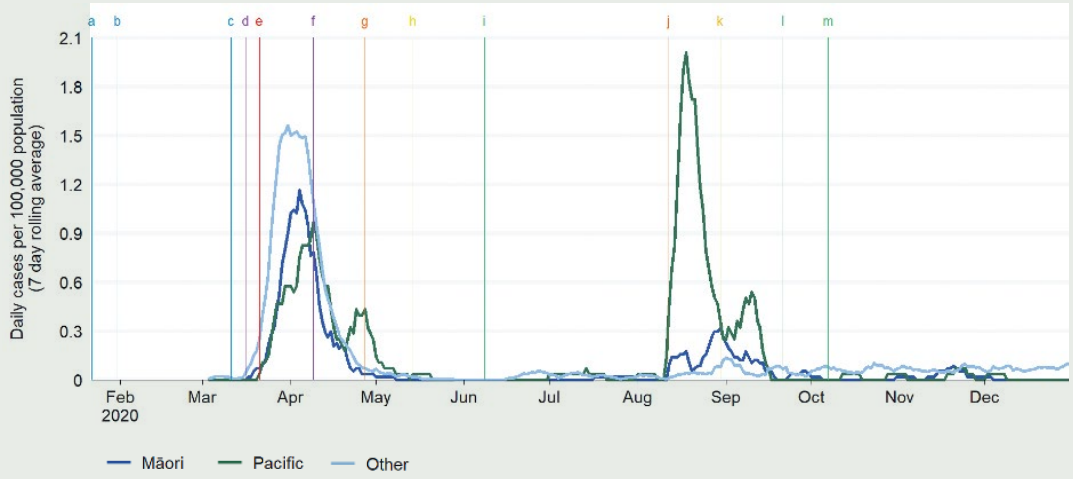
a (22 Jan): WHO met to deliberate calling a Public Health Emergency of International Concern (PHEIC) - decide against
b (31 Jan): WHO declared COVID-19 a PHEIC (WHO's highest level of alarm)
c (11 Mar): WHO declared COVID-19 a pandemic
d (16 Mar): Self-isolation requirements for arrivals introduced; then NZ border closed, except to returning New Zealanders (Mar 19th)
e (21 Mar): Four-stage Alert Level (AL) system introduced; NZ to AL2 (21 Mar), then AL3 (23 Mar) then AL4 (25 Mar)
f (09 Apr): Managed Isolation & Quarantine (MIQ) introduced for all arrivals
g (27 Apr): NZ to AL3
h (14 May): NZ to AL2
i (08 Jun): NZ to AL1

Source: Based on data from Ministry of Health GitHub data, 2024, covid-case-counts, https://github.com/minhealthnz/nz-covid-data/blob/main/cases/covid-case-counts.csv

Alert levels were unwound to Level 3 on 27 April, Level 2 on 14 May and Level 1 on 8 June. The last case was on 22 May 2020, with a cumulative total of 930 community cases by that date – and nil further community cases for the next 81 days. The successful stamping out of the first outbreak was a joint function of targeted measures like contact tracing, isolation of cases, and quarantine of close contacts, through to the 'blunt' population-wide lockdown measures.

Figure 9 shows the case rates across 2020 by ethnicity. Rates at the outset of the first outbreak were highest among non-Māori and non-Pacific people, a result of most early cases being among recent arrivals to Aotearoa New Zealand and their contacts. Rates by ethnicity in the tail of the first outbreak were roughly equivalent, other than a late small peak among Pacific people.

Figure 9: 2020 case rates by ethnicity (all of New Zealand)



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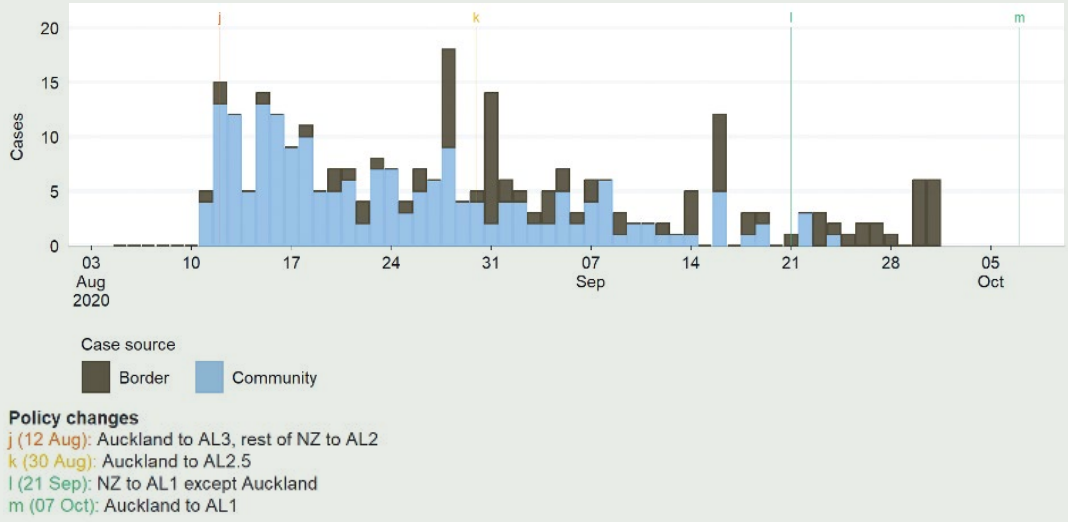
f (09 Apr): Managed Isolation & Quarantine (MIQ) introduced for all arrivals
g (27 Apr): NZ to AL3
h (14 May): NZ to AL2
i (08 Jun): NZ to AL1
j (12 Aug): Auckland to AL3, rest of NZ to AL2
k (30 Aug): Auckland to AL2.5
l (21 Sep): NZ to AL1 except Auckland
m (07 Oct): Auckland to AL1

Source: Based on data from Ministry of Health

B7.2 August 2020 South Auckland outbreak

The second outbreak was quite different, with the highest rates among Pacific people (Figure 9), consistent with the origin of this outbreak among workers at a cool store in Mount Wellington, Southeast Auckland. The outbreak comprised 179 known community acquired cases between 11 August and 11 September (Figure 10). Presumably this outbreak was seeded from an international arrival somewhere, but the source was never identified. The outbreak was stamped out with the assistance of genomic sequencing supporting contact tracing and helping identify linked cases.

Figure 10: August 2020 South Auckland outbreak community and border cases, and key policy events



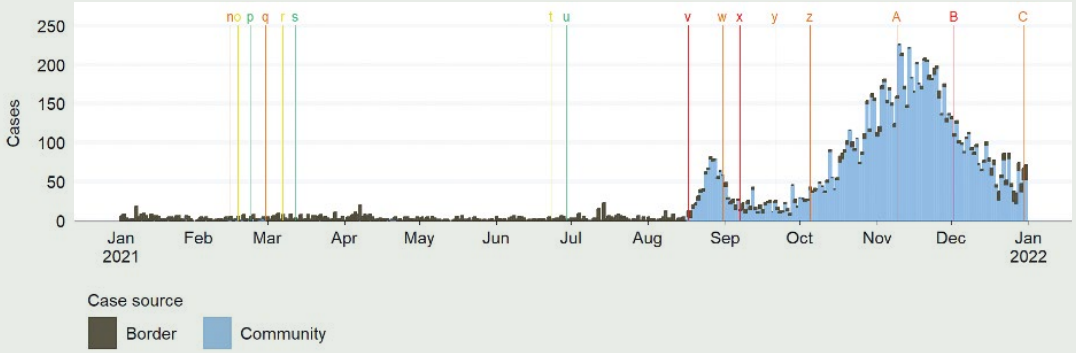
Source: Based on data from Ministry of Health GitHub data, 2024, covid-case-counts, https://github.com/minhealthnz/nz-covid-data/blob/main/cases/covid-case-counts.csv

B7.3 August to December 2021 Delta outbreak

A total of 11,280 Delta cases occurred nationally from August 17 (when the first community cases were detected) to December 31, 2021, of which 84 percent were in Auckland and 44 percent (of the 11,280) were in South Auckland. There were 843 hospitalisations in the same period, and 22 deaths – crudely, a case fatality of 0.2 percent. By ethnicity, the rates were initially highest among Pacific people, then among Māori (Figure 12).

Delta was substantially more infectious than previous variants, making it difficult to stamp out – and indeed it was never fully stamped out before Omicron arrived in 2022. Without the measures in place (Alert Levels 3 and 4; contact tracing, testing and isolation; mask wearing; growing vaccination coverage), Delta would have spread through Aotearoa New Zealand resulting in much greater morbidity and mortality.

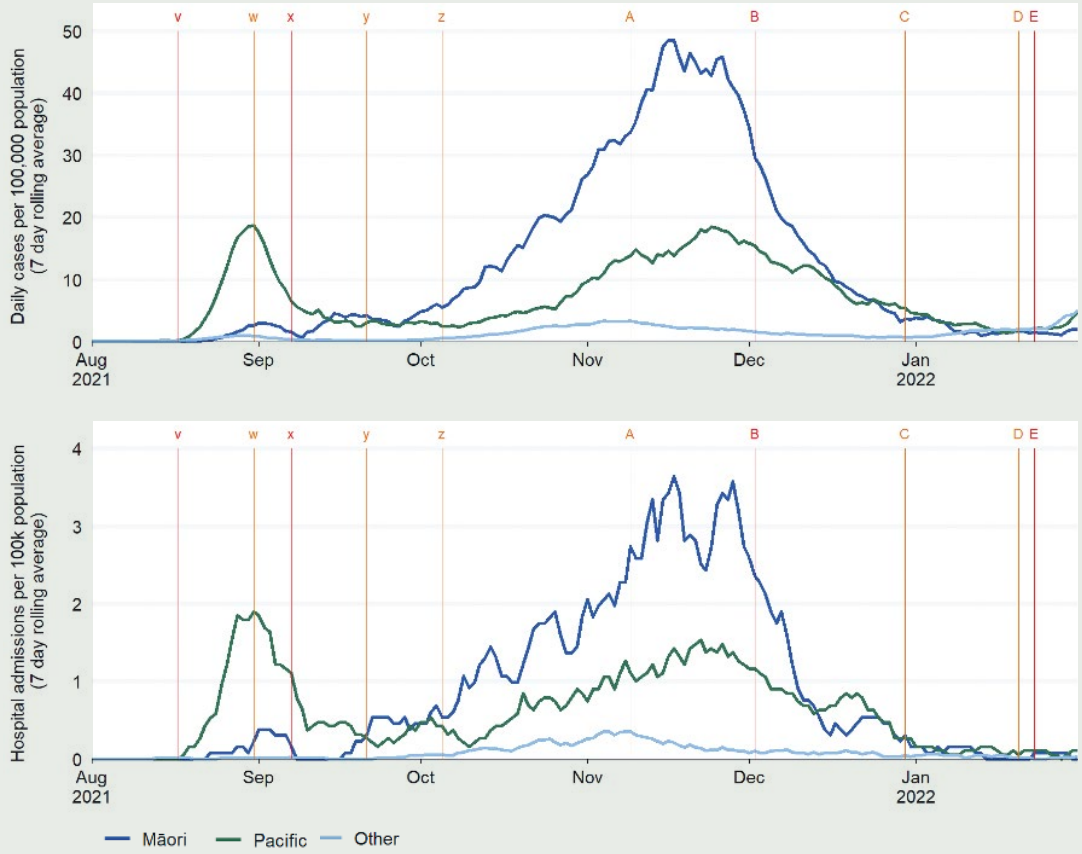
Figure 11: Whole of 2021 community and border cases (all of New Zealand), and key policy events



Policy changes
n (14 Feb): NZ to AL2, Auckland to AL3
o (17 Feb): NZ to AL1, Auckland to AL2
p (22 Feb): Auckland to AL1
q (28 Feb): NZ to AL2, Auckland to AL3
r (07 Mar): NZ to AL1, Auckland to AL2
s (12 Mar): Auckland to AL1
t (23 Jun): Wellington to AL2
u (29 Jun): Wellington to AL1
v (17 Aug): NZ to AL4
w (31 Aug): NZ to AL3
x (07 Sep): Auckland to AL4, rest of NZ to AL2
y (21 Sep): Auckland to AL3
z (05 Oct): Auckland to AL3.1 (small gatherings permitted in some contexts)
A (09 Nov): Auckland to AL3.2 (opening of retail and public facilities with face masks and physical distancing, gatherings up to 25)
B (02 Dec): Covid Protection Framework (CPF) replaces AL system; Most of North Island to Red, rest to Orange
C (30 Dec): NZ to Orange (except Northland)

Source: Based on data from Ministry of Health GitHub data, 2024, covid-case-counts, https://github.com/minhealthnz/nz-covid-data/blob/main/cases/covid-case-counts.csv

Figure 12: 2021 Delta outbreak cases and hospitalisations (Auckland region) by ethnicity, and key policy events



Policy changes

v (17 Aug): NZ to AL4
w (31 Aug): NZ to AL3
x (07 Sep): Auckland to AL4, rest of NZ to AL2
y (21 Sep): Auckland to AL3
z (05 Oct): Auckland to AL3.1 (small gatherings permitted in some contexts)
A (09 Nov): Auckland to AL3.2 (opening of retail and public facilities with face masks and physical distancing, gatherings up to 25)
B (02 Dec): Covid Protection Framework (CPF) replaces AL system; Most of North Island to Red, rest to Orange
C (30 Dec): NZ to Orange (except Northland)
D (20 Jan): Northland to Orange
E (23 Jan): First confirmation of community transmission of Omicron variant; All NZ moved to Red

Source: Based on data from Ministry of Health

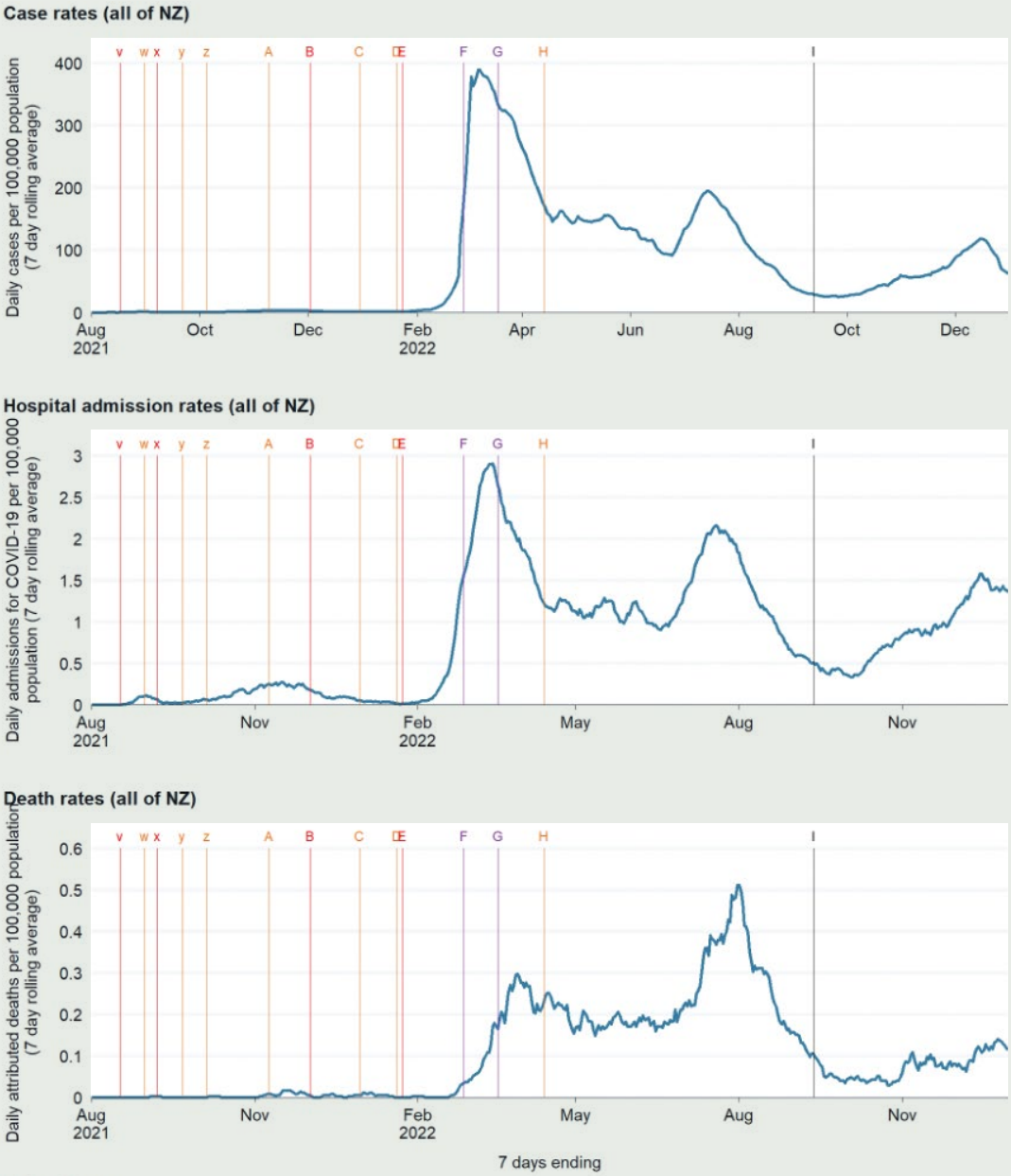
B7.4 Aotearoa New Zealand opens up to Omicron: 2022

Figure 13 shows the case, hospitalisation and death rates for late 2021 through 2022, and key policy events overlaid. In anticipation of opening (both ending lockdowns and opening international borders), Aotearoa New Zealand moved from the Alert Level System to the COVID-19 Protection Framework (also known as the 'traffic light' system) on 3 December 2021. The COVID-19 Protection Framework placed a large emphasis on people having vaccination certificates in order to enter public premises or participate in larger gatherings. It also included some PHSMs such as gathering sizes and physical distancing. The idea of the traffic light system was to provide a framework for containing COVID-19 transmission without having to resort to full lockdowns. The higher settings (orange and red) were to be used initially as a brake on infection rates while the country emerged from the elimination phase and accepted that COVID-19 transmission was now established in the population. These higher settings provided a safeguard against COVID-19 cases growing too rapidly and overwhelming the health system (and society more generally).

