MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

MINISTRY OF HEALTH
MANATŪ HAUORA

BRIEFING

Initial results of two desktop reviews of Managed Isolation and Quarantine facilities

Date:	16 March 2021	**Priority:**	Medium
Security classification:		**Tracking number:**	2021-2853 HR20210455

Action sought		
	Action sought	**Deadline**
Hon Chris Hipkins **Minister for COVID-19 Response**	**Note** the initial findings of two reviews related to the physical infrastructure of MIQFs **Note** that officials recommend further assessment of the suitability of MIQFs once on-site ventilation assessments are completed in May **Note** that further advice will be provided on the progress of the air filtration work programme	22 March 2021

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Kara Isaac	General Manager MIQ Policy, MBIE	Privacy of natural persons	✓
Sue Gordon	Deputy Chief Executive COVID-19 Health System Response, Ministry of Health		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

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BRIEFING

Initial results of two desktop reviews of Managed Isolation and Quarantine (MIQ) Facilities

Date:	16 March 2021	**Priority:**	Medium
Security classification:		**Tracking number:**	2021-2853 HR20210455

Purpose

On 1 March 2021 you were advised of the cross-government MIQ work programme and the proposed approach to sequence advice to you on changes to the MIQ system [HR20210294].

This paper is focused on physical infrastructure and provides the initial results from the Ministry of Health-led desktop assessments of ventilation in managed isolation and quarantine facilities (MIQFs), and the Ministry of Business, Innovation and Employment (MBIE)-led desktop review of the suitability of current MIQFs.

Executive Summary

A number of recent changes have been implemented to the MIQ system to minimise the risk of more transmissible variants of COVID-19 entering the New Zealand community. This briefing follows advice on managing returnee movement during and after MIQ [2021-2426], and covers physical infrastructure, including the initial findings of an assessment of the suitability of MIQFs (led by MBIE), and an assessment of ventilation systems in MIQFs (led by the Ministry of Health).

The majority of existing hotels are broadly suitable for use as MIQFs, meeting most of the required criteria related to infection prevention and control (IPC) measures, security, and returnee wellbeing. However, as hotels were not designed as MIQFs, some require mitigation measures (for example, the use of offsite exercise areas) to meet requirements.

Changes have been, or are being, implemented as a result of the desktop ventilation assessments to minimise the risk of transmission in MIQFs. On-site ventilation assessments will now be undertaken to ensure that the systems are working as designed and to reduce the risk of in-facility transmission. This work will be completed by May 2021.

A number of ventilation-related issues have been identified at the Bay Plaza MIQF, and while risk-mitigation measures are in place that mean it can continue to operate at current capacity, MBIE is assessing its ongoing suitability as a MIQF. MBIE will also consider the ongoing suitability of Wellington MIQFs.

Officials recommend that further assessment of the suitability of all MIQFs is undertaken following completion of the on-site ventilation assessments. This could include reconsidering some of the criteria currently used to assess hotels for use as MIQFs.

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Recommended action

MBIE and the Ministry of Health recommend that you:

a **Note** that MBIE has undertaken a desktop review of the 32 MIQFs with support from the Ministry of Health. Most MIQFs broadly meet the criteria, with mitigations in place in some MIQFs to reduce transmission risk

Noted

b **Note** that the Ministry of Health has completed desktop ventilation assessments of 28 MIQFs (not including the Pullman, previously reported on). Assessments identified nine overarching themes of recommendations and actions progressed as they have been identified

Noted

c **Note** that the Technical Advisory Group is satisfied with the risk mitigations in place currently for the Bay Plaza MIQF. However, MBIE will undertake further work to determine the viability of the Bay Plaza and other Wellington MIQFs as part of contract renewal procedures

Noted

d **Note** that further advice will be provided to you regarding the on-site ventilation assessments of all MIQFs (phase II of the ventilation assessments) to be completed in May

Noted

e **Agree** that officials will undertake a further consideration of the suitability of current MIQFs once phase II of the ventilation assessments is completed

Agree / Disagree

f **Note** that in collaboration with MBIE, the Ministry of Health will provide you with an update on the progress of the air filtration unity work programme by 31 March

Noted

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16 / 3 / 21

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Hon Chris Hipkins
Minister for COVID-19 Response

..... / ..... / .....

Background

1. In January 2021 the Ministry of Health informed you that it was commissioning desktop (off-site) assessments of the ventilation systems of all MIQFs using the site plans and other documentation (HR20210071 refers). This followed the ventilation assessments of Christchurch MIQFs that were conducted in December 2020 following the October infections of international mariners and healthcare workers connected to the Sudima.

2. It was initially planned to prioritise the ventilation assessments of the 'higher risk' MIQFs first – the five facilities designated to accommodate confirmed (or probable) cases of COVID-19. However, shortly after commencing the desktop ventilation assessments, within-facility transmission events were identified at the Pullman. The ventilation assessment of the Pullman was subsequently expedited, and you were informed of the findings, recommendations, and actions taken in HR20210160, HR20210263, and a joint MBIE/Ministry of Health Aide Memoire 2021-2453. To date, 28 ventilation assessments have been completed[1].

