Lessons Learned Review

The managed isolation and quarantine of international marine workers at the Sudima Christchurch Airport Hotel

Final Report

10 December 2020

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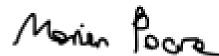
Foreword

Effective management of the border and managed isolation and quarantine (MIQ) facilities is a critical element of New Zealand's COVID-19 elimination strategy. The staff who work at our border and MIQ facilities play a huge part in keeping New Zealand free from community transmission of COVID-19.

The experiences gained from the first tranche of international marine workers admitted to New Zealand has highlighted areas for improvement in the current arrangements and provide valuable lessons for the successful management of future groups of foreign workers admitted to New Zealand to support economic recovery. Thirty-one mariners and two staff at the Sudima Christchurch Airport Hotel, where the mariners were placed in managed isolation, tested positive for COVID-19.

This report makes recommendations aimed at improving the planning and management processes for the expected second tranche of international mariners and other groups coming to New Zealand.

We would like to thank everyone who has contributed to this review. We hope their candour and insights will contribute to the ongoing improvement of our border arrangements and managed isolation and quarantine facilities and enhance the safety of frontline workers.



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Executive summary

Background

On 21 September 2020, Cabinet agreed to a workforce class exception for up to 570 deep-sea fishing crew members (international mariners or mariners), as a one-off entry, to work on identified fishing ships in New Zealand for up to six months.[1] The Managed Isolation and Quarantine (MIQ) group of the Ministry of Business, Innovation and Employment (MBIE) started planning in late September for the scheduled arrival of the first tranche of mariners from Russia and the Ukraine on 15 October (their arrival was later delayed by 24 hours). The Sudima Christchurch Airport Hotel (the Sudima) was set aside as a dedicated facility for the managed isolation and quarantining of the first tranche.

Pre-departure isolation and testing processes were arranged by the fishing companies. The charter flight arrived at Christchurch International Airport on 16 October with the 235 mariners on board.

On arrival at the Sudima, and during the mariners' first three days there, a number of issues became apparent. These were:

- The difficult of communicating with the mariners. Only three spoke English and there were insufficient interpreters available initially. The translated MIQ welcome packs were available three days after arrival.
- The large number of smokers and the frequency with which they left their rooms to smoke required more staff to supervise the physical distancing requirements.
- The reluctance of the mariners to be confined in rooms with fellow fishers they did not know, particularly when they knew others in the facility. (The crews were double-bunked.)
- The number and quality of CCTV cameras at the facility was insufficient to monitor physical distancing and compliance with the other rules in all areas of the Sudima.

On 20 October, 18 mariners tested positive for COVID-19 after day three testing. Over the coming days, another 13 mariners tested positive. A dedicated quarantine wing was stood up at the site with sufficient capacity for the cases. The large number of mariners that were infected placed pressure and stress on the Sudima's operations.

On 2 November a health worker tested positive; the following day a second worker tested positive.

On 12 November Community and Public Health completed an Outbreak Report (the CPH outbreak report)[2] which concluded that roughly 35% of all cases in the mariner cohort were due to the transmission of infection between room-mates. The report found that despite adherence to the required protocols "two independent transmission events to the nursing staff occurred during routine contact with cases who were likely at or near the peak of infectiousness". The report recommended the use of N-95 masks for staff entering quarantine areas or coming into direct contact with confirmed cases and ensuring adequate ventilation specifications in all quarantine wings.

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[1] CAB-20-MIN-0453 *COVID-19: Managing Exceptions to Border Restrictions.*

[2] *International mariners outbreak October – November 2020*

Most of the mariners finally departed the facility on 7 November, 21 days after their arrival when public health officials were satisfied they could be released. There was a delay in their planned departure for reasons that were not clinical or operational and included a requirement for testing a week after departure. This delay caused significant logistical challenges and issues for staff.

Purpose of the review

This urgent lessons-learned review was commissioned on 10 November to inform decision-making about the second tranche. The review was also expected to be relevant for other large groups moving through managed isolation and quarantine.

The review is largely based on interviews with 25 people over 10 days and reflects their experiences and perspectives. Key documents were also reviewed. This review is focused on learning and improvement. It is not an assessment of the performance of the system.

Key findings

The key findings from this review are that:

- The MIQ system and the people responsible for managing the first tranche adjusted quickly and effectively when the issues with the first tranche at the Sudima first became apparent.
- There was insufficient planning for the first tranche of mariners. There was no integrated, multi-agency planning process or plan. A public health risk assessment was not conducted. The operational risk assessment proved too broad and high-level for the events that actually transpired. Officials did not seek any information from, or provide public health input or advice to, the fishing companies about pre-departure isolation and testing processes.
- Greater clarity is required about the accountabilities, roles and responsibilities of agencies that have not traditionally worked together. This includes the role of public health and who is responsible for clinical decision-making. At the facility level, there were also some blurred boundaries. There was also a sense that the high level of public scrutiny for this group resulted in decision-making being influenced by factors other than operational and usual public health practice.
- The single point of contact for all three fishing companies worked extremely well and should be in place for the second tranche and other groups. Single points of contact for the relevant government agencies would also be helpful.
- Communication processes need to be clear and simple. The high level of public interest in the international mariners' stay at the Sudima added significant pressure to the working environment for many staff. Protocols need to be developed for the sharing of information about staff cases that balance the privacy of the individuals concerned and public health considerations.
- There are areas for improvement in the operational management of MIQ facilities. These include the consideration of the appropriateness of double bunking, management of the risks of smoking, education and training for staff on infection prevention and control requirements, better contact tracing records of all staff movements within a facility and the use of CCTV.

Part two of the report discusses in more detail the lessons learned from the first tranche. It breaks events down into four phases – planning for the first tranche, pre-departure processes and travel to New Zealand, arrival in New Zealand, and the stay at the Sudima.

Part three makes some wider observations about the MIQ system.

Recommendations

The recommendations arising from the review are set out below.