Accordingly, all of Aotearoa New Zealand was set to Orange or Red in December 2021. The whole country was at Orange for three days from 20 January 2022 before moving back to Red on 23 January, following the first detected community transmission of Omicron. The country remained at Red through all of February and March 2022. Cases and hospitalisations fell from late March and by April 13 had halved from their peak, precipitating a decision to move down to the Orange traffic light setting. New Zealand remained at Orange through the next 6 months (traversing the second July wave) until the COVID-19 Protection Framework was finally retired on 12 September 2022.

Daily hospitalisation admissions for COVID-19 peaked at nearly 3 per 100,000 (or 150 actual hospitalisations a day) in the first Omicron wave, and at 2 per 100,000 in the second wave. Of note, the mortality rate was higher in the second wave due to older people being more impacted in this wave (see section B8.2).

Figure 13: Late 2021 through 2022 cases, hospitalisation and death rates (all of New Zealand), and key policy events



Policy changes

v (17 Aug): NZ to AL4
w (31 Aug): NZ to AL3
x (07 Sep): Auckland to AL4, rest of NZ to AL2
y (21 Sep): Auckland to AL3
z (05 Oct): Auckland to AL3.1 (small gatherings permitted in some contexts)
A (09 Nov): Auckland to AL3.2 (opening of retail and public facilities with face masks and physical distancing, gatherings up to 25)
B (02 Dec): Covid Protection Framework (CPF) replaces AL system; Most of North Island to Red, rest to Orange
C (30 Dec): NZ to Orange (except Northland)
D (20 Jan): Northland to Orange
E (23 Jan): First confirmation of community transmission of Omicron variant; All NZ moved to Red
F (27 Feb): Fully vaccinated NZers allowed to self-isolate upon arrival in NZ instead of going to MIQ
G (18 Mar): Quarantine-Free Travel for all NZ citizens began
H (13 Apr): NZ to Orange
I (12 Sep): Covid Protection Framework retired

Source: Based on data from Ministry of Health

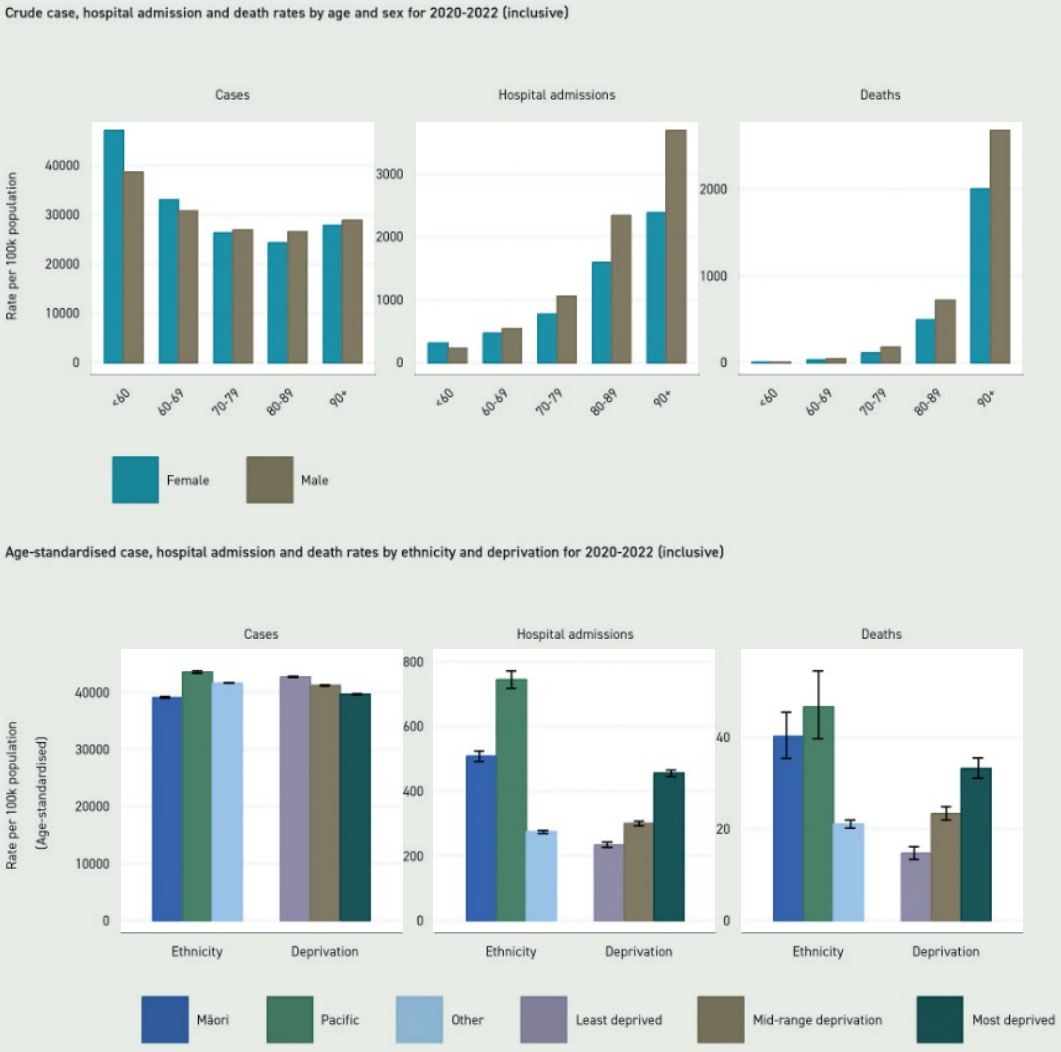
B.8 Case, hospitalisation and death rates by socio-demographic groups

B8.1 Summary of health outcomes (2020–2022 inclusive)

Reported case rates were higher among people less than 60 years old, but hospitalisation rates increased steeply with age above 60 years and death rates even more so (Figure 14). Compared to people aged less than 60, the hospitalisation rates among 60–69, 70–79, 80–89 and 90+ year olds were 1.87, 3.38, 7.13 and 10.6 times greater (respectively), and the death rates were 8.95, 32.5, 135 and 509 times greater (respectively), based on age-standardised rate ratios. Considering absolute numbers, 20 percent of hospitalisations and 66 percent of deaths were among people aged 80 years and over.

Case rates over the full 2020–2022 period did not differ too much by deprivation and ethnicity. (Case rates were much higher among Māori and Pacific populations in the second half of 2020 and 2021, although case numbers were low overall during these periods.) In 2022, case rates were initially higher among Māori, Pasific peoples and people living in more deprived neighbourhoods, although these differences disappeared by the end of 2022 as shown in Figure 15). However, hospitalisation and death rates were considerably higher among Māori and Pacific people over the 2020–2022 period, and among those living in more deprived areas – in part due to their higher rates of infection in 2020 and 2021 (that is, pre-Omicron) with more virulent viruses (such as Delta) and before the protection of vaccinations was available.

Figure 14: Case, hospitalisation and death rates 2020 to 2022. First row: by age and sex; second row: by ethnicity and deprivation (age-standardised)



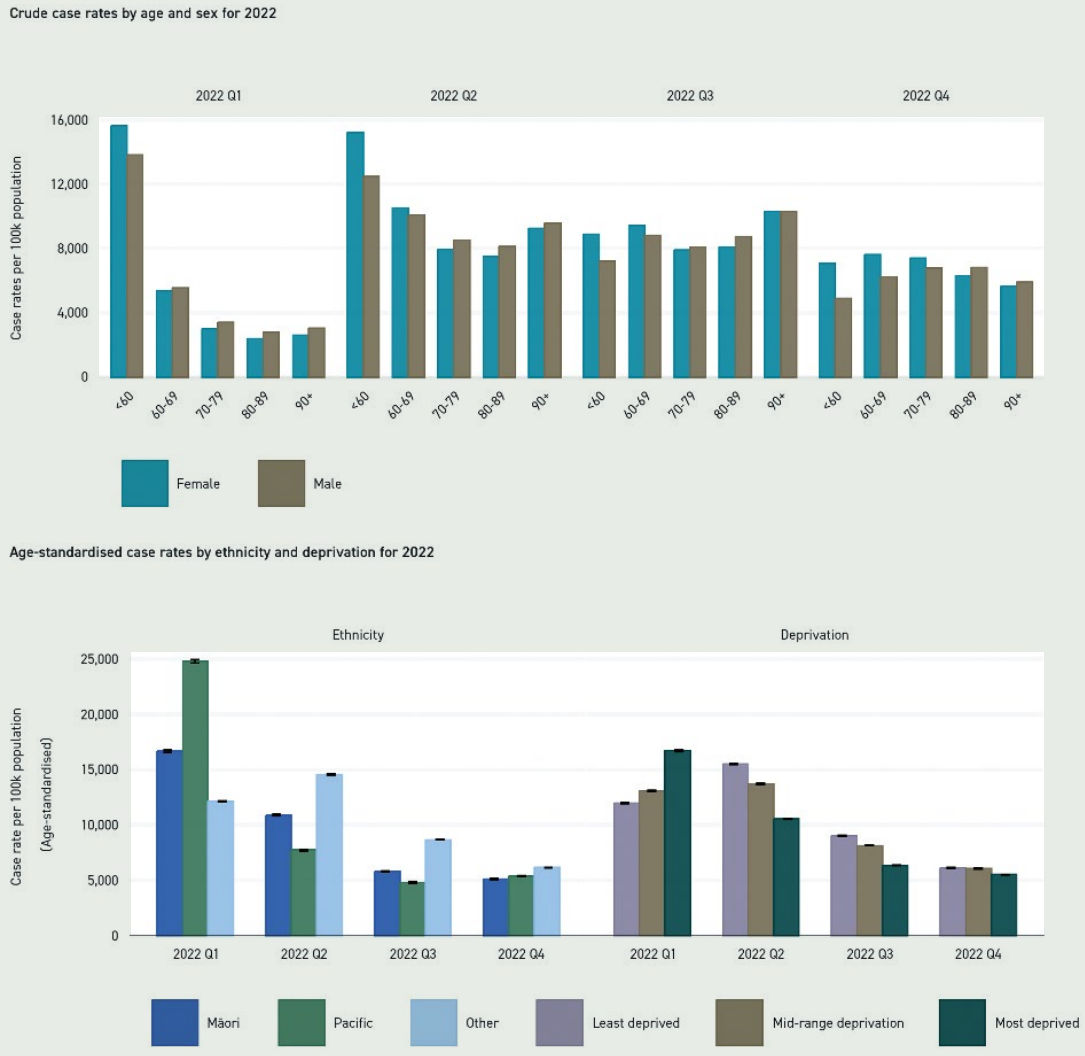
Source: Based on data from Ministry of Health

B8.2 Trends throughout 2022

Widespread transmission of SARS-CoV-2 in Aotearoa New Zealand occurred in 2022 with the arrival of the Omicron variant. The pandemic spread through different groups with different phasing through 2022:

- Case notification rates were initially much higher amongst people less than 60 years of age in the first quarter of 2022, but much the same by age by the fourth quarter (Figure 15). Some of this change might be due to a greater drop-off in testing and self-notification among younger people, as testing shifted from PCR to RAT tests and some people became more 'relaxed' about COVID-19 infection.
- Case rates were initially higher among Māori, Pacific peoples and those living in more deprived areas (see Q1). This trend then reversed in quarter 2 (Q2) and quarter 3 (Q3) of 2022; i.e. case rates were higher among non-Māori non-Pacific (Other) ethnic groups and among those living in the least deprived areas. By the end of 2022 (Q4), case rates appeared much the same by ethnicity and area-level deprivation.
- Hospitalisation rates were consistently higher among older age groups, a trend that became more pronounced from quarter 2 onwards (Figure 16) as older age groups were less protected from infection and started to experience a similar case rate to younger age groups (Figure 15).
- Hospitalisation rates were consistently higher among Māori, Pacific peoples and those living in more deprived areas (Figure 16).

Figure 15: Case rates across 2022. First row: by sex and age (crude); second row: by ethnicity and deprivation (age-standardised)



Source: Based on data from Ministry of Health

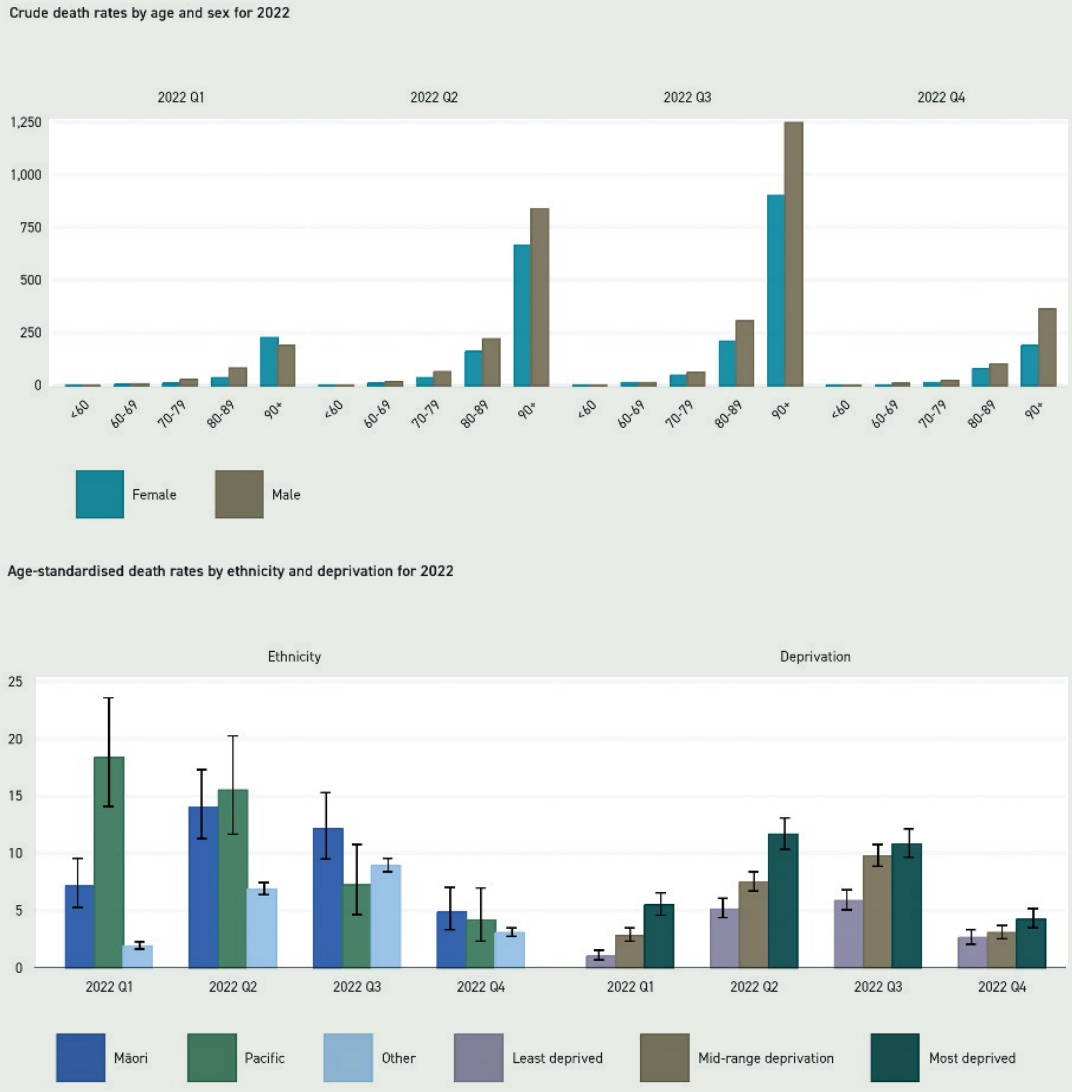
Figure 16: Hospitalisation rates across 2022. First row: by sex and age (crude); second row: by ethnicity and deprivation (age-standardised)

Source: Based on data from Ministry of Health

Hospitalisation trends approximately follow the shape of case trends, but the inequities between groups are more pronounced. Māori and Pacific people have substantially elevated relative hospitalisation rates despite their younger population structure, and this becomes more pronounced once age is adjusted for.

There is also a clear and consistent pattern of higher hospitalisation rates for people living in higher deprivation areas.

Figure 17: Death rates across 2022. Top row: by sex and age (crude); second row: by ethnicity and deprivation (age-standardised)



Source: Based on data from Ministry of Health

Figure 17 shows both crude and age-adjusted death rates from COVID-19 as they changed across the four quarters of 2022. At all time-points the risk of dying from COVID-19 was strongly patterned by age, with people in older age groups (80-89 years and 90 years and over) much more likely to die from COVID-19.

The risk of dying from COVID-19 was also consistently higher for Māori and Pacific peoples. Higher death rates for Māori and Pacific in quarter 1 of 2022 are partly a reflection of their higher case rates at that time. As the year progressed, the pandemic spread more to the rest of the population (non-Māori non-Pacific or 'Other'), which is older on average than Māori and Pacific populations. In the latter part of 2022, a majority of COVID-19 deaths were occurring in non-Māori non-Pacific ('Other') ethnic groups, predominantly New Zealand European or Pākehā.

