

# Briefing

## Capability and Capacity of the COVID-19 Contact Tracing System

**Date due to MO:** 8 April 2021

**Action required by:** N/A

**Security level:** IN CONFIDENCE

**Health Report number:** 20210762

**To:** Hon Chris Hipkins, Minister for COVID-19 Response

**Copy to:** Hon Dr. Ayesha Verrall, Associate Minister of Health

### Contact for telephone discussion

| Name                     | Position   | Telephone |
|--------------------------|--|-----------|
| <b>Chrystal O'Connor</b> | Acting Group Manager, Contact Tracing, COVID-19 Health System Response | s 9(2)(a) |
| <b>Sue Gordon</b>        | Deputy Chief Executive, COVID-19 Health System Response                | s 9(2)(a) |

### Minister's office to complete:

- |   |                                    |  |
|---|------------------------------------|--|
| <input type="checkbox"/> Approved             | <input type="checkbox"/> Decline   | <input type="checkbox"/> Noted               |
| <input type="checkbox"/> Needs change         | <input type="checkbox"/> Seen      | <input type="checkbox"/> Overtaken by events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |  |

Comment:

# Capability and Capacity of the COVID-19 Contact Tracing System

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**Security level:** IN CONFIDENCE      **Date:** 01 April 2021

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**To:** Hon Chris Hipkins, Minister for COVID-19 Response

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**Copy to:** Hon Dr. Ayesha Verrall, Associate Minister of Health

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## Purpose of report

1. This report responds to your request for an update on the capability and capacity of the national contact tracing system to respond to COVID-19 community outbreaks.

## Summary

1. New Zealand's COVID-19 contact tracing system comprises of the twelve public health units (PHUs) and the Ministry's National Investigation and Tracing Centre (NITC) working together as one-system.
2. Since March 2020, New Zealand's COVID-19 contact tracing system has significantly increased its capability and capacity to support the elimination strategy.
3. The national contact tracing approach involves comprehensive management of contacts in the community, at the border and follow-up of returnees released from managed isolation and quarantine facilities (MIQFs).
4. Our ability to effectively manage a range of outbreaks demonstrates that New Zealand's contact tracing system has the necessary capability and capacity to contact trace effectively.
5. The recent February Auckland outbreak saw the contact tracing system manage the highest contact volume for any cluster reported in New Zealand. NITC and PHUs continued with business-as-usual activity as well as responded to the outbreak by delegating response work across the country.
6. The ability to continue with normal business signals that we have capacity to surge as required in the future.
7. The National Contact Tracing Solution (NCTS) platform has enhanced the management of COVID-19 contacts nationally.
8. NITC continues to develop key pieces of work such as the establishment of a national outbreak response team, development of a national escalation policy and standardisation of national operating procedures to strengthen the COVID-19 response.
9. We note that our response to COVID-19 has been evolving and is now focused on intensive management of contacts rather than management of cases. This approach has proved to be effective.
10. As the system is transitioning, we propose that the present measures are reviewed to better assess the capability and capacity of our system to contact trace.
11. We will consult with a range of stakeholders, including the COVID-19 Independent Continuous Review, Improvement and Advice Group, on the appropriate system measures.

## Recommendations

We recommend you:

- a) **Note** that our contact tracing system has responded effectively and efficiently to a series of outbreaks in a variety of different communities.
- b) **Note** that NITC continues to deliver key pieces of work such as the establishment of a national outbreak response team, development of a national escalation policy and standardisation of national operating procedures to further strengthen our current contact tracing system.
- c) **Note** each case presents with a unique set of circumstances which generates an unpredictable workload based on the number of Close, Close Plus, Casual and Casual Plus contacts.
- d) **Agree** to adjust the present measure used to evaluate the capacity of the contact tracing system (1,000 cases per day) to one that measures the capacity of contacts that can be managed. **Yes/No**
- e) **Note** that the system's rapidness and agility to manage contacts will depend on the case and the complexity of the cluster.



