6.	s 9(2)(f)(iv) [redacted]	s 9(2)(f)(iv)
7.	**Note** that as the Director of Public Health I recommend the following to: i. s 9(2)(f)(iv) [redacted] ii. s 9(2)(f)(iv) [redacted] iii. **Retain** the current face mask mandate for health service settings. iv. s 9(2)(f)(iv) [redacted] v. **Retain** the 7-day case isolation requirement, with further review in two weeks' time noting further data will be available. vi. **Encourage** summer public health messaging that supports public health behaviours and adherence to measures over the holiday period.	Noted
8.	s 9(2)(f)(iv) [redacted]	[redacted] s 9(2)

	iii. **Retain** the current face mask mandate for health service settings	Yes
	iv. s 9(2)(f)(iv) [redacted]	[redacted]
	v. **Retain** the 7-day case isolation requirement, with further review in two weeks' time noting further data will be available	Yes
	vi. **Encourage** summer public health messaging that supports public health behaviours and adherence to measures over the holiday period.	Yes
9.	**Note** that in the week of 14 November 2022, you will provide advice to the Minister for COVID-19 Response based on this memo.	Noted
10.	**Agree** to forward this memo to the Department of the Prime Minister and Cabinet (DPMC), the Minister for COVID-19 Response's Office, and the Parliamentary Counsel Office for their information.	Yes
11.	**Note** that a further PHRA will be held in the week of 21 November 2022 to confirm the suite of mandated and other measures in place over the summer period and will inform a Cabinet paper on that topic to be considered by Cabinet's Social Wellbeing Committee on 7 December 2022 and Cabinet on 12 December 2022.	Noted

Dr Nicholas Jones
Director of Public Health
Public Health Agency
Manatū Hauora

Signature_____ Date: 11 November 2022

Dr Diana Sarfati
Director-General of Health
Manatū Hauora

Appendix 1: Trends and Insights Report (4 November 2022)

Appendix 2: Summary of modelling

1. Updated Covid Modelling Aotearoa (CMA) modelling that assumes an impact on transmission due to variants in addition to other factors (Figure 2 below) indicates the case rates are tracking slightly above the modelled medians. This model assumes:
   a. a potential 10% increase in transmissibility caused by new variants
   b. increases in transmission due to changes to face mask and household contact quarantine policy settings on 12 September 2022
   c. Increases in cases and hospitalisations due to waning immunity (from prior infection and/or vaccination).
2. According to this model, case rates would be expected to increase, with cases peaking in December 2022 to approximately 11,000 cases a day. Post-modelling analysis by ethnicity indicates that cases will peak at approximately 1,800 per day for Māori and between 800-900 per day for Pacific Peoples.
3. These projections are crude and do not consider detailed factors such as household size, deprivation, or unique transmission dynamics within Māori and Pacific communities.

Figure 2 - Modelled daily case rates March 2022 – October 2023

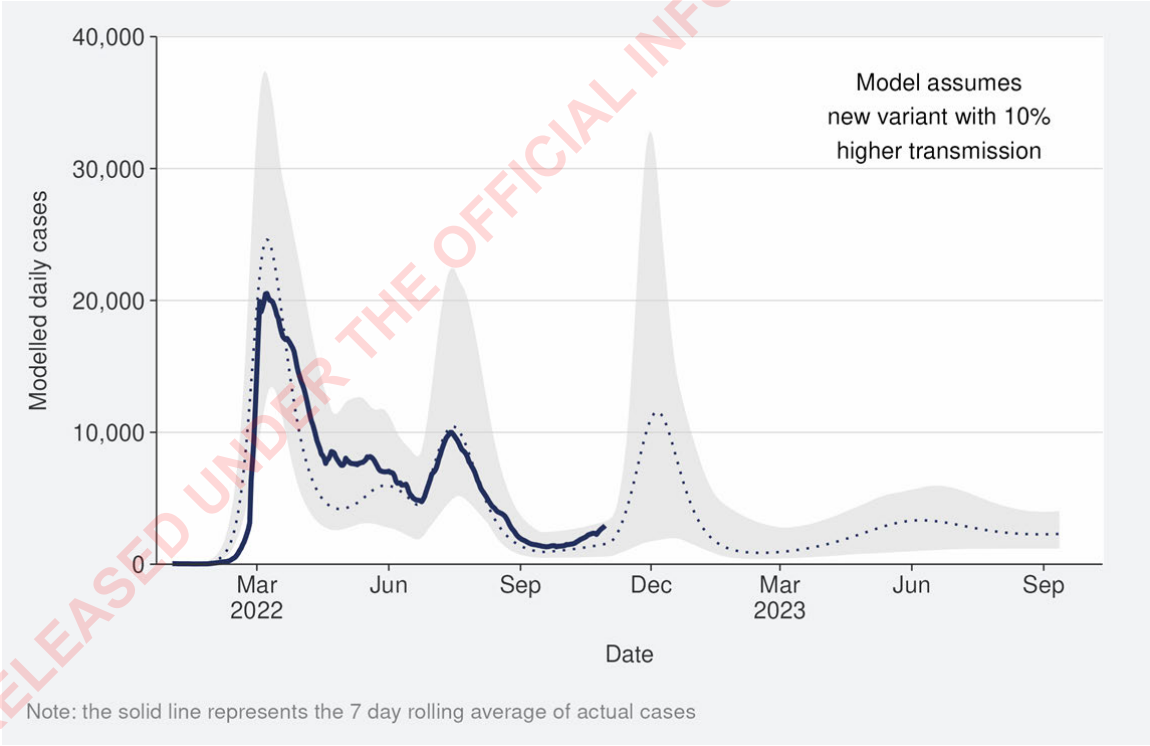


Figure 3 – Modelled daily hospital admissions March 2022 – October 2023

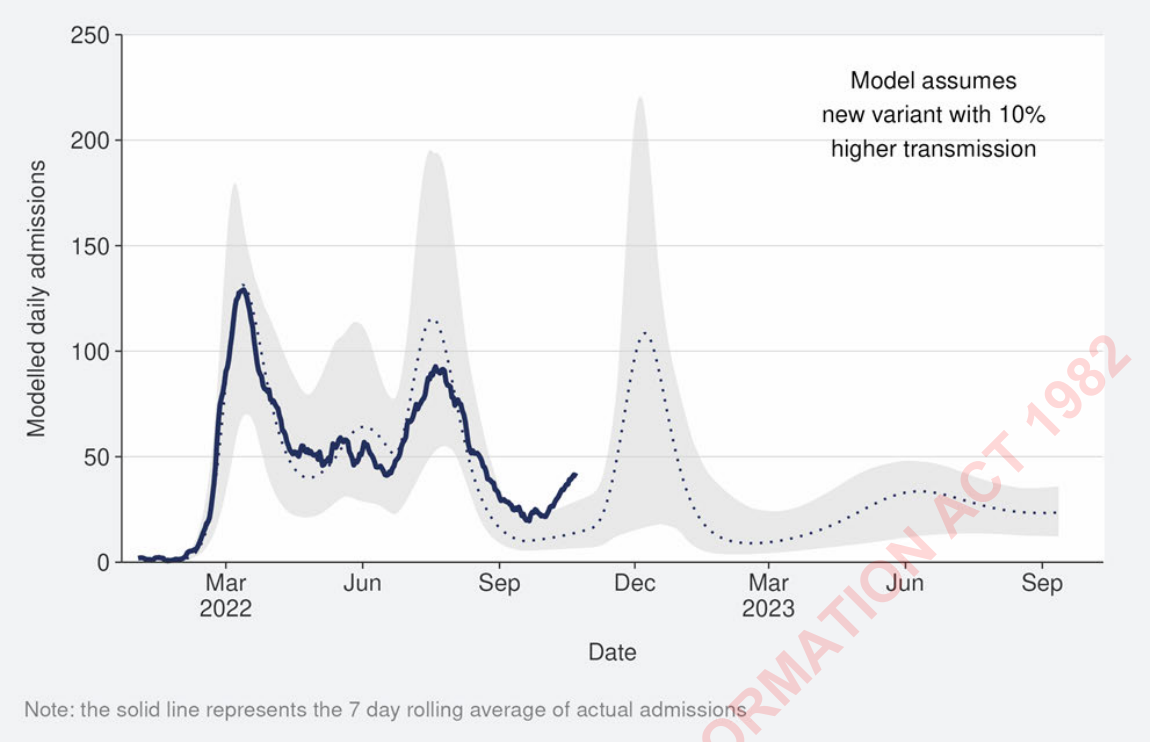
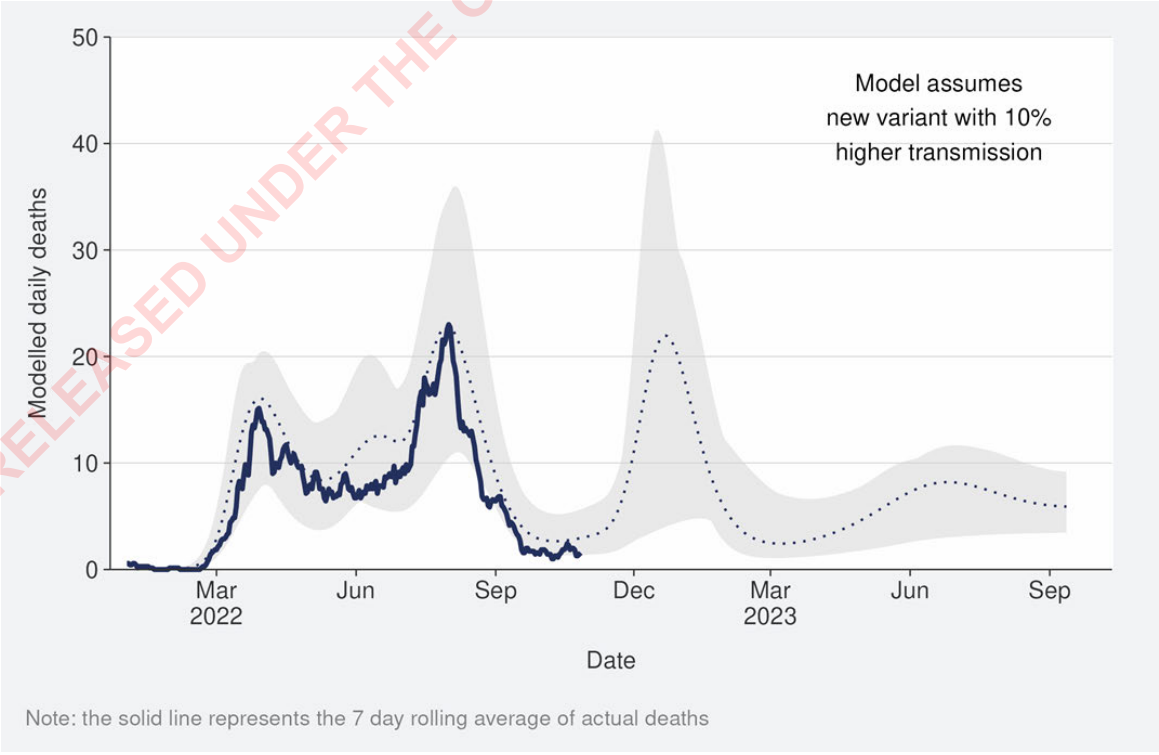


Figure 4 – Modelled daily mortality March 2022 – October 2023



6. The model above uses the following baseline assumptions:

   a. increased transmission following reduction of public health measures in September 2022

   b. data are using the previous hospitalisation definition of 'with' and 'for' COVID.

   c. the method for projections of uptake of vaccine boosters as in the July update

   d. around waning vaccines, prior infection

   e. updated to New Zealand data through to October 2022.

7. Furthermore, the variant component of the model assumes:

   a. a 10% daily growth advantage over predominant variant

   b. introduction 1 November 2022 – noting that the timing of peak very uncertain, and cannot be estimated by the model the variant scenarios are not modelling a specific lineage – they attempt to capture the net effect of growth from several lineages

   c. there is little/no data for assumptions/inputs for new lineages on several areas, eg. reinfection or vaccine efficacy.

Appendix 3: COVID-19 response measures 'Mixing Desk'

s 9(2)(f)(iv)

[redacted]

[redacted]

s 9(2)(f)(iv)

[redacted]

[redacted]

s 9(2)(f)(iv)

[redacted]

15. s 9(2)(f)(iv) [redacted]

[redacted]

[redacted]

s 9(2)(f)(iv)

s 9(2)(f)(iv)

[redacted]

s 9(2)(f)(iv)

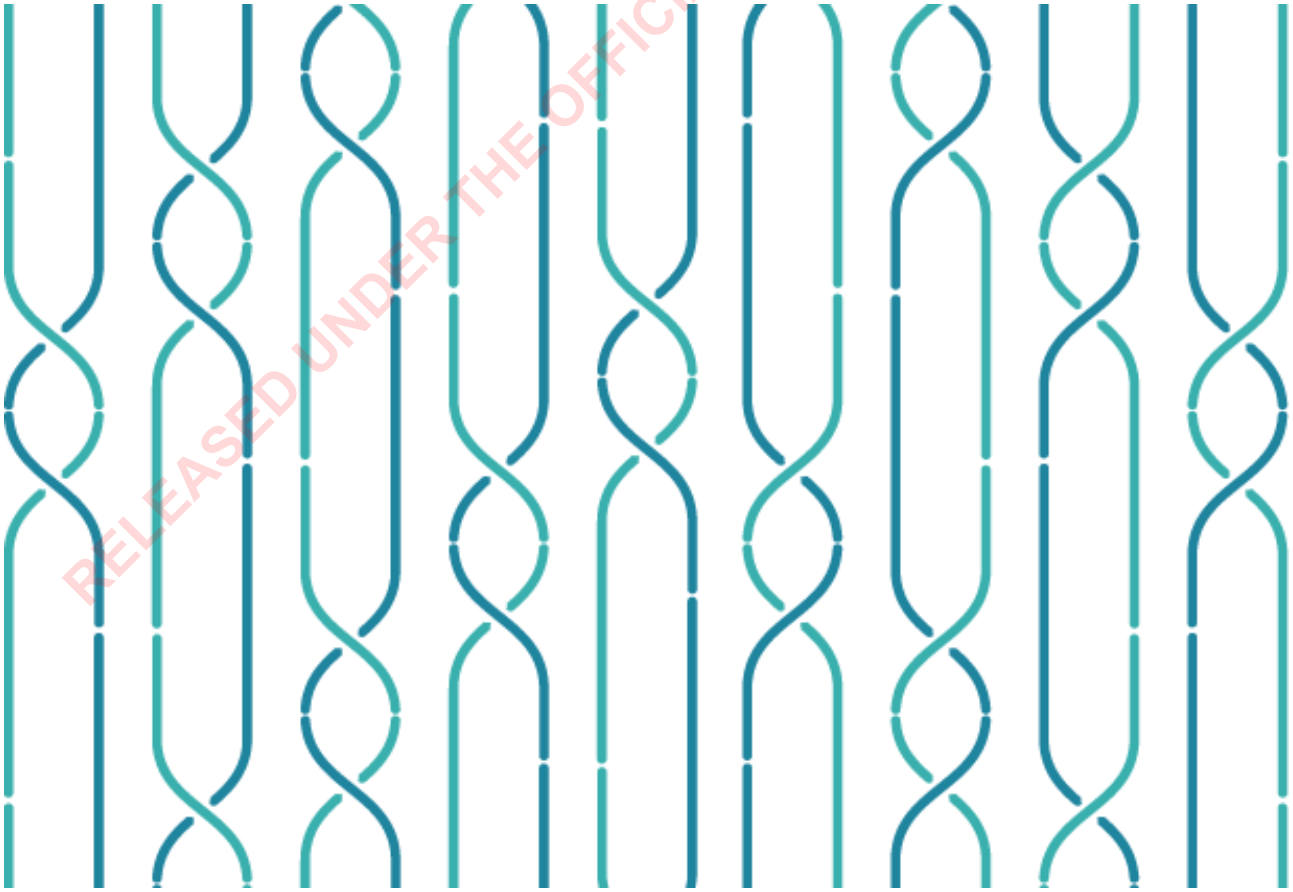
[redacted]

Te Kāwanatanga o Aotearoa
New Zealand Government

MANATŪ HAUORA
MINISTRY OF HEALTH

COVID-19 TRENDS AND INSIGHTS REPORT

04 November 2022



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Published in November 2022 by Ministry of Health
PO Box 5013, Wellington 6140, New Zealand

HP 8608

MANATŪ HAUORA
MINISTRY OF HEALTH

This document is available at **health.govt.nz**

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Purpose of report

This report comments on trends in the New Zealand COVID-19 outbreak, including cases, hospitalisations and mortality. It also comments on international COVID-19 trends and the latest scientific insights related to outbreak management. The report relies on data that may be subject to change or are incomplete. An unknown proportion of infections are not reported as cases, this proportion may differ by characteristics such as ethnicity or deprivation group. Therefore, any differences in reported case rates must be interpreted with caution.

Executive summary

Overall, key measures of infection (levels of viral RNA in wastewater and reported case rates) used to monitor the COVID-19 epidemic have been substantially increasing since early October. Following a similar trend to case rates, hospital admission and occupancy rates have also started to increase. Meanwhile, mortality counts have continued to decrease; however, both measures (hospital admission and mortality rates) lag behind changes in infection rates.

BA.5 was the dominant subvariant accounting for an estimated 78% of cases, with the proportion of BA.5 declining slowly over the previous weeks, as detections of BA.2.75 and BQ.1.1 are trending upward, both in WGS and wastewater. Both XBB and BA.2.75 variants are over-represented in reinfections.

It is highly likely that over the next few weeks cases, hospitalisations and mortality will continue to increase to a new peak of the third wave. However, the size, timing, and duration of the peak and new baseline trends of cases, hospitalisations and mortality is currently uncertain.

Key insights

To Note: From 31 October, the population used to estimate rates has been updated. Previously the population estimates were based on the 2020 Health Service User (HSU) dataset, as estimated at 1 July. Going forward the population estimate will be based on the 2021 HSU dataset, as of 31 December 2021. The population estimates are based on health service users and increases in healthcare system interactions recorded in the 2021 HSU provide more accuracy to the true population denominator. Therefore, all rates have reduced slightly, but the underlying counts of cases, hospital admissions and deaths have not changed.

National Trends

Cases	The 7-day rolling average of reported case rates was 55.9 per 100,000 population for the week ending 30 October. This was a 25.4% increase from the previous week, which was 44.6 per 100,000. Rates were highest in the 45-64 age group (68.8 per 100,000).
Wastewater	Wastewater quantification indicated an increase in transmission in the past week and suggests an approximate 25%-28% case under-ascertainment.
Hospitalisations	The COVID-19 hospital admissions rate has been increasing since early October, with a 7-day rolling average of 1.0 per 100,000 for the week ending 23 October. The rate was highest in the 65+ age group (4.0 per 100,000), followed by the 0-4 age group (1.5 per 100,000).
Mortality	As of 30 October, there were 2,052 deaths attributed to COVID-19 in 2022. The weekly number of deaths attributed to COVID-19 has continued to decrease. The 80+ age group had the highest mortality rate across all age groups (0.65 per 100,000).
Variants of Concern	Prevalence of non-BA.5 variants continues to increase slowly. Based on WGS, BA.5 accounts for 78% of sequenced community cases seen in the week 21 to 28 October, followed by BA.2.75 (9% of cases), BQ.1.1 (8% of cases), BA.2 (3% of cases) and BA.4.6 (2% of cases). Currently 15 XBB cases have been detected through WGS in the past fortnight, increasing from one in the fortnight prior. Wastewater variant analysis for the fortnight ending 30 October reports the following proportions: BA.4/5 88%, BA.1/BA.2.75 8% and BQ.1.1 4%.

Māori

Cases	The 7-day rolling average of age-standardised reported case rates was 37.9 per 100,000 population on 30 October, lower than for European or Other, however there may be case ascertainment biases. Rates were highest in those aged 45-64 and 65+ (56.3 and 54.6 per 100,000, respectively).
Hospitalisations	The age-standardised cumulative hospital admission risk for 2022 was 1.8 times higher in Māori than European or Other. The 7-day rolling average to 23 October was 0.8 per 100,000 and highest in those aged 80+ (6.5 per 100,000), followed by those aged 70-79 (3.4 per 100,000).
Mortality	The age-standardised cumulative mortality rate for Māori was 1.9 times higher than European or Other in 2022.

Pacific peoples

Cases	The 7-day rolling average of age-standardised reported case rates was 33.0 per 100,000 population on 30 October, lower than for European or Other, however there may be case ascertainment biases. Rates were highest in those aged 25-44 and 45-64 (48.5 and 42.2 per 100,000, respectively).
Hospitalisations	Pacific peoples have the highest age-standardised cumulative risk of hospital admission in 2022, 2.3 times higher than European or Other. The 7-day rolling average to 23 October was 0.8 per 100,000 and highest in those aged 80+ (10.2 per 100,000) followed by those aged 70-79 (4.8 per 100,000).
Mortality	Pacific peoples have the highest age-standardised cumulative mortality risk of any ethnicity in 2022, 2.4 times that of European or Other.

International Insights

Globally, in the week ending 30 October, the number of new weekly cases decreased by 17% compared with the previous week, with over 2.3 million new cases reported. The number of weekly deaths decreased by 5% compared with the previous week, with over 9,300 deaths reported.
BA.5 Omicron descendent lineages continue to be dominant globally, with a stable weekly prevalence of approximately 74.9% as of 16 October. Proportions of BQ.1.1 and XBB and other subvariants of Omicron remain low but are increasing globally.
In Australia, as of 28 October, cases decline nationally, while hospitalisations slightly increased. In NSW, cases of subvariants XBB and BQ.1.1 have low prevalence but are increasing.
In Singapore, the wave due to the XBB variant has peaked, cases and deaths continue to decline.

National summary of epidemic trends

Case trends

Evidence supports an increase in incidence in the community: Reported[1] case rates and levels of viral ribonucleic acid (RNA) in wastewater have been increasing since 02 October after both measures were relatively constant in September (see **Figure 1**). Recent wastewater data through 30 October suggested that approximately 72-75% of infections were reported as cases.

Cases have been tracking above the modelled median since early October and have increased in the week to 30 October. Updated model scenarios accounting for a 10% increase in transmissibility caused by new variants, waning immunity, and for changes in masking and contact quarantine on 12 September, indicate case rates are expected to increase (see **Figure 2**)[2]. The variant model is hypothetical but based on the properties of lineages recently reported overseas.

The general population reported case rate for the week ending 30 October was 55.9 per 100,000, a 25.4% increase from the previous week (44.6 per 100,000). The case rate was highest in Central region (71.4 per 100,000), having increased by 30.4%, and lowest in Te Manawa Taki (43.2 per 100,000), having increased by 19.4% compared with the week prior (see **Figure 3**).

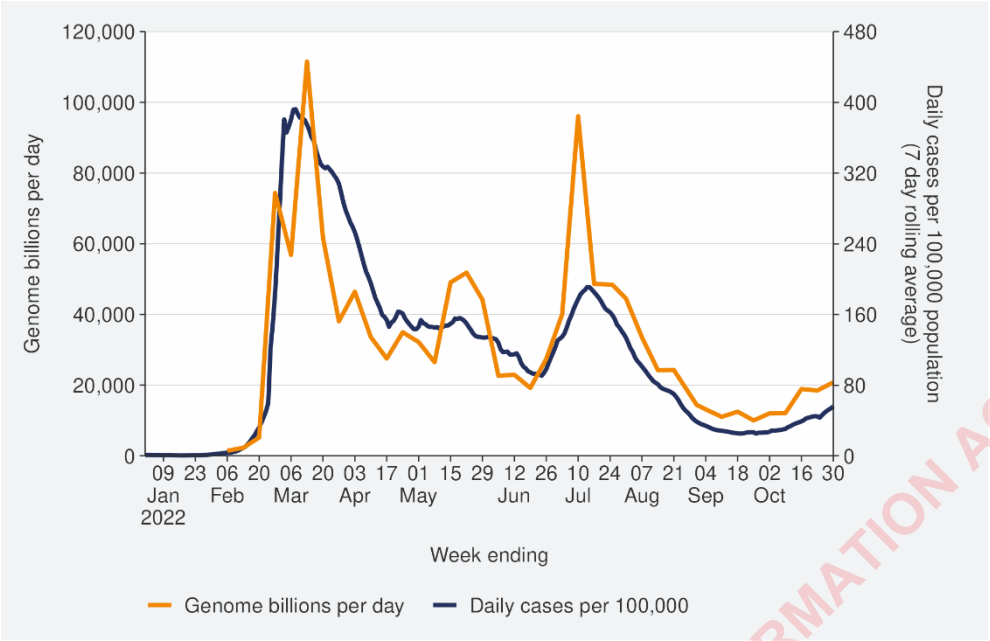
Increases were seen across all age groups. The reported case rate increased 14.8% to 66.0 per 100,000 in those aged 65 years and older. The highest rate across all age groups was 45-64 (68.8 per 100,000). The lowest rate was among under 5 years and 5–14-year-olds (27.6 and 28.9 per 100,000 respectively) (see **Figure 4**).

Table 1 in the appendix provides information on specific rates.

[1] Since 24 February 2022, most testing has been through self-administered rapid antigen tests (RATs) which require self-reporting of results. Therefore, it is likely that many infections are not detected or reported, and the proportion of infections reported ('reported cases') may differ by age, ethnicity, and deprivation.

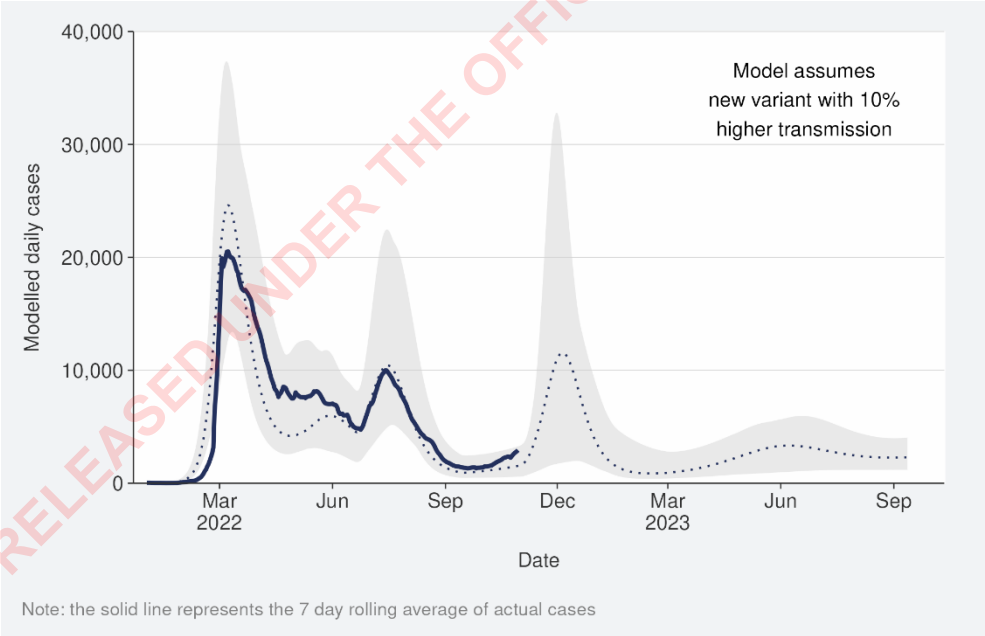
[2] See the online glossary for modelling assumptions.

Figure 1: National wastewater trends (SARS-CoV-2 genome copies)[3] compared with reported cases



Sources: ESR SARS-CoV-2 in wastewater update for week ending 30 October 2022 and NCTS/EpiSurv as at 2359hrs 03 November 2022

Figure 2: COVID-19 Modelling Aotearoa scenarios[4] compared with national reported case numbers

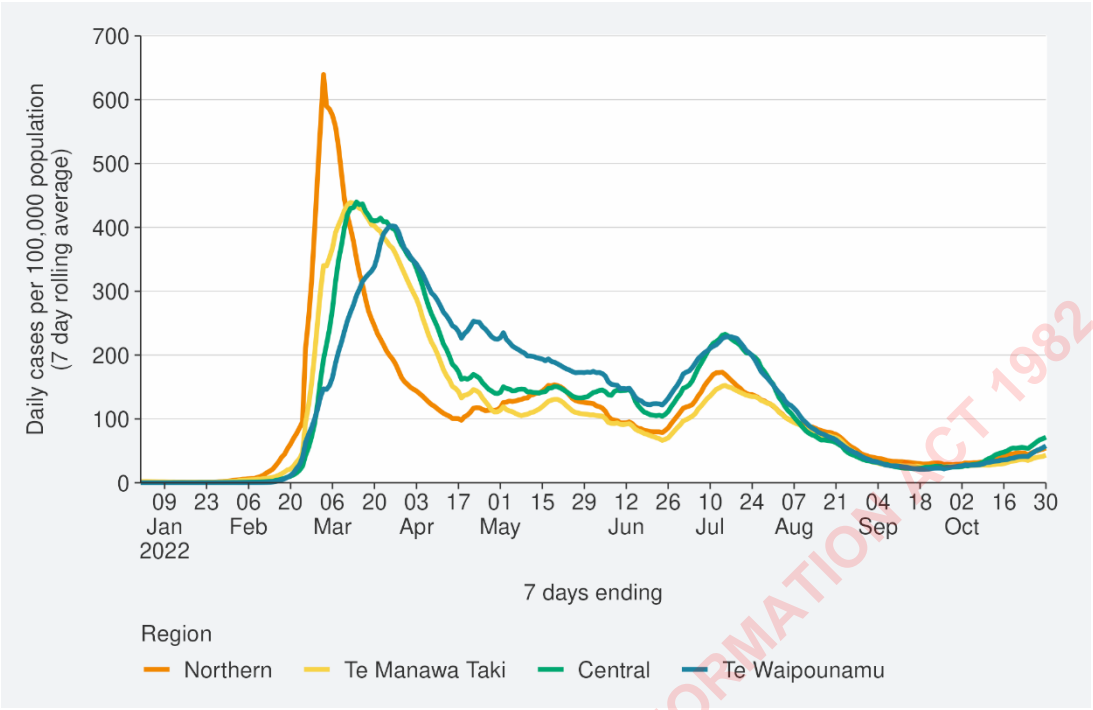


Sources: COVID-19 Modelling Aotearoa, ordinary differential equation model, October 2022, and NCTS/EpiSurv as at 2359hrs 30 October 2022

[3] Wastewater levels cannot be used to predict numbers of cases but do indicate trends in the infection rates.

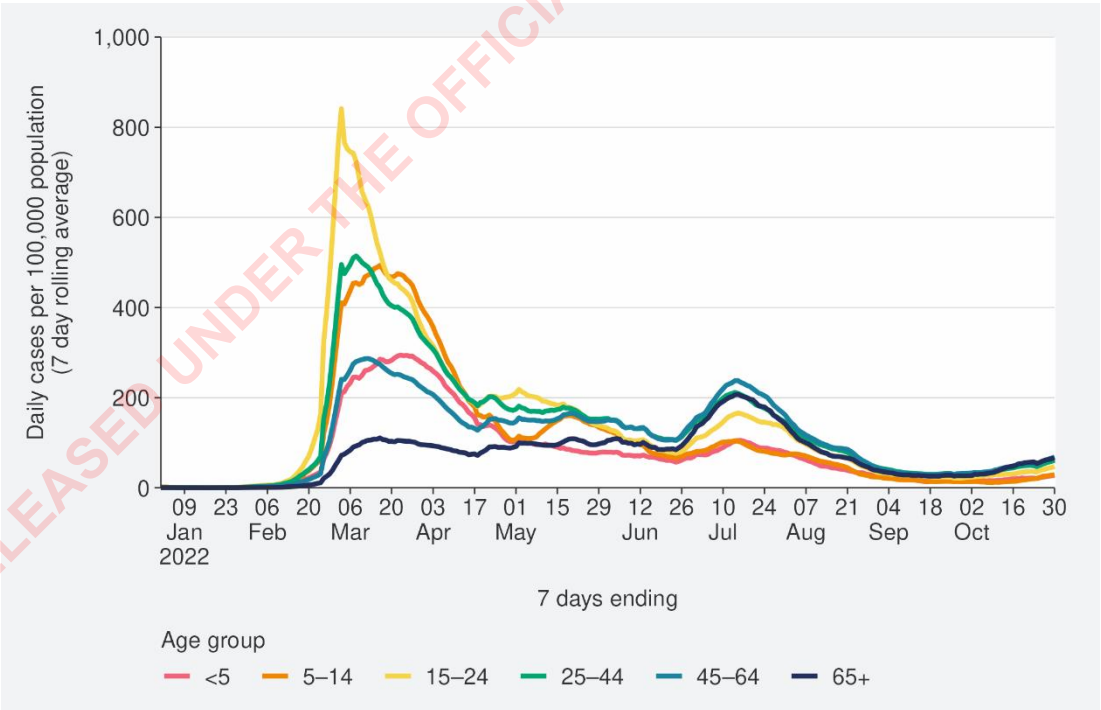
[4] The 'July' BA.5 scenario assumes previous infection provides greater protection against reinfection and severe disease, consistent with emerging international evidence. It also incorporates updated data and future projections of uptake of second boosters, and an earlier transition to BA.5, consistent with the timing of cases and hospitalisations in New Zealand.

