

# Health Report

## Measures to reduce COVID-19 infection risk after 14 days managed isolation

<b>Date due to MO:</b> 08 October 2020	<b>Action required by:</b> N/A
<b>Security level:</b> IN CONFIDENCE	<b>Health Report number:</b> 20201797
<b>To:</b> Hon Chris Hipkins, Minister of Health	

### Contact for telephone discussion

Name	Position	Telephone
Sue Gordon	Deputy Chief Executive, COVID-19 Health System Response Directorate	s 9(2)(a)
Ashley Bloomfield	Director-General of Health	

### Action for Private Secretaries

**Forward** copies of this report to the Prime Minister and the Minister of Housing

**Date dispatched to MO:**

**Return** the signed report to the Ministry of Health.

# Measures to reduce COVID-19 infection risk after 14 days managed isolation

## Purpose of report

This report provides you with advice on measures that could be implemented to further strengthen our approach at the border based on a review of the Christchurch returnee cluster in September 2020.

## Summary

- New Zealand's COVID-19 elimination strategy relies on protecting our borders to ensure cases of COVID-19 are not imported into the community and responding quickly and effectively to any potential resurgence of virus in the community. This approach relies on ensuring that current managed isolation and quarantine procedures are sufficient to provide assurance that once arrivals to New Zealand have completed 14 days in a managed facility that they pose no risk to the community.
- On 18 September 2020, a person in the community tested positive for COVID-19 who had recently returned to New Zealand but had already completed 14 days managed isolation and returned two negative COVID-19 tests.
- While initially there had been indications that this cluster may have involved unusually long incubation times, through investigation into the chain of transmission, this was discounted, and the infection is most likely to have occurred following fomite transmission (transmission from a contaminated surface) during managed isolation.
- The Ministry of Health (the Ministry) sought advice from the Technical Advisory Group for COVID-19 on the current incubation period and testing and whether changes are required to the current regime or additional measures are indicated post release from managed isolation and quarantine facilities (MIQF). Based on this advice the Ministry does not recommend amending the duration of managed isolation beyond 14 days or amending current testing protocols. In addition, if people leaving facilities were required to undertake additional compulsory measures after exiting a facility, s 9(2)(c) and could be an unjustified limitation on individual's rights. However, we continue to investigate measures that may provide some risk mitigation, including strengthened public health messaging and working closely with community groups.
- At this time the Ministry does not propose any specific additional measures for 'high risk' countries of origin.
- The Ministry have considered a range of other possible measures that could be implemented to further strengthen the current approach. In addition to ongoing Infection Prevention and Control audits of managed isolation and quarantine facilities, the Ministry intends to provide additional information to those leaving managed isolation (eg, to act as if at Alert Level 2 for a further week), and to add "exited a managed isolation facility in the last 14 days" to the high index of suspicion (HIS) testing guidance.



- In addition, the Ministry is exploring whether wellbeing checks (by telephone) could be introduced during the seven-day period after a person leaves a managed isolation facility.
- As part of a wider piece of advice, the Ministry of Health will work with the Ministry of Business Innovation and Employment (MBIE) and the COVID-19 All-of-Government Response Group to review evidence and provide advice on options for future border settings. This will include consideration of a risk-based approach to how we should manage the border in the future and cover a range of measures including managed isolation and quarantine, safe travel zones, and testing protocols.

## Recommendations

We recommend you:

- a) **Note** that on 18 September a person in the community tested positive for COVID-19, despite having previously undergone 14 days managed isolation on return to New Zealand. **Yes/No**
- b) **Note** that the initial investigation into this case has identified that it is likely the case contracted COVID-19 in a chain of transmission that involved fomite spread in a managed isolation facility. **Yes/No**
- c) **Note** that Technical Advisory Group members were asked to provide advice on higher-risk international arrivals and high-risk environments including MIQF. They advised: **Yes/No**
- *On the issue of incubation times for COVID-19:* that the incubation period for COVID-19 can be up to 14 days, and evidence of cases with longer incubation periods came from early on in the pandemic when our understanding of the disease was limited.
  - *On a previous discussion on asymptomatic cases:* that reported cases, especially early in the pandemic, of asymptomatic transmission were probably pre-symptomatic, or had very mild symptoms, or symptoms that were not known to be associated with the illness at the time. The science on asymptomatic cases continues to change and will be reviewed regularly.
  - *On current testing regime:* that nasopharyngeal swabbing and PCR testing are the current gold standard. There is no impact of technique or timing in an acute case where there is a significant amount of viral material. Suggestion to maintain day 3 and day 12 nasopharyngeal swab tests. The addition of one or two tests to increase likelihood of recognising infection earlier, could be explored once rapid testing technology becomes available.
- d) **Note** that officials do not consider there is any evidence to support a requirement for people to undergo further precautionary measures after having undertaken 14 days managed isolation in a facility with testing at days 3 and 12, such as extended duration or amendment to the testing protocols. **Yes/No**
- e) **Note** that in addition to ongoing improvement of infection and prevention control and associated audits the Ministry of Health will: **Yes/No**

- provide additional information to those leaving managed isolation (notably to act as if they are at Level 2), to encourage ongoing vigilance following release
  - add "exited a managed isolation facility" to the index of high suspicion for testing criteria.
- f) **Agree** that the Ministry of Health progresses work on introducing a wellbeing check for returnees to New Zealand during the week following release from managed isolation in a facility or on a vessel  Yes/No
- g) **Note** that the Ministry of Health is working with MBIE and the COVID-19 All-of-Government Response Group on the future of border settings, with advice to go to Ministers in a few weeks.  Yes/No



Sue Gordon  
**Deputy Chief-Executive COVID-19 Health System Response**



Chris Hipkins  
**Minister of Health**

Date: 10/10/2020

I would like a short noting paper for the first Cabinet meeting post-election updating colleagues on these findings and recommendations.



# Measures to reduce COVID-19 infection risk after 14 days managed isolation

## Background

1. New Zealand's COVID-19 elimination strategy relies on protecting our borders to ensure cases of COVID-19 are not imported into the community and responding quickly and effectively to any potential resurgence of virus in the community.
2. The effectiveness of this strategy depends on continual evaluation of our health response and adapting current procedures as new evidence becomes available.

### *A positive COVID-19 case was identified post 14 days managed isolation*

3. On 18 September a person tested positive for COVID-19 who had recently returned to New Zealand from India, but had completed 14 days managed isolation and had returned two negative COVID-19 tests before being released.
4. This raised a number of potential concerns including:
  - a. If the person had contracted COVID-19 in India, this could mean an unusually long incubation period, which might suggest that 14 days isolation is not sufficient to provide assurance that cases are not being imported to the community.
  - b. If the person had contracted COVID-19 in a managed isolation or quarantine facility (MIQF), whether there was a failure of infection prevention controls and other controls (like physical distancing) or further steps needed to ensure people are not infected at managed isolation facilities.

### *Investigation of the case reveals the person was likely infected on the Christchurch to Auckland charter flight, via someone who was infected in the MIQF and on the same flight*

5. After completing 14 days isolation in Christchurch, the person was flown to Auckland on a charter flight. The investigation into the source attribution for this case has found that it is likely that the person was infected by another case on the Christchurch to Auckland flight.
6. The case who was infectious on the Christchurch to Auckland flight was likely infected in the MIF via fomite transmission (transmission from a contaminated surface). Infection occurred late in the 14-day period of isolation meaning that case identified post managed isolation was still incubating the virus at their day 12 test. This hypothesis is supported by the fact that the post-isolation positive case is genomically linked to a number of other confirmed cases from the same managed isolation facility, one of which was staying in a room in close proximity to the post-isolation positive case who was infectious on the flight.
7. It is never possible to conclusively determine the mode of transmission, however the above hypothesis is the most likely scenario, as opposed to the hypothesis of a long incubation period.

