MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

BRIEFING

Options to reduce transmission risk through cohort management in MIQFs

Date:	5 February 2021	**Priority:**	High
Security classification:		**Tracking number:**	2021-2195

Action sought		
	Action sought	**Deadline**
Hon Chris Hipkins **Minister for COVID-19 Response**	**Note** the four scenarios for changing how returnee cohorts are allocated and managed **Agree** to discuss these scenarios and any next steps with officials at the upcoming strategy session (date to be confirmed)	11 February 2021

Contact for telephone discussion (if required)				
Name	**Position**	**Telephone**		**1st contact**
Megan Main	DCE Managed Isolation and Quarantine	Privacy of natural persons		
Privacy of natural persons	Policy Director, Managed Isolation and Quarantine, MBIE	Privacy of natural persons		✓

The following departments/agencies have been consulted
The Ministry of Health were consulted and provided advice and content. The COVID-19 All of Government Response Group were advised and reviewed an earlier version

Minister's office to complete:

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☐ See Minister's Notes ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
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BRIEFING

Options to reduce transmission risk through cohort management in Managed Isolation and Quarantine Facilities

Date:	5 February 2021	**Priority:**	High
Security classification:	In Confidence	**Tracking number:**	2021-2195

Purpose

To provide you with advice on how a cohort approach to allocation of space in MIQ facilities could reduce the risk of transmission within facilities. The paper considers four scenarios with differing levels of stringency and risk reduction. Each scenario considers the cohort journey from arrival at the airport through to departure after the required managed isolation period had been completed.

Executive summary

On 25 January 2021 it was confirmed that there was a case of COVID-19 in the community. It was also later confirmed that the source of infection was a returnee in the Pullman MIQ facility in Auckland.

As a result of this, MBIE's Chief Executive has commissioned an external review of the wider MIQ processes to check their robustness amidst the changing global environment and associated risks.

On 27January 2021 we provided you with advice on the immediate steps we would take to reduce the risk of further transmission. We also signalled other areas where changes could be made but where we needed to consider the implications. This briefing provides you with how we might be able to move from a capacity based approach to a more structured cohort approach. It includes:

- An update on the immediate steps we advised you we would take
- Advice on how to define a cohort that balances ability to implement without significantly reducing capacity and reduces the risk of undetected COVID-19 infections
- Four scenarios ranging from the current state through to a cohort per plane per facility
- Consideration of how we transport people in the context of exercise and longer transfers to facilities
- How we might better credential returnees to manage the risk of bubble or cohort breaches
- Further issues that will be picked up in work to determine the suitability of current managed isolation facilities.

Regardless of the preferred scenario there will be some impacts on capacity and any change will take time to implement (without a hard stop on returnees). We would like to discuss these options with you at your strategy session to discuss broader elimination strategy and MIQ settings.

Recommended action

The Ministry of Business, Innovation and Employment (MBIE) recommends that you:

a **Note** that this briefing updates you on the progress of the immediate steps we noted that we would progress in the advice to you on 27 January 2021 [Options to strengthen transmission risks in MIQFs: 2021-2085]

Noted

b **Note** that in defining a cohort we considered operational practicalities and the need to reduce the risk of undetected transmission

Noted

c **Agree** that for the purpose of cohort management in MIQ a cohort is defined as:

'a group of people who arrive at the border of up to a 96-hour period'

Agree / disagree

d **Note** that we have scoped four scenarios to consider how a cohort based approach could be implemented and these are:

a. *Scenario 1 – Current state with some additional measure added*
b. *Scenario 2 – Allocation of cohorts to specific facilities or floors within a facility*
c. *Scenario 3 – Arrivals within a 96-hour period allocated as a single cohort*
d. *Scenario 4 – One cohort (within a 24-hour arrival) to one facility*

Noted

e **Note** Scenario 1 is currently being implemented across Managed Isolation and Quarantine Facilities (MIQFs)

Noted

f **Note** that Scenario 4 is not practical to implement without either significantly reducing capacity or making wholescale changes to the MIQFs

Noted

g **Note** that we are completing work to model the impacts on capacity and lead-in times needed to shift from Scenario 1 to the other Scenarios and that this work will be completed by 10 February 2021 to inform further discussions with you

Noted

h **Note** that a cohort approach will not work for returnees where there are differing needs (for example non-COVID health issues) and durations of stay and for returnees with existing problems will continue to be supported under the current model where mixed cohorts are located in the same facility