The age-standardised death rates can be understood as showing how the risk of dying from COVID-19 compared for people of the same age who belonged to different ethnic groups or who lived in areas of greater or lesser deprivation. The younger age structure of Aotearoa New Zealand's Māori and Pacific populations means their crude death rates from COVID-19 are lower than that of non-Māori non-Pacific (or 'Other') ethnic groups, but their age-standardised death rates are much higher. People living in areas of higher socio-economic deprivation had higher death rates than less deprived people throughout the course of the pandemic. This trend is particularly clear and consistent in the age-adjusted rates.

8.3 Multivariable regression analyses for 2022 to determine total and mediated effect for ethnicity, deprivation and co-morbidity

For 2022 there were sufficient numbers of hospitalisations and deaths to undertake multivariable regression modelling. The purpose of these analyses was to determine:

- The ethnicity rate ratio (RR) differences, adjusted for sex and age (which should align closely with the above age-standardised analyses)
    - How much of this ethnic difference was due to mediation by deprivation, and by deprivation and co-morbidity
- The deprivation RR differences, adjusted for sex and age, and adjusted for ethnicity (which is a prior determinant of deprivation)
    - How much of the deprivation difference was due to mediation by co-morbidity
- The co-morbidity RR difference, adjusted for sex, age, ethnicity and deprivation.

8.3.1 Hospitalisations

Rate ratios from the Poisson regression for hospitalisations are shown in Table 2.

Māori and Pacific people had a 74 percent and 140 percent increased rate of hospitalisation respectively compared to non-Māori non-Pacific and non-Asian people respectively, adjusted for sex and age. About a third of these elevated risks for Māori and Pacific people were attributable to differing levels of deprivation (excess risks reducing from 70 percent to 45 percent for Māori, and from 140 percent to 100 percent for Pacific people). Another third (Māori) and 16 percent (Pacific) was due to differences by ethnicity in co-morbidities. Thus, the ethnic differences adjusted for both deprivation and co-morbidity reduced to RRs of 1.31 and 1.84 for Māori and Pacific people, respectively.

There was a deprivation gradient in hospitalisations (adjusting for sex, age and ethnicity), that monotonically increased from 16 percent to 31 percent to 51 percent to 79 percent higher hospitalisation rates for quintiles 2, 3, 4 and 5 (the most deprived) each compared to the least deprived. These deprivation differences reduced by about a third when adjusting for co-morbidity.

Having any co-morbid conditions, compared to nil, adjusted for sex, age, ethnicity and deprivation, was associated with a 4.58-fold increased rate of hospitalisation.

Table 2: Multivariable regression results for hospitalisations in New Zealand in 2022

		Hospitalisations n	Popn N	Incidence (per 10k)	Sex+Age+Ethnicity		Sex+Age+Ethnicity +Deprivation		Sex+Age+Ethnicity +Deprivation+Co-morb	
					Rate Ratio	95% CI	Rate Ratio	95% CI	Rate Ratio	95% CI
Total		**2,883**	**5,279,183**	(37.4)						
Sex	Male	9,488	2,611,562	(36.3)	0.99	(0.96–1.02)	0.99	(0.96–1.02)	1.00	(0.98–1.03)
	Female	10,207	2,660,073	(38.4)	Baseline		Baseline		Baseline	
Age group (years)	<20	3,222	1,339,719	(24.0)	1.17	(1.11–1.23)	1.20	(1.14–1.26)	1.37	(1.30–1.44)
	20-39	2,815	1,459,251	(19.3)	Baseline					
	40-59	3,624	1,309,742	(27.7)	1.49	(1.42–1.57)	1.52	(1.44–1.60)	1.28	(1.22–1.35)
	60-79	5,894	960,504	(61.4)	3.47	(3.31–3.63)	3.28	(3.32–3.65)	2.14	(2.04–2.25)
	80+	4,169	209,967	(198.6)	11.85	(11.27–12.46)	11.66	(11.08–12.28)	5.00	(4.73–5.29)
Prioritised ethnicity	Māori	3,411	823,353	(41.4)	1.70	(1.63–1.77)	1.45	(1.39–1.52)	1.31	(1.26–1.37)
	Pacific	2,351	398,516	(59.0)	2.40	(2.29–2.51)	2.00	(1.91–2.11)	1.84	(1.75–1.93)
	Asian	1,981	844,255	(23.5)	0.94	(0.89–0.98)	0.93	(0.88–0.98)	1.01	(0.96–1.06)
	Other	11,938	3,177,450	(37.6)	Baseline		Baseline		Baseline	
Deprivation (quintiles)	least	2,580	1,032,923	(25.0)			Baseline		Baseline	
	Quintile 2	3,074	1,008,474	(30.5)			1.16	(1.10–1.22)	1.11	(1.06–1.17)
	Quintile 3	3,531	1,011,426	(34.9)			1.31	(1.24–1.38)	1.22	(1.16–1.28)
	Quintile 4	4,231	1,023,503	(41.3)			1.51	(1.44–1.59)	1.35	(1.29–1.42)
	most	5,349	1,053,471	(50.8)			1.79	(1.70–1.88)	1.54	(1.47–1.62)
Co-morbidity	No	9,488	2,611,562	(36.3)					Baseline	
	Yes	10,207	2,660,073	(38.4)					4.58	(4.43–4.73)

Source: Based on data from Ministry of Health

8.3.2 Deaths

Rate ratios from the Poisson regression for hospitalisations are shown in Table 2.

Māori and Pacific peoples had a 74 percent and 100 percent increased rate of death from COVID-19 compared to people in non-Māori, non-Pacific ethnic groups. (People of Asian ethnicity had a 40 percent lower death rate.) About a third of the elevated mortality risk for Māori and Pacific peoples was linked with their greater likelihood of living in a socio-economically deprived area. And roughly a further quarter of their increased risk could be linked with their higher level of co-morbidity. After adjustment for deprivation and co-morbidity (in addition to age and sex), the risk of COVID-19 mortality remained 38 percent higher in Māori and 55 percent higher in Pacific peoples, respectively.

There was a strong deprivation gradient in COVID-19 mortality (adjusting for sex, age and ethnicity) whereby the death rate from COVID-19 increased monotonically by quintiles of area-level deprivation. Compared with people living in the least deprived quintile (quintile 1), the COVID-19 death rate increased by 47 percent to 83 percent to 111 percent to 125 percent for people living in quintiles 2, 3, 4 and 5 (the most deprived) respectively. These differences by deprivation reduced by about 20 percent following adjustment for co-morbidity.

Having any co-morbid conditions (compared with none) was associated with a 4.25-fold increased risk of COVID-19 death independent of any effect from age, sex, ethnicity or deprivation.

Table 3: Multivariable regression results for COVID-19 deaths in New Zealand in 2022

		Deaths n	Popn N	Incidence (per 10k)	Sex+Age+Ethnicity		Sex+Age+Ethnicity +Deprivation		Sex+Age+Ethnicity +Deprivation+Co-morb	
					Rate Ratio	95% CI	Rate Ratio	95% CI	Rate Ratio	95% CI
Total		**2,883**	**5,279,183**	**(54.6)**						
Sex	Male	1,506	2,611,562	(57.7)	Baseline		Baseline		Baseline	
	Female	1,365	2,660,073	(51.3)	0.68	(0.63–0.73)	0.65	(0.60–0.70)	0.68	(0.63–0.73)
Age group (years)	<20	174	4,108,712	(4.2)	0.10	(0.08–0.13)	0.10	(0.08–0.13)	0.15	(0.12–0.18)
	20-39	225	573,326	(39.2)	Baseline		Baseline		Baseline	
	40-59	564	387,178	(145.7)	3.87	(3.31–4.52)	3.79	(3.23–4.45)	3.10	(2.64–3.64)
	60-79	1,062	172,444	(615.9)	17.03	(14.73–19.69)	16.49	(14.21–19.14)	11.04	(9.46–12.87)
	80+	858	37,523	(2286.6)	66.78	(57.58–77.45)	64.07	(55.00–74.64)	37.31	(31.77–43.81)
Prioritised ethnicity	Māori	256	823,353	(31.1)	1.74	(1.53–1.98)	1.51	(1.32–1.73)	1.38	(1.20–1.59)
	Pacific	156	398,516	(39.1)	2.00	(1.70–2.35)	1.71	(1.44–2.02)	1.55	(1.31–1.84)
	Asian	112	844,255	(13.3)	0.60	(0.49–0.72)	0.60	(0.50–0.73)	0.66	(0.54–0.80)
	Other	2,343	3,177,450	(73.7)	Baseline		Baseline		Baseline	
Deprivation (quintiles)	least	267	1,032,923	(25.8)			Baseline		Baseline	
	Quintile 2	472	1,008,474	(46.8)			1.47	(1.27–1.71)	1.40	(1.20–1.63)
	Quintile 3	615	1,011,426	(60.8)			1.83	(1.58–2.11)	1.70	(1.47–1.96)
	Quintile 4	730	1,023,503	(71.3)			2.11	(1.83–2.43)	1.90	(1.65–2.19)
	most	638	1,053,471	(60.6)			2.25	(1.95–2.61)	1.99	(1.72–2.30)
Co-morbidity	No	632	4,527,583	(14.0)					Baseline	
	Yes	2,251	751,600	(299.5)					4.25	(3.81–4.74)

Source: Based on data from Ministry of Health

B.9 Endnotes

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Appendix C:

Pandemic scenarios | Ngā āhuatanga o te mate urutā

C.1 Purpose and audience

This appendix is intended for people interested in thinking in more depth about pandemic scenarios – for example, those who might be responsible for working through and then implementing this report's recommendations on scenario thinking, planning and modelling.

We discuss scenario thinking, anticipatory governance, and using scenario planning and modelling to inform policy response options in Chapter 10 of the main report. Here we focus in more depth on the core aspect of pandemic scenarios, with examples relating to characteristics of potential pandemic agents.

This appendix builds on a growing body of work about the role of scenario planning for future pandemics. We also commend to interested readers a report published in 2023 by Te Niwha: *Likely future pandemic agents and scenarios: An epidemiological and public health framework*.[1] Discussions about the Te Niwha report helped inform the work of this Inquiry.

C.2 Generic or 'Agent X' pandemic scenarios

How a future pandemic will play out in Aotearoa New Zealand is a function of three factors:

1. **Pathogen and host**: Specifically, the virulence and infectiousness of the pandemic agent (likely a virus), and the immunological and general susceptibility (such as age and co-morbidities) of the people it infects.
2. **Response**: That is, the actions we take collectively and individually to respond, selecting from the 'tools' we have in the 'toolbox'. (This in turn is influenced by what pandemic preparation has occurred in the past.) The response options are wide-ranging, including: *public health and social measures* (PHSMs), ranging from voluntary physical distancing to lockdowns; vaccines – both the quality of what is in the vial, and when and how we deploy or roll it out in society; *treatments* that might be generic for any serious viral illness (such as ICU care) through to bespoke pharmaceuticals developed in response to the new pandemic agent; *testing* including the actual test itself through to how it is deployed and used; *contact tracing; isolation and quarantine*; and *border controls.*
3. **Contextual factors**: Social cohesion and trust (in government, science, each other) are important preconditions for a coordinated response that requires solidarity or kotahitanga to execute (such as an elimination strategy that occasionally requires working from home or even lockdowns).

The range of possibilities under each of these three domains is large. It is not possible to conceptualise and work through all possible scenarios. However, the backbone of future pandemic preparedness will involve developing scenarios that in turn inform preparedness activities. We also recommend that modelling – including economic and social inputs and impacts – of many scenarios is performed to help guide that process going forward. A combined WHO, OECD and World Bank report has eloquently made the case for integrated epidemiologic and economic modelling capacity to be built before the next pandemic.[2]

But for this appendix, we flesh out a handful of scenarios – the objectives being:

- To highlight that the next pandemic will likely be different from COVID-19.
- To highlight that the impact of the next pandemic will likely depend on what preparation is done in advance.
- To demonstrate how outlining scenarios can assist prioritisation of preparedness activities.

For our scenario thinking, we consider component scenarios as follows:

Figure 1: Scenario Components

1. Pathogen characteristics:

a) four combinations of infectiousness (measured by R0[i]) and visibility for case detection, contact tracing, isolation and quarantine[ii]
   (i) low infectiousness (R0 = 2.0) and high visibility
   (ii) moderate infectiousness (R0 = 3.0) and low visibility[iii]
   (iii) high infectiousness (R0 = 6.0) and high visibility
   (iv) high infectiousness (R0 = 6.0) and low visibility

b) virulence of infection fatality risk (IFR[iv]; low=0.5 percent/high=7.5 percent[v])

= 8 scenarios

2. Societal preparation: good versus poor[vi]

= 2 scenarios

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i The R0 is the basic reproductive number – or the number of people each infected person infects on average, early in the outbreak when there is no immunity among the population. It is also a social construct, in that the R0 depends on contact patterns and facilitation of transmission in the society. For the purposes of these scenarios, we assume this R0 applies to a pathogen 'dropped into New Zealand in 2019' before it was detected. If in the future people congregate in buildings with much improved ventilation (and possibly filtration), the R0 of a given pathogen will be reduced. Likewise, the R0 will be less in the future if people work and study more from home.

ii *High visibility* for contact tracing would be a long incubation period (allowing more time for people to quarantine effectively and be contact traced); little if any pre-symptomatic infectious period (meaning people do not circulate for long in the community before self-isolating when they become symptomatic – assuming they comply); and few if any people getting asymptomatic infection (yet still being infectious to others). *Low visibility* is the converse. For additional discussion and consideration of 'visibility' of a pandemic pathogen, including social factors that influence visibility and detectability, see J.M. McCaw, K. Glass, G.N. Mercer, and J. McVernon, 'Pandemic controllability: a concept to guide a proportionate and flexible operational response to future influenza pandemics', *Journal of Public Health* 36, no. 1 (3 June 2013), 5-12, https://doi.org/10.1093/pubmed/fdt058, https://academic.oup.com/jpubhealth/article/36/1/5/1572791.

iii It seems unlikely for a low infectiousness virus (R0 = 2.0) to also be low visibility, so we set a moderate infectiousness (R0 = 3.0) as the 'best' scenario with a low visibility pathogen.

iv The infection fatality risk (IFR) is the proportion of people infected who die (in the absence of more than supportive care, before any specific treatments for the pandemic pathogen are available). It is less than the case fatality rate (CFR), which has symptomatic and detected people as the denominator. Thus, if two thirds of people are symptomatic and classified as a case (for example, because they are captured by surveillance systems), then a 10 percent IFR equates to a 15 percent CFR. For these scenarios, we assume the IFR and CFR vary by age, being greater among older age groups. The 1918 influenza epidemic had a notably high CFR among young adults, probably due to some immune memory from an influenza virus that circulated in the late 1800s and secondary bacterial infection on top of the 1918 influenza virus that actually resulted in most of the deaths. A high CFR among young adults relative to older adults in a future pandemic is possible but seems unlikely.

v The IFR will almost certainly vary by age, perhaps greater than 100 fold. But here we just consider the 'crude' IFR across all ages combined.

vi A well-prepared society might have these features: improved *ventilation and filtration* of public buildings (especially healthcare settings), leading to a 5 to 10 percent reduction in the R0 of any respiratory-borne pathogen; be *digitally enabled* allowing easy work and study from home; deploy effective digitally enhanced contact tracing and surveillance; have a *strong public health workforce* that is able to surge for contact tracing and supporting cases and contacts, with excellent connections into and collaborations with diverse communities; have *strong health systems* that are able to surge to meet community, secondary and tertiary care demands in a pandemic; have *strong testing strategy and capacity* that can be surged rapidly; have *strong IT systems* in health, to provide for situational awareness surveillance, and prioritisation of activities; maintain *large well-managed stockpiles* of personal protective equipment (PPE) and medicines; have *onshore manufacturing capacity for PPE* and masks that can be surged; have a *comprehensive quarantine system* that can surge to provide a mix of strict facilities through to supported home quarantine; have *predetermined governance and decision-making structures*, supported by strong legislation, policy workforce capacity and with engagement and liaison arrangements with Māori and other community groups, that can all be surged in a coordinated manner; have *strong wage and business support* systems that can be turned on and off rapidly, and targeted as required; maintain *strong border systems and workforce* that can rapidly move up levels of stringency for international arrivals; and have *strong social support and welfare sector* that can reprioritise and surge to support people.

3. Strategy:

a) **Immediate**: There will be an initial and urgent decision required as to whether to use an *exclusion* strategy and minimise the possibility of the pathogen entering the country at all (or at least delaying its arrival). The *exclusion* strategy would be used with a pathogen with obvious major potential health and social impact due to its combination of infectiousness, virulence, visibility – and the societal preparedness and response capacity in place. It would also be used when there was a high degree of uncertainty requiring time to rule out the likelihood of the pandemic pathogen being 'bad' (in other words, applying the precautionary principle).

b) **If the pathogen is within New Zealand**: If an exclusion strategy is not taken, or it is taken then a pivot to more open borders is pursued with the inevitability of onshore transmission occurring, or exclusion fails, despite rigorous international border quarantine, with incursion of the pathogen into New Zealand, the strategy choices are broadly two-fold:

   (i) *Elimination or aggressive suppression* (keep stamping it out, aiming for zero within-country transmission most of the time; may even revert to *exclusion* strategy, emphasising that strategies sit on a spectrum); versus

   (ii) *Loose suppression of mitigation* (that is, let the pathogen wash through until something like herd immunity is achieved, using 'flattening the curve' activities if peak healthcare demand exceeds system capacity).