The recommendations are made to inform decisions about preparing for and managing the expected second tranche of international mariners. The recommendations also have broader relevance to the planning and management of future groups seeking to come to New Zealand. Recommendations are also made for the wider MIQ system.

It is recommended that an action plan be developed to address the recommendations. The action plan should determine the relevant and appropriate action owners and the timeframes and resources required to implement.

Recommendations for tranche two

Roles and responsibilities

1. Clarify and confirm the accountabilities, roles and responsibilities and decision rights of all agencies and people involved in planning and managing the second tranche of international mariners. Specifically:
    a. Develop a clear accountability framework such as a RACI (Responsible, Accountable, Consulted, Informed) matrix to assist all involved in the second tranche to understand the accountability and decision-making framework, the types of decisions that are, and that may be needed, and the decision-makers. Use this as a pilot for the development of a framework for the wider system and the recommended changes to the Operational Framework outlined in recommendation 15.
    b. Clarify and confirm the role, responsibility and ongoing involvement of the lead government agency responsible for liaison with the relevant companies from pre-departure from the country of origin through to exit from MIQ facilities.

Risk assessment

2. Undertake a comprehensive risk assessment immediately to inform decision-making about tranche two. This includes decisions about the size of the group, the selection of the MIQ facility, and the date and time of arrival. Gather information about the cultural and social norms and characteristics, language, job, health and food needs and other requirements of the second tranche of mariners. Ensure a 'whole of operation' view is taken to decision-making. This will help ensure that suitable workforce and operational plans are developed and resourced. Specifically:
    a. A formal public health risk assessment should be carried out by the Ministry of Health and local public health unit and underpin the overall risk assessment and operational planning.
    b. A detailed operational risk assessment should be undertaken to inform the development of detailed operational plans (see recommendation 3). Workforce, facility, security, logistics

and other operational risks should be considered. This operational risk assessment should be carried out with the input of all relevant agencies (MBIE MIQ - Operations, Regional Isolation and Quarantine (RIQ), the district health board, the public health unit, the relevant sites being considered, and the fishing companies).

Operational plans and assurance needs

3. Develop an integrated, multi-agency, operational plan for tranche two to give effect to the public health and operational requirements and the risk mitigation actions for the end-to-end process. Seek the input of all relevant agencies as noted in recommendation 2. Specifically:
    a. The operational plan should address workforce, security, logistics and other operational matters.
    b. The areas for improvement outlined in this report and other relevant reviews should be addressed in the operational plan. This includes the Sudima CPH outbreak report.
    c. The resources required by MIQ should be agreed to and secured before the arrival of the second tranche.
    d. Key milestones and the dependencies in the plan need to be identified and well-understood. This will enable clear assessment of the operational implications and associated risks of changes to plans. For example, the consequences of changes to scheduled arrival times or departure times from the facility need to be understood.
    e. Clear scenario-based contingency plans should be developed.
4. Ensure sufficient time is allowed for implementation of the operational plans. Establish clear processes to review and approve any variation to the plans.
5. Consider the assurance required about the management of key risks. Develop and implement an assurance plan for tranche two.

Pre-arrival

6. Set clear expectations for the cohort in the second tranche before arrival such as a code of conduct or expected behaviour. Use the experiences from other groups entering New Zealand such as the Antarctic Programme and sporting teams. Specifically, work with the fishing companies to:
    a. clearly communicate public health recommendations for pre-departure arrangements, travel to, and arrival in New Zealand, such as isolation, testing, use of masks, physical distancing etc.
    b. identify what requirements can, and should be, ‘obligations’ between the mariners and fishing companies to help set and reinforce expectations and ensure compliance with the requirements.
    c. identify what information can and should be provided before arrival to explain what to expect in New Zealand and set expectations. For example, the translated 'welcome packs' should be available before departure for New Zealand.
    d. identify all requirements, actions or processes that will, or are likely to, be required for managed isolation. Complete these processes or requirements as far as possible before arrival to reinforce expectations and reduce the level of staff interaction with the group at the MIQ facility. For example, privacy consent forms can be completed before arrival.

Operational Framework and Standard Operating Procedures (SOPs)

7. Identify and document the specific changes required to the MIQ Operational Framework, Standard Operating Procedures (SOPs), and the various site-specific plans for the second tranche and other groups. This should include the changes to the infection prevention and control (IPC) and operational processes and protocols to support any changes in facility use and the safe movement of staff and guests.
8. Ensure all staff are well-briefed and trained on the changes to the Operational Framework, SOPs and site-specific plans.

Communication protocols

9. Clarify and confirm the communication requirements, channels and protocols for dealing with matters relating to the second tranche. Ensure that escalation processes are clearly defined.
10. Make a specific person at the RIQ responsible for liaison between RIQ and MIQ Operations.
11. Ensure processes are in place to ensure mariners and staff are kept informed appropriately during any significant developments and events such as COVID-19 cases. Develop protocols for the sharing of information about positive staff cases that balance the privacy of the individuals concerned and public health considerations.

Recommendations for other groups and the wider MIQ system

Recommendations 1-11 are also relevant for the planning and management of other groups seeking border exceptions to enter New Zealand. In addition, the following additional recommendations are made for the other groups and the wider MIQ system.

Planning and management of entry of groups into managed isolation and quarantine

12. Ensure MIQ and other relevant agencies have in place the organisational arrangements and resources they need to properly plan for, and manage, incoming groups.
13. When assessing MIQ capacity to enable decision-making about border entry exceptions, ensure a ‘whole of operation’ view is taken. This should include facility suitability and workforce availability.
14. Develop standard policies, processes and procedures for the risk assessment, planning and management of groups coming to New Zealand for all agencies involved in the planning and management of these groups. Ensure these are properly documented and communicated to staff.

