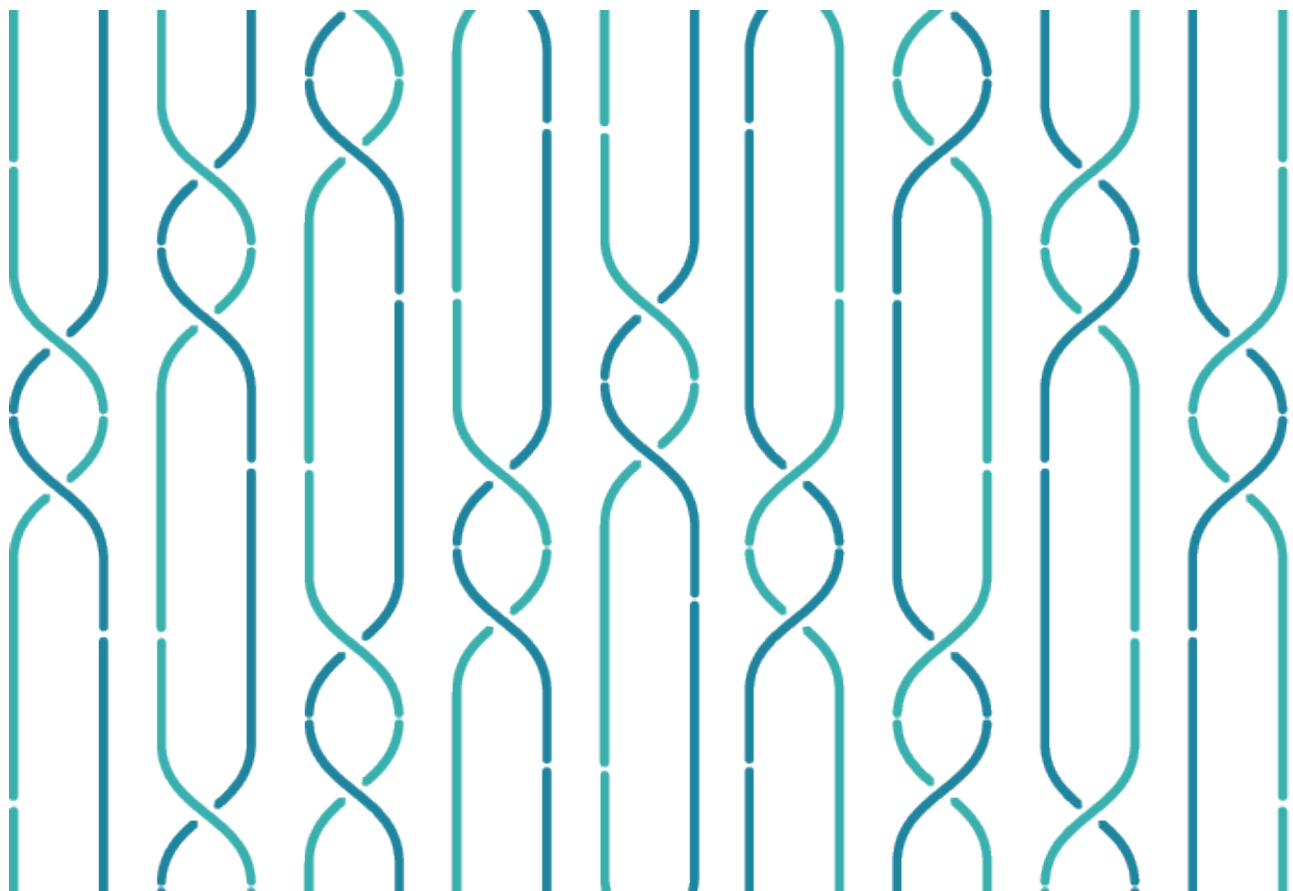




COVID-19 TRENDS AND INSIGHTS REPORT

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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	<p>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.</p> <p>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%.</p>

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: Reported¹ 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**).

