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## Abbreviations and acronyms

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>APO</td>
<td>Asia Pacific Observatory on Health Systems and Policies</td>
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<tr>
<td>COVID-19</td>
<td>coronavirus disease-2019</td>
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<td>CRRF</td>
<td>COVID Response and Recovery Fund</td>
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<tr>
<td>DHB</td>
<td>district health board</td>
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<tr>
<td>FTE</td>
<td>full-time equivalent</td>
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<tr>
<td>GP</td>
<td>general practitioner</td>
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<tr>
<td>HSRM</td>
<td>Health System Response Monitor</td>
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<tr>
<td>ICU</td>
<td>intensive care unit</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>NITC</td>
<td>National Investigation and Tracing Centre</td>
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<td>NZ$</td>
<td>New Zealand dollar</td>
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<tr>
<td>OBS</td>
<td>European Observatory on Health Systems and Policies</td>
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<tr>
<td>PHARMAC</td>
<td>Pharmaceutical Management Agency</td>
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<td>PHU</td>
<td>public health unit</td>
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<tr>
<td>PPE</td>
<td>personal protective equipment</td>
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<tr>
<td>RT-PCR</td>
<td>reverse transcription polymerase chain reaction</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Overview

The Health System Response Monitor (HSRM) is designed to collect and organize up-to-date information on how countries are responding to the coronavirus disease-19 (COVID-19) outbreak. This will be updated periodically (as and when there is a change in COVID-19-related measures) by the respective country contributors. The HSRM focuses primarily on the responses of health systems but also captures wider public health initiatives. The HSRM presents information under six heads:

1. **Preventing local transmission.** This section includes information on key public health measures that aim to prevent the further spread of the disease. It details how countries are advising the general public and people who (might) have the disease to prevent further spread, as well as measures in place to test and identify cases, trace contacts and monitor the scale of the outbreak.

2. **Ensuring sufficient physical infrastructure and workforce capacity.** This section considers the physical infrastructure available in a country and where there are shortages. It describes any measures being implemented or planned to address them. It also considers the health workforce, including what countries are doing to maintain or enhance capacity, the responsibilities and skill-mix of the workforce, and any initiatives to train or otherwise support health workers.

3. **Providing health services effectively.** This section describes approaches to service delivery planning and patient pathways for suspected COVID-19 cases. It also considers efforts by countries to maintain other essential services during periods of excessive demand for health services.

4. **Paying for services.** Health financing describes how much is spent on health and the distribution of health spending across different service areas. The section also describes who is covered for COVID-19 testing and treatment, whether there are any notable gaps (in population coverage and service coverage), and how much people pay (if at all) for those services out of pocket.

5. **Governance.** This discusses governance of the health system regarding COVID-19-related pandemic response plans and the steering of the health system to ensure its continued functioning. It includes emergency response mechanisms, how information is being communicated, and the regulation of health service provision to patients affected by the virus.

6. **Measures in other sectors.** This section contains information on measures undertaken in non-health sectors (such as border and travel restrictions, economic and fiscal measures) to tackle the pandemic.
Introduction and timeline

New Zealand’s response to COVID-19 has been described by the government as going “hard” and “early”, with a view to eliminating the virus, i.e. stopping its transmission in the community (1).

The core measures for controlling the virus are the closure of borders to most international visitors, and compulsory managed isolation and quarantine (in specific hotels) for those permitted to travel to New Zealand. Other measures are advice on the importance of hand hygiene and regular use of hand sanitizer; advice for those who are sick to stay at home (self-isolation) and to get tested; active management of cases and contacts; widespread testing, including of border workers, case contacts and for community surveillance; encouragement for the use of a COVID-19 app to trace people’s movements, along with the use of quick response (QR) codes by businesses for people to register their movements; and community engagement to ensure that the public understand the need for, and support, response measures. Advice on testing has varied over time, but those with COVID-19 symptoms or who have had close contact with those diagnosed with COVID-19 have always been strongly encouraged to get tested. At first, mask-wearing was not mandatory, but that has changed, with New Zealanders encouraged to wear masks or face coverings on public transport, and mask-wearing recently becoming compulsory on public transport, first in Auckland and then across the whole country, and on all domestic flights.

A four-level Alert Level Framework guides the response to differing circumstances relating to the spread of the virus (2). Level 1 is the lowest level with the fewest restrictions, and level 4 the highest level with the most restrictions. Different measures for physical distancing, requirements for people to remain at home and within household “bubbles”, requirements for mask use, and advice on the provision of essential health-care services are covered in the Alert Level Framework.

The first case was reported on 28 February 2020. (A person who had been to Italy is now thought to be the first case, from 21 February. The person was retroactively confirmed as a case in September 2020.)


The first death occurred on 29 March 2020.

Since 9 April 2020, all those arriving in New Zealand must go into managed isolation for 14 days.

New Zealand returned to Level 3 on 27 April 2020. By 11 May 2020, there were 1147 confirmed and 350 probable cases (a total of 1497) (3) and 21 deaths, for a population of 5 million. New Zealand moved to Level 2 on 13 May 2020. It entered Level 1 on 8 June 2020.

One hundred and two days then passed with no new community cases – all cases were those entering New Zealand who all went straight into managed isolation. By 11 August, New Zealand had experienced 1220 confirmed and 350 probable (a total of 1570) cases and 22 deaths.

On 11 August 2020, however, four new community cases were recorded in Auckland. This led to Auckland being placed in lockdown Level 3 from midday 12 August 2020, and the rest of the country in lockdown Level 2. On 30 August 2020, at 11.59 pm, Auckland stepped down to lockdown Level 2.5 (with lower gathering limits than the rest of the country). All but Auckland stepped down to Level 1.
on 21 September 2020 at 11.59 pm; Auckland moved to lockdown Level 2 (easing gathering restrictions) on 23 September at 11.59 pm, then to lockdown Level 1 on 8 October at 11.59 pm. By that date, New Zealand had reached 1508 confirmed and 356 probable cases (a total of 1863) and 25 deaths.

In addition to regular cases from returnees to New Zealand, a few more community cases were reported in the later stages of 2020, including a marine engineer on 18 October who had worked on a number of ships in New Zealand; on 2 November, a worker employed where foreign shipping crews were isolating; on 6 November, a quarantine worker in Auckland; on 8 November, a defence force worker who was linked with the 6 November case, who also infected a colleague; and on 12 November a student, whose case was connected genomically to the defence force worker case; the student in turn infected a further person (15 November). None resulted in changes to alert levels, although the 12 November case did result in the government asking all those working in Auckland’s central business district to work at home, if they could, on 13 November, while further testing took place. The entire “defence force cluster” led to requirements (as of 19 November) for Aucklanders to wear masks on public transport and for all New Zealanders to wear masks on flights.

In late January and early February 2021, there were several separate cases of people who had been in managed isolation who tested positive for COVID-19 following their release from managed isolation. This led to an increase in testing in several parts of the country, as well as an intensive review of procedures, an emptying out of returnees and a deep clean at the hotel where those who tested positive had been staying before the hotel reopened (4,5,6).

Following the identification of three new cases in the community on 14 February 2021, Auckland went into a short Level 3 lockdown and the rest of the country entered Level 2. With the outbreak apparently contained, on 17 February Auckland went to Alert Level 2 and the rest of the country to Level 1. On 17 February 2021, mandatory mask-wearing on public transport across the country was introduced. Auckland moved to Level 1 on 22 February 2021. The source of the case has not been found, but one of the original family members works at the airport, although not as border staff. Another outbreak in Auckland from the same cluster saw the city go back to Level 3 and the rest of the country go to Level 2 on 28 February 2021. With the outbreak contained, Auckland went to Level 2 and the rest of the country to Level 1 on 7 March 2021.

