



Five Potential Enhancements of Covid-19 Outbreak Control in Aotearoa NZ

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Successful control of the current Covid-19 outbreak in NZ is looking feasible but many challenges remain. Therefore to maximise the chances of returning to elimination status and improve our resilience to future outbreaks, we propose the following potential enhancements: (i) develop a robust system to allow for region-specific Alert Levels; (ii) mandate QR code scanning; (iii) expand mask use requirements to all essential workers; (iv) greatly prioritise vaccination of essential workers; and (v) consider the suspension or minimisation of all incoming international passenger flights during the outbreak.

Evidence revealed by the Prime Minister yesterday indicates a relatively recent source of the current outbreak in Auckland to a case in an MIQ facility (via genomic testing). This situation improves the prospects for successful identification of the chains of transmission to the current 20+ identified cases (with appropriate isolation and quarantine of cases and

contacts). The Government has moved quickly and wisely to the Alert Level 4 setting nationwide and has expanded mask requirements. The health work force is conducting extensive contact tracing, community testing, genomics work and wastewater testing. Wage support has also been offered to businesses and this may help minimise the economic damage of the outbreak response. More generally the vaccination programme has restarted and is fortunately now to be expanded to include 12-15 year olds.

Nevertheless, many challenges in controlling this outbreak remain (ie, with finding undetected cases in the community) and so in this blog we suggest potential actions that might further enhance outbreak control and potentially bring the outbreak to a more rapid end. It is also important that upgrading our response to this outbreak builds our capacity to respond to further outbreaks, which will be critical to sustaining our elimination status [1] in the medium to longer term.

1) Develop a robust system to allow region-specific Alert Levels.

It is important to be able to target the use of higher Alert Levels to geographic areas where the Covid-19 outbreak is occurring. Doing this requires the ability to use regional zones with complete travel restrictions between them to allow for different control responses and speed of moving down Alert Levels. For example, the government could now divide the country into four separate zones between which travel would be completely prohibited, at least until there is a clearer understanding of the extent of the current outbreak. These zones could be (i) Northland; (ii) Auckland and the Coromandel; (iii) the rest of North Island; and (iv) the South Island. The benefit of such zoning could be to help confine the current outbreak to just the Auckland-Coromandel zone, and allow the other zones to move down through Alert Levels faster (albeit based on the extent of community testing and wastewater testing).

In essence what is being proposed here is the way that internal state borders have allowed Australia to have states and territories with no sustained community transmission of Covid-19 (eg, Tasmania, Western Australia and Northern Territory) while one state (New South Wales) suffers from a severe outbreak. But in contrast to Australian state boundaries, NZ will typically have much shorter borders to control (eg, there are relatively few roads that might be needed to be blocked to separate Auckland from Northland or the Waikato).

2) Support faster and more complete contact tracing by mandating the use of either QR code scanning or manual sign-ins at all essential services during Alert Level 4.

Levels of QR code scanning have been inadequate in NZ [2], which makes contact tracing more difficult, slower, and less complete for health authorities. Therefore, QR code scanning should be made mandatory during Level 4 for both essential workers and people using essential services. QR code scanning could also be mandated at lower Alert Levels for high risk venues in terms of super-spreading events (eg, bars, night clubs, gyms and churches).

3) Reduce the risk of virus transmission by expanding mask use requirements to all essential workers.

It is excellent that the Government has recently expanded mask use requirements for the Alert Level 4 situation [3]. But this policy does not go far enough and it should ideally include mask use at Level 4 for all essential workers who are in shared indoor spaces (eg, in factories that are operating under Level 4 to produce essential products such as food, but

also for the export market). In some of these settings workers on production lines can be quite close together and ventilation might not be ideal. For additional details on potential mask use at other Alert Level settings for NZ, see Kvalsvig et al [4].

4) Have a much stronger focus on the vaccination of essential workers - especially those in Auckland

The Prime Minister announced yesterday, there is now a greater focus on vaccinating essential workers. But we are concerned that this planned focus was not strong enough and that there needs to be a complete prioritisation of this group in Auckland to help accelerate outbreak control. Indeed, spread of infection by essential workers has been a problem with the current Sydney outbreak and this group is now being prioritised for vaccination in Sydney [5]. It is also very concerning for example that only 40% of the NZ police force has been vaccinated [6]. If demand for vaccinating such essential workers is very high in Auckland - then it would probably make sense to delay the roll-out for other people in Groups 3 and 4, until the demand from essential workers is substantially dealt with.

5) Give consideration to suspending or minimisation of incoming international passenger flights during the current outbreak.

This action would free up spaces in MIQ facilities in case this is needed for identified infected cases from the current community outbreak in Auckland. This was the rationale for when Victoria in Australia suspended all incoming international travellers for four months in 2020 [7]. Such a suspension (or minimisation) would also reduce the risk of another outbreak from a border failure event associated with additional infected cases coming into the country (eg, there have been 10 reported quarantine system failures associated with international travellers that NZ has previously had [8], not including the one associated with this current outbreak). Having two separate but simultaneous outbreaks could impose extreme stress on the country's contact tracing system.

In summary, the current Delta variant Covid-19 outbreak in NZ is challenging to manage. Therefore to maximise the chances of returning to elimination status and improve our resilience to future outbreaks, we propose the following potential enhancements: (i) develop a robust system to allow for region-specific Alert Levels; (ii) mandate QR code scanning; (iii) expand mask use requirements to all essential workers; (iv) greatly prioritise vaccination of essential workers; and (v) consider the suspension or minimisation of all incoming international passenger flights during the outbreak. These enhancements will also provide a 'legacy value' of increasing our capacity to manage potential future Covid-19 outbreaks.

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