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



Hon Chris Hipkins  
**Minister for COVID-19 Response**  
Date: 14/4/2021

# Capability and Capacity of the COVID-19 Contact Tracing System

## Context

1. The contact tracing system has been the subject of a number of external reviews, which have focussed on the national capability and capacity to respond to COVID-19 outbreaks.
2. A close out report on the progress of implementing the recommendations of the Rapid Audit of Contact Tracing for COVID-19 in New Zealand by Dr. Ayesha Verrall (the Verrall Report) was provided on 20 July 2020 (HR 20201159 refers).
3. The Contact Tracing Assurance Committee (CTAC) also provided their final report on the contact tracing system on 16 July 2020 (HR 20201210 refers).
4. The Contact Tracing – Auckland Outbreak letter from Professor Phillip Hill and Sir Brian Roche from 30 November 2020 (August Outbreak Addendum) identifies key considerations for the national contact tracing response.
5. Our contact tracing system has significantly built national capability and capacity since March 2020 when the National Close Contact Service, now known as the National Investigation and Tracing Centre (NITC), was stood up to respond to community outbreaks.

## The National Contact Tracing Solution

6. The NCTS acts as a key enabler of the national contact tracing system and facilitates secure and efficient delegation of work across all PHUs and the NITC.
7. The NCTS Enhancement project is currently underway to address the changing nature of contact tracing and the evolving requirements. Advice on the scope of this redesign project was provided to you on 15 March 2021 (HR20210603 refers).
8. Following the February Auckland outbreak, PHUs reported that the NCTS was instrumental to support delegation of workflow and enable national management of the outbreak.

## National Capability and Capacity

9. In response to the Verrall Report, the NITC developed a national preparedness plan to build capacity to manage up to 1,000 cases per day. As part of this work, PHUs have increased their capacity through the development of Capacity Uplift plans in May 2020 and the review of resurgence plans in preparation for the high-risk summer period in December 2020.
10. PHUs have trained a wider surge workforce to support local outbreaks as required.

## **Outbreak management**

11. We have developed a range of tools and measures that support the ability to manage community outbreaks, by utilising capability and capacity from across the country.

### **Delegation model**

12. The NITC worked with PHUs to establish a delegation model to enable safe and consistent assignment of contact management work between PHUs and the NITC during community outbreaks.
13. The delegation model was activated for both the August 2020 and November 2020 outbreaks as well as the January 2021 and February Auckland outbreaks to support Auckland Regional Public Health Service (ARPHS) to effectively manage the response.
14. Several PHUs outside of Auckland have temporarily re-located their staff to Auckland to support ARPHS during a community outbreak. This increases the immediate capability and capacity available at ARPHS to carry out complex case and contact management.
15. Additionally, PHUs have continued to support ARPHS virtually by managing contacts and cases in MIQFs.
16. For the February Auckland outbreak:
  - ARPHS delegated non-complex asymptomatic contacts to NITC.
  - Nelson Marlborough PHU provided national coordination of symptomatic contacts from the outbreak.
  - Regional Public Health (Wellington region) provided direct support to ARPHS by becoming one of their direct operational teams.
  - Community and Public Health (Canterbury) directly supported the NITC with the management of data from Healthline.
17. Activating the national delegation model has greatly increased the capability of PHUs that would not otherwise have been actively involved in response management.
18. NITC has offered several secondment opportunities and provided short-term onsite training to PHU staff to further support PHUs capability.
19. ARPHS has provided opportunities for staff from other PHUs to visit on-site. This initiative allows upskilling of staff from other regions and to support and strengthen their sustained outbreak response.
20. The development of national standard operating procedures for core case investigation and contact tracing activities will further support national delegation and allow PHUs to take a more consistent approach to outbreak management. This in turn will provide an additional level of quality assurance.

### **National Outbreak Response Team**

21. The August Outbreak Addendum endorsed the opportunity to continue building capacity as a priority to respond to COVID-19.
22. PHUs have been sharing their resources nationally on a 'as willing' and 'as able' basis till now. It is necessary to formalise this model to ensure a more sustainable system.