This Auckland February cluster involved 15 cases of COVID-19 across four families (7) and has led to a review of communications following some apparent mixed messaging received by those involved in the outbreak (8). On 9 March 2121, the minister for COVID-19 response announced that a review team would provide advice on key aspects of the country’s COVID-19 response from 15 March 2021 until June 2022 (9) (Fig. 1 and Table 1).

The first vaccines (the Pfizer and BioNTech COVID-19 vaccines) arrived in New Zealand on 15 February 2021. The vaccinators themselves were immunized first on 19 February 2021, to be followed by border and managed isolation and quarantine workers, their household members and health sector staff. On 8 March 2021, the government announced that it had purchased enough of the Pfizer and BioNTech COVID-19 vaccines to vaccinate the entire country, making the roll-out more streamlined and reducing the potential for confusion if multiple vaccines were in use. New Zealand will provide the other vaccines it has purchased to Pacific Islands (10). On 11 April 10 March 2021, a full vaccine roll-out plan was released – the version as at 19 April 2021 is included as Annex 3 (see Annex 3).
On 19 April 2021, a full travel bubble with Australia commenced, with those travelling between the two countries no longer having to go into managed isolation in either country. There are a number of rules applying and people are being advised to plan in case of any changes that may occur should any COVID-19 cases occur. Travel update rules are posted at the official government COVID 19 website: https://covid19.govt.nz/.

Fig. 1. Key data as on 11 March 2021

![Graph showing daily number of cases from start of outbreak to 11 March 2021.]

Figure 1  Daily number of cases (including deaths) from the start of the outbreak up until 11 March 2021.

Total number of confirmed cases until 11 March 2021 : 2060; probable cases: 356; total cases: 2416 (11)

Cumulative number of deaths until 11 March 2021: 26; 3 aged under 60 years, 3 aged 60–69 years, 20 aged over 70 years (12)

Cumulative number of people hospitalized until 21 March 2021: 126, 18 in intensive care units (ICUs) (12)

Total number of tests done until 11 March 2021 : 1 801 771; Test rate: 312 per 1000 people (some people may be tested twice) (13)

New Zealand COVID-19 tracer app registration up to 11 March 2021: 2 744 508 registrations; 1.5 million+ scans on 9 March 2021 (14)

Clusters: 19 of 10 or more people who caught COVID-19 off each other, totalling 845 cases (or 35% of the total). The largest cluster was of 179 people in the Auckland August cluster; 154 cases were in five residential rest homes (15)

Total number of people through managed isolation and quarantine facilities since 26 March 2020: 120 067, around 5500 are in these facilities each day by 9 March 2021 (16)
### Table 1. New Zealand COVID-19 cases, 11 March 2021

<table>
<thead>
<tr>
<th>Source of cases</th>
<th>Number</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Imported case (international travellers and crew)</td>
<td>1254</td>
<td>52%</td>
</tr>
<tr>
<td>Import-related case (such as close contacts and border officials)</td>
<td>489</td>
<td>20%</td>
</tr>
<tr>
<td>Locally acquired, source known (that is, community transmission)</td>
<td>562</td>
<td>23%</td>
</tr>
<tr>
<td>Locally acquired, unknown source</td>
<td>95</td>
<td>4%</td>
</tr>
<tr>
<td>Under investigation</td>
<td>16</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2416</td>
<td>100%</td>
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1. Preventing local transmission

1.1 Health communication

The New Zealand government has regularly communicated advice to the New Zealand public, via (usually) daily televised 1 pm updates by (generally) the Prime Minister/Minister of Health and Director-General of Health, along with advertising (in the print media, on television, on government and media websites, and via social media, e.g. Facebook and WhatsApp).

There is an official COVID-19 website (https://covid19.govt.nz/) with key information on the current situation and alert level, including advice (e.g. what people should do if they feel unwell, and for businesses) and contact phone numbers people can call, such as for emergencies. The official website also includes information on the COVID-19 tracer app.

Health information is also available on the Ministry of Health COVID-19 webpages (https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus). This includes detailed information, including for the public, for health professionals (e.g. aged care providers) and for specific audiences (e.g. for pregnant women, on gatherings). A wide range of data and resources are available on these pages, including all media releases and daily televised updates.


New Zealanders are encouraged to ring Healthline, a pre-existing government health advice line, for advice if they feel unwell.

The impact of COVID-19 on long-term care facilities, staff and residents, has been of significant concern in New Zealand. Specific information has been included in the Alert Level Framework for older and more vulnerable people and is provided on the MoH webpages for long-term care facilities, and for other health-care providers.

Also included in government communications was advice on seeking general health care, including the winter flu vaccination, which was seen as a key means of keeping people well, making them less vulnerable to COVID-19 and of keeping pressure off the health system.

Māori are the Indigenous people of New Zealand. The MoH has a specific Māori Response Action Plan. This includes a specific communications and engagement strategy for Māori (17). The MoH has worked closely with Māori stakeholders and organizations during the response. The Māori Health Directorate within the Ministry has been an important source of information, consultation and contact, supporting cases, informing policy and facilitating positive outcomes for whānau Māori, as the Māori health team has been embedded in the response from the outset.
Leading Māori public health experts have set up their own organization to give advice to Māori and their families (whānau) during the pandemic. This is Te Rōpū Whakakaupapa Urutā, the National Māori Pandemic Group (www.uruta.maori.nz), which has also been involved in communication and the provision of resources to support Māori communities. It is independent of the MoH.

1.2 Physical distancing

Advice on physical distancing differs according to the four levels within the New Zealand COVID-19 Alert Levels Framework.

At Level 1, the emphasis is on hand hygiene and people self-isolating if they are sick. Businesses and schools operate as usual, with people encouraged to download a COVID-19 tracing app, and businesses to display quick response (QR) codes for people to scan the app. Most businesses also have government-provided notices asking people who are sick to not enter.

Level 2 has physical distancing of 2 metres in public, and 1 metre in more contained environments such as schools and workplaces, which remain open but which must have measures in place to ensure safety (e.g. physical distancing). Gatherings of over 100 people for weddings, etc. are not allowed, although events (e.g. in cinemas, stadiums) can have more than 100 people as long as there are not more than 100 people in a defined space and the groups do not mix. People who may be more vulnerable (including those over 70 years) or who have carer responsibilities for the more vulnerable may work at home. Face coverings are required on public transport and aircraft.

Level 3 has people working from home unless they are essential workers, businesses are closed unless they are essential services (e.g. supermarkets, pharmacies, medical facilities), and schools open only to a limited extent (for the children of essential workers). People can be in extended bubbles, i.e. household plus some wider family, or supporting those who live by themselves. Those more vulnerable are encouraged to stay at home. Public venues are closed, with gatherings of only up to 10 people. Interregional travel is highly restricted.

Level 4 has almost everyone at home, with only essential services open.

The levels have specific guidelines for residential rest homes. The rules are complex, given the range of services such facilities provide (e.g. respite care) and the processes involved (e.g. assessments to determine entry and funding, referrals between hospitals and facilities). There is a screening assessment form in relation to COVID-19 to determine whether or not new admissions must first be tested or isolated. Specific advice is available on the use of personal protective equipment (PPE), and for when COVID-19 is suspected.

Level 1 requires that health screening and assessment of visitors should be carried out before they enter the facility; visitors should apply basic hand hygiene practices; they must stay at home if they are unwell, under investigation for COVID-19 or a close contact of someone who is a probable or confirmed COVID-19 case; and visitors should record visits using QR codes, adding a manual entry to their digital diary or signing in manually.

Level 2 involves stricter visiting rules determined by the provider. Where staff work across different facilities, there must be plans in place, including relating to PPE.

Level 3 involves even stricter rules for admission, especially for those who have been overseas or in contact with others with COVID-19, with care provided in the home during a 14-day isolation period. Stricter visiting guidelines apply, and visitors would wear PPE.
Decisions on the alert levels are being made effectively daily in response to circumstances, in particular, as to whether there is community spread or the likelihood of community spread.