= 2 scenarios

4. Vaccine:

a) *Good* scenario of vaccines with high vaccine effectiveness (including against transmission), rapid development and rollout (for example, starting within six months of the pathogen being identified and completed within another six months), and high vaccine uptake (for example, 90 percent or more of the eligible population); versus

b) *Bad* scenario of vaccines with only moderate vaccine effectiveness (protection) against death (for example, a 90 percent reduction in risk) and hospitalisation (for example, an 80 percent reduction in risk) and poor vaccine effectiveness against transmission (for example, a 30 percent reduction in risk of vaccinated person being infected, and a 50 percent reduction in risk of a vaccinated person with infection passing it on to others – meaning a hypothetical 1 – ((1–30 percent) × (1–50 percent)) = 65 percent reduction in transmission in society if everyone was vaccinated), and only 60 percent vaccine uptake in the eligible population.[vii]

= 2 scenarios

vii A 60 percent uptake, with the vaccine effectiveness against transmission as stated in this paragraph, would lead to a 60 percent × 65 percent = 39 percent ≈ 40 percent (assuming homogeneous population mixing, and 60 percent uptake is for all ages as the denominator). Assuming no waning, and no immune escape from new variants, the effect of this vaccine scenario **alone** (with no other changes in society) would be enough to achieve an effective reproductive rate (R_{eff}) of 1.0 for a pathogen with an R0 of 1.67. It would still be helpful in **combination** with other measures to reduce transmission for pathogens with an R0 > 1.67.

Another key consideration is uncertainty – which will likely be high initially. Uncertainty may be explicitly included in frameworks for deciding on the optimal pandemic strategy (see, for example, Kvalsvig and Baker, 2021[3]). There is also likely to be uncertainly in relation to the initial decision about whether to immediately impose strict national border restrictions and keep the pathogen out (*exclusion* strategy above). We refer to these dimensions occasionally, but do not explicitly include them in our framework.

These component scenarios come together as 64 different combinations (8×2×2×2). This is far too many to expound in depth, but we will select from them to demonstrate possible futures.

Next, the pathogen characteristics are considered in more detail. Table 1 shows the expected deaths in an **unmitigated** pandemic in a population of 6 million. The lower bound is given, assuming the proportion infected is determined by the herd immunity threshold (R0 – 1)/R0), which will require strong controls as the pandemic progresses to ensure infection rates are kept low as the herd immunity threshold is approached. The upper bound is that for a completely unmitigated epidemic, whereby there are many people infected when the population reaches the level of infection required to achieve herd immunity (meaning there is still some way to go before wave of infection fades away). Note that these numbers are theoretical, assuming homogenous mixing and no societal or individual measures to reduce the risk of transmission. In reality this is an unlikely situation since – even in the absence of a coordinated government response – people are likely to take voluntary measures to 'shield' the vulnerable (such as elderly people avoiding social gatherings and people wearing masks), meaning death counts would likely be lower than those projected here.

Table 1 also shows in parentheses the likely time-specific occurrence (return period) for such a pandemic, using the work of Madhav et al (2023)[4] and assumptions as per the footnotes to Table 1.

Table 1: Excess deaths by pandemic scenario *in an unmitigated pandemic with no societal or behavioural change* † for a country of 6 million (return period in backets derived from Madhav et al, 2023 ‡)

		Virulence	
		Low, IFR = 0.5%	High, IFR = 7.5%
Infectiousness	Low, R0 = 2	15,000 to 27,000 £ (1 in 25 yr)	225,000 to 400,000 £ (1 in 100 yr to 1 in 200 yr)
	Moderate, R0 =3	20,000 to 28,000 £ (1 in 25 yr)	300,000 to 425,000 £ (1 in 100 yr to 1 in 200 yr)
	High, R0 = 6	25,000 to 30,000 £ (1 in 25 yr)	375,000 to 450,000 £ (1 in 200 yr)

† For illustrative purposes (in reality there will be behavioural changes, although the extent is unclear).

‡ Madhav et al compiled a historical record of pandemics. They created an approximate excess death rate corresponding to how often a pandemic of that severity occurred. Those excess death rates are 'observed' and therefore mitigated to some extent. Further, and assuming the IFR is higher among older ages, then the 'completely unmitigated' excess death rate in contemporary society would be more than in historical records due to older populations. These factors are allowed for in the (very) approximate assigning of 1 in 25-year and 1 in 100-year to 1 in 200-year pandemics.

£ **Lower bound** is for the *herd immunity threshold* (HIT) of infection ((1 – R0)/R0) multiplied by the IFR by 6 million. For the proportion of the population to be infected to equal the HIT requires homogenous mixing and (critically) that the epidemic is controlled so that it approaches the HIT with low infection rates – that is, there would need to be considerable flattening of the curve and mitigation activities. The **upper bound** is that for an unmitigated epidemic ('let it rip', no dampening of transmission whatsoever) that means the epidemic still has many people infected at the HIT, and whilst each infected will pass it on (on average) to less than one other person, there is still much more momentum to run out. Using formulas derived for a SIR model[5] (Susceptible, Infectious and Removed individuals) model, an unmitigated epidemic for a pathogen with R0 of 2.0 will see 79.7 percent of the population infected (c.f. HIT = 50 percent), and R0 6.0 will see 99.7 percent infected (c.f. HIT = 83.3 percent).

Rather soberingly, the current H5N1 strain of avian influenza ('bird 'flu') has a recorded case fatality rate (CSR) of about 50 percent among people infected via animal-to-human transmission. (The virus has not yet mutated to allow human-to-human transmission, which could potentially precipitate another pandemic.) Based on experience with previous influenza viruses, we assume that – should human-to-human transmission occur, the infection fatality risk (IFR) for H5N1 will be much less than the case fatality rate (CFR).[viii] This is likely for two reasons: firstly, many cases of H5N1 influenza infection from animal-to-human transmission are likely to have remained undetected due to mild or absent symptoms (that is, IFR < CFR); and secondly, if mutations occur to allow human-to-human transmission, the virus is likely to simultaneously become less virulent (although this second assumption is not certain). Thus, our worst case of an IFR of 7.5 percent should not be discounted as impossible.

viii See footnote iv for an explanation of IFR and CFR.

C.3 Examples of future pandemic scenarios

Below we give a narrative description of four stylised scenarios. For readers interested in a more comprehensive overview, Tables 2 and 3 will be of interest – and some readers may want to start with those tables before reading the following narratives.

(1) Good scenario: Low R0 = 2.0, low virulence with IFR = 0.5 percent, highly visible (and therefore amenable to self-isolation, contact tracing and quarantine measures)

This scenario is a bit better than initial SARS-CoV-2 both in terms of R0 (the ancestral variant of SARS-CoV-2 had an R0 of about 2.5) and IFR.

With good preparation and good anticipated vaccines (in terms of both coverage and effectiveness) that can be rolled out in six months, this scenario looks ideally manageable with an elimination strategy (Table 2).

However, the situation might evolve differently. For example, if vaccines were likely to be delayed and there was pressure from citizens to keep borders open, mitigation might offer an alternative route. This would be more feasible and acceptable if those most vulnerable to serious illness (such as people who were older, frail and/or with co-morbidities) could be 'shielded' through measures such as distancing and masking, allowing others at low risk of serious illness to become infected and develop something like herd immunity that is later topped up through vaccination.

Another option would be to use elimination initially, hoping for effective vaccines to become available in a short timeframe. But if in the first few months it became clear that vaccines were a way off, or would likely be of low effectiveness, it may make sense to pivot to suppression or mitigation.

All options would be easier to navigate with better preparation. For example:

- Greater built-in ventilation of public buildings would 'take the edge' off the R0 (although we do not yet fully understand by how much), probably making it less likely for outbreaks to occur, and – where outbreaks do occur – a bit easier to stamp out.
- A stronger public health workforce with greater capacity to surge contact-tracing and isolation functions would make it easier to control outbreaks without having to resort to more stringent public health and social measures such as lockdowns.
- Greater laboratory capacity and ability to surge testing rapidly would enable faster identification and isolation of cases, and quarantine of contacts.
- A fine-tuned system that can deliver wage subsidies rapidly to regional employers and employees in a targeted manner would assist any need (if at all) for short, sharp regional lockdowns.

(2) Not quite so good scenario: Low R0 = 3.0, low virulence IFR = 0.5 percent, poorly visible (and therefore *less* amenable to self-isolation, contact tracing and quarantine measures)

Imagine, now, that the pathogen is essentially the same, except that it has some mix of a shorter incubation period, greater infectivity before symptoms, and more asymptomatic infection (Table 2). An elimination or exclusion strategy might still work well, especially if borders are moved rapidly to (good) quarantine systems **before** any infection takes hold onshore. But if outbreaks occurred, they would be harder to stamp out given less visibility of early infection.

This more challenging set of circumstances might prompt a pivot to mitigation, especially if social licence for an elimination strategy was low, vaccines seemed a long way off, and the vaccines in the pipeline did not appear to have high effectiveness.

As with all the possibilities outlined, better preparation would give decision-makers more options in such a scenario.

(3) Bad scenario: high R0 = 6.0, high virulence with IFR = 7.5 percent, but high visibility

This scenario is in Table 2. Because of the high R0, stamping out or keeping low transmission will be challenging. (An early *exclusion* response might be ideal, preventing any onshore transmission – or at least holding it off as long as possible until a breach in international quarantine occurs.) But with such a high IFR, there would be a strong incentive to keep transmission low – meaning society would likely be willing to forego liberties to lessen health loss and health system pressure. Better preparation would make an elimination strategy easier. International borders would probably need to be strictly managed with quality quarantine of international arrivals.

Even if vaccines appeared to be a long way off, if an elimination strategy was holding and transmission within the country was very low or at zero, an ongoing elimination approach would probably be better than pivoting to mitigation (which would be likely to bring tens to hundreds of thousands of deaths, and substantial health system and social disruption).

If an elimination strategy failed (from one or a combination of one too many outbreaks, infection taking off, societal fatigue with restrictions, or societal pressure to open up borders), the pivot to a suppression or mitigation strategy would be extremely challenging for health systems with substantial loss of life – unless those most vulnerable could be effectively protected and shielded through measures like masking and distancing.

If an elimination strategy was retained, its true success would likely be a function of vaccines – both uptake and effectiveness. If those factors were poor, health loss would still be substantial over the whole pandemic – better than if the government pursued a suppression or mitigation strategy (rather than an initial elimination strategy) from the outset, but still far from good.

(4) Really bad scenario: high R0 = 6.0, high virulence with FR = 7.5 percent, but low visibility

This scenario is the same as the last, but for a pathogen that has some mix of short incubation period, infectiousness before symptoms and moderate to high asymptomatic infection (but still infectious). Contact tracing and citizen self-isolation upon becoming symptomatic are unlikely to be very effective in this scenario. Unless borders were shut before infection arrived (that is, an immediate *exclusion* strategy), stamping out incursions and outbreaks would be difficult – requiring luck, an extremely good public health workforce with strong surveillance and contact-tracing systems and likely repeated stringent population-wide PHSMs to help stamp out outbreaks.

Under this scenario, the likelihood of losing control and infection taking off requiring a mitigation strategy is high – but that mitigation strategy would still require stringent PHSMs to protect health services during waves of infection. It would be very challenging if elimination failed, with substantial health, societal and economic loss.

An early and effective vaccine would be desperately sought; countries that had invested in vaccine production and access schemes in advance would be advantaged.

Table 2: Pandemic scenarios for low or moderate infectiousness (R0 = 2.0 or 3.0) and low virulence (IFR = 0.5 percent) pathogen

🟢🟢🟢🟢🟢 Good (comparatively) outcome 🟡🟡 Moderate (comparatively) outcome ◯ Too uncertain to predict

		R0 = 2.0 and High Visibility (long incubation, low asymptomatic, low infectiousness before symptoms)		R0 = 3.0 and Low Visibility (short incubation, high asymptomatic, high infectiousness before symptoms)	
		Good societal preparation	**Poor societal preparation**	**Good societal preparation**	**Poor societal preparation**
Vaccine: Good 6 months till rollout, rollout completed in 6 months, high coverage and vaccine effectiveness	**Elimination or aggressive suppression**	🟢 1st 12 months (i.e. to the end of the vaccine rollout): Very low deaths. If international border quarantine then modest only PHSMs likely needed; if open borders outbreaks perhaps controllable with standard public health response and some population wide PHSMs. Low demands on health sector, low societal disruption. After vaccine rollout: very low deaths, negligible societal and health system disruption.	🟢 As per left, but likely more difficulty controlling outbreaks, somewhat wider community transmission, likely more societal and health system disruption.	◯ 1st 12 months: **Uncertain** if elimination strategy will work in first 6 mnths – more likely to work with international border quarantine and (stringent) PHSMs to give chance for standard public health response to work, level of disruption to health sector and society hard to predict. As vaccine rollout occurs, control becomes notably easier. After rollout: very low deaths, negligible societal and health system disruption.	◯ As per left, but likely more deaths (as more people infected before vaccine rollout), more difficulty controlling outbreaks, more societal and health system disruption.
	Loose suppression or mitigation †	🟡 1st 12 months: 1000s of deaths, health system stretched, sporadic disruption to business and society from sickness. After rollout: very low deaths, negligible societal and health system disruption.	🟡 As per left.	🟢 1st 12 months: Many 1000s of deaths, health system stretched, sporadic disruption to business and society from sickness. After rollout: very low deaths, negligible societal and health system disruption.	🟢 As per left, but likely more societal and health system disruption (including possible lockdowns) as flattening the curve harder.
Vaccine: Bad 12 months till rollout, rollout completed in 12 months, low coverage and vaccine effectiveness	**Elimination or aggressive suppression**	🟢 1st 24 months: Very low deaths. If international border quarantine then modest only PHSMs likely needed; if open borders outbreaks perhaps controllable with standard public health response and some population wide PHSMs. Low demands on health sector, low societal disruption. After rollout: probably low infection as even though vaccine poor, with high rates of natural infection hybrid immunity good enough to achieve something like herd immunity. ‡	🟡 As per left, but likely more deaths and disruption earlier (may be less disruption and deaths later as 'washes through' quicker to something like herd immunity ‡ within the first year).	◯ 1st 24 months: **Uncertain** if elimination strategy will work – more likely to work with international border quarantine and (stringent) PHSMs to give chance for standard public health response to work, level of disruption to health sector and society hard to predict. After rollout: probably low infection as even though vaccine poor, with high rates of natural infection hybrid immunity good enough to achieve something like herd immunity ‡.	◯ 1st 24 months: As per left, but with more likelihood of elimination strategy struggling (meaning more stringent PHSMs, or even pivot to mitigation). (May be less disruption and deaths later as 'washes through' quicker to something like herd immunity ‡ within the first year.) After rollout: probably low infection as even though vaccine poor, with high rates of natural infection hybrid immunity good enough to achieve something like herd immunity ‡.
	Loose suppression or mitigation †	🟡 1st 24 months: 1000s of deaths, health system stretched, sporadic disruption to business and society from sickness – all more concentrated in first 12 months as something like herd immunity ‡ already in place by start of vaccine rollout. After rollout: very low deaths, negligible societal and health system disruption.	🟡 As per left, but likely more deaths and disruption earlier (may be less disruption and deaths later as 'washes through' quicker to something like herd immunity ‡ within the first year).	🟢 1st 24 months: Many 1000s of deaths, health system stretched, sporadic disruption to business and society from sickness – all more concentrated in first 12 months as something like herd immunity ‡ already in place by start of vaccine rollout. After rollout: very low deaths, negligible societal and health system disruption.	🟢 As per left, but likely more societal and health system disruption (including possible lockdowns) as flattening the curve harder.

† Assumed no international border quarantine in loose suppression or mitigation.
‡ Assumes strong immunity from natural infection that neither wanes nor is 'broken through' by new variants.

Table 3: Pandemic scenarios for high infectiousness (R0 = 6.0) high virulence (IFR = 7.5 percent) pathogen

🔴🔴🔴 Bad outcome

◯ Too uncertain to predict [might be good or moderate, or bad if elimination fails with massive social and economic disruption and/or pivot to mitigation]

		R0 = 6.0 and High Visibility (long incubation, low asymptomatic, low infectiousness before symptoms)		R0 = 6.0 and Low Visibility (short incubation, high asymptomatic, high infectiousness before symptoms)	
		Good societal preparation	Poor societal preparation	Good societal preparation	Poor societal preparation
Vaccine: Good 6 months till rollout, rollout completed in 6 months, high coverage and vaccine effectiveness	**Elimination or aggressive suppression**	◯ 1st 12 months: **Uncertain.** Perhaps low deaths, if stringent international border quarantine and stringent PHSMs in place during outbreaks (due to high R0; open borders unlikely to work), moderate demands on health sector, moderate societal disruption (but **uncertain and elimination could fail**). After rollout: very low deaths, negligible societal and health system disruption.	◯ **Uncertain.** As per left, but likely more deaths, likely more difficulty controlling outbreaks, wider community transmission, likely more societal and health system disruption.	◯ 1st 12 months: **Very uncertain.** Elimination strategy might work if stringent international border quarantine and only occasional outbreaks requiring (very stringent) PHSMs with intense public health response to work, level of disruption to health sector and society hard to predict. As vaccine rollout occurs, control becomes notably easier. (**Very uncertain and elimination could easily fail.**) After rollout: very low deaths, negligible societal and health system disruption.	◯ As per left, but likely more deaths (as more people infected before vaccine rollout), more difficulty controlling outbreaks, more societal and health system disruption, **even more likely than left elimination strategy will fail.**
	Loose suppression or mitigation †	🔴 1st 12 months: Tens to 100s of 1000s of deaths, health system over-run, massive disruption to business and society from repeated lockdowns (more so 1st 6 months). After rollout: very low deaths, negligible societal and health system disruption.	🔴 As per left, but likely more deaths and disruption.	🔴 1st 12 months: Tens to 100s of 1000s of deaths, health system over-run, massive disruption to business and society from repeated lockdowns (more so 1st 6 months). After rollout: very low deaths, negligible societal and health system disruption.	🔴 As per left, but likely more deaths and disruption.
Vaccine: Bad 12 months till rollout, rollout completed in 12 months, low coverage and vaccine effectiveness	**Elimination or aggressive suppression**	◯ 1st 24 months: **Uncertain.** Perhaps **moderate** deaths, if stringent international border quarantine and stringent PHSMs in place during outbreaks (due to high R0; open borders unlikely to work), moderate demands on health sector, moderate societal disruption (but very **uncertain and elimination could fail**). After rollout: ongoing outbreaks and deaths, ongoing societal and health system disruption until herd immunity ‡ reached through natural infection.	◯ As per left, but likely more deaths, likely more difficulty controlling outbreaks, wider community transmission, likely more societal and health system disruption.	◯ 1st 24 months: **Very uncertain.** Elimination strategy might work if stringent international border quarantine and only occasional outbreaks requiring (very stringent) PHSMs with intense public health response to work, level of disruption to health sector and society hard to predict. As vaccine rollout occurs, control becomes notably easier. (**Very uncertain and elimination could easily fail.**) After rollout: very low deaths, negligible societal and health system disruption.	◯ As per left, but likely more deaths (as more people infected before vaccine rollout), more difficulty controlling outbreaks, more societal and health system disruption, **even more likely than left that elimination strategy will fail.**
	Loose suppression or mitigation †	🔴 1st 12 months: Tens to 100s of 1000s of deaths, health system over-run, massive disruption to business and society from repeated lockdowns (more so 1st 12 months). After rollout: ongoing outbreaks and deaths, ongoing societal and health system disruption until herd immunity ‡ reached through natural infection.	🔴 As per left, but likely more deaths and disruption.	🔴 1st 24 months: Tens to 100s of 1000s of deaths, health system over-run, massive disruption to business and society from repeated lockdowns (more so 1st 12 months). After rollout: ongoing outbreaks and deaths, ongoing societal and health system disruption until herd immunity ‡ reached through natural infection.	🔴 As per left, but likely more deaths and disruption.