Figure 3: Regional reported case rates from January to 30 October 2022



Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Figure 4: National reported case rates by age from January to 30 October 2022



Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Hospitalisation and mortality trends

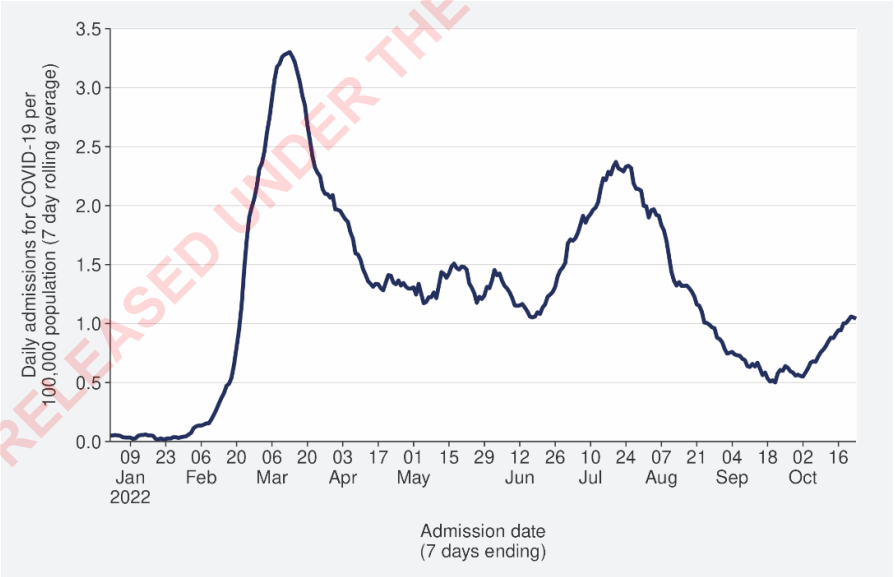
Hospitalisation

As seen in **Figure 5**, the national COVID-19 hospital admissions rate 'for' COVID-19 decreased substantially from mid-July to mid-September, but has since been increasing, with a 7-day rolling average of 1.0 per 100,000 population for the week ending 23 October.[5]

Despite reported case rates in the most recent July peak being half that of the March peak (201.2 and 413.2 per 100,000, respectively), the hospitalisation rate in the July peak was not substantially lower than the hospitalisation rate in March. This can be explained by the strong association between age and poor outcomes after infection. The reported case rates in those aged >65 years peaked at 75% higher in July than in March (refer back to **Figure 4**).

Modelling scenarios suggest current hospital admissions are tracking above the higher range of the prediction and indicate admissions are expected to increase. The variant model is hypothetical but based on the properties of lineages recently reported overseas (**Figure 6**).

Figure 5: National[6] hospital admissions rate for COVID-19, January to 23 October 2022

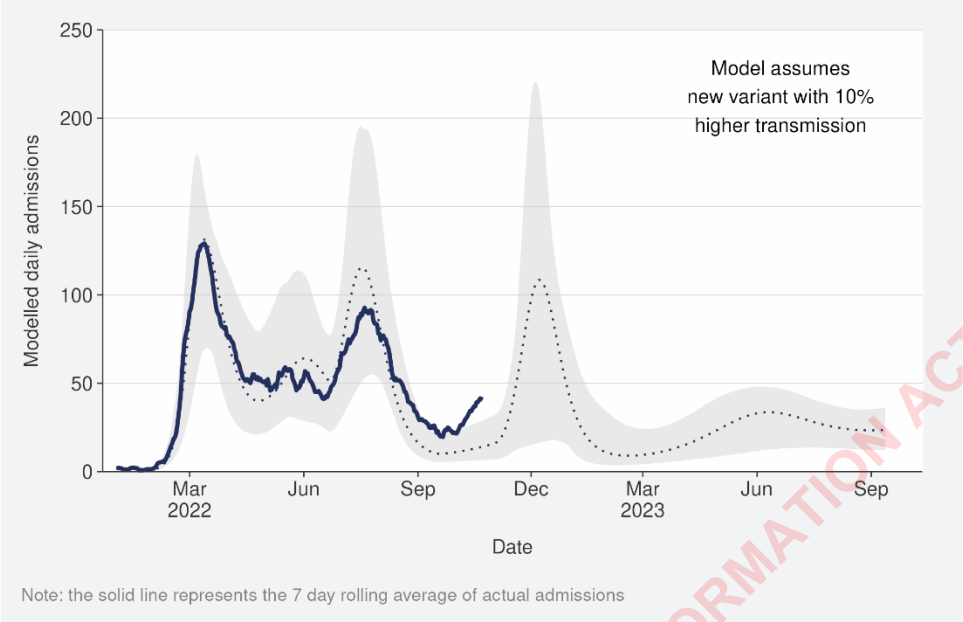


Source: NMDS/Inpatient's admissions feed as of 30 October 2022 data up to 23 October 2022

[5]New hospital admissions who had COVID-19 at the time of admission or while in hospital; excluding hospitalisations that were admitted and discharged within 24hrs. The 'for' measure excludes those who are identified as incidental with COVID-19, such as injuries. Recent trends are subject to revision. Please see glossary for further caveats.

[6] Data are from Districts with tertiary hospitals; these Districts are Auckland, Canterbury, Southern, Counties Manukau, Waikato, Capital & Coast, Waitemata, and Northland.

Figure 6: COVID-19 Modelling Aotearoa hospital admissions scenario[7] compared with national admissions



Sources: COVID-19 Modelling Aotearoa, ordinary differential equation model, October 2022, and Ministry of Health reported hospital occupancy data 30 October 2022

Mortality

From the first week of January to 30 October 2022, there were 3,125 deaths among people who died within 28 days of being reported as a case and/or with the cause being attributable to COVID-19 (that is an underlying or contributory cause) (see **Figure 7**)[8].

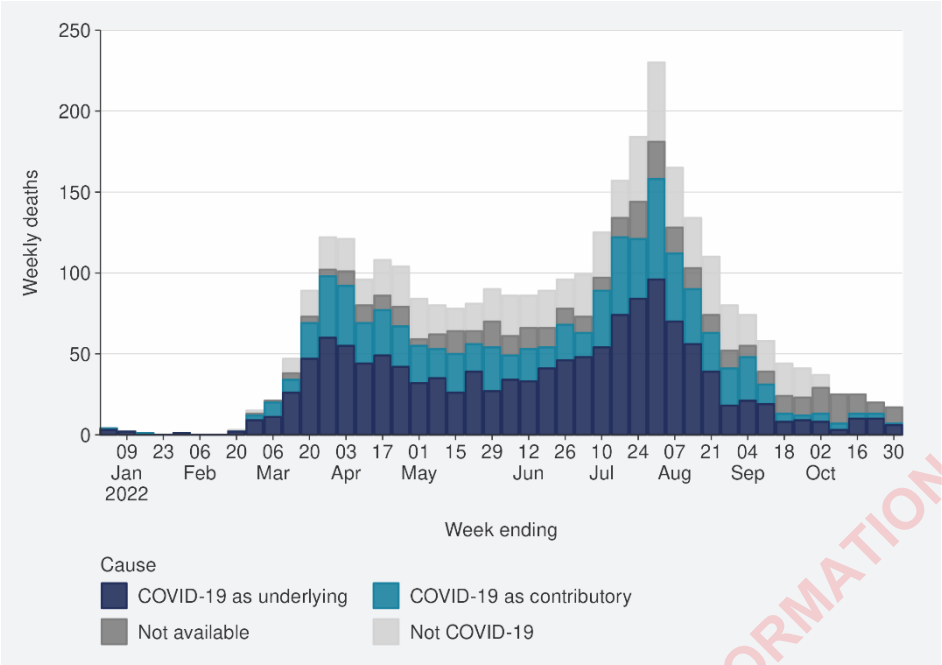
Of these deaths in 2022 that have been formally coded by cause of death, 1,294 (47%) were determined to have COVID-19 as the main underlying cause. COVID-19 contributed to a further 758 (28%) deaths and another 693 (25%) people died of an unrelated cause (**Figure 7**). Deaths have been declining since peaking in the last week of July, though in the past few weeks the decline has slowed. As seen with hospitalisations, due to the strong association of increasing age and increasing mortality risk, the patterns in mortality over time strongly reflect the case rates in those aged >65 years.

Deaths are currently tracking close to the lower range of the modelled scenario and are predicted to slightly increase in the coming months (see **Figure 8**).

[7] The 'October' scenario assumes previous infection provides greater protection against reinfection, severe disease, consistent with emerging international evidence, and transmissibility of an emerging variant is increased by 10%. It also incorporates updated data and future projections of uptake of second boosters, and an earlier transition to BA.5, consistent with the timing of cases and hospitalisations in New Zealand.

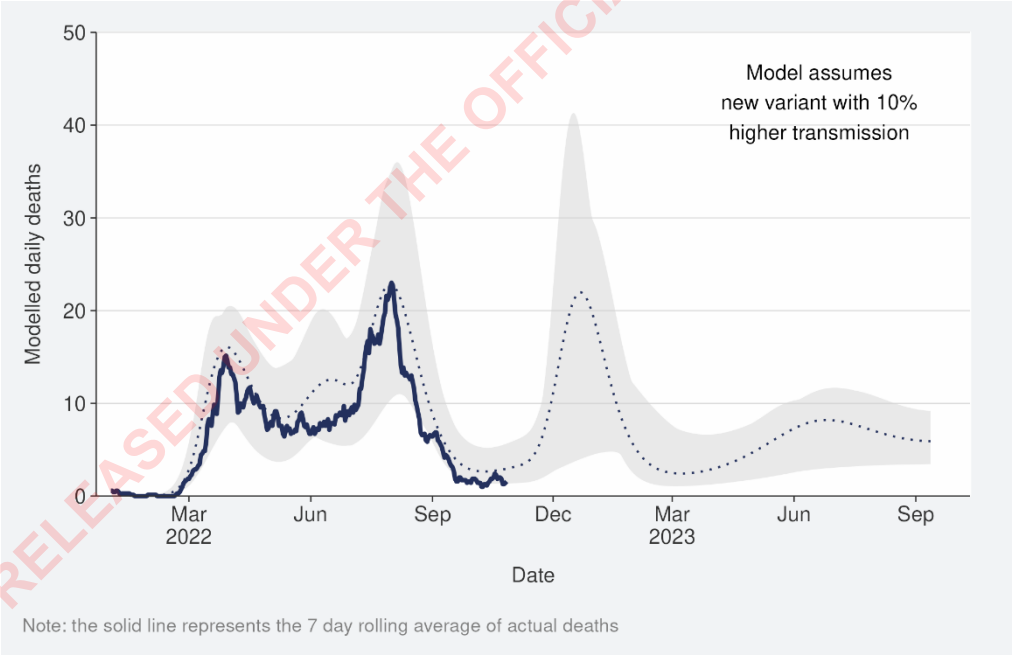
[8] There were 55 deaths before the first week of 2022.

Figure 7: National weekly death counts by cause of death[9], February to 30 October 2022



Source: Ministry of Health, 30 October 2022

Figure 8: COVID-19 Modelling Aotearoa death count compared with national observed deaths attributed to COVID-19



Sources: COVID-19 Modelling Aotearoa, ordinary differential equation model, October 2022, and Ministry of Health reported attributed deaths data 30 October 2022

[9] Mortality data are affected by a delay due to time taken for reporting and death coding, the most recent weeks should be interpreted with caution.

Whole Genomic Sequencing

Community cases and wastewater

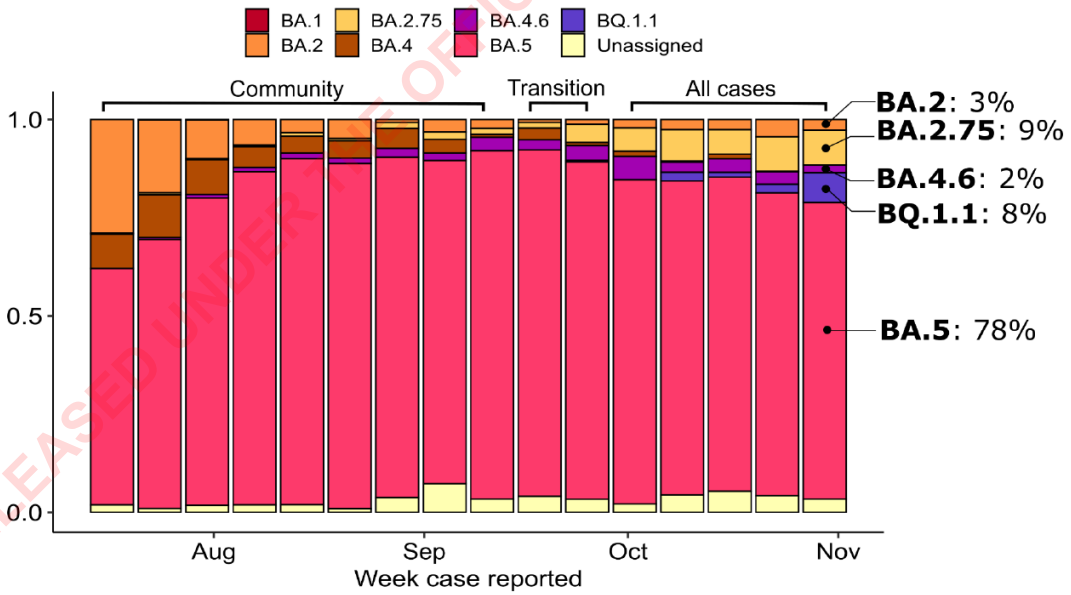
Whole Genomic Sequencing data is updated on a fortnightly basis; the data has been updated in this week's report.

Figure 9 shows the proportions of variants in community cases, with BA.5 accounting for 78% of sequenced cases in the week to 28 October. Proportions of the BA.5 subvariant in the community have decreased over the last few weeks, as community cases of variants BQ.1.1, XBB and BA.2.75 have been increasing. Watchlist variants BA.2.75 (9%) and BA.4.6 (2%) continue to be detected.

The end of the COVID-19 Protection Framework mean border-associated cases can no longer be distinguished from community cases, meaning the most recent weeks may not be directly comparable to historical data.

In the two weeks to 28 October, the Omicron variants BQ.1.1 and XBB were also detected in community samples with 17 BQ.1 cases, 26 BQ.1.1 cases and 15 cases caused by the recombinant lineage XBB. BQ.1.1 and XBB were also detected in wastewater.

Figure 9: Proportion of Variants of Concern in community cases[10]



Source: ESR COVID-19 Genomics Insights Report #26, EpiSurv/Microreact 0900hrs 02 November 2022

[10] For weeks before the end of the COVID-19 Protection Framework, only data from community cases were used. In the period marked as "transition", cases known to be associated with the border are removed, but not all such cases can be reliably identified. In the most recent weeks, data from all cases is used. Cases classified as Omicron (Unassigned) are typically partial genomes where it is difficult to be definitive regarding variant/lineage.

Hospitalised cases

In the fortnight, up to the 28 October; 197/308 PCR-positive samples were received. Of those, 138 were sequenced. As of 01 November; 80% were BA.5; 11% BA.2.75; 6% BA.4.6; 3% BQ.1.1; and <1% were BA.2

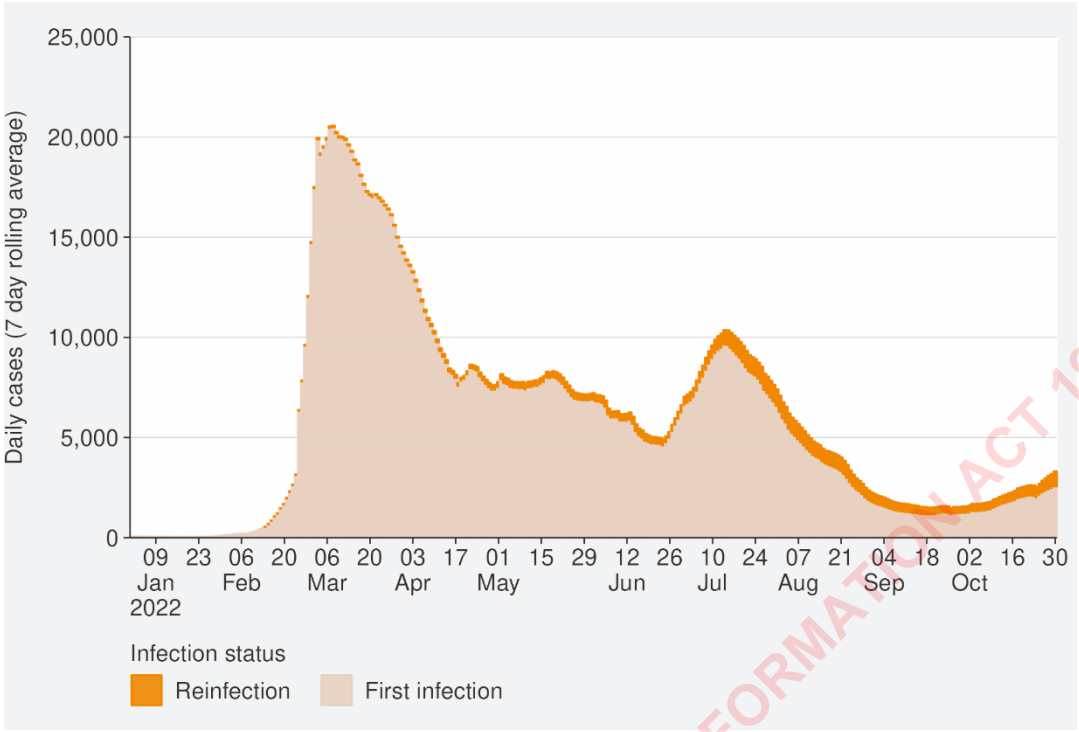
Reinfection

'Reinfection' is now defined as a case reported at least 29 days after the last time a person reported a positive test for COVID-19. The definition of reinfection changed on 30 June; prior to this, reinfection was based on reports at least 90 days apart (based on the international literature at the time). Up until 30 June 2022, the vast majority of positive results detected within 90 days of the prior infection were not recorded in the system. Some potential reinfections within 90 days were recorded but were not representative of the general population.

Reinfection in general refers to a second or subsequent infection after the prior infection has cleared. In this analysis, we are not able to distinguish between reinfection with the same variant or different variants. Reinfection with a different variant to the first infection is more likely than reinfection with the same variant. Technically, these data report on 'redetections' rather than true reinfections. True reinfections cannot be definitively captured in the data for a range of reasons. For example, a person with persistent infection due to being immunocompromised, who undergoes repeated testing due to regular hospital or clinical visits, would appear in the data as a 'reinfection' when they may have a chronic or persistent infection.

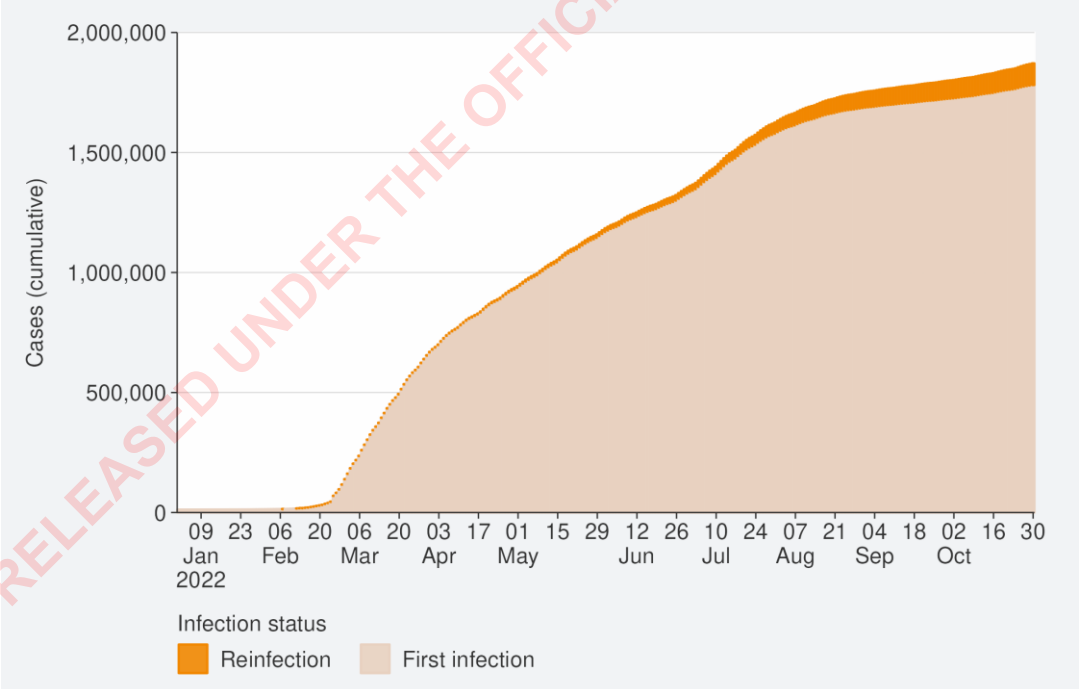
Figure 10 characterises the average number of cases per week by first infection and reinfection. Reinfections made up 11.9% of reported cases in the week ending 30 October. The proportion of reported cases that were reinfections has been stable in the past seven weeks. **Figure 11** shows how many first infections and reinfections have been reported cumulatively over time. Cumulatively, reinfections have made up 2.4% of total cases reported in 2022. The proportion of cases that are reinfections is expected to increase over time. The true number of reinfections is likely higher than reported here. In general, reporting of cases is expected to decline over time. Due to under-ascertainment of the first infection and subsequent infections and, as both are required to detect a reinfection, there is likely to be under-reporting of reinfections.

Figure 10: Reinfections 7 day rolling average from 01 January to 30 October 2022



Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Figure 11: Reinfections cumulatively from 01 January to 30 October 2022



Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Comparison of epidemic trends by ethnicity

The age-standardised reported case rates have increased for all ethnicities (see **Figure 12**); in the week to 30 October. The highest rates were in Asian and European or Other (56.4 and 54.8 per 100,000 respectively) and the lowest were in Māori and Pacific peoples (37.9 and 33.0 per 100,000, respectively). Among Māori, rates were highest in those aged 45-64 and 65+ (56.3 and 54.6 per 100,000, respectively). Among European or Other, case rates were highest in those aged 45-64 and 65+ (73.5 and 69.5 per 100,000, respectively). Rates in Pacific peoples were unlike Māori and European or Other ethnicity, among Pacific peoples, rates were highest in those aged 25-44 and 45-64 (48.5 and 42.2 per 100,000, respectively). Refer to **Table 1** and **Table 2** in the appendix for non-age-standardised rates by ethnicity.

Figure 13 shows that the age standardised rates for hospitalisation for COVID-19 decreased for all ethnicities except Pacific peoples in the week ending 23 October. Pacific peoples and Māori had the highest hospitalisation rate in the week ending 23 October. Rates were stable for Pacific peoples for the week ending 23 October.

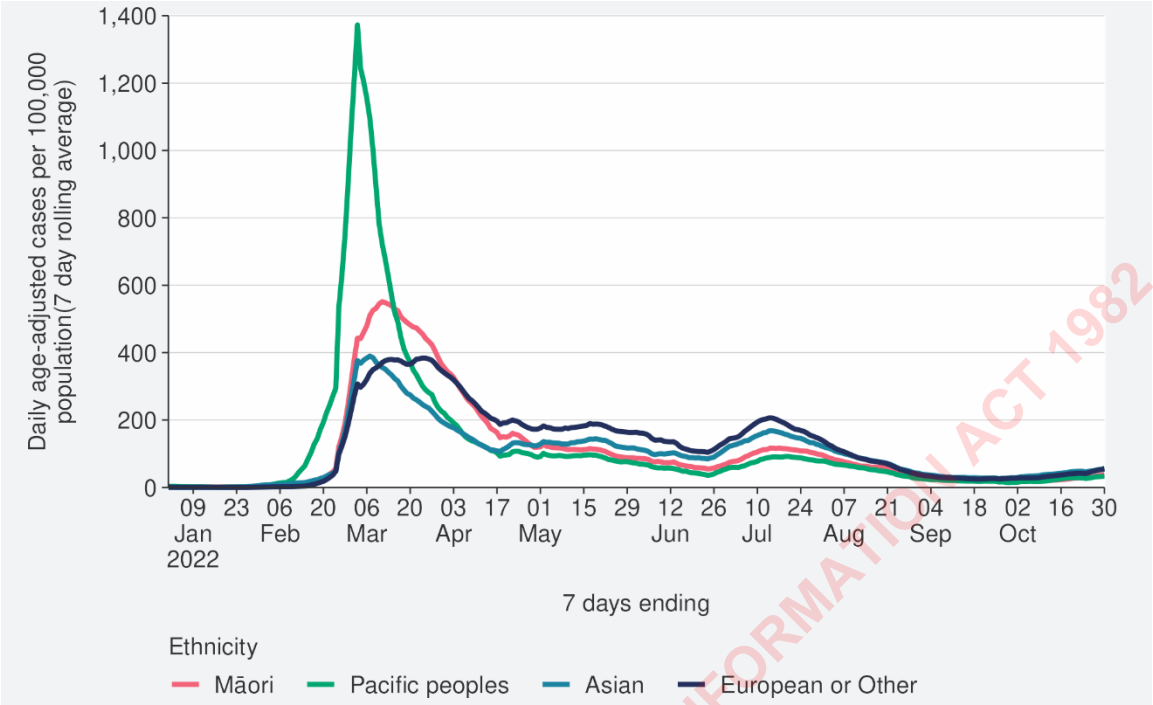
The cumulative total for the year shows that overall, Pacific peoples and Māori have had the highest risks of hospitalisation for COVID-19 – 2.3 and 1.8 times the risk of European or Other, respectively for 01 January to 30 October. The Asian ethnicity has had a hospitalisation rate almost 12% lower than European or Other (**Figure 14**).

The cumulative age-standardised mortality rate for 01 January to 30 October shows that Pacific peoples have had the highest risk, 2.4 times that of European or Other, followed by Māori at 1.9 times that of European or Other. Asian people have had the lowest risk of Mortality, 37% lower than European or Other (see **Figure 15**).[11]

The lower reported case rates and higher hospitalisation and death rates for Māori and Pacific peoples suggests they may have lower levels of case ascertainment and/or a higher risk of poor outcomes after infection compared with Asian and European or Other ethnicities.

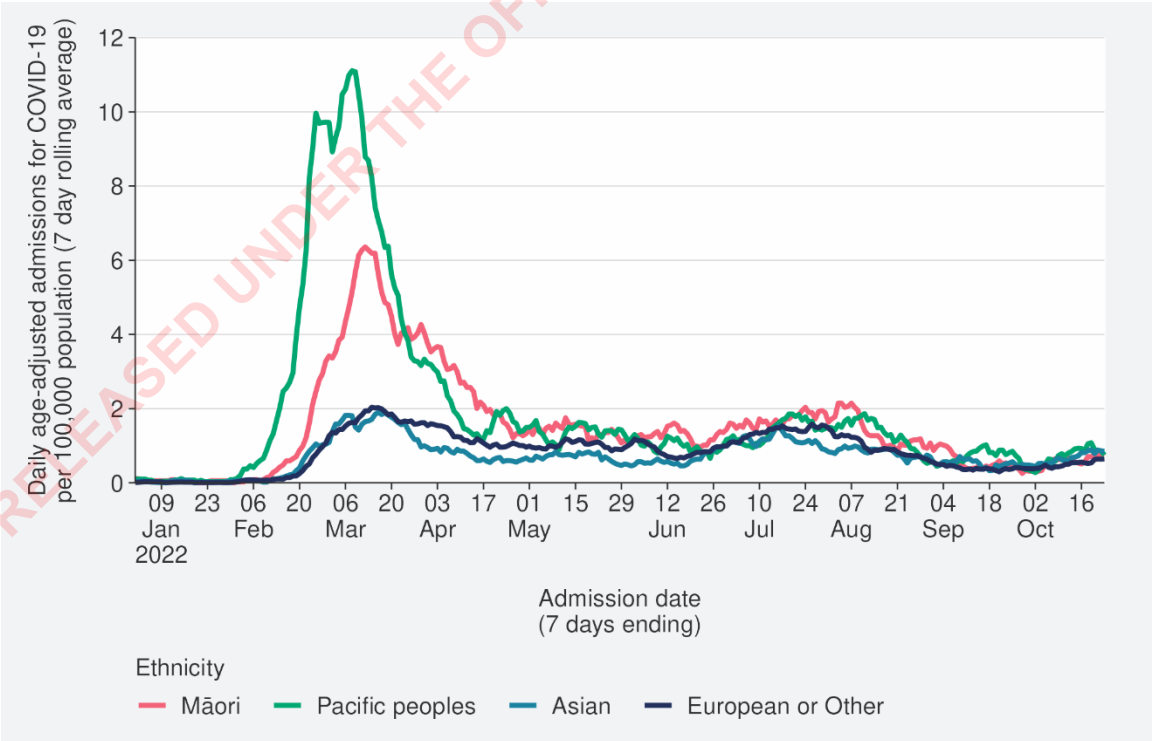
[11] These calculations are based on 1,896 deaths occurring between January 2022 and 02 October 2022 (excludes deaths in the last 2 weeks and deaths where ethnicity was unknown).

