

Briefing

Report back on four rapid antigen test pilots

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To:	Hon Chris Hipkins, Minister for COVID-19 Response		
Copy to:	Hon Andrew Little, Minister of Health Hon Dr Ayesha Verrall, Associate Minister of Health		

Contact for telephone discussion

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Minister's office to complete:

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| <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 Withdrawn | |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:

Report back on four rapid antigen test pilots

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

Background / context

1. The Ministry has supported the use of rapid antigen tests as a surveillance tool in four approved pilot programmes to support our public health response to COVID-19:
 - a) The three Auckland metro hospitals in areas deemed as 'high-risk' settings to:
 - i. detect cases early in patients presenting symptoms of COVID-19
 - ii. manage hospital capacity
 - iii. ensure the safety of visitors
 - iv. inform clinical decision making.
 - b) Point of arrival testing of participants who opted into the self-isolation pilot led by the Ministry of Business Innovation and Employment (MBIE) (as part of the Reconnecting New Zealanders work). The pilot runs from 31 October to 8 December 2021, when the last participants arrive back in the country. The self-isolation pilot is running at two sites, Auckland and Christchurch, however, point of arrival testing is occurring at the Auckland self-isolation pilot site only.
2. The Ministry of Business, Innovation and Employment (MBIE) has also been trialling the use of rapid antigen testing with 29 businesses, to provide additional testing options to support workforce health and safety. The findings from this pilot are not covered in this report.
3. On 24 September 2021, the Ministry provided you with a progress update on rapid antigen testing, including the status of evidence on the validity, sensitivity and application of rapid antigen tests and potential future roll-out of rapid antigen testing. You agreed that we would provide further advice to you on the proposed implementation of rapid antigen testing together with an update on the four pilots [HR20212060].
4. Since the 24 September briefing, the Ministry has updated its position on rapid antigen testing, based on emerging global evidence on its effectiveness as a surveillance tool and increasing community transmission of the COVID-19 Delta variant within New Zealand. The Ministry now considers rapid antigen testing has increased utility as a screening tool in situations where a rapid result is needed to inform risk assessment and stratification.
5. On 11 November 2021, Minister Verrall agreed to a wider phased roll-out of rapid antigen testing in health and non-healthcare settings, including community, as part of the minimisation and protection approach to bolster surveillance for COVID-19. Copies of the briefing to Minister Verrall were provided to you and the Minister of Health, Hon Andrew Little [HR20212410].

Auckland metro hospital pilots

6. Use of rapid antigen testing for staff contact management and screening following exposure events have been undertaken as pilots at Auckland DHB and Waitematā DHB. Middlemore Emergency Department has piloted their use as part of the patient management flow.
7. Rapid antigen tests undertaken with healthcare supervision are more reliable than self-administered rapid antigen tests and therefore supervised tests were the starting point for all three pilots.

Counties Manukau DHB

8. During September and October 2021, a pilot to assess the initial laboratory set up for rapid antigen testing and feasibility of use in an Emergency Department (ED) setting was completed at Counties Manukau Health (CMH). After an initial laboratory verification exercise, quality control of kits and training of Clinical Nurse Educators, rapid antigen tests were used in a variety of areas during the ED patient journey.

Volumes

9. 484 rapid antigen tests were completed; eight antigen tests were positive (or 1.65%), of which there were six true positives and two false positives. There was also one false negative rapid antigen test. The false negative result, although not unexpected, is concerning in terms of keeping the COVID-19 and low risk COVID-19 streams separate. Rapid antigen tests were used to increase infection control precautions when positive and while awaiting the SARS-CoV-2 PCR result, but never to decrease Infection Prevention and Control (IPC) precautions.

Findings

10. The first constraint identified was the limited interpretation window of between 10 and 15 minutes. This is inherent with all lateral flow tests and if not followed according to the manufacturers guidelines can result in false positive and false negative results.
11. The second constraint was maintaining the integrity of sampling, labelling, reading and uploading results into the éclair information management system. As this was a pilot, collection of data for analysis was deemed essential. This required a testing team approach which was resource (people) intensive.
12. Rapid antigen testing can be useful to help detect COVID-19 in patients earlier than PCR, particularly during times of reagent constraint for rapid (<4-hour turnaround time) PCRs. The greatest utility during this pilot was to identify COVID-19 in symptomatic patients before triage and room allocation. The feasibility of rapid antigen testing all patients presenting to ED requires significant resource and false positive and false negative results should be anticipated.