† Assumed no international border quarantine in loose suppression or mitigation

C.4 Endnotes

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Appendix D

D

Vaccine coverage and population immunity – key considerations for lifting pandemic measures | He mea nui te whai whakaaro ki te awhikiri o te taupori – kaua ko te tokomaha anake kua whiwhi rongoā āraimate – i te hōrapa i te rongoā āraimate ina ngoikore haere te kaha o tētahi rongoā āraimate

D.1 Purpose

In Lesson 2 of Chapter 10, we included a 'spotlight' on responding to changes in risk and vaccine-related protection, drawing on examples from the Australian states of New South Wales and Victoria.

This PHMS appendix is intended to support that lesson: if vaccine effectiveness wanes, population immunity is perhaps more important than vaccine coverage when it comes to making decisions about when to ease restrictions. This appendix is also intended to demonstrate how – in the next pandemic – the monitoring and forecasting of population immunity from vaccines could be undertaken.

It is **not** the purpose of this appendix to focus on what happened during COVID-19 in Aotearoa New Zealand and the decisions taken at that time. Rather, we seek to pull out what we think is an important lesson. We use the population of South Auckland in mid- to late 2021 to illustrate what the likely population immunity probably was week by week. Taking the Auckland lockdown during 2021 as our example, we consider how this sort of analysis might be included (alongside other factors) in decision-making on when to ease public health and social measures (PHSMs) in a future pandemic.

To put this in context, decisions about when to ease PHSMs such as lockdowns are based on multiple criteria and can be very challenging to make. There are social considerations (such as the general population's loss of liberty, and the educational and social impacts for children and young people of not being able to attend school in person), economic considerations (including the impacts on small businesses in the locked down area, and spillover effects for the wider economy), and health impacts (both direct effects of getting infected, and indirect mental health and other effects of long lockdowns). In the case of the Auckland lockdown in 2021, a key focus was the extent of protection for Māori and Pacific populations, who had lower levels of vaccine coverage and higher risk of overall negative health outcomes.

This appendix is designed to help future officials and decision-makers think about **one** criterion (protection against infection, symptomatic illness and hospitalisation or death) in **one** domain (health) as an important input into the range of factors involved in deciding when to ease PHSMs.

D.2 What do we mean by population immunity? And why does it matter?

In a population that so far has had negligible natural infection, we define population immunity as the 'average vaccine effectiveness (VE) by time, allowing for the number of people vaccinated and the time since they were each vaccinated'.

This definition might be for the average VE protection against death, against hospitalisation, against symptomatic disease or against getting any infection (be that asymptomatic or symptomatic). These distinctions are important because:

- VE immediately after completing the primary course (or booster) can differ for protection against death through to that against any infection; and
- VE can wane by time since completion of the primary course (or booster).

Consider a simple example of a vaccine that gives (on expectation) a 90 percent reduced risk of being hospitalised one month after completion of the primary course, 80 percent protection two months later, 70 percent protection three months later, and 60 percent four months later. Imagine a country of ten people in which three were vaccinated one month ago, three were vaccinated two months ago, three were vaccinated three months ago, and one is unvaccinated. The average VE is (3×90 percent + 3×80 percent + 3×70 percent) / 10 = 72 percent. If this country opened to the world at this point, and the entire population was infected quickly (putting aside protection against any infection for now), we would expect a hospitalisation rate 72 percent lower than if no one had been vaccinated.

Now imagine that the tenth and last citizen has decided to get vaccinated. The primary course is just one dose, and it takes one month to get their immunity or VE of 90 percent. After that month, the average VE of population immunity will be (1×90 percent + 3×80 percent + 3×70 percent + 3×60 percent) / 10 = 72 percent. That is, no difference from a month ago, because the gain of the one person getting vaccinated is offset by the loss of immunity among the nine vaccinated people after another month of waning. Accordingly, this nation of ten people could have lifted its restrictions a month earlier: there is no difference in expected health loss from having one month less of isolation.

This simple example was just for protection against hospitalisation. The situation becomes more complex if we factor in protection against any infection, since the health loss is a function of both the reduced transmission risk and infection level, and the reduced risk of being hospitalised among those infected (both unvaccinated and vaccinated if there is less than 100 percent protection against any infection).

D.3 Data inputs to estimate population immunity

To demonstrate the value of this approach we have prepared an example analysis based on real data from the COVID-19 pandemic, which required the following three data inputs:

1. Vaccine coverage by time;
2. VE after completing the primary course; and
3. How much VE wanes by time after the primary course.

For this appendix, we want to demonstrate how this sort of analysis could be undertaken in a future situation. We have used vaccine coverage data for South Auckland in 2021 provided to our Inquiry by the Ministry of Health and Health New Zealand I Te Whatu Ora. We have also drawn on vaccine effectiveness data after the primary course was taken from analyses of United Kingdom data published in early October 2021. For details on the level and timeline of vaccine-induced protection see Figure 3 in the supplementary material section, which provides further details on the methods for this appendix.

3.1 Modelling example

Figure 1 shows the estimated average VE for South Auckland, by ethnic group, age and severity. Figure 2 pulls out findings for what we think are two more important considerations, namely protection against hospitalisation among people aged 65 and over, and protection against any infection among 15- to 64-year-olds (that helps dampen transmission). Vaccine coverage is shown superimposed to help see the difference between coverage and average VE as time progresses.

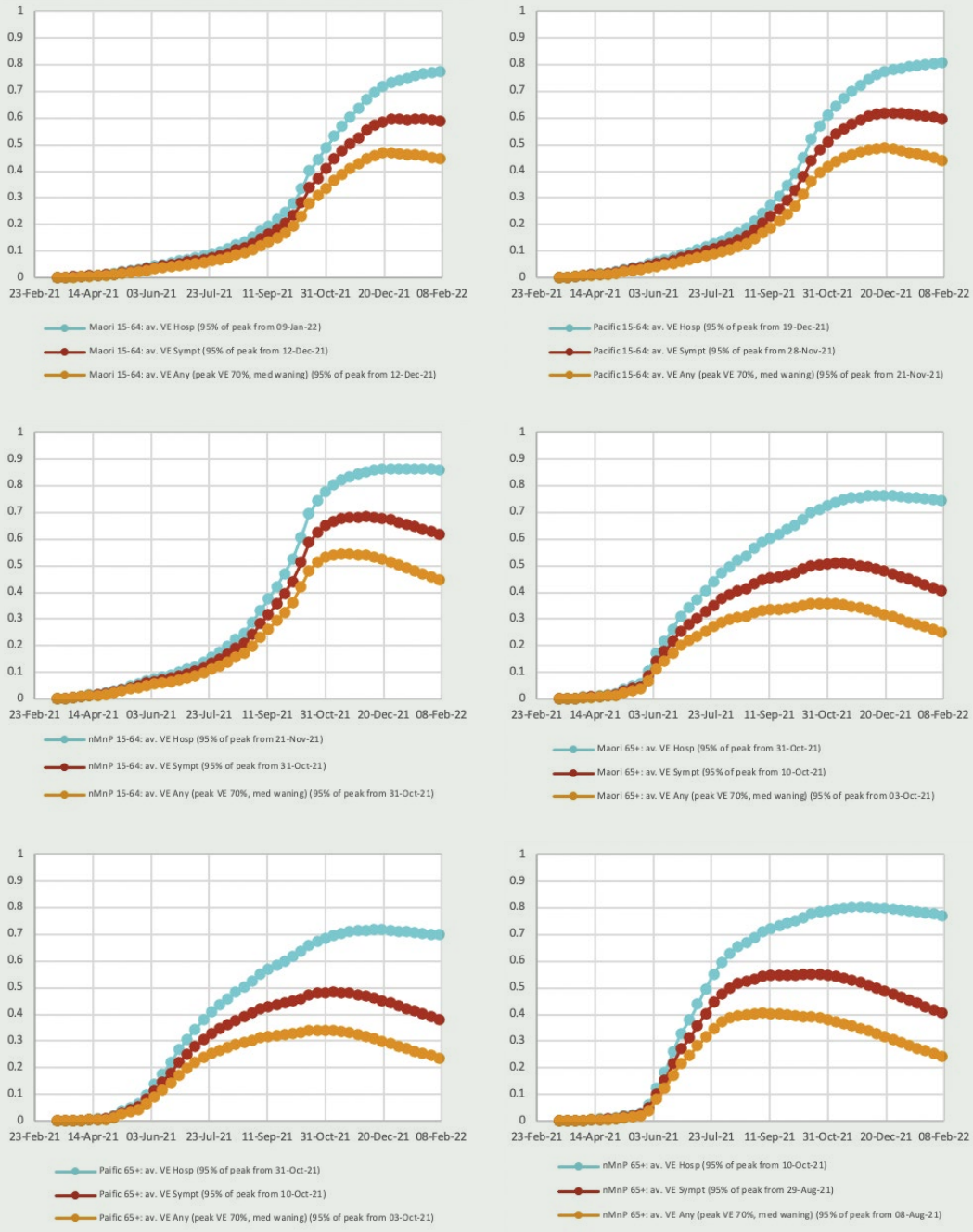
Key findings from these two figures include:

- Peak VE occurs earliest in non-Māori, non-Pacific people (predominantly European New Zealanders or Pākehā) and latest in Māori – a function of the sequencing of the of vaccine rollout and the different age-distribution of these populations.[i]
- The average VE peaks first for protection against any infection (because it wanes the fastest, it peaks the earliest), then for protection against symptomatic disease, and finally for protection against hospitalisation.
- Given that the majority of hospitalisations and deaths occur among people aged 65 and over, the average VE against hospitalisation in the 65+ age group is important (see Figure 2a). This analysis suggests that – among those 65 years and older – peak immunity[ii] was reached in the week of:
  - 10 October 2021 for non-Māori, non-Pacific people; and
  - 31 October 2021 for Māori and Pacific peoples.
- Regarding the ability for the virus to spread in the community, the VE against any infection among 15–64-year-olds is most important (see Figure 2b). This analysis suggests that peak immunity was reached in the week of:
  - 31 October for non-Māori, non-Pacific people;
  - 21 November for Pacific peoples; and
  - 12 December for Māori.

i The vaccine rollout was sequenced by age so that – in the general population – people aged 65 and over became eligible for vaccination before those in younger age groups. Because Māori and Pacific populations have younger age-structure (that is, a greater proportion of their population is in younger age groups), a majority of Māori and Pacific people became eligible for vaccination later than most non-Māori and non-Pacific people.

ii We define 'peak immunity' as when the average VE is within 5 percent points of the peak average VE attained.

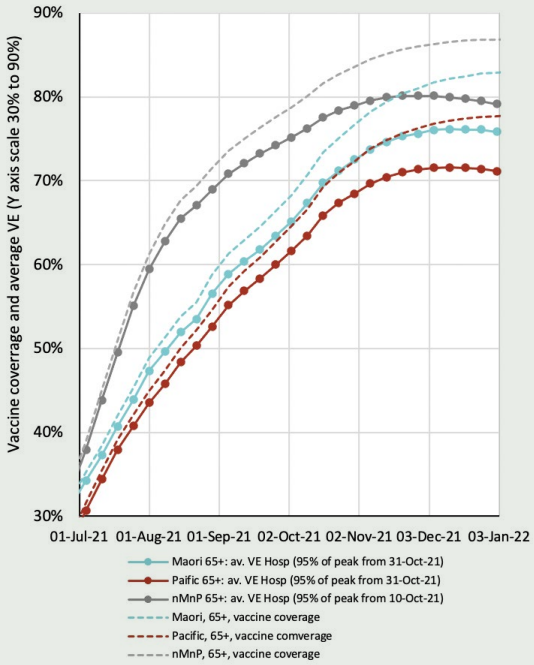
Figure 1: Average VE by age, ethnic group and severity, in Counties Manukau or South Auckland. In parentheses in the legend of each sub-figure is the week when the average VE exceeds 95 percent of the future 'peak' VE



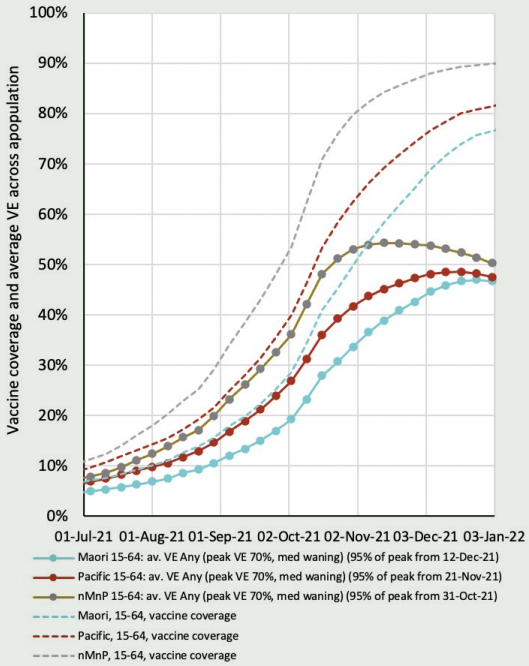
Source: Based on data from Ministry of Health

Figure 2: Average VE and vaccine coverage by ethnic group for protection against COVID-19 hospitalisations, in Counties Manukau or South Auckland. Fig 2a is for people aged 65 and over; Fig 2b is for people aged 15-64 years

a) 65+ VE against hospitalisation and vaccine coverage



b) 15 to 64 VE against any transmission and vaccine coverage



Source: Based on data from Ministry of Health

By way of a sensitivity analysis, Table 1 shows the week at which each population group would reach 95 percent of peak VE against infection for different levels of VE (at two weeks post vaccination) and different rapidity of waning.[iii] The date when peak immunity is achieved is not particularly sensitive to these alternative values (as it is more driven by the vaccine rollout itself).

Table 1: Sensitivity analysis about the week that Vaccine Waning against any infection among 15- to 64-year-olds reached 95 percent of its peak, for low, medium and high scenarios of: VE at two weeks post second-dose, and rapidity of waning

VE at 2 weeks	Waning	Māori 15–64	Pacific 15–64	nMnP 15–64
Low VE = 60%	**Low waning**	12-Dec-21	28-Nov-21	31-Oct-21
	Med Waning	05-Dec-21	21-Nov-21	24-Oct-21
	High waning	05-Dec-21	07-Nov-21	24-Oct-21
Med VE = 70%	**Low waning**	19-Dec-21	05-Dec-21	07-Nov-21
	Med Waning	**12-Dec-21**	**21-Nov-21**	**31-Oct-21**
	High waning	05-Dec-21	14-Nov-21	24-Oct-21
High VE = 80%	**Low waning**	26-Dec-21	05-Dec-21	07-Nov-21
	Med Waning	12-Dec-21	28-Nov-21	31-Oct-21
	High waning	05-Dec-21	21-Nov-21	31-Oct-21

iii Low and high waning of any infection VE was 50 percent or 150 percent of that derived from Andrews et al (on logit scale).

D.4 In summary

For a vaccine with waning immunity, average VE across the population[iv] will peak before vaccine coverage peaks – assuming the uptake of vaccination slows down toward the end of the rollout (as would normally be expected)

Exactly when peak immunity occurs will vary by the level of protection being considered (from protection against any infection through to protection against death) if either the initial VE, or the amount of waning, varies by severity.

For a future pandemic, therefore, evidence on when peak immunity is reached will be a key consideration in when to end or ease PHSMs.

There is no 'magic' answer as to when to lift PHSMs, but the example provided here may provide additional evidence to assist decision-making alongside a range of other criteria. For example, if a decision-maker in the future was aiming to lift restrictions in accordance with 'peak immunity', anticipating it might take several weeks for any uptick in infection to occur, it would make sense to aim to make significant relaxations of PHSMs a few weeks before 95 percent of peak immunity was achieved. This would mean peak immunity could occur at the same time as any resurgence in infection is happening. For the example of South Auckland in 2021 used in this appendix, peak immunity would have occurred in late September (for non-Māori, non-Pacific people) to early October (for Māori and Pacific peoples), from the perspective of protection against serious illness or hospitalisation, and early October (for non-Māori, non-Pacific people) to mid-November (for Māori) for younger adult protection against any Delta infection.