1.3 Isolation and quarantine

New Zealand’s international borders have been closed since 19 March 2020 at 11.59 pm. Only returning New Zealanders and a few others (such as those deemed essential workers, and some visitors that have been granted exemptions, e.g. sports teams) are allowed to enter the country. When they do, since 9 April 2020, they have had to go into managed isolation for 14 days. Returnees must stay at designated hotels, staffed by health professionals, hotel workers and government officials. It is a legal requirement that returnees stay in managed isolation for a period of 14 days under the Air Border order (18). There is security to ensure that returnees do not illegally leave. As on 11 March 2021, over 120 000 people have gone through the managed isolation process. Initially, returnees were not charged for this service but, as of 11 August 2020, charges apply effectively for those who are not permanently returning New Zealanders. An adult was charged NZ$ 3100, with additional adults staying in the same room paying NZ$ 950 each. Every child aged 3–17 years is charged NZ$ 475. These fees were recently increased. The new fees for temporary entry class visa holders are:

- NZ$ 5520 for the first or only person in a room
- NZ$ 2990 for a second adult in a room
- NZ$ 1610 for a child (children under 3 years of age are not charged).

A temporary entry visa class holder is a person who has one of the following visas (19):

- Visitor visas (such as partners of a New Zealand citizen or resident)
- Student visa holders
- Work visa holders
- Limited visas.

It has, however, been reported that around two thirds of the fees are outstanding, with around $20 million owing, in part as people have 90 days in which to pay their fees (20).

All those arriving in New Zealand must wear face masks from the time they disembark the aircraft until they arrive at their hotel. Each person in managed isolation must generally stay in their room and can receive no visitors, although they can go outside their rooms to exercise in a strictly controlled manner. All travellers (except those from Australia, Antarctica and most Pacific Islands) must have a COVID-19 test and obtain a negative result within 72 hours of the scheduled departure time of the first leg of their scheduled flight to New Zealand. Likewise, all travellers (except those from Australia, Antarctica and most Pacific Islands) are tested on day 0 of their arrival in New Zealand and must remain in their room until the result of the test is complete. If the test is negative, they continue with their 14-day managed isolation. All travellers are tested for COVID-19 on day 3 of their stay. They are tested again on day 12. Those who return negative tests on day 12 can enter the community after 14 days.
Those who return a positive test are required to go into quarantine at the facility or another designated hotel, as will any person who had contact with them. Quarantine facilities have increased health, safety and cleaning measures, and additional restrictions on people’s movements.

People in a quarantine facility are those who have been diagnosed with COVID-19, have COVID-19 symptoms or have been in close contact with someone with suspected, probable or confirmed COVID-19 in the past 14 days. Infected people can leave quarantine only when they are clear of COVID-19 symptoms for at least 72 hours (21).

Those in managed isolation are able to make contact with journalists. Journalists cannot visit them but can interview people over the phone. Officials also contact the media. This has meant that problems with the managed isolation system have been publicized and addressed, such as officials at isolation facilities initially not being tested themselves (22).

Contacts of those with COVID-19 or suspected of having COVID-19 must self-isolate. That means that they must remain at home for 14 days and be tested. If they display the symptoms of COVID-19 their household contacts must also self-isolate.

Those who breach the isolation and quarantine requirements can be fined a maximum of NZ$ 4000 or be imprisoned for up to six months. Compliance is enforced by the police. In one case, a woman and her 18-year-old daughter flew from Australia to New Zealand to attend the woman’s father’s funeral. The woman, along with her adult daughter and two children, escaped managed isolation. She was convicted and sentenced to 14 days prison (23).

In New Zealand’s second and third lockdowns, with Auckland at Level 3, the Auckland region was isolated from the rest of the country. Only essential travel could be made in and out of the Auckland region, with police at checkpoints surrounding the city. All vehicles were checked and those that were not deemed essential were turned back by police (24).

There have been some issues with the managed isolation processes, such as an early case where two COVID-19-positive women were allowed to leave managed isolation to visit a dying relative without having a test (25), and some cases where people have left when they should not have (26,27). In response to such issues, the government installed a senior member of the defence force to oversee managed isolation more stringently (28).

### 1.4 Monitoring and surveillance

In New Zealand, the symptoms of COVID-19 are deemed to be those of any acute respiratory infection with at least one of the following symptoms (with or without fever):

- new or worsening cough
- sore throat
- shortness of breath
- coryza – head cold (e.g. runny nose, sneezing, postnasal drip)
- anosmia – loss of the sense of smell.

A positive confirmed case is one where the person has been tested and found to have COVID-19. When someone returns a positive test, they must self-isolate and their contacts are traced. A probable case is defined as any person who, although they have returned a negative COVID-19 test result, the clinician looking after them has diagnosed the person as a probable case due to the
patient’s exposure history and clinical symptoms. These cases are treated as if they were a positive confirmed case and the actions taken are the same as those for a confirmed case (29).

Typically, people are encouraged to be tested if they are close or casual contacts of a probable case and/or are symptomatic. However, in some cases, people are encouraged to be tested even if they are not a contact and/or are symptomatic. In particular, there has been some general community surveillance to identify if a particular geographical area of the country is COVID-19 free.

There are four types of contact of a probable case – close plus, close, casual plus and casual. A close contact is any person with the following main exposures to a confirmed or probable case during the case’s infectious period (without appropriate PPE):

- direct contact with the body fluids or the laboratory specimens of a case;
- presence in the same room in a health-care setting when an aerosol-generating procedure is undertaken on a case;
- living in the same household or household-like setting (e.g. shared section of a hostel) with a case;
- face-to-face contact in any setting within 2 m of a case for 15 min or more;
- having been in a closed environment (e.g. a classroom, hospital waiting room or conveyance other than aircraft) within 2 m of a case for 15 min or more, or in a higher-risk closed environment for 15 min or more;
- having been seated on an aircraft within 2 m of a case (for economy class this would mean 2 seats in any direction, including seats across the aisle, other classes would require further assessment);
- aircraft crew exposed to a case (a risk assessment conducted by the airline is required to identify which crew should be managed as close contacts).

Close plus contacts meet the same criteria for close contacts as above. However, their contact was where there is a higher risk for transmission (30). For instance, it could be the person had contact with the infected person in an environment where transmission is more likely, such as a poorly ventilated indoor area, or may have been exposed to the infected person for a relatively long time.

A casual contact is any person with exposure to the case who does not meet the criteria for a close contact (30,31).

A casual plus contact is someone who has been exposed to a case where there may be a higher risk of transmission but who does not meet the criteria of a close contact (32). Again, it could be the person had contact with the infected person in a riskier environment, such as in a poorly ventilated indoor area, or was exposed to the infected person for a comparatively lengthy period.

Contact tracing has been implemented in New Zealand. The Ministry’s National Investigation and Tracing Centre (NITC) takes care of contact tracing for COVID-19 cases.

When a COVID-19 case is identified, following extensive interviews, government officials contact all close contacts of that person. Each close contact must go into self-isolation for 14 days and is tested for COVID-19. Government officials continue to contact the person to ensure that they are continuing to self-isolate and see whether they are developing any symptoms of COVID-19. Casual contacts are not contacted. In general, they are not required to self-isolate and are tested only if they develop symptoms.
All businesses must display the government’s official QR code COVID-19 posters prominently at or near their main entrance. Public transport and taxis must also display the posters (33).

New Zealanders are encouraged to download the contact-tracing app onto their mobile phones. They use their phones to scan the QR code at each business they enter. Then, if a COVID-19-positive person visited a particular place at a particular time, all close contacts can be traced using the app. All such people are advised of this in the form of a contact alert on their phone. Many businesses are also asking people to write their details on a sheet at the entrance, so that those without the app can be traced.