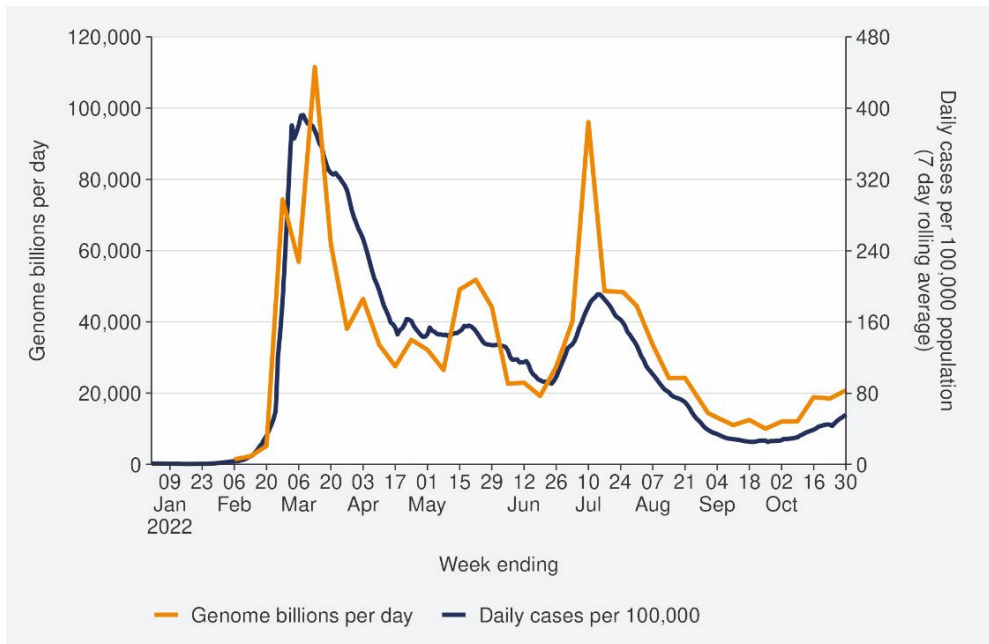
Table 1 in the appendix provides information on specific rates.

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.

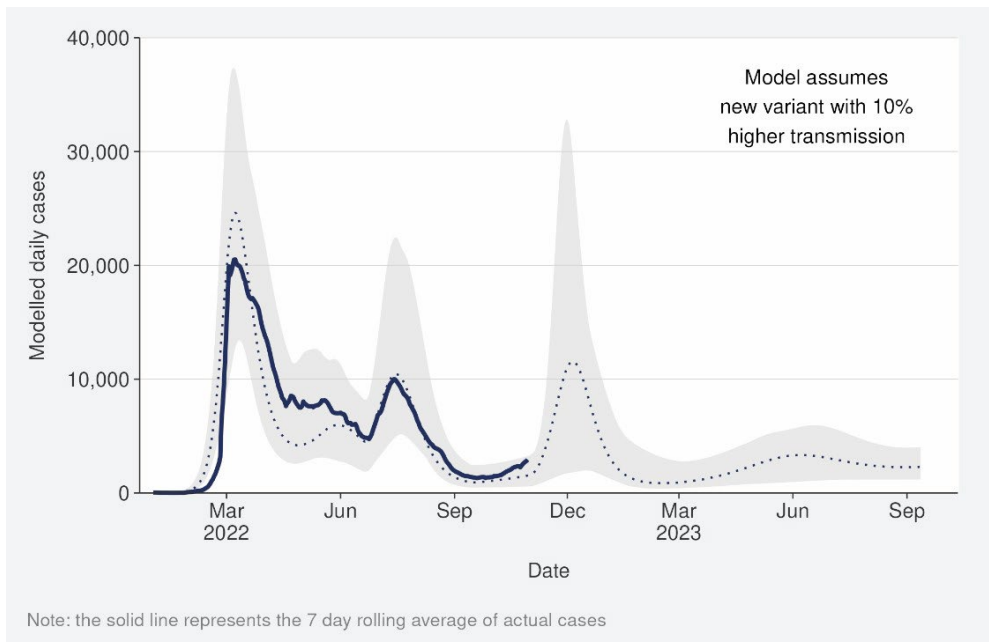


Figure 1: National wastewater trends (SARS-CoV-2 genome copies)³ compared with reported cases



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 scenarios⁴ compared with national reported case numbers



