PUBLIC HEALTH COMMUNICATION CENTRE AOTEAROA

Protecting New Zealand children from the developing Omicron outbreak

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Aotearoa New Zealand (NZ) is likely to soon be experiencing widespread community transmission caused by the Omicron variant of the SARS-CoV-2 virus. In this blog we outline what is needed to protect the health and wellbeing of children (ie, those under 18 years) in this outbreak. Key principles include taking a whānau-centred, not a school system-centred approach; actively addressing inequities in risk and impact; and taking a precautionary approach to potential long-term harms. Māori leadership at policy and community level will be needed to ensure that children will be safe in all settings during an Omicron outbreak.

Lessons for NZ from the global experience of Omicron

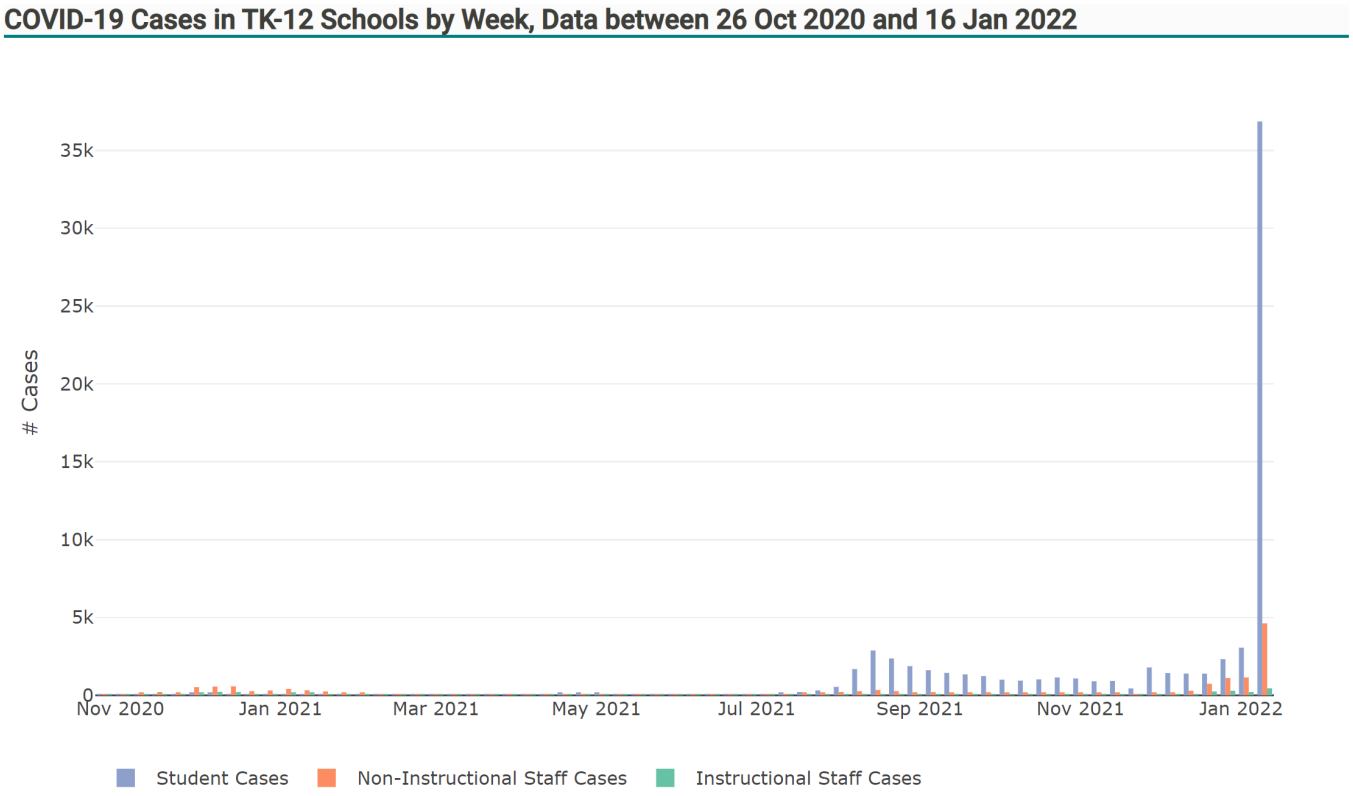
The Omicron variant needs to be taken seriously as a public health threat because of the way it is causing explosive outbreaks with very high case numbers. In children, who are largely unvaccinated in many jurisdictions, (as in NZ), case numbers have been at their highest globally since the start of the pandemic (see Figure 1 for a US example). High numbers of child cases have led to extreme pressure on paediatric services in some overseas settings.