Roles and responsibilities

15. Clarify and confirm the accountabilities, roles and responsibilities and decision rights for the wider managed isolation and quarantine system at all levels. Specifically:
    a. Develop a clear accountability framework that documents the accountabilities and types of decisions that are and may be required. Ensure all relevant staff in the MIQ system understand the accountability and decision-making framework.
    b. Amend the Operational Framework to make the different agency roles and responsibilities at a site level clearer and easier to understand and implement. Involve staff who use the framework in the process to ensure the requirements are workable in practice and the guidance is fit for purpose.

Ongoing education and training in infection prevention and control

16. Review the education and training provided on IPC requirements to all MIQ staff. Consider what enhancements can be made to ensure a rotational workforce is effectively inducted and trained. Obtain appropriate staff input into the review.

Continuous improvement

17. Enhance the guidance in the Operational Framework about continuous quality improvement. In addition, it should explicitly incorporate the established health system protocols and processes for investigating incidents. Consideration should also be given to what further processes are required to capture the operational lessons from incidents and what processes are needed at the national level to support continuous improvement.

Part 1: Introduction

New Zealand's border is largely closed. Only a small number of people can currently come to New Zealand without prior approval. These include New Zealand citizens or permanent residents, their partners and children, Australians who live in New Zealand, and diplomats.

Anyone else coming to New Zealand must be coming for a critical purpose and they must get prior approval from Immigration New Zealand. The travel must be for a reason that is considered critical and it is on the critical purpose list.[3]

All travellers to New Zealand, with certain small exceptions, are required to spend 14 days in managed isolation and quarantine (MIQ), where they are tested on Day 3 and Day 12 and have to meet the certain criteria before they are allowed to depart.

On 21 September 2020, Cabinet agreed to a workforce class exception for up to 570 deep-sea fishing crew members, as a one-off entry, to work on identified fishing ships in New Zealand for up to six months. Cabinet had previously agreed to a class exception approach to consider classes of critical workers wanting to travel to New Zealand. Three initial proposals were considered for workforce class exemptions, including the deep-sea fishing crew. The policy framework and decision-making approach for future workforce class exceptions was agreed at the same meeting. The policy framework includes consideration of the impact on MIQ (capacity, timing, facility requirements and public health risk/impost on the public health system).

Other groups have been allowed entry into New Zealand over recent months. These include the people on summer deployment in the Antarctic through the Antarctic Programme and sporting teams such as the Australian national rugby team and the West Indian cricket team.

It was decided that the international mariners would arrive in two tranches. The MIQ group of MBIE started planning for the arrival of tranche one of the international mariners from Russia in late September.

The Sudima Christchurch Airport Hotel (the Sudima) was set aside as a dedicated facility for the managed isolation and quarantining of the first tranche.

The first tranche of 235 mariners arrived at Christchurch airport on 16 October 2020 on a Singapore Airlines charter flight from Moscow, transiting via Singapore. Following day three tests on 19 October, 18 mariners tested positive for COVID-19, with many more testing positive over the coming days. In total, 31 mariners tested positive. Two staff members working at the Sudima also became infected with the virus and tested positive on 2 and 3 November.

The lessons learned review

Objectives and scope of the review

This lessons learned review was commissioned by the Head of the MIQ at MBIE and the Deputy Chief Executive, COVID-19 Health System Response at the Ministry of Health. The review was commissioned on 10 November to be carried out with urgency to enable changes to be made before the arrival of tranche two of international mariners. The terms of reference were updated on 19

[3] This includes critical health workers, other critical workers, and those travelling for humanitarian reasons.

November to add Dr Marion Poore as clinical reviewer, and confirm that the report was to be provided to the Chief Executive of MBIE and the Director-General of Health.

The objectives of the review were to identify the key lessons that can be learnt from the isolating and quarantining of the first tranche of international mariners, from the pre-departure arrangements, their arrival in Christchurch International Airport, their time in the facility, and ultimately, their exit. The review was to make recommendations as to what, if any, changes should be put in place before the arrival of the second tranche.

While this review was focused on the plans for the next tranche of international mariners, it has relevance to other large groups moving through managed isolation and quarantine. The response of the local district health board was outside the scope of the review, as was the feasibility of continuing with tranche two based on capacity or financial considerations.

The terms of reference for the review are in appendix one.

The approach to the review

The approach of the review was to understand the key lessons learned from the experiences and perspectives of people involved in the planning and management of the international mariners' stay at the Sudima.

The focus was on learning and improvement and what could be done differently for second tranche and other groups. The lessons learned described in this report are a synthesis of people's reflections, views and perspectives. It is not an assessment of the performance of the agencies involved in planning and management of first tranche, nor a detailed examination of the relevant documentation to verify what has been said.

The urgent nature of the review has necessitated a rapid approach to identify the key lessons. This was done through the review of key documents, an on-site visit to the Sudima on 12 November, and workshops, interviews and discussions with staff involved in:

- the overall planning and management of the first tranche at MIQ Operations (a unit in the MIQ group)
- the day-to-day management at the Sudima and Canterbury Regional Isolation and Quarantine (RIQ)
- delivery of health services for tranche one at Canterbury DHB including Community and Public Health[4]
- overseeing the arrival of the charter flight at Christchurch airport from NZ Customs Service (Customs), Immigration NZ and Canterbury DHB.

Discussions were also held with the liaison person for the fishing companies in tranche one, and other nominated people from the Ministry of Health (MoH) and the Department of Prime Minister and Cabinet's COVID-19 All-of-Government Response Group. A full list of people interviewed is in appendix three.

[4] Community and Public Health are a division of the Canterbury DHB, but serve as the Public Health Unit (PHU) for the South Canterbury District Health Board and the West Coast District Health Board.

As Dr Marion Poore was added as clinical reviewer mid-way through the review, she did not attend all the interviews and meetings.[5] Wendy Venter authored the report and Dr Poore reviewed it. The review was carried out with the assistance of a member of MIQ's Service Quality and Assurance team.

The draft report was provided to the MIQ group for comment, and to facilitate comment from the relevant government agencies, before it was finalised.