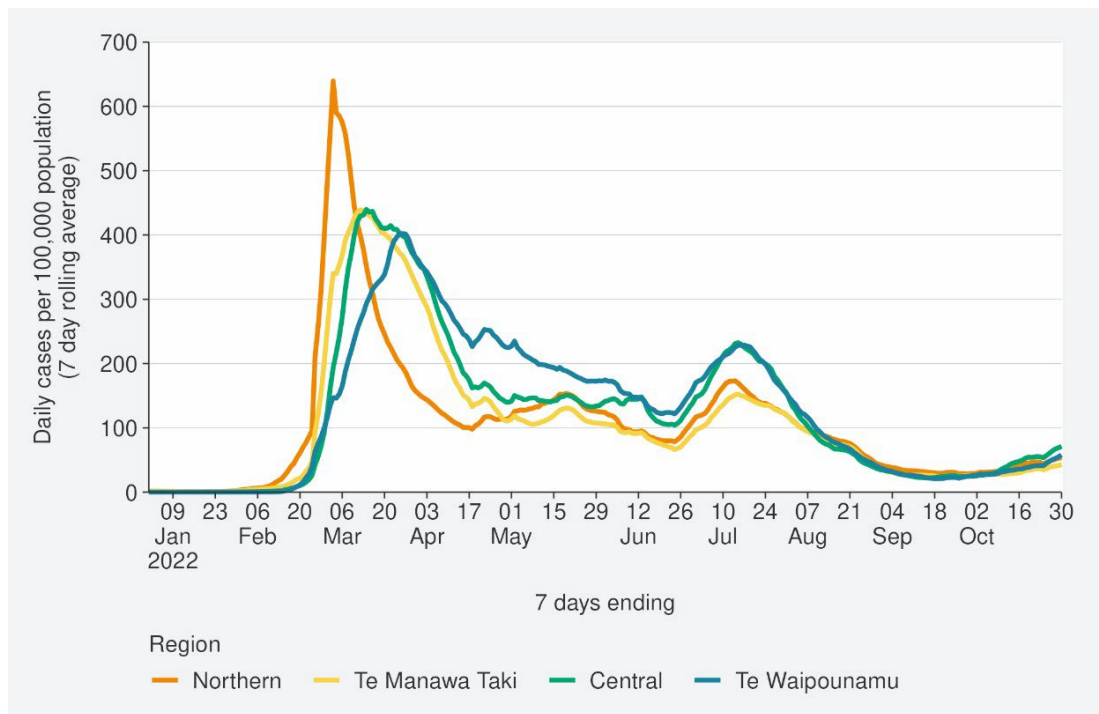
Sources: COVID-19 Modelling Aotearoa, ordinary differential equation model, October 2022, and NCTS/EpiSurv as at 2359hrs 30 October 2022

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.