The New Zealand COVID-19 tracer app now has Bluetooth tracing capabilities. The app was developed with privacy considerations in mind at every step – for example, officials can access an app user’s scan history only with the prior approval of the person concerned (34).

New Zealanders are not obliged to use the app, in part because enforcing such a requirement would be very difficult, as it would require many thousands of businesses to enforce it. The government has regularly encouraged and reminded people to use the app, saying that using it can help protect each individual’s friends, family and community by enabling faster contact tracing. However, use of the app has varied over time; the success of New Zealand in controlling the spread of the virus leading to a degree of complacency, especially when there have been no cases in the community for a time. For example, just as the second wave of COVID-19 hit, the daily number of scans was only 30 000 (10 August 2020). The number then increased, peaking at 2.5 million (7 September 2020). Daily scans then dropped to 1.4 million (21 September 2020) and dropped still further, to 367 566 (20 October 2020). By early November, of the 2.3 million registered users of the government app, only 17% were using it. The MoH publishes these official numbers on its website and in news updates (13).

Anonymised data is sent to the government for reporting purposes, and registration and contact details are provided to the MoH so that contact tracers can get in touch quickly if a person is identified as a close contact of someone who has COVID-19. All other information (e.g. the QR codes or manual diary entries) are stored securely on mobile phones, with diary entries automatically deleted after 60 days. It is a person’s choice as to whether to share their digital diary if they are contacted by the MoH (35).

In March 2020, COVID-19 was added to the list of notifiable diseases in New Zealand. This enabled local and national monitoring of cases and clusters of the disease in the country. Data from this system identify key demographic characteristics of COVID-19 cases, the severity of the illness, risk factors for the disease, sources of infection and how the disease is spreading. Genomic sequencing of the virus is being used to track genetic changes in the virus as it is detected in New Zealand. This assists with outbreak investigations, including identifying the source of each local outbreak and which individual cases belong to which cluster.

A national repository of COVID-19 test results has been developed to collate all negative and positive COVID-19 test results from clinical laboratories in the country. This helps facilitate data management and analysis of the disease. The surveillance system includes cases and deaths in long-term care facilities and home care. This includes the requirement that such facilities have QR posters and notify the government of all COVID-19 cases that arise.
Quantitative modelling is being used to run scenarios on both the effectiveness of differing alert levels in New Zealand and on differing characteristics of the disease (36).

Various initiatives are under way to expand and enhance the contact-tracing system in New Zealand. For example, the government is looking to integrate the apps of some third-party suppliers of digital technology with the government’s tracing technology. It is hoped this will make it easier to trace contacts by expanding the range and volume of contact data. One example is Snapper, a card used by the public to purchase public transport services (37).

The government is also conducting a trial of a smartcard to be used instead of the contact-tracing app. Individuals wear the cards around the neck or waist. The card exchanges a signal with anyone else nearby also wearing a card. These cards could be used in vulnerable communities, such as lower socioeconomic groups who often do not own smartphones that can run the app (38).

Finally, there has also been regular background scanning, including, for example, collecting data on patients presenting with acute respiratory infection and influenza-like illnesses, and some sewage testing to identify if the virus is in the community (39).

1.5 Testing

Most testing in New Zealand is the viral test (also called a polymerase chain reaction [PCR] test), which shows if a person is currently infected with the virus (40).

Any individual presenting to primary or secondary care must be tested if:

- their symptoms include a new or worsening cough, sore throat, shortness of breath, coryza or anosmia; and
- if they are at a higher risk of exposure to the virus through recent contact with a confirmed or probable case, recent overseas travel, direct contact with overseas travellers, worked on an aircraft or vessel on international routes, or cleaned at an international airport or port in areas visited by people arriving from overseas.

All people with any of the symptoms above and who are at a higher risk of exposure for the reasons listed above must self-isolate while awaiting their COVID-19 test results.

Many travellers need to have a negative test result no earlier than 72 hours before they are scheduled to leave for New Zealand. Passengers arriving from overseas by air stay in managed facilities and are tested. People are tested on days 0, 3 and 12 of their managed isolation stays. If the tests are clear, travellers can leave managed isolation. Passengers arriving by sea are isolated onboard the vessel they arrived on, or in managed onshore facilities, and are tested (although, in general, foreign ships are currently banned from coming to New Zealand). Air and maritime crew are tested if they have symptoms consistent with COVID-19. If they are considered at high risk of exposure, they are requested to isolate themselves until a test result is confirmed.

When the country was at higher alert levels, the testing strategy focused on two groups: (i) diagnosing cases from people with clinical symptoms and tracking down and testing the people close to them, and (ii) finding out if there were people in high-risk groups who were infected but not showing any symptoms. This second group was tested to determine whether COVID-19 was widespread in New Zealand communities. Since New Zealand now has so few cases of COVID-19 within the country, testing is being focused on the border. This is because the highest risk of infection is that originating from overseas travellers, air and maritime crew, and border workers.
From 17 November 2020, shipping and air crews have been tested weekly. From 25 January 2021, all travellers to New Zealand (except from Australia, Antarctica and most Pacific Islands) must test negative at least 72 hours prior to departure. They are also tested as soon as they arrive in New Zealand.

People can self-refer for a test. If they have symptoms, they can approach their doctor or Healthline, and if deemed to need a test, can obtain one. Testing is available at most general practices, community health centres and at pop-up testing clinics that people can walk or drive to. Pop-up testing is used in particular when a community case is detected. Those with symptoms may be prioritized if there is a heavy demand for testing. The places and times visited by someone diagnosed with COVID-19 are publicized, and those who were also at each place at the relevant time can obtain a test.

New Zealand has significant capacity in testing. In October 2020, New Zealand was averaging 5000 tests a day. In mid-August, when demand was at its height, the country was averaging 20 000 tests a day.

Testing laboratories report that they have plenty of resources, such as testing reagents for PCR testing. There are also up-to-date data on the numbers of available testing kits on the Ministry of Health’s website (currently about 260 000).

New Zealand laboratories are continuing to monitor overseas developments and innovations in testing, with a view to introducing such new technologies if appropriate and possible. Possible new technologies include using saliva for the test (using a rapid lysis method). Community monitoring via testing wastewater (sewage) for the presence of COVID-19 has also been undertaken in New Zealand at localized sites and following key outbreaks (41).

The average time it takes for a COVID-19 test to be completed and the data made available is 24 hours, with results of most tests being available within 24–48 hours. Key information on testing is available publicly (29).

New Zealand laboratories are also able to undertake genomic testing expeditiously, including overnight. This has helped to identify the sources of outbreaks fast. For instance, in Auckland in November, a mysterious new case arose. It was unclear what the source of the case was. However, genomic testing soon revealed that it was linked to an existing cluster.

2. Ensuring sufficient physical infrastructure and workforce capacity

2.1 Physical infrastructure

There are 57 medical laboratories located throughout New Zealand (42). As of 2019 (most recent figures available), New Zealand had 12 667 hospital beds (43). In May 2020, there were 358 ICU beds in New Zealand. This was an increase from the initial level of 200 in late March, in response to COVID-19 (44) and was expected to rise to 552 by July 2020. Private hospitals had agreed to provide some of these beds. At the end of April 2020, 334 ventilators were available, with more ordered and anaesthetic machines also available to be used as ventilators if necessary.
New Zealand has 2.7 acute beds per 1000 members of the population. By comparison, the United Kingdom has 2.1 acute beds per 1000 population and the United States of America 2.4 acute beds per 1000 population (45).

As COVID-19 began to emerge, there were major concerns that New Zealand did not have sufficient key facilities to cope with large numbers of cases. In practice, with so few cases, health facilities have not been overrun with COVID-19 cases.

There have been instances where nurses and other health workers raised concerns that there may not be insufficient PPE and some was of poor quality. In response, in March 2020, the government set up a new national distribution system for PPE to help ensure that all PPE was of good quality (46,47,48).