Managed isolation and quarantine

People entering New Zealand are required to spend 14 days in a managed isolation facility if they are assessed as being low risk of having COVID-19. Those people who test positive are accommodated in a quarantine facility which has increased clinical support and IPC measures.

MBIE has overall responsibility for the MIQ system. It has an MIQ business group (MIQ group) that lead this work which has staff seconded from various agencies. It works closely with MoH, district health boards (DHB's), public health units (PHUs) and other government agencies.

There are 32 facilities in Auckland, Hamilton, Rotorua, Wellington and Christchurch, with a capacity of 6,261.[6] In some regions, there are dual-use facilities that are capable of managing both isolation and quarantine in separate zones.

The staff teams working in each facility vary in size depending on the capacity of the facility. The teams include people from government agencies (MBIE, the MoH, NZ, NZ Police, Aviation Security (AVSEC), DHBs and the Ministry of Social Development) and third party private sector organisations (e.g. hotel staff and private security firms). They support the health, wellbeing, security, supplementary logistics and administration of the people staying in MIQ facilities.

The Sudima Christchurch Airport hotel

The Sudima Christchurch Airport Hotel (the Sudima) is a dual-use MIQ facility. It has 246 rooms (241 managed isolation and 5 quarantine rooms). As discussed later, a dedicated quarantine wing was set up when the day three testing results came in for the international mariner cohort.

It is usually staffed by 55 workers from the hotel, MBIE, NZDF, Canterbury DHB, the private security company, AVSEC and the NZ Police. Again, additional staff were brought to help with the management of the first tranche as discussed later in this report.

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[5] Dr Poore was interviewed for the review before she became clinical reviewer.

[6] As of 19 November 2020, based on information accessed on the MIQ website on 22 November 2020.

Part 2: The lessons from the first tranche

The section looks at the matters in scope of the review i.e. the planning and pre-departure requirements for the first tranche of the international mariners, their arrival at Christchurch international airport, their stay at the Sudima and their subsequent departure from the facility in early November.

It looks at what happened, what went well, what were the challenges and lessons learned, and what changes and the improvements should be made for tranche two and future incoming groups.

Part 3 of the report has some wider observations about the managed isolation and quarantine system.

2.1 Planning for the first tranche

What happened?

The MIQ group in MBIE started planning for tranche one in late September after the Cabinet decision to approve the workforce class exception for the international mariners. MIQ Operations and the Ministry for Primary Industries (as the main liaison with the fishing companies) started working with the representative of the fishing companies to plan the travel to New Zealand.

The first tranche of 237 mariners were to travel by a Singapore Airlines charter flight from Moscow, Russia to Christchurch, transiting through Singapore.

The focus was on identifying the right facility that could accommodate the cohort of mariners. The capacity of the facility was the main consideration in the planning arrangements.

MIQ proposed double-bunking of the mariners, with the agreement of the fishing companies. We were told that other marine workers have previously arrived on commercial flights in cohorts of between 4 to 39 people[7], and been double-bunked in Auckland managed isolation facilities without significant incident. MIQ sought and received advice from the MoH's public health team on 23 September that there was no health concerns with the sharing of rooms. The only area of potential concern highlighted by MoH was to ensure that the fishing companies did the allocation of rooms prior to arrival so that the burden did not fall on the staff at the Sudima on arrival. This was done. As is discussed later in section 2.4 this decision had significant consequences during the mariners' stay in the facility.

The planning was done at pace as the mariners were due to arrive on 15 October (the departure was later delayed by 24 hours).

There weren't any agreed processes or formal documentation in place for planning and managing the entry of such groups. A public health risk assessment was not carried out for the mariners. A high-level risk assessment was carried by the Canterbury RIQ with the support of an MBIE risk specialist.

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[7] Eight groups totalling 136 marine workers from Russia, Ukraine, Philippines and Lithuania over the period October – early November 2020.

The relevant people from the region (Canterbury RIQ, DHB and the PHU) became involved in the planning closer to the time of the arrival. We were told that the local health team was alarmed at the decision about double-bunking. Some felt they could not 'push back', others felt that they did not have clarity about the decision-making process and to whom they should address their concerns.

What are the key lessons?

The roles and responsibilities of all agencies involved in the planning processes are not sufficiently clear. In particular, the role of the 'sponsor' agency i.e. the lead government agency responsible for liaison with the relevant industry or company. It was highlighted that it would be of considerable benefit to have the close and ongoing involvement of the sponsor agency in the end-to-end process. This is because they would have good knowledge and understanding of the industry/requirements of the groups proposed to travel to New Zealand and have the necessary relationships.

The high-level risk assessment undertaken by Canterbury RIQ proved inadequate for the events that transpired that are discussed in section 2.4. A far more comprehensive risk assessment is needed that is informed by accurate and detailed information about the cohort.

There was no public health risk assessment. A public health risk assessment should be carried out by MoH and the relevant public health unit before the arrival of the second tranche. The public health risk assessment should underpin this wider risk assessment to ensure all public health risk factors are considered and the actions necessary to mitigate the risks. This is also a finding of the CPH outbreak report into the source of infection of the mariners and healthcare workers. Work is already underway to develop an agreed template for a public health risk statement for all group exceptions.

Early engagement with groups is crucial. This will assist in gathering the information about the cohort to identify and assess risks, and plan and prepare effectively. It will also help in determining the information that can be provided in advance to help the group understand what to expect in New Zealand.

Detailed, integrated, multi-agency operational plans should be developed before the arrival of tranche two and other groups with the necessary input from operational teams at the regional and facility level. Dedicated resources should be provided to do this task effectively. Contingency plans should also be developed. Assurance should be sought on the management of key risks before 'go-live'.

More broadly, the risk assessment, planning and management processes that are required for groups should be documented in the MIQ Operational Framework and SOPs.

2.2 Pre-departure and travel to New Zealand

What happened?

On 5 October, the fishing companies confirmed that a charter flight was planned for arrival in New Zealand on 15 October.