3. In addition, officials provided you with initial advice on options to strengthen transmission risk management in MIQFs [briefing 2021-2085 refers]. As part of that briefing, MBIE also agreed to conduct a review of the suitability of current MIQFs and report back to you in early March.

4. This briefing provides the:

   - initial findings of MBIE's desktop review of the suitability of MIQFs; and
   - initial findings and recommendations of the Ministry of Health's desktop ventilation assessments (phase I).

5. MBIE is commencing a second phase of the ventilation work, which will involve physical assessments of each facility (phase II). This will be undertaken over the next two months and regular updates will be provided to you as the facilities are assessed.

The initial findings of both reviews indicate that MIQFs are broadly fit for purpose...

6. The hotels used as MIQFs are not purpose-built and were not originally envisaged to be used to accommodate people undertaking managed isolation or quarantine. The original criteria used to identify hotels for use as MIQFs were largely operational in nature to support their rapid establishment. Criteria have evolved over time and focus on whether appropriate IPC requirements can be implemented (given the context of using hotels); that appropriate security arrangements can be made; and that appropriate wellbeing aspects are in place.

7. The development of the supporting operating framework and standard operating procedures has seen an increase in the number of criteria that a facility should meet. The general approach continues to be that the criteria are focused on the management of IPC risks, security risks and ensuring the wellbeing of returnees. A list of the current criteria is at **Annex One**.

8. MBIE's desktop review of MIQFs found that in general, most MIQFs are meeting the majority of the required criteria, or have appropriate mitigations in place where the required criteria cannot be met. On that basis the MIQFs are all broadly fit for purpose.

[1] At the time of writing, complete information was not provided by hotel managers, or was not available, for 3 hotels – Grand Millennium Auckland, Sudima Rotorua, and Jet Park Hamilton. Accordingly, desktop ventilation assessments have not yet been completed for these hotels. The Ministry of Health will continue to pursue off-site ventilation assessments of these 3 hotels, however, given the unavailability of the required information, these hotels will also be prioritised during the on-site (phase II) ventilation assessments. Note that the Pullman was not included as this has been previously reported on.

9. The Ministry of Health's ventilation assessments, which considered 28 of the 32 MIQFs, found that, in principle, appropriate mitigation is being, or is able to be, achieved for the ventilation issues within most MIQFs.

Desktop review of MIQFs (undertaken by MBIE)

10. MBIE, with support from the Ministry of Health, has undertaken a desktop review of MIQFs. The steps taken were to:

    a. Identify and agree criteria

    b. Undertake a desktop assessment of each MI or MQ facility

    c. Undertake a collective analysis of the MIQ portfolio of facilities

11. The first step for the review was to compile all existing lists of criteria for facilities, and then to refine these to the structural and locational factors that matter for the suitability of a MIQF. This means that there is a tendency towards IPC requirements, which was also informed by Public Health involvement in the process. The review did not seek to create a comprehensive list of possible considerations for the suitability of MIQFs. These criteria are instead a 'first hurdle' for the suitability of any given facility. Other criteria, such as availability of workforce (particularly health) or compliance with operational requirements are also important when considering the use of a new facility, but require different considerations.

12. In the course of this process, we developed a list of 21 criteria, two of which apply only to subsets of the full 32 MIQFs (dual-use facilities and those with long-term residents). Two of the 21 criteria are connected to the ventilation of facilities and were therefore not examined as part of the desktop review, instead leaving this to the ventilation assessments. **Annex One** outlines the 21 criteria in more detail.

13. The second step was to undertake a desktop review of the 32 MIQFs in New Zealand to rate each against the 19 remaining criteria. We then analysed the information generated to identify whether the current mitigations in place in some facilities are appropriate.

Existing MIQFs broadly meet the criteria of this desktop review, with mitigations in place in some facilities to mitigate the risk of transmission

14. **Annex Two** provides more detail on the findings of the review, including which MIQFs meet all criteria and which have put in place mitigations in order to do so. As hotels are not designed to be infectious disease isolation and quarantine facilities, it was expected that some MIQFs would be unable to meet all criteria without mitigations. Further detail on those mitigations are set out in the table below.

Criteria	Issue	Mitigation
Two metres' physical distancing on entry and exit	Six hotels have small lobbies that do not allow for two metre social distancing	Holding people on buses where necessary and the repurposing of entrances to establish single-direction flow.

Distance from international airport or MIQ facility	Time spent on shared transport could increase risk of transmission	Standard Operating Procedures are in place to mitigate the transmission risk for those travelling
Dual-use: separate isolation and quarantine zones	Separate quarantine and isolation areas of their buildings. Stairways, hallways and lifts are sometimes shared between zones in Wellington and Christchurch	Where this is the case, mitigations are in place such as escorts,
MIQF areas separated from long-term residents	Two facilities have long-term residents living in apartments at the same address	At one of the facilities residents live in a different tower. In the other they have completely separated floors. Separate entranceways and lifts are also used to separate residents from returnees
MIQF has Building Warrant of Fitness and meets Fire Safety requirements; and physically distanced evacuation possible	Three MIQFs require mitigation due to lack of sprinklers or limited area for evacuation and assembly. Confidential information entrusted to the Government	FENZ is satisfied that the appropriate mitigations are in place and the risk is reduced.
Outdoor exercise area is available on site	Six of the Auckland MIQFs do not have sufficient green space available onsite for returnees to undertake exercise outdoors while also being physically distanced from each other	Two have satisfactory arrangements on site (though not green space) Four hotels bus returnees to a site in Mount Albert for exercise. While the requirement for transport increases the risk of transmission, this is being managed operationally.