Figure 12: National age-standardised reported case rates by ethnicity from January to 30 October 2022



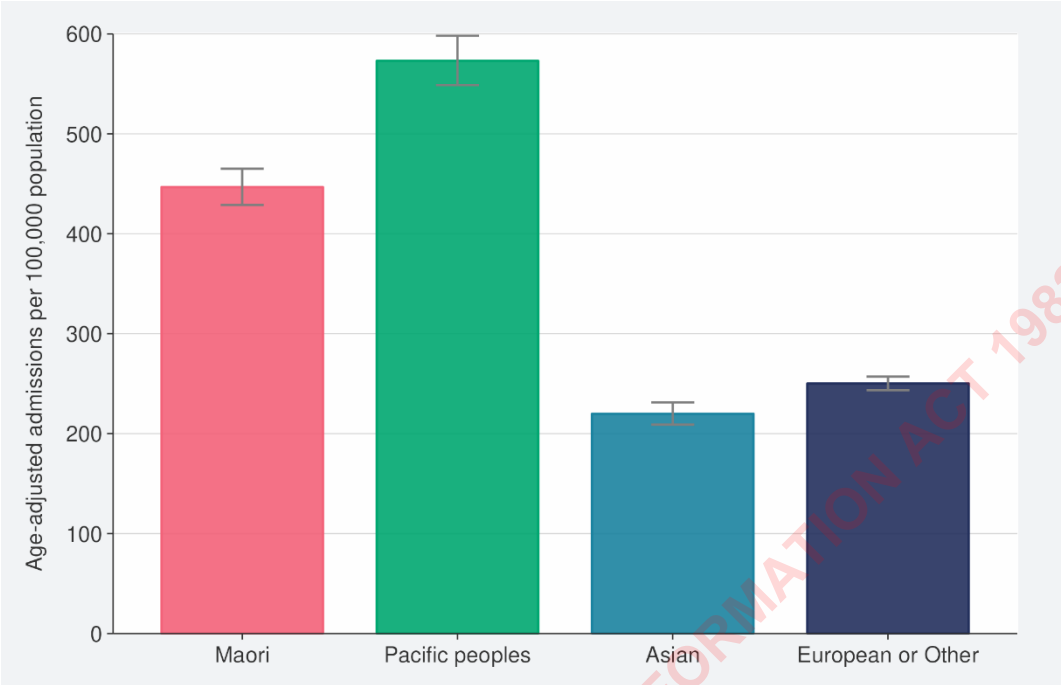
Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Figure 13: National age-standardised hospitalisation rates by ethnicity from January to 23 October 2022



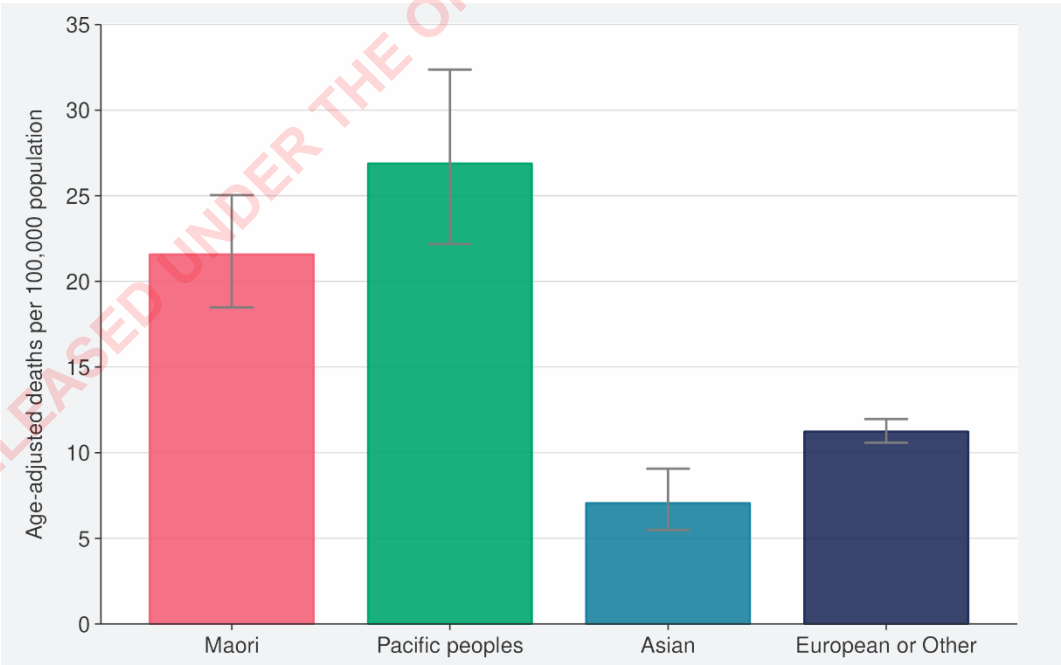
Source: NCTS/EpiSurv as at 2359hrs 23 October 2022

Figure 14: Age-standardised cumulative incidence (and 95% confidence intervals) of hospitalisation for COVID-19 by ethnicity, 01 January 2022 to 30 October 2022



Source: NCTS/EpiSurv, NMDS, Inpatient Admissions dataset and CVIP population estimates, 01 January 2022 to 30 October 2022

Figure 15: Age-standardised cumulative incidence (and 95% confidence intervals) of mortality attributed to COVID-19 by ethnicity, 01 January 2022 to 30 October 2022



Source: NCTS/EpiSurv, NMDS, Inpatient Admissions dataset and CVIP population estimates, 01 January 2022 to 30 October 2022

Comparison of epidemic trends by deprivation

Figure 16 shows the 7-day rolling average for reported case rates by residential area deprivation level (based on NZDep2018)[12]. Age-standardised rates for all deprivation levels increased in the week ending 30 October. Rates in the week to 30 October were slightly higher in areas of least and mid-range deprivation. Refer to **Table 1** in the appendix for non-age-standardised rates by deprivation.

Figure 17 and **Figure 18** show that those most deprived have had, and continue to have, the highest rates of hospitalisation, both recently and cumulatively during 2022. Those most deprived have had 2 times the risk of hospitalisation compared with those who are least deprived.

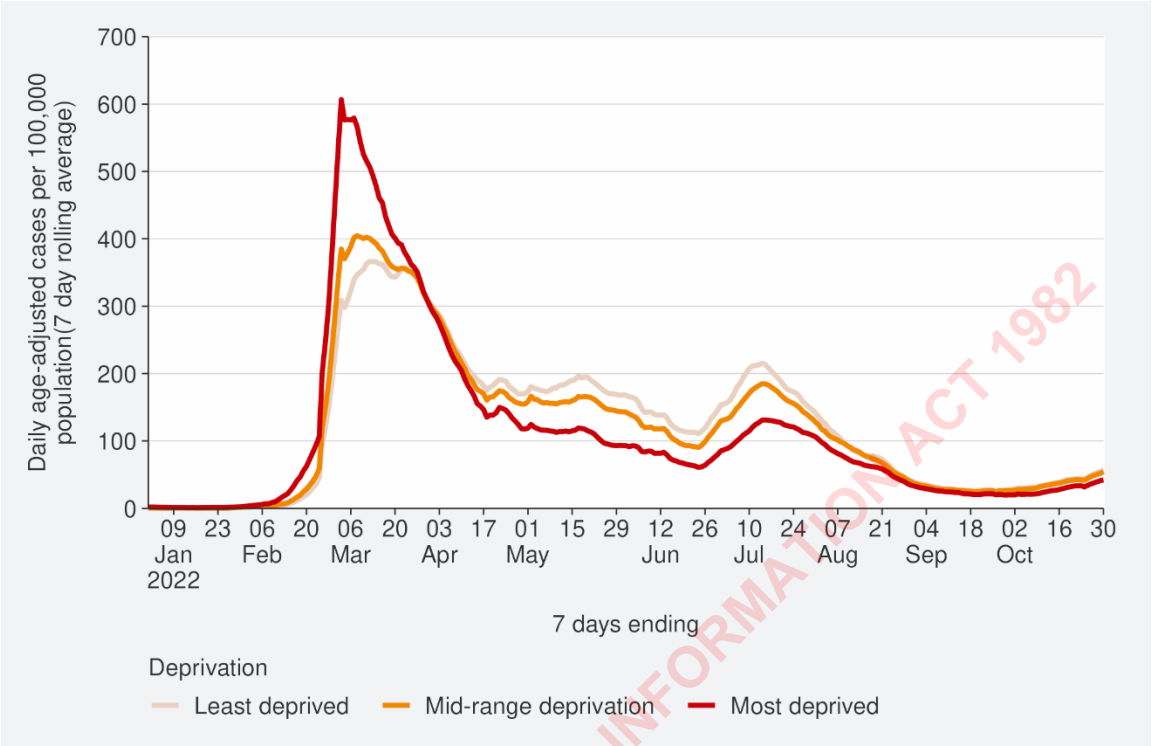
Cumulative rates of mortality are also highest for those most deprived (**Figure 19**).[13]

As lower case rates have been reported among those most deprived, continued higher hospitalisation and death rates suggest those who are most deprived may have lower levels of case ascertainment and/or a higher risk of poor outcomes after infection compared with those who are least deprived.

[12] Atkinson J, Salmond C, Crampton P (2019). NZDep2018 Index of Deprivation, Final Research Report, December 2020. Wellington: University of Otago.

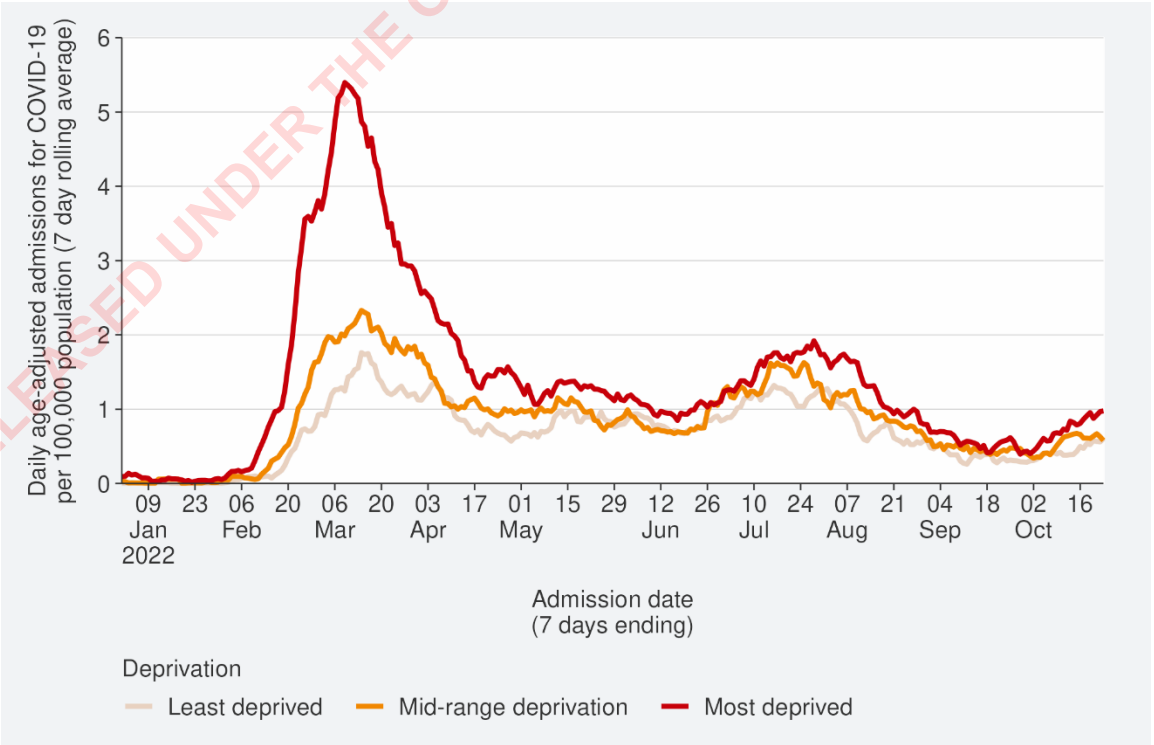
[13] These calculations are based on 1,833 deaths occurring between January 2022 and 02 October 2022 (excludes deaths in the last 2 weeks and deaths where the level of deprivation was unknown).

Figure 16: National age-standardised reported case rates by deprivation status for weeks 01 January – 30 October 2022



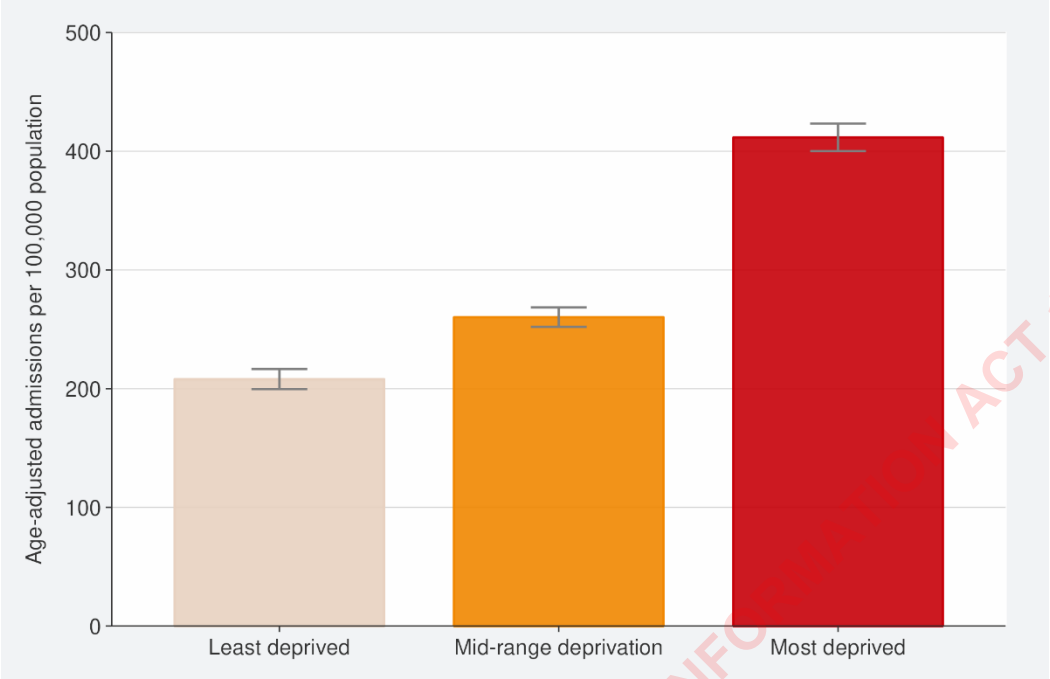
Source: NCTS/EpiSurv as at 2359hrs 30 October 2022

Figure 17: Age-standardised hospital admission rates for COVID-19 by deprivation from January to 23 October 2022



Source: NMDS/Inpatients admissions feed as of 30 October 2022 data up to 23 October 2022

Figure 18: Age-standardised cumulative incidence (and 95% confidence intervals) of hospitalisation for COVID-19 by deprivation, 01 January 2022 to 30 October 2022



Source: NCTS/EpiSurv, NMDS, Inpatient Admissions dataset and CVIP population estimates 01 January 2022 to 30 October 2022

Figure 19: Age-standardised cumulative incidence (and 95% confidence intervals) of mortality attributed to COVID-19 by deprivation, 01 January 2022 to 30 October 2022

Source: EpiSurv, Death Documents, The Healthcare User database, Mortality Collections database and CVIP population estimates, 01 January 2020 to 30 October 2022

Global pandemic summary

We expect the global situation for the COVID-19 pandemic in the next few months to be driven by the ongoing emergence of new variants, waning immunity, and the Northern Hemisphere heading towards the winter season.

- Globally, in the week ending 30 October, the number of new weekly cases decreased by 17% as compared to the previous week with over 2.3 million new cases reported. However, the true number of incident cases is likely to be underestimated due to a decline in testing globally.
- The number of new weekly deaths decreased by 5% compared to the previous week with over 9,300 fatalities reported.
- As of 30 October 2022, over 627 million confirmed cases and over 6.5 million deaths have been reported globally.
- WHO will continue to closely monitor the XBB and BQ.1 lineages as part of Omicron.
- BA.5 and its descendent lineages continued to be dominant globally, accounting for 74.9% of sequences submitted to GISAID.
- BA.4 descendent lineages accounted for 4.8% of all cases, a slight decrease from last week as of 16 October.
- BA.2 descendent shows a rise in sequence prevalence from 4.7% to 7.0% for the week ending 16 October from the previous week.
- Decreases in countries' frequency of submitting COVID-19 genomes to GISAID make detecting accurate international representations of variant prevalence difficult.
- Singapore's new wave of COVID-19 driven by the XBB subvariant has peaked, with 7-day rolling average of reported cases at 5,320 cases as of 1 November, a decrease from 5,941 the previous week.
- In Australia, as of 28 October, cases and hospitalisations continue to decline nationally. In NSW, cases of subvariants XBB and BQ.1.1 have low prevalence but are increasing.

Sources: **World Health Organisation: Weekly epidemiological update on COVID-19 – 26 October 2022 / Our world in data/ Straits Times / Australian Government: Coronavirus (COVID-19) common operating picture / Australian Bureau of Statistics, Australian Bureau of Statistics**

Please note, global trends in cases, hospitalisations and deaths should be interpreted with caution as several countries have been progressively changing COVID-19 testing strategies, resulting in lower overall numbers of tests performed and consequently lower numbers of cases detected. Furthermore, approaches of counting hospitalisations and deaths can differ from country to country.

Appendix: Table of summary statistics

Table 1: Reported 7-day rolling average of case rates and hospital admissions by region, age group, ethnicity, and deprivation

	Reported Cases (7-day rolling average)					Hospital admissions (7-day rolling average)				
	Week ending 23/10/2022		Week ending 30/10/2022		% Change	Week ending 16/10/2022		Week ending 23/10/2022		% Change
	Number	Rate (per 100,000 population)	Number	Rate (per 100,000 population)		Number	Rate (per 100,000 population)	Number	Rate (per 100,000 population)	
National	**2332.9**	**44.6**	**2925.9**	**55.9**	**25.4%**	**36.9**	**0.9**	**40.7**	**1.0**	**10.5 %**
Region										
Northern	923.4	46.2	1083.6	54.3	17.3%	18.9	0.9	21.1	1.1	12.1%
Te Manawa Taki	369.7	36.1	441.6	43.2	19.4%	5	1.1	4.3	1.0	-14.3%
Central	535.1	54.7	698.0	71.4	30.4%	2.7	0.6	3.9	0.8	42.1%
Te Waipounamu	500.1	41.4	698.1	57.8	39.6%	10.3	1.1	11.4	1.2	11.1%
Age group										
<5	67.0	21.6	85.7	27.6	27.9%	2.6	1.1	3.4	1.5	33.3%
5-14	136.0	20.1	196.1	28.9	44.2%	0.9	0.2	0.3	0.1	-66.7%
15-24	233.7	35.7	311.3	47.6	33.2%	2	0.4	2.4	0.5	21.4%
25-44	719.0	48.9	902.3	61.4	25.5%	5.3	0.5	4.4	0.4	-16.2%

45-64	699.3	54.2	882.0	68.4	26.1%	7.1	0.7	6.7	0.7	-6%
65+	477.9	57.5	548.4	66.0	14.8%	19	3.3	23.4	4.0	23.3%
Ethnicity										
Māori	221.4	27.6	303.9	37.9	37.2%	2.6	0.5	4.1	0.8	61.1%
Pacific peoples	114.7	29.3	133.4	34.1	16.3%	3.4	1.0	2.9	0.8	-16.7%
Asian	424.6	50.9	502.3	60.2	18.3%	6.3	0.8	6.4	0.9	2.3%
European or Other[14]	1552.1	49.0	1965.1	62.0	26.6%	24.3	1.1	27.3	1.2	12.4%
Deprivation										
Least deprived	756.9	50.0	962.6	63.6	27.2%	8.7	0.7	10.9	0.9	24.6%
Mid-range deprivation	958.0	47.8	1199.4	59.8	25.2%	15.6	1.0	12.9	0.9	-17.4%
Most deprived	575.6	36.7	715.6	45.6	24.3%	11.4	1.0	15.6	1.4	36.2%

[14] 'Other' referring to all ethnicities other than Māori, Pacific peoples, Asian and European, specifically MELAA; Middle Eastern, Latin American and African. See Table 2 for breakdowns of MELAA ethnicities.

Table 2: Cumulative reported cases and hospitalisations admissions from January 2022 to 30 October by level 2 ethnicity.

Ethnicity	Level 2 Ethnicity	Cumulative reported cases of COVID-19	Cases per 1000 population	Cumulative hospitalisation for COVID-19	Hospitalisations per 1000 population	Population
Asian	Asian NFD	8,911	399	27	1.0	22,320
Asian	Chinese	6,0343	256	470	2.0	235,331
Asian	Indian	96,992	396	806	3.0	24,5079
Asian	Other Asian	46,854	385	321	3.0	121,732
Asian	Southeast Asian	54,019	496	250	2.0	108,939
Māori	Māori	271,994	357	3,180	4.0	762,780
MELAA	African	9,864	374	116	4.0	26,364
MELAA	Latin American / Hispanic	13,616	470	76	3.0	28,998
MELAA	Middle Eastern	9,754	301	164	5.0	32,395
Pacific Peoples	Cook Island Māori	19,167	360	289	5.0	53,299
Pacific Peoples	Fijian	17,384	424	191	5.0	40,956
Pacific Peoples	Niuean	7,842	403	120	6.0	19,477
Pacific Peoples	Other Pacific Island	6,924	479	73	5.0	144,66
Pacific Peoples	Pacific Island NFD	1,632	446	6.0	2.0	3,663
Pacific Peoples	Samoan	67,574	436	1,053	7.0	15,4997
Pacific Peoples	Tokelauan	2,821	411	43	6.0	6,863
Pacific Peoples	Tongan	29,672	408	504	7.0	72,703

End of report for public distribution

Included below is information from the Trends and Insights Report for internal distribution only.

The glossary and data limitations from this report have been moved to the website.

Nowcasting and forecasting of key trends

Nowcasting using the EpiNow package estimates that as of 29 October 2022 the effective reproduction rate, Reff, is 1.2 (90% CI: 1.0-1.4). This indicates that infections are likely to be increasing.

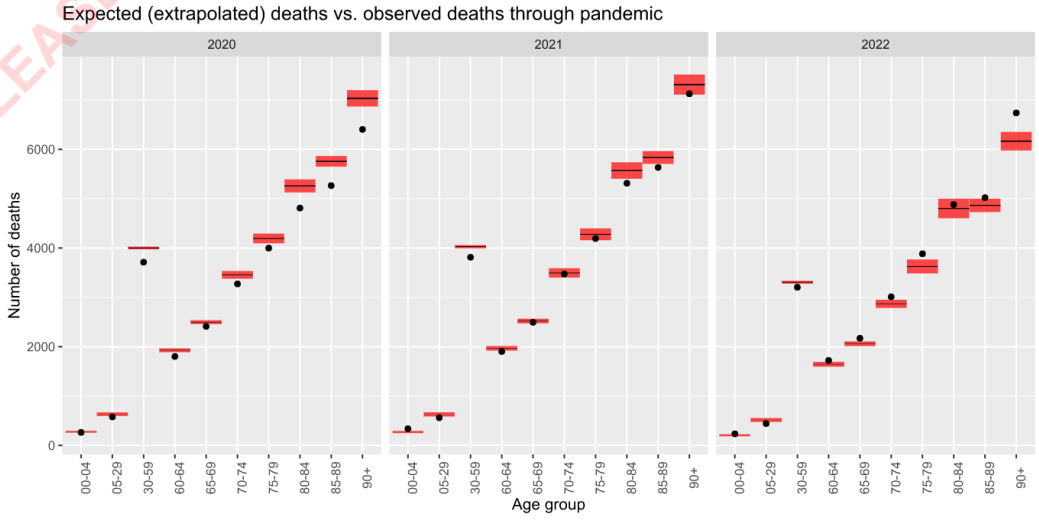
The SARIMA model section has been removed pending data revision.

Observed deaths compared to expected deaths during the pandemic to 16 October 2022

Below we provide a summary of the situation that is **current as of 2022-10-16**. As can be seen in the table below, deaths above expectations are mostly observable in the oldest age groups. It should be noted that the New Zealand population is ageing and therefore any long-term increases in the mortality rates of these older age groups will lead to higher deaths in general (e.g., due to a novel pathogen affecting older populations becoming endemic). It should also be noted that historically, mortality rates have been dropping in older age groups, so a levelling off or an increase represents a structural change in prior observation.

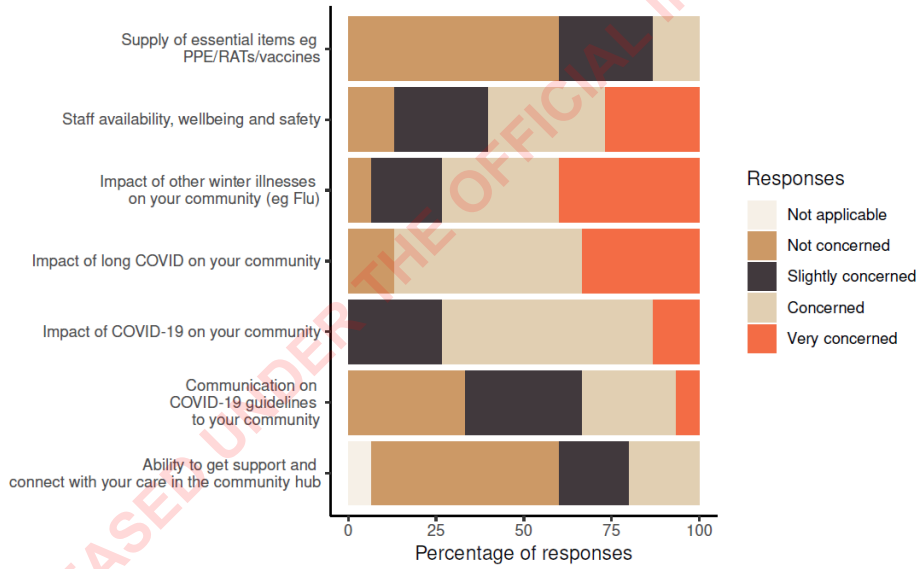
Age group	Observed deaths	Expected deaths	1 S.D Expected deaths	Excess deaths	Mean population
00-04	234	206	21	28	303,885
05-29	444	515	40	-71	1,660,457
30-59	3,206	3,306	30	-100	2,019,678
60-64	1,722	1,644	49	78	303,239
65-69	2,172	2,060	48	112	256,990
70-74	3,012	2,869	83	143	219,918
75-79	3,884	3,627	141	257	158,992
80-84	4,880	4,801	198	79	109,013
85-89	5,020	4,864	136	156	57,728
90+	6,737	6,164	189	573	34,858
Total	31,311	30,056	935	1,255	5,124,758

In the figure below we can see how the total death counts are tracking across the pandemic and specifically in 2022 year to date. The red bands represent the expected range if the trend in death rates from pre-COVID years (2012 – 2019) were to continue into the target year. The range is 1 standard deviation based on the linear fit.

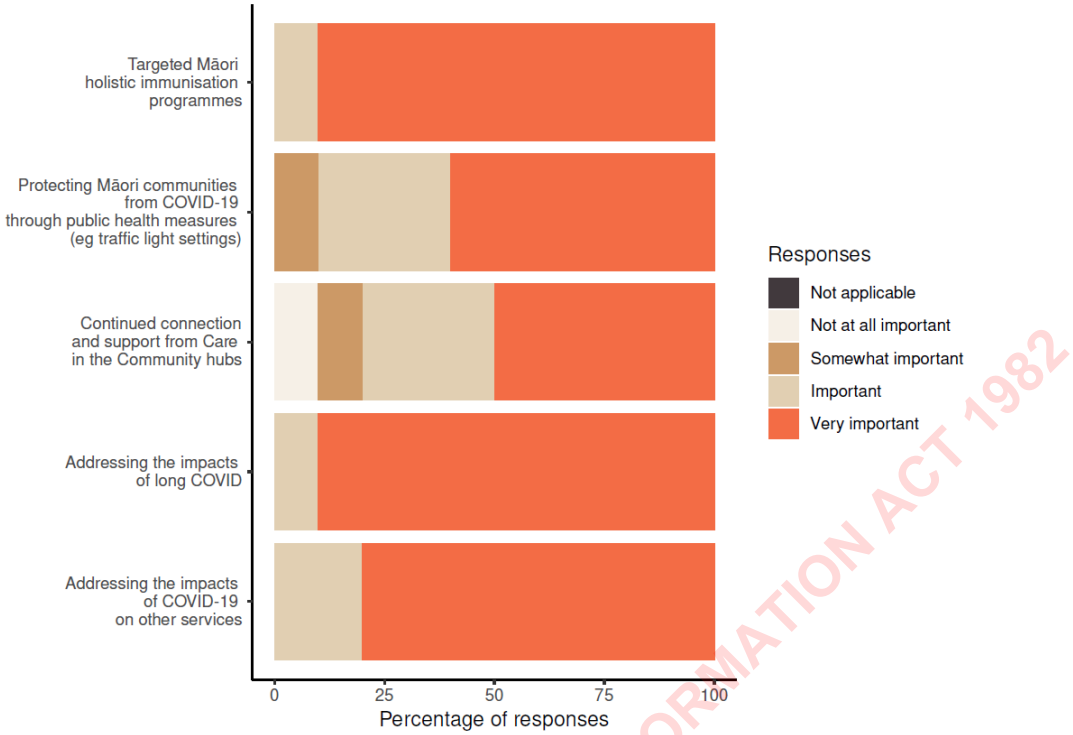


Māori health providers survey

The Māori Health Directorate conduct a fortnightly provider survey. Highlights from the 29 September to 12 October survey are presented below. The figure below shows results from a survey that 15 Māori Health Providers answered (response rate of 7.7 percent of invited providers). The area of greatest concern was *Impact of COVID-19 on your community*, with nine responses being concerned or very concerned for this area (60 percent of responses). The area with least concern for the current state was *Supply of essential items eg PPE/RATs/vaccines*, with nine responses not concerned with it (60 percent of responses).



There were two areas that providers were most likely to highlight as being very important about (90 percent of providers highlighted these areas were very important for the future of the COVID-19 outbreak): Addressing the impacts of long COVID and Targeted Māori holistic immunisation programmes. Only ten percent of providers highlighted that Continued connection and support from Care in the Community hubs would not at all be important for the future of the COVID-19 outbreak.



Key Quotes from the September Māori Health Providers Survey

"Once the mandates dropped it feels like there hasn't been as much information flowing as opposed to prior, the traffic light settings changed and appeared like the robust process prior just dissipated, other than the MOH website, we have had to call the 0800 various times for particular examples especially to ascertain whether or not our organization was required to adhere to some of the mandates. Also focus and promotion needs to occur for other viruses and long covid" - Māori provider on the current state of the COVID-19 outbreak

"Kaimahi burnout and impacts of Long Covid as well as preparing for any pandemic, it appears as though a certain amount of complacency has set in our community, whilst its heartening that whānau are not as "fearful" we still want whānau particularly Māori and other marginalized groups to be extra vigilant and prepare for the ongoing risks." – Māori provider 1 on the future state of the COVID-19 outbreak

International and scientific insights

Please note, global trends in cases and deaths should be interpreted with caution as several countries have been progressively changing COVID-19 testing strategies resulting in lower overall numbers of tests performed and consequently lower numbers of cases detected.

Overseas waves and the likely impacts of new variants, policy changes, notifiable disease and waning immunity will likely determine the global situation for the COVID-19 pandemic in the next few months.

Global

- At the regional level, the number of newly reported weekly cases decreased or remained stable across four regions: the African Region (-39%), the European Region (-34%), the Eastern Mediterranean Region (-8%) and the South-East Asia Region (-3%); while case numbers increased in the Region of the Americas (+5%) and the Western Pacific Region (+5%).
- The number of new weekly deaths decreased across two regions: the European Region (-31%) and the Eastern Mediterranean Region (-15%); while the number of deaths increased in the African Region (56 versus 17; +155%), the Region of the Americas (+23%), the South-East Asia Region (+13%) and the Western Pacific Region (+7%).
- Globally, from 1 to 31 October 2022, 103 210 SARS-CoV-2 sequences were shared through GISAID. Among these, 103,147 sequences were the Omicron variant of concern (VOC), accounting for 99.9% of sequences reported globally in the past 30 days.
- There continues to be a number of Omicron descendent lineages under monitoring.
- There was a rise in prevalence for BQ.1*(5.7% to 9%), XBB* (1.0% to 1.5%) and BA.2.3.20. (0.3% to 0.7%).

Source: **World Health Organisation: Weekly epidemiological update on COVID-19 – 26 October 2022**

Singapore

- Singapore's new wave of COVID-19 driven by the XBB subvariant has peaked, with 7-day rolling average of reported cases were 5,320 cases as of 1 November, a decrease from 5,941 the previous week.
- Over the past month XBB has become the dominant subvariant, accounting for 54% of local cases for the week 03 – 09 October.

- While XBB has quickly outcompeted other variants and was driving the increase in case numbers, local data suggest there is no increase in case severity.
- As of 01 November, 7-day rolling average of mortality rate was 2.0 per 100,000, a decrease from 2.14 in the week prior (as of 25 October).

Sources: **Our World in Data / Ministry of Health, Singapore / The Straits Times**

Australia

- In the 14 days to 28 October 2022, there were 223 new cases per 100,000 population. This is a decrease from the week prior (14 days to 21 October 2022) where there were 239 per 100,000 population.
- Most states and territories remained relatively stable or decreased in rates of new cases compared to the previous week. Increases were observed in the Northern Territories, South Australia, Western Australia and most significantly in the Australian Capital Territory.
- Cases in Aboriginal people and Torres Strait Islanders slightly decreased in the past week.
- As of 28 October 2022, there were 1,329 current cases in hospital with 46 in ICU. This is a slight increase from when last reported (21 October 2022) where there were 1,435 hospitalised cases. The majority of these cases were in New South Wales (797), Victoria (158), and Western Australia (144).
- In 2022, there were 92,699 deaths that occurred by 30 June and were registered by 31 August, which is 13,524 (17.1%) more than the historical average. In June, there were 16,749 deaths, 2,410 (16.8%) above the historical average.