Noted

i **Note** that we are making initial changes to how we transport people to MIQFs and that further advice will be provided as part of the suitability of MIQFs due with you on 4 March 2021

Noted

j **Note** that we are considering improvements to how we issue credentials to returnees, including technology solutions and will provide further advice by end of February

Noted

k **Agree** that we will discuss these scenarios further with you at the upcoming strategy session (date to be confirmed)

Agree / disagree

Megan Main
DCE, Managed Isolation and Quarantine
MBIE

05 / 02 / 2021

Hon Chris Hipkins
Minister for COVID-19 Response

7 / 2 / 21

Background

1. MIQ is a key system in place to protect New Zealand from COVID-19 and to stop it at the border in line with the "Keep it Out" pillar of the Elimination Strategy.

2. The new variants of COVID-19 recently identified in the United Kingdom, South Africa and Brazil are having significant impacts across the world both in terms of the epidemiology of the pandemic, the increased prevalence and incidence of COVID-19 and the global response. Our MIQ system is world-class, however it is also the biggest risk point for COVID-19 entering our community.

3. In its current form, over 105,000 people have passed through the MIQ system. In this time there have been 10 cases of transmission within a facility (outside of a bubble) which includes staff and returnees (excluding cases related to the Russian and Ukrainian mariners).

4. The recent cases of transmission of new variants of the virus in the Pullman have highlighted an increased risk that people at the end of their isolation period could be exposed to those at the start of their isolation period who are shedding the virus but have not yet been detected through testing.

5. Implementing any changes to manage this risk beyond the current processes needs to consider the size of the facilities, and the timing and capacity of incoming flights – we currently have an average of approximately 400 people per day entering MIQ and facilities ranging in size from 61 to 400 rooms. At any point in time, the operational capacity of 4,500 rooms is accommodating between 5,300 to 5,800 people.

6. Making changes of any scale would take time and will have flow on effects to the booking system and potentially reduce the overall operational capacity. MIAS is 'fully booked' until the end of March 2021 and we expect demand will remain high for some months. Space is available in April and May 2021, but vouchers have not yet been fully released due to the Pullman going offline.

7. This advice is one part of a suite of papers from the MIQ and the Ministry of Health providing advice to you on the interventions that have, or could be, put in place in response to the transmission of COVID within the Pullman Auckland.

8. This Ministry of Health, and in particular Public Health have been involved in the development of this advice and their views are reflected throughout.

Are MIQ operational settings in relation to cohort movement appropriate in the current environment?

9. To date, we have had confidence that MIQ settings (with the ongoing enhancements) have been fit for purpose and keep returnees safe whilst managing the risk of the virus being transmitted through the border and into the community.

10. MIQ has, in part, operated a high-trust model for returnees, in particular for access to exercise, smoking and deliveries. Action either in progress, or already taken, is moving us towards a managed model which will place some further restrictions on returnees.

11. MIQ had already enhanced a number of settings to limit the risk of further transmission before the Pullman situation including:

    - Requiring all arrivals to stay within their rooms for the first 48 hours (as we have required for those needing day 0/1 testing). This will be reviewed alongside the day 11/12 test review below.

- As a temporary measure, from 3 February 2021, people who have had their day 11/12 test are required to stay in their rooms until their designated departure time. This is being reviewed as we learn more about the risks of transmission of the new variants.

12. We are also now in the process of:

    - Extending the use of N95/P2 particulate respirators across all MIQFs for all staff who have close interactions (for the purpose of testing and health checks) with returnees in MIQFs with immediate effect. The Ministry of Health (Health) has been working to ensure that there are adequate supplies of these particulate respirators for health staff in MIQFs. Other staff such as security and maintenance are not required to adjust their current mask use procedures

    - Implementing a consistent way returnees are able to access services outside of their rooms, including reviewing all foot traffic plans in the facilities, introducing booking by cohorts, and limiting any movement other than for the purpose of scheduled exercise or to access smoking areas, and planned health checks not conducted in the rooms (where practicable)

    - Reviewing the transport plans for returnees from the airport, and to exercise areas, including the current IPC standards for transport

    - Reviewing how and when facilities are cleaned to reduce the chance of surface transmission in high traffic areas

    - Continuing to implement recommendations from the ongoing ventilation reviews of all MIQFs

    - Continuing to upgrade the CCTV systems and moving to direct employment of security staff by MBIE.