Desktop ventilation assessments (undertaken by the Ministry of Health)

15. The purpose of the assessments was to identify potential ventilation-related infection risks based on the design of MIQFs, as well as practical actions to optimise the performance of the ventilation systems and reduce the potential risk of airborne transmission of COVID-19.

16. While the phase I desktop assessments summarised in this briefing provide insight into the function of hotel ventilation systems as they were designed to operate, the phase II on-site assessment work programme MBIE is planning will assess the actual performance of the

ventilation systems. This will either confirm the findings of the phase I assessments and therefore validate the actions taken, or, identify additional risks and inform further actions[2].

17. As the preliminary ventilation assessment reports became available, they were received and discussed by a review group that included technical IPC, public health, science and technical advisory, and engineering experts. It also included MBIE representation. The review group confirmed the findings and recommendations in each preliminary report, and actions were progressed and implemented as they were identified. These are outlined below and summarised in **Annex Four**.

Implementation of measures to improve ventilation and the pressurisation of corridors will significantly reduce risk, but onsite assessments are required to validate our findings

18. Ideally, both guest bedrooms and the adjoining corridors in MIQFs should be automatically supplied with a continuous flow of outdoor air via mechanical ventilation systems. However, few facilities have this arrangement. Many facilities use opening windows to supply fresh air to bedrooms and the corridors in some facilities have little or no direct ventilation.

19. There are three key strategies or solutions to improve ventilation and reduce the risk of airborne transmission. A combination of all three solutions is ideal:

    - Dilute the viral load in the facilities by increasing air exchanges in areas where viral loads are likely to be highest; and/or
    - Achieve favourable air pressure differentials within the facilities (i.e. negative pressure in rooms relative to corridors) to control the movement of air and reduce the likelihood of potentially contaminated air moving from hotel rooms into the corridors; and/or
    - Using air filtration units to 'clean' the air.

20. The pressurisation of corridors relative to bedrooms was found to be variable across the 28 facilities. This was due to both the variable designs of the in-built ventilation systems, as well as the unpredictable effects of open windows/balcony doors[3].

21. However, with the exception of the Bay Plaza Wellington, all 28 facilities have mechanical en-suite bathroom exhaust in all their rooms, meaning achieving some degree of negative pressurisation in the hotel rooms should be possible if they are operating as designed. The phase II on-site assessment work will validate these findings.

22. The en-suite bathroom exhaust rate could not be determined in some facilities due to the lack of availability of relevant information, particularly for older hotels. Measurement of en-suite bathroom exhaust rate will be included in the phase II on-site assessment work.

23. It was recommended that the fresh air supply in corridors and en-suite bathroom exhausts be optimised where the design of the ventilation system allows, in order to maximise ventilation (dilution with outdoor air) while at the same time establishing negative pressure in the rooms relative to the corridors. This has been implemented where possible in MIQFs. For example, at some facilities the fresh air supply/bathroom exhausts were programmed to operate during set time intervals – they now operate continuously.

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[2] Some facilities have inconclusive results and/or some information was unavailable. MIQFs with inconclusive findings will be prioritised in the phase II on-site assessment work.

[3] While open windows/balcony doors provide some benefit by introducing fresh air into rooms and diluting potential airborne virus, they can also create unpredictability in room pressurisation. E.g. if a window/balcony door is open when a returnee opens their door to the corridor, the flow of air from the open window/balcony door may push air into the corridor – effectively making the room positively pressurised relative to the corridor.

24. To support actions to achieve negative pressure in the hotel rooms prior to opening the doors to corridors (e.g. for health checks), protocols for the closing of windows/balcony doors prior to opening doors to corridors were recommended for applicable facilities, similar to the protocols introduced at the Pullman. Interim guidance has been issued to all MIQFs, and the development of more fulsome guidance – including standardised collateral for returnees and staff – is underway.

25. A few facilities have en-suite bathroom exhaust and fresh air delivery to the rooms which is controlled by room occupants, rather than being centrally controlled. MBIE is investigating re-wiring the ventilation system to ensure central control of the system and ensure optimal settings are achieved. This is expected to be relatively simple to achieve.

26. It is worth noting that significant improvements in ventilation in many MIQFs will not be possible without major upgrades to existing systems. There are also limitations in the degree of dilution and pressurisation that can be achieved in MIQFs due to the design of the buildings and the capabilities of their ventilation systems. Air filtration units may be able to compensate for this limitation to some degree by removing potential airborne viral particles from the air (see below).

External exhaust systems provide very low risk to the public or maintenance staff

27. The desktop ventilation assessments identified no apparent infection risks to surrounding buildings or members of the public passing by resulting from the external exhaust of the ventilation systems. Note that potential risks were identified at two facilities Negotiations Negotiations however, the review group determined that the actual risk of infection is very low given the dilution effect and the arrangement/configuration of the buildings.