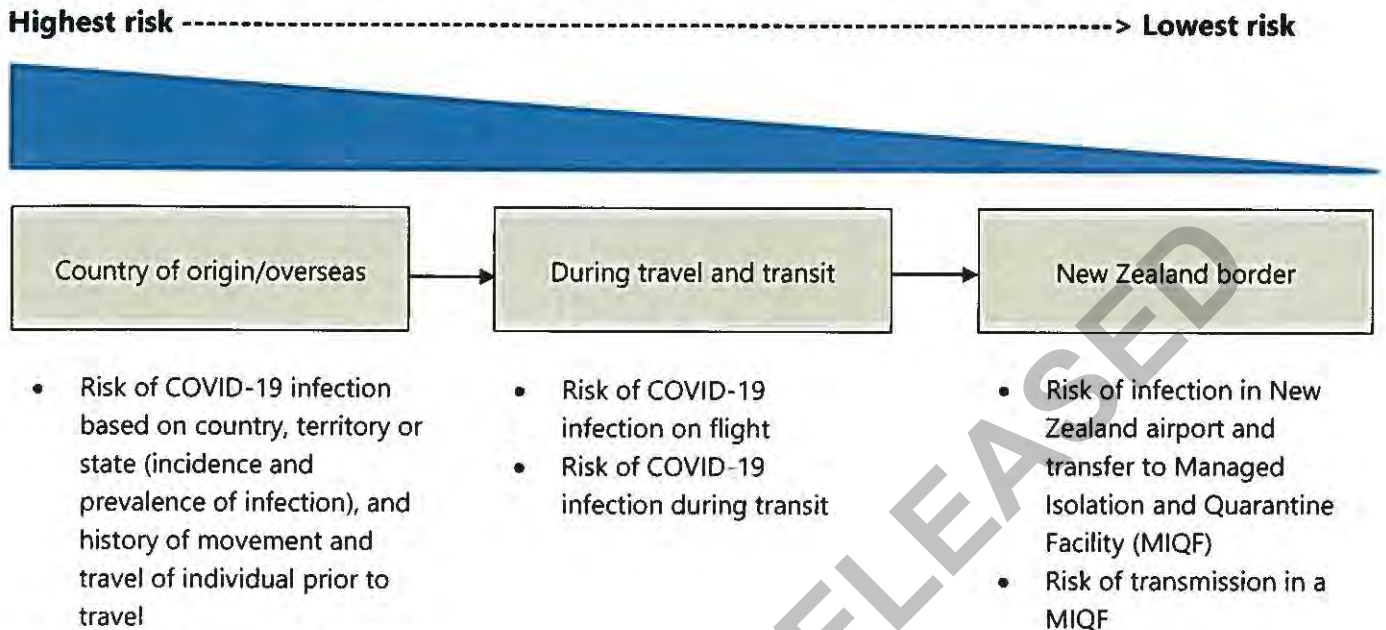
## Current settings at the border

8. At present the risk of COVID-19 entering New Zealand is managed by strong border controls including mandatory managed isolation and/or quarantine for 14 days from the time of arrival.



This duration assumes that ~99% of people incubating COVID-19 will either show symptoms or test positive within 14 days of arriving in New Zealand.