This appendix takes data on vaccine coverage one step further, combining this with evidence on the timing of vaccine waning to consider what this means for population immunity. As stated at the outset of this appendix, the actual impact of easing PHSMs on population infection and disease rates depends upon the interplay of population immunity against disease transmission and the protection against serious illness in vulnerable people (which in COVID-19 was the elderly, immunocompromised and those with co-morbidities).

Therefore, we strongly encourage full epidemiological modelling to be undertaken (with waning included) in such a circumstance in any future pandemic. The 'average population immunity' can be generated in real-time and forecast, both in advance of fuller simulation modelling outputs and to assist understanding such simulation modelling once it has been conducted.

iv Also known as 'population immunity' if the population has not yet had any consequential exposure to natural infection.

As stated at the outset of this appendix, decision-making on when to loosen PHSMs is extremely challenging and requires the balancing of many criteria. This appendix outlines one additional – albeit important – criterion that should be considered in the next pandemic, if the vaccines have notable waning

Our analyses and modelling for this paper has used New Zealand vaccine coverage data to illustrate the methodology and the value of undertaking such analysis during an evolving pandemic. In the next pandemic, real-time analysis would need to include an additional step of forecasting the likely administration of vaccines over eight or so weeks to be able to forecast forward population immunity and assist decision-making. This additional forecasting need not be difficult. For example, for COVID-19 in New Zealand, the time gap between first and second dose was four weeks up to 12 August 2021, then six weeks. Thus, it would be straightforward to use first dose receipt to forecast second dose receipt in four to six weeks with high accuracy, and then to forecast further weeks based on trends in first dose administration and second dose conversion.

To ensure a robust analysis is undertaken, it is important that there is sufficient data available to use

For the example undertaken here, the VE estimates we used (from Andrews et al, 2021[1]) are listed in Table 2. For this example we 'smoothed' the Andrews et al VE estimates using a log odds VE method developed by Blakely and colleagues in 2021 and published as a peer reviewed publication in 2022 (Szanyi et al (2022)).[2] Figure 3 presents the vaccine waning on both the untransformed and logit scale for Comirnaty and Delta, using the data reported by Andrews et al (2021)[3] fitted to our logit regression model.[v] The regression analysis predicting VE for Comirnaty against Delta, back on the non-transformed scale that is easier to interpret, are shown in Figure 4. Also shown is the estimated VE against *any infection* (which is what matters more for transmission in the population than protection against *symptomatic* illness), assuming the average VE for both the 20–64 age group and the 65 and over age group is 70 percent at two weeks following the second dose, and otherwise the same age difference and waning (on logit scale) as per the above regression equation. The value of this data is that it shows the decreasing impact of the vaccine on protection against becoming ill and against hospitalisation with increased time post vaccination. Similar data would need to be used to undertake this analysis in a future pandemic.

Estimating the average VE by sex, age and severity (namely, any infection, symptomatic illness, hospitalisation or death) was a matter of working out the average VE for every person by week, allowing for time since they were vaccinated.

v Here we have used the logit of VE, generating coefficients (or differences on the logit scale) of -0.48441 for 65+ year olds compared to 40 to 64 year olds (standard error 0.06256), 2.23616 for protection against hospitalisation compared to protection against symptomatic illness (s.e. 0.11681), -0.06041 for week (s.e. 0.00418; that is, with each extra week since vaccination, the VE is exp(-0.06041) = 0.941 that of a week ago on the odds ratio scale), and an intercept of 2.04799 (s.e. 0.04944).

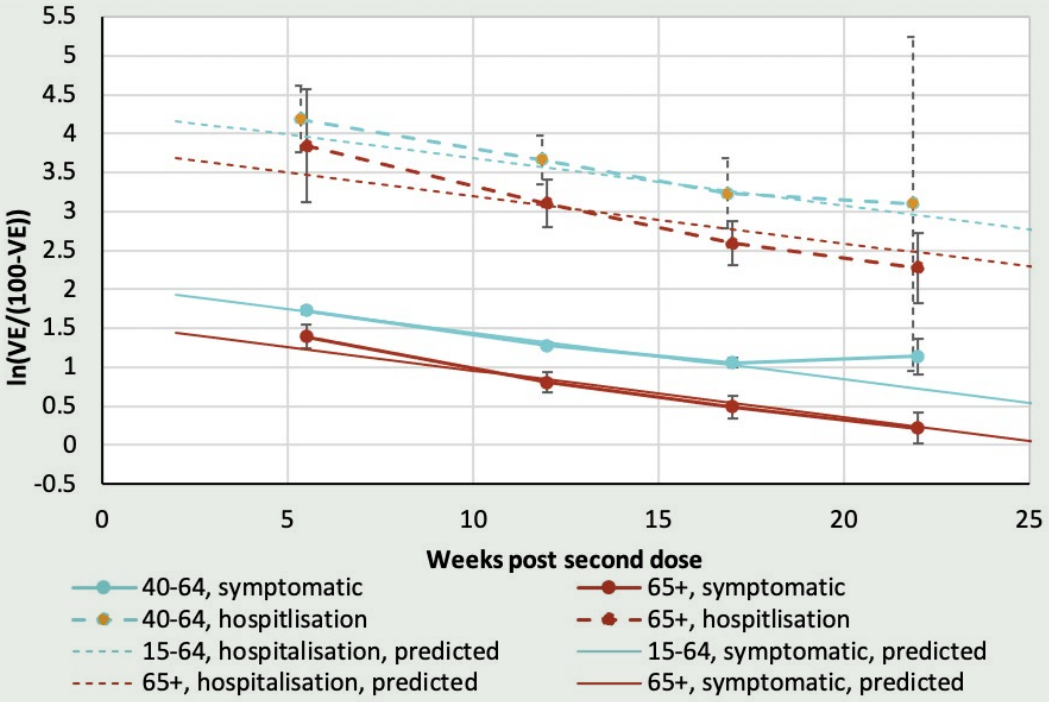
Table 2: Estimates of Comirnaty vaccine effectiveness against Delta symptomatic illness and hospitalisation from Andrews et al (2021 preprint), on both the non-transformed and logit scales

		Weeks post second dose (assumed mid-point for modelling)			
		2 to 9 (5.5)	10–14 (12)	15–19 (17)	20+ (22)
VE (95% confidence interval)					
Symptomatic illness	**15-64 years**	84.9 (84.3 to 85.4)	78.2 (77.5 to 78.9)	74.2 (73.1 to 75.3)	75.7 (71.1 to 79.5)
	65+ years	80.1 (77.5 to 82.4)	69.1 (66.2 to 71.8)	62.1 (58.6 to 65.4)	55.3 (50.2 to 60)
Hospitalisation	**15-64 years**	98.5 (97.7 to 99)	97.5 (96.7 to 98.2)	96.2 (94.1 to 97.5)	95.7 (69.5 to 99.4)
	65+ years	97.9 (95.9 to 99)	95.7 (94.3 to 96.8)	93 (90.9 to 94.6)	90.7 (86 to 93.8)
Logit VE = ln[VE/(100-VE)] (standard error †)					
Symptomatic illness	**15-64 years**	1.727 (0.022)	1.277 (0.021)	1.056 (0.029)	1.136 (0.116)
	65+ years	1.393 (0.078)	0.805 (0.067)	0.494 (0.074)	0.213 (0.101)
Hospitalisation	**15-64 years**	4.185 (0.216)	3.664 (0.159)	3.231 (0.228)	3.103 (1.093)
	65+ years	3.842 (0.368)	3.103 (0.154)	2.587 (0.143)	2.278 (0.230)

† Calculated as the difference in logit of upper and lower 95 percent confidence limits, divided by 3.92. The inverse of square of this, being the inverse variance, was use as to weight the regression model.

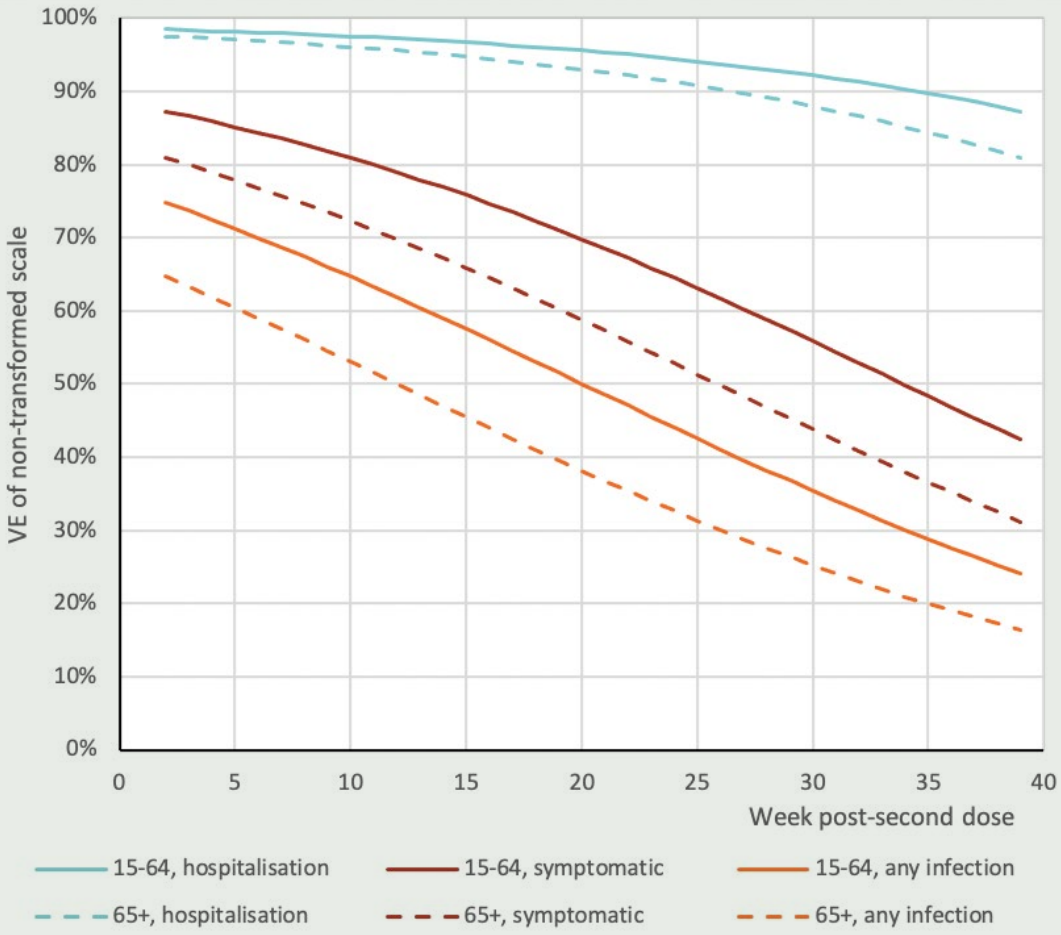
Source: Based on data from Andrews N, Tessier E, Stowe J, Gower C, Kirsebom F, Simmons R, Gallagher E, Chand M, Brown K, Ladhani SN, Ramsay M, Lopez Bernal J, 2021, Vaccine effectiveness and duration of protection of Comirnaty, Vaxzevria and Spikevax against mild and severe COVID-19 in the UK, https://www.medrxiv.org/content/10.1101/2021.09.15.21263583v2

Figure 3: The logit of Andrews et al VE, and the predicted logit based on regression



Source: Based on data from Andrews N, Tessier E, Stowe J, Gower C, Kirsebom F, Simmons R, Gallagher E, Chand M, Brown K, Ladhani SN, Ramsay M, Lopez Bernal J, 2021, Vaccine effectiveness and duration of protection of Comirnaty, Vaxzevria and Spikevax against mild and severe COVID-19 in the UK, https://www.medrxiv.org/content/10.1101/2021.09.15.21263583v2

Figure 4: Our VE estimates for Comirnaty against Delta by time since second dose, on non-transformed scale, out to 9 months post dose (or 39 weeks)



Source: Based on data from Andrews N, Tessier E, Stowe J, Gower C, Kirsebom F, Simmons R, Gallagher E, Chand M, Brown K, Ladhani SN, Ramsay M, Lopez Bernal J, 2021, Vaccine effectiveness and duration of protection of Comirnaty, Vaxzevria and Spikevax against mild and severe COVID-19 in the UK, https://www.medrxiv.org/content/10.1101/2021.09.15.21263583v2

D.7 Endnotes

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2. Joshua Szanyi, Tim Wilson, Nick Scott, and Tony Blakely, 'A log-odds system for waning and boosting of COVID-19 vaccine effectiveness', *Vaccine* 40 (20 May 2022), 3821–3824, https://doi.org/10.1016/j.vaccine.2022.05.039, https://www.sciencedirect.com/science/article/pii/S0264410X2200634X
3. Nick Andrews, Elise Tessier, Julia Stowe, Charlotte Gower, Freja Kirsebom, Ruth Simmons, Eileen Gallagher, Meera Chand, Kevin Brown, Shamez N. Ladhani, Mary Ramsay, and Jamie Lopez Bernal, 'Vaccine effectiveness and duration of protection of Comirnaty, Vaxzevria and Spikevax against mild and severe COVID-19 in the UK', *medRxiv* (2021), 2021.2009.2015.21263583, https://doi.org/10.1101/2021.09.15.21263583, http://medrxiv.org/content/early/2021/10/06/2021.09.15.21263583.abstract

Glossary | Rārangi kupu

Term	Definition
ACC |Te Kaporeihana Āwhina Hunga Whara	Accident Compensation Corporation – the New Zealand public service agency that administers the no-fault accidental injury compensation scheme.
aiga	A Samoan language term for family unit, household. In Samoan culture, aiga consists of a wide family group of blood and marriage or even adopted connections who all acknowledge the matai (head of the family).
Alert Level System	The sliding scale of public health and social measures used in Aotearoa New Zealand's COVID-19 response from March 2020 to November 2021. The sliding scale used 4 levels, called alert levels.
all-of-government	A term used to describe issues, rules or processes that apply to, or involve, all the agencies and organisations that make up Aotearoa New Zealand's public service. It denotes unified and joined-up processes involving many government agencies.
Auditor-General | Tumuaki o te Mana Arotake	An independent officer of the New Zealand Parliament responsible for auditing public sector spending and performance.
Aviation Security Service	The operational arm of the New Zealand Civil Aviation Authority responsible for aviation security at security-designated airports.
booster	An extra dose of a vaccine administered some time after the initial course to renew or increase immunity.
Border Executive Board	An interdepartmental executive board established to deliver an integrated and effective New Zealand border system. Members of the Board were made jointly accountable to the Minister for COVID-19 Response for delivering strategic improvements to the border system.
bubble ('extended bubble', 'household bubble')	A concept used to describe small groups of people who were permitted to interact with one another during the COVID-19 lockdowns.
Cancer Control Agency | Te Aho o te Kahu	The New Zealand public service agency responsible for providing leadership and oversight of cancer control and uniting efforts to deliver better cancer outcomes for Aotearoa New Zealand.
Care in the Community (CiC)	The name given to the programme set up to support people with COVID-19 who were directed to isolate at home.

Term	Definition
Caring for Communities (C4C)	A governance mechanism, established in July 2020, to ensure coordination of the COVID-19 welfare response across social sector government agencies.
Chief Human Rights Commissioner	The Chair of the Human Rights Commission, alongside up to four other Commissioners.
Chief Science Advisor	An individual appointed to independently provide scientific advice to the Government, and to comment on and contribute to scientific issues and debates of public importance. Chief Science Advisors are appointed to specific agencies and to the Prime Minister.
Civil Defence Emergency Management Group	A statutory joint standing committee that is made up of mayors or chairs of member local authorities, or a committee set up by a unitary authority that has governance responsibilities for emergency management.
civil defence emergency management system	Refers to the system, led by National Emergency Management Agency and including regional Civil Defence Emergency Management Groups, that manages the response to national and local emergencies.
Classification Office | Te Mana Whakaatu	The independent Crown entity that provides ratings for films, videos and publications to protect people from harmful content.
Commissioner of Police	The Chief Executive of the New Zealand Police, who is accountable to the Minister of Police for the administration of police services but acts independently in carrying out law enforcement decisions.
community isolation (*see also home isolation*)	The term used to refer to the policy of requiring people with COVID-19, and their close contacts, to isolate/quarantine in their place of residence.
Community Panel	A group of community leaders / representatives from across the country and different communities, established by the COVID-19 All-of-Government Response Group in 2021, to ensure advice to government had input from communities.
community transmission	When a disease is spreading in the community and is not linked to a known international or border source (such as a recent traveller from overseas).
co-morbidities	Other diseases or health conditions a person has (besides any COVID-19 infection).