13. In our advice to you on 27 January 2021 we also noted areas where it would be possible to consider changes in how we move and allocate cohorts to further reduce the risk of undetected transmission whilst in a MIF.

How do we define a cohort?

14. For the purpose of this advice, we are defining a cohort as the group of people who arrive into New Zealand on the same day, or within a set time period. As described below, there are two options in how the time period used to define a cohort can be set (over 24 hours or up to 96 hours). We have focussed this analysis on arrivals by air as this is the predominant means of entering the border.

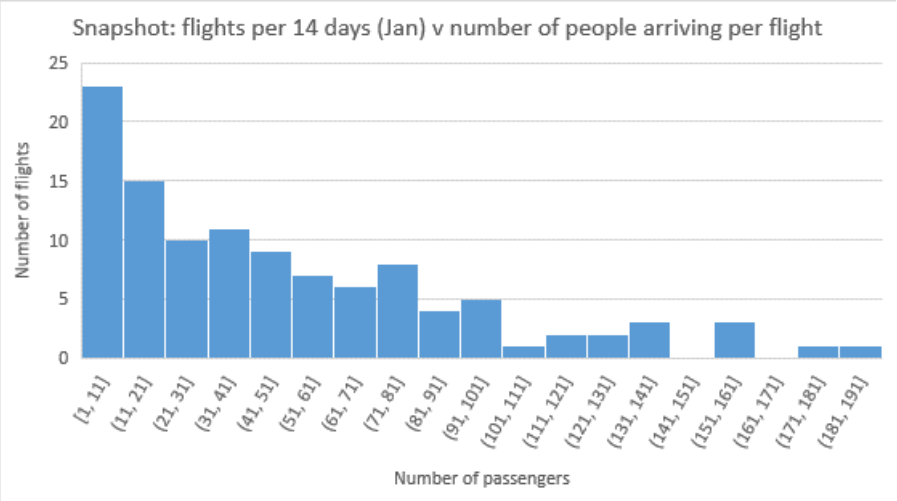
15. We did consider whether a risk based cohort model could be applied but with the current global environment and the limited number of flights that would come from ‘low risk’ countries the conclusion was that this would not be practical and it is better to consider all returnees entering a MIQF should be treated as high risk. This could be revisited in time if the global risk levels reduce.

16. Defining a cohort does not change the requirements of bubbles within MIQ. Cohorts will continue to be made up of individual or group bubbles with requirements to maintain social distancing and limit any possible points of contact whilst in managed isolation.

17. When considering this definition, we identified that the last possible point of potential exposure to COVID-19 for those arriving into New Zealand is on the international flight(s) that bring them here. However, there also remains a risk of exposure inside the airport terminal in New Zealand despite physical distancing and cleaning requirements. There may also be

times where returnees from one flight overlap in time and/or space with returnees from other flights.

18. We also considered the operational practicalities. For example, it is not uncommon for flights arriving into New Zealand to have a small number of passengers on board which would mean limiting a cohort to one flight load of returnees would be operationally challenging. The graph below is data collated from the last fortnight of the number of flight arrivals and the volume of passengers. This highlights the inconsistency of the numbers arriving per flight which creates complexity for allocating to rooms / facilities.



19. As MIQ uses the precautionary approach of 14 days' isolation and the likely incubation period of the virus, officials consider it is appropriate for a cohort to be defined as all people arriving within a set time period from outside New Zealand.

20. The exact time period used to qualify a cohort needs to consider both public health advice and operational constraints and could be from 24 hours to 96 hours, dependent on the operational impacts and how the risks of cross transmission are managed. Within this advice we have identified scenarios that are within the ranges here but have also looked at options that fall outside the range. For all we have noted the risks and impacts.

21. In managing the cohort there would need to be some exceptions to who is required to remain in the cohort, namely; unaccompanied children and young adults, those who have high medical needs and those identified as symptomatic at the border who will be transferred directly to a quarantine facility.

22. Not all returnees have the same level of risk as other returnees who have been in Australia for the last 14 days are not considered high risk, although they may have been exposed on the flight if there are transit passengers on the flight. Currently anyone entering MIQ is considered to be high risk with the facilities operating at a level 4 lockdown environment. Improvements underway and /or a move to cohorts will further strengthen this.