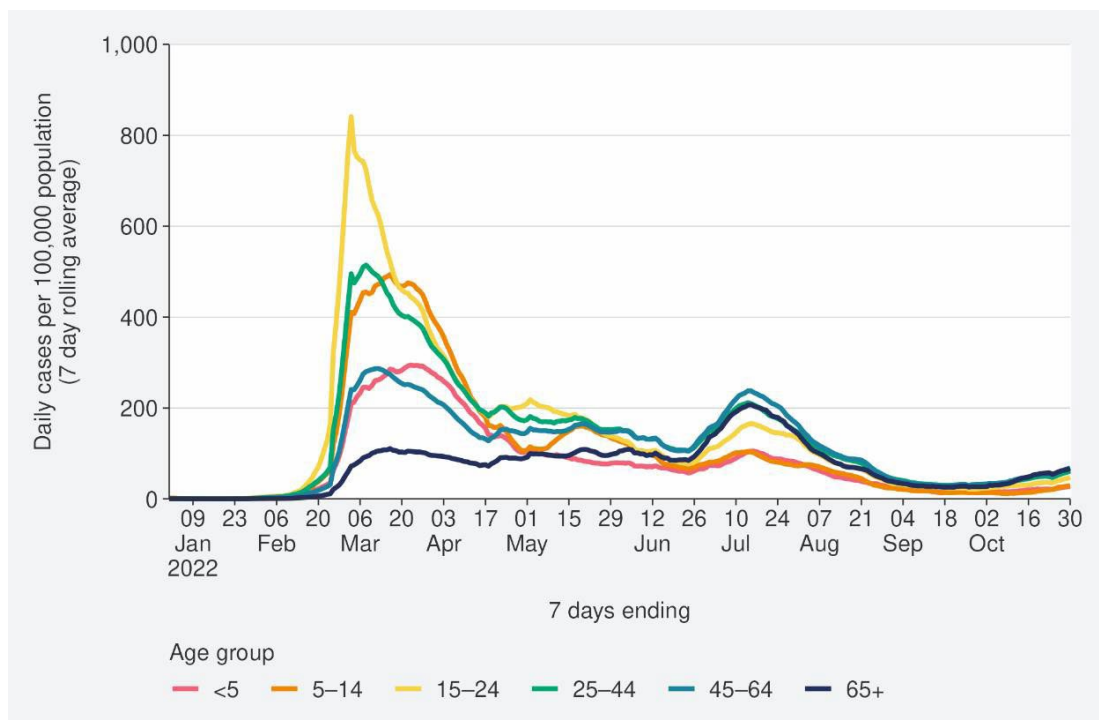


Figure 3: Regional reported case rates from January to 30 October 2022



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

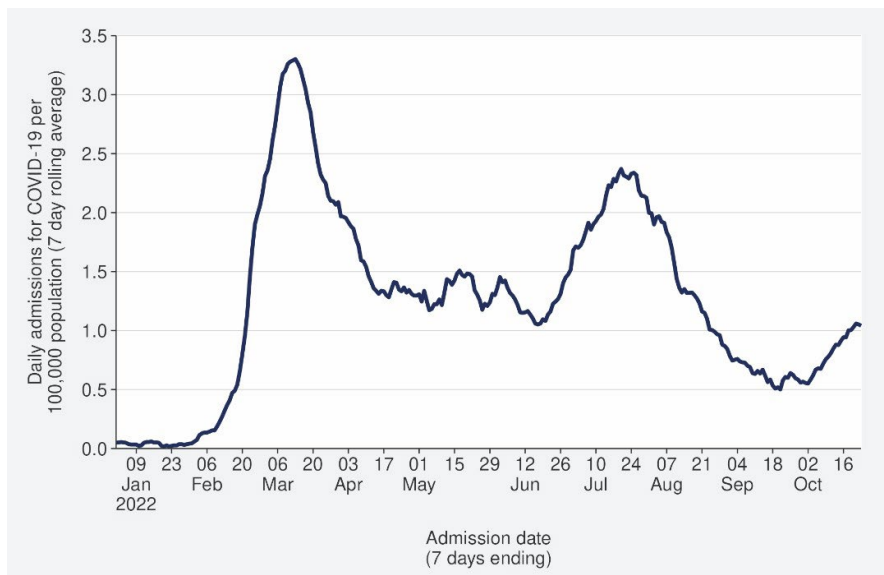
Hospitalisation

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: National⁶ hospital admissions rate for COVID-19, January to 23 October 2022



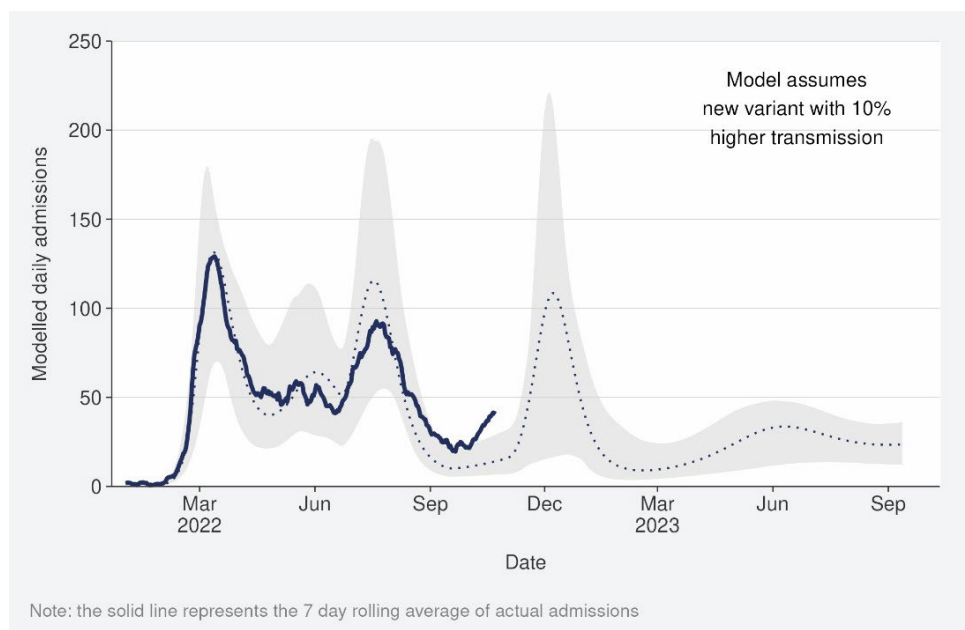
Source: NMDS/Inpatient's admissions feed as of 30 October 2022 data up to 23 October 2022