The final room allocations were sent through on 13 October to MIQ by the fishing companies' liaison person.

The fishing companies determined the pre-departure requirements and processes.

Government officials did not seek any information from, or provide public health input or advice to, the fishing companies at the time about these processes.

Subsequently on 21 October, after the day three testing results were known, MIQ asked the fishing companies for information on the pre-departure processes followed to consider what changes needed to be made to tighten the process for the second tranche. The processes were advised to MIQ as follows:

- Self-isolation: The mariners were advised (through their Russian and Ukrainian based agents) that they were required to be in self-isolation[8] prior to departure. The aim was for the self-isolation to be done 14 days before departure, but it was complicated by the fact that the charter was confirmed less than 14 days before departure under urgency.
- Pre-departure testing: COVID-19 testing (PCR RNA) was advised to have been done prior to departure from home-towns, on 9, 10 and 11 October. All except two mariners tested negative. These two mariners were not allowed to travel.
- The mariners travelled domestically from home locations to Moscow to meet the charter flight. They travelled on a Russian domestic airline.[9] They were said to have had their temperature checked on arrival in Moscow airport.
- The charter flight was scheduled to depart on 14 October but it was delayed for 24 hours after arrival in Moscow, as permission to depart from the Russian Federation authorities had to be unexpectedly obtained.
- The mariners stayed in a hotel for the night in Moscow. The hotel was not an isolation facility. They were asked to maintain social distancing and hygiene standards. They shared rooms in the same allocated pairings.
- Before departing the mariners were temperature checked at Moscow airport. The fishing companies provided translations of the airline's guidelines to reduce the risks of in-flight transmission of COVID-19. This included the wearing of masks, reduction of non-essential movement on the aircraft and no seat changes. No disembarkation was allowed in Singapore.

The MoH public health team provided advice on the steps taken to inform any changes that needed to be made for the second tranche. MoH supported the pre-departure steps and did not find ways to strengthen them. It was the execution of the steps that was considered problematic. It was also noted that pre-departure testing should never be relied on and should only be seen as an "adjunct to the 14 day MIQ stay on arrival".

The CPH outbreak report identified issues with the pre-departure processes. The report noted that:

- At a case interview one mariner reported that he was already aware that he had tested positive when he was tested in Russia on 9 October. His fitness to travel certificate obtained from the fishing company representative stated that he was tested on 11 October and that the virus was not detected.
- Nursing staff at the Sudima observed that on day three swabbing all crew had offered an open mouth suggesting they had not previously had a nasopharyngeal swab.

[8] Self isolation was expected to be on a similar basis to alert level four conditions in New Zealand.

[9] The requirements of the domestic airline are not known to MIQ.

- Genome sequencing had revealed four different genotypes (available for 26 of 31 cases[10]). It concluded that this could be explained by inadequate quarantine prior to departure or multiple independent exposure events between the end of the pre-departure quarantine and arrival.

What are the key lessons?

There were different views expressed in interviews about the level of involvement the New Zealand government should have in pre-departure isolation and testing processes. The types of tests vary, as does the level of confidence that can be placed in them detecting the virus. The quality and reliability of the testing infrastructure in countries also varies. Pre-departure testing also has recognised limitations because it does not eliminate the risk of transmission during the travel to New Zealand. Concerns were expressed about the ability to get sufficient assurance about the processes in practice.

Nevertheless, examples were given of other groups travelling to New Zealand, such as the Antarctic programme and the sporting teams, where there were early and effective engagement with the groups about pre-departure processes and what could be done to support compliance and provide the necessary assurance before arrival. For example, a code of conduct being signed where the consequences of non-compliance were made clear, and team doctors being asked to certify the validity of the COVID-19 tests.

Clear processes should be in place to ensure early engagement with the industries seeking to bring in groups to properly assess the public health risks. Experiences and lessons learned with different groups should be shared. This could be achieved through a central point of coordination at MIQ and MoH to work with all groups before they arrive.

2.3 Arrival in New Zealand, transfer and arrival at the Sudima

What happened?

The charter flight arrived at Christchurch International Airport on 16 October with the 235 mariners on board. This was a larger number that typical flights into Christchurch. But there have been large charter flights previously. The staff at the border have had experience with the regular arrival of the deep-sea fishing crew from Russia in previous years, and knew what to expect. The use of a Singapore Airlines charter flight was helpful as they regularly fly into Christchurch and the processes are well-understood.

Usually a Customs official would go on board the aircraft to explain to the passengers what to expect. For the tranche one flight, an MPI border official who spoke Russian went on board.

The processes to carry out the necessary immigration, customs and biosecurity and health screening are now well-established and worked smoothly and effectively. Sufficient interpreters were on hand to help communicate with the mariners.

The mariners were allowed off the plane in groups of ten to allow the necessary physical distancing and avoid bottlenecks and delays.

[10] Five were unable to be sequenced because of the low level of RNA present.

There were no issues with the arrival of the flight. It was noted that Christchurch is the second port of call if international flights have to be diverted from Auckland. The contingency plans if this happened are still being worked through.

Seven buses were at the airport and transported the mariners to the Sudima (the buses are filled to half their capacity to maintain physical distancing). The fishing company had arranged for interpreters to go onto the buses and brief them about what to expect. The Sudima is a short distance away so the buses returned to the airport to complete the transfer of all the mariners.

The fishers arrived at the Sudima. They had been travelling for over 24 hours by this stage. The majority of the group were smokers i.e. approximately two-thirds of the group. Smoking breaks were needed.

The processing of new arrivals was slow at the Sudima because of the language difficulties (only three of the cohort spoke English), and there were only sufficient staff/interpreters for one processing line.

What are the key lessons?

The size of the group and the language difficulties contributed to slower than ideal processing of the arrivals. For future groups, the Sudima team identified a number of things they would do differently. For example, increase the number of processing queues with more interpreters made available to make sure there is a smooth flow. The smoking and other well-being needs of the group would also need to be explicitly planned for.