23. Currently there are few low risk returnees entering MIQ so they can be managed alongside other cohort exceptions. However, this may need further consideration if we see an increase of 'green' flights from Australia and the Pacific outside of any safe travel arrangement and where passengers are still required to enter MIQ.

How could we change the way we manage cohort movement - including to and from the facility?

24. For the purpose of this briefing we have considered both movement within the facility and movement to and from the facility to capture our current transport processes. We have

explored four operational scenarios including an enhanced version of current practice through to a significant change in how MIQ would manage cohorts to remove almost all cross-cohort risk.

25. For all scenarios we expect that there will be impacts on our operational capacity as it will require changes from the current approach which aims to maximise capacity to meet the demand for places in MIQ. Scenarios other than the enhanced current settings (with some cohort restrictions) will create further complexity in how we manage and allocate space and will have impacts on the number of vouchers released into the MIAS process. The more restricted the scenario becomes the greater reduction in capacity and increase in complexity. However greater restriction also limits the risk of undetected transmission.

26. Under a cohort approach MIQ would still need to retain a level of contingency within the system to manage urgent situations such as the evacuation of a MIQF due to a fire.

27. Over and above the scenarios we have also provided advice on how to manage the range of returnees who require higher or differing levels of support. This includes how we support people with non-COVID health needs, unaccompanied children and young people, short term stays for aircrew and transit passengers and those who need additional security.

28. Further work is needed to fully explore the impact on capacity and resourcing of each option but an indicative summary is provided below. A high level comparison of the options is also attached as Annex 1.

Scenario 1- Current state with additional restrictions and consistency within the current operational framework

29. Within the MIQ operating framework and standard operating practices there are a range of processes and systems applied within facilities that aim to limit the opportunity for interaction within and between cohorts / bubbles including the requirement for social distancing. MIQ has confidence in the system as it stands but acknowledges that there is a need for more consistent application across the portfolio of MIFs.

30. Under this scenario the improvements listed in paragraphs 9 and 10 would be fully implemented and reflected in the Standard Operating Practices (SOPs) that all MIFs use. Whilst these SOPs are routinely updated to reflect changes in policy we will also review all SOPs in the light of the new risks we are working to manage and to ensure that they are fit for the current operating environment.

31. If we wish to maintain the current levels of operational capacity (4,500 rooms per fortnight) we would need to allocate different cohorts into the same facility and possibly onto the same floors. It is likely we would not be able to isolate cohorts onto different floors without reducing capacity. However, we would enhance our current processes of cohort management to restrict any opportunities for cross-cohort transmission, for example at arrival / departure. We could also increase staffing levels to increase assurance to minimise the risk of non-compliance or breaches (for example by introducing a higher returnee-to-security staff ratio across MIFs). Additional staffing levels and any associated resource requirements need to be assessed.

32. MIQ is also in the process of rolling out upgrades to the CCTV facilities in each MIF, including greater coverage, and this will allow us to quickly identify any bubble breaches and to take action accordingly. The level of staff to allow for ongoing monitoring is being reviewed.

33. Under this scenario we would continue to operate the four Auckland MIFs where returnees are required to travel to a separate location to access exercise space via a bus. We already ensure that returnees from the different facilities do not travel or exercise together and we will put in place measures to ensure that returnees from different cohorts do not travel

together. A separate work stream is looking at the appropriateness of the current facilities in light of the new variants and will advise separately if these arrangements need to be amended further or cease.

Scenario 2 - Allocation of cohorts to specific facilities or floors to reduce overlaps of isolation times

34. In this scenario returnees from different cohorts could be allocated to the same facility but we would not mix cohorts between floors. Minimising the overlaps of cohorts with different isolation times in facilities would reduce risk of exposure to the virus and provide a higher level of assurance.

35. This scenario would see some reduction in capacity as there will be times when a cohort does not completely fill a floor or facility and some rooms will have to remain unoccupied as we would not 'top-up' from other cohorts as is current practice. Further analysis is needed to provide a robust estimate of what the actual reduction could be due to the number of variables that have to be considered.

36. For this scenario we would need to also implement a higher level of resourcing to ensure that there was no movement between floors and that cohorts leave and return to their rooms with a higher level of supervision. All other enhancements under current state would be in place, including increased CCTV coverage and increased IPC measures in and around lifts.

Scenario 3 – arrivals within a 96-hour period can be allocated to the same facility as a single cohort

37. Under this scenario, returnees' arrivals within a 96-hour period could be accommodated in the same facility under an enhanced current service arrangement. No other cohorts would be allocated to the facility outside of that arrival window until all returnees had departed and cleaning had been completed.

