



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI



**DEPARTMENT OF THE
PRIME MINISTER AND CABINET**
TE TARI O TE PIRIMIA ME TE KOMITI MATUA



**MINISTRY OF
HEALTH**

MANATŪ HAUORA



**NEW ZEALAND
CUSTOMS SERVICE**
TE MANA ĀRAI O AOTEAROA



BORDER EXECUTIVE BOARD



**NEW ZEALAND
FOREIGN AFFAIRS & TRADE**
MANATŪ AORERE



COVID-19 Response Weekly Report

25 February 2022

Contents

1. Status Summary	2
2. COVID-19 Insights	7
2.1 Insight of Note Written by the Department of the Prime Minister and Cabinet	7
2.2 Insight of Note Written by the Ministry of Health	9
3. Ministry of Health	13
3.1 Policy/Programme Updates	13
4. Managed Isolation and Quarantine Weekly Report	19
4.1 Items to Note/Updates	19
4.2 Operational Update	20
4.3 Judicial Reviews, Dispute Resolution, Ombudsman and OPCAT	22
4.4 Upcoming Communications Issues and Activities	23
4.5 Invoicing	23
4.6 Large Group Arrivals Update	25
4.7 Emergency Allocation (EA) Applications	26
5. Border Executive Board Report	28
5.1 Key Issues Being Considered	28
6. New Zealand Customs Service Weekly Report	29
6.1 Items to Note/Updates	29
7. COVID-19 Chief Executives Board	31
7.1 Items to Note/Updates	31
8. COVID-19 Independent Continuous Review, Improvement and Advice Group	31
8.1 Items to Note/Updates	31
9. Strategic COVID-19 Public Health Advisory Group	31
9.1 Items to Note/Updates	31
10. Business Leaders Forum	31
10.1 Items to Note/Updates	31
11. Community Panel	31
11.1 Items to Note/Updates	31
12. Government Modelling Group	32
12.1 Items to Note/Updates	32
13. Upcoming Cabinet Papers	33

1. Status Summary

Key		
Symbol	Colour	Meaning
●	Green	On track, no roadblocks, no significant delays anticipated
●	Amber	Slow progression, some delays, some roadblocks present
●	Red	Not progressing, on hold, significant delays

Border

		Agency	Last Week	→ This Week	Agency Comment
Border Measures		MoH	●	●	<ul style="list-style-type: none"> Step 1, enabling New Zealanders to enter on the self-isolation pathway from Australia commences on 27 February 2022 at 11.59pm. Step 2, enabling New Zealanders to enter on the self-isolation pathway from the rest of the world, commences on 11.59pm 13 March 2022. Steps 3 to 5 will be sequenced between April to October 2022. The Ministry of Health will monitor the roll out of step 1 and alongside border agencies will work to refine operations where necessary, ensuring systems are prepared for Step 2 for Reconnecting New Zealanders to the world, with expected arrivals to increase.
	Testing and vaccination of border workforce	MBIE	●	●	<p><i>Staff Testing</i></p> <ul style="list-style-type: none"> Compliance reporting is at 91% (same as last week) for staff who worked in the week of 14-20 February 2022. 9% of workers on site that week are showing in the BWTR as overdue, which equates to 428 workers overdue workers, compared to 463 overdue workers last week. As at 21 February 2022, 5,549 MIQ workers have opted-in to saliva testing (up from 5,423 on 14 February 2022). All MIQ facilities are moving from PCR testing to Rapid Antigen Testing (RAT) for workers as soon as possible. With the move to RAT testing, information about testing will be logged by workers in the My Covid Record. At present, this information does not flow through into the BWTR so reporting on testing compliance will pause from next week. <p><i>Vaccinations and boosters</i></p> <ul style="list-style-type: none"> The BWTR shows, of the workforce on site for the week of 14-20 February 2022, 99.3% have had two doses of the vaccine, 0% had one dose and 0.7% have vaccination status 'unknown'. Vaccination assurance follow-ups for those with an 'unknown' status in the BWTR on site between 7-13 February 2022 did not identify any breaches of the Vaccination Order. Vaccination boosters were available from 29 November for anyone who had their primary course of the vaccination at least 6 months ago. From Tuesday 15 February, all MIQF workers over 18 years of age who had their second dose of the vaccine more than 6 months ago were required to have their booster dose in order to work at an MIQ facility. Of the workers on site the week of 14-20 February 2022, 24 workers (0.5%) are showing in BWTR as overdue for a booster. The workforce testing and vaccination team will investigate those to identify whether they are breaches of the Vaccination Order or a result of something else (e.g. data error, incorrect sign-in on site etc.) Site entry processes are in place to ensure only workers who are compliant with the Vaccinations Order are able to gain entry to an MIQ facility. MBIE continue to encourage our workers who are eligible for a booster but not yet required, to access one as soon as possible. There were no vaccine exemptions granted last week. <p>§9(2)(g)(i)</p>
Two-way QFT Cook Islands		MFAT	●	●	<ul style="list-style-type: none"> Two additional community cases have been confirmed in the Cook Islands, bringing the total to six. These cases are not connected to the previous four. All six positive cases are fully vaccinated and none have required hospital treatment. All six currently remain in isolation and a total of 73 close contacts are currently under quarantine. On 18 February, officials provided advice to Ministers that, in the event of widespread COVID-19 community transmission in the Cook Islands, Niue or Tokelau, QFT with these jurisdictions should be maintained regardless of outbreaks in these countries. §9(2)(f)(iv)

Border (Continued)

Agency	Last Week	This Week	Agency Comment
Reopening new travel pathways – Pacific Islands MFAT	●	●	<ul style="list-style-type: none"> On Friday 18 February Minister Sio announced expansion of one-way QFT to New Zealand to eligible travellers from Nauru, Tuvalu and American Samoa from 27 February as air routes become available. We have existing QFT from Niue, the Cook Islands, Samoa, Tokelau and Vanuatu. On 23 February American Samoa confirmed its first case of community transmission in a health worker at one of the territory's quarantine sites who then infected seven family members. s6(a) . Authorities have raised the territory's COVID alert level to its highest level of Code Red and imposed a lockdown for at least one week commencing from midnight 22 February (AST). All air and sea travel is suspended except for essential cargo and medical services, including to and from Samoa. Ensuring the low-risk Pacific pathway is protected. Tuvalu has provided a formal repatriation commitment, which means plans can progress to include it in the RSE scheme. A total of eleven RSE workers in New Zealand tested positive for COVID-19 last week. s6(a) 77 Tongan RSE workers arrived in New Zealand on Tuesday 22 February, the first group since prior to the eruption. s6(a)
	MOH	●	●

Managed Isolation and Quarantine and Return to the Community

Agency	Last Week	This Week	Agency Comment
Place and conditions of stay MBIE		●	<p><i>Network Transition Planning</i></p> <ul style="list-style-type: none"> Meetings were held with MIQ/MBIE Officials on Tuesday 22 February to discuss the proposed Network Transition/Decommission and associated glidepath. At the meeting it was agreed that the decommission of Tranche 1, previously paused, would progress. Work is also underway to develop Tranche 2 of facilities to be decommissioned synchronised with Reconnecting New Zealand. A cabinet paper is being prepared regarding Tranche 2 pathway. The Rydges Auckland decommissioning continues at pace with impacted workforce consultation now complete. This remains on track for a full decommissioning by 30 April 2022.
	MBIE	●	●
Place and conditions of stay MBIE		●	<p><i>Health workforce supporting MIQ</i></p> <ul style="list-style-type: none"> Next week's change to self-isolation for those returning from Australia will result in a decline in the utilisation of MIQ which will significantly ease the pressure on the MIQ health workforce. Health staff are working to keep up with the large number of recent changes in operating procedures. This includes several changes to testing modality and frequency and changes in the way that historical cases are investigated and treated. There is still significant pressure on the laboratory system nationally, which has led to delays in testing results, however the changes to Rapid Antigen Testing for staff should lessen the pressure on health staff undertaking the tests.
	MBIE	●	●

Place and conditions of stay	MBIE	●	●	s9(2)(f)(iv)	[Redacted]
					[Redacted]

Community Protection

Agency	Last Week	This Week	Agency Comment
MoH	●	●	<ul style="list-style-type: none"> As at 11.59pm 22 February 2022, there have been 36,420 community cases since 17 August 2021. There are 3,297 new cases in the community. As at 23 February 2022, there are 179 cases who are currently in hospital. There is one in ICU. As at 23 February 2022, there were 34,329 household and close contacts identified in the last 14 days to 23 February 2022. <p><i>Testing and supply operations</i></p> <ul style="list-style-type: none"> 27,550 tests were processed on 22 February 2022 with a rolling 7-day average of 28,951. On 22 February 2022, 39.5 percent of tests were processed within 24 hours and 51.32 percent of tests were processed within 30 hours. As at 18 February 2022, the baseline COVID-19 laboratory PCR testing capacity is 30,904 tests per day (down 26,480 from last week). This baseline capacity includes the use of pooling, which is used less frequently as positivity rates increase. The baseline capacity without pooling was 29,000. PCR testing is approaching maximum national capacity and has already started to exceed maximum capacity in some regions, including Auckland, Waikato and Bay of Plenty. To manage the pressure on laboratory capacity, from 23 February 2022, Community Testing Centres moved to giving out RATs for people to use unsupervised at home. Nasopharyngeal swabs for PCR testing are only being done where clinically advised. Community pharmacies continue to support supervised rapid antigen testing (RAT) for travellers required to have evidence of a negative test result for domestic travel and unvaccinated people requested to attend a court hearing. These tests will continue to be done free of charge until 30 June 2022. This will be reconsidered when retail sale of rapid antigen tests to individual members of the public is permitted. As MBIE move into Phase Three of the Omicron Response Plan, RATs become the primary form of testing. Supply of both PCR and rapid antigen tests (RATs) will be prioritised around protecting our priority populations from severe disease and/or death, ensuring equity and limiting the impact on society through the protection of critical workers and critical infrastructure. Testing plans for higher risk settings, including Aged Residential Care, Corrections facilities, Youth Justice facilities and residential care settings have been developed. A testing plan for Education has also been developed in consultation with the Ministry of Education. Healthpoint is currently showing 82 collection sites and 13 delivery options nationwide. Additional sites are continuing to be opened. A change is being loaded on the Ministry of Health website shortly that will direct worksites that have large numbers of critical workers who are close contacts directly to the local DHB. RATs are also being distributed to those General Practices who opt-in to providing supervised RATs. The Ministry of Health continues to build its stocks of RATs with additional orders and delivery confirmations happening each day. As at 18 February, there were 181.2 million RATs on order to the end of June 2022, with delivery confirmed for 14.7 million to the end of February 2022.