28. In some facilities there is an external exhaust on the roof of the building which will require periodic maintenance (e.g. changing of filters). This could present an infection risk to maintenance staff if they do not take the appropriate precautions (i.e. wearing the appropriate PPE). To mitigate this risk, it was recommended that signage, instruction and training is provided to maintenance staff regarding the appropriate IPC precautions. Standardised signage, instructions and training material is under development.

Introducing air filtration units could minimise transmission via aerosols

29. Further research is required to better understand the risk of transmission of COVID-19 via aerosols (microdroplets suspended in the air). However, there is increasing evidence both in the literature and in some transmission events investigated within our own MIQFs that transmission via aerosols is likely, and that the risk is highest in confined and poorly ventilated shared spaces (e.g. lifts and corridors).

30. Reducing the risk of airborne transmission of COVID-19 in MIQFs requires a multifaceted approach. Strict adherence to basic IPC measures – including the stringent use of PPE (in particular, the use of fitted N95/P2 particulate respirators) and enforcement of physical distancing – are crucial. Optimising the in-built ventilation systems of the hotels is also likely to achieve some improvement in ventilation and establish a degree of pressurisation that is favourable from an IPC perspective.

31. However, the use of high-efficiency particulate air (HEPA) filtration units provides an important additional layer of risk mitigation by removing airborne viral particles from the air (if present) – effectively 'cleaning' the air. Many of the available HEPA filtration units also include additional technologies that remove viruses from the air or surrounding surfaces[4].

[4] Although the effectiveness of HEPA filtration units in reducing the risk of airborne transmission of COVID-19 within the somewhat unique MIQF environment has not been experimentally determined, the available international literature supports the use of HEPA filtration units as an airborne transmission risk mitigation tool within enclosed poorly ventilated spaces.

32. The review group recommended the installation of HEPA filtration units in the corridors and lifts of all MIQFs, and possibly also in the hotel rooms occupied by confirmed (or probable) cases of COVID-19. Other shared indoor areas, such as rooms used for swabbing or health checks, may also require these units. In facilities with poorer ventilation, the review group recommended prioritisation of the installation of HEPA filtration units in corridors and lifts.

33. To date, HEPA filtration units have been installed in the lifts and corridors of occupied floors in the Pullman, and in the lifts and corridors of the Bay Plaza. In addition, procurement activity to establish a panel of suppliers is underway and is expected to be complete by mid-March. The wider roll out of units will begin once the panel is established.

34. The Ministry of Health is working to confirm the approach to the prioritisation of the roll out (i.e. which facilities should be prioritised, and which priority areas of the facilities they should be installed in). The desktop ventilation assessments are informing this prioritisation work, as is the advice of a range of IPC, public health and other technical experts. In collaboration with MBIE, the Ministry of Health will update you on the progress of this work by 31 March.

Use of PPE remains fundamental

35. All the ventilation assessments re-emphasise the importance of stringent use of PPE and adherence to IPC measures by both returnees and MIQF staff as a mitigation against the potential risk of aerosol transmission of SARS-CoV-2. These practices are well established in the MIQ system and assurance of compliance is provided via the regular schedule of bi-monthly IPC audits of all MIQFs.

36. The requirement from 30 January 2021 for all MIQF staff to use a N95/P2 particulate respirator during any close interaction (less than 2m physical distancing) with any returnee provides an additional layer of protection.

Minimising returnee movement throughout facilities is key in minimising transmission risk

37. A key action to minimise the potential risk of aerosol transmission of COVID-19 within MIQFs is to reduce the time returnees spend in poorly ventilated shared spaces, such as lifts and corridors. Across all ventilation assessments it was recommended that returnee movement and time in shared spaces be minimised.

38. You have separately received advice on the actions implemented in MIQFs to minimise returnee movement [briefing 2021-2426 refers]. That advice set out that following a review and audit of current practices, all MIQFs now have in place booking systems to ensure cohorts do not mix during exercising and smoking. Additionally, some facilities have moved to conducting health checks and/or swabbing from the doorway of returnees' rooms in order to further reduce the frequency that returnees leave their rooms.

39. Some MIQFs have also implemented protocols to ensure they do not visit adjacent or opposite rooms sequentially for health checks and/or swabbing (for example, by visiting alternate odd numbered rooms followed by alternate even numbered rooms). By increasing the distance between rooms visited in sequence, the risk of airborne transmission may be decreased as there is a greater distance for any potentially contaminated air that has entered the corridor during health check/swabbing to travel.

40. The Ministry of Health is looking to extend this guidance, where appropriate, across the other MIQFs. Accordingly, we are working with District Health Boards (DHBs) to review and revise the requirements in the MIQF Operations Framework for the management of daily health checks and swabbing. We will need to balance the impacts on workforce and staffing requirements, as these protocols will require additional time and resourcing and will create challenges in regions and facilities that are already experiencing workforce constraints.

Re-configuring the use of certain areas in some facilities could further reduce risk

41. In some facilities, gymnasiums or 'shared' toilet blocks (i.e. toilets in common spaces) were identified as potential risk points due to the ventilation arrangements. In these cases, while returnees do not have access to these spaces, they may be used by MIQF staff.