There are no contact tracing record-keeping requirements on transfer buses. We understand work is currently being done to at least record which buses travellers are on, however recording details of the seating plan is considered logistically very difficult. CCTV may be a better option.

2.4 The stay at the Sudima

What happened?

As noted above, all but three of the mariners did not speak English. This caused communication issues. The number of interpreters needed had not been foreseen, and additional interpreters had to be found at short notice. One of the pre-arranged interpreters was not able to be present onsite because of health issues. This was not known in advance. The Russian and Ukrainian translations of the MIQ welcome pack were only available three days after the mariners' arrival.

The large number of smokers (over two-thirds of the group) and the frequency with which they smoked was also not anticipated. This led to significant difficulties in maintaining physical distancing in corridors and outdoors. There were other compliance breaches in the early days, such as the sharing lighters, cigarettes and cell phones.

There were bottlenecks at the security check points. The communication issues meant that the mariners sometimes got closer to the security guards to check their names off the list, and the required physical distancing was not maintained.

As discussed in section 2.1 the mariners were paired in rooms. Many staff were of the view that pairing mariners with people they did not know led to a greater desire for them to leave their rooms to smoke or move around the facility.

The number and quality of the CCTV cameras were not adequate for monitoring physical distancing and compliance with the rules in all areas of the Sudima, and assisting with contact tracing.

As a result of these issues, ensuring compliance with managed isolation facility rules was a challenge in the first 72 hours until the fishing companies issued a letter to the mariners. Compliance improved noticeably after that.

Surge resourcing to supplement the Sudima staffing was made available at short notice to assist with additional workforce requirements to supervise the large cohort and their particular needs. The staff increased from 55 to 86.

The large number of positive day three tests (18) resulted in a degree of anxiety and uncertainty among staff at the Sudima which was well-handled once the management team arrived onsite. Once comprehensive and accurate information was provided and decisions made about what to do next staff settled well to their work. The Sudima was locked down which meant that staff were required to only work at the Sudima and to not be rotated to any other MIQ facilities (this did cause operational issues for other MIQ facilities). The decision was also made to stand up a dedicated quarantine wing at the site with sufficient capacity for the cases. The testing of staff started that day.

The IPC specialist staff approved the suitability of the dedicated quarantine wing, and supervised the transfer of the confirmed cases to quarantine. This helped provide assurance that the necessary IPC requirements were followed. The move of the cases to the quarantine wing was considered to be well planned and executed, like ‘a military operation’.

The day after, the staff were requested to move the mariners to single rooms. A joined-up approach across all agencies was taken on the ground in assessing the risks of such a move. Whilst there were sufficient rooms available to enable such a move, it was recommended against because of the increased staffing requirements for the move, and the ongoing staffing required to supervise the mariners over a larger geographic area. Previous experience of outbreaks in Canterbury had highlighted the increased risks of transmission when inexperienced staff are brought into high risk situations in crisis moments. This was highlighted by a number of staff as a positive example of the effectiveness of a locally-led joined-up approach and the consideration of all risk factors informing decision-making.

All room-mates of the confirmed cases were categorised as ‘high-risk’ close contacts. The remaining mariners were classed as close contacts because they had potentially been exposed at several points of the journey to New Zealand and at various times in the first 72 hours. Coloured wristbands were used to identify the confirmed cases, high-risk close contacts and close contacts.

Additional testing was done. After day six testing, eight further cases were identified. At day nine testing, an additional three cases were found. At Day 12 testing one case was identified, and another case at day 15. In total, 31 mariners tested positive.

The CPH outbreak report noted the IPC measures at the Sudima Hotel had undergone severe stress testing due to this unusually high burden of highly infectious cases in the facility at one time. Numerous factors contributed to this high burden, the most important of which was the practice of double bunking. The report concluded that roughly 35% of all cases in the cohort were due to transmission of infection between room-mates.

Many staff interviewed were of the view that double-bunking should not be repeated.

Staff reported that the contact tracing required a lot of effort. The CPH outbreak report noted that community and public health case investigators had observed that staff did not know who they worked with, and that regular masking did not help. Name badges are being considered. Canterbury DHB is also working on a system to enable nurses to electronically record observations and notes. This will help ensure that contacts with guests and staff can be tracked.

The outbreak report also recommended that CCTV should be, at minimum, a requirement of a quarantine facility.

The increase of numbers in the quarantine facilities meant there was an increase in waste. The responsibilities for clearing of waste and rubbish can be blurred and causes tension between agencies. There are other areas too where the responsibilities get blurred. For example, taking luggage and meals to rooms.

A health worker tested positive on 2 November, with a second worker testing positive on 3 November. The CPH outbreak report found that two independent transmission events to nursing staff occurred during routine contact with cases who were likely at or near the peak of infectiousness. Both transmission events occurred despite apparently rigorous adherence to personal protective equipment (PPE) and IPC protocols and processes. It concluded that both transmission events occurred through exposure to small airborne microdroplets. It recommended the use of N-95 masks for staff entering quarantine areas or coming into direct contact with confirmed cases and ensuring adequate ventilation specifications in all quarantine wings.

The high level of public interest in the international mariners' stay at the Sudima added significant pressure to the working environment for many staff. Frequent information updates were required by decision-makers and key stakeholders. This led some to feel like they were being micro-managed. In such situations, the regular flow of accurate information is vital. However, a better balance needs to be achieved to allow public health and other staff the time to carry out their work thoroughly and accurately.

The exit from the facility extended well beyond the usual 14 days with most of the mariners finally departing on 7 November. They had more tests than is usually required whilst in the facility. The C-RIQ made careful plans for the mariners' departure to three different locations in New Zealand. This is not usually the responsibility of MIQ but had been requested. The planned departure was delayed because of a delay in the decision to release the mariners. This delay was not due to clinical or operational reasons, and included a requirement for testing a week after departure. The change in plans caused significant logistical issues. The mariners were required to isolate on board their vessels for a further week. Shore leave was restricted until all the mariners were tested seven days after departure and achieved a negative test.