Vaccination

Implementation and operation

Agency	Last Week	→ This Week	Agency Comment
MoH	●	●	<ul style="list-style-type: none"> • As at 11.59 pm on 22 February 2022: <ul style="list-style-type: none"> ○ 10,461,176 vaccinations have been delivered, including 3,954,560 people who are fully vaccinated. ○ 2,223,385 booster doses have been administered. 67.7 percent of people eligible for a booster have received a booster. ○ 96 percent of the eligible 12+ population has now received at least one dose, and 95 percent is now fully vaccinated. ○ 230,960 Pfizer Paediatric doses have been administered, with 49 percent of children aged 5-to-11-years having either booked or received their first dose of vaccine. 2,081 Paediatric second doses have been administered. • On 23 February 2022, all DHBs have now achieved 90 percent uptake of first doses. Nineteen DHBs have also achieved 90 percent second doses, with Northland close to reaching this milestone. • Auckland, Mid Central, Capital & Coast, Hutt Valley, Canterbury and Southern DHBs have achieved 90 percent fully vaccinated for Māori over 12 years old. Wairarapa, West Coast and South Canterbury are less than 100 doses away from the 90 percent threshold. • Medsafe approved Novavax's vaccine application on 4 February 2022. • Operational readiness planning is underway in anticipation of Cabinet's decision on the use of Novavax. • Health and Disability workers were required to have received their booster dose by 11.59pm 24 February 2022 following an extension granted to the sector. • All other mandated booster vaccination dates contained within the Vaccination Order remain unchanged. • Nearly 100 percent of people over the age of 65 have received two doses of vaccine, and 88.6 percent have received their boosters. • DHBs are focused on promoting booster uptake and paediatric vaccinations, with a strong focus on equity. • Health and Disability workers required to receive a booster dose under the Vaccination Order have been granted an extension and are now required to receive their booster by 11.59pm 24 February 2022. <p><i>Booster Doses</i></p> <ul style="list-style-type: none"> • Since 17 January, approximately 1.8 million eligible individuals have been sent a booster reminder message. • Outbound call campaigns continue, prioritising Māori and Pasifika, and those over 65 years who have been eligible for a booster for more than six months. The campaigns have a regional focus with a view to prioritise DHBs with lower booster uptake and areas with known community transmission. • The 'Big Boost Week' campaign finished on 15 February 2022, but the 'Big Boost for February' campaign continues with additional targeted activity. • A Māori version of the booster campaign, 'It's time to boost your whānau protection', launched on 18 February 2022. The campaign includes messaging and visuals designed to resonate with Māori whānau. <p><i>Paediatric Vaccines</i></p> <ul style="list-style-type: none"> • Communications are addressing any perception of "vaccine pressure" through clear public messaging that emphasises that decisions for child vaccination sit solely with parents, caregivers, and whānau. • DHBs and hauora providers are working with schools and Kura Kaupapa to run vaccination clinics and school adjacent vaccination events, with prioritisation of tamariki Māori and low decile schools. • A wide range of stakeholders were engaged in developing the framework for the safe sharing of data on children to support local and community vaccination outreach activities.

Proactively Released

Resurgence Planning and Response

Agency	Last Week	This Week	Agency Comment
DPMC	●	●	<ul style="list-style-type: none"> The country remains at RED setting and has moved to Phase 3 of the Omicron outbreak strategy. Non-Health components of Phase 3 of the Omicron response are being implemented. AOG Winter planning is continuing, with scenarios being developed to assesses system readiness. A series of planning sessions are scheduled for March to inform policy advice and communications planning. Planning for the next iteration of the National Management Approach is under consideration.
MoH	●	●	<ul style="list-style-type: none"> On 15 February 2022, New Zealand shifted from Phase One to Phase Two of the Omicron response plan. On 21 February, the Ministry of Health undertook a Public Health Risk Assessment, to determine whether a shift from Phase Two to Phase Three was appropriate to best manage the impacts of the outbreak. With the continued upward trajectory of cases and decreasing capacity of the wider health system to continue to manage under Phase Two, it was agreed that the Ministry of Health's advice to shift to Phase Three of the Omicron response plan at 11 59pm on Thursday 24 February was the best way forward. Under Phase Three, the intent is that resources and effort (particularly relating to testing, case investigation and contact tracing) will be targeted on the populations at risk of severe outcomes from COVID-19. The corollary is relying on most of the population to manage their own symptoms, undertake contact tracing through self-management digital platforms, test themselves and isolate at home as appropriate.
MBIE	●	●	<p><i>Implications for MIQ with New Zealand entering 'Phase 3' of the Omicron Response</i></p> <ul style="list-style-type: none"> MIQ is running four quarantine facilities in Auckland, one in Hamilton and Wellington and two in Christchurch to support border returnees and community cases testing positive for Omicron. There is a small number of referrals from ARPHS over the past week and the majority of cases are being cared for by Care in the Community. Across the regions MBIE are seeing an increasing number of Omicron in the community however, most of these cases are being cared for by Care in the Community as MBIE do not have facilities in all regions. NZ Police have been released for other duties across the MIQ facilities due to the reduction of numbers in MIQ and the predicted reduction of returnees needing MIQ when RNZ commences on Monday.

Resurgence planning including review of COVID-19 Management planning and response

Proactively Released

2. COVID-19 Insights

2.1 Insight of Note Written by the Department of the Prime Minister and Cabinet

2.1.1 Possible Long-Term Outcomes or Endings for the COVID-19 Pandemic – Summary

Introduction

1. The Insights and Reporting Team in DPMC's COVID-19 Group have analysed what the potential long-term outcome, or ending, of the COVID-19 pandemic may look like, by drawing on information about how pandemics of the late 19th, 20th and 21st centuries and illnesses similar to COVID-19 have progressed.
2. The possible long term outcome, or ending, scenarios are based on previous work carried out by the World Health Organisation who identified the following three end state scenarios: 1) *endemic coronavirus*, 2) *flu-like*, and 3) *an ongoing pandemic through new variants*.¹ Slightly modified versions of these scenarios are detailed below, as well as a fourth scenario, of *suppressed and eliminated*. This fourth scenario is included as a survey of 119 immunologists carried out by *Nature*, a world leading multidisciplinary science journal, published in February 2021, found that 39% of respondents thought elimination was either likely or very likely at least from some regions.²
3. A brief explanation of the scenarios, the previous pandemics which serve as evidence of their likelihood, and the social implications should they occur, are set out below. This is a summary of a longer report which is available on request, and which has further details of each scenario, and the evidence for it.

Scenario 1 – Common Cold-like Endemic Coronavirus - Likely¹: COVID-19 remains contagious but causes mild disease in most cases. Most people catch the disease in young age and develop immunity to severe infection later in life. Vaccines provide further protection to vulnerable groups.

4. It is likely that COVID-19 will become endemic, and something encountered in childhood as a mild illness, based on the current behaviour of the four other endemic coronaviruses. However, it may take several years for this scenario to be realised.^{3 4} There are currently four endemic coronaviruses circulating in the population, designated as OC43, 229E, NL63, and HKU1, that are endemic to human populations. These viruses circulate in human populations and are responsible for illnesses such as the common cold.⁵ A possible historic example of where the transition from epidemic coronavirus to endemic coronavirus may have occurred is the 1890 pandemic, often referred to as the 'Russian flu pandemic'. Despite the name there is evidence to suggest that the pandemic was caused by the OC43 coronavirus, rather than a strain of influenza. This is now one of the four endemic coronaviruses and has little impact on public health.^{6 7 8 9} Should COVID-19 become endemic, it is likely that the COVID-19 virus will have little wider impact on New Zealand society. It also important to note, however, that in order for this scenario to be realised globally, a significant amount of the world's population would need to either contract COVID-19 to develop immunity, or be vaccinated, which may take a number of years and would mean the pandemic is drawn out.

Scenario 2 - Flu-like Seasonal Coronavirus – Realistic Possibility: COVID-19 presents as recurring epidemics when the conditions of transmission are favourable (similar to seasonal flu). COVID-19 continues to circulate as in endemic COVID-19 (scenario 1), but in a seasonal pattern and requires reformulation of vaccines.

5. It is a realistic possibility that COVID-19 will eventually become a seasonal illness like influenza with outbreaks occurring at particular times of the year, for example during winter months when people spend more time indoors. The COVID-19 pandemic has so far followed a pattern similar to that of the influenza epidemics of the 20th and 21st centuries, with numerous waves of disease. There have been a number of major flu pandemics over the course of the 20th and 21st centuries including: the 1918 Flu Epidemic (Spanish Flu), the 1957 Flu Pandemic (Asian Flu), the 1968 Flu Pandemic (Hong Kong Flu), and the 2009 Flu Pandemic (Swine Flu). In each instance the pandemics ended as immunity to these new strains of

¹ The probability language used in this insights report utilises a scale as follows: Remote/Highly Unlikely (<10%); Improbable/Unlikely (15-20%); Realistic Possibility (25-50%); Probable/Likely (55-70%); Highly Likely/Very Probable (75-85%); and Almost Certain (>90%).

influenza virus increased, either through vaccination, or infections after a number of waves of cases. In each case the virus was either displaced by another strain or continued to circulate as winter flu.^{10 11 12 13 14 15 16} Every year vaccines are reformulated in order to deal with mutations in these strains of influenza.¹⁷ The wider impacts of flu-like COVID-19 are likely to be similar to that of endemic COVID-19 (scenario 1). The main differences would be the need to regularly reformulate vaccines in order to maintain immunity, and the need for a regular vaccination, similar to the seasonal flu vaccinations, and the additional stress on healthcare systems in winter, which would have to deal with COVID-19 on top of the already elevated seasonal health burden. There is also the added risk in this scenario, that vaccine hesitancy grows, particularly if the COVID-19 threat appears to have subsided.¹⁸

Scenario 3 - Ongoing Pandemic through New Variants – Unlikely: a new COVID-19 variant evades immunity, overloads health systems and returns the world to a situation similar to the start of 2020.