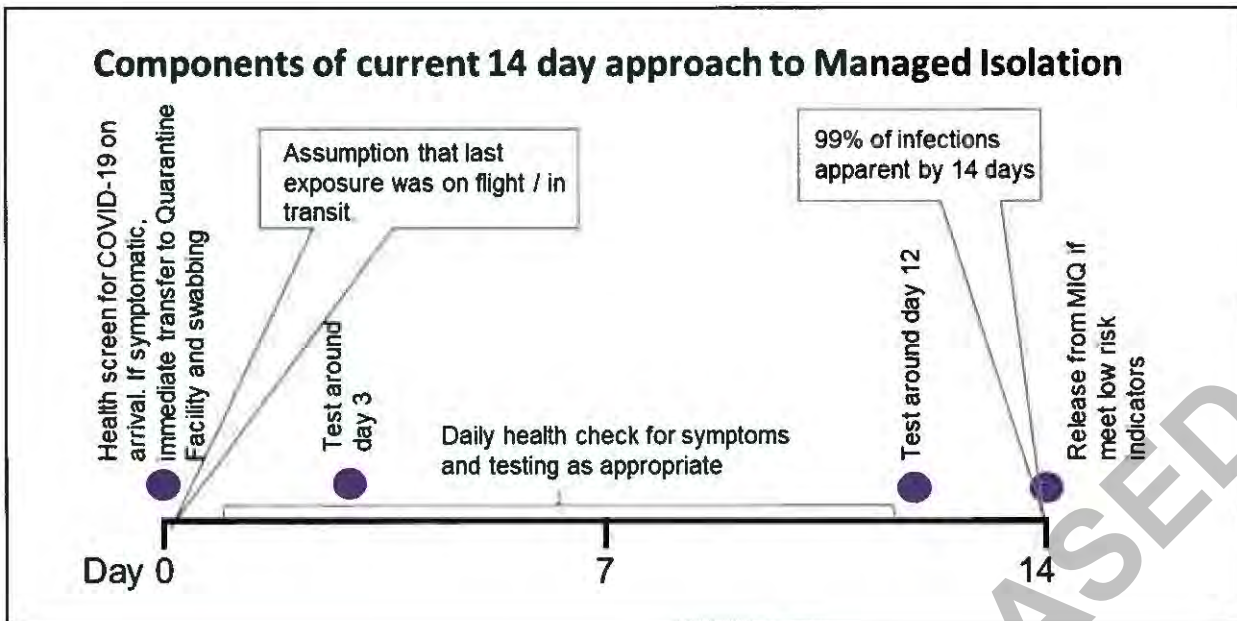
9. At present the risk for travellers can be described by the following diagram:



10. The risk and current mitigations at each setting are described in **Appendix One**.

**Current setting: managed isolation for 14 days**

- At present all arrivals enter a managed isolation or quarantine facility for a period of 14 days. This 14-day period is used as it is the period in which most infections will present (either through symptoms or testing) following exposure (assumed to be while the person was travelling, with day 0 considered to be the day the person arrives in New Zealand, unless symptomatic on arrival).
- All arrivals are treated the same regardless of their point of origin, or potential risk profile – ie, they must go through 14 days managed isolation or quarantine, unless they are able to gain an exemption on medical or exceptional circumstance grounds. The assumptions, health screening and testing regime for MIQ are outlined below. If at any time a breakdown in the infection prevention and control measures is detected the persons time in MIQ restarts at day 0.



### There is no evidence to support additional requirements on people after they exit a facility

13. The Ministry of Health (the Ministry) undertook a review of the latest evidence around incubation period, asymptomatic transmission and the sensitivity of testing for COVID-19. The Ministry also sought advice from the COVID-19 Technical Advisory Group (TAG) which met on 2 October 2020 (assessment outlined in the table below).
14. Based on the evidence review and advice from TAG, the Ministry find no reason to suggest that the duration of managed isolation or the associated testing protocols should be amended (ie, no extension beyond 14 days and no routine testing after leaving MIQF).

Issue	TAG assessment
Incubation period for COVID-19	<ul style="list-style-type: none"> <li>• Virology experts consider it generally unsound to view respiratory viruses as having a long incubation period as it is very uncommon.</li> <li>• The long-incubation cases reported in literature were from the early stages of the pandemic when understanding the disease was limited. This suggested that one percent of COVID-19 cases may have incubation periods over 14 days.<sup>1</sup> In addition, the understanding of the symptomology of the disease is now better.</li> </ul> <p><b>Conclusion:</b></p> <ul style="list-style-type: none"> <li>• A longer than currently defined incubation period is thought to be very unlikely and a low risk to the health of New Zealanders. Any post-MIQF interventions would be to mitigate the risk of cross infection in the facilities, rather than highly-unlikely long incubation periods.</li> </ul>

<sup>1</sup> Lauer, S. A., Grantz, K. H., Bi, Q., Jones, F. K., Zheng, Q., Meredith, H. R., ... & Lessler, J. (2020). The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: estimation and application. *Annals of internal medicine*, 172(9), 577-582. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7081172/pdf/aim-01f-M200504.pdf>