Sources: **Australian Government: Coronavirus (COVID-19) common operating picture / Australian Bureau of Statistics, Australian Bureau of Statistics**

England

- In England, 47,058 people had a confirmed positive test result in the week up to and including 22 October 2022. This shows a decrease of 15.3% compared to the previous 7 days.
- In the week up to and including 19 October, there have been 418,328 tests. This shows a decrease of 17% compared to the previous 7 days.
- In the week up to and including 24 October, there were 6,588 COVID-19-related admissions to hospital, a decrease of 15.6% compared to the week prior.
- In the week up to and including 22 October, there have been 825 deaths within 28 days of a positive COVID-19 test. This shows a decrease of 10.6% compared to the previous 7 days.
- In the week up to and including 23 October, 11,587 received a first dose vaccine, 17,523 received a second dose and 31,546 received a booster or third dose.

- Of all causes of deaths, from 01 January 2020 to 19 August 2022, the cumulative of excess mortality[15] in England was 241,084. England observed an increase in excess deaths of 19.6% over the period of 2020; an increase of 9.7% in 2021 and an increase of 1.4% in 2022 as of 19 August 2022.

Sources: **Coronavirus (COVID-19) Data: UK / GOV.UK / Office for Health Improvement and Disparities**

Germany

- As of the week ending 01 November, Germany recorded a 7-day rolling average case rate of 38,090 cases, decreasing from 70,579 cases last week.
- Deaths have decreased with a 7-day rolling average of 116.7 deaths as of 01 November compared to the previous week at 160.0 deaths.

Sources: **Our World in Data: Germany**

France

- France's eighth wave of COVID-19 has peaked and is now decreasing. As of the week ending 01 November, the 7-day rolling average case rate was 21,009 cases, decreasing from 44,392 cases last week.
- Deaths have decreased with a 7-day rolling average of 69.3 deaths as of 31 October compared to the previous week at 79.9 deaths.

Sources: **Our World in Data: France**

South Korea

- The 7-day rolling average for confirmed cases was 39,178 as of 01 November, increasing from 28,853 as of last week.
- The 7-day rolling average for confirmed deaths is 28.0 per day as of 01 November, an increase from last week at 20.6.
- The government lifted all outdoor mask mandates from 26 September.

Sources: **Our World in Data: South Korea**

[15] Including deaths with COVID-19 as the underlying cause and death with specific disease as the underlying cause.

Primary evidence on effectiveness of public health and outbreak control measures

This section outlines some of the available literature about the effectiveness of public health and outbreak control measures. It is not intended to be a systematic review of all available evidence, but to provide an overview of available evidence.

Outbreak Management

- **A retrospective cohort study of transmission in educational settings** found that uncontrolled SARS-CoV-2 transmission at school could disrupt the regular conduct of teaching activities, likely seeding the transmission into other settings and increasing the burden on contact-tracing operations.
- **An investigation on concordance of testing results for self-collected swabs versus those done by a healthcare worker** found that self-collection in school-aged children and adolescents, following simple instructions, demonstrated high agreement with results following collection by health care workers.
- **A behavioural study from New Zealand looking at the impact of compliance with COVID-19 measures** found that it is important to look at the strength of individuals' motivation and their beliefs about the advantages and disadvantages of policy outcomes and policy measures. They found this differentiation was useful in predicting an individual's possible behavioural responses to a measure.
- **A review of Taiwan's mitigation and containment strategy** found that non-pharmaceutical interventions, including public masking and social distancing, coupled with early and aggressive identification, isolation, and contact tracing to inhibit local transmission were optimal policies for public health management of COVID-19 and future emerging infectious diseases.
- **A study on behavioural decisions and risk perception** through monitoring the flows of information from both physical contact and social communication found that maintaining focus on awareness of risk among each individual's physical contacts promotes the greatest reduction in disease spread, but only when an individual is aware of the symptoms of a non-trivial proportion of their physical contacts.
- **A commentary in the Lancet on face masks** suggests that mass masking would be of particular importance for the protection of essential workers who cannot stay at home. As people return to work, mass masking might help to reduce a likely increase in transmission.
- **A research article on the efficacy of non-pharmaceutical interventions for COVID-19 in Europe** found that the population prevention and control measures implemented by the government had an impact on the change in the reproduction

rate. Furthermore, the most effective factors in individual-level prevention were a reduction of mobility/mixing.

- **A survey of COVID-19 in public transportation** looking at the risk of transmission and the impact of mitigation measures found that social distancing, density limits, masking and improving ventilation were effective at reducing the risk of transmission. Reff (effective reproduction rate) decreased by 20% after the introduction of targeted testing and by 18% after extension of face-mask rules, reducing Reff to 0.9 and suppressing the outbreak.
- **An evidence brief on the properties of the Omicron subvariants and how it affects public health measures' effectiveness** found that the effects of early isolation, adult-focused reduction of interpersonal contact, and vaccination have different sites of action in infection spread dynamics and their combination can work synergistically.
- **A Canadian wastewater research paper** has noted that the lack of a quantitative framework to assess and interpret the wastewater data generated has been a major hurdle in translating wastewater data into public health action.
- **An observational study** on the impact of contact tracing and testing on controlling COVID-19 without lockdown in Hong Kong noted that an improvement in capacity of contact tracing and testing contributed crucially to suppression of the outbreak. Additionally, probability and duration of case confirmation delay were associated with a rise in daily case number during growth of the outbreak.

Economic, Social and Health Impacts

- **A research article on COVID-19 testing and mortality outcomes** between countries found that countries that developed stronger COVID-19 testing capacity at early timepoints, as measured by tests administered per case identified, experienced a slower increase of deaths per capita.
- **A preprint study** has noted that reinfections of COVID-19 are associated with an increase of risk of all-cause mortality, hospitalisation, and adverse health outcomes.
- **A population study** using a surveillance dataset that records all results of SARS-CoV-2 tests in France found a positive social gradient between deprivation and the risk of testing positive for SARS-CoV-2.
- **An evaluation** of COVID-19 policies in 50 different countries and territories considers both pharmaceutical and non-pharmaceutical interventions and assesses a jurisdiction's success at containing COVID-19 both prior to and after vaccination.
- **Systematic review of economic evaluations of COVID-19 interventions** found that treatment, public information campaigns, quarantining identified contacts/cases, cancelling public events, and social distancing were deemed as highly cost-effective.
- **A cross-sectional study comparing OECD countries** in evaluating economic outcomes found that non-pharmaceutical interventions effectively contained the outbreaks and had positive impacts in lowering unemployment rates.

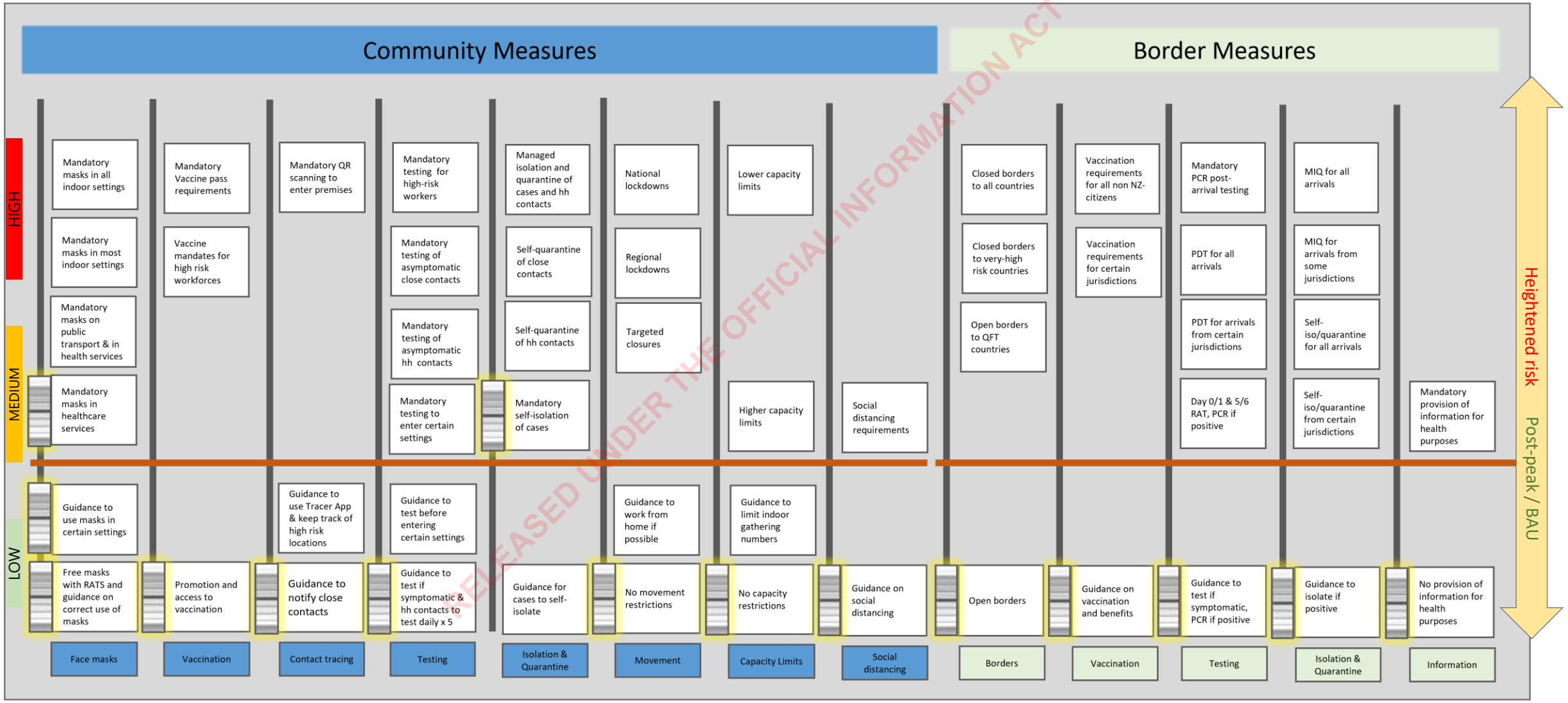
- **A research article on the disease-economy trade-offs under different epidemic control strategies** found using targeted isolation would result in the best outcome for minimising both the risk of an epidemic and the economic downturn which accompanies an epidemic.

Modelling

- **A modelling study look at preventing a cluster from becoming a new wave** in settings with zero community COVID-19 cases found that individual restriction or control strategy reduces the risk of an outbreak. Control measures can be traded off against each other, but if too many are removed there is a danger of accumulating an unsafe level of risk. This has a particular impact on increasing downstream risks with increasing international travel.
- **A modelling study looking at the impact of non-pharmaceutical interventions** on controlling COVID-19 outbreak without lockdowns in Hong Kong found that delays in implementing control measures had a significant impact on disease transmission.
- **A mathematical modelling study** assessed the impact of public compliance on non-pharmaceutical interventions with a cost-effectiveness analysis.
- **A modelling study** points to the role of super-spreader events in the contribution of novel variant predominance from a public health perspective. The results give weight to the need to focus non-pharmaceutical interventions on preventing large super-spreader events (10 or 20 secondary infections from a single infected individual).
- **A preprint study** on social gatherings and transmission found that small gatherings, due to their frequency, can be important contributors to transmission dynamics.

COVID-19 Response Measures 'Mixing Desk'

The COVID-19 'mixing desk' below illustrates New Zealand's current response measures/settings (denoted with yellow highlights). While not exhaustive, it also shows how each measure could be dialled up and down depending on the public health risk at the any time. This aims to help the PHRA to calibrate the necessary response to inform its advice to the Director-General and Ministers.



Memo

COVID-19 Public Health Risk Assessment – 22 November 2022

Date:	25 November 2022
To:	Dr Diana Sarfati, Director-General of Health, Manatū Hauora
From:	Dr Nicholas Jones, Director of Public Health, Public Health Agency, Manatū Hauora
Copy to:	Dr Andrew Old, Deputy Director-General, Public Health Agency, Manatū Hauora
For your:	Information and decision

Purpose of report

1. This memo provides advice from the Director of Public Health following the 22 November 2022 COVID-19 public health risk assessment (PHRA) that considered whether any changes are required to COVID-19 settings and other matters based on the current outbreak context and modelling.

2. This memo builds on, and provides further clarification of, the recommendations developed following the PHRA on 7 November 2022.

Summary of Director of Public Health recommendations

3. s 9(2)(f)(iv) [redacted]

[redacted]	[redacted]
Face masks	**Retain** the current face mask mandate for visitors[1] in health service settings.

	s 9(2)(f)(iv) [redacted]
Case isolation	**Retain** the 7-day case isolation requirement, with further review at the next PHRA.

4. These recommendations are consistent with the advice following the 7 November PHRA on face masks but provide suggested modifications to the essential permitted movement recommendations. This aims to ensure the overall approach remains a cohesive and pragmatic package to encourage and support public health behaviours needed to reduce transmission and the impact of COVID-19.

Background and context

High-level summary of the outbreak status and epi-context

5. Overall, reported case rates are continuing to increase albeit more slowly, after substantially increasing since early October. Wastewater trends that tend to monitor underlying infection have stabilised recently.

6. Hospital admission rates increased over October 2022, while mortality counts have remained stable. However, in the past two weeks hospital admissions have also stabilised.

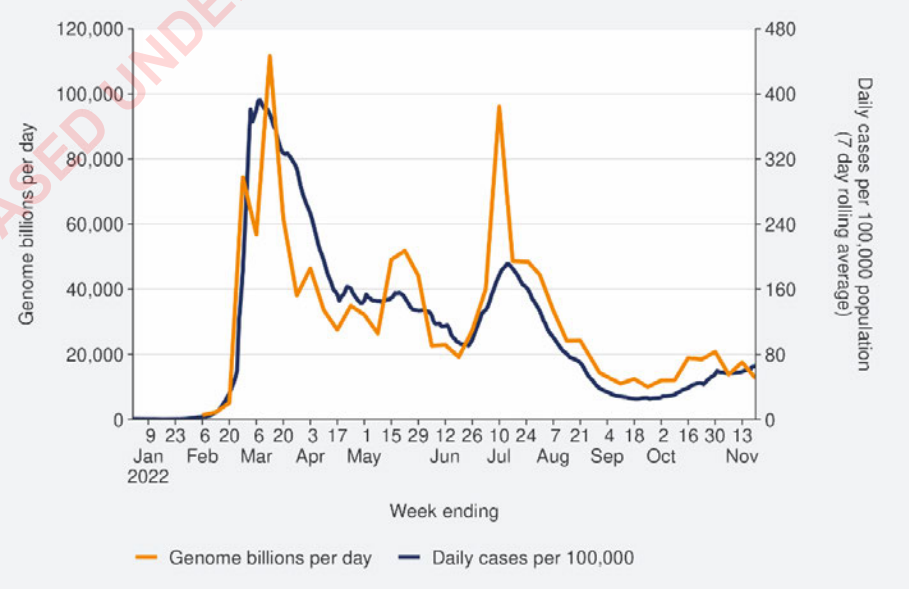
7. Experience to-date shows that these measures tend to lag changes in infection rates. The current trends are likely to be influenced by a combination of:

   a. waning immunity (vaccination and infection-induced immunity)

   b. behavioural changes associated with the relaxation of previous requirements, greater social interactions, and lower adherence with public health guidance

   c. the impact of new sub-variants.

Figure 1 - COVID-19 wastewater detection levels and daily case rates 2022 through 30 November 2022



8. Future movement of cases remains difficult to predict. Given Australia is experiencing a wave of cases that may peak in the next few weeks, if New Zealand repeats this pattern, as has occurred in the past usually within a few weeks, then cases may increase once more.

However, there is significant uncertainty when predicting case and hospital trends. A summary of the latest data is provided below, with outbreak and epidemiological-context detail in Appendix 1, and updated modelling in Appendix 2. COVID-19 data on priority populations is summarised in later sections (paragraph 27)and in Appendix 1.

Reported cases and wastewater detections

9. Reported case rates have increased by 16% from the week ending 6 November (57 per 100,000) compared to 20 November 2022 (66 per 100,000).

10. Wastewater trends have increased since early October but have stabilised in the past few weeks. However, it could be that recent trends have been affected by heavy rain across the motu.

11. The proportion of cases that were reinfections has also been increasing since the week ending 6 November (15% of cases) to the week ending 20 November (20% of cases). This suggests the current wave is at least partially arising from waning immunity and the introduction of immune evasive subvariants.

Whole genome sequencing and expected impacts of new subvariants

12. The following genomic data pertains to the period 29 October to 11 November. BA.5 remains the dominant subvariant accounting for an estimated 66% of cases. The proportion of BA.5 has been declining slowly over the previous weeks, as detections of BA.2.75 (currently 13%) and BQ.1.1 (currently 10%) are trending upward, both in whole genome sequencing (WGS) and wastewater. XBB currently makes up 3% of detected cases and is also trending upwards in wastewater. ESR reporting shows that BQ.1.1, XBB and BA.2.75 variants are over-represented in reinfections, albeit with very small sample sizes. Although the impact of these variants on the New Zealand population is not yet known, international experience suggests the emergence of these variants will increase baseline levels of transmission with an increase in cases and the potential resulting small to moderate waves over the coming months.

13. Eight cases of XBC have been identified in the most recent WGS report for the fortnight ending 11 November. XBC is a recombinant lineage that is a combination of Delta and Omicron. XBC has been present in Australia and Southeast Asia and has no indication of increased disease severity. None of the cases detected in New Zealand were listed as being hospitalised.

14. BQ.1.1 is stalling in frequency overseas and this is likely due to the emergence of further variants that are competing with BQ.1.1. International data suggests a limited impact on hospitalisations due to lower realised severity and multiple layers of immunity in the population. BQ.1.1, XBB and BA.2.75 variants all have evidence of a growth advantage compared to BA.5. There is no evidence of a change in severity compared to BA.5 for these variants. BA.2.75 subvariants have also seen growth in recent weeks to 13% of all sequenced samples for the week ending 11 November. The growth of BA.2.75 in New Zealand in October and November may be driven by an increase of CH.1.1 (46% of BA.2.75 cases in week ending 11 November).

Hospitalisations

15. The national COVID-19 hospital admissions rate 'for' COVID-19 decreased substantially from mid-July to mid-September 2022 increasing again in October. However, rates have recently stabilised to 1.2 per 100,000 compared to 1.3 per 100,000 in week ending 06 November 2022. Modelling scenarios suggest current hospital admissions are tracking

above the higher range of the prediction and it is too early to tell if the decrease is a temporary plateau.

16. Internationally, the BQ.1.1 wave of cases in Europe has, in general, not been associated with a substantial increase in hospitalisations 'for' COVID-19. This is a measure of the 'realised' severity, given the various layers of immunity in the populations (vaccine and prior infection) along with the use of antivirals for higher risk cases. This is the first time in the global pandemic that a growth advantage of variant has not translated into significant admissions 'for' COVID-19. However, the immune landscape in Europe and the US, is very different to that of New Zealand, Australia and Asia. For example, in contrast, the XBB variant did have a significant impact on hospitalisations in Singapore recently. In addition, the variant situation is very complex, making it difficult to predict if New Zealand will observe the same pattern.

Mortality

17. Deaths have been declining since peaking in the last week of July 2022, though the decline has slowed in the past few weeks.

The last COVID-19 PHRA was held two weeks ago

18. Following the previous COVID-19 PHRA on 7 November 2022, the Director of Public Health recommended:

Table 1: Director of Public Health recommendations following PHRA on 7 November

s 9(2)(f)(iv) [redacted]	[redacted]
Face masks	**Retain** the current face mask mandate in health service settings. s 9(2)(f)(iv) [redacted]
Case isolation	**Retain** the 7-day case isolation requirement, with further review in two weeks' time noting further data will be available.
Public health messaging	**Encourage** summer messaging that supports public health behaviours and adherence to measures over the holiday period.

19. The purpose of the PHRA on 22 November was to build on, and provide further clarification of, the recommendations developed following the PHRA on 7 November 2022 with the knowledge of more recent data.

Our current strategy and approach to managing COVID-19

20. The current approach to managing COVID-19 by being 'prepared, protective, resilient, and stable' is based on using a suite of measures to address general and specific risks. It is important that measures are not viewed in isolation, but rather that, when taken as a whole, they help to minimise the harm of COVID-19 to individuals, whānau, communities, businesses and the wider health system.[2]

21. Our approach for managing COVID-19 is also guided by the Strategic Framework for COVID-19 Variants of Concern that uses five scenarios, based on the characteristics of the dominant variant(s).3 The current scenario is one with mixed variants where multiple variants persist throughout the wave. While the degree of immune evasiveness varies among circulating variants the overall picture is one of relatively low severity and high transmission.

Legal mechanism to support the COVID-19 response

22. Authorisation under section 8(c) of the COVID-19 Public Health Response Act 2020 provides the legal basis for case isolation requirements and face mask requirements in health service premises. The current COVID-19 Public Health Response (Authorisation of COVID-19 Orders) Notice 2022 (the Notice) that provides this authorisation is due to expire on 20 January 2023.

23. Any new or modified requirement, as well as an extension to the duration of the Notice, will require an updated authorisation notice. Authorisation requires the Prime Minister to be satisfied that there is a risk of an outbreak or the spread of COVID-19. Manatū Hauora will provide this advice to the Prime Minister, which will be coordinated with the DPMC-led Cabinet paper on summer settings to be considered by Cabinet's Social Wellbeing Committee on 7 December 2022, and then Cabinet on 12 December 2022.

Detailed recommendations and rationale

24. The purpose of COVID-19 PHRAs are to assess the current and medium-term COVID-19 risk and to consider whether there needs to be any changes to the suite of public health measures to manage the risk. This can include recommendations to relax or escalate risk mitigation measures. In addition, the PHRA fulfils the legal requirement to keep mandatory measures (made via Orders) under regular review to ensure that they remain necessary and proportionate.

25. When combined, individual measures form a pragmatic approach to managing COVID-19. There are interdependencies between each, and we must remain aware of how they form a coherent package for the public to encourage and support the public health behaviours necessary to reduce transmission and limit the impact of COVID-19.

26. The principle of proportionality is a key consideration. This principle requires that the least restrictive measures are used and for no longer than is necessary to achieve the objective of preventing, minimising, or managing the COVID-19 public health risk. In assessing proportionality, it is important to account for both Tiriti o Waitangi and equity considerations as more restrictive measures may be required to achieve these objectives.

Essential permitted movements for COVID-19 cases

[redacted]	s 9(2)(f)(iv) [redacted]
[redacted]	[redacted]

	s s 9(2)(f)(iv) [redacted]
[redacted]	[redacted]
[redacted]	[redacted]

s 9(2)(f)(iv)

s 9(2)(f)(iv)

s 9(2)(f)(iv)

	s s 9(2)(f)(iv) [redacted]
[redacted]	[redacted]

s 9(2)(f)(iv)

Face masks

Current requirement	The COVID-19 Public Health Response (Masks) Order 2022 specifies that: 1. face masks are mandatory for visitors[2] in health service settings including primary and urgent care, pharmacies, hospitals, aged residential care (ARC), disability-related residential care, allied health, and other health service settings) 2. there are exclusions for: patients and people receiving residential care, health service staff, and visitors to specific health services (psychotherapy, counselling, mental health and addiction services). Requirements for patients and workers of health services are determined locally, based on local assessments in line with Infection Prevention and Control Guidance.
PHRA committee recommendation	**Retain** the current face mask mandate in health service settings. s 9(2)(f)(iv) [redacted]
s 9(2)(f)(iv) [redacted]	s s 9(2)(f)(iv) [redacted]
Public health rationale	6. Evidence that wearing a face mask decreases the rate of COVID-19 community transmission (and other airborne respiratory viruses) is substantial (HR20221311 outlined the evidence base of their use and mandates). 7. Face mask mandates are an effective way to limit community transmission. Overseas evidence suggests it increases adherence[3], are associated with reductions in COVID-19 case and mortality growth rates[4 5 6 7], and the that the timing of when face mask mandates are applied matters - early application is associated with a reduction in cases and mortality rates.[8] 8. The effectiveness of face mask mandates as a public health intervention depends on several factors. This includes the current level of community transmission, the nature of the settings in which masking is required, cultural and geographical norms around masking, correct use, social licence and compliance and the extent to which improvements to ventilation/filtration have been enacted as systemic primary prevention. 9. Face mask mandates lean against inequity, to ensure that people who are at higher risk can access basic services without avoidable additional risk. A conservative estimate is that one in every six New Zealanders is at higher risk of severe illness if they contract COVID-19.[9] Mandates have two benefits for those people: it means that they will be less likely to be infected and be more likely to feel able to continue to safely participate in basic activities of life, eg. accessing healthcare, catching the bus, or visiting people over the summer.

Health service settings

10. Health service settings have a series of characteristics that elevate the risk of transmission and/or the risk of severe disease. These settings typically:

    a. may be more likely than other settings to have people present with undifferentiated viral illness, either because they are seeking help for symptoms or because they have a co-existing medical emergency

    b. are more likely to have vulnerable people present, either due to advanced age, underlying conditions, or to being unwell at the time - facility-level face mask requirements lean against inequity, to ensure that people who are at higher risk can access health services without avoidable additional risk

    c. have variable ability to improve crowding, indoor ventilation and/or air filtration[10]

    d. hospital-acquired COVID-19 infections are more likely to have poorer outcomes than community-acquired infections11 - feedback from two districts has noted possible links between visitors and hospital-acquired cases of COVID-19

    e. people often do not have a choice in whether they access a health service.

11. While adherence to face mask requirements may be waning or patchy in some health service settings, adherence could drop further if the mandate was removed, as evidenced by the decreased use on public transport since the mandate was dropped in mid-September (but has remained recommended by Manatū Hauora).

s 9(2)(f)(iv) [redacted]

[redacted]

s 9(2)(f)(iv)

	s 9(2)(f)(iv) [redacted]
[redacted]	[redacted]

Case isolation

Current requirement	Mandatory 7-day self-isolation of COVID-19 cases.
PHRA Committee recommendation	**Retain** the 7-day case isolation requirement.
Director of Public Health comment	1. The Committee considered evidence from a recent survey that young people, Māori, Pacific and Asian people are more likely to experience work related barriers to isolation. Māori and Pacific are also more likely to be unable to isolate due to the need to take care of others. The Committee was unable, however, to establish whether the reported barriers are resulting in adverse impacts such as loss of income or job loss. 2. There is therefore a potential that unnecessarily requiring isolation at day 6 and 7 when a case is no longer infectious may contribute to inequity associated with isolation. A majority of committee members however took the view that the introduction of a test to release policy that could reduce the adverse impacts of isolation was more likely to increase inequity overall because of the risk that a test to release strategy would result in a general trend to ceasing isolation after 5 days without testing. In the absence of definitive evidence either way I concur with the Committee noting that further planned analysis of survey data may inform a review of this recommendation.
Public health rationale	3. Based on the current outbreak status and epidemiological context, the requirement should remain with further review at the next PHRA. 4. By then, further evidence to inform the PHRA is likely to be available, including more trend data and behavioural insights regarding adherence to mandates and other public health measures. 5. The rationale for continuing to require self-isolation is as follows: a. Isolation of cases remains the cornerstone of New Zealand's public health response to COVID-19. This measure significantly limits transmission of COVID-19 as it helps to break the chain of transmission by reducing the proportion of infectious people having contact with and infecting others in the community, many of whom may be at high risk of poor outcomes. b. Without mandated case isolation, it is highly likely adherence to guidance would be lower, resulting in more infectious cases seeding community transmission and increasing overall case rates. c. Overseas evidence suggests that a legal requirement to isolate results in significantly greater adherence than a recommendation to isolate. Experience when other mandates (eg masks) have been removed in New Zealand reinforces the fact that adherence to guidance is typically much

	lower than to mandates. However, given cases may be unwell from the symptoms of COVID-19, there may be a higher adherence to self-isolation guidance than for other measures. d. While there has been a reduction in isolation requirements over the course of the outbreak, we have reached what is probably the minimum threshold for self-isolation of cases to remain an effective intervention. A mandatory requirement for 5-day isolation would not be an effective intervention, as the majority of people would still be infectious to some degree on release at 5 days. e. Other infection control tools, such as requiring face masks or physical distancing are significantly less effective than isolation. We have been able to recommend removing or reducing some of those other tools in part because case isolation has remained in place. However, there is no combination of other mechanisms that would come close to producing the public health benefit that required case self-isolation does. 6. Advice from the 7 November 2022 PHRA continues to be relevant and has been updated in Appendix 4 to ensure that this measure continues to be reviewed and monitored. This ensures that it remains a proportionate and effective at limiting the impact of COVID-19.
Other comments	7. The recommended changes to essential permitted movements (as outlined earlier), will reduce some potential burden of isolation and address potential equity issues.

Equity and Te Tiriti o Waitangi

Impact of COVID-19 on vulnerable populations

27. Pacific peoples and Māori continue to have the highest hospitalisation rate compared to other ethnicities, after standardising by age (refer Appendix One). In the week ending 23 October 2022, age-standardised rates for hospitalisation for COVID-19 decreased for all ethnicities except Pacific peoples. COVID-19 attributed mortality rates are also higher among Pasifika (2.4x) and Māori (1.9x), compared to European and other ethnicities.

28. The most deprived populations continue to have the highest rates of hospitalisation, and have twice the risk of hospitalisation, compared with those who are least deprived.

29. Disabled people who receive the Disability Support Services Payment also have a hospitalisation risk that is approximately four times higher than the general population. Further, rates of COVID-19 attributed mortality are approximately 1.5 times higher among this group compared to the rest of the population.

30. Modelling predicts that the mid-December 2022 peak will see 1800 daily new cases among Māori and 800-900 daily new cases among Pacific Peoples. It also indicates that during the peak there may be 30 Māori and 15 Pacific Peoples hospital admissions per day.

31. Committee members emphasised that any reductions of public health measures will increase prevalence of Long COVID, and that this increased prevalence will disproportionately impact Māori, Pacific Peoples and disabled people. Further, reductions of public health measures pose a risk to those who already have Long COVID, as they are more susceptible to reinfection, and reinfection can worsen their Long COVID symptoms.

Addressing equity concerns

32. Whaikaha representatives on the committee note that the reduction in measures over time has caused anxiety amongst vulnerable communities. For example, amongst disabled people, many are opting for ongoing isolation or limiting interactions with others in their community due to the perceived or actual risk. There is also an ongoing concern that the public may not take the risk of COVID-19 seriously, and adhere to public health measures, putting vulnerable populations further at risk.

33. In a Manatū Hauora survey conducted between 29 September and 9 October 2022, Māori health providers indicated that targeted Māori holistic immunisation programs and addressing the impacts of Long COVID were the areas of highest importance for them and their communities.

34. There is a strong preference to build 'borders' around vulnerable populations, through either differentiated public health responses or the retention of current requirements.

Equity considerations in these recommendations

35. With a new wave of cases expected to peak in the latter part of December, it is important that public health measures improve health equity and uphold Te Tiriti o Waitangi principles by protecting groups who are most vulnerable to COVID-19.

36. There was support among Committee members for retaining and increasing existing mandated measures to protect vulnerable communities. The removal of other measures in recent months were considered to have already put these communities at greater risk.

37. s 9(2)(g)(i) [redacted]

39. Stakeholders from the disability community have expressed concern around the lack of mask wearing by drivers in taxis and ride share vehicles. Many disabled people rely on taxis and ride shares for essential travel. Clinicians have echoed this concern and added that ventilation and mask guidance should be provided to taxi companies and ride share operators.

40. There was support among most Committee members to retain the 7-day isolation requirement. Committee members expressed concern that changing to 5-day test to release might confuse people, and would place some vulnerable people under pressure from their employers to return to work after 5 days of isolation, regardless of whether a negative test has been taken. They also said that 7-day isolation reduces the risk of

infectious cases leaving isolation, and of cases getting Long COVID as it encourages cases recover fully before returning to work and activities such as exercise.

41. If the COVID-19 situation significantly changes, enforceable or mandatory measures may be re-introduced to protect our vulnerable populations. This would be an effective and proportionate response to a worsening risk profile.

s 9(2)(h) [redacted]

[redacted]

s 9(2)(h) [redacted]

Next steps

49. Pending your agreement, we will share this memo with DPMC, the Minister for COVID-19 Response's Office, and the Parliamentary Counsel Office.