23. The NITC has worked alongside representatives from the 12 PHUs to develop the COVID-19 National Outbreak Response Team work programme.
24. This work programme:
- Strengthens and formalises arrangements between PHUs to collaborate and respond.
  - Allows PHU staff to stand down to ensure workforce sustainability.
  - Builds on the informal collaboration already occurring across the country.
  - Demonstrates the government's commitment to Te Tiriti o Waitangi and establish an equity lens to the COVID-19 response.
25. We are working with District Health Boards (DHBs), PHUs and Trade Unions to formalise the current arrangements. This involves addressing the barriers in the existing collective employment agreements, so as to enable PHU staff to be recruited to the national outbreak response team.
26. On 16 April 2021, the DHB Workforce Management group will be engaged to provide input on this work programme.
27. The DHB Chief Executives Group, DHB General Managers Human Resource Managers group, DHB General Managers Planning and Funding group, PHU Managers and Trade Unions are also being engaged for their input.
28. The National Outbreak Response Team is a medium-term solution to the outbreak response in New Zealand. Once the collective employee agreement considerations are resolved, recruitment for NORT will commence. The target date for activation is May 2021.
29. PHUs have on-call rosters and internal surge plans. In the interim, we have a high-level agreement with PHUs that their on-call rosters and surge capacity will be drawn on as required.

## Resurgence Planning

30. The final CTAC report and the August Outbreak Addendum recommended national resurgence planning exercises. However, the system has been 'stress-tested' in real time which has provided far more in-depth and tangible lessons than would be experienced through a planned scenario-based exercise. These lessons include:
- Having a lead PHU coordinate the delegation model for all PHUs was instrumental for the management and success of the response.
  - Highlighted the urgency to develop national policies around escalations and home visits.
  - The response is heavily dependent on availability of manaaki/welfare support for the PHU where the outbreak occurs.
  - Standardisation of messaging to cases, contacts and their whānau.

31. PHUs have also provided feedback that their involvement with real life scenarios is more effective for their learning, and that local capability has improved as a result of these experiences.

## **We have delivered in our response**

32. Contact tracing has continued to evolve into a comprehensive, robust system.
33. The management of contacts has not only broadened, but also become more rigorous. In comparison to March 2020, new contact categories have been developed i.e., Close Plus, Casual Plus and Casual contacts. In addition, Close Plus, Close and Casual Plus contacts are now required to be tested during their isolation/quarantine period. This has had significant resourcing implications.
34. The NITC work closely with ARPHS and other PHUs to understand their capacity requirements during community outbreaks. Each outbreak has provided an opportunity to address key pressure points across the system and further strengthen our processes.
35. To date, our contact tracing response management has been successful, and all outbreaks have been contained.
36. The August 2020 and February Auckland outbreaks predominantly affected population groups with high levels of community interaction therefore, the management of cases and associated contacts was more complex. Our reflection from these outbreaks demonstrate that our contact tracing system has the ability to scale up swiftly.
37. As a result of these outbreaks, ARPHS and the NITC have strengthened their escalation pathways for Close Plus and Close Contacts and developed a comprehensive escalation protocol which will be implemented nationally.
38. The COVID-19 Disease Indicators metrics from the public health indicators, specifically P002 and P004, demonstrate that the system has been performing to or exceeding the expected level.
39. An agile and multi-faceted system has been developed with comprehensive case and contact management plans that effectively address public health risk, commencing at the point that individuals enter New Zealand, complete their isolation/quarantine period, and transition into the community.

## **Reviewing system performance**

40. The COVID-19 Disease Indicators were developed in April 2020, based on the recommendations from the Verrall Report.
41. These indicators provide an end-to-end view of the public health response to COVID-19 including metrics on timeliness and outcomes of public health interventions.
42. As earlier advised, the NITC has proposed a review of these indicators to ensure they are fit-for-purpose and accurately reflect the current response management approach, which has evolved significantly over the past year.
43. A multi-disciplinary committee will undertake this review, made up of PHU Intelligence and representatives from across the Ministry's COVID directorate including Analytics, Clinical, Contact Tracing, Intelligence, Testing and Public Information Management and

consultation with the sector including the COVID-19 Independent Continuous Review, Improvement and Advice Group.