6. It is unlikely that COVID-19 will be an ongoing pandemic through new variants. There are no recent examples as evidence for the likelihood of a scenario whereby new variants arise that entirely evade vaccines, where there is already an existing vaccine, although variable effectiveness of some vaccinations has been observed such as the BCG vaccine.¹⁹ An example of an ongoing pandemic for which there is no vaccine, is the HIV epidemic, which is only controlled through the use of therapeutics, and public health measures.²⁰ While it should be noted, that this scenario does not appear to have been how most pandemics observed in recent history played out, this pandemic is taking place in a time of much higher international interconnectivity, meaning that the spread of new variants between historically less connected regions is more likely. If COVID-19 became an ongoing pandemic through new variants, then major outbreaks of COVID-19 would continue to occur and would likely require therapeutics and public health measures similar to that observed during the pandemic. In essence the pandemic would not end, like the HIV pandemic. This scenario may also lead to inequality in health outcomes, with those in lower socio-economic groups likely to be less able to access antiviral treatments, a phenomenon observed in a study into the treatment of HIV in the UK, despite its universal public health system.²¹

Scenario 4 - Suppressed and Eliminated – Highly Unlikely: COVID-19 is initially restricted to a few locations before eventually being completely eradicated as a result of herd immunity through infection and vaccination.

7. It is unlikely that the COVID-19 pandemic will be ended through suppression and eliminated. The only other example of a disease being eradicated is smallpox, an event that was announced more than 200 years after the first vaccine was introduced to combat it. Smallpox is thought to have been present in human populations for at least 3,000 years. After the creation of the first vaccine for any disease in 1796, and a plan to eradicate the disease by the UN in 1967 through widespread immunisation and surveillance, smallpox was eradicated.²² However, due to the much greater spread and transmissibility of COVID-19, and with countries now looking to reduce restrictions and rely on immunity through vaccination, a similar outcome for COVID-19 looks highly unlikely. The COVID-19 virus is also present in other animals, referred to as natural reservoirs, such as the white-tailed deer, meaning that even if COVID-19 were eradicated in humans it would likely come back through contact with animals carrying the virus. Alternatively, an example of effective suppression is the first SARS outbreak at the start of this century. SARS was the first severe and readily transmissible new disease of the 21st century. It was caused by a coronavirus similar to the virus causing the current pandemic. In response, public health measures such as travel restrictions, school closures and quarantining were put in place. The combination of these actions led to the disease being controlled, and by June 2003 restrictions were eased.^{23 24} Should COVID-19 be suppressed and eliminated, the long-term outlook for New Zealand would likely be similar to that of endemic and flu-like COVID-19 (scenarios 1 and 2), but without the requirement for even the minimal public health measures required in those scenarios.

Thank you to the following teams that assisted with this report: the Ministry of Health, the Ministry of Foreign Affairs and Trade, and the Ministry of Business, Innovation and Employment.

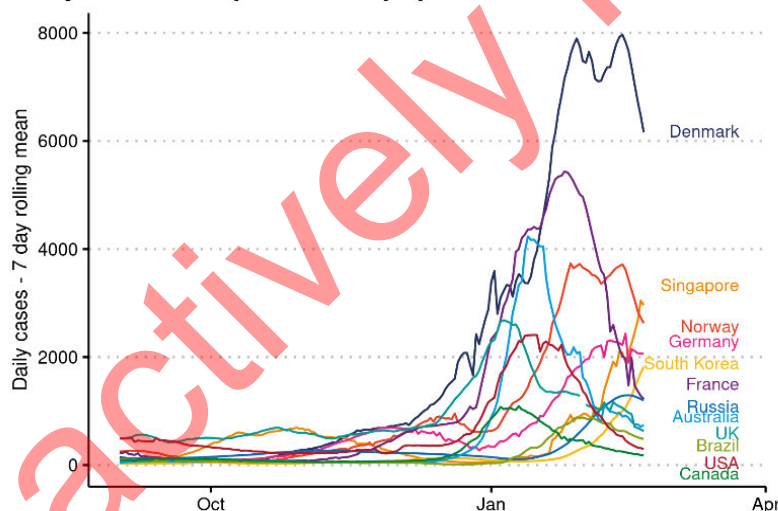
2.2 Insight of Note Written by the Ministry of Health

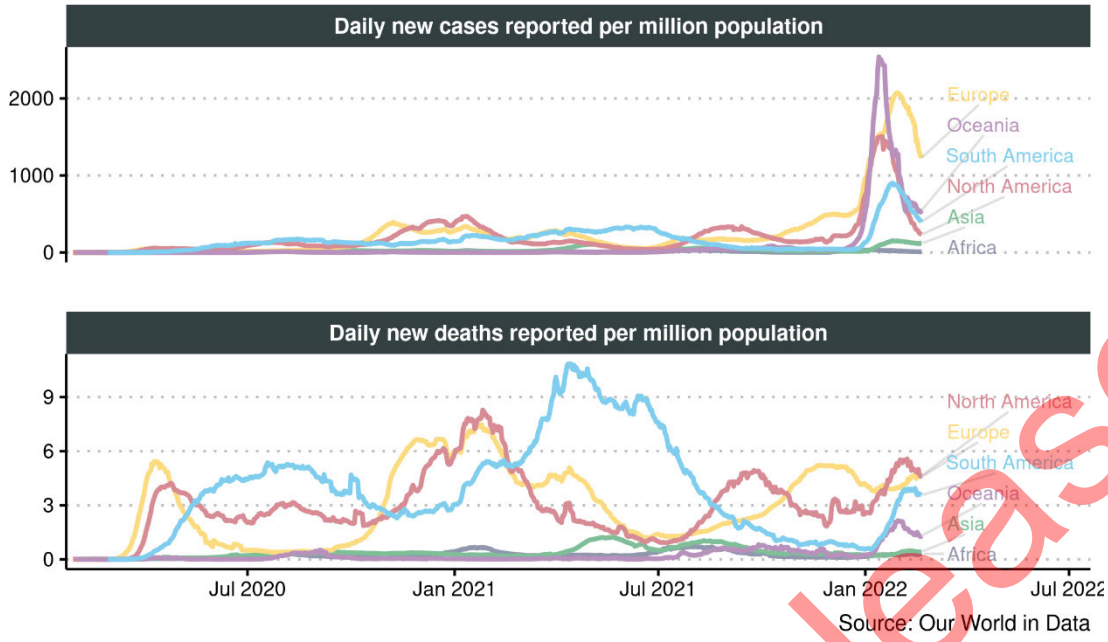
2.2.1 International Surveillance Report – 22 February 2022

Key points:

- Cases reported at the border have declined markedly in recent weeks. In the fortnight to 22 February, 65 acute cases have been reported in international arrivals, down from 461 acute cases two weeks earlier. The greatest number of acute cases at the border originated in Malaysia (16) and India (14). Note that Malaysia continues to have a high number of acute cases per 1,000 arrivals (410).
- Russia is now reporting the greatest total number of COVID-19 cases daily (178,746), followed by Germany (173,426). Please note that due to variations in testing, use of RATs and differences in reporting between jurisdictions, the number of confirmed cases will be lower than the true number of infections. Accordingly, comparisons of case rates between countries should be made with caution.
- As at 19 February 2022, there are currently 4 active cases in the Cook Islands, all in isolation. Three are linked to a case in NZ, and the fourth is a separate traveller who was also a close contact of a NZ case.
- In Vanuatu, 8 cases have been identified in border in recent arrivals. There are a further 10 cases under investigation. All eight confirmed cases have been in quarantine since arrival in Vanuatu and there is no evidence of community transmission at this stage.
- Travellers from the Cook Islands or Vanuatu may enter New Zealand without isolating if fully vaccinated or under 16, or if they are unvaccinated, people who meet immigration requirements. People who are unvaccinated *and* not New Zealand citizens cannot enter New Zealand.

Daily new cases per million population





New Zealand's MIQ bookings in the next 30 days for the top ten points of departure	
Point of departure	Number of MIQ bookings
India	1,031
UK	584
USA	552
Unknown	420
Australia	317
UAE	170
China	161
Pakistan	143
Philippines	136
Canada	128

Source: Ministry of Health.

Countries of interest									
Jurisdiction	Daily New Cases	Daily New Cases Per Million	Daily New Deaths	Daily New Deaths Per Million	Percentage Vaccinated	Percentage Fully Vaccinated	Booster doses administered per 100 population	Arrivals in NZ in the last 3 months	Cases among the last 3 months arrivals
Denmark	37,612	6,470	34	5.9	83.4	81.6	62.3	72	2
Singapore	16,611	3,046	7	1.3	90.8	88.5	60.1	663	113
Norway	14,912	2,728			79.2	73.5	52.3	61	0
Germany	173,426	2,067	192	2.3	75.5	74.4	55.7	569	7
South Korea	87,458	1,705	46	0.9	87.3	86.3	59.4	166	0
France	86,523	1,283	271	4.0	80.0	77.3	51.9	385	9
Russia	178,746	1,225	733	5.0	53.7	49.1	9.0	139	4
Australia	18,335	711	46	1.8	85.2	79.2	42.0	7,921	202
United Kingdom	45,153	662	142	2.1	77.1	71.7	55.7	4,841	99
Brazil	106,154	496	836	3.9	82.3	71.7	28.4	99	10
United States of America	104,859	315	2,173	6.5	76.1	64.4	27.9	3,229	155
Canada	7,056	185	76	2.0	85.4	80.8	44.9	846	15
United Arab Emirates	987	99	1	0.1	99.0	94.4	46.6	731	215
India	27,293	20	463	0.3	69.1	55.4	1.3	2,546	270

Source: Our World in Data, Ministry of Health.