In April 2020, the MoH agreed with the Auditor-General that the Auditor-General conduct an independent review of the Ministry’s management of PPE during the early stages of the country’s response to COVID-19. The Auditor-General’s report found that there were adequate supplies of PPE but a partially devolved distribution system had meant that the system of managing and distributing PPE stock for operational use was incapable of managing the increased flow of stock needed during the COVID-19 response. The Auditor-General said the government was right to create a centralized system to help address these issues (49).

As late as November 2020, concerns were still being raised about PPE, with workers in managed isolation and quarantine arguing that they should wear only the bare minimum PPE. That is, workers were wearing basic surgical masks rather than N95 masks, as the government is yet to decide whether N95 masks should be deployed (50). The New Zealand Nurses’ Organisation is considering taking action under the Health and Safety and Work Act as a result of such concerns (51).

2.2 Workforce

New Zealand has 3.3 physicians and 10.2 nurses per 1000 population. By comparison, the United Kingdom has 2.8 physicians and 7.8 nurses per 1000 population; the United States has 2.6 physicians and 11.7 nurses per 1000 population, and Australia has 3.7 physicians and 11.7 nurses per 1000 population (45).

When the COVID-19 epidemic hit New Zealand, the government called for extra health professionals to come into the COVID-19 workforce. There was a large response, including from retired health professionals and those on maternity leave (52,53); Some nurses were also brought in to cover shortfalls. In Auckland, 20 nurses were brought in from elsewhere in the country to assist those working in managed isolation hotels and hospitals.

One issue in the workforce has been that workers in managed isolation facilities have also been working in hospital wards or in aged care facilities (54,55).

This took place when the workforce was being managed by a private health-care provider. Although there were no known instances of such workers becoming infected and then passing the virus on to other patients, the government stepped in. In August 2020, the district health boards (DHBs) took over the management of the health workforce, with the Minister saying he expected that workers who moved from COVID-19 care to elsewhere first have a stand-down period of 48 hours and return a negative COVID-19 test.
Extra health-care workers have come from overseas as well, to fill gaps in the New Zealand health-care workforce due to the pandemic. Some commentators say more such workers are needed (56).

Some of those who have contracted COVID-19 have been health-care workers, including those working in aged care facilities and hospitals. In the first wave, 11% of cases were health-care workers, a total of 167 (57).

3. Providing health services effectively

3.1 Planning services

In New Zealand, primary care providers are the first point of contact for those with health concerns, alongside emergency departments based in publicly owned hospitals. Primary care is generally delivered in general practices, usually owned and led by general practitioners (GPs) and staffed with a mix of GPs, nurse practitioners, practice nurses and others. Primary care providers test and diagnose, prescribe medicines and refer New Zealanders on for other care (e.g. physiotherapy, hospital specialist care, including elective care). Primary care providers are funded by the government on a weighted capitation basis, and they also charge fees, which vary by age, practice funding model and income.

Primary care providers initiated a number of changes in the way in which they worked as COVID-19 began to spread. Particularly during the first lockdowns, many appear to have moved to requiring people to phone their practice first (closing down online appointments booking processes), limiting access to clinics and having staff work in full PPE when dealing with respiratory illness. Teleconsultations became more common, and the use of e-prescribing (the transfer of prescriptions from GPs to pharmacies) increased significantly. Pharmacies instituted physical distancing measures, while medicines were to be collected on a monthly basis rather than three months at a time, to manage supply constraints. Early on, there were concerns that primary care providers may become overwhelmed with cases, but with few cases in New Zealand, the opposite problem has occurred, with concerns that people have put off visits in order to stay safe.

Changes were also made to the winter flu vaccination programme, with the vaccines delivered differently in some places (e.g. in car parks), with staff in full PPE, waiting in cars after vaccine delivery and a reduced waiting time after vaccine delivery (e.g. of five minutes rather than 20 minutes).

Publicly owned hospitals (run by New Zealand’s 20 DHBs) also geared up to treat those with COVID-19. Most screening continued, as did most cancer treatment, but cancer diagnostic services were disrupted (58). Compulsory mental health assessments were enabled to be done remotely (via video conference, for example) for Levels 3 and 4, and Level 2, if necessary (59).

3.2 Case management

New Zealanders are encouraged to call up a pre-existing Healthline and/or to visit their primary care provider with any concerns over their health. They have also been encouraged to get a COVID-19 test, although the criteria for this has differed at different points during the year. As of 15 November 2020, 122 people had been hospitalized, 17 in ICUs.

The Vaccine Alliance Aotearoa New Zealand – Ohu Kaupare Huaketo – is involved, and has government funding to support a trial of vaccines for COVID-19 (60).
3.3 Maintaining essential health services

Health services have been deemed essential services during the COVID-19 pandemic (61). The list applies for Alert Level 4, when only essential services can open and function. The list includes disability support services that provide the necessities of life, including those services delivered in the home. Health providers are, however, required to deliver services remotely if they possibly can (e.g. post, phone, video conferencing). Services that support people outside of their home (e.g. respite care) must close under Alert Level 4.

Specific guidance is available for some services (62), e.g. aged care, disability and hospice care providers; allied health; cancer screening (those over 70 years are advised to check with their health provider about whether it is safe to attend at Levels 2 and 3); maternity; medical transfers; mental health and addiction; pharmacy; primary care; and Well Child/Tamariki Ora (the free health service for young children). These guidelines cover, among other things, delivering face-to-face care, the use of PPE, at-risk staff, new admissions and transfers, visitors and managing outbreaks of COVID-19.

4. Paying for services

4.1 Health financing

Significant new funding has been allocated to health care by the New Zealand government to support the COVID-19 response. This has been raised through using the usual health financing arrangements already in place in New Zealand; i.e. through taxation collected by the Central Government and allocated by the Cabinet and government ministers to vote: Health (and other relevant votes). No new specific financing for health is envisaged; however, the Labour Party went into the 2020 election with a proposal to increase the top tax rate from 33% to 39% on earnings over NZ$ 180 000 (2% of earners) and, having won the election, will put measures in place soon regarding this policy.

New funding to support health-care services has typically been through traditional channels, e.g. ministers making decisions based on advice from the MoH, and the MoH and DHBs adding new funding to agreements and contracts with key service providers, including those privately run.

On 17 March 2020, the government announced a dedicated $500 million package to support New Zealanders’ health. Specific funding announcements have been made since then, including for the following. (Data sourced from www.beehive.govt.nz health announcements; note, it is unclear which of these are included in the NZ$ 500 million package, PPE alone is over this amount.)