- 44. This review is currently in the scoping phase, with technical development to be completed throughout April 2021, and sector consultation in May 2021. Updated analytic tools are expected to be available in June 2021, with new reporting available by the end of July 2021.
- 45. The timeframes for the delivery of the Indicator review has been aligned with the NCTS Redesign project, so as to enable continued Indicator reporting.

## **The measurement of capacity**

- 46. The Verrall Report recommended that the capacity of the COVID-19 contact tracing system should have the ability to scale up to 1,000 cases and their contacts within 5 days.
- 47. It is important to note that the context of the response at the time of the Verrall Report was that of community transmission, open borders and a high number of people returning to New Zealand.
- 48. During the early stages of our capacity planning, it was estimated that there may be approximately 20 contacts per case. However as noted above, the response approach means that there is a much larger number of contacts for each case.
- 49. Our national capacity has a much greater focus on broader contact management as our experience has shown that identifying, testing and isolating those that may have been exposed is an effective way to prevent spread. This is the same approach to that taken in Australia.
- 50. In the February Auckland outbreak there were 15 cases reported, 89 Close Plus Contacts, 2150 Close Contacts and 3775 Casual Plus Contacts and 453 source investigation contacts. This is approximately 431 contacts per case.
- 51. Therefore, the previous capacity expectation of 1,000 cases per day no longer reflects our response management. Our view is that a more appropriate measure of capacity is the number of contacts that can be managed in a timely way. Our experience to date gives us confidence that the system can scale quickly to respond to large contact numbers.

## **Considerations for Capacity Planning**

### **Surge capacity**

- 52. Within the community outbreaks we have managed to date, our contact tracing system has needed to surge and this has stretched the ready capacity within PHUs and the NITC. However, we are confident that the system has the ability to surge further.
- 53. The Ministry and PHUs managed the February Auckland outbreak whilst continuing business-as-usual activities.
- 54. The PHUs and NITC can and will continue to prioritise their work to ensure the response is effectively managed. This prioritisation will take place in proportion to the public health risk.

55. We are future proofing our system to enable greater use of digital technology to enhance contact management, which releases capacity for higher risk activities if needed.

### **Roll-out of the vaccination programme**

56. PHUs rely on a surge workforce from within the local health system and we expect that the roll-out of the COVID-19 vaccination programme will impact on the availability of surge workforce to respond to outbreaks.
57. The vaccination programme is expected to have a positive impact on the risk of widespread national outbreaks, with a decrease in risk to the general population. There will still be existing risk for unvaccinated groups e.g., those under 16 years of age.
58. The contact tracing response will evolve to ensure the response management plans are reflective of this new environment, and in particular consider the disproportionate impact of COVID-19 on vulnerable populations.

### **Quarantine Free Travel**

59. In anticipation of more quarantine free travel zones (QFTZs) and in particular the opening of the Trans-Tasman border, an additional piece of work is underway to ensure that the system's capacity is able to adequately support these initiatives.

### **Equity**

60. The Ministry has a targeted focus on equity as part of PHU Capacity Uplift Plans to ensure local solutions that support local communities.
61. PHUs engage with Māori and Pacific health leaders, iwi, hāpu and communities to determine appropriate local solutions and support are in place to ensure equitable outcomes for Māori and Pacific communities.
62. The Pae Ora model, developed within ARPHS, supports their Māori staff to be directly involved in contact tracing for Māori.
63. The Ministry has contracted a Whānau Ora Commissioning Agency to enable access to alternative contact details for Pacific contacts in the community and provide wraparound manaaki/welfare services.
64. The NITC has an enhanced third-party provider capability that has increased the diversity of the workforce and has enabled matching callers with ethnicity of contacts when known.
65. There have been increased manaaki/welfare requirements identified due to the demographics of both the August 2020 and February Auckland outbreaks. Pathways are in place with each PHU to ensure provision of assistance with the focus on Māori, Pacific and vulnerable populations.

### **Next steps**

66. The NITC will continue to lead the development and implementation of the National Outbreak Response Team through to activation in May 2021.
67. Officials can provide further information about this topic at your request.

ENDS.

PROACTIVELY RELEASED