New Zealand's imported COVID-19 cases in the last two weeks					
Point of departure	Acute	Historical	Total	Arrivals	Acute cases per 1000 arrivals
Malaysia	16	0	16	39	410.3
India	14	1	15	408	34.3
Singapore	6	0	6	64	93.8
Unknown	5	0	5		
Iraq	4	0	4	1	
Pakistan	4	0	4	81	49.4
United Kingdom	3	0	3	502	6.0
Australia	2	0	2	456	4.4
Iran	2	0	2	24	83.3
Jordan	2	0	2	2	
Philippines	2	0	2	94	21.3
Fiji	1	0	1	25	40.0
Papua New Guinea	1	0	1	16	62.5
Saudi Arabia	1	0	1	12	83.3
United Arab Emirates	1	2	3	93	10.8
United States of America	1	1	2	317	3.2
Other	0	0	0	1,662	0
Total	65	4	69	3,796	17.1

Source: Ministry of Health.

Cook Islands

Cases	As at 19 February 2022, there are currently 4 active cases in the Cook Islands, all in isolation. Three are linked to a case in NZ, and the fourth is a separate traveller who was also a close contact of a NZ case.
Hospitalisations and deaths	No hospitalisations and no deaths.
Vaccination	For those aged 12+: <ul style="list-style-type: none"> • 99% have received first dose • 97% have received second dose • 69% have received a booster For those aged 5-11: <ul style="list-style-type: none"> • 71% have received first dose • 0% have received second dose • 0% have received a booster
Testing	Since 13 February 2022 (date of first official COVID-19 case), there have been a total of 1,065 PCR tests.
Border settings	<p><u>Travel to Cook Islands</u></p> <p>Entry to the Cook Islands is controlled based on 3 group classifications with each having a set of guidelines around entry:</p> <ul style="list-style-type: none"> • Group 1 – Visitors (tourists) • Group 2 – Diplomats and Permit Holders • Group 3 – Citizens and Permanent Residents <p>All travellers must have spent 10 days in New Zealand prior to departure. Negative PCR test within 48 hours of departure.</p> <p>Full vaccination required for entry. Permit holders, diplomats, Cook Islanders, and permanent residents with medical exemptions or under 5 years are exempt from vaccination requirement and home quarantine; further testing will apply.</p> <p><u>Travel to NZ</u></p> <p>Travellers from the Cook Islands may enter New Zealand on the "no isolation" pathway if fully vaccinated or under 16, or if they are unvaccinated people who meet immigration requirements. People who are unvaccinated <i>and</i> not New Zealand citizens cannot enter New Zealand.</p>

Vanuatu

Cases	As at 22 February, 8 cases have been identified in border in recent arrivals (from Noumea (6) and Australia (1), including one frontline worker believed to be flight crew). There are a further 10 cases under investigation. All eight cases have been in quarantine since arrival in Vanuatu. There is no evidence of community transmission at this stage.
Hospitalisations and deaths	No hospitalisations and no deaths.
Vaccination	At 30 Jan 2022, in adults aged 18+: <ul style="list-style-type: none"> • 46% are fully vaccinated • 66% are partially vaccinated • No boosters have been administered to date
Testing	There is no recent available testing data from Vanuatu.
Border settings	<p><u>Travel to Vanuatu</u></p> <p>Inbound travel to Vanuatu by both sea and air is currently restricted. All travellers 18+ must be vaccinated. PCR test required within 72 hours of departure. 14-day quarantine in government facility with testing on day 5 and 11 travellers from high-risk areas subject to additional testing.</p> <p>Vanuatu reopened for repatriation flights on Sunday.</p> <p><u>Travel to NZ</u></p> <p>Travellers from Vanuatu may enter NZ on the "no isolation" pathway if fully vaccinated or under 16, or if they are unvaccinated people who meet immigration requirements. Immigration eligibility is currently limited to NZ citizens, residents, critical purpose visas and those with border exemptions.</p> <p>People who are unvaccinated <i>and</i> not New Zealand citizens cannot enter New Zealand.</p>

3. Ministry of Health



3.1 Policy/Programme Updates

3.1.1 Health system preparedness programme: update

This item provides an update about the Health System Preparedness Programme.

General overview

The Health System Preparedness Programme continues to operate at pace to collaborate with the sector and deliver the information, guidance and supporting structures for managing COVID-19 in the community. Regular engagements with the health sector, other government agencies, and Māori and Pacific communities to impart information relating to Omicron and care in the community, releases of key information, and ongoing assurance reviews, are the focus for this week. These will follow into next week, with results becoming available from reviews, and updated technology releases confirmed.

COVID-19 Care in the Community

Communication and engagement

Two sector information sessions were held on the COVID-19 Care in the Community programme, setting out the shift to Phase 2 of the Omicron response, which saw good attendance from across the health sector. The presentations, and questions and answers are available on the Ministry of Health website.

The programme continues to feed into a wide range of communications material, including the Department of Prime Minister and Cabinet's Unite Against COVID-19 campaign. The communication focus for the week commencing 21 February 2022 was on how to isolate effectively (including, for how long), what to expect from a positive result through to discharge, and where to seek help, advice, and welfare support.

The programme continues to work with the Ministry of Social Development as to the best way to engage with Māori and Pasifika providers following feedback from communities as to how to access welfare support. Following on from the Omicron webinars, a series of online hui and fono are planned in the week of 28 February 2022.

Several videos and fact sheets to support people who are isolating at home have been developed and are available on the "Advice for people with COVID-19" section of the Ministry of Health website.

MOH have received feedback from the health sector and disability groups on the Care in the Community model and ensuring it is accessible for people with disabilities. The Ministry of Health has had several meetings with a range of stakeholders and are developing a plan on how MOH best capture, support and report on people with disabilities receiving COVID-19 care in the community based on the feedback received.

Risk Stratification

A risk stratification tool has been developed for the Care Coordination Hubs to assist with prioritising contacting people who are not engaging through the digital self-management process. This is separate from the clinical risk assessment that is already in place.

Clinical guidance

Updated clinical guidance to support Care in the Community is now available on the Health Pathways platform.

Accommodation guidelines

The Ministry is reviewing the Accommodation Guidance on apartments and temporary accommodation that was issued late last year to ensure it is relevant for Omicron. The update was published on the Ministry of Health website (with links from Unite Against Covid-19) on 22 February 2022.

The Ministry has been holding webinars on the new digital tools. Following feedback from these, MOH have adjusted the technical training materials.

Metrics

Care in the Community metrics focus on the journey from test, notification, assessment, care and support, through to release from isolation. Some of the data needed for metrics are already available, and some are subject to development. MOH will be able to report on a range of new metrics as data becomes available following technology releases across active and self-management pathways over the next fortnight. MOH aim to provide a set of new metrics by 4 March 2022, subject to technology releases and data availability.

Care Coordination Hubs

The team is working with the 44 Care Coordination Hubs (the Hubs) this week to develop snapshots of their activity and identify key support needs. The snapshots are modelled on the DHB Preparedness Checklist questions.

Capacity and preparing for Phase 3

To monitor and manage capacity, close relationships with the 44 Community Care Hubs is critical. The preparedness snapshots, noted above, will provide additional insight into the Hubs, and challenges that may arise as case numbers increase. Combined with the comprehensive capacity planning completed by DHBs in early 2021 (as part of the DHB desktop reviews), lessons learned from Phase 2 of the Omicron strategy can be identified and mitigated, ready to integrate into Phase 3.

Digital tools to support self-isolation

Last week, with the shift to Phase 2 of the Omicron response, MOH released the largest number of new digital tools on one day to date. New tools deployed included positive cases receiving a text message; patient on-line self-service portal (COVID-19 Health hub), self-reporting of Rapid Antigen tests; and the risk stratification tool. The functionality to send a text message to inform cases of completion of their isolation period is anticipated to be released early March 2022.

Workforce

A Workforce Care in the Community plan has been developed to outline initiatives that sit under the five key strategic principles within Health Workforce.

The Student Placement Policy is now finalised and updated on the Ministry website. This policy applies to students from all health professions who are completing training placements or undergoing face-to-face training assessments in any environment (i.e., DHB or non-DHB) under the COVID-19 Public Health Response (Protection Framework) Order 2021. TAS has disseminated the policy to the sector.

The Critical Health Services list, and guidance on what to do if a critical health worker tests positive or is a close contact, has been published on the Ministry website.

Next steps

Hui and fono are being planned with the Ministry of Social Development to engage with Māori and Pasifika providers on Care in the Community and on how to access welfare support.

A draft Terms of Reference is in development for a desktop review of DHBs (similar to last year) focusing on readiness for Omicron of primary and community care.

3.1.1 COVID-19 Vaccine and Immunisation Programme

As at 11.59 pm on 22 February 2022, 10,461,176 vaccinations have been delivered, including 4,017,433 first doses, 3,954,560 second doses, 32,757 third primary doses, and 2,223,385 booster doses.

- 230,960 paediatric first doses have been administered to 5-to-11-year-old children, with 48 percent of this population now having received their first dose, two percent more than last week. 2,081 paediatric second doses have been administered.
- 48 percent of the eligible population aged 5-to-11-years has now received their first dose.
- 67 percent of people eligible for a booster dose have received their booster. This is five percent up from last week.
- 86 percent of the eligible population 5 years and older has now received at least one dose, one percent rise from last week's figures. 80 percent of this population are fully vaccinated.
- 893 vaccination sites were active on 22 February 2022.
- Nearly 100 percent of people over the age of 65 have received two doses of vaccine, and 88.6 percent have received their boosters.

Driving uptake

Northland DHB is 3,747 doses from reaching the 90 percent fully vaccinated milestone as at 11.59pm 22 February 2022. Auckland, MidCentral, Capital & Coast, Hutt Valley, Canterbury, and Southern DHBs have reached 90 percent fully vaccinated for Māori, with several more DHBs very close to achieving this milestone.

DHBs are focused on promoting booster uptake across the eligible population and uptake of paediatric vaccinations, with strong focus on equity.

The Programme continues to work with DHBs to lift the number of available weekend sites to match the weekday capacity. Across the motu DHBs are extending hours and opening additional clinics. There are close to or over 900 sites open most weekdays.

DHBs continue to onboard Primary Care and Pharmacy sites to increase capacity for both adult and paediatric vaccinations as well as running larger events, drive-thru clinics, and community vaccination sites.

5 to 11 year olds

49 percent of children aged 5 to 11 years old have either booked or received their first dose as at 11.59pm on 22 February 2022.