42. It was recommended that where practicable and where alternative arrangements can be made, these spaces be closed to MIQF staff, and their exhaust turned off or reduced to optimise the performance of the ventilation system in the surrounding rooms. This has been implemented in some facilities where it was immediately practicable to do so (e.g. closing down gymnasiums), and further work is underway to determine the operational impacts of closing down shared toilet blocks (e.g. ensuring there are alternative toilets for staff to use).

Negotiations

...However, a further review of the suitability of MIQFs should take place once all onsite ventilation assessments are completed.

48. While most MIQFs meet key criteria, there are several – onsite exercise area and FENZ requirements – that are not met or require significant mitigation. Notably, the Grand Mercure in Auckland does not meet either of these two criteria. The Pullman also has some shortcomings relating to FENZ requirements. However, FENZ is satisfied with the range of mitigation measures (including evacuation plans, staff training etc) put in place to ensure the safety of staff and returnees.

49. The wider issues and remediation identified as being required for the Pullman arising from recent reviews are not included in this briefing. However, similar mitigations relating to ventilation may be required at other MIQFs following the on-site ventilation assessments. Depending on the outcome of those assessments, such mitigations could give rise to consideration of the ongoing suitability of high-rise, large capacity hotels that rely heavily on the use of lifts.

The Bay Plaza, Wellington

50. The initial results of the desktop ventilation assessments identified two key-site specific risks with the Bay Plaza.

51. Firstly, half the rooms have no mechanical exhaust (i.e. the bathroom relies on an open window as an exhaust), and the exhaust fans in the remaining rooms were timed to operate for four hours per day. Secondly, there is no fresh air delivery into the corridors. Essentially, the rooms without mechanical exhaust are likely to be positively pressurised relative to the corridors, meaning there is a risk that (potentially contaminated) air could move from hotel rooms into the corridor.

52. In response to the recommendations made, a number of changes have been made to improve ventilation and reduce the risk of airborne transmission:

- ensuring en-suite fans (where available) operate 24/7;
- the implementation of closed-window protocols prior to any door interaction;
- the installation of air filtration units in lifts and corridors;
- the allocation of only low-risk flights to the facility (i.e. Australia and the Pacific); and
- the implementation of a protocol for health checks/swabbing at doors where rooms are not visited sequentially (i.e. moving to a more distant room after a door interaction).

53. While some of the recommendations could not be implemented (e.g. only occupying rooms with mechanical en-suite exhaust which would halve occupancy; and pressurising corridors), the review group was satisfied that the other mitigations implemented were acceptable to continue full occupancy. A recommended on-site assessment of the ventilation system will be captured in phase II of the on-site ventilation assessment work programme.

54. Note that the same Technical Advisory Group (TAG) that convened to review and confirm the approach to re-opening the Pullman also reviewed and confirmed the actions taken above. Although the review group is satisfied with the current risk mitigations in place at the Bay Plaza, its relative small size means that it may not be a viable option as a MIF moving forward. MBIE will consider the ongoing viability of the Wellington MIFs as it enters into contract re-negotiations in the coming months.

55. A full assessment of whether MIQFs are completely fit for purpose can only be made once both phases of the ventilation assessments have been completed. It would likely take a small team at least two months to conduct onsite and paper based audits of each facilities.

56. We recommend that a further review on the suitability of facilities take place once the physical ventilation assessments are completed in May 2021. This will enable us to assess each facility with all available information. At this time it may be desirable to consider whether we amend the utilisation of some MIQFs – for example allocating only low-risk cohorts to some or reducing occupancy to further reduce risk – and whether the agreed criteria could be used to help us consider where we might focus if we are looking to either reduce our overall capacity or replace some existing MIFs with premises now considered to be more suitable.

We are unlikely to be able to procure a MIQF that fully meets all criteria, including ideal ventilation systems

57. When looking at the criteria, the ideal facility would be a low-rise building or set of buildings on a secure site where rooms have separate bathrooms and private balconies or courtyards (to provide access to fresh air) and separate healthcare facilities. It would also have adequate ventilation (akin to hospital settings), be able to provide catering and laundry services to those in the facility, and be located within an hour of a tertiary level hospital and international airport with good international links.

58. It is unlikely that we would be able to procure such a facility and may need to consider alternative options should you should wish to ensure all criteria are met. One alternative would be a purpose-built facility, although is not clear how quickly such a facility could be established or how much it would cost.

59. At a minimum, a facility would need to be planned; consented under both the *Building Act 2004* and *Resource Management Act 1991;* have infrastructure provided; and then be constructed. Under current processes, this would likely take a minimum of 1 – 2 years (if fast-track consenting options could be utilised). While these timeframes may mean purpose-built facilities are not viable for dealing with COVID-19, they could be valuable for planning for future pandemics.

Next steps

60. MBIE and the Ministry of Health will progress and implement the actions identified in the desktop ventilation assessments.

61. MBIE will progress phase II of the ventilation assessments by May 2021 and will work with the Ministry of Health to provide you with regular updates and further advice as the results become available.