38. The approach offers some challenges under our current model but the arrival window would allow MIQ to stagger the arrivals and associated support services across a broader time frame to manage the resource peaks such as arrival at the facility where there is an increased risk of breaking social distancing requirements.

39. There would be capacity reductions and additional resources would be needed to manage the increased post-departure cleaning processes across all rooms at the same time.

40. If this scenario were to be the preferred approach MIQ would recommend a phased introduction to allow us to manage demand and utilise the capacity we have in the best way.

Scenario 4 – One cohort (limited to 24-hour arrival window) to one facility

41. Scenario 4 offers the highest level of restriction on the system and also the lowest level of risk of undetected transmission. It would see one cohort allocated to a facility (or facilities based on size of cohort). The cohort would be considered arrivals within a 24-hour period (the shortest time frame advised). No other cohorts would be allocated to that facility until after departure and cleaning.

42. As with Scenario 3 this offers some significant challenges to capacity and how we manage processes involving direct contact with returnees.

43. Currently the larger facilities are dependent on the staggered check-in and testing days to manage the pressure on staffing and to limit the transmission risk from managing large groups of returnees at a time. Larger facilities also have challenges managing volumes for access to exercise and smoking breaks. Completely removing staggered arrivals could make the larger facilities unusable from an efficiency and risk perspective.

44. Free and frank opinions Our initial modelling shows that it could lead to 70,000 empty 'room nights' over a 60 day period which would cost upwards Confidential advice entrusted to the Government

45. It could also have resource implications if more staff are needed to manage the volume of health checks and testing across a number of sites on a low volume day and more demand in a single facility on a high volume day. We expect that there would also be a need for increased cleaning staff, especially for the post departure cleaning, to allow a fast turnaround for a further cohort. Depending on the size of the facility a clean between cohorts could take three to five days. If staff are limited to working at one facility only, then this may also mean increased resourcing levels are needed.

How does MIQ manage people with differing needs?

46. Procedures within MIQ have had to evolve to meet the differing and often complex needs of people arriving home to New Zealand. Most people who enter MIQ can be accommodated with a standard 14-day allocation, however not all cases are straight forward. Examples of the more complex circumstances that MIQ deals with include:

- People with non-COVID health needs requiring special care or monitoring, including, mental health support needs, serious medical conditions and end of life care
- Unaccompanied children and young adults who require extra support, meaning a parent or guardian joins them in MIQ
- VIPs, and Diplomats (choosing to enter MIQ) who may require additional services such as enhanced security
- New Zealanders returning from detention overseas (under 501 Orders)
- Sports teams who need access to additional services both in and outside of the MIQF
- Large groups who may need language, cultural and other support (for example the mariners and RSE workers)
- Those staying for a short period of time but needing to isolate, for example aircrew on a lay-over, maritime crew waiting to join a vessel or passengers in transit for more than 24 hours.

47. For these cases MIQ generally manage their circumstances by allocating them to a facility where we have specialist staff or specialist services are available. To date this has been the Waipuna Facility for high level medical needs, the SO Hotel Auckland Facility for other specialist needs including unaccompanied minors, and the Chateau Facility in Christchurch for sports teams.

48. It is also notable that people with complex or special needs do not always disclose their requirements before they arrive.

49. If we move to a cohort centred system for allocating space in MIQ facilities it is likely that we would need to maintain the ability to be able to cope with demand pressures and to be able to continue to support returnees with specific needs. This would mean multiple bubbles from different cohorts on a floor and may also require us to consider dedicated wings or floors within facilities or standing up new facilities to focus on higher need groups.

50. The requirements of complex and higher need returnees will be considered in the review of the suitability of MIQFs. The review will also consider if we should stand up facilities for the shorter-stay groups.

What changes do we need to make to how we transport people?

51. Currently we use external transport (bus and air) providers to move returnees for airport transfers, transporting of cases from managed isolation to quarantine facilities and where transport is needed to access exercise space. The majority of people are transferred from Auckland airport to a facility. However, in order to manage capacity, some are first flown to Wellington or Christchurch before being transferred to a facility.