- additional funding to increase the national Healthline capacity and the wider national telehealth services (which provide a range of telephone advice, e.g. general health advice, child health advice, on mental health, gambling, poisons, etc.);
- increased resources for public health units (PHUs) (part of DHBs), including for increased capacity for contact tracing (at least NZ$ 70 million) (on 20 April it was noted that this would increase capacity from 5000 to up to 10 000 calls per day, on top of 185 cases per day at PHUs, for surge capacity for up to 300 full-time equivalent [FTE] staff) and for a national close contact service;
- funding to support COVID-19 testing;
- additional intensive care capacity and equipment at hospitals, funding for ventilators and respiratory equipment, and for additional oxygen;
- additional funding for GPs and primary care, including to support an increased workload for testing and for moving to virtual consultations;
- funding for pharmacies to recognize their increased workload and provide support for a virtual working environment alongside general practice and support critical community pharmacies;
- funding to support the extra work during lockdown for midwives;
- an NZ$ 10 million package to support Māori communities, an NZ$ 45 million (NZ$ 30 Million as new funding and NZ$ 15 million reprioritized from other Māori specific services) package to support Māori health providers, and NZ$ 1.470 million (NZ$ 1 million as new funding and NZ$ 470 000 reprioritized from other services) to support Māori businesses through New Zealand Māori Tourism and the Federation of Māori Authorities, along with variations in contracts to enable over 2000 young people to work within their communities and health providers to support Māori through the pandemic;
- a Pacific response package to support Pacific health and disability services facing increased demand; ramp up public health messaging and guidance for Pacific communities in Pacific languages; and roll out a new outreach programme putting non-clinical health support staff into Pacific communities, linking high-risk Pacific people with important services (NZ$ 17 million + NZ$ 19.5 million);
- hundreds of millions (NZ$ 500 million at least) for the purchase of PPE, including to ensure all those on Air New Zealand flights have masks;
- support for residential aged care providers to keep COVID-19 at bay;
- funding increases for the Pharmaceutical Management Agency (PHARMAC) (NZ$ 35 million + NZ$ 160 million over two years) for essential medicines as prices rise due to supply shortages;
- public health campaigns, e.g. the Unite Against COVID-19 campaign;
- funding to support temporary accommodation for health and disability workers living with a vulnerable person (NZ$ 10 million); a phone counselling service for frontline workers (funded for 9 months); and an 0800 COVID-19 clinical advice number;
- NZ$ 282.5 million over three years to support a planned care catch-up campaign (electives) resulting from delays due to COVID-19 (anticipating that DHBs will work with private providers to clear backlogs);
- funding to support hospices;
- full funding for the development of the National Immunisation Solution so it is ready for when a COVID-19 vaccine is available;
- funding to support free mental health care for tertiary students;
- funding (NZ$ 64 million) for a COVID-19 vaccine strategy – for New Zealand research, international research collaborations, support for potential manufacturing capability, and for development assistance to distribute vaccines to developing countries. New Zealand is also advocating internationally for the equitable distribution of a vaccine, especially for Pacific Island partners. In early October, New Zealand signed an agreement to purchase 1.5 million COVID-19 vaccines – enough for 750 000 people – from Pfizer and BioNTech, subject to the vaccine successfully completing all clinical trials and passing regulatory approvals in New Zealand. A sum of $66.3 million had been set aside for supplies and infrastructure to support a free vaccination programme, and a comprehensive plan supports the vaccine strategy (https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-
New Zealand is expecting to receive enough vaccines for everyone in the country, with a number of agreements in place with different vaccine producers. The first vaccines (the Pfizer and BioNTech COVID-19 vaccine) arrived in New Zealand on 15 February 2021. The vaccinators themselves were immunized first on 19 February 2021, to be followed by border and managed isolation and quarantine workers, their household members and health sector staff.

Particular attention has been paid to supporting Māori communities through the pandemic. This recognizes the importance of Te Tiriti o Waitangi (a Treaty between Māori and the Crown signed in 1840, and setting out certain rights for Māori) and the potential for Māori to be particularly adversely affected by COVID-19. An initial action plan was released in April 2020 (63) and an updated plan in July 2020 (64). Both note the need for equity to be front and centre of the New Zealand COVID-19 response. The plans have four objectives relating to Māori and COVID-19, and a range of specific actions for Māori (see Annex 2). Key programmes have included, first, supporting Whānau Ora commissioning agencies to provide 80 000 hygiene packages to whānau (extended families) to ensure that they have access to good cleaning products; 2500 grants to support whānau; and ensuring that 7898 whānau received Manaaki Support packages, which included kai, data support and other material means of support via Whānau Ora Navigators. Second, Māori health providers were also provided with funding to support service delivery through the pandemic. Third, funding was provided to support better outreach services for Māori, including to support digital outreach to isolated individuals and communities; reduce the costs of prescriptions, general practice and other co-payments; and assist with travel to and from essential health services. Fourth, funding was provided for Māori-focused communications, including videos on social media.

Similarly, Pacific peoples were also identified as a priority group. As part of its general strategy directed at assisting Pacific communities in New Zealand, the MoH released funding to assist the communities’ response to the COVID-19 pandemic. An example of this was funding to Pacific church organizations, which play a key role in supporting communication and dissemination of public health messaging to their community members, provide familiar community venues as testing sites and support contract-tracing efforts (https://www.health.govt.nz/our-work/populations/pacific-health/pacific-community-health-fund).

New government funding has also been announced throughout the year for a wide range of services not specifically as a result of COVID-19 but that will also provide support for people in difficult times (e.g. new mental health funding for mental health and addiction services for Pacific peoples – $1.5 million; new Kaupapa Māori mental health and addiction providers as part of a wider package of mental health initiatives (65); stronger alcohol and drug addiction support services; new funding for DHBs (66); additional funding for medicines via PHARMAC; and new mental health funding for a range of initiatives.

### 4.2 Entitlement and coverage

New Zealand’s health-care system provides near-universal coverage of the population; the only people excluded are some new migrants to New Zealand (67). Non-New Zealanders are normally expected to pay for their health-care needs in New Zealand. Exceptions to this general rule are covered under the Eligibility Direction. Special provisions are made for infectious diseases, as appropriate testing and treatment provides benefit to the community as well as to the individual directly affected. For this reason, novel coronavirus (and later COVID-19) was included in the
Eligibility Direction with effect from 30 January 2020 (as a consequence of making the disease notifiable) to ensure that everyone in New Zealand, regardless of nationality, gets tested and treated free of charge if they need it.

COVID-19 testing is free, although there may be a charge if someone needs it to enter another country (68). The main user fees within the New Zealand health-care system are those in primary care and these have not formally changed as a result of COVID-19.

5. Governance

Prior to the pandemic, the New Zealand government had a well-established influenza pandemic plan, updated in early 2017 (69). Although focusing on influenza, the plan was also applicable to similar pandemics, such as SARS and COVID-19. The plan is based on an all-of-government response. Specific tactics are included in the plan, such as for keeping an international pandemic out and stamping out clusters of the virus in New Zealand. In responding to COVID-19, the MoH was guided by aspects of the influenza pandemic plan, but that plan was not formally invoked. In January 2020, the government announced that, in response to the COVID-19 outbreak overseas, it was setting up the National Health Coordination Centre, a structure through which the MoH can nationally coordinate and manage the health responses to and recovery from emergencies.

The Global Health Security Index had, however, previously rated New Zealand 54/100 in terms of pandemic readiness in October 2019, thirtieth out of the 60 high-income countries rated (70,71,72), although it has recently been argued that there are discrepancies between the Index and the actual performance of countries during the pandemic (73).

In response to the pandemic, an epidemic notice was issued on 24 March 2020. Further, emergency legislation was passed, the COVID-19 Public Health Response Act 2020, and entered into force on 13 May 2020 (74). Among its provisions are those allowing the Minister of Health to make binding orders on the population to help stamp out COVID-19, those giving police and others the power to stop and instruct people in light of COVID-19-related measures, and imprisonment and fines. The maximum penalty for failing to comply with orders under the Act is six months’ imprisonment or an NZ$ 4000 fine. The legislation was used alongside existing legislation, such as the Health Act 1956 and the Epidemic Preparedness Act 2006. Under the Health Act, for instance, the police has powers to compel, enforce or ensure compliance with the directions of a medical officer of health, such as going into self-isolation.

Under the provisions of the COVID-19 Public Health Response Act 2020, a woman was jailed for 14 days for escaping from a managed isolation facility (75). More generally, there is an expectation that people will follow the rules. Following a legal challenge, the courts ruled that, for the first nine days of the lockdown, the government went beyond its powers to impose the first lockdown. The breach was technical only and the government corrected it on day 10. The court also found that the lockdown was nevertheless justified on public health grounds (76).

The government’s strategic response to the pandemic was run by the Prime Minister and Cabinet (77), including the Chief Science Advisor. To enhance the government’s response, a new ministerial portfolio has recently been created, the Minister for COVID-19 Response.