62. In collaboration with MBIE, the Ministry of Health will provide you with an update on the progress of the air filtration unit work programme by 31 March.

63. Subject to your agreement, MBIE, with the Ministry of Health, will undertake a further review of the suitability of MIQFs following the outcome of phase II of the ventilation assessments.

Annexes

Annex One: List of 2021 Desktop Review criteria

Annex Two: Performance of MIQFs against desktop review criteria

Annex Three: Desktop review criteria that are not met or require significant mitigation

Annex Four: Ventilation assessments: Overarching recommendations by facility

Annex One: List of 2021 Desktop Review criteria

	Criteria
IPC	
1	People must be able to maintain 2m physical distancing on entry to and exit from the MIQF
2	Distance from operating international airport (Auckland and Christchurch)
3	Dual-use MIQ facilities have separate isolation and quarantine zones, ideally with separate hallways, stairwells, lifts, exercise and smoking areas (applies only to four dual-use facilities)
4	Separation of MIQF areas and those for long-term residents of hotels (Applies only to 3 MIQFs)
5	Separate room available for Health staff team, with hand-washing facilities
6	Secure room designated for PPE storage
7	Each room has individual bathroom
8	Surface materials can be easily cleaned in line with IPC guidelines (within reason – the facilities are hotels so there is a lot of soft furnishing and more porous surfaces than hospitals).
9	Working waste management facilities, including safe disposal of PPE
10	Access to sufficient health facilities
Operations and security	
11	Each room/unit must have a phone or similar device that enables a staffed station to be contacted 24/7
12	Complies with Fire and Emergency New Zealand (FENZ) evacuation requirements and has Building Warrant of Fitness.
13	Site can be evacuated while maintaining physical distancing requirements
14	Site securable with physical barriers preventing undetected entry/exit (includes control of entry points)
Wellbeing	
15	Hotel has a smoking area that is separate from the outdoor exercise area (either physically separate or used at different times); must be large enough for 2m physical distancing; must be supervised by MIQF staff; people awaiting day 0-1 COVID-19 PCR testing cannot access area until they have returned a negative test.
16	An outdoor exercise area must be made available to residents for 1 hour a day, must be large enough for 2m physical distancing; must be supervised by MIQF staff; people awaiting day 0-1 COVID-19 PCR testing cannot access area until they have returned a negative test.
17	Outdoor exercise area is available on site
18	Rooms have window with natural light
19	Room size allows sufficient personal space for residents to move around (including children)
Ventilation criteria	
20	Rooms are well-ventilated and heated / cooled / have appropriate temperature and ventilation control, while meeting requirements regarding the spread of COVID-19
21	Rooms have opening windows

Annex Two: Performance of MIQFs against desktop review criteria

KEY:		Meets	M	Mitigated	X	Does not meet/significant mitigation required	R	Evaluated as part of the ventilation review	0	Not yet assessed in ventilation review	N/A	Does not apply

		Auckland																		Hamilton			Rotorua			Wellington		Christchurch					
		Crowne Plaza Auckland	Four Points by Sheraton Auckland	Grand Mercure Auckland	Grand Millennium Auckland	Holiday Inn Auckland Airport	Jet Park Hotel Auckland Airport	M Social Auckland	Naumi Hotel Auckland Airport	Novotel Auckland Airport	Novotel/Ibis Ellerslie	Pullman Auckland	Ramada Federal Street	Rydges Auckland	Sebel Manukau	SO/ Auckland	Stamford Plaza Auckland	Sudima Auckland Airport	Waipuna Hotel and Conference Centre	Distinction Hamilton	Ibis Hamilton	Jet Park Hotel Hamilton	Rydges Rotorua	Ibis Rotorua	Sudima Rotorua	Bay Plaza Hotel Wellington	Grand Mercure Wellington	Chateau on the Park	Commodore Hotel Christchurch	Crowne Plaza Christchurch	Distinction Christchurch	Novotel Christchurch Airport	Sudima Christchurch Airport
IPC																																	
1	2m physical distancing on entry and exit		M					M					M								M			M			M						
2	Distance from international airport/ MIQ facility																						M	M	M	M	M						
3	Dual-use: separate isolation and quarantine zones	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	M	M	N/A	N/A	N/A	M
4	MIQF areas separated from long-term residents of hotels	N/A	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	N/A	N/A	N/A	N/A	M	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	Separate room for Health staff team																																
6	Secure, dedicated PPE storage																																
7	Individual bathrooms																																
8	Surface materials can be easily cleaned in line with IPC guidelines.																																
9	Safe waste management facilities, including for PPE																																
10	Access to sufficient health facilities																																
Operations and security																																	
11	Each room/unit can contact staffed station 24/7																																
12	MIQF has Building Warrant of Fitness and meets Fire Safety requirements	Confidential information entrusted to the Government																															
13	Physically distanced evacuation possible		M																							M							
14	Securable with physical barriers preventing undetected entry/exit (includes control of entry points)																																
Wellbeing																																	
15	Smoking area separated from exercise area																																
16	Outdoor exercise area must be made available for residents, 1 hour/day with exceptions																																
17	Outdoor exercise area is available *on site*	M	X	X									M	X		X																	
18	Rooms have window with natural light																																
19	Sufficient personal space to move around																																
Ventilation criteria																																	
20	Appropriate temperature and ventilation control	R	R	R	0	R	R	R	0	R	R	R	R	R	R	R	R	R	R	R	R	0	R	R	0	R	R	R	R	R	R	R	R
21	Opening windows in rooms	R	R	R	0	R	R	R	0	R	R	R	R	R	R	R	R	R	R	R	R	0	R	R	0	R	R	R	R	R	R	R	R