50. On 28 November you will provide advice to the Minister for COVID-19 that draws on this memo and any additional information or advice you wish to include.

51. That PHRA and your subsequent advice to Minister for COVID-19 Response will then inform a DPMC-led Cabinet paper on that topic to be considered by Cabinet's Social Wellbeing Committee on 7 December 2022, and then Cabinet on 12 December 2022.

Recommendations

It is recommended that you:

1	**Note**	that on 22 November 2022, a public health risk assessment (PHRA) considered the current and medium term COVID-19 risk, reviewed existing mandated measures whether any changes were needed to current settings.	**Noted**
2	**Note**	overall, the key measures of infection used to monitor the COVID-19 epidemic show mixed trends in the past week - case rates have increased, whilst wastewater quantification, hospital admissions, and mortality have started to stabilise.	**Noted**
3	**Note**	that it is possible that over the next few weeks, cases, hospitalisations and mortality could increase; however, the magnitude, timing, and duration of the peak and new baseline trends of cases, hospitalisations and mortality is currently uncertain.	**Noted**
4	**Note**	that possible causes for this increase are waning immunity, new variants, or changes in behaviour (or a combination of these factors).	**Noted**

5	**Note**	that there continue to be significant differences in the impact that COVID-19 is having on different population groups, which is likely to be partly due to increased exposure to risk, and partly to increased vulnerability: i. Māori and Pacific Peoples continue to have higher age-adjusted hospitalisation and mortality rates than other ethnicities ii. the most deprived groups have twice the risk of hospitalisation compared with least deprived groups iii. disabled people who receive the Disability Support Services Payment have a hospitalisation risk that is approximately four times higher than the general population as well as having COVID-19 attributed mortality rates approximately 1.5 times higher than the rest of the population.	**Noted**
6	**Note**	that the PHRA considered the settings relating to the remaining mandatory requirements for: i. s 9(2)(f)(iv) [redacted] ii. mandatory mask use iii. mandatory 7-day self-isolation	**Noted**

7	**Note**	that as the Director of Public Health I recommend the following to: i. s 9(2)(f)(iv) [redacted] iii. **Clarify** in the Self-isolation Order that the exemptions permitted in the Mask Order from the requirement to wear a face mask do not apply to cases. iv. **Retain** the current face mask mandate for health service settings. v. s 9(2)(f)(iv) [redacted] vi. **Retain** the 7-day case isolation requirement.	**Noted**
8	**Agree**	s 9(2)(f)(iv) [redacted]	

		iii. **Clarify** in the Self-isolation Order that the exemptions permitted in the Mask Order from the requirement to wear a face mask do not apply to cases.	**Yes**
		iv. **Retain** the current face mask mandate for health service settings.	**Yes**
		v. s 9(2)(f)(iv) [redacted]	[redacted]
		vi. **Retain** the 7-day case isolation requirement.	**Yes**
9	**Note**	that on 28 November you will provide advice to the Minister for COVID-19 Response based on this memo.	**Noted**
10	**Agree**	to forward this memo to the Department of the Prime Minister and Cabinet (DPMC), the Minister for COVID-19 Response's Office, and the Parliamentary Counsel Office for their information.	**Yes**
11	**Note**	that DPMC is preparing a paper for the Minister for COVID-19 Response, to confirm the suite of mandated and other measures in place over the summer period to be considered by Cabinet's Social Wellbeing Committee on 7 December 2022 and Cabinet on 12 December 2022.	**Noted**

Signature Date: 25 November 2022
Dr Nicholas Jones
Director of Public Health
Public Health Agency

Signature Date: 28 November 2022
Dr Diana Sarfati
Director-General of Health
Manatū Hauora

Appendix 1: Trends and Insights Report (18 November 2022)

Appendix 2: Summary of modelling

1. COVID-19 Modelling Aotearoa (CMA) used a stochastic simulation model to calculate average population-level case isolation outcomes for a range of metrics.

2. Moving from the current 7 days isolation (no TTR) to 5 days isolation (plus negative TTR) increases the time cases are infectious in the community but reduces the amount of excess isolation.

3. Switching from the status quo of 7 days isolation to 5 days isolation (max 7 days with one negative TTR) isolation results in an increase in the average number of hours infectious post-release per confirmed case: from 8.9 to 12.4 hours (+39%).

4. This increased risk is accompanied by a decrease in the average number of hours spent in isolation after the infectious period ends (excess isolation): 83.2 hours drops to 50.9 hours (-39%).

5. As contrast, a pessimistic scenario accounting for no TTR and low compliance in switching from status quo to 5 days with no TTR). This resulted in an increase in the average hours infectious post-release per confirmed case: from 8.9 to 19.3 hours (+56%) compared to status quo.

6. Preliminary modelling analysis indicated that the recent changes to contact quarantine rules on the 12 of September increased overall transmission between 8.5% to 15%.

	7 days, no TTR	TTR; min 5, max 7		5 days, no TTR
RAT sensitivity modelled	-	75% RAT sensitivity	95% RAT sensitivity	-
Average hours infectious post-release	8.9 hrs [5.1, 13.5]	12.4 hrs [7.9, 18.1]	10.0 hrs [5.8, 15.2]	19.3 hrs [12.4, 27.1]
Average hours excess isolation	83.2 hrs [72.8, 94.3]	50.9 hrs [44.0, 57.9]	53.0 hrs [45.8, 60.5]	45.2 hrs [37.9, 53.4]
Average isolation duration	7.5 days	6.1 days [6.0, 6.2]	6.2 days [6.1, 6.3]	5.5 days
Percent of cases infectious at release	14.6% [9.7%, 20.1%]	20.8% [15.4%, 26.9%]	17.6% [12.1%, 23.7%]	29.7% [22.4%, 37.2%]

7. The 75% sensitivity results are likely to be a pessimistic estimate of test sensitivity, as literature which compares viral culture to RAT results finds test sensitivities of 90-95%.

8. These results could be interpreted as already incorporating some level of poor RAT technique and reduced compliance in testing. The higher sensitivity estimate for RATs (95%), reflects a high compliance situation. In this case the effectiveness of the TTR policy increases, in terms of reductions in both hours infectious after release and proportion released while still infectious. The higher RAT sensitivity estimates result in very little increase in the overall average isolation time and excess isolation.

s 9(2)(f)(iv)

[redacted]

s 9(2)(f)(iv) [redacted]

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s 9(2)(f)(iv) [redacted]

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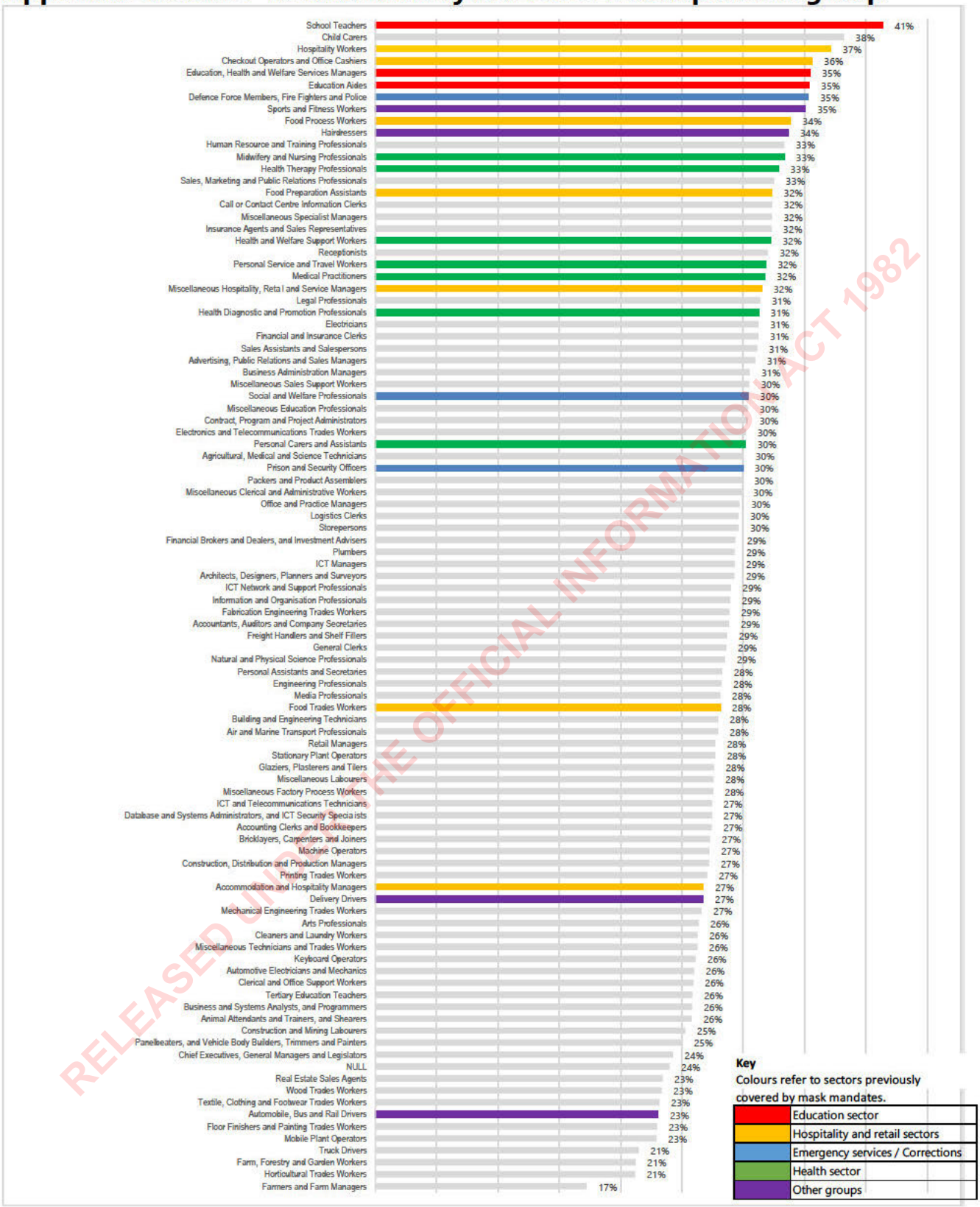
MANATŪ HAUORA
MINISTRY OF HEALTH

Appendix 4: COVID-19 case rates by ANZSCO L3 occupational group[38]



Endnotes

[1] The mandate requires people to wear a mask when they are on the premises of a health service unless they are a patient or a worker of the health service, or they are receiving residential care at the premises, or the premises provides psychotherapy, counselling, mental health, or addiction services. Health service is defined very broadly – see the website for further details: https://covid19.govt.nz/prepare-and-stay-safe/protect-yourself-and-others-from-covid-19/face-masks/wearing-a-face-mask/

[2] The mandate requires people to wear a mask when they are on the premises of a health service unless they are a patient or a worker of the health service, or they are receiving residential care at the premises, or the premises provides psychotherapy, counselling, mental health, or addiction services. Health service is defined very broadly – see the website for further details: https://covid19.govt.nz/prepare-and-stay-safe/protect-yourself-and-others-from-covid-19/face-masks/wearing-a-face-mask/

[3] Adjodah D, Dinakar K, Chinazzi M, Fraiberger SP, Pentland A, Bates S, et al. (2021) Association between COVID-19 outcomes and mask mandates, adherence, and attitudes. PLoS ONE 16(6): e0252315. https://doi.org/10.1371/journal.pone.0252315

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[5] Adjodah D, Dinakar K, Chinazzi M, Fraiberger SP, Pentland A, Bates S, et al. (2021) Association between COVID-19 outcomes and mask mandates, adherence, and attitudes. PLoS ONE 16(6): e0252315. https://doi.org/10.1371/journal.pone.0252315

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[7] oo, H., Miller, G. F., Sunshine, G., Gakh, M., Pike, J., Havers, F. P., Kim, L., Weber, R., Dugmeoglu, S., Watson, C., & Coronado, F. (2021). Decline in COVID-19 Hospitalization Growth Rates Associated with Statewide Mask Mandates, March-October 2020. *Morbidity and mortality weekly report*, *70*(6), 212–216.

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[9] The Ministry of Health does not have precise figures for the number of New Zealanders who meet the definition of being at higher risk. However, in April 2022, the number of 'clinically vulnerable' people (which is defined more narrowly than 'high risk') was estimated at 800,000. 'Options for improving respiratory protection against aerosolised viral particles for vulnerable and priority populations' (HR20220682), 29 April 2022.

[10] Many health service settings do not have good design or engineering. Therefore, the value of face masks to protect those more vulnerable increases when there is frequent introduction of infection into those environments. This is true of community healthcare settings, but also is an issue in many hospitals as older wards are mostly multibed rooms (eg. 4-6), have shared bathrooms and no doors on rooms, making it hard to isolate and improve air filtration.

[11] In Victoria, Australia, 7.6% of hospital-acquired infections resulted in death, compared to 0.14% of reported cases in the general population in the same period. This shows that infections in hospital settings are associated with significantly (over 50-fold) higher mortality. Victoria Department of Health. 2022. Chief Health Officer Advice to Premier, 29 August 2022.

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[15] Ministry of Health. (2022, July 28). *COVID-19: Infection prevention and control guidance for the air border*

[16] https://www.theguardian.com/world/2022/jan/21/two-thirds-of-passengers-on-first-flight-to-covid-free-kiribati-diagnosed-with-virus

[17] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7920679/

[18] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7588538/

[19] https://www.france24.com/en/live-news/20211127-dutch-say-61-covid-positive-on-flights-from-s-africa

[21] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/coronaviruscovid19relateddeathsbyoccupationenglandandwales/deathsregisteredbetween9marchand28december2020

[22] https://www.health.govt.nz/publication/covid-19-mortality-aotearoa-new-zealand-inequities-risk

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[25] Douaud, G., Lee, S., Alfaro-Almagro, F. *et al.* SARS-CoV-2 is associated with changes in brain structure in UK Biobank. *Nature* 604, 697–707 (2022). https://doi.org/10.1038/s41 586-022-04569-5

[26] Xie, Y. & Al-Aly, Z. *Lancet Diabetes Endocrinol.* https://doi.org/10.1016/S2213-8587(22)00044-4 (2022).

[27] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/infections

[28] Cutler DM. The Costs of Long COVID. *JAMA Health Forum.* 2022;3(5):e221809. doi:10.1001/jamahealthforum.2022.1809

[29] For example, a November 2022 report from the Office for National Statistics in the UK estimated that 2.1 million people living in private households (3.3% of the population) were experiencing self-reported long COVID (symptoms continuing for more than four weeks after the first suspected COVID-19 infection that were not explained by something else) as at 1 October 2022. See https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/infections

[30] https://www.brookings.edu/research/new-data-shows-long-covid-is-keeping-as-many-as-4-million-people-out-of-work/

[31] Lin D-Y, Gu Y, Wheeler B, et al. Effectiveness of COVID-19 vaccines over a 9-month period in North Carolina. N Engl J Med. 2022. https://doi.org/10.1056/nejmoa2117128.

[32] Wen Wen, Chen Chen, Jiake Tang, Chunyi Wang, Mengyun Zhou, Yongran Cheng, Xiang Zhou, Qi Wu, Xingwei Zhang, Zhanhui Feng, Mingwei Wang & Qin Mao (2022) Efficacy and safety of three new oral antiviral treatment (molnupiravir, fluvoxamine and Paxlovid) for COVID-19 : a meta-analysis, Annals of Medicine, 54:1, 516-523, DOI: 10.1080/07853890.2022.2034936

[33] https://pharmac.govt.nz/news-and-resources/covid19/access-criteria-for-covid-19-medicines/covid-antivirals/

[34] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-health-advice-public/about-covid-19/getting-reinfected-covid-19

[35] Routsias, J.G., Mavrouli, M., Tsoplou, P. *et al.* Diagnostic performance of rapid antigen tests (RATs) for SARS-CoV-2 and their efficacy in monitoring the infectiousness of COVID-19 patients. *Sci Rep* **11**, 22863 (2021). https://doi.org/10.1038/s41598-021-02197-z

[36] The Research Agency (TRA). *July 2022 DPMC Behaviour & Sentiment Topline.*

[37] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandselfisolationaftertestingpositiveinengland/17to26march2022

[38] Data comes from the Integrated Data Infrastructure (IDI) (StatsNZ). These are crude rates and are from self-reported community testing, which may or may not indicate an increased risk of transmission in that setting, but that could indicate an increased risk of workers being infectious in their workplace setting. Occupation relates to the person's primary job. Data includes all cases to 14 August 2022.

Document 4

Memo

Public health risk assessment – 2 January 2023

Date:	2 January 2023
To:	Robyn Shearer, Acting Director-General of Health
Copy to:	Dr Andrew Old, Deputy Director-General, Public Health Agency
From:	Dr Richard Jaine, Acting Director of Public Health
For your:	Information

Purpose of report

1. This memo summarises the outcome of the public health risk assessment undertaken on 02 January 2023 in relation to the risk posed by new variants of COVID-19, with particular focus on advice related to the evolving COVID-19 situation in China.
2. Alongside this briefing, Te Whatu Ora is providing a separate update on the operational response.

Background and context

Current intelligence update – China

3. China has now ended most of their COVID-19 restrictions, however, has not attained high levels of immunity due to incomplete vaccination coverage and a lack of prior COVID-19 infection in the community.
4. As of 02 December 2022, the 7-day rolling average of daily new confirmed cases was 40,791. Unfortunately, China has not been reporting cases since 25 December 2022, so an accurate estimate of current cases is not available.

Other Countries

United States of America

5. As of 31 December 2022, the United States (US) report a 7-day rolling average of daily new confirmed cases as 155.61 per million people.[1]
6. The United States will impose mandatory Covid-19 tests on travellers from China beginning on 05 January 2023. All air passengers aged two and older will require a negative result from a test no more than two days before departure from China, Hong Kong or Macau.[2]
7. The Centres for Disease Control and Prevention (CDC) also said U.S. citizens should reconsider travel to China, Hong Kong and Macau.[3]

[1] https://ourworldindata.org/covid-cases - filtered by United States – accessed 02 January 2023 at 1600hrs
[2] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1552hrs
[3] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1552hrs

United Kingdom

8. As of 27 December 2022, the United Kingdom (UK) report a 7-day rolling average of daily new confirmed cases as 97.43 cases per million people.[4]

9. As of 05 January 2023, the UK will require a pre-departure negative COVID-19 test from passengers travelling from China.[5]

Canada

10. As of 31 December 2022, Canada reports a 7-day rolling average of daily new confirmed COVID-19 cases as 27.24 cases per million people.[6]

11. It was announced on 31 December 2022, that air travellers to Canada from China must test negative for Covid-19 no more than two days before departure.[7]

Australia

12. As of 29 December 2022, Australia reports a 7-day rolling average of daily new confirmed COVID-19 cases as 311.76 per million people.[8]

13. In response to the situation in China, Australia announced (1 January 2023) that all travellers from China will need to submit a negative COVID-19 test, effective from 5 January 2023.[9]

Hong Kong

14. As 0000hrs 01 January 2023 Hong Kong report 2,648,994 confirmed COVID-19 cases.[10] Hong Kong currently has the highest 7 day rolling average of cases globally. Per day, there has been 3,091.75 daily new confirmed cases, per million people in Hong Kong (7-day rolling average). In comparison, New Zealand currently has 884.62 daily new confirmed cases per million people.[11]

What we know about BF.7

15. China has identified BF.7 as the main variant spreading in Beijing, however, whole genome sequencing data from China is very sparse.

16. BF.7 is a sub lineage of the Omicron variant BA.5 and may have stronger transmissibility compared to other Omicron subvariants.

17. BF.7 has now been detected in several other countries around the world including India, the United States (US), the United Kingdom (UK) and several European countries such as Belgium, Germany, France and Denmark.

18. The variant appears to remain at low levels in non-Chinese contexts. For example, in the US, it was estimated to account for 5.7% of infections up to 10 December 2022, a decrease from 6.6% the week prior.

19. BF.7's growth in China is thought to be due to the low level of immunity in the Chinese population from previous infection, and incomplete vaccination coverage.

What we know about XBB.1.5

[4] https://ourworldindata.org/covid-cases - filtered by United Kingdom – accessed 02 January 2023 at 1600hrs
[5] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1552hrs
[6] https://ourworldindata.org/covid-cases - filtered by Canada – accessed 02 January 2023 at 1600hrs
[7] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1552hrs
[8] https://ourworldindata.org/covid-cases - filtered by Australia – accessed 02 January 2023 at 1600hrs
[9] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1552hrs
[10] https://chp-dashboard.geodata.gov.hk/covid-19/en.html accessed 02 January 2022 at 1448hrs
[11] https://ourworldindata.org/covid-cases accessed 02 January 2022 at 1455hrs

20. A new omicron subvariant has been detected in the United States of America, XBB.1.5.

21. According to the Centers for Disease Control and Prevention in America, this subvariant currently accounts for 40.5% of new infections across the United States and has risen rapidly over the past few weeks.

22. At this stage, information on wider impact, including disease severity, is limited, but it is noteworthy that in New York, hospitalisations have been rising markedly in the past few weeks, in line with the rise in XBB.1.5, and are now at their highest levels for a year.

International Travellers to Aotearoa

23. An increase in travellers to New Zealand is expected and brings with it a heightened risk of imported COVID-19 cases into New Zealand over the coming months. This is due to increases in international flights, the upcoming tourist season, and specifically an increase in travel from China as their restrictions ease. For example, the Civil Aviation Association of China plans to increase inbound and outbound travel by 106% compared to the same time last year.[12]

24. The New Zealand Customs Service indicated that around 9,000 arrivals from mainland China, Hong Kong and Macau were expected in New Zealand in the week commencing Monday 2 January 2023, all through Auckland Airport. This is well above the level of passenger arrivals from China in recent months.[13]

Historical passenger arrivals from China

Month	2019	2021	2022
January	56079	480	351
February	49668	594	276
March	43701	762	855
April	37362	504	762
May	62520	720	1587
June	30648	939	1761
July	40104	774	2523
August	36063	498	2286
September	33237	408	3399
October	38658	423	4218
November	43413	306	4353
December	49710	492	2700*
TOTAL	**491163**	**6900**	**25071**

***This data was last updated on 14 December 2022. Hence December 2022 has data only till 14 December.**

25. New Zealand's current variant distribution is mixed, with multiple variants in circulation. Current population immunity is likely to be high due to prior infection and high vaccination/booster uptake. However, a new variant could bypass this immunity, potentially increasing rates of reinfection.

26. In recent days, some jurisdictions have announced the reintroduction of pre-departure testing requirements for arrivals from China. This includes the United States, the United Kingdom and Australia[14].

[12] Ministry of Transport, Border Executive Board (BEB) – 20 December 2022
[13] Ministry of Transport, Border Executive Board (BEB) – 20 December 2022
14 Jurisdictions now imposing curbs on China travellers as of 1 January 2023 includes United States, Britain, France, Australia, India, Canada, Japan, Italy, Spain, Malaysia, Taiwan, South Korea and Morocco – refer to appendix 1.

Public health risk assessment

27. The current high-level policy objectives for New Zealand's response remain the same. That is, to protect the New Zealand health system and to protect the most vulnerable in the community. The public health risk is assessed in that context.

28. New Zealand's current settings are aimed at achieving those objectives. These settings include the various surveillance measures used to understand the mix of variants circulating in the community (e.g., whole genome sequencing from wastewater and patient samples). Manatū Hauora also monitors international surveillance and evidence regarding new variants.

29. The purpose of any immediate actions taken at this time should be to ensure we are gathering the most appropriate data to inform our decisions going forward.

30. Given the current information available on BF.7 (as highlighted in the above section), **the risk of BF.7 to the New Zealand health system and vulnerable populations in New Zealand is considered low.**

31. Requiring pre-departure testing (PDT) or additional on-arrival testing for travellers to New Zealand would not be a proportionate response to the risk and is unlikely to significantly benefit New Zealand's response or provide public health value. While PDT would reduce the number of cases entering New Zealand (as well as the number of international travellers required to isolate in New Zealand), the overall impact of these cases on the health system is considered to be low.

32. It is important to ensure our surveillance system to monitor COVID-19 variants circulating in New Zealand is functioning well, and, where needed, improved. To maximise public health benefit, any enhanced in-country surveillance should be applied in a way that supports detection, regardless of origin, given variants may arise anywhere in the world.

33. Implementing any testing or other requirements on travellers from China alone would not be equitable or proportionate to the risk posed by travellers from China compared to other regions and countries. Implementing such measures would also pose significant risk of stimulating or perpetuating anti-Chinese, anti-Asian sentiment which was highly prevalent in the early stages of the COVID pandemic.

34. There is currently very limited information available about the XBB.1.5 subvariant circulating in the United States. The public health recommendation is to continue to monitor the international evidence regarding this subvariant and it highlights the need to continue to take a broad approach to the monitoring and assessment of new variants of concern.

Pre-departure testing for travellers arriving from China

PHRA recommendation	35. There is limited public health value in implementing pre-departure testing for travellers from China – not recommended.
Summary of rationale	36. On the basis of currently available information, requiring PDT or additional on-arrival testing for travellers to New Zealand is likely to have very limited benefit.

	37. There may be benefit in enhancing surveillance of COVID-19 variants entering New Zealand however restricting such surveillance to a single region or country is inequitable and would not provide meaningful surveillance for this purpose (that is, variants may arise anywhere is the world, and there is a paucity of data from many other regions and countries). PDT would also not provide meaningful surveillance of the current situation in China. 38. Implementing any testing or other requirements on travellers from China alone would not be equitable or proportionate to the risk posed by travellers from China compared to other regions and countries. 39. While PDT would reduce the number of cases entering New Zealand (as well as the number of international travellers required to isolate in New Zealand), the overall impact of these cases on the health system is considered to be low.
Additional information	*Testing and service access* 40. It is currently recommended that international arrivals: a. do a rapid antigen test (RAT) if they have symptoms on or after arrival; b. report any positive result to the Ministry of Health, and if positive, take a follow-up PCR test.[15] 41. In response to the situation in China, the following changes will be made: a. From mid-January 2023, welcome pack flyers will be available in Chinese. b. A QR code will also be added to the flyer that will take people to the translated websites (information available in 27 languages on when to test, how to access RATs, what to do when you test positive etc). c. From 8 January, airports will have posters in Chinese including the QR code. 42. s 9(2)(b)(ii) [redacted]

[15] https://covid19.health.nz/advice/travelling-new-zealand/test-when-you-arrive
[16] https://www.tewhatuora.govt.nz/for-the-health-sector/covid-19-information-for-health-professionals/covid-19-information-for-all-health-professionals/covid-19-advice-for-all-health-professionals#visitors-to-new-zealand-who-require-treatment-for-covid-19

s 9(2)(b)(ii) [redacted]

c. s 9(2)(ba)(i) [redacted]

Border Surveillance

43. Whole Genome Sequencing (WGS):

    a. Without NZTD in place, it is not possible to differentiate border cases from community cases in WGS reporting.

44. Airport/Airplane Testing:

    a. Prior to the Christmas/New Year period, work was ongoing by ESR to establish wastewater testing at airports and from airplanes.

    b. A specific assay has been developed to wastewater at a sufficient level of sensitivity and accuracy, following trials at Auckland and Christchurch airports.

    c. However, there remain operational challenges, including that:

        i. airports and airplane wastewater is aggregated at a single collection point,

        ii. the samplers used in the community don't collect sufficient quantities in airport/airplane water, and

        iii. logistical challengers due to the collection being undertaken by airport staff (not ESR)

45. ESR Labs:

    a. ESR labs are currently planned to be operational from 4 January. ESR is exploring whether it would be possible for labs to open earlier.

What would be needed to reinstate PDT?

46. If there was a need to reinstating a requirement for PDT, this would involve:

    a. Developing a new order under the COVID-19 Public Health Response Act 2020 – this would involve deciding who would be required to do PDT, what form of PDT would be acceptable, and within what timeframe.

    b. Approval of the Prime Minister to use the Order.

47. Advice from border agencies is that this would take several weeks to set up, with significant set up and ongoing costs.

XBB.1.5

48. As noted earlier, information on this Omicron subvariant is currently limited (see paras 23-25). Cases of XBB.1.5 ('Kraken') have shown strong growth in New York City in recent weeks, and the Northeast region of USA generally.

PHRA recommendation	49. There is currently very limited information available about the current XBB.1.5 subvariant circulating in the United States. The public health recommendation is to continue to monitor the international evidence regarding this subvariant and it highlights the need to continue to take a broad approach to the monitoring and assessment of new variants of concern.

Agency views

50. Manatū Hauora has informed other agencies of the outcome of the PHRA through the National Response Group and other channels. However, at this stage, only limited engagement with other agencies has been undertaken. This paper provides public health and health policy advice, but not system-wide advice on the response to COVID-19.

51. Should changes to public health measures at the border be made, more detailed engagement will be required with a range of border agencies to develop system-wide advice, including but not limited to MFAT, MoT, the Border Executive Board and Customs.

52. Some key concerns already raised by agencies are that:

    a. The Ministry of Foreign Affairs and Trade has indicated that should Ministers decide to adopt any new public health measures affecting travellers from China (such as pre-departure testing), sufficient time should be allowed prior to any announcement to advise Chinese authorities

    b. The New Zealand Customs Service and the Ministry of Transport have also advised that considerable lead times would be required to reintroduce border requirements, and it is critical that the operational implementation of changes are worked through thoroughly with industry. This would be particularly difficult during summer, with large numbers of people already moving through airports and existing issues managing the backlog of luggage.

Next steps

53. This issue will be discussed with the Minister for COVID-19 Response on 2 January 2023.

54. Should the Minister wish to further explore any specific public health measures at the border, Manatū Hauora will engage with border agencies with a view to providing more fulsome advice. This would likely be provided to the Minister by Thursday 5 January.

55. Additionally:

    a. Manatū Hauora will continue to monitor variants emerging overseas, particularly XBB.1.5 in the United States

    b. Te Whatu Ora will implement a number of enhanced operational measures (see associated Te Whatu ora advice dated 2 January 2023).

Appendix 1: Countries requiring PDT for people arriving from China[17]

Country	*Response*
United States	Will impose mandatory Covid-19 tests on travellers from China beginning on 05 Jan.2023. All air passengers aged two and older will require a negative result from a test no more than two days before departure from China, Hong Kong or Macau. The Centres for Disease Control and Prevention also said U.S. citizens should also reconsider travel to China, Hong Kong and Macau.
United Kingdom	Will require a pre-departure negative Covid-19 test from passengers from China as of Jan. 5, the Department of Health said on Friday.
France	Will require travellers from China to provide a negative Covid test result less than 48 hours before departure, the health and transport ministries said on Friday. From Jan. 1, France will also carry out random PCR Covid tests upon arrival on some travellers coming from China, a government official told reporters.
Australia	Travelers from China to Australia will need to submit a negative COVID-19 test from Jan. 5, Australian health minister Mark Butler said on Sunday, joining other nations that have implemented similar restrictions as cases surge in China.
India	Has mandated a Covid-19 negative test report for travellers arriving from China, Hong Kong, Japan, South Korea and Thailand, the health minister said. Passengers from those countries will be quarantined if they show symptoms or test positive.
Canada	Air travellers to Canada from China must test negative for Covid-19 no more than two days before departure, Ottawa said on Saturday, joining other nations that have implemented such restrictions.
Japan	Will require a negative Covid-19 test upon arrival for travellers from mainland China. Those who test positive will be required to quarantine for seven days. New border measures for China went into effect at midnight on 30 December. The government will also limit requests from airlines to increase flights to China.
Italy	Has ordered Covid-19 antigen swabs and virus sequencing for all travellers from China. Milan's main airport, Malpensa, had already started testing passengers arriving from Beijing and Shanghai.
Spain	Will require a negative Covid-19 test or a full course of vaccination against the disease upon arrival for travellers from China.
Malaysia	Will screen all inbound travellers for fever and test wastewater from aircraft arriving from China for Covid-19.
Taiwan	Taiwan's Central Epidemic Command Centre said all passengers on direct flights from China, as well as by boat at two offshore islands, will have to take PCR tests upon arrival, starting on 01 January 2023.
South Korea	Will require travellers from China to provide negative Covid test results before departure, South Korea's News1 news agency reported on Friday.
Morocco	Will impose a ban on people arriving from China, whatever their nationality, from 3 January to avert any new wave of coronavirus infections, the foreign ministry said on Saturday.