⁵New 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.

⁶Data 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 scenario⁷ 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.

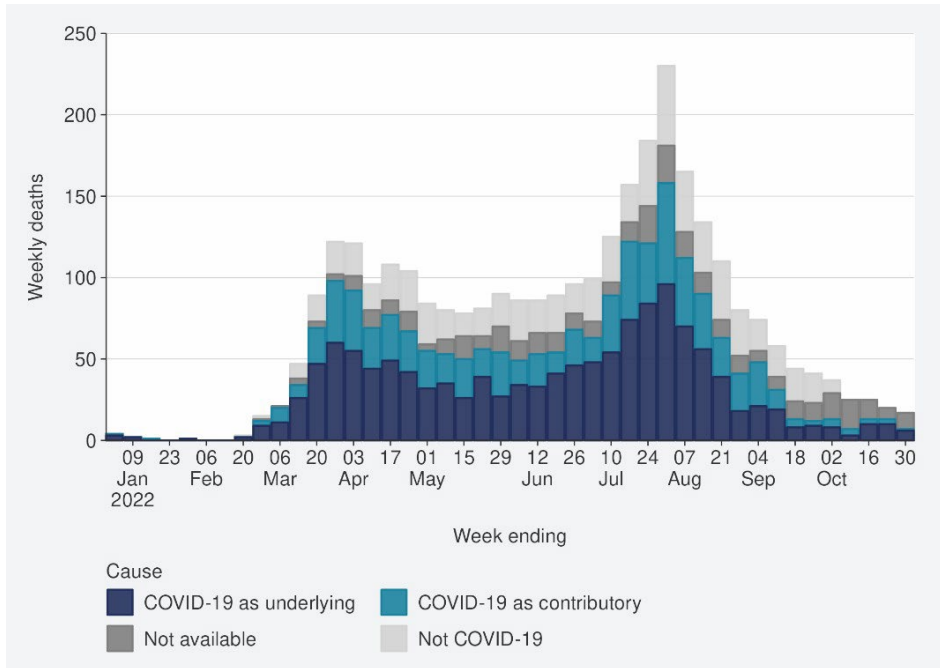
Of these deaths in 2022 that have been formally coded by cause of death, 1,294 (47%) were determined to have COVID-19 as the main underlying cause. COVID-19 contributed to a further 758 (28%) deaths and another 693 (25%) people died of an unrelated cause (**Figure 7**). Deaths have been declining since 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.

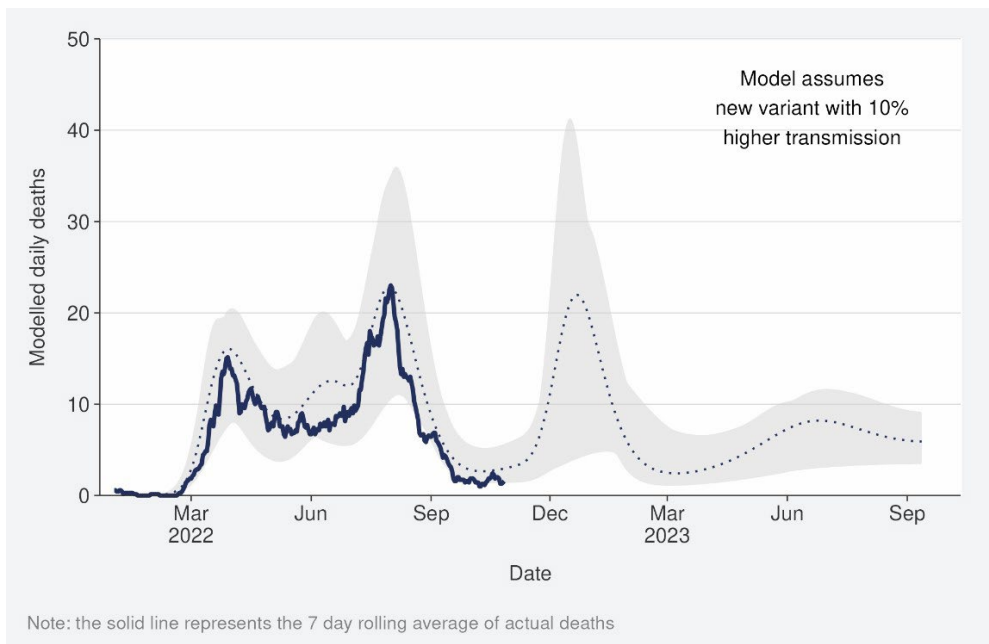
⁸ There were 55 deaths before the first week of 2022.