Term	Definition
contact tracing	Where a person has been diagnosed with an infectious disease, identifying that person's contacts (downstream) and index or source person (upstream) in order to contain the spread of infection.
Coordinated Incident Management System (CIMS)	A framework to coordinate the management of incidents across agencies involved. It includes principles, structures, functions, processes and terminology that agencies can apply in both emergency and non-emergency incidents.
coronavirus	A group of viruses that cause respiratory infections in humans, other mammals and birds. Coronaviruses can cause mild disease, such as a cold, or more serious disease such as SARS, MERS and COVID-19.
COVID-19 (*see also coronavirus*)	The disease caused by the coronavirus SARS-CoV-2. COVID-19 is also widely used to refer to the virus (e.g. 'COVID-19 transmission') and to the pandemic caused by the virus (e.g. 'our COVID-19 experience').
COVID-19 All-of-Government Response Group (also known as COVID-19 Group)	A group established on 1 July 2020 to oversee and coordinate New Zealand's response to COVID-19. The Group took over from the 'Quin' and the National Crisis Management Centre (which had led the response from mid-March 2020). The Group operated under the Department of the Prime Minister and Cabinet and was staffed mainly from other agencies across the public service.
COVID-19 immunisation strategy	The Government's approach to delivering COVID-19 vaccine to all eligible New Zealanders – including infrastructure, logistics, training and administration. Unlike the COVID-19 Vaccine Strategy, the immunisation strategy comprised a series of decisions and was not clearly set out in a single document.
COVID-19 Protection Framework (the 'traffic light' system)	The sliding scale of public health and social measures used in Aotearoa New Zealand's COVID-19 response from December 2021 to September 2022. The sliding scale used 3 levels, called 'traffic lights' – green, orange and red.
COVID-19 Response and Recovery Fund	A funding envelope established in Budget 2020 as a temporary fiscal management tool to support Aotearoa New Zealand's response to and recovery from COVID-19.
COVID-19 Vaccine Strategy	The Government's approach to identifying and procuring a suitable COVID-19 vaccine or vaccines.

Term	Definition
COVID-19 Wage Subsidy Scheme	Financial assistance provided by the Government to employers to enable them to continue to pay their staff when they were unable to perform their normal duties due to public health measures, such as lockdowns.
Crown Law (Office) | Te Tari Ture o te Karauna	The New Zealand public service department that provides legal advice and representation services to the government in matters affecting the executive government, particularly in the areas of criminal, public and administrative law.
Delta	A variant of the COVID-19 virus (SARS-CoV-2) that became the dominant form globally in the second half of 2021. Delta was more transmissible (easier to catch) and more virulent (causing more severe disease) than earlier variants.
Department of Corrections | Ara Poutama Aotearoa	The New Zealand public service department responsible for managing prisons and offenders in the community.
Department of Internal Affairs | Te Tari Taiwhenua	The New Zealand public service department responsible for issuing passports, administering applications for citizenships and lottery grants, enforcing censorship, anti-money laundering, gambling and digital security laws, registering births, deaths, marriages and civil unions, and supplying support services to ministers. It includes New Zealand Archives and the National Library.
Department of the Prime Minister and Cabinet (DPMC) | Te Tari o te Pirimia me te Komiti Matua	A central public service department of New Zealand, responsible for providing support and advice to the Governor-General, the Prime Minister and Ministers with responsibilities relating to national security, risk and resilience, and the regeneration of greater Christchurch.
diagnostic testing	A test used to confirm or rule out the presence of a particular disease (e.g. COVID-19), usually in a person with symptoms.
Director-General of Health	The Chief Executive of the Ministry of Health. While this role is not necessarily occupied by a medical doctor or public health specialist, the Director-General of Health during Aotearoa New Zealand's COVID-19 response had both these qualifications and took on a prominent role in public communication – similar to that of chief medical officers (in the United Kingdom) or chief health officers (in Australia).
Director of Civil Defence Emergency Management	A statutory role under the Civil Defence Emergency Management Act 2002. The Director has responsibility for providing advice and monitoring the performance of the civil defence emergency management system at a national level and with powers in a national state of emergency or national transition period.

Term	Definition
Director of Public Health	A senior government advisor with a statutory advisory role to the Director-General of Health on matters relating to public health. The Director of Public Health may also, following consultation with the Director-General, independently give advice or report on any matter of public health to the Minister. This role is normally occupied by a public health medicine specialist.
district health boards (DHBs)	The 20 regional bodies that were responsible for provision of publicly-funded health and disability services throughout Aotearoa New Zealand, including funding and provision of hospital-based services and funding and coordination of primary and community-based healthcare. On 1 July 2022, the district health board system was replaced by a single national agency responsible for funding and coordinating publicly-funded healthcare – i.e Health New Zealand | Te Whatu Ora.
elimination strategy	A pandemic response strategy with the goal of eliminating infection from within the population whenever it occurs and preventing new cases of infection from entering.
epidemic	An increase in the incidence of a disease that is higher than expected in the population in question.
epidemiology	The study of the occurrence, distribution and causes of health and disease conditions in populations.
ERO | Te Tari Arotake Mātauranga	Education Review Office – the public service agency that evaluates the quality of, and facilitates improvement in, education and the care of learners in schools, kura, kōhanga reo and early childhood services.
ESR	Institute of Environmental Science and Research – a Crown Research Institute specialising in science that safeguards the health and wellbeing of New Zealand's people and natural environment.
essential services	A term used to refer to businesses that were classified as essential to the provision of necessities, and those businesses that supported them, during the COVID-19 pandemic.
ethnic minority communities	People of the Middle Eastern, Latin American, African and Asian communities experiencing greater cultural and language barriers in Aotearoa New Zealand.
excess mortality	The difference between the number of deaths observed in a population during a given period and the number that would normally be expected based on recent years' experience.

Term	Definition
exclusion strategy	Where a jurisdiction (usually an island nation) responds to a pandemic by applying very tight restrictions to its borders with the aim of preventing the infectious agent from reaching the population via inward travel. This can be thought of as a form of elimination strategy where border restrictions are applied very early, before any infection has entered the relevant jurisdiction.
financial policy	The actions taken by the Reserve Bank of New Zealand, under the Financial Policy Remit issued by the Minister of Finance, to protect and promote the stability of the financial system, in a way that also ensures the efficiency and inclusiveness of the system.
Financial Markets Authority | Te Mana Tātai Hokohoko	The New Zealand public service agency with responsibility for regulating New Zealand's financial markets.
Fire and Emergency New Zealand	The national firefighting and emergency services agency of Aotearoa New Zealand.
fiscal policy	One tool a government has to achieve its economic and social objectives. The operation of fiscal policy is governed by the Public Finance Act 1989. It refers to how a government manages its revenue, expenses, assets and liabilities to manage these objectives.
GDP	Gross domestic product – the total monetary or value of all the goods and services produced in a country in a specific time period (e.g. a year), regardless of who made them. A broad measure of the size of a country's economy.
Governor-General	The representative of the monarch of Aotearoa New Zealand responsible for carrying out the monarch's constitutional and ceremonial duties.
Hazard Risk Board	The board of central government agency leaders established to oversee and govern management of New Zealand's national risks and provide advice to the Government.
Health and Disability Commissioner | Te Toihau Hauora, Hauātanga	The New Zealand public service agency responsible for promoting and protecting the rights of those using health and disability services in Aotearoa New Zealand.
Health New Zealand | Te Whatu Ora	The New Zealand public service agency that is the primary provider of New Zealand's healthcare system from 1 July 2022.
health order	An Order in Council created under health-related legislation.

Term	Definition
health protection officer	A role in New Zealand's public health service with a focus on communicable disease control and health protection. Health protection officers have statutory powers under the Health Act 1956 to require members of the public to comply with contact tracing, quarantine, isolation or other activities to support the control of infectious diseases (such as COVID-19).
Health Quality and Safety Commission | Te Tāhū Hauora	Independent Crown entity that monitors the quality, safety and accessibility of New Zealand's healthcare services and works with healthcare providers and consumers to improve service quality and safety.
home isolation	A term used to refer to people who had either been diagnosed with COVID-19, or were close contacts, isolating (or quarantining) themselves from others in their place of residence.
Human Rights Commission | Te Kāhui Tika Tangata	The Human Rights Commission works with the Government and civil society to advocate and promote respect for human rights, and to promote harmonious relations in Aotearoa New Zealand. The Commission is made up of the Chief Human Rights Commissioner, and at least three (but no more than four) other Commissioners.
Immigration New Zealand	The operational processing arm of New Zealand's immigration system. The immigration system regulates the entry and stay of foreign nationals in Aotearoa New Zealand.
Incident Management Team	A team established in an emergency to coordinate and communicate between the respective emergency management functions and organisations involved in managing an incident.
Independent Panel for Pandemic Preparedness and Response	A panel of international experts established by the World Health Organization to develop recommendations on how to improve capacity for global pandemic prevention, preparedness and response. It was co-chaired by the Right Honourable Helen Clark.
Indo-Pacific Economic Framework for Prosperity	Initiated in May 2022, the Indo-Pacific Economic Framework for Prosperity (IPEF) is an economic and trade framework involving 14 countries (including Aotearoa New Zealand).
Inland Revenue | Te Tari Taake	The New Zealand public service agency responsible for collecting most of the government revenue (most of which comes from tax), and collecting and disbursing payment for social support programmes.

Term	Definition
intensive care unit (ICU)	A hospital unit or ward where critically ill patients receive specialised care, usually including mechanical ventilation (machine-supported breathing) and one-on-one nursing care.
isolation (*see also self-isolation and quarantine*)	Separating people who have a contagious disease from people who are not infected, to prevent transmission.
Justice Sector Leadership Board	A cross-agency board of justice sector leaders to increase collaboration on system-wide issues, govern significant cross-agency work programmes and lead agencies with united purpose. The Board consists of leaders from the Ministry of Justice, New Zealand Police, Department of Corrections, Oranga Tamariki, the Serious Fraud Office and the Crown Law Office.
Kāinga Ora	Kāinga Ora – Homes and Communities; the New Zealand public service agency that provides rental housing for New Zealanders in need.
lead agency	The public service agency with the primary mandate for managing the response to an emergency.
LGBTQIA+ (see also Rainbow community)	An acronym which stands for Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual or Ace. The + recognises there are further identities not listed.
lifeline utilities	Entities defined under the Civil Defence Emergency Management Act 2002 that provide essential infrastructure services to the community, such as water, wastewater, transport, energy and telecommunications.
lockdown	A mandatory stay-at-home order, a legal prohibition placing blanket restrictions on the whole population (apart from specified activities) for the purpose of limiting the spread of a disease. In Aotearoa New Zealand's COVID-19 response, the term 'lockdown' was used for situations where the population was under Alert Level 3 or 4 restrictions (see Alert Level System).
Managed isolation and quarantine (MIQ)	The government-run system of quarantine and isolation facilities used to accommodate incoming travellers undergoing a period of mandatory isolation or quarantine before being able to enter Aotearoa New Zealand, and community cases who could not safely isolate at home.
Māori Council	(In full: New Zealand Māori Council.) A statutory representative body that advocates Māori policy and supports community initiatives that contribute to Māori self-determination.

Term	Definition
Māori Health Authority| Te Aka Whai Ora	An independent Crown entity that was to be the lead commissioner of Māori health services and lead on health policy, strategy and service coordination to ensure the New Zealand health system met the needs of Māori. Te Aka Whai Ora was established in July 2022 and disestablished in the first half of 2024.
Maritime New Zealand | Nō te rere moana Aotearoa	The New Zealand public service agency that regulates the safety, security and environmental protection of New Zealand's coastal and inland waterways.
mandatory measures	A range of government-imposed restrictions on people's actions and activities intended to achieve specified goals in the management of the impact of COVID-19.
Medical Officer of Health	A statutory role in New Zealand's public health service that is accountable to, and subject to direction from the Director-General of Health in providing oversight of public health regulatory functions. Medical Officers of Health are public health physicians (doctors) who specialise in improving, protecting and promoting the health of the population.
Medsafe	(In full: the New Zealand Medicines and Medical Devices Safety Authority.) The agency responsible for regulation of medicines and other therapeutic products in Aotearoa New Zealand.
Mental Health and Wellbeing Commission | Te Hiringa Mahara	An independent Crown entity that monitors the performance of health and addiction services and advocates for people who experience mental distress, substance harm, gambling harm or addiction.
Middle East respiratory syndrome / MERS	A viral respiratory infection caused by a type of coronavirus (MERS-CoV). Outbreaks of MERS have occurred in several countries – mainly in the Middle East – since 2012, but to date the World Health Organization has not designated MERS a Public Health Emergency of International Concern (a designation that often precedes the declaration of a global pandemic).
minimisation and protection strategy	The official name of the pandemic strategy adopted in Aotearoa New Zealand following the elimination strategy. The 'minimisation and protection' strategy was effectively a suppression strategy, at least in the first few months, with some experts describing it as a mitigation strategy thereafter. It lasted from December 2021 to September 2022.
Ministry of Disabled People | Whaikaha	The New Zealand public service agency responsible for policy advice in relation to disabled people and for providing disability support services.

Term	Definition
Ministry for Ethnic Communities | Te Tari Mātāwaka	The New Zealand public service agency responsible for policy advice on ethnic diversity and inclusion and administering funds to support community development and social cohesion.
Ministry of Housing and Urban Development | Te Tūāpapa Kura Kāinga	The New Zealand public service agency responsible for policy advice on, and overseeing, housing and urban development.
Ministry for Pacific Peoples | Te Manatū mō Ngā Iwi ō te Moana-nui-ā-Kiwa	The New Zealand public service agency responsible for policy advice on wellbeing and development of Pacific peoples in Aotearoa New Zealand.
Ministry for Primary Industries (MPI) | Manatū Ahu Matua	The New Zealand public service agency that provides policy advice and some regulatory functions across agriculture, biosecurity, food safety, fisheries and forestry.
Ministry of Business, Innovation and Employment (MBIE) | Hīkina Whakatutuki	The New Zealand public service agency responsible for providing policy advice, services, and regulatory functions across a range of business and enterprise-related sectors to build a strong economy.
Ministry of Civil Defence Emergency Management	See National Emergency Management Agency, which replaced the Ministry of Civil Defence Emergency Management in 2019.
Ministry of Defence | Manatū Kaupapa Waonga	The New Zealand public service agency responsible for strategic defence policy advice, acquiring military equipment and building international defence relationships.
Ministry of Education | Te Tāhuhu o te Mātauranga	The New Zealand public service agency responsible for education policy. It supports, funds, licenses and regulates schools, kura and early childhood education.
Ministry of Foreign Affairs and Trade | Manatū Aorere	The New Zealand public service agency responsible for foreign and trade policy and promoting New Zealand interests in trade and international relations.
Ministry of Health | Manatū Hauora	The New Zealand public service agency responsible for the health and disability system. Its functions include health policy, legislation, regulation and monitoring. Prior to July 2022 the Ministry of Health was also responsible for planning and allocating funding for national healthcare services through the 20 district health boards and public health services through the 12 regional public health units.
Ministry of Justice | Te Tāhū o te Ture	The New Zealand public service agency responsible for the judiciary and for administering the court and legal aid systems, and the Public Defence Service.

Term	Definition
Ministry of Social Development | Te Manatū Whakahiato Ora	The New Zealand public service agency responsible for social policy advice and providing social services.
Ministry of Transport | Te Manatū Waka	The New Zealand public service agency responsible for transport policy advice.
Ministry of Youth Development | Te Manatū Whakahiato Taiohi	The New Zealand public service agency that encourages and supports the use of a positive youth development approach to help support young people, aged between 12 and 24 years, to increase their overall wellbeing.
mitigation strategy	A pandemic response strategy with the goal of protecting vulnerable groups from infection while minimising disruption to normal social and economic activities. A mitigation strategy tolerates higher levels of infection and illness than a suppression strategy.
monetary policy	The actions the Reserve Bank of New Zealand takes, primarily by adjusting the Official Cash Rate, to achieve and maintain low inflation (and, at the time of the COVID-19 pandemic), to support maximum sustainable employment.
Monetary Policy Committee	A committee of the Reserve Bank of New Zealand that is responsible for setting and implementing monetary policy in Aotearoa New Zealand to maintain low inflation. It does so primarily by setting the official interest rate – the Official Cash Rate.
mRNA vaccine	A type of vaccine that uses mRNA to evoke an immune response in the person to whom it is administered (see *vaccine*). While most vaccines contain proteins that imitate the relevant pathogen or infectious agent, these vaccines contain mRNA (or messenger RNA) which the body then uses to build proteins that evoke an immune response.
myocarditis	Inflammation of the heart muscle. Myocarditis can be caused by infection (e.g. a virus) but can also occur as a reaction to a medicine (e.g. a vaccine). It can affect the heart's ability to pump blood around the body which – if severe – can cause serious illness or death.
My Vaccine Pass	The vaccination certificate issued by the New Zealand Government that enabled easy verification of whether a person had been vaccinated against COVID-19 (or had a medical exemption). Often used to verify eligibility to work in a particular role, to enter specified locations, or to attend specified gatherings.

Term	Definition
National Crisis Management Centre	A secure all-of-government facility maintained in a state of readiness for central government to manage the national response to emergencies. It is housed under the Beehive in Wellington.
National Emergency Management Agency (NEMA) | Te Rākau Whakamarumaru	The New Zealand public service department that leads and coordinates the emergency management system.
National Hauora Coalition	A Māori-led charity and primary health organisation that delivers health and social programmes that improve outcomes for families.
National Health Coordination Centre	A crisis management centre that coordinates the national health and disability sector response to health-related emergencies.
National Health Identifier (NHI)	A unique identifier assigned to each person who receives healthcare in Aotearoa New Zealand.
National Hospital Response Framework	A framework aimed at supporting DHBs to safely deliver healthcare and maximise patient access to non-COVID-19 services (such as in-patient care, surgeries and specialist appointments), while also protecting healthcare capacity to deal with COVID-19-related demand as it arose.
National Risk Register	A system for identifying nationally significant hazards and risks, such as earthquakes, cyber attacks and pandemics.
NCEA	National Certificate of Education Achievement – the main qualification for secondary school students in Aotearoa New Zealand.
New Zealand Customs Service | Te Mana Ārai o Aotearoa	The New Zealand public service agency responsible for national border control.
New Zealand Defence Force (NZDF) | Te Ope Kātua o Aotearoa	The three branches of New Zealand's military – army, navy and air force.
New Zealand Police / Police | Ngā Pirihimana o Aotearoa	The national police service and principal law enforcement agency of New Zealand.
New Zealand Security Intelligence Service | Te Pā Whakamarumaru	New Zealand's domestic security agency and lead organisation for human intelligence.