[17] https://www.cnbc.com/2023/01/01/list-of-places-with-rules-on-visitors-from-china-as-covid-surges.html accessed 02 January 2023 at 1532hrs

Document 5

Memo

COVID-19 Public Health Risk Assessment – 26 January 2023

Date:	31 January 2023
To:	Dr Diana Sarfati, Director-General of Health, Te Tumu Whakarae mō te Hauora
Copy to:	Dr Andrew Old, Deputy Director-General, Public Health Agency, Te Pou Hauora Tūmatanui, Manatū Hauora Ministry of Health
From:	Dr Nicholas Jones, Director of Public Health, Public Health Agency Te Pou Hauora Tūmatanui Manatū Hauora Ministry of Health
For your:	Information and Decision

Purpose of report

1. This memo provides advice from the Director of Public Health following the 26 January 2023 COVID-19 Public Health Risk Assessment (PHRA). That PHRA considered whether any changes are required to existing COVID-19 settings, including mandatory requirements and other matters based on the current outbreak context and modelling.

Summary of Recommendations

2. The purpose of the COVID-19 PHRA is to assess the current and medium-term COVID-19 risk and to consider whether there needs to be any changes to the suite of public health measures to manage the risk. This can include recommendations to relax or escalate risk mitigation measures. In addition, the PHRA fulfils the legal requirement to keep mandatory measures (made via Orders) under regular review to ensure that they remain necessary and proportionate.

3. When combined, individual measures form a pragmatic approach to managing COVID-19. There are interdependencies between each, and we must remain aware of how they form a coherent package for the public to encourage and support public health behaviours necessary to reduce transmission and limit the impact of COVID-19.

4. The principle of proportionality is a key consideration. This principle requires that the least restrictive measures are used and for no longer than is necessary to achieve the objective of preventing, minimising, or managing the COVID-19 public health risk. In assessing proportionality, it is important to account for both Tiriti o Waitangi and equity considerations as more restrictive measures may be required to achieve these objectives.

5. The focus of the PHRA Committee meeting on 26 January was to assess the current public health risk arising from COVID-19 in Aotearoa New Zealand based on data and recent model outputs. The Committee did discuss all current mandates but rather than considering specific options for change identified specific issues requiring further analysis

prior to the next risk assessment. Based on the PHRA Committee's deliberations, the Director of the Office of Public Health recommends the following:

1. Point of Care Testing Order

Current requirement	Regulation of Rapid Antigen Tests under the Point-Of-Care Tests Order.
Director of Public Health recommendation	**Retain** current Point of Care Testing Requirements pending further review by Outbreak Response on the implications of revoking the order

2. Face masks

Current requirement	The COVID-19 Public Health Response (Masks) Order 2022 specifies that: 1. face masks are mandatory for visitors in health service settings including primary and urgent care, pharmacies, hospitals, aged residential care (ARC), disability-related residential care, allied health, and other health service settings) 2. there are exclusions for: patients and people receiving residential care, health service staff, and visitors to specific health services (psychotherapy, counselling, mental health and addiction services).
s 9(2)(f)(iv) [redacted]	[redacted]

3. Case isolation

Current requirement	Mandatory 7-day self-isolation of COVID-19 cases.
Director of Public Health recommendation	**Retain** the 7-day case isolation requirement. Conduct review of isolation requirements prior to the next PHRA in the light of recent changes to World Health Organisation recommendations.

Background and context

High-level summary of the outbreak status and epi-context

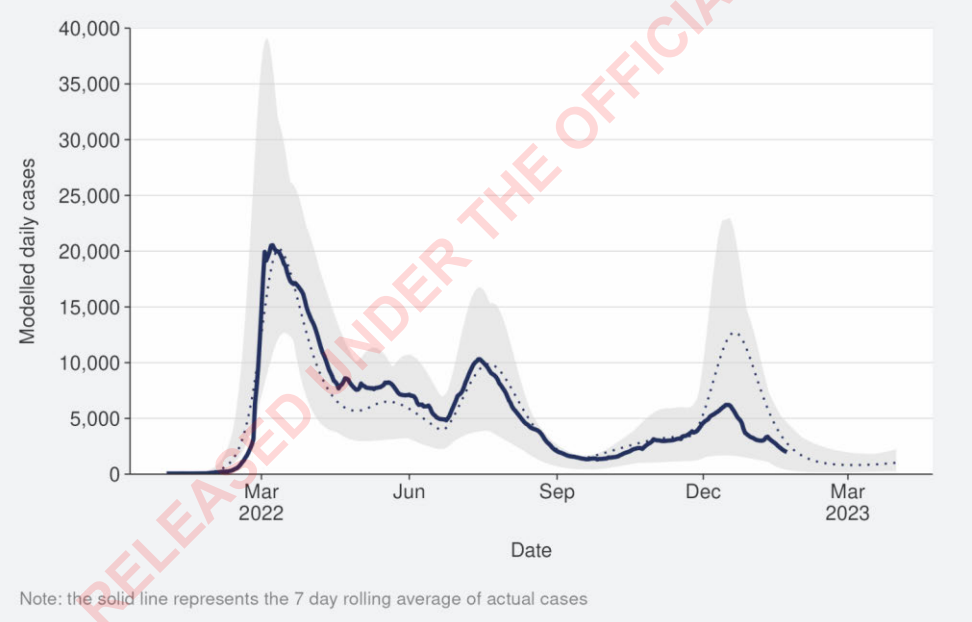
COVID-19 cases and hospitalisations are trending downwards

6. Overall, the key measures of infection (levels of viral RNA in wastewater and reported case rates) used to monitor the COVID-19 epidemic continue to decrease in most regions after peaking in mid-December 2022.

7. COVID-19 related hospital admission rates have also decreased since the start of 2023, while mortality counts are tracking well below the expected modelling. Hospitalisations that are classified as being 'for COVID-19' are higher than the incidental rate. Between 1 January and 16 January 63% of COVID-19 related hospital admissions were patients coming in for COVID-19 related illness rather than incidentally having COVID-19.

8. The lower-than-expected reported cases, hospitalisation and mortality rates may be, in part, due to a change in the public's behavioural patterns over the summer period. Cases may return to following the modelled range as people return to their usual habits and schools reopen. The committee noted that previous behavioural surveys have suggested a high proportion of positive cases report positive RAT results, but it is possible that reporting and testing behaviour also changed over the holidays. There was a large increase in reporting of positive RAT results in the 15 to 24 year age group in the second week of January. The increase could have resulted from social events over the New Year holiday, changes in testing and reporting or both factors. Further data on testing and reporting will be collected over the next few weeks.

Figure 1 - COVID-19 Modelling Aotearoa scenarios compared with national through 22 January 2023[1]



Vulnerable populations have the highest rates of hospitalisation

9. Despite decreasing cases of COVID-19 infections and hospitalisations there are still differences in the age standardised hospitalisation rates by ethnic group. Recent hospitalisation data show Pacific peoples were at considerably higher risk of hospitalisation over December. In the week ending 16 January Māori had the highest age adjusted admission rate (1.7 per 100,000).

10. Further, a review of people with disabilities experience of COVID-19 [HR2022017250 refers] found that Disability Support Services (DSS) recipients have had four times the risk of hospitalisation compared with the rest of the population during 1 January - 16 November 2022.

There is a lower uptake of the second booster

11. The first booster has seen a steady uptake with 71.5% of the eligible population having received their first booster. The second booster however has seen a lower rate of uptake with only 45.3% of the eligible population receiving this dose. This is specifically of note as the second booster is only available to higher risk populations.

There is currently no dominant variant in the community

12. There is a range of variants in the community with no one variant being dominant. The most common variant is CH.1.1, which is a sub-lineage of BA2.75, and now accounts for 34% of cases in the community. The next most prevalent are XBF at 19% of community cases, BA.2.75 at 17%, and BQ1.1 at 15%. BA.5 which was the dominant variant for most of 2022 has been steadily declining since November and now only accounts for 9% of the total cases.

13. XBB.1.5 (referred to as Kraken in the media) has not currently taken hold in New Zealand as it has in the United States (US). In the US we have seen XBB.1.5 demonstrate a growth advantage over other new variants and it is possible that this could become the new dominant strain of COVID-19 in New Zealand. It is notable that New Zealand has a different immune landscape to the US and so far, XBB (which XBB.1.5 is a subvariant) only accounts for 2% of total cases.

14. BF.7 is the leading variant emerging from China currently accounting for 33% of the total cases. This variant has been in New Zealand since October 2022 at low levels and does not appear to have a growth advantage over other variants.

Update on actions following PHRA of 2 January 2023

15. On 2 January 2023, a PHRA was carried out in response to growing case rates in China, and the emergence of XBB.1.5 in the United States. The purpose of the PHRA was to assess whether any change in settings was required in response to this international context.

16. The risk assessment determined that the risk posed by travellers from China entering New Zealand was minimal. Accordingly, the Committee advised against mandatory pre-departure or on-arrival testing of travellers from China. Instead, the Committee advised that operational changes were made to make information about testing more accessible to Chinese travellers, and that arriving travellers will be strongly encouraged to test voluntarily over a four-week period. This is a strictly time-bound programme of enhanced surveillance, which is not scalable or enduring.

17. Voluntary testing of a sample of passengers arriving on direct flights from China began on 20 January 2023. In the period 20 January to 26 January, 36% (353/970) of air border arrivals from China submitted a rapid antigen test (RAT). There were no reports of positive RATs.

18. In addition, officials from Manatū Hauora and Te Whatu Ora are continuing to work with ESR to further develop wastewater surveillance at airports, and potentially also from flights.

19. For the full context refer to the Manatū Hauora webpage, COVID-19 Trends and Insights which provides an interactive dashboard and regular analysis of the COVID-19 outbreak, including cases, hospital admissions and deaths.[1]

Risk Assessment

Cases are declining

20. The situation has improved since the last PHRA, with almost all indicators suggesting the public health risk posed by COVID-19 in Aotearoa New Zealand is low. Modelling undertaken in late 2022 suggests that this trend will continue, but the modelling does not factor in some context and influences, such as the possibility of new variants of concern, changes to vaccine eligibility or the use of antivirals.

21. As noted above, daily case numbers and hospital admissions are declining. Deaths have not climbed as high as was predicted pre-summer and have been relatively stable for the past few weeks.

Variants of concern

22. Omicron sub-variant XBB.1.5 continues to make up small proportion of cases since it was detected in Aotearoa New Zealand in mid-December 2022. While U.S. data suggests that it has a growth advantage over other sub-variants, the immunity profile of the New Zealand population is different to that of the U.S. population so it is unclear how this sub-variant will affect New Zealanders.

23. As noted above, China is reporting a large increase in Omicron sub-variant BF.7 cases as they transition from a ''Zero-COVID' policy toward less restrictive approach. But results from genomic testing in China has not detected any concerning mutations. Further, data suggests that BF.7 does not have a growth advantage in New Zealand.

[1] Note, the interactive dashboard has replaced the weekly Trends and Insights Report since January 2023. https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-trends-and-insights

Uptake of therapeutics

24. Uptake of COVID-19 therapeutics has been steadily increasing over recent months, and uptake is high among vulnerable populations. Just under half of Māori and Pacific Peoples aged 50-64 years who report positive tests are accessing antivirals. It is also important to note that uptake of therapeutics cannot be disaggregated by disability status, so it is uncertain what the uptake of therapeutics is among this group.

Seasonal factors have influenced trends

25. Cases tracked below expectations over the summer period. This is likely because of the behaviours and activity of people over this period. While there were high rates of domestic travel over the summer, activities taking place outdoors and away from education facilities and workplaces meant that transmission declined over this period.

26. This drop in case rates may also be partly due to the modelling not accounting for short-term changes in behaviour and because case ascertainment fluctuated over the summer. In particular with many people holidaying away from home, it is possible that people with symptoms were also less likely to test or report results.

Trends will be impacted by people returning to work and education

27. As people return to indoors locations through work, school and university, mixing rates will increase and case rates are expected to decrease at a slower rate or increase for a short time before continuing to decrease. The timing of the next COVID-19 wave is uncertain but may well coincide with the beginning of the winter respiratory illness season. Factors influencing the timing will include the population level of hybrid immunity to current variants and immune evasiveness of variants that emerge over the next months.

28. The committee noted that in the second half of 2022 the Northern hemisphere observed an earlier-than-usual flu season, placing unexpected pressure on healthcare services.[2] [3] This indicates some uncertainty around the timing of New Zealand's typical Winter flu season in 2023. If New Zealand observes a similar phenomenon, then the usual uptick in respiratory illnesses may begin as early as April 2023.

Director of Public Health Comment

29. In taking the above trends into account the Director of Public Health's assessment of current public health risk due to COVID-19 is that the risk is relatively low compared to other periods over the last 12 months and is likely to remain so for the next 6 to 8 weeks. There remains however an important difference in relative risk of hospitalisation for different ethnic groups when the age structure of different populations is taken into account.

Proportionality of retaining the status quo

30. The COVID-19 Public Health Response Act 2020 requires that the Government keeps Orders under regular review to ensure that any limitation they impose on rights or freedoms under the New Zealand Bill of Rights Act 1990 is justified and proportionate to the risk posed by COVID-19.

31. While daily case numbers and overall hospital admissions for COVID-19 are declining, and the overall uptake of antivirals is increasing, the risk posed by the virus to many groups within the population remains significant. Rates of COVID-19 mortality have been low and relatively stable for the past few weeks), the overall decline of case rates and hospitalisations may change as students and workers return to indoor areas, and uptake of

therapeutics among disabled people remains uncertain as it is not measured by current data collection.

32. The requirement to isolate as a case is a significant imposition on a person's right to freedom of movement. The intention is to reduce onward transmission. Recent WHO patient management guidelines have noted that risks of transmission from asymptomatic cases are considerably lower than from those with symptoms. s 9(2)(f)(iv) [redacted]

33. Enforcement of face mask requirements in non-hospital health settings such as pharmacies is challenging as it is not clear to pharmacy workers and customers who is considered a visitor who must wear a mask, and who is a patient (not required to wear a mask). The intended interpretation is that everyone who enters a pharmacy is required to wear a mask, but this requirement is rarely observed and is difficult to monitor and enforce.

34. Where the requirement is interpreted as intended, however, the mask requirement in pharmacies ensures that people who are at greater risk of severe illness from infection and who may be more likely to visit pharmacies, such as older or disabled people, are offered more protection when visiting pharmacies.

The basis for retaining current measures within this context

35. As the data indicates, reported case rates have tracked much lower than expected over the summer period, despite increased domestic travel. As noted, part of this is attributable to the changing interactions of the summer holiday period. While there is no robust data to determine the impact of the enhanced summer measures implemented in December 2022, they may have had a positive impact.

The changes implemented on 12 September 2022 have had an impact on transmission

36. Since the 26 January 2023 PHRA meeting, modelling has become available (and hence, it was not presented or discussed by Committee members) on how removing mandatory requirements and switching to guidance on measures relating to household contact isolation and mask wearing on 12 September 2022 may have impacted transmission. Modelling indicates that transmission increased by approximately 20% from mid-September to early November, likely due in part to the changes in behaviour resulting from the removal of mandatory measures. The expected increase in transmission prior to this switch to guidance was 8.5%, based on international evidence about levels of compliance under guidance.

37. Modelling on current mandatory case isolation indicates that:

- if the current measures are retained, the daily hospital occupancy will reach between 250 to 300 beds occupied daily over the next two months
- a change to case isolation requirements that results in an increase in transmission of 7.5%, will cause an approximate 50% increase in peak bed occupancy in hospitals in the two months following the change (requiring around 125-150 extra beds to be occupied compared to status quo settings)
- a change in case isolation requirements that results in transmission increasing by 10% will cause an approximate 70% increase in peak bed occupancy in

hospitals over the two months following the change (requiring around 150 - 175 extra beds to be occupied compared to status quo settings).

38. See Appendix 2 for assumptions and caveats of the modelling, and for graphs representing the scenarios outlined in paragraphs 30-37.

39. These predicted outcomes based on transmission increasing by 7.5% and 10% (in addition to the transmission change following September 2022 policy changes) as a result of any change to case isolation requirements, should be understood in light of the modelling that shows the removal of household contact isolation and mask wearing requirements in September 2022 resulted in a 20% increase in transmission.

Case isolation is still considered to be an effective measure

40. The rationale for continuing to require self-isolation is as follows:

a. Isolation of cases remains the cornerstone of New Zealand's public health response to COVID-19. This measure significantly limits transmission of COVID-19 as it helps to break the chain of transmission by reducing the proportion of infectious people having contact with and infecting others in the community, many of whom may be at high risk of poor outcomes.

b. Without mandated case isolation, it is highly likely adherence to guidance would be lower, resulting in more infectious cases seeding community transmission and increasing overall case rates.

c. Overseas evidence suggests that a legal requirement to isolate results in significantly greater adherence than a recommendation to isolate. Experience when other mandates (eg masks) have been removed in New Zealand reinforces the fact that adherence to guidance is typically much lower than to mandates. However, given cases may be unwell from the symptoms of COVID-19, there may be a higher adherence to self-isolation guidance than for other measures.

d. Other infection control tools, such as requiring face masks or physical distancing are significantly less effective than isolation. We have been able to recommend removing or reducing some of those other tools in part because case isolation has remained in place. However, there is no combination of other mechanisms that would come close to producing the broad public health benefits provided by mandatory case self-isolation, including the minimisation of disruption to essential services caused by high transmission of COVID-19.

41. Advice from the 7 November 2022 PHRA continues to be relevant and has been added to Appendix 1 to ensure that this measure continues to be reviewed and monitored. This ensures that it remains a proportionate and effective at limiting the impact of COVID-19. Appendix 1 outlines the efficacy of mandated case isolation in comparison to voluntary (but encouraged) case isolation, emphasises the role that case isolation plays in an equitable health response to COVID-19 and notes that 7-day isolation is an appropriate duration for cases to isolate.

42. s 9(2)(f)(iv) [redacted]

Face masks are also still considered to be an effective measure

43. Evidence that wearing a face mask decreases the rate of COVID-19 community transmission (and other airborne respiratory viruses) is substantial (HR20221311 outlined the evidence base of their use and mandates). Overseas evidence suggests mandates increase adherence[5,] are associated with reductions in COVID-19 case and mortality growth rates[6 7 8 9,] and the that the timing of when face mask mandates are applied matters - early application is associated with a reduction in cases and mortality rates.[10]

44. Face mask mandates lean against inequity, to ensure that people who are at higher risk can access basic services without avoidable additional risk. A conservative estimate is that one in every six New Zealanders is at higher risk of severe illness if they contract COVID-19.[11] Mandates have two benefits for this group of people: it means that they will be less likely to be infected, and be more likely to feel able to continue to safely participate in basic activities of life (for example accessing healthcare, visiting a pharmacy).

Despite some issues, face masks are particularly important in health service settings

45. Health service settings have a series of characteristics that elevate the risk of transmission and/or the risk of severe disease. These settings and the services provided within these settings typically:

    a. may be more likely than other settings to have people present with undifferentiated viral illness, either because they are seeking help for symptoms or because they have a co-existing medical emergency

    b. are more likely to have vulnerable people present, either due to disability, advanced age, underlying conditions, or to being unwell at the time - facility-level face mask requirements lean against inequity, to ensure that people who are at higher risk can access health services without avoidable additional risk

    c. have variable capacity to reduce crowding, indoor ventilation and/or air filtration[12]

46. People with hospital-acquired COVID-19 infections are more likely to have poorer outcomes than community-acquired infections[13]. Feedback from two districts in late 2022 noted possible links between visitors and hospital-acquired cases of COVID-19. The need to access healthcare means people often do not have a choice in whether they access a health service.

47. While adherence to face mask requirements may be waning or patchy in some health service settings, adherence could drop further if the mandate was removed, as evidenced by the decreased use on public transport since the mandate was dropped in mid-September (but has remained recommended by Manatū Hauora).

48. Further work to be undertaken before the next PHRA includes a consideration of whether the range of health service settings captured by the definition in the Order remains appropriate (with a specific focus on pharmacies and allied health settings).

Equity and Te Tiriti o Waitangi considerations for maintaining the status quo

Impact of COVID-19 on vulnerable populations

49. Pacific peoples and Māori continue to have the highest hospitalisation rate compared to other ethnicities, after standardising by age. Māori are 1.8 times more likely to be admitted to hospital with COVID-19 than European or Other, and Pacific Peoples are 2.3

times more likely. Age standardised rates of Pacific Peoples being admitted to hospital with COVID-19 increased substantially over the summer period.

50. COVID-19 attributed mortality rates are also higher among Pasifika (2.1x higher) and Māori (1.7x higher), compared to European or Other ethnicities.

51. The most deprived populations continue to have the highest rates of hospitalisation (1.1 per 100,000), compared with those who are least deprived (0.8 per 100,000). There is also an increased risk of COVID-19 attributed mortality for those in socio-economically deprived groups. The most deprived 20% of the population have 3 times the risk of mortality when compared with those in the least deprived 20%.

52. Disabled people aged <65 years who receive Disability Support Services have a hospitalisation risk that is 4 times higher than the rest of the population. Further, rates of COVID-19 attributed mortality are 15 times higher among this group compared to the rest of the population.

53. Despite the lack of information on whether any changes would increase the disproportionate impact on these populations, Committee members emphasised that any reductions of public health measures will increase prevalence of Long COVID, and that this increased prevalence will disproportionately impact Māori, Pacific Peoples and disabled people due to their vulnerability to infection. This is particularly concerning given that the criteria for diagnosing Long COVID and Long COVID support systems remain under development and given that these groups are more often under-diagnosed and under-treated when accessing healthcare.[14] [15] [16] [17] [18] [19]

Addressing equity concerns

54. There is an ongoing and strong concern among Committee members that a reduction in measures would put vulnerable populations at disproportionate risk. They emphasise that decisions to step down measures should not be made based on population-wide data and context, but rather on the data representing specific vulnerable groups such as disabled people, Māori and Pacific people, and older people.

55. In a Manatū Hauora survey conducted between 29 September and 9 October 2022, Māori health providers indicated that targeted Māori holistic immunisation programs and addressing the impacts of Long COVID were the areas of highest importance for them and their communities.

56. s 9(2)(f)(iv) has noted that COVID-19 vaccination efforts and Māori COVID-19 communications have highlighted the importance of Māori leadership at all levels; putting equity at the centre of decision making; enabling providers to build relationships with communities; enabling communities to lead responses, and collaboration across agencies. It also notes the disproportionate risk that Māori face of getting Long COVID, and highlights how certain options would minimise this risk.

57. The increasing accessibility and uptake of antivirals for vulnerable populations is providing greater protection against the impact of infection. In the age bracket 50-64 years, antivirals have been provided to 55.89% of Māori cases and 41.96% of Pacific Peoples cases.

Equity considerations in these recommendations

58. It is important that public health measures improve health equity and uphold Te Tiriti o Waitangi principles by protecting groups who are most vulnerable to COVID-19.

59. There was broad support among Committee members for retaining each of the existing mandated measures to protect vulnerable communities. While Manatū Hauora did not have data to support it, Committee members from Te Aka Whai Ora, Whaikaha and the Māori Health Agency expressed that the removal of other measures in recent months have already put these communities at greater risk.

60. Shifting mandatory case isolation to guidance is likely to disproportionately affect those who do not have the ability to choose to follow the guidance. This includes people in precarious employment, those unable to work from home, workers with limited sick leave and other vulnerable populations, particularly those with other socioeconomic disadvantages.

61. Committee members emphasised that any stepping down or removal of protective measures should be accompanied by specific alternative settings, modelling against those alternative settings, and extensive engagement with stakeholders from vulnerable groups prior to stepping down measures.

62. Stakeholders from the disability community have expressed concern that there is insufficient data on the impact that removing protective measures would have on disabled people. They argue that decision makers should consciously factor in this absence of evidence before making decisions that could profoundly impact disabled people.

63. If the COVID-19 situation significantly changes, enforceable or mandatory measures may be re-introduced to protect our vulnerable populations. This would be an effective and proportionate response to a worsening risk profile.

New Zealand Bill of Rights Act 1990 (NZBORA) – Crown Law advice (legally privileged)

Case Isolation

64. s 9(2)(f)(iv) [redacted]

66. s 9(2)(f)(iv) [redacted]

Next steps

67. Pending your agreement, we will share this memo with the Minister of Health's Office and the Parliamentary Counsel Office.

68. On 9 February 2023, you will provide advice to the Minister of Health that draws on this memo and any additional information or advice you wish to include.

69. That PHRA and your subsequent advice to Minister of Health will then inform a Manatū Hauora-led Cabinet paper on that topic to be considered by Cabinet's Social Wellbeing Committee on 14 February 2023, and then Cabinet on 20 February 2023.

Recommendations

It is recommended that you:

1.	Note	that key indicators currently suggest overall COVID-19 public health risk is low	Noted
2.	Note	that at-risk groups remain at disproportionately high risk	Noted
3.	Note	that key indicators and risk are expected to be impacted by the restart of school, university and people returning to their places of work from 30 January 2023.	Noted
4.	Agree	to recommend that the Minister of Health retains Point-Of-Care Test settings	Yes
5.	Agree	to recommend that the Minister of Health retains current face mask requirements	Yes
6.	Agree	to recommend that the Minister of Health retains current case isolation requirements	Yes
7.	Note	that the PHRA Committee is undertaking reviews of the measures (specifically mask and isolation requirements) ahead of the next PHRA	Noted

Signature Date: 31/01/2023

Dr Nicholas Jones

Director of Public Health

Public Health Agency | Te Pou Hauora Tūmatanui

Manatū Hauora | Ministry of Health

Signature Date: 1 February 2023

Dr Diana Sarfati

Director-General of Health | Te Tumu Whakarae mō te Hauora

Manatū Hauora | Ministry of Health

Appendix 1: Rationale for continuing to recommend mandating self-isolation for cases

Question 1: What is the rationale for an ongoing self-isolation requirement?

Purpose of self-isolation

3. A legal requirement to self-isolate remains the cornerstone of New Zealand's COVID-19 public health response. It significantly limits transmission of COVID-19 by breaking the chain of transmission by reducing the amount of infectious people having contact and infecting others within the community. In turn this limits hospitalisation, including the need for ICU care, and deaths, especially for more vulnerable populations. It also limits the number of people who will develop post-acute sequelae such as long COVID.

4. Without mandated case isolation and the associated support that it triggers, it is highly likely that adherence to guidance would be lower. This would lead to more infectious cases in the community, increasing overall case rates.

COVID-19 poses a substantial public health risk different from other respiratory and communicable diseases

5. COVID-19 can have a wide variety of impacts on individuals The majority of people infected will not need to go to hospital and will recover fully. However, a subset of people will have more significant health impacts – either in the acute or post-acute phrases of the infection.

    a. **Acute phase:** in reported cases to 22 January 2023, there have been 1,918,070 cases, of whom 25,673 (1.3%) were hospitalised, of whom 683 (2.7%) have required ICU care. There have been 3,754 deaths. Older people have substantially higher hospitalisation rates and, within each age group, Māori and Pacific communities, and people with disabilities have higher hospitalisation rates.[20]

    b. **Post-acute phase:** each new infection (or reinfection) effectively 'rolls the dice' for one or more post-acute sequelae. The rate and severity of post-acute sequelae, in combination with an expectation of multiple waves a year with the potential for reinfection make the impact more significant than other post-viral conditions. Post-acute sequelae include:

        i. Increased risk factors for a range of other health conditions: eg. cardiovascular disease[21], neurologic and psychiatric disorders[22], changes in brain structure[23], immune dysfunction[24], and diabetes.[25]

        ii. Long COVID[26]: based on evidence from overseas, 3-10% of cases are likely to develop long COVID, of whom 20% will have ongoing significant disability.[27] While these figures may appear low, in the context of two-to-three waves each year, each with the possibility of reinfection with each new variant or subvariant, over time the longer-term disability and productivity impacts will become as or more significant as the acute impacts on individuals and the health system.

        iii. Broader impacts: Long COVID and other post-acute sequelae have personal costs, costs to government (welfare and health), but also broader impacts on society[28], such as reduced workforce participation[29] [30] and productivity.

Vaccination and therapeutics reduce risk of severe disease, and less so, infection

6. Currently available vaccinations are protective against risk of severe disease (hospitalisation or death), and somewhat decrease the risk of infection and overall transmission in the community; less so for onwards transmission (ie transmission from an already infected person to another person).[31] But all levels of protection wane over time.

7. Antivirals also reduce the likelihood progression to severe disease, particularly for people at higher risk.[32] However, access to antivirals is currently limited, they must be taken within the first five days of symptoms, and they are contraindicated for people taking certain other medications.[33]

8. As outlined above, while to date we have been focused on the impacts during the acute phase (decreasing risk of severe harm), there is also health impacts in the post-acute phase. Most people who have post-acute sequelae will have had a mild acute case.

Immunity from reinfection wanes over time, and is largely variant-specific

9. Typically, a person will have some degree of protection from reinfection in the first month post-infection[34], however this protection is largely limited to reinfection with the same variant, and wanes over time. Reinfection is far more likely with a variant that is different to the one responsible for prior infections.

10. The planning assumption going forward is that New Zealand is likely to experience a minimum of two or more waves each year, until a sterilising vaccine can be developed.

Comparison to other infectious diseases

11. Best practice approach to managing infectious notifiable diseases transmitted through the droplet or airborne route is to require isolation of cases during their period of infectivity. This is the most effective tool for controlling disease transmission. The high transmissibility of COVID-19 reinforces the need for case isolation, which has been a cornerstone of the public health response throughout the pandemic.

Removing case isolation and associated support would increase health inequities

12. It is likely that the increase in community cases would affect some communities and population groups more than others. Specifically:

    a. There is an acknowledged differential exposure to COVID-19 risk related to socioeconomic status. People in lower socioeconomic groups are more likely to work in jobs with greater risk of exposure, to live in larger and typically more crowded houses, and to have underlying risk factors. If there are more infectious people circulating in a community with more baseline contacts, this increases the likelihood of onward transmission.

    b. People who are socioeconomically deprived are more likely to face challenges in being able to isolate compared to people with greater access to socioeconomic benefits. This includes differing access to sick leave, income loss, and potential pressure from employers to return to work. Earlier return to work comes at the cost of increasing transmission, which is likely a more significant effect on health outcomes and ability to work due to illness.

    c. As a result, people who experience higher levels of socioeconomic deprivation may be more likely to not test, not report results, or break isolation, potentially causing further cases and further inequities.

d. These inequities would likely be exacerbated, rather than mitigated, if requirements for self-isolation and associated supports (such as Care in the Community and the Leave Support Scheme) – which are vital for enabling people in in these communities to practically be able to isolate were removed.

Recent feedback from sector stakeholders echoed many of the concerns above

13. *Compromising equity aims* – the Leave Support Scheme (LSS) is closely tied to isolation mandates. Loss of the LSS would present risks for vulnerable populations and workforces with fewer protections.

14. Coercion to return to work particularly for the most vulnerable – strong concern was expressed that if the isolation mandate was removed, employees may be pressured to return to work even if not fully recovered. Equity concerns were central to this feedback, particularly what this change might mean for Māori and Pacific communities.

15. Increased transmission because of relaxed requirements – removing the isolation mandate will almost certainly result in increased transmission, due in part to the message it sends regarding the importance of isolation and because of the inability of people to isolate due to the two factors above. Again, equity concerns were raised as any increase in cases will impact the priority populations most.

Impact the self-isolation requirement is having on reducing the number of cases in the community

16. Based on available information, the requirement for self-isolation is having a strongly positive impact on reducing community transmission.

17. Rapid antigen tests (RATs) are currently New Zealand's primary testing tool for people with COVID-19 symptoms or household contacts. RATs are very effective at identifying people who are infectious, which is the most critical factor for isolation.[35] Under the current evaluation framework, all point-of-care tests permitted in New Zealand must have a minimum of 80% sensitivity and greater than 98% specificity (or a minimum of 90% sensitivity for Ct values less than 25).

    a. Surveys have shown that people remain aware of the importance of isolating, and are willing to do so.

    b. In July 2022, 88% of people surveyed indicated they were willing to isolate if they had COVID-19, were symptomatic, or if a household member tested positive.[36]

    c. In an online survey of 1,505 adults undertaken 15-20 September 2022, preliminary data received on 11 October 2022 shows 8% of participants had tested positive for COVID-19 in the past two weeks and 9% of participants were self-isolating in the same two-week period.