Figure 7: National weekly death counts by cause of death⁹, 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

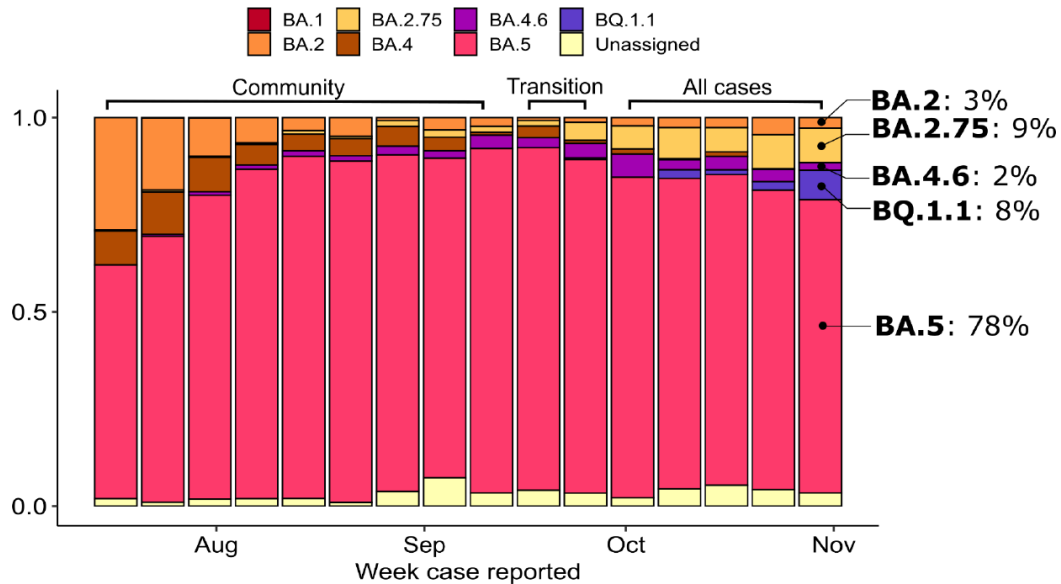
Whole Genomic Sequencing data is updated on a fortnightly basis; the data has been updated in this week's report.