A range of key ministries are involved in the response, in particular, the MoH, which also has the Director-General, the Director of Public Health and an ad hoc Technical Advisory Group (and
subgroups) providing advice. Others include the Treasury in terms of the economic response, the Ministry of Business, Innovation and Employment in terms of supporting businesses, the Ministry of Social Development in terms of welfare support, Civil Defence and Emergency Management, the Police in terms of enforcement, and the Defence Force (New Zealand Army, Navy and Air Force) in terms of supporting managed isolation facilities.

There is a Head of Managed Isolation and Quarantine (an Air Commodore in the New Zealand Air Force), and public and private sector liaison roles, the latter working with private businesses to provide the material needed to respond to the COVID-19 pandemic, such as masks, gowns and other protective equipment for health-care workers. There is also an operational enforcement task force with around 70 officials, based at the Evidence Based Policing Centre in Wellington.

Some military personnel, along with police, are being used as security for managed isolation facilities (78). The New Zealand Defence Force’s Air Commodore Darryn Webb was appointed the head of the managed isolation system following government officials’ incompetence in managing the system. Two women had arrived in New Zealand from overseas and were granted compassionate leave from managed isolation to visit grieving family following a parent’s death. The women were not tested before they left managed isolation but later were tested and were found to be COVID-19 positive. Prime Minister Jacinda Ardern called the incident “an unacceptable failure of the system” (79).

There has been one instance when other actors have instituted their own policy because they believed the governmental response was not strict enough. Initially, foreign shipping crews flying to New Zealand were taken straight to the port to join their vessel if it was leaving port that day, after being collected by a vehicle with a driver in PPE gear. But some members of such crews arrived infected and infected others in New Zealand. Two major New Zealand ports, Auckland and Tauranga, decided the government’s system was too lax. These ports insisted all such crews had to go into 14 days’ managed isolation, paid for by the shipping companies (80).

There is also a task force overseeing New Zealand’s involvement in finding a vaccine. The task force consists of the Ministry of Business, Innovation and Employment; the MoH; and the Ministry of Foreign Affairs and Trade.

The exit strategy is simply to move down the tiers as and when this can happen. This is carefully managed. For instance, Auckland stayed at a higher level than rest of country and then came down to a new Level 1.5, which included requirements for masks to be worn on public transport.

6. Measures in other sectors

In general, only New Zealanders and New Zealand residents can travel to New Zealand. All arrivals go into 14 days’ managed isolation. Others can apply to come into the country, such as critical workers (including health workers), international shipping crews going immediately to their ships, and some sports teams with particular requirements for when they can train as a team.

Testing at the border has been a key issue in recent months. Following concerns over the speed with which testing at the border was being implemented, and too many border workers not being tested, the government introduced tougher testing measures on 6 September 2020, with key border workers to undergo mandatory testing every seven days (e.g. those in quarantine facilities, drivers), while others must be tested every two weeks (81).
The government has advised New Zealanders not to travel overseas. However, since 16 October 2020, New Zealanders are able to travel to some low-risk states in Australia (New South Wales, Northern Territory). That is to say, there has been a cross-border collaboration with Australia, known as the trans-Tasman bubble. Travellers to these states must have been in New Zealand for 14 days or more and not have been in any area in New Zealand designated a COVID-19 hotspot by the Australian government and are travelling to Australia on a quarantine-free flight. These travellers must enter, and pay for, managed isolation on their return to New Zealand. The bubble is one-way only; Australian travellers are not allowed to enter New Zealand (82).

There was a controversy when those travelling to low-risk Australian states then travelled on to other states, including the then high-risk state of Victoria (83,84). Since 9 November 2020, Victoria has joined the Australian bubble with New Zealand.

Following a new community case in New Zealand on 24 January 2021, Australia suspended the bubble for a week.

The New Zealand economy has been hit hard as a result of COVID-19. In the year to March 2019, international tourism accounted for NZ$ 17.2 billion, 20.4% of New Zealand’s exports; with total tourism generating 5.8% of New Zealand’s GDP (85). The tourism industry is one of the hardest hit sectors in New Zealand, along with hospitality and the arts and culture sectors (due to physical distancing requirements and lock downs). A number of key industries also face issues of workforce shortages, with international migration on hold (e.g. horticulture).

The first economic support packages were announced in March (86) and April 2020 (87). Key components included a wage subsidy for businesses to continue to pay employees and support sick leave and self-isolation at home, additional income support, including a higher benefit for those losing their jobs as a result of COVID-19, changes to business taxes, a business loan support scheme, mortgage repayment holidays for homeowners and small and medium businesses, and an aviation support package to protect supply chains in and out of New Zealand, including a low interest loan to Air New Zealand, partly owned by the government.

In the May 2020 budget (88), the Minister of Finance announced a COVID Response and Recovery Fund (CRRF) of NZ$ 50 billion, including the NZ$ 13.9 billion announced before budget day, NZ$ 15.9 billion announced on budget day, and a further NZ$ 20.8 billion set aside for future responses. The CRRF includes a raft of new funding to support key sectors (e.g. primary industries, arts and culture, etc.). Further announcements have also extended some of these programmes (e.g. the wage subsidy scheme) (89). The current emphasis is on providing government funding to achieve key infrastructure (e.g. housing, transport) and other (e.g. environmental) goals while also providing jobs and supporting businesses.

Further financial assistance for businesses affected by COVID-19 restrictions has been announced by the government. The assistance becomes available should New Zealand move up to Alert Level 2 or higher. The Resurgence Support Payment is structured to provide support to smaller firms, which are most likely to face cashflow issues. It includes a core per-business rate of NZ$ 1500 plus NZ$ 400 per employee up to a total of 50 FTEs. Firms that experienced a 30% drop in revenue over a 14-day period would be eligible. The payments become available should New Zealand move up to Alert Level 2 or higher for a week or more.
Furthermore, a new Short-term Absence Payment has been announced. This will be a one-off payment of NZ$ 350 to employers to pay workers who need to stay at home while awaiting a test or while someone who is their dependent is doing so.

This builds on the COVID-19 Leave Support Scheme, which provides a payment to businesses to pay their workers who need to take leave due to COVID-19 public health guidance (90).

As part of the national lockdown, a nationwide state of emergency was declared on 25 March 2020 at 12:21 pm due to COVID-19 and was extended six times. This was only the second time in New Zealand’s history that a national state of emergency was declared (the other was after the Christchurch earthquake of 2011). The state of national emergency ended on 13 May 2020 at 12:21 pm and was replaced by a national transition period. The state of national emergency covered all of New Zealand under which the response to COVID-19 was at the national level, with local compliance required (91).
References


Annexures

Annex 1. Alert levels

New Zealand COVID-19 Alert Levels Summary

- The alert Levels are determined by the Government and specify the public health and social measures to be taken in the fight against COVID-19. Further guidance is available on the Covid19.govt.nz website.
- The measures may be updated based on new scientific knowledge about COVID-19, information about the effectiveness of control measures in New Zealand and overseas, or the application of Alert Levels at different times (e.g. the application may be different depending on if New Zealand is moving down or up Alert Levels).
- Different parts of the country may be at different Alert Levels. We can move up and down Alert Levels.
- Services including supermarkets, health services, emergency services, utilities and goods transport will continue to operate at any level. Employers in those sectors must continue to meet health and safety obligations.
- Restrictions are cumulative (e.g. at Alert Level 4, all restrictions from Alert Levels 1, 2 and 3 apply).