Notes:

- Criteria descriptions have been shortened here for presentation reasons. See **Annex One** for a fuller description.
- There are also several operational preferences that have been considered to date but are not applied uniformly. For example:
    - There has been an operational preference for high-rise (five storeys plus) facilities for security reasons, but the public health preference is for low-rise (one to two storeys) facilities. Of the 32 in use, 22 are high-rise, 6 are low rise and the remaining four are medium rise.
    - Also for operational reasons, there is a preference for facilities with more than 200 rooms. However, only 15 of the current facilities have more than 200 rooms
    - In order to ensure the wellbeing of returnees and facilitate voluntary compliance with isolation, there is a preference for facilities with high amenity, such as hotels which are four or five stars

Annex Three: Desktop review criteria that are not met or require significant mitigation

Criteria	Hotels that do not meet or require mitigation	Comments
Outdoor exercise area is available on site	Crown Plaza Auckland	There is a well-ventilated carpark and a foyer available
	Four Points by Sheraton Auckland	A carpark is available onsite for groups, and groups can be transported to a green site in Mount Albert for (physically distanced) exercise.
	Grand Mercure Auckland	A carpark and a smoking deck are available onsite, and groups can be transported to a green site in Mount Albert for (physically distanced) exercise.
	Ramada Federal Street	A well-ventilated carpark is available for individual exercise.
	Rydges Auckland	A driveway is available on site for single bubbles, and groups can be transported to a green site in Mount Albert for (physically distanced) exercise.
	SO/ Auckland	There is an outdoor terrace available, and groups can be transported to a green site in Mount Albert for (physically distanced) exercise.
People must be able to maintain 2m physical distancing on entry to and exit from the MIQF	Four Points by Sheraton	A range of mitigations are in place including: the closing of exercise and smoking areas; physical barriers, stickers and signage; staff supervision; briefings for returnees and staff; separated timing of arrivals and departures; returnees kept on bus until about to join entry line safely. Temporary barriers are also used to 'close' the footpath and separate staff on arrival and departure
	M Social Auckland	A range of mitigations are in place including: the closing of exercise and smoking areas; physical barriers, stickers and signage; staff supervision; briefings for returnees and staff; separated timing of arrivals and departures; returnees kept on bus until about to join entry line safely. Gates/fences are also used for buses that can come onto site.
	Ramada Federal Street	Ramada - Very limited reception area. Used for deportees. Only 16 at a time, across four to five vans. Slightly reduced spacing is required during briefing. • On arrival NZPOL (Already traveling in vans) secure drop off point (DOP) and all pax move to briefing area outside entry point and best they can observe 2m spacing (slightly reduced, appropriate PPE worn) • Each per processed one at a time into the facility, health check, documentation and move into room. • At all times all movements of an individual is under CCTV and security guard until entry into their room Process for departures is the reverse.
	Ibis Hamilton	In line with SOPs, returnees are managed through the check-in process along a line of crosses on the ground that are spaced 2m apart to facilitate social distancing. Once the check-in is complete they travel to their rooms via the elevators, bubble by bubble. On exit, returnees returning to Auckland via the bus are managed in a reverse pattern along the same crosses, and returnees departing the MIQF locally are released bubble by bubble either before or after the buses depart to avoid congestion in the hotel foyer. Once returnees are off the bus there is no occasion where returnees would end up within 2m of each other. Entry/Exit for staff is managed at a single entry/exit location in the loading dock of the hotel. There is no cause for the entry/exit point to become so congested that 2m social distancing cannot be observed, even during staff changeover times.
	Ibis Rotorua	Arrivals and departures happen at different times. Allows for cleaning to occur between cohorts, arrivals, departures. Wait on the bus. Guided in bubble at a time.
	Bay Plaza Wellington	MIQF-specific SOPs are in place for arrival, travel, departure and emergency evacuation to reduce confusion and minimise risk. During arrivals, returnees are taken off the bus and guided through the MIQF into the arrivals processing area, and then to their rooms. They leave the bus in groups of 12 and after processing, returnees travel bubble-by-bubble through a one-way route (using the hotel's restaurant as a lobby as it is larger). NZDF observe returnees throughout the process, except during the elevator ride.
Site can be evacuated while maintaining physical distancing requirements	Bay Plaza Wellington	During an emergency evacuation, two metres' physical distancing is difficult. Staff enforce distancing during exit as best as possible, then organised in distanced columns by room floor and bubble at the evacuation point. Note that the restricted size of the outside evacuation and heightened stress of an evacuation will carry risk of glancing 'bubble breaches' as returnees are moved into positions.
	Four Points by Sheraton	The evacuation assembly area is limited in size as it is on the footpath. However, NZDF hopes to close a section of Mayoral Drive with Policy support in case of evacuation.