Impacts of the pandemic and the response can be experienced directly by children or indirectly through effects experienced by their families and communities (see our recent preprint and see also the Appendix to this blog where we provide some background detail about impacts on children). Because of the extremely rapid pace of Omicron outbreaks, countries are experiencing high direct impacts from the spread of the infection (eg, large numbers of cases) as well as indirect impacts (eg, supply chain problems because large numbers of essential workers are ill). These direct and indirect impacts are having a particularly heavy impact on health services, including barriers to non-Covid healthcare, and to the capacity of schools to continue functioning when community transmission levels are high.

An important impact of the pandemic response for child wellbeing is the loss of school time from isolation, quarantine, or school closure.[1] In NZ, loss of face-to-face school time can have multiple adverse impacts on children because so much responsibility for children's wellbeing is devolved to schools, including a caretaker function for working parents. In jurisdictions with high Omicron transmission, this dependence on children being in school has led to families needing to make difficult decisions that create conflicts between protecting children's education and the health of children and family members, particularly those with underlying conditions.

This potential for severe disruption to children's lives shows that careful consideration must be given to advancing and protecting the rights, interests, wellbeing and needs of all children during NZ's Omicron outbreak. The impacts on children are likely to be highly inequitable. NZ has a poor track record of high inequities in the incidence and severity of infectious diseases.[2] In particular, infectious disease impacts on Māori and Pasifika children are significantly higher than for other ethnicities.[3] Already in the current Delta outbreak, Māori and Pasifika children are significantly over-represented in case data.

Figure 1. Covid-19 cases in the Los Angeles County school system, showing the increase in child cases since the onset of community transmission of the Omicron variant.



Internationally, encouraging and in some cases mandating children to be present in schools without putting protections in place has generated harms to children from infection and from loss of school time due to the disruption from high numbers of school-associated cases and contacts among both students and teachers. US schools have seen a rapid spread of the Omicron variant during in-person instruction in January 2022 compared to even just a few months prior when the Delta variant was the predominant variant (see also Figure 1). It is possible that transmission prevention strategies that were effective at preventing Covid-19 transmission in schools during in-person instruction for prior variants of Covid-19 are no longer as effective against the Omicron variant.

This simultaneous adverse impact on health and education is what we can expect to see with Omicron transmission in NZ and it needs to be averted using a proactive approach that is centred on the wellbeing of children and their whānau, rather than principally on the school system.

Summary and necessary next steps

The Omicron outbreak is a rapidly evolving population health threat, with impacts that are likely to be experienced across society but are likely to be particularly severe for Māori, Pasifika, and children with underlying health conditions and disabilities. Child case numbers are very high in several overseas countries that are experiencing Omicron outbreaks. Children are now the least-vaccinated age group in NZ and they are at risk of both direct and indirect harms from an Omicron outbreak. The great majority of NZ children are currently immunologically naïve to Covid-19, suggesting that the impact on children may be even more marked here than in other places.

Each Covid-19 protection layer has significant gaps for children that need action, as shown in Table 1.

Table 1. Closing the gaps in Covid-19 protection for children – which will also help

protect whānau, communities, and mitigate overall impacts of an Omicron outbreak on the NZ health system and wider society.

Domain	Protection gaps for children	Action that is needed
Vaccination against Covid-19	• The vaccine rollout for 5-11 year-olds has only just begun on 17 January. • 12-17 year-olds are not yet eligible for boosters. • Children under 5 years are not currently eligible for any vaccines.	• The vaccine rollout should explicitly prioritise Māori and Pasifika children to prevent inequitable outcomes.[4-6] Providing vaccinations as part of community events (with free food and entertainment) should be considered given that these have been successful in NZ settings recently. • Prioritisation should also include vaccinating the adults who live with and/or care for young children, and particularly hapū māmā (pregnant women), as well as teachers. • Reducing the interval for the second dose from 8 weeks to 3 weeks as per CDC recommendations should be considered to increase protection now that the Omicron variant is circulating in NZ. • Vaccines for children under 5y are in development and should be rapidly assessed for relevance to NZ, with Moderna's version possibly the earliest available for this age group (data predicted to be available from March).