<p>Asymptomatic infection or transmission</p>	<ul style="list-style-type: none"> <li>• Many of the cases reported, especially early in the pandemic, of asymptomatic transmission were probably pre-symptomatic, or had very mild symptoms, or symptoms that were not known to be associated with the illness at the time.</li> <li>• Some people will continue to have viral RNA in their nasopharynx for a period of time after recovery (in some cases up to 6 months). These will give 'weak positive'/high CT PCR results, despite the individuals having recovered from the illness and no longer being infectious.</li> </ul> <p><b>Conclusion:</b></p> <ul style="list-style-type: none"> <li>• The current approach protects against asymptomatic infection and transmission because a) everyone in a MIF is tested regardless of symptoms, and b) even with two negative tests people must isolate from others and comply with IPC standards for the full 14 days.</li> </ul>
<p>Sensitivity of testing for COVID-19 – swabbing technique and testing</p>	<ul style="list-style-type: none"> <li>• Polymerase chain reaction (PCR) testing is the gold standard for detecting SARS-CoV-2 viral RNA and used for COVID-19 testing in New Zealand. This tests for the genetic material of the virus and is performed most commonly on a swab taken from the nose and throat, or from sputum (mucus from the lungs) in unwell patients.</li> <li>• At present nasopharyngeal specimen collection is the preferred option, with oropharyngeal and deep nasal swabs considered for those unable to tolerate a nasopharyngeal swab. Both collection methods are suitable for symptomatic and asymptomatic testing.</li> <li>• In cases where there is a small amount of viral RNA present it can be difficult to obtain conclusive test results due to the nature of nasopharyngeal swabbing as opposed to swabbing technique.</li> <li>• There is no impact of technique or timing in an acute case where there is a significant amount of viral material.</li> <li>• Currently children under 6 months are exempt from nasopharyngeal swabbing.</li> </ul> <p><b>Conclusion:</b></p> <ul style="list-style-type: none"> <li>• TAG advised that the testing regime should remain, although when rapid testing becomes available it would be worth considering how to deploy that type of diagnostic in managed isolation facilities in addition to PCR testing (eg, at day 0 and 7).</li> <li>• The Ministry will continue to ensure that training and instructions on swabbing are reviewed in light of evidence. At present the "COVID-19 Instructions on specimen collection" (dated 24 July 2020) are under review.</li> </ul>

### No changes based on the risk profile of the place of origin

15. You have asked about whether extension to the duration of managed isolation should be introduced for people entering New Zealand from high risk places.
16. Risk assessment based on country of origin is undertaken when considering exemptions from managed isolation on an individual basis, however determining this risk for all returnees presents challenges with regards to information gathering and operational implications.
17. While place / country of origin perse, is certainly an important risk factor, other factors also influence the risk of becoming infected with COVID-19, including the countries where the person may have been in in the last 14 days, the activities undertaken in those countries in the last 14 days, and the travel/transit pathway the individual took to travel to New Zealand. As such, the Ministry do not recommend any change based on the risk of importation from any one country / place or flight path at present.



## Extending the duration of isolation or additional testing may undermine the managed isolation system

18. Requiring additional measures were to be required for people (such as extra COVID-19 testing or a longer period of self-isolation) after having already completed managed isolation this would raise other issues:

s 9(2)(c)

- b. Bill of Rights implications as additional requirements would have to be justified to the public health risk posed to the community (which is assessed to be very low).

## The Ministry is proposing several additional measures to support people leaving a Managed Isolation and Quarantine Facility and entering the New Zealand community

19. The Ministry has considered additional measures that could be taken that would help mitigate the low risk of a person being infected in a managed isolation facility, which are described below.