Updated 14 December 2020

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<tr>
<th>Alert Level</th>
<th>Risk Assessment</th>
<th>Range of Measures (can be applied locally or nationally)</th>
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| **Level 4 – Lockdown**| • Sustained and intensive community transmission is occurring.  
• Widespread outbreaks. | • People instructed to stay at home in their bubble other than for essential personal movement  
• Safe recreational activity is allowed in local area  
• Travel is Severely limited.  
• All gatherings cancelled and all public venues closed.  
• Safe recreational activity is allowed in local area.  
• Businesses closed except for essential services (e.g. supermarkets, pharmacies, clinics, petrol stations) and lifeline utilities.  
• Educational facilities closed  
• Rationing of supplies and requisitioning of facilities possible.  
• Reprioritisation of healthcare services. |
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<th>Alert Level</th>
<th>Risk Assessment</th>
<th>Range of Measures (can be applied locally or nationally)</th>
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<tr>
<td><strong>Level 3 – Restrict</strong></td>
<td>High risk the disease is not contained</td>
<td>• Low risk local recreation activities are allowed.</td>
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<td></td>
<td>• Multiple cases of community transmission occurring.</td>
<td>• Public venues are closed (e.g. libraries, museums, cinemas, food courts, gyms, pools, like schools and workplaces, playgrounds, markets).</td>
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<td></td>
<td>• Multiple active clusters in multiple regions.</td>
<td>• Gatherings of up to 10 people are allowed but only for wedding services, funerals and reconnect with close family tangihanga. Physical distancing and public health measures must be maintained</td>
</tr>
<tr>
<td></td>
<td>• People instructed to stay home in their bubble other than for essential personal movement – including to go to work, school if they have to or for local recreation</td>
<td>• Healthcare services use virtual, non-contact consultations where possible.</td>
</tr>
<tr>
<td></td>
<td>• Physical distancing of two metres outside home, or one metre in controlled environments like schools or workplaces</td>
<td>• Inter-regional travel is highly limited (e.g. for critical workers, with limited exemptions for others)</td>
</tr>
<tr>
<td></td>
<td>• People must stay within their immediate household bubble, but can expand this to reconnect with family / whānau, or bring in caregivers, or support isolated people. This extended bubble should remain exclusive.</td>
<td>• People at high risk of severe illness (older people and those with existing medical conditions) are encouraged to stay at home where possible, and take additional precautions when leaving home. They may choose to work</td>
</tr>
<tr>
<td>Alert Level</td>
<td>Risk Assessment</td>
<td>Range of Measures (can be applied locally or nationally)</td>
</tr>
<tr>
<td>-------------</td>
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<td>--------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Level 2 – Reduce** | The disease is contained, but the risk of community transmission remains | People can reconnect with friends and family, and socialise in groups of up to 100, go shopping, or travel domestically, if following public health guidance.  
Keep physical distancing of two metres from people you don’t know when out in public or in retail stores. Keep one metre physical distancing in controlled environments like workplaces, where practicable.  
No more than 100 people at gatherings, including weddings, birthdays and funerals and tangihanga.  
Businesses can open to the public if following public health guidance including physical distancing and record keeping. Alternative ways of working encouraged where possible.  
Hospitality businesses must keep groups of customers separated, seated, and served by a single person. Maximum of 100 people at a time  
Sport and recreation activities are allowed, subject to conditions on gatherings, record keeping, and – where practical – physical distancing  
Public venues such as museums, libraries and pools can open if they comply with public health measures and ensure 1 metre physical distancing and record keeping.  
Event facilities, including cinemas, stadiums, concert venues and casinos can have more than 100 people at a time, provided that there are no more than 100 in a defined space, and the groups do not mix.  
Health and disability care services operate as normally as possible.  
It is safe to send your children to schools, early learning services and tertiary education. There will be appropriate measures in place  
People at higher-risk of severe illness from COVID-19 (e.g. those with underlying medical conditions, especially if not well-controlled, and seniors) are encouraged to take additional precautions when leaving home. They may work, if they agree with their employer that they can do so safely.  
Face coverings required on public transport and aircraft (but not inter-island ferries). – school buses and children under 12 are exempt along with passengers in taxis or ride share services and people with disabilities or mental health conditions. |
<table>
<thead>
<tr>
<th>Alert Level</th>
<th>Risk Assessment</th>
<th>Range of Measures (can be applied locally or nationally)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1 – Prepare</strong></td>
<td>• COVID-19 is uncontrolled overseas.  • Sporadic imported cases.  • Isolated local transmission could be occurring in  • New Zealand.</td>
<td>• Border entry measures to minimise risk of importing COVID-19 cases.  • Intensive testing for COVID-19.  • Rapid contact tracing of any positive case.  • Self-isolation and quarantine required.  • Schools and workplaces open, and must operate safely.  • No restrictions on personal movement but people are encouraged to maintain a record of where they have been  • No restrictions on gatherings but organisers encouraged to maintain records to enable contact tracing</td>
</tr>
</tbody>
</table>

Annex 2. COVID-19 Māori Health Response Plan

Updated COVID-19 Māori Health Response Plan – Framework

**Objective 1**: Ensure iwi, hapu, whānau, and Māori communities can exercise their authority to respond directly to the health and wellbeing challenges across the COVID-19 response.

**Objective 2**: Ensure the health and disability system delivers equitable outcomes for Māori across the COVID-19 response.

**Objective 3**: Ensure Te Tiriti and Māori health equity responsibilities are met in the exercise of kaitiakitanga and stewardship over the COVID-19 response.

**Goal**
To protect, prevent, and mitigate the impacts of COVID-19 within whānau, hapu, iwi and Māori communities

**Vision**
Pae ora – healthy futures for Māori

Although the Ministry is moving towards the recovery and redesign phases, the threat of a community outbreak of COVID-19 remains. This risk requires the health and disability system to maintain its responsiveness and its ability to shift focus according to need. This may mean some parts of the system will be required to focus on response activities, and others on recovery and redesign.

### Annex 3. Vaccine roll-out plan: 19 April 2021

<table>
<thead>
<tr>
<th>Group</th>
<th>Definition (population group figures are approximate, based on relevant DHB or census data for people over 16 years)</th>
<th>Vaccination dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Border/Managed Isolation and Quarantine (MIQ) workforce and people they live with</strong>&lt;br&gt;Approx. 50,000 people&lt;br&gt;- This group includes cleaners, nurses who undertake health checks in MIQ, security staff, customs and border officials, hotel workers, defence and police staff who are eligible to be rotated into MIQ, airline staff, port authorities and vaccinators.</td>
<td>February / March 2021</td>
</tr>
<tr>
<td>2</td>
<td><strong>Frontline health-care workers (non-border) who could be exposed to COVID-19 while providing care and people living in high risk places</strong>&lt;br&gt;Approx. 480,000 people&lt;br&gt;- High-risk frontline healthcare workforces who are most likely to contract and/or spread COVID-19 through their interaction with patients. (include those who are interacting directly with patients, potential COVID-19 cases and/or potential COVID-19 samples).&lt;br&gt;- Any person who usually lives in long-term residential care where residents are at risk of severe outcomes from COVID-19.&lt;br&gt;- All people working in long-term residential environments where people are at risk of getting very sick or dying from COVID-19.&lt;br&gt;- Older Māori and Pacific people cared for by whānau (and the people they live with and their carers).&lt;br&gt;- Any person who is aged 65+ or has a relevant underlying health condition or disability living in the Counties Manukau DHB area.</td>
<td>March, April and May 2021</td>
</tr>
<tr>
<td>3</td>
<td><strong>People who are at risk of getting very sick from COVID-19</strong>&lt;br&gt;Approx.1,700,000 people&lt;br&gt;- People in New Zealand aged 65+,&lt;br&gt;- People with relevant underlying health conditions (this includes coronary heart disease, hypertension, stroke, diabetes, chronic obstructive pulmonary disease/chronic respiratory conditions, kidney disease and cancer. While it is not a health condition, pregnant people are also included), and disabled people.&lt;br&gt;- Adults in custodial settings.</td>
<td>May 2021 onwards</td>
</tr>
<tr>
<td>4</td>
<td><strong>Rest of the population</strong>&lt;br&gt;Approx. 2,000,000 people&lt;br&gt;- General population aged 16 and over</td>
<td>July 2021 onwards</td>
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</tbody>
</table>

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