To date, 29 per cent of the eligible tamariki Māori aged 5 to 11 years have been partially vaccinated.

Communications are addressing any perception of "vaccine pressure" through clear public messaging that emphasises that decisions for child vaccination sit solely with parents, caregivers, and whānau. DHBs and hauora providers are working with schools and Kura Kaupapa to run vaccination clinics and school-adjacent vaccination events, with prioritisation of tamariki Māori and low decile schools.

On 4 February 2022, the Ministry met with stakeholders alongside Minister Hipkins and Minister Henare to discuss the tamariki rollout in the face of low uptake numbers. The hui included Hauora providers, Māori Technicians Group, Iwi Comms Collective and Kura Kaupapa. A follow up hui is scheduled for this week with both Ministers, to cover off the responses and newest updates from the Ministry of Health.

Data sharing

The framework and decision to share data with providers for 5 to 11 year olds has been in place. A wide range of stakeholders were engaged in developing the framework for the safe sharing of data on children to support local and community vaccination outreach activities.

Where data on 5-to-11-year-olds has been requested, data sharing agreements are being updated and signed. Signed updated agreements have been returned from two providers, with responses awaited from a further three providers. Communications, including Te Reo and Pacific versions, on the sharing of data are being developed for community-based leaders.

Booster Doses

As at 22 February 2022, 2,223,385 people have received a booster dose. This represents 67.7 percent of the 3,286,594 people who are currently eligible for a booster, over a five percent rise since last week.

The “Big Boost Week” campaign finished on 15 February 2022, but the ‘Big Boost for February’ campaign continues with additional targeted activity. A Māori version of the booster campaign, ‘It’s time to boost your whānau protection’, launched on 18 February 2022. The campaign involves messaging and visuals designed to resonate with Māori whānau.

Since 17 January 2022, over 1.8 million booster reminders have been issued to eligible consumers. Additionally, 110 phone campaigns have been conducted between 9 and 16 February 2022 by Whakarongorau to encourage and support uptake of boosters. The call campaigns continue to take a regional focus with a view to prioritise DHBs with lower booster uptake and areas with known community transmission.

The Ministry of Health is working through the implications of requiring a COVID-19 vaccine booster dose to maintain fully vaccinated status. This work includes both public health and scientific aspects of the implications, as well as implementation considerations.

Vaccination Order

The amendment to the Vaccination Order requires that Health and Disability workers are now required to have received their booster dose by 11.59pm 24 February 2022. All other mandated booster vaccination dates contained within the Vaccinations Order remain the same.

Equity

All regions have events planned to raise uptake among Māori, with a particular focus on tamariki Māori. DHBs have increased hours at vaccination sites to accommodate families.

DHBs continue to provide a range of services for disabled people for boosters and paediatric vaccinations. Where necessary, DHBs are engaging with private providers to determine capacity for the provision of sedation clinics.

The Karawhīua page for tāngata Whaikaha is now live, providing information on how to access information in alternate formats, the disability booking team and transport options through Whakarongorau. The Programme has also been progressing the development of a series of tools for neurodiverse people and people with significant learning and communication disabilities, their whānau, and healthcare workers.

The Programme has engaged with ethnic communities through the Ministry for Ethnic Communities (MEC) alongside the Department for Prime Minister and Cabinet (DPMC) and the Ministry of Social Development (MSD), and additional funding has been provided to support work with MEC to achieve equitable uptake and access.

Novavax

The COVID-19 Vaccine Technical Advisory Group (CV-TAG) is finalising its advice on the use of Novavax. Operational readiness planning is underway in anticipation of Cabinet’s decision on the use of Novavax.

Technology

As at 11.59pm on 22 February 2022, 5,265,319 My COVID Passes have been issued to 3,875,856 individuals. This represents 96.9 percent of the fully vaccinated population. 12,347 Passes were generated to unique users this week. The total number of passes generated is higher due to the ability for consumers to request a new pass be generated if, for example, they have lost the original pass they downloaded and need to replace it.

A web-based Overseas Vaccine Submission Form was released last week to enable consumers who have been vaccinated overseas to request a My Vaccine Pass and have their vaccination doses recorded in the COVID Immunisation Register, replacing the previous email submission approach.

3.1.2 Technical Advisory Group: update

COVID-19 TAG

The COVID-19 Technical Advisory Group (COVID-19 TAG) did not meet in the week commencing 14 February 2022. The next COVID-19 TAG meeting is scheduled for 25 February 2022.

CV TAG

The COVID-19 Vaccine Technical Advisory Group (CV TAG) met on 15 February 2022 and discussed the following items.

- Vaccine Rollout
- Equity and the Vaccine Rollout
- Booster vaccinations in 12-17-year-olds
- Dosing interval for 5-11-year-olds
- Minimum Vaccination Requirements to enter NZ and Definition of Fully Vaccinated

The next CV TAG meeting is scheduled for 1 March 2022.

Therapeutics TAG

The COVID-19 Therapeutics Technical Advisory Group (Therapeutics TAG) did not meet in the week commencing 14 February 2022. The next Therapeutics TAG meeting is scheduled for 25 February 2022.

3.1.3 Upcoming communications issues and activities

As at 22 February 2022

Date	Activity	Lead agency	Communications material	Ministerial Involvement
15/02/22 ongoing	Health System Preparedness: Omicron Phase 2 - information sessions and upcoming training on the COVID clinical co-ordination module for the primary care sector and regional health co-ordination centres	MoH	Website, health stakeholders	No
16/02/22 ongoing	Digital tools of COVID-19 Contact Tracing online form and Text message rolled out	MoH	Key messages, website, stakeholder communications	No
22/02/22	Update to Border PCBUs – move to RATs for surveillance	MOH/MBIE	Stakeholder communications	No
23/02/22	Reconnecting NZ – communications re travel documentations	MOH	Q&As, stakeholder engagement, website	No
23/02/22 ongoing	Omicron community outbreak: daily communications and support for the health sector and public, including cases in a number of regions across the country. Delta cases continue in various regions. Locations of interest and updated health advice.	MOH/DPMC	Talking points, key messages, communications, website, stakeholder comms	Optional
24/02/22	Omicron Phase 3: announcement of move to Phase 3 and retail RATs	MoH/DPMC	Communications, talking points, key messages, updated Omicron Response Plan, Section 70s, website, stakeholder engagement	Yes
24/02/22	Health Hub go live - assisted support for care in the Community	MOH	Communications, website, Q&As underway	Optional

4. Managed Isolation and Quarantine Weekly Report

4.1 Items to Note/Updates

4.1.1 MIQ response to the Covid Outbreak

MIQ continues to run eight quarantine facilities across New Zealand to respond to the growing numbers of Omicron cases. For MIQ to respond to the Omicron outbreak and changing demands, active management of facility designation continues to provide a resilient MIQF network.

There continues to be an increasing number of MIQF staff testing positive for COVID-19, however there is no evidence that this is through in-MIQF transmission. Business continuity is not compromised, and contingency planning continues should there be further staff testing positive for COVID-19.

Though there has been a significant increase in community cases, the majority of these are not being referred to MIQ and instead are being cared for via Care in the Community unless there is an inability for people to safely self-isolate. In Auckland, Christchurch and Hamilton there are a small number of rooms for close contacts who are unable to self-isolate at home.

Work is underway to prepare for the next release of returnees; from 28 February those who have travelled from Australia will be eligible to release for self-isolation for the remainder of their isolation period. The expected number to be released is around 145.

4.1.2 Implementation of the Public Health Risk Assessment Tool

Since updating the Public Health Risk Assessment tool, the approval rate has marginally increased. Some weeks have seen a jump, but in context, the approvals remain low. The approval rate in February is sitting at 16.4% based on the data available at the time of writing. This can be attributed to people applying while overseas and applying for reasons which are not exceptional or those applying while positive. This is higher than the historical average (since 14 July 2020) of 3% (192 approvals out of 6,234 applications).

The February changes should see an increase in approvals as it allows people to use public transport and be considered with a day 0/1 RAT test. Public transport (including inter-island transport) was a common request for returnees so that they could see terminally ill relatives in a different area of New Zealand and can now be accommodated. These changes have only been live for shortly over a week and will likely result in a higher approval rate with next week's figures. However, Reconnecting New Zealand will decrease the number of applications MBIE will receive with around 40% of volume being from Australia.

4.1.3 Lobby Releases: 17 February and 24 February

A room release was held on Thursday 17 February at 9am (NZT) for approximately 2,500 rooms across February, March and April. All of the 952 users, representing 1,431 passengers, who joined the queue got a turn to enter MIAS. Of these, 818 users logged into MIAS and 594 users proceeded to make a booking. 965 passengers were booked across 624 rooms. These passengers were from 69 countries.

The top five highest participating countries were:

- India – 225
- Australia – 76
- Pakistan – 63
- United Kingdom – 62
- United Arab Emirates – 55

In preparation for Step 1 of Reconnecting New Zealand, a manual process has been stood up for those who have vaccine exemptions and are returning from Australia from 28 February 2022.

A room release was held on Thursday 24 February at 9am (NZT) for approximately 4,500 rooms across February, March and April. MBIE will include a breakdown on the participation for that next week.

MBIE are providing advice to you this week about the future of room releases due to the expected sharp decline in MIQ demand forecast as a result of Reconnecting New Zealand.

4.1.4 s9(2)(f)(iv)

[Redacted content]

4.2 Operational Update

4.2.1 MIQ’s Role in Afghanistan Evacuation

A total of 1,204 evacuees from Afghanistan have arrived in New Zealand. The table below shows the MIQ status of the Afghanistan evacuation programme as at 10.00am Wednesday 23 February 2022:

TOTAL Evacuees from Afghanistan that are Currently in MI	25
TOTAL Evacuees from Afghanistan that have Departed MI	1,179 - Afghanistan Evacuees: 1,088 Afghan Nationals (excludes births after arrival), includes NZ National: 1, AoG staff: 90
TOTAL Expected Arrivals (through to 13 March 2022)	280 (estimated)

Room availability for Afghanistan evacuees and Refugee Quota Programme is currently constrained to 60 rooms per fortnight.

Reduction in the required length of managed isolation/quarantine period under Omicron Response Phase 2 will result in an acceleration of the throughput tempo of both Afghan Evacuees and Quota Refugees.