Criteria	Hotels that do not meet or require mitigation	Comments
Confidential information entrusted to the Government		
Distance from operating international airport (Auckland and Christchurch)	The five Rotorua and Wellington MIQFs	The distance from international airports or MQ facilities means that returnees spend more time in transit, with a higher risk of transmission than in their rooms. This is mitigated to the extent possible through the operation of the transport.
Dual-use MIQ facilities have separate isolation and quarantine zones, ideally with separate hallways, stairwells, lifts, exercise and smoking areas (applies only to four dual-use facilities)	Grand Mercure Wellington	Isolation and quarantine zones are separated. With the exception of the initial movement from isolation to quarantine on returning a positive result, there are no shared lifts or corridors between isolating and quarantined returnees.
	Chateau on the Park	Returnees in quarantine are required to use the stairs, in order to avoid using hallways and lifts
	Commodore Hotel Christchurch	Separate lifts and stairs are not available. They are shared with maritime returnees. However, both groups are escorted to quarantine by nurses or NZDF.
	Sudima Christchurch Airport	Separated lifts and stairways are not required as the quarantine element of the facility is ground floor only.
Separation of MIQF areas and those for long-term residents of hotels (Applies only to 3 MIQFs)	Four Points by Sheraton Auckland	Residents used a separate, staffed entranceway and the staff lifts until February; in February the hotel terminated the access of the residents. The shop owner only has access to floors that returnees cannot access.
	Pullman Auckland	Long-term residents live in a separate tower with separate entranceway.
	Stamford Plaza Auckland	Long-term residents use separate floors to the MIQF; there are several empty floors between the two zones. Residents also use different lifts to the returnees.

Rooms are well-ventilated and heated / cooled / have appropriate temperature and ventilation control, while meeting requirements re: spread of COVID-19	This review did not consider ventilation criteria. The ventilation review considers the overall outcomes that these two criteria are intended to achieve.
Rooms have opening windows	

Annex Four: Ventilation assessments: Overarching recommendations by facility

Overarching recommendation themes	MIQFs[5]
Modify corridor fresh air flow and/or en-suite bathroom exhaust to establish negative pressurisation in hotel rooms	• Jet Park Auckland • Ramada Federal Street • Sudima Auckland Airport • Sebel Manukau • Naumi • Waipuna • Grand Mercure Wellington • Bay Plaza Wellington • Commodore Christchurch • Novotel Christchurch Airport • Sudima Christchurch • Crowne Plaza Christchurch • Rydges Rotorua • Distinction Hamilton
Implement window/balcony door opening and closing protocols	• SO/ Auckland • Rydges Auckland • Holiday Inn Auckland • Crowne Plaza Auckland • Four Points Sheraton • Jet Park Auckland • Stamford Plaza Auckland • Sebel Manukau • Grand Mercure Auckland • Naumi • Waipuna • Grand Mercure Wellington • Bay Plaza Wellington • Commodore Christchurch • Chateau on the Park • Distinction Christchurch • Sudima Christchurch • Rydges Rotorua • Distinction Hamilton
Provide signage, instruction and training to maintenance staff regarding the appropriate IPC precautions when undertaking maintenance of external exhausts on roofs.	• Jet Park Auckland • Four Points Sheraton Auckland • M Social Auckland • Crowne Plaza Auckland • Stamford Plaza Auckland • Novotel Christchurch Airport • Crowne Plaza Christchurch
Install air filtration units in corridors and lifts	• All facilities5

[5] Reports for the following facilities were included in this memorandum: Jet Park Auckland, Four Points Sheraton, M Social, Crowne Plaza Auckland, Holiday Inn Auckland, Novotel Auckland Airport, Novotel Ellerslie, Ramada Federal Street, Rydges Auckland, SO/ Auckland, Sudima Auckland Airport, Stamford Plaza Auckland, Sebel Manukau, Grand Mercure Auckland, Naumi, Waipuna, Grand Mercure Wellington, Bay Plaza Wellington, Ibis Hamilton, Distinction Hamilton, Distinction Christchurch, Chateau on the Park Christchurch, Commodore Christchurch, Novotel Christchurch Airport, Crowne Plaza Christchurch, Sudima Christchurch, Ibis Rotorua, Rydges Rotorua.

Continue strict adherence to PPE protocols	• All facilities5
Minimise returnee movements throughout the facility, particularly in corridors and lifts	• All facilities5
Consider sequence of room visits for swabbing/health checks	• All facilities5
Reconfigure arrangement of facility (e.g. take some rooms off-line)	• M Social Auckland • Novotel Auckland Airport • Rydges Auckland • SO/ Auckland • Sebel Manukau • Grand Mercure Auckland • Bay Plaza Wellington • Chateau on the Park Christchurch • Ibis Rotorua
Expedite on-site assessments of ventilation systems due to lack of available information	• Jet Park Auckland • Holiday Inn Auckland • SO/ Auckland • Waipuna • Bay Plaza Wellington • Commodore Christchurch • Chateau on the Park • Sudima Christchurch • Crowne Plaza Christchurch • Distinction Hamilton