52. All of the providers operate to Health's IPC standard and there is an expectation that these standards should be reviewed regularly. SOPs set out the measures to be taken to ensure the safety of returnees, drivers and other staff, including:

    - IPC requirements (including mask use, separation of driver from passengers and luggage loading/offloading while avoiding contamination)
    - Maximum passenger numbers on transport to ensure physical distancing can be maintained
    - Measures to be taken at rest stops where journeys take longer than three hours.

53. Under current settings, cohorts travel together in small groups from the airport to facilities, with no mixing of flights.

54. Changing the model of transport would be challenging however we are reviewing the current requirements to assess if they are suitable for managing the risk of undetected transmission. We are also exploring the appropriateness of facilities requiring a long transfer (i.e. those in Hamilton and Rotorua) with a rest stop, given the concerns that have been expressed about the risks associated with the cleaning of rest stops and public health. This will be included in the work to review facilities.

55. Where we transport returnees to access offsite exercise space, we will now put in place a stricter process to prevent returnees from different cohorts from exercising together. The ongoing use of facilities without exercise space will also be considered as part of the work that will review facilities.

Credentials for returnees within MIFs

56. One challenge in facilities where there are a number of cohorts staying at any one time is identifying who should be allowed to be out of their room with who. There are two options to address this:

Out of room access only under escort

57. Whilst this approach has been implemented in some smaller facilities, current resourcing levels prevent wider roll-out to larger facilities where a high-trust model has been in place to date (i.e. returnees are advised to remain in their room, but can move unescorted to access health checks, smoking and exercise areas). Implementing escort-only movement within facilities could be made mandatory but will require additional resources to implement in a number of facilities and could have some negative effect on the well-being of those staying in a facility.

58. An option to not allow returnees to leave their room during the 14 days is unlikely to be practical and could lead to more disruptive behaviour including attempts to 'break out'.

Australia has these strict protocols in place but they have not prevented community transmission and have seen more cases than we have seen to date in New Zealand.

59. A further consideration for escorting returnees from their rooms is the risk of transferring a viral load from the returnee to the staff member when the door is opened. This risk is currently being considered through the ongoing ventilation review.

Require all guests to wear 'credentials' when out of their room that shows which cohort / arrival day they are part of

60. To date, different coloured wrist bands have been trialled in facilities to assist MIF staff to distinguish between high and low risk returnees. However, this has been found to create an unhelpful stigma and is viewed as having limited benefit by frontline staff.

61. An alternative that we could explore would be to require returnees to wear coloured wrist bands to distinguish cohort or day of arrival that are issued to all returnees (noting it may not be appropriate to ask young children to wear them).

62. There would be scope to explore whether these measures could be overlaid with technology solutions (for example that use contactless technology to support the prevention of bubble breaches) as part of ongoing consideration of the merits of Bluetooth cards in facilities following the recent MIQ trial. Further advice on this will be provided to your office in the coming weeks.

Reviewing the suitability of current managed isolation facilities

63. Our knowledge of the virus has grown significantly since the implementation of managed isolation, with more information known about aerosolised transmission and general transmissibility of the virus. This also impacts on the IPC requirements for returnees and their behaviour in a facility. A review of the current MIFs to determine suitability is recommended to properly assess any risks that have not yet been identified. It is possible that some of the current facilities are less fit-for-purpose than others given the emerging evidence.

64. In this paper we have identified some specific issues that will be included in the review. They are:

- The role of bespoke arrangements for high level or specific needs
- Use of facilities with no on-site exercise space
- The risk associated with long transfers between Auckland and Hamilton / Rotorua.

65. We will provide more advice to you by 4 March 2021.

Next steps

66. Any change other than the current situation with enhancements will require changes in how MIQ operates and the capacity we would have available for returnees.

67. We do not believe that Scenario 4 is viable without significant reductions in capacity.

68. With a phased lead in time, we believe that we can introduce either scenario 2 or 3 however this could require a process to 'cancel' some MIAS vouchers (or other groups scheduled to arrive). The effective operational capacity would likely be reduced, and time is needed to allow for room cleaning and clearing out facilities to allow for single cohort use.

69. Changes could be introduced in a phased way in March by using the capacity in the Pullman when it is back on line and delaying or slowing the release of the April and May MIAS vouchers.

70. We expect that further advice on the review of the facilities could also lead to recommendations that would change the overall make up of MIQFs with some facilities winding back whilst new ones could be brought on line. However further detailed analysis would be needed including any cost implications of such an approach.

71. We would like to use the upcoming strategy session to discuss the scenarios with you further and understand where your expectation of capacity versus risk sits.