Domain	Protection gaps for children	Action that is needed
Ventilation	• Work on addressing poor ventilation in schools is ongoing but HEPA filters that remove virus particles from the air and CO_2 monitors for detecting unsafe levels of rebreathing will not be available to all classrooms in Term 1. • Current online advice to schools from the Ministry of Education (Dated 17 December; accessed 24 January) focusses on advising staff to decide whether the air feels stuffy and to open windows. • These protection gaps (together with low mask uptake) indicate that in the presence of high community transmission, NZ buildings may not be safe settings for children to congregate. Significant transmission has occurred in school settings elsewhere when mitigations are not in place.[7 8]	• Ministry of Education (and/or Ministry of Health) to provide updated advice and public health messaging about airborne spread and measures to prevent it using whānau-friendly approaches, addressing various literacy levels and impairment challenges. Information can be made available in multiple languages and appropriate for each audience including schools, families, and children themselves. • Ventilation information for children and families should cover multiple settings, including schools, kura kaupapa, homes, and meeting safely outdoors. • Expedite installation of equipment in schools with prioritisation of schools in low-income areas and with high proportions of tamariki Māori and Pasifika children and others at increased risk. • Move to off-site learning early (with comprehensive guidance on how to transition to off-site and tools to do so appropriately to meet the needs of various communities) when transmission is active in communities to reduce transmission risk to children of essential workers who may still need to attend school in person.
Masks	• In schools at the red level of the Covid-19 Protection Framework, face coverings are only required for Year 4 and up (~7-8 year olds). • High-efficacy respirator masks (eg, N95) are not readily available in child sizes in NZ; yet they are often reported by children as being easier to wear as well as being more effective.	• Procure and distribute appropriate masks to every NZ child over the age of 2 who can wear one, as per updated CDC guidance. For most children that will be respirator masks, but in some cases children or their caregivers may need clear masks for better access to communication. • Respirator masks can be reused several times to reduce waste. • Some children will not be able to wear masks; if so it will be important for those around them to be vaccinated and wearing masks as effective public health protection.

Domain	Protection gaps for children	Action that is needed
Capacity to stay home if symptomatic or testing positive for Covid-19	• While education is the primary function of schools and early childhood education (ECEC) facilities, they also serve a key function by also providing child daycare for working parents and caregivers. • Capacity to stay home has been inequitably distributed in the Covid-19 pandemic, despite high levels of understanding of the rationale for this measure.[9]	• Sick leave provisions needs to be strengthened for all workers to enable whānau to stay home when unwell. This measure will help to slow the spread of Omicron through schools and workplaces. • Household availability of free rapid antigen testing (RAT) and guidelines for their use can help to inform whānau if they are infectious and should not attend school, work, or other gatherings. However, Omicron's shorter incubation period is likely to make RAT testing less useful in school settings than it has been in Delta outbreaks. A prevention approach to Covid-19 would be preferable to testing 'after the fact'.
Protecting children's wellbeing in the community	• Schools have an important protective function for children that goes beyond education, including maintaining social connections with other children and supportive adults; meals for children experiencing food insecurity at home; child protection; and healthcare including scheduled vaccinations. • Some families may be able to choose to keep children at home, but some will not have a choice, particularly essential workers.	• Depending on circumstances, education outside school can be supported by providing devices and connectivity, by providing work packs, and by learning outdoors. • Outdoor physical activities should be encouraged to protect social connections and physical health. There may be a risk of transmission during close contact in still air, so in those circumstances masks should be worn. • Pātaka Kai and similar initiatives will be needed to support families during a large outbreak with work and supply chain disruptions; these initiatives should have substantial support from Government given the critical role of food security during a public health emergency. • Networks of support will be needed to ensure that every child has a communication channel to disclose distress and threats to their wellbeing if they are not in school. • School-based vaccinations could continue even if children are not attending school (if the setting is suitable), or they could be transferred to another venue eg, an outreach mobile vaccination service, a tent facility in a playground or marae-based vaccination clinic.

Addressing the gaps will require:

- Taking a whānau-centred, not a school system-centred approach, so that children are protected in all environments, including home, school, and public spaces;
- Actively addressing inequities in risk and impact, particularly for tamariki Māori and Pasifika children; and
- Taking a precautionary approach to potential long-term harms.