MBIE anticipate that the bottleneck for these groups will soon be the capacity of resettlement organisations rather than MIQ. This will become more evident as demand for MIQ rooms significantly reduces as a result of Reconnecting NZ Steps 1 and 2.

4.2.2 Ventilation

Remediation work completed (total number of facilities = 32)	Facilities yet to complete remediation	% of rooms complete within the portfolio of facilities fully signed off
29 completed (26 of which are fully signed off)	3	75% (4,537 rooms)

Remediation work for all but three facilities (Chateau on the Park Christchurch, Stamford Plaza Auckland and Novotel Auckland Airport) has been completed and the total number of facilities fully signed off is currently 26. Previously MBIE had been reporting that the remediation work at all but two facilities was complete. While the remediation work at Novotel Auckland Airport was thought to be complete, analysis of the retest results for the facility has indicated that further remediation work is now required.

Final retest results are expected next week for three facilities that have completed their remediation work (Four Points Auckland, Sudima Christchurch and Sebel Manukau).

The target date for the completion of the remediation work for the final three facilities is the end of February 2022, with retesting to follow.

Last week, final signoff was obtained for Commodore Christchurch with all rooms achieving MIQ preferred conditions.

4.2.3 Air Filtration Units (AFU)

The dispatch of AFU's to isolation facilities for rooms of "Cases Under Investigation" has commenced. To date, 70 units have been sent to Christchurch, 40 units have been sent to central region facilities and units will be dispatched to all 13 Auckland isolation facilities early this week (total of 160 units).

Following the completing of the Cases Under Investigation deployment 177 units will remain in stock (of the units that have been allocated to MBIE) and available to install in any additional quarantine rooms.

4.2.4 Vaccination of Frontline Staff (including booster information)

For workers on site for the week 14 - 20 February 2022, BWTR shows that 99.3% had two doses of the vaccine, 0% had one dose, and the remaining 0.7% (30 workers) had a vaccine status of 'unknown'.

Of the 30 workers with an 'unknown' vaccination status, 14 still require an NHI match. The Workforce Testing Team is investigating the remaining 16 workers to confirm their vaccination status.

Vaccination assurance follow-ups for those with an 'unknown' status in BWTR did not identify any breaches of the Vaccination Order.

Of the 39 workers who were NHI-matched but showing a vaccination status of 'unknown' between 7 - 13 February 2022, all workers have been confirmed as being compliant with the Vaccination Order. For some workers their vaccine evidence has since been removed from BWTR as they are no longer employed and that is why they show as vaccine 'unknown'.

For workers on site for the week 14 - 20 February 2022 with regards to booster shots:

Workers on site 14-20 Feb	Has received a booster	Overdue for booster	Eligible in coming months	Under 18	Unknown*	Total
#	4,189 (90.9%)	24 (0.5%)	332 (7.2%)	25 (0.5%)	37 (0.8%)	4,607

The Workforce Testing and Vaccination team will investigate the 24 workers showing as overdue for a booster to check if they were breaches of the Vaccination Order or if there was another reason for that (e.g. data error).

*The 'unknowns' will likely have their vaccine status updated in due course as they are NHI matched or any vaccine data issues are sorted.

4.2.5 Staff Testing

Reporting from the BWTR shows that 4,894 people undertook work in our facilities last week. The table below shows how many of those workers were either compliant with the Testing Order, overdue for a test or still needed to be NHI-matched.

Workers on site 14-20 Feb 2022	Workers on nasal testing regime	Workers on saliva testing regime	Total	Percentage of total NHI-matched workers on site
Compliant NHI-matched workers	1,879	2,286	4,165	91%
Overdue NHI-matched workers	232	196	428	9%
Need NHI-match	14	0	14	-
Workers on site	2,125	2,482	4,607	-

Of the 428 workers who are overdue, 279 of those are less than 4 days overdue (65% of the total), 124 (29%) are 4 - 10 days overdue and 25 (6%) are 11+ days overdue.

Of the 14 workers that still need an NHI-match, 12 were created in the BWTR in the last 7 days.

In the week ending 13 February 2022, 28 workers were showing as '11+ days overdue' in BWTR. Of those 28 workers, 19 workers have a swab confirmed, 3 have been contacted and MBIE are awaiting a response, 1 has been instructed to be swabbed, 1 is no longer employed and 3 have been escalated to MOH for further action.

All MIQ facilities are moving from PCR testing to Rapid Antigen Testing (RAT) for MIQ workers as soon as possible. With this move, information about testing will be logged by workers in the My Covid Record. At present this information does not flow through into the BWTR so reporting on testing compliance will pause from next week.

4.2.6 Saliva Testing

As at 21 February 2022, 5,549 MIQ workers have opted-in to saliva testing across all active MIQF sites (up from 5,423 last week).

4.3 Judicial Reviews, Dispute Resolution, Ombudsman and OPCAT

4.3.1 Grounded Kiwis Judicial Review

The Grounded Kiwis urgent proceedings were held before Justice Mallon at the High Court in Wellington on 14-15 February.

MBIE can expect a ruling to be made in the next few weeks, however, it may take up to eight weeks. MIQ is preparing various responses for possible outcomes.

4.3.2 s9(2)(a) Judicial Review

There will be a mention's hearing for this case on 7 March 2022. This is a short hearing where the Judge checks in on what is happening with the case. Discussions about discovery are underway.

4.3.3 s9(2)(a) v Ministry of Business, Innovation and Employment - Costs

MBIE received a judgement on 23 February for s9(2)(a) v MBIE, relating to the costs of the pregnancy judicial review cases. The Court made no order for costs. Importantly, the Court found that MBIE could not be said to have failed in the proceedings and the applicants could not be said to have won. The Court rejected the argument that MBIE would not have issued the allocations without the proceedings taking place.

4.3.4 Ombudsman Complaints

MBIE are currently managing 47 cases, with 33 of these being preliminary enquiries. Of the 14 active requests three are on emergency allocations, two on fee waivers, three on exemptions from managed isolation, two on undue financial hardship, one on access to fresh air in a facility, one on calculation of fees, one on the legal basis of a stay in MIQ, and one on unlawful detention. MBIE are seeking Crown Law advice on some opinions to support our responses.

4.3.5 OPCAT

MBIE have received information regarding a planned OPCAT inspection of The Elms Christchurch. MBIE have provided further information regarding the 'Standard Operating Procedure' request.

4.4 Upcoming Communications Issues and Activities

4.4.1 As at 23 February 2022:

Date	Activity	Lead agency	Comms material	Ministerial Involvement Y/N
28 February	240 additional people exiting MIQ due to border changes (step 1)	MIQ	Proactive	N
2 March TBC	Announcement of 8 decommissioned	MIQ	Proactive	Y TBC
15 March	Additional people leaving MIQ due to border changes	MIQ	Proactive	N
TBC	Grounded Kiwis result	MIQ	Proactive	N

4.5 Invoicing

The table below shows the number of invoices issued up to 20 February 2022.

Invoices have various repayment terms depending on whether they are a sports group (10 days), critical worker (30 days) or standard returnee/maritime crew/aircrew (90 days).

Grouping	Invoices issued (net of credit notes)	Paid	Issued not due	Issued over due	Invoices issued (\$)	Paid (\$)	Issued not due (\$)	Issued overdue (\$)	90+ days over due	90+ days overdue (\$)
Groups /Temp Visa	7,660	5,032	797	1,831	\$67,103,679	\$55,409,800	\$2,064,367	\$9,629,512	975	\$5,345,366
Maritime	678	541	60	77	\$3,271,707	\$2,892,401	\$98,373	\$280,933	23	\$96,422
Aircrew	257	238	9	10	\$3,219,187	\$2,063,574	\$1,039,119	\$116,494	8	\$101,437
Other	32,767	21,269	3,457	8,041	\$107,918,495	\$75,148,031	\$6,874,921	\$25,895,543	5,154	\$16,801,675
Total	41,362	27,080	4,323	9,959	\$181,513,068	\$135,513,807	\$10,076,779	\$35,922,482	6,160	\$22,344,900

Groups has only previously included sports groups, critical workers, and critical Health Workers. However, going forward this now includes temporary visa holders as this aligns more to the categorisation of critical workers, that is, they have the same fee charging structure.

4.5.1 Fees Collection

MBIE usually allows 2-3 weeks from when someone leaves MIQ to invoice, as this time allows us to gather all of the information MBIE need to determine liability and contact details. MBIE are currently around six weeks behind our normal processing timeframes due to implementing changes for 7-day MIQ stays, a data issue and the Christmas holidays. Invoicing is up to the point where returnees left MIQ on 5 – 10 December 2021.

The process to email the backlog returnees from August 2020 to 24 March 2021 has sent emails to returnees up to 8 March 2021. This has led to 2,467 invoices sent so far, valued at \$8.2m.

4.5.2 Debt Recovery

Of the now 1,958 invoices worth \$6.479m sent to a debt collection agency:

- \$1.356m has been paid (or is being paid through instalment).
- \$907k is currently awaiting information from customers or has been credited due to an error.
- A further \$2.433m (this includes the no address/gone overseas category and passive collection) requires more detailed tracing.
- \$399k currently have waiver applications under assessment.
- The remaining \$1.384m of debt continues to be a work in progress.

4.5.3 Collections Partner Update

6,087 invoices worth \$23m have been passed to our collection partner. For the week ended 20 February 2022, \$5.915m has now been paid (up \$493k).

An additional \$1m of debt is under instalment and is expected to convert to payments received over the coming weeks.

4.5.4 Weekly Average Invoicing and Debt Recovery at 79%

The table below reflects the weekly average of invoicing, from 11 August 2020.

Recent Weeks	Average invoicing per week (\$)
Past week	\$2,170,085
2-4 weeks	\$1,411,215
5-8 weeks	\$216,608
9+ weeks	\$2,254,529

The debt recovery percentage is tracking under the FY22 target at 79% (target is 90%).

4.5.5 Waivers

The table below breaks down the waiver application information between 11 August 2020 and 20 February 2022. The numbers below relate to all waiver applications; waivers can be applied for before, during and after an individual has stayed in managed isolation.