What are the key lessons?

There were a number of lessons identified. The main ones are:

- The IPC specialists are a critical element of ensuring safe facilities and practice. The supervision of the transfer of the cases to the quarantine wing provided invaluable assurance.
- The appropriateness of double-bunking or sharing of rooms needs to be carefully considered. Where it is allowed, the risks need to be well planned for and managed.
- Communication processes need to be clear and simple.

- Providing information to staff in a timely way is vital to reduce uncertainty, whilst appropriately balancing the need for privacy.
- Strong and effective induction, education and training on IPC requirements is critical for staff working in MIQ facilities. The multi-agency, rotational nature of the workforce makes this challenging. A level of familiarity with facilities and IPC requirements enables safer practice.
- Effective CCTV in facilities is essential for security, compliance management and effective contact tracing. This helps reduce level of verbal interaction needed for case investigation and contact tracing and reduces staff risk.
- The risks of smoking and a number of smokers in a facility needs careful assessment with specific plans put in place to manage the risks.
- Language needs should be identified in advance and a sufficient number of interpreters made available onsite.
- Easier and smarter ways of identifying guests on their way to exercise or smoke should be investigated to maintain physical distancing. One simple solution in the interim might be have the guests room number easily available on the access card.
- Better contact tracing records need to be kept of all staff movements within a facility. The more detailed the record-keeping, the more effective and speedier the contact tracing.
- Roles and responsibilities for specific activities on a site need to be well understood. For example removing waste. Guidance that explained this simply would be helpful.
- The sign in process across the different facilities needs to be made more consistent.

Part 3: Wider MIQ system

This section outlines some observations about the wider MIQ and border system.

Workforce sustainability and resilience

Workforce sustainability and resilience was highlighted often in interviews as the biggest risk in the MIQ system. As the pandemic continues to rage around the world and the demand to enter New Zealand grows, views were expressed that the system is at its limit of what it has been designed for, and if more is required, significant change is needed.

Staff workload and wellbeing were key concerns in light of the high-risk and unrelenting nature of the MIQ environment, which has been in operation for several months now. Staff fatigue and burnout increases the risk of human error and failure in the system. This is why a 'whole of operation' view must be taken to considering what is required to manage the MIQ environment safely for staff and the returnees.

The social stigma of working at MIQ facilities also increases workforce retention risks.

Skilled and expert health resources are finite and not easy to source. There is a reliance on the NZDF to keep providing operational resources.

The multi-agency environment

The multi-agency environment is complex and can cause tensions in the system, particularly when roles and responsibilities become blurred.

The accountability and decision-making framework in the multi-agency environment need to be much clearer as discussed earlier in the report. Communication and escalation processes and protocols also need to be clear and understood.

It was clear that the different decision-making approaches, operating styles and cultures across the different agencies often make joined-up working not easy. Siloed working is not uncommon, sometimes this is a feature of the pace of the system.

A common goal, a strong sense of team and collaborative working lies at the heart of effective performance. This is more difficult to achieve in a rotational workforce.

The clarity of the ultimate goal provides a unifying force in the MIQ environment, but there needs to be more investment in developing a shared understanding across agencies about the fundamental principles and drivers in each part of the system. For example, public health risk assessments are not well understood across government and this needs to change to enable staff to do their jobs more effectively.

Information sharing and privacy

Concerns were also expressed about protecting private information effectively when there is a high demand for information about cases and the risks of transmission. This is more difficult in New Zealand given its size and very small number of COVID-19 cases. There are additional privacy concerns for staff cases if they go into managed isolation and quarantine with their co-workers.

For the testing and contact tracing system to work effectively, people have to be honest about their symptoms and where they have been. There is social stigma in getting COVID-19 which increases the risk that people are not willing to provide the necessary information.

Staff working at MIQ facilities feel additional scrutiny. The reality and the challenges of working at the 'front-line' in MIQ are not well understood.

Developing protocols about what information will be shared about staff cases would be helpful.

Limitations and disclaimer

This report was prepared solely in accordance with the terms of reference for this engagement and for no other purpose. We disclaim any responsibility for the use of the work for a different purpose or in a different context.

The report is provided solely for the purpose of assisting the MBIE, MoH and other relevant government agencies involved in the MIQ process with a review of the lessons learned for the first tranche of international mariners. Other than our responsibility to the Ministries, we undertake no responsibility arising in any way from reliance placed by a third party on our work. Any reliance placed is that party's sole responsibility. Accordingly, we accept or assume no duty, responsibility, or liability to any other party in connection with this report or this engagement.

This report is based on information provided by the MBIE, MoH and agencies and/or interviewees made available by it. We have considered and relied on this information. We have assumed that the information provided was reliable, complete, and not misleading.

The work was not performed in accordance with any generally accepted auditing, review or assurance standards in New Zealand and accordingly does not express any form of assurance. None of the advisory services constitute any legal opinion or advice. The work did not involve any form of inquiry to detect fraud or illegal acts.

Appendix one | Terms of Reference

Review of the lessons learned from the managed isolation and quarantine of the international marine workers at the Christchurch Sudima Airport Hotel

Background and context

On 16 October 2020, over 200 foreign fishers arrived in Christchurch as part of the Government's decision to allow foreign workers into New Zealand to support the deep-sea fishing industry. This was part of the plan to bring in over 400 fishers in two tranches.

To support this, a dedicated facility (Sudima Christchurch Airport Managed Isolation and Quarantine facility) was set-aside to allow this group to isolate together. No other returnees were housed in this facility.

On 20 October, the first group of fishers tested positive to COVID-19, with 31 ultimately testing positive over the coming days. On 2 November, a staff member working at the facility tested positive for COVID-19 with a further staff member testing positive on 3 November.

As a result of these cases and on the advice of the Medical Officer of Health, the fishers have been required to stay in the facility longer than originally anticipated.