The NZ Government has a duty of care under the United Nations Convention on the Rights of the Child[10] (the Children's Convention), including principles that that uphold the rights of all children without discrimination in all laws and policies, in particular referencing children's rights in terms of health, wellbeing, welfare, participation, and identity. NZ ratified the Children's Convention in 1993 and is due to be examined on progress on children's rights later in 2022.

The value of a kaupapa Māori approach in responding to the Covid-19 pandemic and to previous public health emergencies such as the Canterbury and Kaikōura earthquakes demonstrates how quickly and effectively Māori and iwi organisations were able to mobilise to support their communities. All of these responses acknowledge the depth of experience and expertise available in communities across NZ for the type of response that will be needed in an Omicron outbreak. For this comprehensive approach to children's wellbeing to work well, Māori leadership at policy and community level is integral to ensuring that children are safe wherever they are. Māori leadership means applying principles of active protection and participation as obligated under Te Tiriti o Waitangi, prior to inception of any planning. Explicitly ensuring Māori are influencing strategy, design, and planning of all health, social, welfare, education, cultural, environmental and justice outcomes, could be the determiner for achieving aspirations for whānau and communities.

NZ has mounted an effective response to previous Covid-19 variants, but has not fully realised the potential of valuable infection control measures such as optimising air quality in schools and mask use in children. Also, there is a high level of expertise in Māori and Pasifika-led community responses to Covid-19 and previous public health threats. The extent of Government- and community-level expertise suggests that much can be done to protect those most at risk and to mitigate population impacts from the developing Omicron outbreak.

Planning for Omicron should therefore include actions to:

- Prioritise Te Tiriti responsibilities and obligations regarding meeting the needs of tamariki and others within whānau. There should be formal evaluation using a Covid-19 impact assessment tool or other instrument
- Expedite the availability and equitable access of infection prevention measures for children, including Covid-19 vaccination (first, second, and third doses), high-grade masks, ventilation and filtration in schools, and paid sick leave for caregivers
- Prioritise equipment for schools in areas with high proportions of low-income families so that children of essential workers can safely attend face-to-face teaching with a minimal number of contacts and maximal prevention of airborne spread
- Mobilise and resource community organisations to build networks of social and practical support to enable children to stay home safely when infection risk in their local community is high; key measures will include ensuring food security and sovereignty, and organising neighbourhood outdoor activities for children to maintain social connections with peers and key supporting adults
- Develop and implement an integrated strategy for winter 2022 that builds on synergies in prevention of Covid-19 and other infections to protect access to healthcare and other services [Kvalsvig et al. in press]
- Recognise that children are not an isolated population and strengthen our capacity to protect both children and those around them (whānau centred approach) with a national mitigation strategy that will reduce as much as possible the high incidence and inequities of Covid-19 infection
- Develop a national data framework to monitor direct and indirect impacts of the

Covid-19 pandemic on children and identify what is working well and what could be improved. Monitoring child data requires a data repository that supports, respects and understands the limitations and expectations relating to data sovereignty, particularly for Māori, Pacific and all indigenous communities. Currently, data collection is variable, and we have yet to see a cohesive repository system that considers data sovereignty in terms of use and access. This is a global kōrero that many indigenous and all ethnic communities are discussing

- Embed these changes into the fabric of NZ communities as legacy infrastructure to protect NZ children not only during an Omicron outbreak, but in outbreaks from other Covid-19 variants, future epidemics and pandemics, and other similarly disruptive population health emergencies.