Auckland DHB

13. In October, a pilot was established at Auckland DHB following an exposure event in the Neonatal Intensive Care Unit (NICU) to screen both staff and visitors to the unit.

Volumes

14. Approximately 80 tests were being done per day, with over 1,100 completed at the time of interview. Staff and visitors undertook observed self-swabbing, with staff then mixing with reagent and reading the tests. Of the 1,100 tests, just one was positive (0.1%) in a person who subsequently tested negative on confirmatory PCR (i.e., a false positive).

Findings

15. Constraints were identified as related to workforce (for administering the tests); workflow (with no waiting areas suitable for people to wait for their results); and technical (with results not easily uploaded into a data repository for tracking).

Waitemata DHB

16. The Waitematā DHB pilot was established initially in the COVID-stream in ED as part of staff screening. It was then used following an exposure event in the renal dialysis unit to screen staff coming on shift.

Findings

17. General themes in this pilot were similar to the findings from the Auckland staff pilot. There have been no positive RATs so far.

Point of arrival testing pilot

18. Point of arrival testing is being used at Auckland Airport, using participants in the self-isolation pilot. Point of arrival testing is not being undertaken at Christchurch airport because space constraints meant that was not feasible.
19. As at 19 November 2021, the Health Team at Auckland Airport had completed 22 rapid antigen tests. Of the 22 tests administered, 21 results were negative and one was positive. A further 28 self-isolation pilot arrivals are expected to undergo rapid antigen testing at Auckland airport by the end of the pilot. Of the 22 tested so far, two individuals have been processed and tested together off the same flight, and the others have all arrived individually. The low volumes are not demonstrating the impact on airport operations that wider use of this test would cause.
20. The test itself is straight forward to perform on an individual, and from the point the swab is collected, it is 10 minutes before a result can be read. The use of the RAT test is currently not significantly affecting processing rates due to low demand. However, it is already clear that the additional processing time per passenger on a scale greater than 10 passengers per flight would be unacceptable from an operational perspective in an airport environment. The additional resource, space and cost of providing a location for testing at scale would be significant.

Summary of findings

21. The limited window for interpreting results can result in false positive and false negative results if not properly adhered to, which is a risk that needs to be carefully managed.
22. Rapid antigen testing was resource (people) intensive in the hospital pilots in order to manage work and patient flow.
23. Lack of suitable spaces for people to wait for their results is a constraint in both hospital and airport settings and will impact on scalability in these settings.

Equity

24. The pilots will inform the full roll-out of rapid antigen testing. The roll-out will be underpinned by a set of key principles, including utilising a user-centred design process to ensure equity in access to rapid antigen testing. Equity of access to the range of testing modalities, including rapid antigen testing, will also be a key factor in our monitoring of the roll-out of rapid antigen testing.

Next steps

25. The NHRCC has identified scenarios based on prevalence levels for the potential use of rapid antigen testing in the Northern region DHBs. The scenarios have been influenced by lessons from the pilots and discussions with the key people involved. The Ministry will work with the NHRCC to encourage alignment with the Government's minimisation and protection approach and the new Testing Strategy.
26. Findings from the four pilots are informing the full roll-out of rapid antigen testing. The findings from the MBIE business pilot will also feed into this.
27. The Ministry will incorporate any future reporting on the rapid antigen testing pilots into routine reporting to Ministers on the full-roll out of rapid antigen testing. More detailed information was considered by SWC on 17 November 2021 and proceeding for Cabinet endorsement on 22 November 2021.

Recommendations

We recommend you:

- a) **Note** that the findings of the rapid antigen test pilots are informing the full roll-out of rapid antigen testing that is currently underway
- b) **Note** the consistency of the findings across the four pilots
- c) **Agree** that any future reporting on the rapid antigen test pilots will be incorporated into routine reporting to Ministers on the full roll-out of rapid antigen testing. Yes/No



Bridget White
Acting Deputy Chief Executive
COVID-19 Health System Response
Date: 19/11/2021

Hon Chris Hipkins
Minister for COVID-19 Response
Date: 26/11/2021

ENDS. I will simply reiterate my earlier messages that a clear timeline for the rollout of RATs as part of our regular testing regime is long overdue. CH