In advance of tranche two of the foreign fishers arriving, an urgent, high-level lessons learned review will be carried out to ensure any operational process improvements can be undertaken in advance of the arrival of tranche two.

Objectives of the review

The objectives of the review are to identify the key lessons that can be learnt from the isolating and quarantining of the first tranche of fishers, from the pre-departure arrangements, their arrival in Christchurch International Airport, their time in the facility and ultimately, their exit. It will make recommendations as to what, if any, changes should be put in place before the arrival of tranche 2.

While this review is focused on the plans for the next tranche of fishers, it will have relevance to other large groups moving through managed isolation and quarantine.

Matters in scope of this review

The review is principally to report on:

- what worked well and should be maintained for tranche two;
- whether any particular changes should be implemented for tranche two that could better manage the isolation and quarantine of the fishers; and
- whether any improvements identified through this experience could be made to better protect staff working in all MIQ facilities.

The review can also comment on:

- any improvements to policies and processes that might improve performance in the future; and
- any other relevant matters

Matters out of scope of this review

The review will not make findings around the response of the local District Health Board as it is undertaking its own review.

The feasibility of continuing with tranche two based on capacity or financial considerations is out of scope of this review. The decisions about tranche two may be informed by the recommendations of this review.

Methods to complete review

The methods to complete this review are at the discretion of the Reviewer(s), but can include on-site visits, interviews or workshops with staff involved in the day-to-day management of the facility, and review of key documents.

Appointment

Wendy Venter has been appointed Lead Reviewer, and will be supported by Dr Marion Poore as Clinical Reviewer.

The Reviewers will be assisted by officials from the Managed Isolation and Quarantine Unit (within the Ministry of Business, Innovation and Employment) in Wellington, staff in the Christchurch Regional Isolation and Quarantine Command Centre (C-RIQCC), and staff who worked in the facility (such as hotel or private security staff).

Deliverables, timeframes and reporting

The review will commence immediately and will be carried out with urgency with an indicative reporting date of 27 November. The information from this review will be needed in advance of the fishers departing their international port in December.

The final Lessons Learned Review will be provided to the Director-General of Health and the Chief Executive, Ministry of Business, Innovation and Employment.

Air Commodore Darryn Webb
Head of Managed Isolation and Quarantine

Sue Gordon
Deputy Chief Executive, Ministry of Health

19 November 2020

Appendix two | Timeline of events

2020

SEPTEMBER

16 A Ministerial group agrees in principle to three workforce class exemptions. One of these is for a one-off entry for up to 570 deep-sea fishing crew members to work on identified fishing ships in New Zealand for up to six months.

21 Cabinet agrees to the deep-sea fishing crew exemption. Soon after planning for the visit commences.

23 The Ministry of Health confirms the mariners can double bunk during their isolation at the Sudima hotel.

OCTOBER

5 The charter flight is confirmed as planned for arrival on 15 October.

9 – 11 The mariners obtain COVID-19 tests before departure.

14 The first tranche of international mariners arrive in Moscow to board a charter flight to New Zealand. This flight is delayed by 24 hours because permission to depart is needed from the Russian authorities, which was not foreseen. The mariners spend the night in a hotel in Moscow, sharing rooms in the same pairings as arranged for their stay in the Sudima Hotel.

15 The mariners' board the charter flight to New Zealand. Two mariners are reported to have not boarded the flight because of positive COVID tests.

16 The Singapore Airlines charter flight arrives in Christchurch from Moscow via Singapore with 235 mariners. They are transported in buses to the Sudima and begin their isolation period at the Sudima Airport Hotel.

16 – 19 There are several bubble breaches and incidents reported. The fishing companies write a letter to the marines requesting compliance. Compliance is reported to improve significantly from this point.

20 Eighteen mariners test positive for COVID-19 after day three tests. An emergency meeting is held onsite by management of the facility and the decision is made to convert part of the Sudima Hotel into a 'quarantine wing'. Additional staff are deployed. The 18 cases are transferred to the quarantine wing. Contact tracing and workforce testing begins.

22 Day six COVID-19 tests are taken. A further eight mariners test positive and moved into quarantine.

25 Day nine COVID-19 tests are taken with three more mariners testing positive.

29 Day 12 COVID-19 tests are taken. One guest tests positive.

NOVEMBER

1 After Day 15 testing, one more mariner tests positive. In total 31 mariners test positive.

2 A health worker at the Sudima tests positive.

3 Another health worker at the Sudima tests positive.

6 MoH announces the departure of 228 mariners from the Sudima Hotel in the following 24 hours, and that seven mariners remain behind and continue to be monitored. The mariners are required to isolate on board for a further week. Shore leave is restricted until all crew are tested seven days after departure and achieve a negative test.

7 MBIE confirm that 230 mariners have left. The remaining mariners are released over the coming days.

Appendix three | People interviewed

Area / Organisation	Role
Sudima Christchurch Airport Hotel (Managed Isolation and Quarantine Facility)	Site Manager (one of two site managers) Hotel Duty Manager Head of Security Site Coordinator
Canterbury Regional Isolation and Quarantine (C-RIQ)	C-RIQ Lead Chief of Staff Planning and Logistics Manager Senior Communications Advisor
Canterbury DHB and Public Health Unit	Associate Charge Nurse Managers (two) Clinical Lead Nurse Manager Clinical Director, IPC Medical Officer of Health
Managed Isolation and Quarantine Unit, MBIE	Director, Maritime Director, Air Head of MIQ
Ministry of Health	Chief Clinical Advisor Deputy Director of Public Health (two) Chief Advisor Public Health, Strategic Operations, COVID-19 Health Systems Response
Christchurch International Airport	Chief Customs Officer, Christchurch Airport, NZ Customs Service Border Manager, Immigration New Zealand Health Protection Officer, Canterbury DHB
Department of Prime Minister and Cabinet	All-of-Government COVID-19 Response
Ocean Law New Zealand	Partner (liaison person for the fishing companies)