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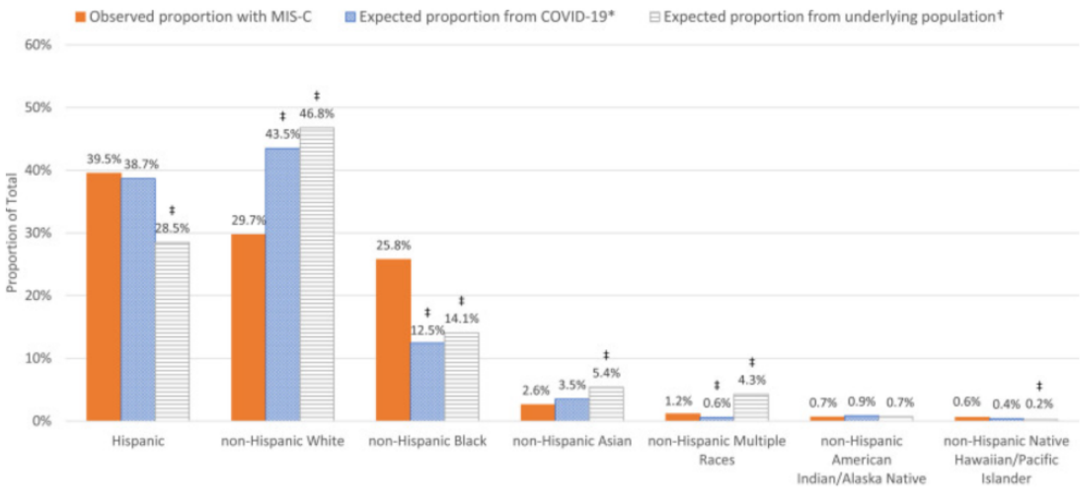
APPENDIX: ADDITIONAL BACKGROUND INFORMATION

Omicron infection in children

Clinicians overseas report that they have been seeing increased numbers of cases of Multisystem Inflammatory Syndrome in Childhood (MIS-C), a rare but severe form of Covid-19 infection in children. This condition is an additional concern for NZ because overseas results have shown high inequities by ethnicity (eg, in the UK, Scandinavia, and the US;[5] see also Figure 2). There have also been reports that high numbers of infants aged <1 year are presenting to paediatric services during Omicron outbreaks. As a reminder that children are not separate from whānau, Covid-19 during pregnancy has been shown to cause complications for babies if mothers are unvaccinated.[11]

These factors suggest that Omicron should not be considered a mild infection in children at a population level. Questions have also been raised about the long-term effects on children. There is emerging evidence of Covid-19 involvement of the brain[12,13] that can be detected even in mild cases. Findings of persistent symptoms (Long Covid) and of post-infectious complications such as new-onset diabetes in children following Covid-19 infection could have concerning implications for population health in the long term if large numbers of children are infected and a proportion experience these outcomes. As yet, these impacts are not quantified for the Omicron variant.

Figure 2. Health inequities in Multisystem Inflammatory Syndrome in Children (MIS-C) as seen in the United States. The bar graph shows observed versus expected distributions of race and ethnicity for patients diagnosed with MIS-C between March 2020 and February 2021. Reproduced from Stierman et al.[14]



Observed distribution of race and ethnicity among patients with MIS-C in the study subset (n = 1382) compared with the expected distribution of race and ethnicity derived from those with COVID-19 under 21 years of age and the underlying population under 20 years of age within the same counties. *From CDC COVID-19 case surveillance database. †From the 2019 Vintage Census Population Estimates. ‡Significantly different from observed proportion with MIS-C of the same race/ethnicity at $P < 0.05$.

Children's rights in the pandemic

Existing safeguards are set by the Covid Public Health Response Act 2020 order and the ongoing amendments made on a periodic basis, with the most recent amendment to the protection framework under consideration to be consistent with the NZ Bill of Rights Act 1990. Children and whānau who interact with the healthcare system have rights under the Code of Health and Disability Services Consumers' Rights, outlined in the Health and Disability Commissioner Act 1994. This approach also requires all communication and associated resources to be supportive and inclusive of all children's cultural, learning and health needs, including specific capabilities (particularly those with disabilities including those living in vulnerable communities).[15]

Impacts of pandemic response measures on children, particularly with regard to schools

In NZ the impact of the pandemic response on children's learning and social experiences during the Alert Level system and more recently, the traffic light system, will be emerging. We anticipate substantial ongoing research and investigation, with opportunities for children to participate in future settings. Reviewing Government's statutory requirements to ensure the health, safety, and protection of children is paramount.

There is an emerging consensus about what might be considered reasonable standards for indoor ventilation in schools, including optimal infrastructure goals for the long-term and more pragmatic goals for an urgent situation. We have previously proposed recommendations for optimising ventilation in NZ schools to reduce transmission, as air quality is frequently poor in NZ school buildings.[16] Although progress has been made, these mitigations are not yet fully rolled out in schools across NZ, raising concerns about Omicron transmission within schools.[7 8]

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