Term	Definition
New Zealand Trade and Enterprise | Te Taurapa Tūhono	The New Zealand government agency responsible for international business development. Its role is to support exporters to grow a productive, sustainable and inclusive economy.
NGOs	Non-governmental organisations. In this report, NGOs are mainly referred to in their role as deliverers of health and social services and community-based support. This includes voluntary and not-for-profit organisations through to social enterprises and can include for-profit commercial enterprises operating in the social services space.
notifiable disease	A disease or injury for which health professionals are required to report confirmed or suspected cases to the local Medical Officer of Health or the public health service.
Nursing Council | Te Kaunihera Tapuhi o Aotearoa	Nursing Council of New Zealand – the regulatory authority responsible for the registration of nurses.
Office of the Inspectorate / the Inspectorate | Te Tari Tirohia	An operationally independent office within the Department of Corrections that inspects prisons, undertakes thematic reviews, investigates complaints from prisoners and offenders and investigates deaths of people in Corrections' custody.
Office of the Privacy Commissioner | Te Mana Mātāpono Matatapu	The independent Crown entity that protects and promotes privacy in Aotearoa New Zealand.
Official Cash Rate	The interest rate the Reserve Bank of New Zealand charges banks when they borrow money from the Reserve Bank. It is the main policy lever used to keep inflation low and stable. It affects the interest rates that registered banks charge on loans and deposits. This in turn affects the costs and earnings of banks, which influences the interest rates they charge customers.
Officials Committee for Domestic and External Security Coordination (ODESC)	A committee of senior officials (normally chief executives) from the New Zealand public service to coordinate an all-of-government response to an emergency or crisis. The Committee provides support to ministers in developing the high level strategic direction, policy, and priorities for a response.
Ombudsman | Tari o te Kaitiaki Mana Tangata	A government-appointed role that investigates complaints about government agencies.

Term	Definition
Omicron	A variant of the COVID-19 virus (SARS-CoV-2) that was first detected in November 2021 and rapidly became the dominant form globally, including in Aotearoa New Zealand in early 2022. Omicron was highly transmissible (very easy to catch) compared with previous variants but was also less virulent (causing milder infection) than Delta.
Oranga Tamariki	Oranga Tamariki – Ministry for Children; the New Zealand public service agency responsible for the wellbeing of children and young people, specifically children at risk of harm, youth offenders and children in the care of the state.
order / Order	Refers to an Order in Council.
Order in Council	A type of secondary legislation that is made by the Executive Council (the part of the executive branch of government that carries out formal acts of government, usually comprising all Ministers) presided over by the Governor-General.
pandemic	An infectious disease epidemic occurring across multiple geographical regions, and affecting a large number of people. A pandemic is usually caused by a new infectious agent (for example, a new form of a virus for which people do not have immunity) that transmits readily between people.
pathogen	An infectious organism, such as a virus, bacteria or parasite, that can produce a disease.
PCR test	(In full: Polymerase Chain Reaction test.) A laboratory technique that detects the presence of an organism by copying tiny amounts of genetic material from a sample. PCR tests for the COVID-19 virus were carried out on nasal or throat swabs or saliva, and typically took around 8 hours to process (not counting the time needed for the sample to reach the laboratory or for the results to be checked and reported).
peak body	An advocacy group, sector or trade organisation with allied interests, widely accepted as the legitimate 'voice' of the community, sector, profession or industry it represents. Peak bodies are key stakeholders in lobbying, and being consulted by, government on policy or policy implementation.
persistent disadvantage	Disadvantage that is ongoing, whether for two or more years, over a life course or intergenerationally. It has three domains: being left out (excluded or lacking identity, belonging and connection), doing without (deprived or lacking the means to achieve their aspirations), and being income poor (income poverty or lacking prosperity).

Term	Definition
Pharmac | Te Pātaka Whaioranga	(In full: the Pharmaceutical Management Agency.) A New Zealand Crown entity that makes decisions on which medicines and pharmaceutical products receive public funding for use in healthcare. Pharmac purchases and maintains a stock of all funded vaccines (unlike other medicines). Management of COVID-19 vaccines transferred to Pharmac from Ministry of Health on 1 July 2023.
primary health organisation (PHO)	Not-for-profit organisations that provide primary health services (e.g. general practice) within a certain geographical area. PHOs provide health services themselves or through a network of member healthcare providers.
planned care	Medical and surgical care for people who don't need to be treated right away.
PPE	Personal protective equipment – that is, equipment worn by a person to minimise risks to their health and safety. In the context of an infectious disease, PPE may refer to face masks or visors, protective clothing (e.g. plastic aprons or suits) and/or medical gloves.
primary care	The first point of contact between a person and the health system for most health issues, from prevention to treatment. In Aotearoa New Zealand, primary care is often provided by teams of general practitioners (that is, medical doctors specialising in providing community-based care), practice nurses, paramedics and other health professionals.
public health	The science and art of preventing disease, prolonging life and promoting health through organised efforts of society.
public health and social measures (*see also mandatory measures*)	A range of controls on people's actions and activities, imposed by the Government with the intention of reducing the risk of transmission of an infectious disease.
public health emergency	An official declaration that a disease or disorder poses a serious threat to public health.
public health unit (PHU)	Public health service teams that provide communicable disease control, environmental health and health prevention services to the population in each of the 12 regions throughout Aotearoa New Zealand. Since 2022, PHUs are organised into four Regional Public Health Servies within a National Public Health Service.

Term	Definition
Public Service Commission | Te Kawa Mataaho	The New Zealand public service agency responsible for overseeing, managing and improving the performance of the public service.
Public Service Commissioner	Appointed by the Governor-General, the Public Service Commissioner provides leadership to the public service.
Public Service Leadership Team	A team of Chief Executives from all government departments, and, at the Public Service Commissioner's discretion, the Commissioner of Police, the Chief of the Defence Force, and Chief Executives of Crown agents and departmental agencies. The team provides strategic leadership to achieve cross-agency effectiveness and a cohesive public service.
quarantine (*see also isolation and self-isolation*)	Separating people who may have been exposed to a contagious disease from others until it is confirmed that they are not infected. Quarantine – either at a border or as part of contact tracing – is an essential and long-standing tool in public health to slow, or even stop, the spread of communicable diseases.
(the) Quin	A leadership group set up in response to COVID-19 that was in place between March and June 2020. Members were the All-of-Government Controller and four key response leaders – Director-General of Health, Director of Civil Defence Emergency Management, head of Strategic Operations Command Centre and the All-of-Government Strategy and Policy Lead. The group's role was to oversee and provide direction to cross-agency activities.
Rainbow community (see also LGBTQIA+)	An umbrella term that covers all sexual and gender minorities, and people with variations of sex characteristics and avoids the acronym LGBTQIA+. This can be used to identify communities as well as an individual.
rapid antigen testing / *RAT tests*	A technique used to detect COVID-19 infections by analysis of a nasal swab or saliva sample in a chemical solution. Tests could be self-administered and results were available in 10-20 minutes.
Recognised Seasonal Employer scheme	A government initiative enabling horticulture and viticulture industries to bring workers (Recognised Seasonal Employees) into New Zealand from overseas.

Term	Definition
Regional Leadership Group	Each of New Zealand's 16 local government regions has a cross-agency and cross-organisation leadership group that works to support regional social and economic outcomes. Groups consist of regional leads from the Ministry for Social Development and a range of public sector agencies, and regional local government and iwi representative leaders.
Regional Public Service Commissioner	A statutory role appointed to a region, that strengthens regional system leadership by coordinating and aligning central government decision-makers and regional wellbeing outcomes.
Reserve Bank of New Zealand | Te Pūtea Matua	Aotearoa New Zealand's central bank, responsible for maintaining a sound and efficient monetary and financial system by giving people, communities and businesses the confidence to spend, borrow and save money.
Reserve Bank Governor	A role with statutory responsibilities for all New Zealand monetary policy decisions.
saliva test	A technique used to detect COVID-19 infections by analysis of a saliva sample.
SARS-CoV-2	The strain of coronavirus that causes COVID-19.
self-isolation (*see also isolation and quarantine*)	Staying at home, isolated from other people, because of a suspected or confirmed infection to prevent transmission.
sequencing framework (*see also vaccine rollout*)	The prioritisation framework used to determine the order in which groups of people would become eligible for the COVID-19 vaccine in Aotearoa New Zealand.
severe acute respiratory syndrome (SARS)	A viral respiratory disease caused by a type of coronavirus (SARS-CoV-1). In 2003, SARS caused a regional epidemic in East Asia and had the potential to become a global pandemic, but infection was contained by a rapid and coordinated response.
Serious Fraud Office | Te Tari Hara Tāware	The New Zealand public service agency with responsibility for preventing, detecting, investigating and prosecuting financial crimes.
social distancing	A public health measure to prevent the spread of an infectious disease by maintaining a physical distance between people.

Term	Definition
social cohesion	Generally refers to the tendency for a group of people to be in unity while working towards a goal; the degree to which bonds link members of a social group together. Important in the context of a pandemic for the overall success of the response.
social licence	The amount of acceptance or approval the general public has in government or a private organisation's activities. In the specific context of a pandemic, refers particularly to the degree of public acceptance of public health and other measures deployed in the response.
social sector	Government agencies and a diverse collection of non-governmental organisations delivering and funding social services and supports across the country with a goal of improving wellbeing and equity of outcomes for New Zealanders. This includes income and welfare support, health, housing, justice, education and community services.
state of national emergency	A declaration by a Minister, under the Civil Defence Emergency Management Act 2002, where an emergency is of such a magnitude that it is likely to be beyond the resources of the Civil Defence Emergency Management Groups in the affected areas. It provides for the civil defence system roles at national, regional and local levels to be activated and emergency powers to respond to a national emergency.
State Services Commission	The precursor organisation to the Public Service Commission.
State Services Commissioner	A statutory officer responsible for appointing top officials, issuing a code of conduct and investigating poor performance in the New Zealand public service.
Statistics NZ | Tatauranga Aotearoa	The New Zealand public service agency responsible for the collection of statistics related to the economy, population and society of Aotearoa New Zealand.
Strategic COVID-19 Public Health Advisory Group (SPHAG)	A group of experts appointed by the Associate Minister of Health (Public Health) in 2021 to provide independent advice on COVID-19 vaccination, public health protections and border settings.
super-spreader (event)	A large gathering of people resulting in transmission of infection among attendees and subsequently multiple chains of transmission into the wider community.
suppression strategy	A pandemic response strategy with the goal of suppressing rates of transmission within the population in order to prevent the health system from becoming overwhelmed.

Term	Definition
telehealth	Delivery of healthcare services remotely using information and communication technologies (e.g. telephone).
Te Puni Kōkiri	The New Zealand public service agency responsible for policy advice on Māori wellbeing and development.
Tertiary Education Commission | Te Amorangi Mātauranga Matua	A New Zealand Crown agency that leads the Government's relationship with the education sector, invests Government funding in tertiary education organisations and provides career services from education to employment.
Te Tiriti o Waitangi / the Treaty of Waitangi	The treaty signed in 1840 by iwi, hapū and representatives of the British Crown. Often referred to as Aotearoa New Zealand's founding document.
The Treasury | Te Tai Ōhanga	The New Zealand public service agency responsible for providing economic and financial advice to the Government.
traffic light system	See COVID-19 Protection Framework.
transmission	The passing of an infectious disease from an infected individual to another individual or group.
transmission chain	The transmission of infection from one person to others via a sequence of connections. A transmission chain can consist of multiple links, all starting from the one original source.
Unite Against COVID-19 Campaign	The public information campaign which supported the Government's communication efforts by providing New Zealanders with a trusted source of information about COVID-19, the Government's response and responsibilities of individuals, businesses and organisations.
vaccination	The administration of a vaccine as a means of protection against a disease.
vaccination hub	A location for administering vaccinations to a large number of people.
vaccination rates	Strictly speaking, vaccination rates refer to the number of vaccine doses delivered in a specific time-frame (e.g. per day). However this term is more often used to describe the proportion of a particular population (by age, geography, ethnicity or some other category) who have received the relevant vaccine (i.e. vaccine coverage).

Term	Definition
vaccine	A type of medicine designed to evoke an immune response in the person to whom it is administered. Vaccines train the body's immune system to recognise a pathogen and to defend the body from it at the next encounter.
vaccine certificate	See vaccine pass.
vaccine coverage	The proportion of a particular population (by age, geography, ethnicity or some other category) who have received the relevant vaccine. Vaccine coverage may refer to receipt of a single dose or of a course of vaccination (e.g. the two initial doses of COVID-19 vaccine).
vaccine hesitancy	When people delay or decline getting vaccinated (for themselves or for their children) because they lack confidence, motivation, ease of access or trust in those providing the vaccine.
vaccine pass	An official certificate verifying that someone has received a vaccine (or is exempt). See also My Vaccine Pass.
vaccine rollout (***see also sequencing framework***)	Implementation of New Zealand's COVID-19 vaccination programme in which the first two doses of the vaccine were administered to the entire eligible population (aged 12 and over).
vector (of transmission / of infection)	Living organisms (including people) that can transmit infectious pathogens between humans or from animals to humans, i.e. carriers of infectious pathogens.
ventilation	1. Building ventilation refers to the process of introducing fresh air into indoor spaces while removing stale air. Ventilation lowers the concentration of any infectious particles or droplets (aerosols) that may have been introduced by the presence of a person with a respiratory infection. 2. Ventilation of a person refers to the use of mechanical support to help them breath (see ventilator). Ventilation may be needed for people who become seriously unwell from a respiratory infection such as COVID-19.
ventilator	A life-support machine used to mechanically support a person's breathing by pushing air into their lungs.
virologist	A person who specialises in the study of viruses.

Term	Definition
virulence	The relative capacity of a pathogen (such as a virus) to cause severe disease. Virulence may be quantified using indicators such as infection fatality rate, case fatality rate, or hospitalisation rate.
virus	A tiny infectious agent that reproduces itself within the cells of the infected person, animal or 'host'.
wage subsidy scheme	See COVID-19 Wage Subsidy Support Scheme.
Waitangi Tribunal	The permanent commission of inquiry that considers claims of contemporary and historical breaches of te Tiriti o Waitangi | the Treaty of Waitangi.
Whānau Ora	A programme of family-centric care in Aotearoa New Zealand, driven by Māori cultural values and delivered by specialist Whānau Ora providers, to empower Māori communities and families to achieve better outcomes for families (and extended families) in areas such as health, education, housing, employment, improved standards of living and cultural identity. It is funded by the Government, managed through the Whānau Ora Commissioning Agency and delivered through community-based NGO partners.
welfare response	The welfare services delivered to individuals, families and communities affected by an emergency.
WHO	See World Health Organization.
WorkSafe New Zealand (Worksafe) | Mahi Haumaru Aotearoa	New Zealand's primary work health and safety regulator.
World Health Organization (WHO)	The United Nations agency that leads multilateral efforts to promote and protect health, including via coordination of global preparation and response to pandemics.

Glossary of te reo Māori terms	
hapori	Part of a kinship group, family or community.
hapū	A section of a large kinship group and primary political unit in traditional Māori society (subtribe).
hauora	Health.

Term	Definition
iwi	A large group of people (or tribe) descended from a common ancestor and associated with a distinct territory.
kai	Food or a meal.
kaumātua	An adult or elder who is a person of status within the whānau.
kawa	Protocol or etiquette, particularly in a Māori meeting place.
kūmara	Sweet potato.
kura	School.
mahi tahi	Working together, collaboration, cooperation, or teamwork.
manaakitanga	The act of showing kindness, respect, generosity, care for others and reciprocity.
mana motuhake	Enabling the right for Māori to be Māori (Māori self-determination); to exercise their authority over their lives, and to live on Māori terms and according to Māori philosophies, values and practices.
mana whenua	The power associated with possession and occupation of tribal land.
marae	The open area in front of the wharenui where formal greetings and discussions take place. It is also often used to include the complex and building around the marae. The marae is the hub of a Māori community, the place where people gather in times of joy and celebration, and times of stress and sadness. (A wharenui is a meeting house; the main building of a marae where guests are accommodated.)
Ōtautahi	Christchurch.
Pākehā	A New Zealander of European descent.
papakāinga	The original home, village, or communal Māori land.
putea	A fund or sum of money.
rāhui	Temporary prohibition, closed season, ban or reserve.
rangatahi	Young people.

Term	Definition
rohe	Area of land e.g. district, region, territory.
Tairāwhiti	The East Coast (of the North Island).
takatāpui	Māori who identify as LGBTQIA+. A traditional word meaning 'intimate friend of the same sex'. It includes all Māori who identify with diverse sexualities, gender expressions, and/or variations of sex characteristics.
Tāmaki Makaurau	Auckland.
tamariki	Children and young people.
tangata whenua	A term that refers to the 'people of the land'. It can refer to either a specific group of people with historical claims to a district, or more broadly the Māori people as a whole.
tangihanga	The grieving and burial rites for the dead – one of the most important institutions in Māori society, with strong cultural imperatives and protocols.
Te Tai Tokerau	Northland.
Te Ao Māori	The Māori world.
te tino rangatiratanga	See tino rangatiratanga.
tikanga	The customary system of values and practices that have developed over time and are deeply embedded in the social context.
tino rangatiratanga	Sovereignty and self-determination.
tupāpaku	A deceased person's body.
whānau	The immediate and extended family group.
whanaungatanga	A relationship through shared experiences which provides people with a sense of belonging. It grows from kinship rights and obligations, which also serve to strengthen each member of the kin group. It also extends to others to whom one develops a close familial, friendship or reciprocal relationship.

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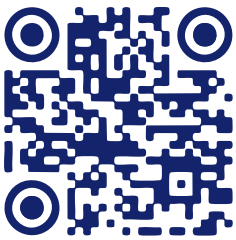

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