### Providing additional advice to those leaving managed isolation

20. In the circumstances of the Christchurch returnee, the initial infected person did everything right. They self-isolated when they recognised any symptoms and were tested promptly. This meant that the pool of close contacts was small.
21. The Ministry considers that to manage any additional risk after 14 days that the advice to people who leave managed isolation facilities after meeting the low-risk indicators be strengthened. The Ministry would update the information provided to returnees in the "departure from MIQF pack". At present it advises people when they leave of the need to look for symptoms and contact Healthline or their General Practitioner).
22. Key messages to people exiting managed isolation facilities should reflect the public health messages currently given to the general public including that people should:
  - a. keep track of their movements using the COVID Tracer App
  - b. practice good hygiene practices including regular hand washing and cough and sneeze etiquette
  - c. self-isolate and seek medical advice immediately if they display any symptoms of COVID-19.
23. Additional advice will be included to encourage vigilance for the 7 to 14 days after leaving managed isolation– eg, 'act as if at Alert Level 2'. TAG suggested that enhanced public health advice be given to people leaving MIF to 'act as though they are at still Level 2', ie hygiene, monitoring movements, no large gatherings.
24. The Ministry will work with MBIE to update this information over the coming weeks.

### Adding "exited a MIF in last 14 days" in last 14 days to the high suspicion for testing criteria

25. The Ministry also proposes adding "exited a MIF" to the high suspicion for testing criteria.
26. The higher index of suspicion (HIS) criteria is:

*In the 14 days prior to illness onset, the person has:*

- *had contact with a confirmed or probable case*
  - *had international travel*
  - *had direct contact with a person who has travelled overseas (eg. Customs and Immigration staff, staff at quarantine/isolation facilities)*
  - *worked on an international aircraft or shipping vessel*
  - *cleaned at an international airport or maritime port in areas/conveniences visited by international arrivals, or*
  - *any other criteria requested by the local Medical Officer of Health*
27. This will allow for certainty that this group will be prioritised for testing and will be made known to the local Medical Officer of Health early so they can initiate public health measures if deemed necessary. It will also support the strengthened messaging around leaving MIFs and needing to remain vigilant.
28. This is an operational change that will be implemented by the Ministry of Health.

### **Wellbeing checks following managed isolation and quarantine or isolation on vessel**

29. To support the advice that people leaving managed isolation facilities will receive, the Ministry considers that introducing a wellbeing check during the 7 days following release from an MIQ facility or following isolation on vessel.
30. A wellbeing check between days 3 and 7 post release could serve as a additional mitigation for the low risk of a longer incubation period. It would also serve as a way to reinforce the messaging about tracking movements, practicing good hygiene and seeking medical advice if a person displays symptoms of COVID-19.
31. If you agree, the Ministry would work through the cost and logistical implications of introducing wellbeing checks via telehealth services. It is important to note that in times of resurgence or changes to the Alert Levels in New Zealand, this practice may cease.

### **Work is getting underway to look at the future of the border**

32. The Ministry will progress more detailed work on the future of border settings with other Government agencies. This responds to the direction by Cabinet on 5 October 2020 for "the Ministry of Health and Ministry of Business, Innovation and Employment (MBIE) to undertake an urgent review of the evidence about incubation period and whether to require extended isolation periods for some new arrivals into New Zealand based on an assessment of risk, and to report with recommendations back to the Prime Minister, Minister of Housing (MIQ) and Minister of Health at the earliest opportunity" [CAB-20-MIN-0462 refers].
33. This work will consider a risk-based approach to public health measures at the border and include:
- a. quarantine free travel and safe travel zones
  - b. managed isolation and quarantine
  - c. current testing protocols.

### **Next steps**

34. The Ministry will implement the proposed changes to the information for people leaving managed isolation and quarantine. Further review of infection prevention controls at managed



isolation facilities to determine possible areas of risk and identify improvements will continue (ongoing).

35. The Ministry will work with MBIE and the COVID-19 All-of-Government Response Group on advice on the future of border settings for yourself, the Prime Minister and Minister of Housing over the next few weeks.