It is very clear that compliance will be significantly higher with a mandate than not

18. Evidence from overseas suggests that a legal requirement to isolate will have significantly greater adherence than a recommendation to isolate. For example, in the United Kingdom, there was a significant drop in after the legal requirement was dropped on 24 February 2022. Survey data of people who tested positive for COVID-19 showed 80% were fully compliant in February but dropped to 64% in early March and then 53% in late March 2022.[37]

19. Experience when other mandates have been dropped in New Zealand reinforces the fact that adherence to guidance is typically much lower than to mandates:

    a. Face masks on public transport – there was a noticeable decrease in the proportion of people masking when it shifted from a requirement to a recommendation.

    b. Face masks in schools – similarly, when masks were dropped as legal requirement in schools, (but remained as a recommendation) many Boards of Trustees opted not to require ongoing making.

20. Data insights produced 27 January 2023 show that changes in behaviour caused transmission to increase by 20%, likely as a direct result of the removal of certain mandatory mask-wearing requirements and the removal of household contact isolation requirements, in favour of guidance, on 12 September 2022.

Self-isolation requirements remain the most effective tool

21. While there has been a reduction of isolation requirements over the course of the outbreak, we have reached what is probably the minimum threshold for self-isolation to remain an effective intervention.

22. As described above, the experience when other jurisdictions have shifted from mandated isolation to guidance for isolation, adherence has dropped significantly. Similarly, when mask mandates for schools and public transport were shifted to guidance, again, there was a significant, and sustained drop in use of these public health protections.

23. Other control tools, (eg. face masks or physical distancing) are significantly less effective than isolation. Also, we note that to be effective these tools are most effective when utilised across the entire population. We note it is important to see these tools as a suite of protections that work together. Each tool can be dialled up or down. We have been able to recommend removing or reducing some of those other tools in part because isolation has remained in place. However, there is no combination of other mechanisms that would replicate the public health benefit required self-isolation provides.

Question 2: What is the appropriate length of time for self-isolation?

24. Modelling undertaken by CMA in September suggested that the current mandatory isolation policy is approximately preventing 450 hospitalisations and 50 deaths in the short term compared to guidance with a reduction to 5 days. Over a year, it is estimated to prevent 1000 hospitalisations and 300 deaths. This modelling was conducted prior to the emergence of the variants of concern mentioned in the outbreak status section, so should be interpreted as a minimum estimate.

25. When current settings are compared to mandatory with test to release from 5 days, the model estimates current settings are preventing 40 hospitalisations and 50 deaths in the short term. Over a year, it is estimated to prevent 250 hospitalisations and 30 deaths.

26. Accurate domestic data on the behavioural impact of shifting from mandatory isolation to guidance is lacking. However, data from the UK infection survey (based on adherence rates to guidance in the UK) suggests potentially larger increases in cases and hospitalisations from such a change.

27. Key limitations of the isolation model are that it assumes RAT sensitivity to be constant over the duration of illness and does not account for increased sensitivity at day 5. This means that the proportion of cases released who are infectious may be overestimated. Another limitation is that incomplete isolation under mandatory requirements is not fully accounted for. Both limitations would tend to overestimate the magnitude of increase associated with changes to the status quo. Furthermore, the modelling does not account for a new variant which could substantially increase infections.

28. In the PHRA of 22 November 2022, 5-day self-isolation plus test to release was also reviewed as an option to, in some cases, reduce the length of time people would isolate. Key concerns noted with this proposal at that time remain relevant:

    a. Most people would still be infectious upon release, leading to further seeding of cases in the community.

    b. A partial change creates uncertainty to the public on when to isolate and many might view the isolation period as just 5 days.

    c. People, especially in lower income areas, may be pressured to return to work after 5 days and not 7. Even when testing negative many people are still symptomatic on day 5. Further, going back to work early can result in a longer recovery period.

    d. While the relaxing of settings will reduce the time spent in isolation it will increase the number of infectious people in the community. With cases currently rising it is not an appropriate time to relax measures. Operationally this will put further stress on the health care system.

    e. Any increase in COVID-19 infections will have a disproportionate effect on the most vulnerable communities.

    f. There is not equitable access to RATs. A test to release programme requirement will only benefit those who can easily access RATs

29. It was noted that further change, such as the introduction 5-day self-isolation plus test to release, is likely to create additional uncertainty and confusion.

30. People are more likely to adhere if isolation is mandatory. However, we have no accurate estimate of the proportion of people following the mandatory required. Behavioural data indicate 88% of those surveyed (July 2022) would follow isolation rules if they tested positive. Operational providers have reported that they believe the most critical factor is not whether isolation is mandatory or recommended, but rather whether people are adequately supported to do so.

31. Detailed modelling results were provided in the PHRA of 3 October 2022.

Appendix 2: Assumptions and Caveats of modelling, and supporting graphs

Assumptions and caveats

32. Inference of level of change in case and contact isolation behaviour is only suitable for a relatively short time period following the policy changes, and these are based on best

guesses from previous observation. We have little information on observed behavioural changes through direct examination.

33. There are a number of complex factors that influence the reproduction number Rt, including introduction of new variants with different levels of infectivity, changing travel patterns, increasing numbers of large community events, and reduced case ascertainment and contact tracing. These are not captured in current modelling.

34. **Case isolation assumptions**: With mandated 7-day isolation, it is assumed that 90% of transmission for identified cases is prevented.

35. **Long-term trajectory assumptions**: The model assumes BA.5 and the previous mix of variants is the prevalent variant landscape for the next 12 months and no changes to vaccination eligibility (e.g. third boosters, second boosters for more groups) and no change in available therapeutics.

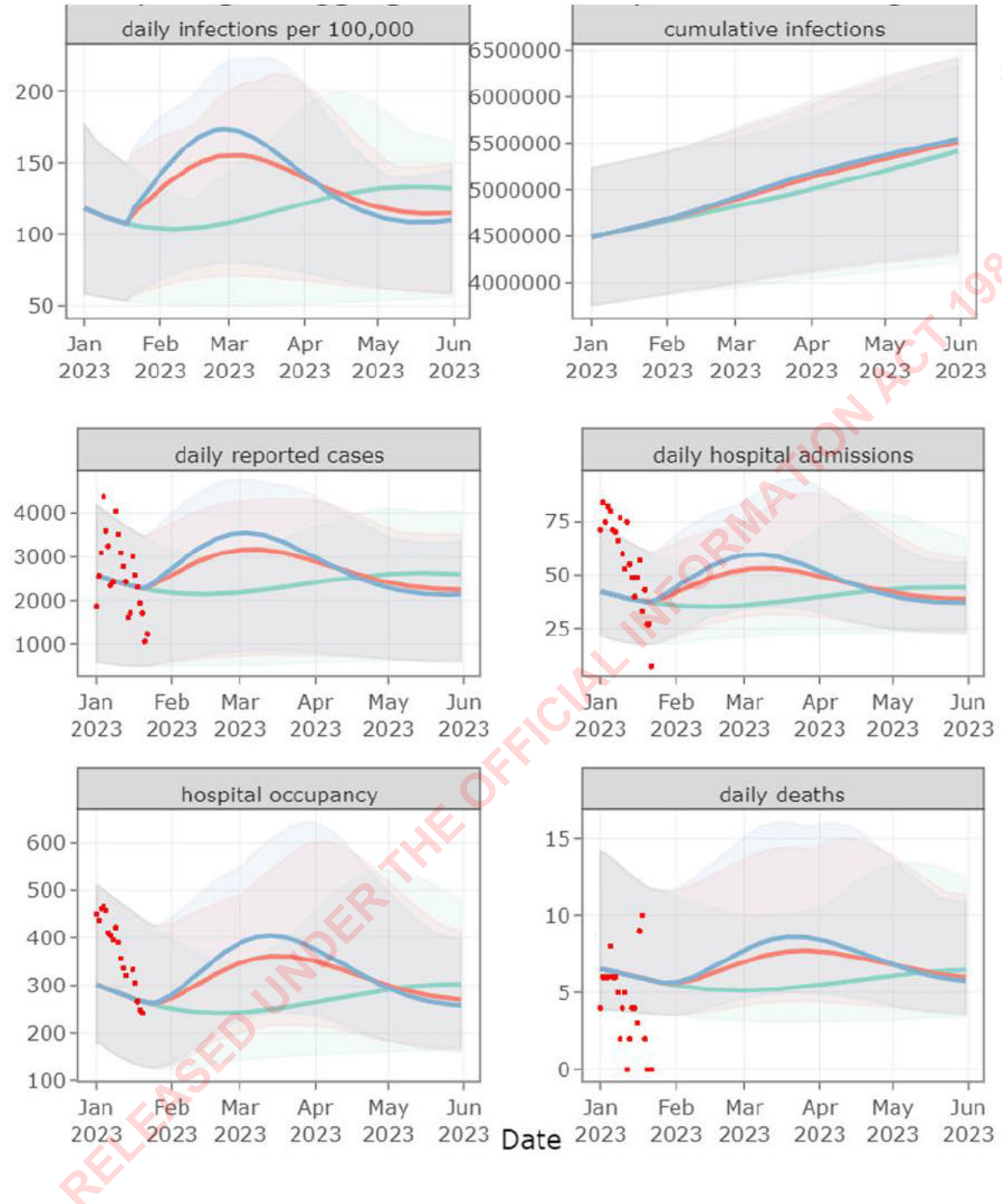
36. **The model assumes no new variants occurring in the future:** Beyond November, simulations do not account for new variants of concern or their potential impact on cases, hospitalisations and deaths.

37. **Peaks and troughs assumptions:** Because this is a single national model, it may not capture the different size, shape and timing of peaks at a district or regional level. Therefore, the model may overestimate peaks and underestimate troughs, if outbreaks in different population groups are not aligned.

38. **Uncertainty around modelled estimates:** The provides credible intervals around estimates of cases, hospitalisations and deaths. This range reflects unknowns such as the share of infections detected and the speed of waning immunity. The model is fit to data up to 15 November 2022, which reduces some of this uncertainty.

39. **Uncertainty around "guidance" vs "requirements"**: It is difficult to say what model parameters to use to model the difference between mandates and guidance. Compliance and behaviours under a 'guidance' scenario will depend not only on what level people are inclined to follow guidance but also the level of communication around guidance. The model assumes the effect of guidance was an 8.5% increase in transmission, but observation of case data indicated it was a 20% increase. While modellers do not know what will happen in the future, they have empirical evidence that shows that switching to guidance had a much bigger impact than anticipated in the past, and we can quantify that it was approximately 2 times higher than initial assumptions.

Comparison of all aggregated metrics by scenario through time



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Document 6

Memo

COVID-19 Public Health Risk Assessment – 16 March 2023

Date:	22 March 2023
To:	Dr Diana Sarfati, Director-General of Health | Te Tumu Whakarae mō te Hauora
Copy to:	Dr Andrew Old, Deputy Director-General, Public Health Agency | Te Pou Hauora Tūmatanui, Manatū Hauora | Ministry of Health
From:	Dr Nicholas Jones, Director of Public Health, Public Health Agency Te Pou Hauora Tūmatanui Manatū Hauora Ministry of Health
For your:	Information and Decision

Purpose of report

1. This memo provides advice from the Director of Public Health following the 16 March 2023 COVID-19 Public Health Risk Assessment (PHRA). That PHRA considered whether any changes are required to existing COVID-19 settings, including mandatory requirements and other matters based on the current outbreak context and modelling.

Summary of Recommendations

2. The focus of the PHRA Committee (the Committee) meeting on 16 March was to assess the current public health risk arising from COVID-19 in Aotearoa New Zealand based on data and recent model outputs. Having received advice from the Committee, the Director of Public Health recommends the following:

1. Face masks

Current requirement	The COVID-19 Public Health Response (Masks) Order 2022 specifies that: 1. face masks are mandatory for visitors in health service settings including primary and urgent care, pharmacies, hospitals, aged residential care (ARC), disability-related residential care, allied health, and other health service settings 2. there are exclusions for: patients and people receiving residential care, health service staff, and visitors to specific health services (psychotherapy, counselling, mental health and addiction services).
Director of Public Health recommendation	**Revoke** the current face mask mandate in health service settings, once Te Whatu Ora and Manatū Hauora implement national infection prevention and control (IPC) guidance, before the Order is revoked, to support stakeholders to manage risk levels on their premises
Rationale for the decision and any additional comments	To move away from broad health sector wide emergency measures will move some of the responsibility back to health care providers. This enables providers to create bespoke policies to best cater to their respective

	communities and the community risk at the time. It also allows for consistent mask polices across patients, staff and visitors. Committee members from Te Aka Whai Ora did not support the removal of mandatory face mask requirements, due to the potential for adverse impacts on Māori who already suffer worse health outcomes. Similarly, Whaikaha members did not support removal of the visitor mask mandate, noting that even with the current mandatory settings in place, DSS recipients who receive residential support are 19% more likely to report a positive COVID-19 test result, 8 times more likely to be hospitalised and 47 times more likely to die with or of COVID-19. *The Director of Public Health acknowledges differences of opinion among the Committee members and the concern regarding a lack of Māori and disability-specific data. However, there was no immediate prospect of providing the required data to address the acknowledged uncertainties in the timeframe available. The Director of Public Health notes it will be important to ensure that national guidance on mask use addresses the concerns raised by Te Aka Whai Ora and Whaikaha.*

2. Case isolation

Current requirement	Mandatory 7-day self-isolation of COVID-19 cases.
Director of Public Health recommendation	**Retain** the 7-day case isolation requirement.
Rationale for the decision and any additional comments	Case isolation is one of the cornerstone measures of New Zealand's public health response to COVID-19. This measure significantly limits transmission of COVID-19 by reducing the proportion of infectious people having contact with and infecting others in the community, including vulnerable populations. Without government mandated case isolation, it is highly likely that adherence to guidance would be lower, resulting in an overall increase in transmission and case rates. Retaining case isolation will support ongoing mitigation of disproportionate impacts on vulnerable populations, provide lead-in time for the bivalent rollout to take effect and to manage potential pressures impacting on the health system as we head into winter. *There was broad support among Committee members for retaining the 7-day case isolation requirement.*

3. Point of Care Test Order

Current requirement	Regulation of COVID-19 test products.
Director of Public Health recommendation	**Revoke** the Point of Care Test Order.

Rationale for the decision and any additional comments	To increase the proportionality of COVID-19 measures because: 1. false positive and negative test results no longer pose a significant risk as the COVID-19 management strategy has changed, the public is not required to use Government funded tests, and the market is already saturated with approved tests, and 2. the quality control of COVID-19 testing products can be carried out via a procurement process, and through other existing regulatory mechanisms such as the Consumer Guarantees Act 1993 *The Director of Public Health outlined the recommended change to the Point of Care Test Order and the rationale for the change. The committee was not asked to provide further comment, noting that a separate consultation process with the COVID testing team has already provided advice.*

Background

3. The COVID-19 Public Health Response Act 2020 requires that the Government keeps Orders under regular review to ensure that any limitation they impose on rights or freedoms under the New Zealand Bill of Rights Act 1990 is justified and proportionate to the risk posed by COVID-19.

4. The purpose of the COVID-19 PHRA is to assess the current and medium-term COVID-19 risk and to consider whether there needs to be any change to the suite of public health measures to manage the risk. This can include recommendations to relax or escalate risk mitigation measures. In addition, the PHRA fulfils the legal requirement to keep mandatory measures (made via Orders) under regular review to ensure that they remain necessary and proportionate.

5. When combined, individual measures form a pragmatic approach to managing COVID-19. There are interdependencies between each, and we must remain aware of how they form a coherent package for the public to encourage and support public health behaviours necessary to reduce transmission and limit the impact of COVID-19.

6. The Government's response is based on a mix of mandatory and non-mandatory measures, focused on increasing immunity through access to vaccination and antivirals; incentives for people to stay home when they have COVID-19; and ensuring the ongoing protection of priority and at-risk populations. This includes proactive service delivery and targeted communications to increase the level of reach and uptake of measures amongst these communities.

7. The principle of proportionality is a key consideration. This principle requires that the least restrictive measures are used and for no longer than is necessary to achieve the objective of preventing, minimising, or managing the COVID-19 public health risk. When assessing proportionality, it is important to account for the objectives of both Te Tiriti o Waitangi and equity considerations as less proportionate, more restrictive measures may be required to achieve these objectives.

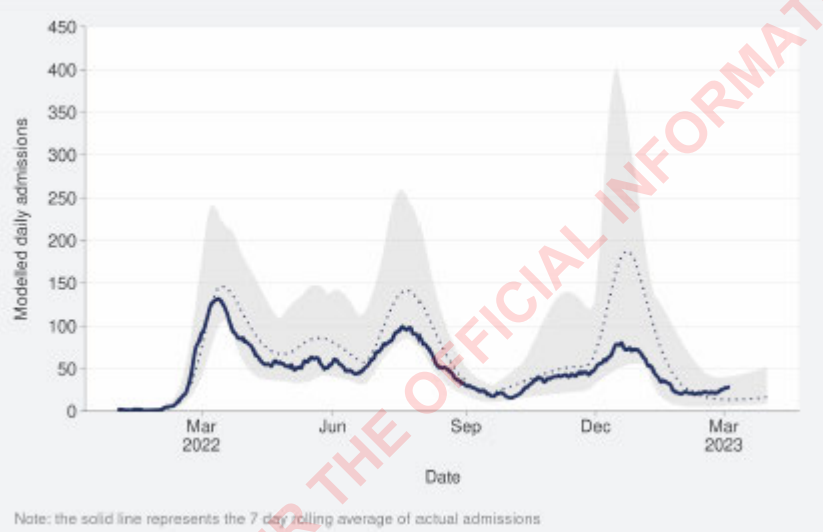
Summary of outbreak status and epidemiological context

COVID-19 case rates have stabilised but hospitalisations have increased

8. Overall, the key measures of infection (levels of viral RNA in wastewater and reported case rates) used to monitor the COVID-19 epidemic remain stable compared to the last PHRA in January 2023 in most regions after increasing slightly in late February 2023.

9. COVID-19 related hospital admission rates have increased in the week ending 5 March 2023, following the recent slow increase in cases in late February, and are tracking in the upper bound of the 95% confidence interval (figure 1). Hospitalisations that are classified as being 'for COVID-19' are higher than the incidental rate. Since October 2022, COVID-19 related hospital admissions of patients admitted for COVID-19 related illness were 1.8 times higher rather than those admitted who incidentally had COVID-19.

Figure 1 - COVID-19 Modelling Aotearoa hospitalisation scenarios compared with national through 12 March 2023[1]



Vulnerable populations have the highest rates of hospitalisation

10. There are differences in the rates of hospitalisation by ethnic group. The cumulative total for the year shows that Pacific peoples and Māori have had the highest risks of hospitalisation for COVID-19 – 2.3 and 1.8 times the risk of European or Other, respectively. In the week ending 5 March, Māori had the highest age adjusted admission rate (0.9 per 100,000).

Figure 2 – COVID-19 daily age standardised hospital admissions for COVID-19 per 100,000 population through 12 March 2023

11. Further, a review of people with disabilities' experience of COVID-19 [HR2022017250 refers] found that Disability Support Services (DSS) recipients have had 4 times the risk of hospitalisation when compared to the rest of the population during 1 January - 16 November 2022. Further analysis undertaken by Whaikaha found that DSS recipients who receive residential support are 8 times more likely to be hospitalised.

There is a slower but steady uptake of the second booster

12. The first booster has seen a steady uptake with 71.5% of the eligible population having received their first booster. The second booster has seen a slower but steady rise in uptake with 49% of the eligible population receiving this dose. This is specifically of note as the second booster is only available to higher risk populations.

There is currently no dominant variant in the community but the proportion of XBB cases is growing quickly

13. The continued evolution of incrementally immune evasive variants generates an upward pressure on transmission, without necessarily corresponding to a distinct 'wave' of cases. There is a range of variants in the community with no one variant being dominant. The most common variant in wastewater (which reflects community infections) is XBB, a subvariant that has grown considerably from 2% in late January to now making up 43% of community cases, followed by CH.1.1, which now accounts for 28% of cases in the community. The next most prevalent are other BA.2.75 (including XBF) at 25%.[2]

Risk assessment

Cases rates have stabilised

14. Since the last PHRA, case rates rose slightly over late February and stabilised over the week ending 12 March. Modelling undertaken in late 2022 suggests that, assuming no substantial policy or other changes, this will continue into April, but the modelling is uncertain because it does not factor in some context and influences, such as the possibility of new variants of concern, changes to vaccine eligibility or the use of antivirals.

15. As noted above, daily case numbers and hospital admissions have increased. Deaths have not climbed as high as was predicted pre-summer and have been relatively stable for the past few weeks.

Variants of concern

16. The proportion of Omicron sub-variant XBB.1.5 cases in the community has grown to 22% in cases that are whole genome sequenced. While U.S. data suggests that it has a growth advantage over other sub-variants, the immunity profile of the New Zealand population is different to that of the U.S. population so it is unclear how this sub-variant will affect New Zealanders.

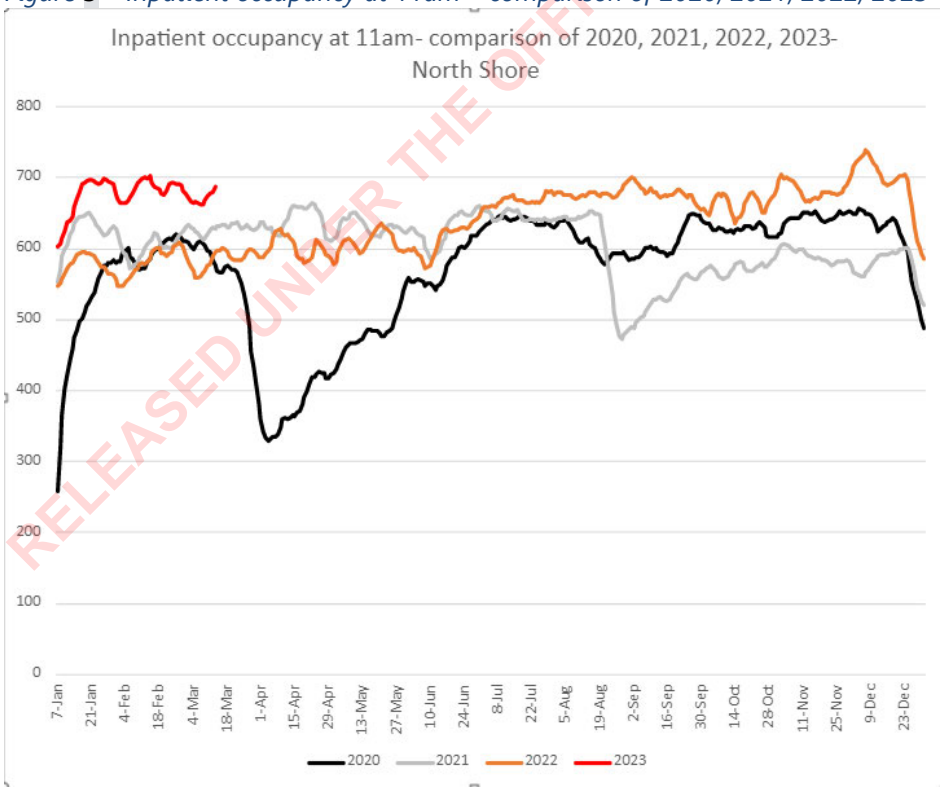
Uptake of therapeutics

17. Uptake of COVID-19 therapeutics has been steadily increasing over recent months, and uptake is high among vulnerable populations. Approximately half of Māori and Pacific Peoples aged 50-64 years who report positive tests were accessing antivirals in the week ending 5 March. It is also important to note that uptake of therapeutics cannot be disaggregated by disability status, so it is uncertain what the uptake of therapeutics is among this group.

The health sector is under pressure

18. The health sector is under significant pressure and this is restricting delivery of critical health services to patients. For example, at North Shore hospital inpatient occupancy from the start of 2023 to 18 March 2023 is tracking well above that of the same period in 2022, 2021, and 2020 (figure 3).

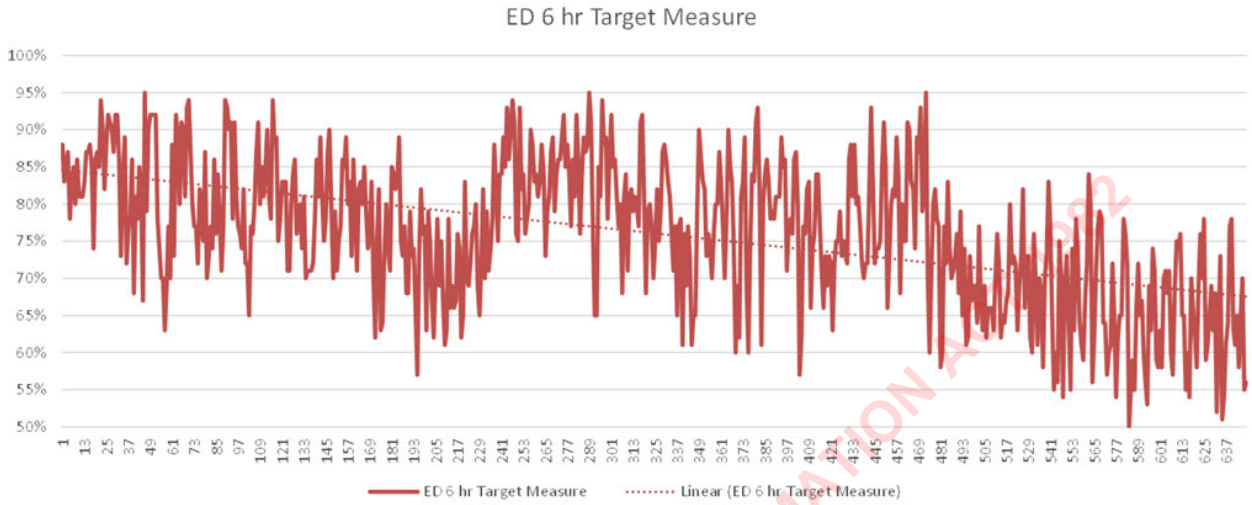
Figure 3 – Inpatient occupancy at 11am – comparison of 2020, 2021, 2022, 2023 – North Shore Hospital



19. Further, over the last year Middlemore hospital has recorded over 100 days where it was over 95% occupied for combined adult medical and surgical beds. Further, from 1 January

to 9 October 2022, Middlemore hospital emergency department struggled to meet its 6-hour target measure for ED admissions (figure 4).

Figure 4 – Middlemore Hospital emergency department 6-hour target measure performance 1 January – 9 October 2022



20. The health and disability sector capacity will be put under considerable strain if COVID-19 hospitalisations continue to increase as Aotearoa New Zealand moves into the winter illness season.

Director of Public Health comment on current risk from COVID-19 to the New Zealand population

21. In taking the above trends into account the Director of Public Health's assessment of current public health risk due to COVID-19 is that the risk to the population overall remains low but is increasing. The risks to more vulnerable members of the population remain higher than for the general population but may be reducing with the commencement of bivalent vaccine and extensive use of antivirals.

The basis for recommendations on current measures within this context

22. As Aotearoa New Zealand approaches the winter illness season it is critical that the public health response remains effective in limiting the spread and impacts of COVID-19 infections. As noted in paragraphs 17-18, the health system is already under much higher pressure than is typical at this time of year compared to other years during the pandemic. Increases in the spread of COVID-19 worsens this pressure and restricts the ability of the health sector to deliver services to both COVID-19 and non-COVID-19 patients.

23. It is also important that vulnerable groups are well protected, particularly until the Government rolls out the bivalent booster dose to vulnerable populations and can monitor its uptake. Ensuring that vulnerable populations can receive the booster before self-isolation requirements are lifted, protects both the wellbeing of those vulnerable to COVID-19 and health system capacity.

The ability to make Orders under section 8(c) of the COVID-19 Response Act – are extraordinary powers still required to manage the outbreak?

24. s 9(2)(g)(i) [redacted]

25. s 9(2)(h) [redacted]

26. Separate advice is currently being prepared in consultation with Crown Law on a further authorisation from the Prime Minister.

Comment on key non-mandatory measures

27. With daily case numbers staying relatively constant over recent weeks, rising hospitalisations and high pressure on health sector capacity, the risk posed by the virus to many groups within the population remains significant.

28. Uptake of the first booster is stable at 71.5%, and uptake of the second booster uptake has risen slightly to 49% of the eligible population. The bivalent booster has become available to eligible members of priority groups from 1 March 2023, and it becomes available to those aged 30 years and over on April 1. The bivalent booster provides targeted protection against Omicron subvariants, which is important for protecting vulnerable people and health sector capacity as Aotearoa New Zealand moves toward the winter illness season with an Omicron 'variant soup'.

Summary of Committee deliberations of case isolation requirements

29. Case isolation remains the most effective measure to reduce the onward transmission of COVID-19. The requirement to isolate as a case is a significant imposition on a person's right to freedom of movement. Recent World Health Organisation (WHO) patient management guidelines have also noted that risks of transmission from asymptomatic cases are considerably lower than from those with symptoms.

30. The degree to which retention of an order requiring isolation contributes to the actual isolation behaviour of cases may be changing over time. Limited data from a behavioural insights survey in February suggests that actual isolation following testing positive is decreasing (67%) but numbers included in the survey were small. It is noted that there is no legal requirement to either test or report results of tests although the ongoing provision of leave support and antivirals may be incentivising both testing and reporting. It should be noted that modelling results (provided in appendix 1) do not explicitly incorporate any changes in behaviour but rather provides a range of scenarios that could occur as a result of isolation behaviour change.

31. Despite these limitations in the evidence base, the Committee was reluctant to remove or reduce the current 7-day case isolation requirement. As detailed in Appendix One, other factors factoring into these deliberations are:

    a. Modelled increases in transmission following the removal of the mandate.

    b. International and domestic experience showing reduced adherence, but inconclusive results regarding infection rates if the mandate is removed.

    c. Limited benefits in the reduction of the isolation period for asymptomatic cases.

    d. The potentially disproportionate impact on vulnerable populations.

Considerations if the requirement to isolate is not maintained

32. Regardless of the recommendations in the public health advice the Director-General of Health will provide to the Minister of Health, there is a possibility that the requirement to

isolate may be removed – for example, if the test in section 8(c) of the Act cannot be met, or if the Minister and/or Cabinet does not support the recommendations.

33. If this occurs, there is a need to ensure that there is a smooth transition to a new approach. There are also a set of actions that could be undertaken to mitigate the effects of removing the mandate. If the isolation mandate is removed, I would recommend the following measures:

    a. Clear guidance that cases should isolate for 7 days.

    b. Maintain guidance and functionality to report COVID-19 test results – this information (even if not capturing all cases), still provides important information on case trends to assist health service planning and is also the main mechanism for identifying people requiring support and/or likely to be eligible for antivirals.

    c. Establish a mechanism to ensure cases are aware of the recommended isolation period including advice that they may be directed to isolate by a Medical Officer of Health should a failure to isolate place vulnerable persons at risk.

    d. Continue the Leave Support Scheme (LSS) – potentially in a more targeted form as has been used in other jurisdictions. This would support people who might otherwise find it difficult to isolate to do so.

    e. Strengthen effective public health measures that do not involve limitations on individual rights – for example, systemic improvements to ventilation in high-risk settings.

    f. Consider whether eligibility for antivirals should be further expanded.

34. In addition, I note that we have received feedback previously from other agencies regarding their concerns if isolation were to be removed:

    a. Some population groups are more at risk of severe outcomes than others, and that removing mandatory isolation may have impacts for these groups in terms of their ability to take part in daily activity and social interactions. This is particularly likely to be the case where there are not other safeguards in place – such as those outlined in para 33 above.

    b. If a change was to occur, 6 weeks would be required to make the necessary operational changes, such as updating providers on new advice, and reviewing collateral.

Summary of Committee deliberations of mask requirements

35. Masks are still considered an effective measure, particularly in protecting vulnerable populations. While data is limited, there is anecdotal evidence to suggest a degree of non-compliance in certain settings and fatigue within certain facilities. Furthermore, there are increasing calls for organisations to be able to develop their own policies to both manage the risk and respond to the needs of staff and patients specific to their context.