Annexes

Annex 1: Comparison of scenarios

Annex 1- comparison of scenarios

MANAGED ISOLATION AND QUARANTINE

Cohort: All returnees landing over either a 24 or 96 hour period

REDUCING RISK OF UNDETECTED TRANSMISSION / INCREASING STRINGENCY

S1: Current settings with additional cohort restrictions

Policy outline
- Proposed changes to MIQ in response to recent transmission are implemented
- Reinforce the SOP's
- Change language and messaging around remaining in one's room unless you have a booking to leave

Operational impacts
- Capacity – continue to operate at current operating capacity
- Resourcing – some additional staffing needed in larger MIFs to give effect to changes

Health Benefits
- Strong current state, having only 10 leaked cases in 105,000 returnees
- Reduces the main areas of risk.

MIQ Benefits
- A smaller resourcing increase required
- Easy to implement.

Risks
- Greater public health risks if cohort and bubble distancing not adhered to
- Still carries workforce risks but managed through IPC processes.

S2: One cohort per floor(s)

Policy outline
- Cohorts can be allocated into a any MIF with capacity provided they are limited to floors (or wings) where they are separate from other cohorts. These floors are now 'hot' until all departed and cleaned.
- Strict measures to avoid interaction with other cohorts

Operational impacts
- Capacity – some reduced capacity as cohort sizes unlikely to match to the room availability / numbers on floors
- Resourcing – will require some additional staff, in part dependant on how cohort exercise is managed.

Health Benefits
- Provides better public health benefits than BAU
- Dependent on effective cohort allocation and management.

MIQ Benefits
- Some resourcing implications
- Can be implemented with some changes to how we allocate.

Risks
- Carries some workforce risks, if allocation is not done well, due to the fluctuating nature of testing
- Will reduce the effective capacity of the system
- May need to create cross facility working arrangements to manage resourcing.

S3: Cohort arrivals within 96 hours

Policy outline
- Cohort defined as arrivals within a 96 hour period and will go into shared MIFs which is now 'hot' from last arrival
- No other cohort will go into those MIFs until all departed and cleaning across facility complete
- That MIF is 'reset' for a new cohort.

Operational impacts
- Capacity some reduction and increased likelihood of un-occupied rooms
- Could be managed by phased introduction
- Resourcing – likely to impact on cleaning with larger scale departures across 3 days.
- Impact on medical teams needs to be better understood.

Health Benefits
- Greater viral loading controls
- Provides greater public health benefit than S1 and S2.

MIQ Benefits
- Cohorts across the broader timespan could be managed with some limitations.

Risks
- Will deplete MIQ capacity and efficiency (further modelling underway to assess levels)
- Will make allocation processes harder to manage and will impact of the effectiveness of MIAS as the primary allocation tool used.

S4: One 24 hour cohort one MIF(s)

Policy outline
- One cohort will go into one MIF, which is now 'hot'.
- No other cohort will go into that MIF for 14 days. That MIF is now 'hot' for 18 days (to account for cleaning)
- That MIF will be cleaned and 'reset' for a new cohort.

Operational impacts
- Capacity would be significantly reduced and in order to implement would require a 'hard brake' to reset the system.
- Limited places would impact on Non NZ entries (critical workers, large groups)
- Resourcing impacts need more modelling to confirm.

Health Benefits
- Very high viral loading controls
- Maximises the public health benefits from managed cohorts.

MIQ Benefits
- limited benefits of this approach without system redesign to manage capacity and cost issues in current model.

Risks
- Efficiency and capacity limited - estimate 70,000 empty 'room nights' costing approx. $14m over a 60 day period
- Significant workforce implications due to testing and cleaning cycles
- Large MIF's will need to be closed
- Unable to accommodate large groups and minimal critical workers.

Considerations & Assumptions
- Scenario 1 already implementing
- Regardless of cohort anyone symptomatic on arrival with be allocated to a quarantine facility until a negative test is returned
- Cohorts do not replace or change any requirements for bubbles and social distancing
- Not all MIFs are equal in size – any blanket application will impact on capacity
- Flight schedule may limit ability to apply some scenarios – some flights enter NZ with less than 10 passengers
- Not all returnees need the same services – aircrew, transit, medical needs, cultural needs
- Resources covers MIQ employed staff as well as DHB staff, hotel, security and other staff that support the operation of a MIF