PROACTIVELY RELEASED

## Appendix 1: Measures to mitigate the risk of importing COVID-19 into New Zealand (Updated 7 October 2020)

	Setting / place	Risk of transmission	Current mitigations	Additional measures to consider
CANNOT CONTROL	Before travel	Dependent on country of origin and travel of individual	<ul style="list-style-type: none"> <li>• Visa restrictions – limiting the number of arrivals to New Zealand.</li> <li>• Advice to people intending to travel.</li> </ul> <p>If you are travelling to New Zealand, please consider the following in the 14 days before departure:</p> <ul style="list-style-type: none"> <li>○ avoid going to high risk events such as parties, social gatherings or crowded places</li> <li>○ avoid contact with COVID-19 cases or contacts of cases</li> <li>○ stay home as much as possible to limit exposure to other people.</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-departure testing (not recommended due to accessibility, equity and quality concerns, cost-benefit), The Ministry is connected (via the Ministry of Transport) to work underway by the International Air Transport Association.</li> </ul>
	Travel	Moderate but variable, dependent on IPC measures in place and whether any infectious people on flight	<ul style="list-style-type: none"> <li>• Advising people to practice hygiene measures, wearing masks, and physical distancing while travelling</li> <li>• Ill traveller protocol to manage symptomatic individuals while in flight.</li> <li>• Mandatory 14 days in managed isolation on arrival considering flight the last potential exposure</li> </ul>	<ul style="list-style-type: none"> <li>• No additional measures</li> </ul>
	Transit	Moderate but variable, dependent on IPC measures in place in airports and potential exposure	<ul style="list-style-type: none"> <li>• Advising people to practice hygiene measures and physical distancing while in transit</li> <li>• Mandatory 14 days in managed isolation on arrival considering flight the last potential exposure</li> </ul>	<ul style="list-style-type: none"> <li>• No additional measures</li> </ul>



HAVE CONTROL	New Zealand airport and transport to MIQF	Low risk	<ul style="list-style-type: none"> <li>On arrival in New Zealand, individuals undergo a health screen for COVID-19 related symptoms before they depart to a MIQF</li> <li>Infection prevention control measures are required during transfer to MIQF</li> </ul>	<ul style="list-style-type: none"> <li>Individual risk assessment on arrival to take a travel history of last 14 days to determine place of isolation (Q or I) (not recommended)</li> </ul>
	Managed isolation	Low/Medium risk. Current assumption that arrivals last exposure was on flight or in transit, and that the majority of infections are apparent within 14 days	<ul style="list-style-type: none"> <li>On arrival at a MIF, returnees must undergo an arrival health and wellbeing screen that covers COVID-19 symptoms and non-COVID-19 related physical health, mental health, addictions and welfare needs.</li> <li>Infection prevention control measures and associated audits are in place at all MIQFs (and IPC requirements during transfer to MIQF)</li> <li>All individuals must maintain 2m physical distancing from each other and from staff members</li> <li>Individuals are tested at day 3 and 12 <ul style="list-style-type: none"> <li>Day 3 test intended to pick up infection from in country of departure</li> <li>Day 12 expected to catch those with a longer incubation period</li> <li>If a positive test is returned the person (and if applicable, their bubble) will be transferred to a QF or quarantine zone of a dual-use MIF</li> </ul> </li> <li>Individuals seeking an exemption for MIQ undergo individual risk assessment with low risk tolerance</li> <li>Daily health check and tested if symptoms develop</li> <li>Individuals have to return a negative test on day 12 and meet the low risk indicators</li> <li>Staff protocols in place including daily health checks and testing protocols based on risk</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen information in the departure from MIQF pack – eg, advice to act as if at Level 2</li> <li>Wellbeing phonecall / check post MIF at days 3 and 7</li> <li>Introduce testing at day 0 and day 7 in the MIQF once rapid testing becomes available</li> </ul>
	In the community	Currently low risk as all cases are in MIQ	<ul style="list-style-type: none"> <li>Public health measures as per the Alert Level in place at the time.</li> <li>Anyone who wants a test can have one</li> <li>There is a high index of suspicion as part of the testing criteria</li> </ul>	<ul style="list-style-type: none"> <li>Add "exited a MIF in last 14 days" in last 14 days to the high suspicion for testing criteria</li> </ul>