36. While there was limited support among Committee members for removing face mask requirements on public health grounds, some members expressed that the requirement that visitors wear masks is no longer proportionate. This is because compliance with the requirement is waning, and health providers can assess the risk levels unique to their premises and of enforcing their own policies on who should be wearing masks.

37. For example, enforcement of face mask requirements in non-hospital health settings such as pharmacies is challenging as it is not always clear to pharmacy workers and customers who is considered a visitor who must wear a mask, and who is a patient (not required to wear a mask). The intended interpretation is that everyone who enters a pharmacy is required to wear a mask, but this requirement is rarely observed and is difficult to monitor and enforce.

38. Committee members from Te Aka Whai Ora did not support the removal of mandatory face mask requirements, due to the potential for adverse impacts this would have on Māori who already suffer disproportionate health outcomes. Committee members noted the lack of evidence specific to the likely impacts on Māori. Similarly, Whaikaha members did not support removal of the visitor mask mandate noting that even with the current mandatory settings in place, DSS recipients who receive residential support are 19% more likely to report a positive COVID-19 test result, 8 times more likely to be hospitalised and 47 times more likely to die with or of COVID-19. Any change in in these data that might arise from adopting a policy-based approach to visitor mask use has not however been quantified.

39. Whaikaha recommends that decisions to remove mandatory face mask requirements are not made until such a time that regular data is collected on DSS recipients' COVID-19 outcomes.

40. While there was limited support from Committee members to remove mandatory face mask requirements, there was broad support for extensive consultation of affected groups, and for implementing national IPC face mask guidance prior to removing the mandatory requirements, if the Minister decides to revoke the Order. Additionally, some members suggested that the Minister consider other alternatives besides only a switch to national IPC mask guidance.

41. It is important to note, however, that not all sectors or persons conducting affected businesses or undertakings will have the capacity or capability to do this themselves. Te Whatu Ora emphasises that when schools were asked to undertake their own risk assessments in line with guidance, it placed on them a significant additional burden and in many instances resulted in schools opting for no mask requirements to avoid this burden and conflict with their communities. This highlights the need for national IPC mask guidance to be comprehensive and effectively communicated if mask requirements are removed. There is currently IPC guidance for healthcare staff and patients provided by Te Whatu Ora however this does not extend to visitors to these facilities. Before removing the Mask Order, Te Whatu Ora and Manatū Hauora will need to provide clear and considered guidance on appropriate mask wearing procedures for each healthcare setting.

Director of Public Health comment on mask requirements

Taking the above discussion into account, the Director of Public Health's assessment is that the impact of replacing the visitor mask mandate with a facility policy approach on both overall transmission and on populations more at-risk from COVID-19, is likely to be low. The current mandate applies only to visitors, is poorly adhered to in some settings, and does not provide flexibility to vary according to current epidemiological circumstances. In making this assessment the Director is also cognisant of the concerns around harms from visitor mask requirements in some settings presented to the committee. The replacement of the mandate with clear guidance for health service providers is appropriate. It's important to note that the mandate does not cover the use of masks by healthcare workers, including in-home care and support workers, and much of the commentary

around the retention of masks relates to the general provision, rather than the sub-set (visitors) covered by the mandate.

Removing the point of care test Order

42. The point of care test Order (POCT Order) is a regulation that restricts the importation and supply of a POCT (including RATs) unless provided an exemption from the Director General of Health.

43. The POCT Order was originally enacted during the "Elimination" strategy where a single positive test could lead to rights-limiting requirements such as self-isolation or a lockdown, and therefore the risk of a false negative or positive result was of high concern.

44. The retention of the POCT Order is no longer considered appropriate because:

    a. false positive and negative test results no longer pose a significant risk as the COVID-19 management strategy has changed, the public is not required to use Government funded tests, and the market is already saturated with approved tests, and

    b. the quality control of COVID-19 testing products can be carried out via a procurement process, rather than a separate regulation such as the Order, and through other existing regulatory mechanisms such as the Consumer Guarantees Act 1993.

45. See Appendix 3 for further information on the removal of the POCT Order.

Equity and Te Tiriti o Waitangi considerations for maintaining measures

Impact of COVID-19 on vulnerable populations

46. Pacific peoples and Māori continue to have the highest hospitalisation rate compared to other ethnicities, after standardising by age. Māori are 1.8 times more likely to be admitted to hospital with COVID-19 than European or Other, and Pacific Peoples are 2.3 times more likely. Age standardised rates of Pacific Peoples being admitted to hospital with COVID-19 have decreased since the last PHRA and have remained stable over the last fortnight

47. COVID-19 attributed mortality rates are also higher among Pasifika (2x higher) and Māori (1.7x higher), compared to European or Other ethnicities.

48. The most deprived populations continue to have the highest rates of hospitalisation (0.7 per 100,000), almost double that of those who are least deprived (0.4 per 100,000). There is also an increased risk of COVID-19 attributed mortality for those in socio-economically deprived groups. The most deprived populations have 2 times the risk of mortality when compared with those in the least deprived population.

49. Disabled people aged <65 years who receive Disability Support Services have a hospitalisation risk that is 4 times higher than the rest of the population. Further, rates of COVID-19 attributed mortality are 15 times higher among this group compared to the rest of the population.

50. Many disabled people attend health care appointments and pharmacies for their medication and have expressed their preference that mask mandates are retained in health care settings, in particular pharmacy and primary care.

51. Despite the lack of information on whether any changes would increase the disproportionate impact on these populations, Committee members emphasised that any reductions of public health measures will increase prevalence of Long COVID, and that this increased prevalence will disproportionately impact Māori, Pacific Peoples and disabled people due to their vulnerability to infection. This is particularly concerning given that the

criteria for diagnosing Long COVID and Long COVID support systems remain under development and given that these groups are more often under-diagnosed and under-treated when accessing healthcare.[3 4 5 6 7 8]

Addressing equity concerns

52. There is an ongoing and strong concern among Committee members that a reduction in measures would put vulnerable populations at disproportionate risk. They emphasise that decisions to step down measures should not be made based on population-wide data and context, but rather on the data representing specific vulnerable groups such as disabled people, Māori and Pacific people, and older people.

53. Retaining 7-day self-isolation for cases limits the spread of COVID-19, and this allows time for the roll out and uptake of bivalent booster doses, increased access to therapeutics, and improvement of the diagnosis and treatment of long COVID to protect those who are most vulnerable to the impacts of infection.

54. s 9(2)(g)(i) [redacted] has noted that COVID-19 vaccination efforts and Māori COVID-19 communications have highlighted the importance of Māori leadership at all levels; putting equity at the centre of decision making; enabling providers to build relationships with communities; enabling communities to lead responses, and collaboration across agencies. It also notes the disproportionate risk that Māori face of getting long COVID, and highlights how certain options would minimise this risk.

55. The increasing accessibility and uptake of antivirals for vulnerable populations is providing greater protection against the impact of infection. In the age bracket 50-64 years, antivirals have been provided to 51% of Māori cases and 50% of Pacific Peoples cases.

56. The Director of Public Health notes that the costs of measures may also be being borne disproportionately by disadvantaged groups who despite being eligible for leave support may have less secure employment and therefore be reluctant to take leave. Parents of test positive children may also be less likely to take parental leave to care for isolating children and isolating children from disadvantaged groups may be more vulnerable to educational disruption.

Equity considerations in these recommendations

57. It is important that public health measures improve health equity and uphold Te Tiriti o Waitangi principles by protecting groups who are most vulnerable to COVID-19.

58. Committee members highlighted the role that self-isolation plays in protecting vulnerable communities in Aotearoa New Zealand.

59. Shifting mandatory case isolation to guidance is likely to disproportionately affect those who do not have the ability to choose to follow the guidance. This includes people in precarious employment, those unable to work from home, workers with limited sick leave and other vulnerable populations, particularly those with other socioeconomic disadvantages.

60. Committee members emphasised that any stepping down or removal of protective measures should be accompanied by specific alternative settings, modelling against those alternative settings, and extensive engagement with stakeholders from vulnerable groups prior to stepping down measures.

61. Subsequently, the recommendation to revoke the mask order is accompanied by a Manatū Hauora and Te Whatu Ora plan to develop IPC guidance to empower stakeholders in the health and disability sector to manage the risk levels relevant to their premises and roles, and a timeframe which allows them time to operationalise this guidance before a decision is made to revoke the mask order.

62. Stakeholders from the disability community have expressed concern that there is insufficient data on the impact that removing protective measures would have on disabled people. They argue that decision makers should consciously factor in this absence of evidence before making decisions that could profoundly impact disabled people.

63. If the COVID-19 situation significantly changes, then enforceable or mandatory measures may be re-introduced to protect our vulnerable populations. This would be an effective and proportionate response to a worsening risk profile.

New Zealand Bill of Rights Act 1990 (NZBORA) – Crown Law advice (legally privileged)

Case Isolation

64. s 9(2)(h) [redacted]

s 9(2)(h)

[redacted]

Next steps

71. Pending your agreement, we will share this memo with the Minister of Health's Office and the Parliamentary Counsel Office.

72. If the Minister of Health approves the recommendations of this memo, Manatū Hauora will provide a paper to Cabinet by 11 April 2023, outlining these recommendations.

Recommendations

It is recommended that you:

1.	Note	that key indicators currently suggest overall COVID-19 public health risk is low	Noted
2.	Note	that at-risk groups remain at disproportionately high risk	Noted
3.	Agree	to recommend that the Minister of Health remove current face mask requirements	Yes/No
4.	Agree	to recommend that the Minister of Health retains current case isolation requirements	Yes/No
5.	Agree	to recommend that the Minister of Health remove point of care test Order requirements	Yes/No
6.	Note	that the section 8(c) Prime Minister Authorisation Notice advice will be provided to the Prime Minister in parallel with the advice on these public health measures, and the Prime Minister's decision on that advice may limit the measures that can be used	Noted
7.	Note	that Manatū Hauora is working with Te Whatu Ora on developing national IPC mask guidance to coincide with a removal of the current face mask requirements	Noted
8.	Note	that the lead time for development of a consistent national infection prevention and control guidance/any subsequent workforce development is six weeks	Noted

Signature Date: 22 March 2023
Dr Nicholas Jones
Director of Public Health
Public Health Agency | Te Pou Hauora Tūmatanui
Manatū Hauora | Ministry of Health

Signature Date: 23 Mar 2023
Dr Diana Sarfati
Director-General of Health | Te Tumu Whakarae mō te Hauora
Manatū Hauora | Ministry of Health

Appendix One – Case Isolation

The potential impact of removing case isolation

73. Modelling suggests that removing mandatory requirements and switching to guidance on measures relating to household contact isolation and mask wearing on 12 September 2022 did impact transmission. Modelling indicates that transmission increased by approximately 20% from mid-September to early November, likely due in part to the changes in behaviour resulting from the removal of mandatory measures. The expected increase in transmission prior to this switch to guidance was 8.5%, based on international evidence about levels of compliance under guidance. This is likely to have been due to the use of a more conservative assumption regarding community adherence than is likely to have been the case.

74. Provisional modelling results provided by COVID-19 Modelling Aotearoa indicate that:

a. changes to case isolation requirements (and other behaviour changes or measures) that result in a moderate increase in transmission of 10%, will cause an approximate 54% increase in peak bed occupancy in hospitals at some point in the 26 weeks following the change

b. changes in case isolation requirements (and other behaviour changes or measures) that result in a higher increase in transmission of 15% will cause an approximate 88% increase in peak bed occupancy in hospitals over the 26 weeks following the change.

Table 1. Model results for the short-term and long-term impact of ending mandatory COVID-19 isolation requirements. Differences in cumulative infections, COVID-19 hospital admissions, and COVID-19 deaths, in the 7 weeks and 26 weeks following the policy change, and peak hospital occupancy during the 26 weeks following the policy change, under three model scenarios (+5%, +10% and +15% change in transmission on 21 March 202). All results are relative to the baseline model with no policy change. In each table cell, the first line shows change in absolute numbers and the second line shows relative (percentage) change compared to baseline. Values in brackets represent the 95% confidence intervals on these differences.

Scenario	Short term impact Difference in cumulative numbers from 0 to 7 weeks post policy change			Long term impact Difference in cumulative numbers from 0 to 26 weeks post policy change			Difference in peak hospital occupancy in the 26 weeks post policy change
	Infections	Hospital admissions	Deaths	Infections	Hospital admissions	Deaths	
Lower (+5% on 21Mar23)	+83,000 [+32,000, +95,000] +27% [+25%, +29%]	+500 [+200, +600] +25% [+21%, +26%]	+23 [+12, +40] +15% [+12%, +16%]	+81,000 [+59,000, +88,000] +6% [+5%, +9%]	+700 [+400, +800] +7% [+6%, +11%]	+73 [+63, +135] +8% [+7%, +13%]	+103 [+30, +130] +24% [+12%, +26%]
Central (+10% on 21Mar23)	+179,000 [+73,000, +200,000] +57% [+52%, +65%]	+1,000 [+400, +1,300] +55% [+48%, +57%]	+51 [+27, +88] +34% [+26%, +36%]	+164,000 [+117,000, +176,000] +12% [+11%, +17%]	+1,400 [+700, +1,500] +15% [+13%, +21%]	+148 [+124, +269] +17% [+15%, +25%]	+233 [+95, +287] +54% [+37%, +57%]
Higher (+15% on 21Mar23)	+282,000 [+123,000, +308,000] +91% [+80%, +108%]	+1,700 [+700, +2,100] +90% [+82%, +96%]	+85 [+45, +145] +56% [+43%, +59%]	+247,000 [+174,000, +264,000] +18% [+16%, +24%]	+2,100 [+1,100, +2,300] +23% [+20%, +31%]	+225 [+185, +406] +25% [+23%, +37%]	+382 [+179, +463] +88% [+70%, +92%]

75. When interpreting these results, it is important to be aware of the following interpretation caveats:

a. It is not possible to determine the size of the effect that removing mandatory isolation would have on cases.

b. Modelling does provide a useful range of potential impacts under different scenarios. However, it is not a prediction, and results are reliant both on the model itself and the assumptions it uses.

c. The model assumes that there is no major new variant.

d. The model does not take into account use of anti-viral therapies and the impact that they may have on hospitalisations and deaths.

e. The baseline modelling scenario (that assumes no changes to isolation, and does not account for behaviour change over winter, or other changes) represents a long-term projection associated with approximately half as many deaths as occurred in the winter 2022 wave (1,929 attributable deaths occurred during the equivalent 26-week period in 2022, compared to 891 in the baseline modelling scenario). However, a winter model would likely predict a higher case load than the current baseline model, but not as high as the 2022 winter.

f. Modelling does not account for hospitalisations and deaths for other conditions and health events for which there are heightened risks following COVID-19 infection (for example, cardiovascular events[9]). It also does not include the impact of delayed care and/or workforce pressures on these metrics.

Are people who test positive isolating?

76. A survey series commissioned by Manatū Hauora from September 2022 to February 2023 provides insight on current attitudes and actions in relation to the requirement for cases to isolate:

a. intention to self-isolate has remained high throughout this period – the percentage of participants reporting that they would be 'likely' or 'very likely' to isolate if they were a case was 83%, 85% and 85% in September 2022, November 2022, and February 2023 respectively;

b. the proportion of people who test positive who also report isolating has dropped slightly (67% in the February 2023 survey compared to 78% in the November 2022 survey).

77. The Institute of Environmental Science and Research (ESR) has produced an exploratory estimate of the case ascertainment rate (CAR), based on comparing reported cases and wastewater results. However, as noted previously, CAR is an exploratory metric. Since this metric was first reported in late 2022, results have been more variable than expected. As a result, this metric is not currently considered sufficiently reliable.

What can we learn from the experience in other jurisdictions?

78. Evidence from overseas from early 2022 suggests that a legal requirement to isolate is likely to have significantly greater **adherence** than a recommendation to isolate. For example, in the United Kingdom, there was a significant drop in adherence after the legal requirement was dropped on 24 February 2022. Survey data of people who tested positive for COVID-19 showed 80% were fully compliant in February but dropped to 64% in early March and then 53% in late March 2022.[10]

79. It is difficult to compare the impact that the removal of isolation mandates in other jurisdictions has on **infection levels**, as many countries also changed metrics relating to the level and/or severity of infection at the same time. In addition, changes to testing practices both in hospital and of people who have died (which may or may not have occurred at the same time as the removal of isolation) also have the potential to impact on hospitalisation and mortality data. For example, several states in Australia (VIC, NSW)

removed the mandatory requirement to report at the same time as the requirement to isolate was removed in October 2022, while ACT did not remove it until February 2023.

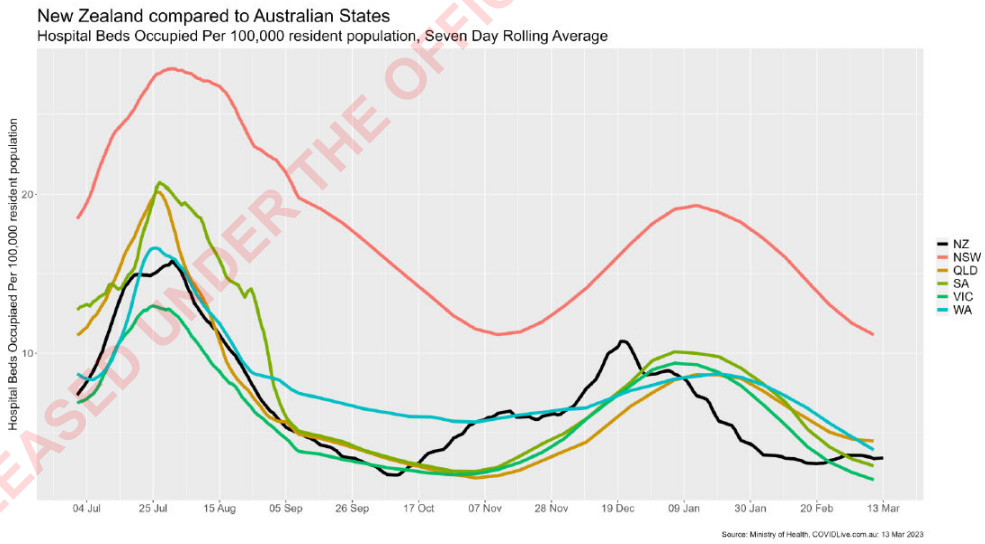
80. However, with that caveat, data on hospitalisations and deaths in Australia is likely to represent the most appropriate comparator for the New Zealand context. Australia and New Zealand both largely avoided significant levels of infection until Omicron, both had relatively well-vaccinated populations at that point, and the two countries have broadly similar population age structures. Hospitalisations and deaths are likely to be less affected by changes in reporting than case data.

81. Direct comparison of hospital bed occupancy for COVID-19 cases per capita in Australian states and New Zealand is provided in Figure 3 below. This comparison suggests the difference in isolation policy is not impacting on bed occupancy. However, caution must be taken in interpreting this data as the definition of what is recorded as a COVID-19 hospitalisation differs by jurisdiction:

a. New Zealand – cases are recorded for the full duration of their inpatient stay (from when they test positive)

b. Victoria – only counts COVID-19 hospital admissions if they are currently in hospital and testing positive (typically 5-7 days)

c. Other Australian states – some other states more completely match recorded cases with admissions data, and report as COVID-19 patients for a full 14 days regardless of whether the person is still testing positive.[11]



82. In addition, there are likely to have been changes during this period in terms of both administrative data collection and service provision. For example, 30 days after the Epidemic Notice expired in New Zealand, preliminary inspections performed under section 21A of the Coroners Act 2006 were no longer required to include the taking and testing of swabs in any case where the deceased is suspected to have had COVID-19 at the time of death.[12] In addition, in late 2022 some hospitals shifted from requiring RATs on admission to only testing where the patient had symptoms.

Case isolation is still considered to be an effective measure

83. The rationale for continuing to require self-isolation is as follows:

a. A legal requirement to self-isolate remains a highly effective tool in New Zealand's COVID-19 public health response. It significantly limits transmission of COVID-19 by breaking the chain of transmission by reducing the amount of infectious people having contact and infecting others within the community. In turn this limits hospitalisation, including the need for ICU care, and deaths, especially for more vulnerable populations. It also limits the number of people who will develop post-acute sequelae such as Long COVID.

b. Without mandated case isolation, it is highly likely adherence to guidance would be lower, resulting in more infectious cases seeding community transmission and increasing overall case rates.

c. Best practice approach to managing highly infectious notifiable diseases is for cases to isolate during their period of infectivity. This is the most effective tool for controlling disease transmission. The high transmissibility of COVID-19 reinforces the importance of case isolation.

d. Other infection control tools, such as requiring face masks or physical distancing are significantly less effective than isolation. We have been able to recommend removing or reducing some of those other tools in part because case isolation has remained in place. However, there is no combination of other mechanisms that would come close to producing the broad public health benefits provided by mandatory case self-isolation, including the minimisation of disruption to essential services caused by high transmission of COVID-19.

Changing the mandatory period of isolation has marginal benefits

84. *While there* has been a reduction in isolation requirements over the course of the outbreak, we have reached what is probably the minimum threshold for self-isolation of symptomatic cases to remain an effective intervention. A mandatory requirement for 5-day isolation would be less effective, as many people who are symptomatic may still be infectious to some degree on release at day 5.[13]

85. It is less clear for cases that remain asymptomatic as it is not known at time of positive test whether they are at the end of their infectious period or near the beginning. The WHO has recommended reducing the case isolation period to 5 days for cases who remain asymptomatic throughout the course of their infection.

86. Based on available information, most people who are symptomatic who are isolating are too sick to be able to work or go to school.

a. Based on data from healthcare workers in Canterbury, approximately 40% of cases were not well enough to return to work after completing 7 days isolation (noting that the survey was carried out earlier in the pandemic, and with the current outbreak context consisting of multiple waves and boosters, the duration of illness among healthcare workers may have decreased since).

b. Analysis of publicly available data from the Household Labour Force Survey (HLFS) undertaken by Statistics New Zealand has shown that there is a clear increase in the rates of being absent or working less due to sickness across 2022, ramping up towards Q2, and maintaining across the year. This coincides with large scale spread of COVID-19 in the community. The change is very clear when compared to rates prior to 2022, which were fairly consistent, with some seasonal fluctuations. While no causal inferences can

be analytically drawn from this data, this marked difference indicates that the usual causes of absence/working fewer hours likely cannot account for the observations in 2022. I also note that high rates of sickness absences continued despite the requirement for household contacts to self-isolate being removed in mid-2022. Subsequently, I am confident that participants did not interpret the survey question as including absences due to self-isolation requirements for contacts. Therefore, it is reasonable to conclude that illness caused by COVID-19 and associated case self-isolation requirements is having a sizable impact on the labour force, when comparing to the usual levels of sickness related reductions therein. The comparison to baseline (2017-2019) indicates up to an 80% increase in the level of absence/reduction in hours across Q2 – Q3 2022, and Q4 still sees an increase over 40% on baseline.

87. The HLFS does not allow us to determine the number of hours of workplace absence due to isolation requirements for COVID positive people who would otherwise have been able to return to work.

Removing case isolation and associated supports is likely to have a disproportionate impact on some population groups

88. It is likely that an increase in community cases would affect some communities and population groups more than others. Specifically:

a. Older people – the strongest risk factor for COVID-19 mortality is age.

b. Māori and Pacific peoples – a Manatū Hauora report on inequities in COVID-19 mortality found that Māori and Pacific peoples had more than twice the risk of death compared to European and Other groups.[14]

c. People living in deprived areas – there is an acknowledged differential exposure to COVID-19 risk related to socioeconomic status. People in lower socioeconomic groups are more likely to work in jobs with greater risk of exposure, to live in larger and typically more crowded houses, and to have underlying risk factors. If there are more infectious people circulating in a community with more baseline contacts, this increases the likelihood of onward transmission. The Manatū Hauora report on inequities in COVID-19 mortality referred to above found that people from the most deprived communities were 3 times more likely to die from COVID-19 than those from the most affluent communities.[15] People who are socioeconomically deprived are more likely to face challenges in being able to isolate compared to people with greater access to socioeconomic benefits. This includes differing access to sick leave, income loss, and potential pressure from employers to return to work. Earlier return to work comes at the cost of increasing transmission, which is likely a more significant effect on health outcomes and ability to work due to illness. As a result, people who experience higher levels of socioeconomic deprivation may be more likely to not test, not report results, or break isolation, potentially causing further cases and further inequities.

d. Disabled people – a recent report on the burden of COVID-19 on the disabled population found that this population group had significantly higher risk of severe outcomes than the general population.[16] People receiving Disability Support Services (approximately 43,000 people), were 9% less likely to be COVID-19 positive, but 4.2 times more likely to be admitted to hospital for COVID-19, and 13 times as likely to die due to COVID-19.

e. People with underlying health conditions – the Manatū Hauora report on inequities in COVID-19 mortality referred to above found that people with any comorbidities had more than 6 times the mortality risk of people without comorbidities.

89. See appendix 1 of the memo following 26 January 2023 PHRA meeting for more information on the rationale for continuing to require mandatory self-isolation for cases.

Appendix Two - Masks

Mask wearing is still an effective measure, but more flexibility is required

90. Evidence that wearing a face mask decreases the rate of COVID-19 community transmission (and other airborne respiratory viruses) is substantial (HR20221311 outlined the evidence base of their use and mandates). Further healthcare settings are an especially vulnerable setting, and it is paramount that the public are safe to access healthcare with minimal risk of catching COVID-19, and have the confidence to access the healthcare they require.

The Mask Order has adverse effects for some people

91. The current Mask Order covers a broad range of environments such as health clinics, pharmacies, disability support services, and aged residential care homes, and masks are not always optimal for every setting. There is also a major difference in the length of time a person might be in a healthcare setting where the mask mandate is applied, ranging from a brief appointment to being full time resident.

92. This issue can arise for visitors to full-time residents in Aged Residential Care (ARC) facilities. For this group the health care setting is their home, and they often can have mobility issues which can make it difficult to leave the facility. The mask mandate means that all visitors to their home must wear face masks for the duration of the visit, unless an exception under section 6 of the Mask Order applies (such as they are eating or drinking, communicating with a person who is deaf or hard of hearing, or they have a physical or mental illness of condition or disability that makes wearing a mask unsuitable). There can be further complications depending on the health of the individual, such as residents with dementia finding masks disorientating, while for hard of hearing residents it is a barrier to communicate and can be very isolating.

93. While ARC stakeholders have indicated that they wish to enforce their own mask policies, comprehensive consultation of stakeholders from other affected healthcare settings on current mandatory mask requirements has not been completed.

The mandates are hard to enforce and compliance hard to measure

94. The Mask Order specifically excludes staff and patients in healthcare settings. This, along with the broad collection of services covered under the healthcare mandate, creates confusion to the public about when and where masks are required.

95. For example, the Mask Order applies to visitors to pharmacies, who are not there for healthcare reasons (e.g., not picking up a prescription or buying a health care product). Differentiating a 'visitor' from a 'patient' in these facilities is difficult and makes mask messaging and enforcement particularly challenging. Furthermore, it is difficult to know whether the actual benefit of the mask mandate is being realised in these settings when the mandate does not apply to all customers at any given time.

96. Currently there is very little public communications on mask requirement informing visitors that they are legally required to wear a mask and enforcement of the mandates is left to staff on the ground. This creates variability between sectors and facilities with how the mandate is interpreted and enforced.

Removing the Mask Order would allow facilities to develop appropriate mask settings

97. Removing the Mask Order does not need to be a pivot away from using masks as a measure, but instead allows each facility to develop appropriate settings. Currently healthcare providers are already responsible for the health and safety measures of staff, patients and visitors in all other areas of health and safety. Replacing the Mask Order with guidance would allow healthcare providers to make mask policies consistent across the facility and ensure the measures taken remain proportionate to the risks.

98. It is important to note, however, that not all sectors or persons conducting affected businesses or undertakings will have the capacity or capability to do this themselves. Te Whatu Ora emphasises that when schools were asked to undertake their own risk assessments in line with guidance, it placed on them a significant additional burden and in many instances resulted in schools opting for no mask requirements to avoid this burden and conflict with their communities. This highlights the need for national IPC mask guidance to be comprehensive and effectively communicated if mask requirements are removed.

99. As discussed, the enforcement of the Mask Order is left to each facility and often not implemented. Allowing healthcare providers to create setting appropriate restrictions would increase the likelihood the facility would also enforce them.

Appropriate IPC guidance will need to be prepared

100. There is currently IPC guidance for healthcare staff and patients provided by Te Whatu Ora[17] however this does not extend visitors to these facilities. Before removing the Mask Order, Te Whatu Ora and/or Manatū Hauora will need to provide clear and considered guidance on appropriate mask wearing procedures for each healthcare setting, noting that there is currently no national IPC technical advisory group or equivalent group that is well-placed to develop this guidance.

101. More developed guidance and communications would also enable more broad public messaging about the value of masks for high-risk settings, particularly when community transmission risk escalates.

Appendix Three – Point of Care Test Order

The self-isolation requirement no longer requires the POCT Order

102. The POCT Order has played a primary role in supporting the self-isolation requirement. It does this by ensuring the reliability of results produced by tests that legally require a COVID-19 case to self-isolate under the COVID-19 Public Health Response (Self-isolation Requirements) Order 2022.

103. It is important that the COVID-19 Public Health Response (Self-isolation Requirements) Order 2022 is well supported because it imposes a significant limitation on a person's right

to freedom of movement. False-positive test results would mean the Government is imposing this rights-limiting measure on people unnecessarily.

104. The POCT Order is no longer justified is because it is no longer required to support the self-isolation requirement for COVID-19 cases. This is because:

a. there is currently a sufficient Government supply of approved RATs for the next 12 months

b. the public is not legally required to use Government funded tests

c. the private market is saturated with approved tests

105. Additionally, there are other mechanisms that ensure the quality of tests remain high.

106. Quality control of COVID-19 tests could continue through a procurement process instead of a separate regulation like the POCT Order (noting that there is currently no capability to proactively undertake this form of quality control).

107. New medical devices must be registered on Medsafe's Web-Assisted Notification of Devices (WAND) database within 30 days of being on the market. Medsafe can take post-market action to restrict sales of medical devices in Aotearoa New Zealand through WAND. While in vitro diagnostic devices such as COVID-19 RATs are currently exempt from this requirement, if the POCT Order is revoked this could be changed to provide further assurance that quality of tests sold in Aotearoa New Zealand remains high.

108. If the POCT Order is revoked and the options for increased quality assurance noted in paragraphs 10-11 are not implemented, then the quality of tests distributed and used in New Zealand remains assured under the Consumer Guarantees Act 1993, the Fair Trading Act 1986, and the Health and Disability Commissioner Act 1994.

Implications for current Government-funded tests

109. There are no risks with current products assessed and approved via the point of care exemptions process or with current Government supply of tests.

110. However, approved products require continued monitoring of expiry dates and efficacy of products to detect new variants as there is currently no process for post-market assessment or revisitation for in vitro products.

111. Revoking the POCT Order would mean that an internal validation process would be needed when purchasing new Government test supplies.

Legal implications of retaining the POCT Order

112. Other in vitro and COVID-19 testing products under the Medicines Act are not regulated in the same way that other products are regulated.

113. If the Order is retained and approvals of existing products are restricted, it could be seen to be an interference with an open and competitive market.

Implications of allowing a private market for tests

114. Removing the POCT Order would open up the private market for tests as it currently stands for other in vitro testing products. This risks some poor-quality products being imported into Aotearoa New Zealand, which may lead to a small increase in false-positive and false-negative test results.

115. False-negative test results cause people to falsely believe that they do not have COVID-19, which poses health risks for the individual themselves and the risk of behaviour that further spreads the virus.

116. False-positive test results cause people to self-isolate unnecessarily, which can cause social and financial hardship.

Equity considerations

117. If cheaper, less effective products are available on the private market, then it would disadvantage those who a more deprived. This is because they would need to either:

a. spend their limited money on expensive tests that provide more reliable results, or

b. choose not to test and risk suffering health impacts from being unaware they have COVID-19 or spreading the virus to their whānau, or

c. purchase cheaper, less effective tests, and subsequently risk suffering poorer health and hardship, from which they already disproportionately suffer in virtue of being highly deprived.

118. This equity risk can be mitigated by ensuring that free RATs and PCR testing remain available and accessible for priority populations.

Endnotes

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