The ongoing training of teams and additional resources moved to support these activities has resulted in an increase in total activities performed by the team this week. However, a key decision maker was unavailable this week and the increase in output placed additional strain on the remaining decision makers that were processing applications. This resulted in 605 applications that have been assessed but are awaiting a decision. MBIE have re-prioritised resourcing to ensure decision makers have the availability to process decisions.

All Waiver Applications Received	Received and not progressed	Potential Backlog	Total Completed	Completed		Completed Special Circumstances and Undue Financial Hardship Waiver (BOTH)*
				Financial Hardship Applications	Special Circumstances Applications	
15,404	1,792	4,183	9,429	1,262	7,908	259

Approved Waiver Applications			Declined Waiver Applications		
Financial Hardship	Special Circumstances	BOTH	Financial Hardship	Special Circumstances	BOTH
90	6,482	52	1,172	1,426	207

4.5.6 Exempt from Fees

The table below shows applications received between 11 August 2020 and 20 February 2022 where the applicant has applied under the category Exempt from Fees. Although similar to a Fee Waiver, an applicant is considered exempt if they fall under the criteria listed in regulation eight from the COVID-19 Public Health Response (Managed Isolation and Quarantine Charges) Regulations 2020. These applications are treated with the same priority level as Fee Waivers.

Exempt from Fees	
In progress	600
Complete	333
Not progressed	1253
Total	2186

4.5.7 Reducing the fee waiver backlog

At the end of 2021 MBIE reported on the backlog of fee waiver applications.

- New applications received from 14 to 20 February 2022 is 238
- The net reduction from 13 December 2021 to 20 February 2022 is 904.
- The net increase (weekly) from 14 to 20 February 2022 is 248.

Status	Backlog at 13 Dec 2021	New Applications Received since 13 Dec 2021	Backlog at 20 Feb 2022
Processing or to be processed	3,979	2,135	3,415
Waiting for Customer	1,108		768
Total	5,087	2,135	4,183

System actions by Waivers Officers 14 to 20 February 2022.

Actions	Applications Triaged	Assessments Completed	RFI's Sent	Decision & Post Decision	Total
Total	709	547	402	436	2,094

4.6 Large Group Arrivals Update

Summary of approved group arrivals as of 22 February 2022 (to March 2022)

Note that the numbers below are likely to drop for all group and sector allocations as many travellers will be eligible to self-isolate.

Group	Date of Arrival	Allocation Approved	Final number of rooms allocated	Comments
Construction Sector Accord	Feb 2022 Mar 2022	60	39 (63 pax) 14 (28 pax)	Arrivals are spread across the month.
Refugee Quota	14-20 Feb	0	3 (7 pax)	Last minute cancellations are occurring due to positive tests pre-departure. The Refugee Centre is forecasting arrivals of 45 pax (30 rooms) per fortnight until end of June 2022.
	21-27 Feb	22	10 (22 pax)	
	28 Feb – 6 Mar	5	3 (5 pax)	
	14 – 20 Mar tbc	40	25 (40 pax)	
	Apr – Jun tbc	270	180 (180 pax)	
Afghanistan Arrivals	14-20 Feb	14	5 (14 pax)	Travellers are testing positive pre-departure which is leading to voucher cancellations. Where possible, last-minute substitutions are being arranged to avoid room wastage.
	21-27 Feb	79	24 (79 pax)	
	28 Feb-6 Mar	99	45 (99 pax)	
	7-13 Mar	85	39 (85 pax)	
	14-20 Mar	37	17 (37 pax)	
	21-27 Mar	19	9 (19 pax)	
	28 Mar - Apr	51	23 (51 pax)	
Apr tbc	281	127 (281 pax) tbc		
EXPO	13 Feb	5	5 (6 pax)	
	16 Feb	11	11(19 pax)	
	26 Feb	44	8 (8 pax)	
	12 March	25	25 tbc	
Exporters	Feb	90	40(53 pax)	Arrivals are spread across the month.
	March	150	41(39pax)	
NZDF	23 Feb	80	51 (70 pax)	
Antarctic Programme	14 Feb	12	12	The Antarctic season is starting to wrap up. Ministerial approval has now been received for an additional 70 pax from USAP to arrive in March. They are planning to arrive 2 March. This group on 2 March has been approved to stay in MIQ for 10 days at request of USAP.
	2 March	70	58	
Winter Olympics	18 Feb	7	3	

Group	Date of Arrival	Allocation Approved	Final number of rooms allocated	Comments
	21 Feb	2	2	
	22 Feb	33	23	
	23 Feb	10	9	
Winter Paralympics	15 Mar	19	17 (18 pax)	This group is planning to self-isolate, so will not require vouchers.
Ministerial Travel	Feb	20	0	Some will self-isolate and no longer need vouchers.
	Mar	20	3	
Sports and Culture	Feb	40	39	It is expected that more people will be able to self-isolate and will not need vouchers after 28 Feb.
	Mar	40	22	
Critical health workers	1 – 14 Feb	150	95 (129 pax)	Arrivals are spread across the month.
	15-28 Feb	150	123 (164 pax)	
	Mar	300	72 (122 pax), possibly more to be allocated	
Cricket: Women's Cricket World Cup				
Non-playing personnel	Feb/Mar	235	234	Total number of non-playing personnel is expected to be up to 239, with over half having already arrived.
South Africa	9 Feb	31	31	All teams have exited MIQ.
Pakistan	10 Feb	28	28	
Bangladesh	4 Feb	26	26	
West Indies	10 Feb	27	27	
England	10 Feb	31	31	
Australia	10 Feb	31	31	
Cricket: Netherlands Men	4 Mar	35	tbc	

Impact of Reconnecting New Zealand

The number of allocations being utilised by groups and sectors is currently reducing as many are eligible to self-isolate or are deferring travel until they are eligible. There may be some groups that request to come into MIQ even if eligible, such as the refugees.

Time Sensitive Travel (TST)

Expected arrivals for February: 111 rooms.

The Time Sensitive Travel application window for arrivals in March/April 2022 closed on 21 January 2022. 677 people/610 rooms were approved. Since the border announcements, many have cancelled their vouchers, so the number of people/rooms has dropped to 312 people/282 rooms.

4.7 Emergency Allocation (EA) Applications

10,075 EA applications have been processed since 30 October 2020.

99 EA applications were received in the week ending 20 February 2022 and 90 applications were processed.

Of the 90 applications processed in the week ending 20 February 2022, and 71% of EA's were approved.

Emergency Allocation Applications	Weekly Totals 14 - 20 February 2022	Year to Date Totals 30 October 2020 to 20 February 2022	Year to date %
Approved	64	6,206	61.5%
Declined	26	3,869	38.4%
Applications processed	90	10,075	

These figures only include completed applications, with all supporting evidence, which were received within the required timeframes, which have been decided by a decision marker.

Proactively Released



5. Border Executive Board Report

5.1 Key Issues Being Considered

5.1.1 Border Executive Board

The Border Executive Board met on 23 February 2022.

There is confidence in the border being ready for reopening, but significant pressure remains right through to 27 February 2022. The most critical challenge is finalising the Air Border Order, and Director-General's Notices for gazetting (expected Friday). These are critical dependences for agencies' operating processes, staff training, and delivery of internal and external communications. S6(C)

Health have confirmed they will have staff at airports. The Board remains concerned due to the capacity pressure on the health workforce from the rising Omicron case numbers.

The Board raised the need for border worker testing requirements to be reconsidered, in light of the Omicron response and phases. It was noted that Health is considering requirements and that any changes will require an amendment to the Vaccination Order.

The Board discussed the Maritime Border Programme including your feedback on the briefing Impact of Omicron on the Maritime Border and next Steps. The Programme team will review the areas that are time sensitive and provide you with further advice. The Board intends to meet with the Maritime Border Programme team again in early March 2022.

The Board covered off a range of stewardship related matters including Select Committee Annual Review, reflections of 2021 as a governance board, and performance and direction of the BEB. Overall, the Board was happy with how it operated in 2021. There is a desire to identify two or three key areas of focus and the Board intends to meet to discuss these, possibly late March/April. The thinking will inform development of the border sector strategy. The Board also revised its performance measures for reporting in the Annual Report, which will be forwarded to you for agreement.

The next Board meeting is 2 March 2022. This will include a debrief on Step 1 of Reconnecting New Zealanders and preparation for Step 2 at 11.59pm on 13 March 2022.

6. New Zealand Customs Service Weekly Report



6.1 Items to Note/Updates

6.1.1 New Zealand Traveller Declaration System

The Customs led team are in the second piloting stage of the New Zealand Traveller Declaration.

Airlines and passengers on targeted flights, and our supporting partners, are helping to test the new online process before it is introduced. The second of four pilots are underway. These flights are:

- Air New Zealand flight from Los Angeles to Tāmaki Makaurau Auckland, which arrived on 23 February 2022.
- Air New Zealand flight from Shanghai to Tāmaki Makaurau Auckland, which arrived on 24 February 2022

Customs will continue to collaborate with partnering agencies, airlines, and the pilot participants to collate feedback on testing the new online New Zealand Traveller Declaration system before an official launch. Feedback will ensure that the key messages are being delivered and understood through the appropriate channels. This is to ensure that the travellers understand what is required of them and where to go for support, if required.

6.1.2 Maritime – Operation Takutai

The Vessel Management Industry and government partnership work continues to be a priority for our Maritime Border. Since the Delta and now Omicron outbreaks in New Zealand, maritime border agencies have conducted contactless cargo plans to safely transport goods off vessels. The contactless cargo plans were originally designed to enable the supply chain process to remain open for vessels that were undergoing quarantine and without pratique (quarantine clearance).

The arrival of three recent vessels in the Port of Tauranga has seen a trial of contactless cargo plan operations. These contactless cargo operations were coordinated through the Medical Officer of Health, Port Company, Stevedores and the Shipping line using the contactless cargo plan template. The observations reflected by Customs is that this contactless cargo plan template has a positive effect both up and downstream.

The combination of Maritime New Zealand's guidance and the collaboration between industry and agencies has meant the ability to process quarantine vessels in a contactless manner and ensure critical goods continue to move through the system whilst keeping crew and port workers safe. Contactless cargo plans have also been undertaken as part of regular operations and discussions are ongoing with the wider industry.

6.1.3 Vaccination requirements for non-New Zealand citizens arriving by air

As of 11.59pm on 21 February 2022, a total of 22,681 passengers from 1 November 2021 have been identified as requiring evidence of vaccination status exception or exemption. Of this number, a total of 19,049 passengers presented verifiable evidence of vaccination status, with 3,506 exceptions and 99 exemptions.

From 12.00am on 4 December 2021, travellers who do not provide the required evidence of vaccination status, exception or exemption will incur an infringement offence fee of \$500 for low-risk offences and an infringement fee of \$4,000 for high-risk offences. As of 11.59pm on 21 February 2022, 27 travellers have been issued with an infringement offence fee for not meeting vaccination verification requirements.

6.1.4 Pre-departure testing

As of 11.59pm on 21 February 2022, a total of 108,033 passengers from 26 January 2021 have been identified as requiring evidence of testing or exemption. Of this number, a total of 103,553 passengers presented verifiable test certificates, with 4,330 exemptions provided. 105 warning letters have been issued to passengers for not meeting the pre-departure testing requirements.

From 12.00am on 4 December 2021, travellers who do not provide the required pre-departure testing evidence may incur an infringement offence fee of \$500 or a fine not exceeding \$1,000. As of 11:59pm on 21 February 2022, 45 travellers have been issued with an infringement offence fee for not meeting the pre-departure testing requirements.

Proactively Released

7. COVID-19 Chief Executives Board

7.1 Items to Note/Updates

The COVID-19 Chief Executives Board (CCB) met this week on Tuesday 22 February 2022 with a focus on arrangements to manage the Omicron outbreak, resourcing and engagement with Māori, and Reconnecting New Zealanders.

The next discussion will be held on Tuesday 8 March 2022.

8. COVID-19 Independent Continuous Review, Improvement and Advice Group

8.1 Items to Note/Updates

The COVID-19 Independent Continuous Review, Improvement and Advice Group met this week on Tuesday 22 February 2022. Officials from DPMC attended to discuss future focussed work as part of the Reconnecting New Zealanders programme and also the communications strategy in response to the Omicron variant of COVID-19. The Group's weekly advice note and DPMC coversheet will be provided to your office following this meeting.

9. Strategic COVID-19 Public Health Advisory Group

9.1 Items to Note/Updates

The Strategic Public Health Advisory Group also met this week on Wednesday 23 February 2022. Discussions were held separately with Professor Tony Blakely on the Australian experience of COVID-19 and Dr Jemma Geoghegan on New Zealand's genomic surveillance regime for COVID-19. The Associate Minister of Health, Dr Ayesha Verrall also joined the meeting to discuss the Group's next commissioning.

10. Business Leaders Forum

10.1 Items to Note/Updates

It has been agreed that you will meet with the Business Leaders Forum in the coming weeks with a date to be finalised.

11. Community Panel

11.1 Items to Note/Updates

The Community Panel is meeting next week on Wednesday 2 March 2022. Agenda items include the next stage of the response to Omicron, the nature of and responses to COVID-19 misinformation, and the approach to COVID-19 management post the Omicron wave.

12. Government Modelling Group

12.1 Items to Note/Updates

COVID-19 cases compared with TPM scenarios

Over the past week, there has been a rapid increase in case counts and hospitalisations, with noticeable increases in outbreaks outside of Auckland – particularly in Waikato and Southern DHBs.

The percentage of COVID-19 tests that have resulted in a positive case has continued to increase during the outbreak. Between 7 and 13 February the positive test rate oscillated between 2 and 4 percent. Since 16 February, this rate has increased rapidly to 12 percent on 22 February (Appendix 3 refers).

TPM have refined their model scenarios as more becomes known about the current outbreak and the appropriate parameters for the Omicron variant.

TPM Omicron model update

Up until now, DPMC have been tracking cases and hospitalisation against the three TPM scenarios that replicate a low transmission environment (South Australia), a medium transmission environment (London), and a high transmission environment (s6(a)).

TPM have very recently updated the Branching Process Model (BPM). Changes include:

- The original TPM scenarios were produced before community transmission of Omicron was established. For this reason, the scenarios were seeded on a range of dates (1st of January, February, March, April and May) to understand the benefits of delaying entry of Omicron into the community. To compare this modelling with actual cases, the 1 January scenarios were 'shifted' forward in time, which did not take into account the higher level of boosters that were achieved between 1 January and 11 January. The new scenarios appropriately take this into account.
- Since the original TPM scenarios were produced, the government has made the decision to reduce the booster delay from 4 months to 3 months. The scenarios show that boosters have a significant impact on both cases and hospitalisations. These new scenarios take into account both the change in booster delay, and any increased in booster uptake due to concern of community transmission of Omicron.

As a result, the new scenarios:

- Peak at a lower level – reflecting the increased impact of boosters.
- Peak in order from high to low – previously the medium scenario peaked faster albeit at a lower level.

The original TPM scenarios were produced before community transmission of Omicron was established. For this reason, the scenarios were seeded on a range of dates (1st of January, February, March, April and May) to understand the benefits of delaying entry of Omicron into the community. To compare this modelling with actual cases, the 1 January scenarios were 'shifted' forward in time, which did not take into account the higher level of boosters that were achieved between 1 January and 11 January. The new scenarios appropriately take this into account.

Since the original TPM scenarios were produced, the government has made the decision to reduce the booster delay from 4 months to 3 months. The scenarios show that boosters have a significant impact on both cases and hospitalisations. These new scenarios take into account both the change in booster delay, and any increased in booster uptake due to concern of community transmission of Omicron.

13. Upcoming Cabinet Papers

s9(2)(f)(iv)



Proactively Released

s9(2)(f)(iv)



Proactively Released

- ¹ The WHO. SARS CoV 2 variant of concern Omicron <https://www.who.int/teams/risk-communication> - Accessed 21 February 2022
- ² Nature. The coronavirus is here to stay — here's what that means. <https://www.nature.com/articles/d41586-021-00396-2> - Accessed 15 February 2022
- ³ Nature. The coronavirus is here to stay — here's what that means. <https://www.nature.com/articles/d41586-021-00396-2> - Accessed 15 February 2022
- ⁴ European Commission. Horizon Magazine. <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/qa-why-history-suggests-covid-19-here-stay> - Accessed 18 February 2022
- ⁵ Nature. The coronavirus is here to stay — here's what that means. <https://www.nature.com/articles/d41586-021-00396-2> - Accessed 15 February 2022
- ⁶ European Commission. Horizon Magazine. <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/qa-why-history-suggests-covid-19-here-stay> - Accessed 18 February 2022
- ⁷ National Library of Medicine. MAPPING THE 1889-1890 RUSSIAN FLU <https://circulatingnow.nlm.nih.gov/2014/08/11/mapping-the-1889-1890-russian-flu/> - Accessed 18 February 2022
- ⁸ NDTV. How Will Covid-19 End? Looking For Clues, Scientists Examine 'Russian Flu' <https://www.ndtv.com/world-news/how-will-covid-19-end-looking-for-clues-scientists-examine-russian-flu-2773331> - Accessed 18 February 2022
- ⁹ NDTV. How Will Covid-19 End? Looking For Clues, Scientists Examine 'Russian Flu' <https://www.ndtv.com/world-news/how-will-covid-19-end-looking-for-clues-scientists-examine-russian-flu-2773331> - Accessed 18 February 2022
- ¹⁰ Britannica. influenza pandemic of 1918–19 <https://www.britannica.com/event/influenza-pandemic-of-1918-1919>. – Accessed 11 February 2022
- ¹¹ Centres for Disease Control and Prevention. 1957-1958 Pandemic (H2N2 virus). <https://www.cdc.gov/flu/pandemic-resources/1957-1958-pandemic.html> - Accessed 9 November 2022
- ¹² Britannica. 1957 flu pandemic. <https://www.britannica.com/event/1957-flu-pandemic>. – Accessed 9 February 2022
- ¹³ History of Yesterday. The Hong Kong Flu, the Long-Forgotten Pandemic (1968–1970). <https://historyofyesterday.com/the-hong-kong-flu-the-long-forgotten-pandemic-1968-1970-1e755b9ac013> - Accessed 9 February 2022
- ¹⁴ ABC. How do pandemics usually end? And how will this one finish? <https://www.abc.net.au/news/health/2020-09-08/covid-coronavirus-how-do-pandemics-end-and-how-will-this-one-end/12596954> - Accessed 14 February 2022
- ¹⁵ APHL. Public Health Laboratories Respond to the H1N1 Pandemic. https://www.aphl.org/AboutAPHL/publications/Documents/ID_2011Sept_Lessons-from-a-Virus-PHLs-Respond-to-H1N1-Pandemic.pdf - Accessed 14 February 2022
- ¹⁶ CDC. 2009 H1N1 Pandemic Timeline. <https://www.cdc.gov/flu/pandemic-resources/2009-pandemic-timeline.html>
- ¹⁷ Nature. How to redesign COVID vaccines so they protect against variants. <https://www.nature.com/articles/d41586-021-00241-6> - Accessed 15 February 2022
- ¹⁸ Nature. How to redesign COVID vaccines so they protect against variants. <https://www.nature.com/articles/d41586-021-00241-6> - Accessed 15 February 2022
- ¹⁹ Nature. The coronavirus is here to stay — here's what that means. <https://www.nature.com/articles/d41586-021-00396-2> - Accessed 15 February 2022
- ²⁰ WHO. HIV/AIDS. <https://www.who.int/news-room/fact-sheets/detail/hiv-aids> - Accessed 14 February 2022
- ²¹ The Lancet. Socioeconomic status and treatment outcomes for individuals with HIV on antiretroviral treatment in the UK: cross-sectional and longitudinal analyses. [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(16\)30002-0/fulltext#%20](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(16)30002-0/fulltext#%20) – Accessed 24 February 2022
- ²² WHO. Smallpox. https://www.who.int/health-topics/smallpox#tab=tab_1 = Accessed 14 February 2022
- ²³ Britannica. SARS. <https://www.britannica.com/science/SARS> - Accessed 14 February 2022
- ²⁴ WHO. Severe Acute Respiratory Syndrome (SARS). https://www.who.int/health-topics/severe-acute-respiratory-syndrome#tab=tab_1 – Accessed 14 February 2022

Proactively Reviewed