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 cases¹⁰



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



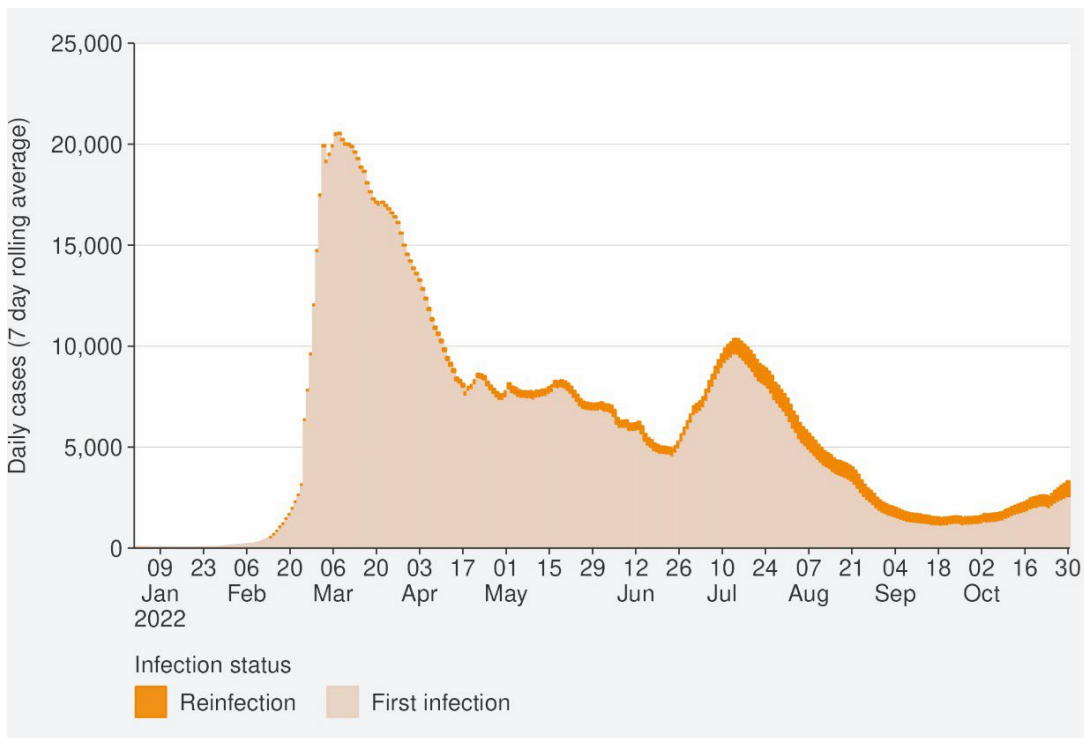
Reinfection

'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.

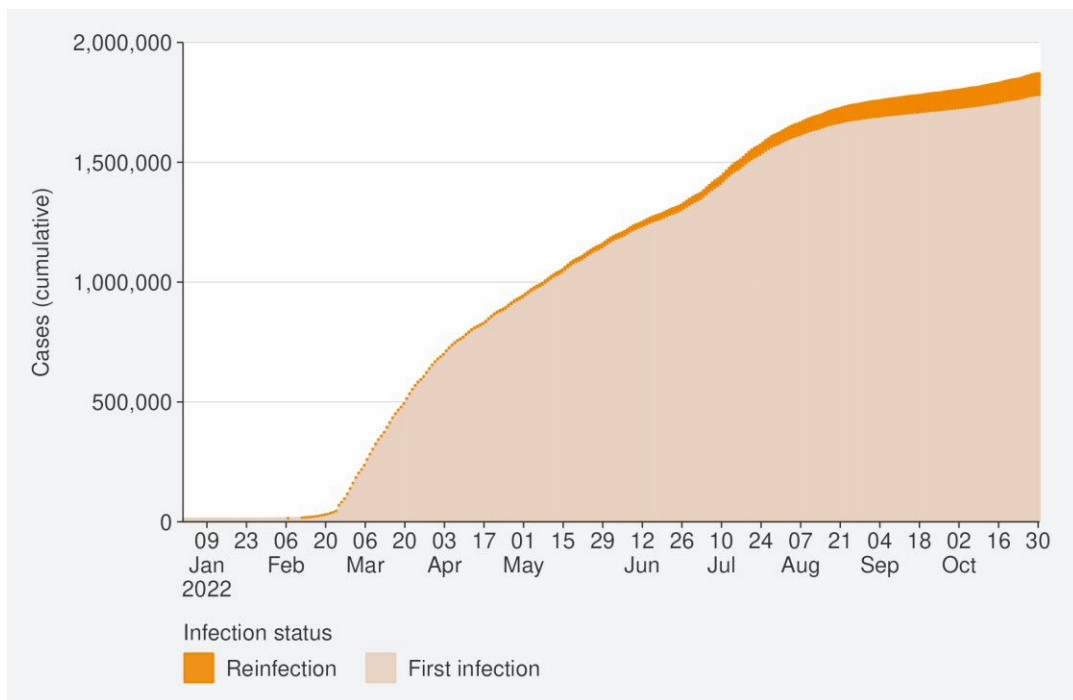
Figure 10 characterises the average number of cases per week by first infection and reinfection. Reinfections made up 11.9% of reported cases in the week ending 30 October. The proportion of reported cases that were reinfections has been stable in the past seven weeks. **Figure 11** shows how many first 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.

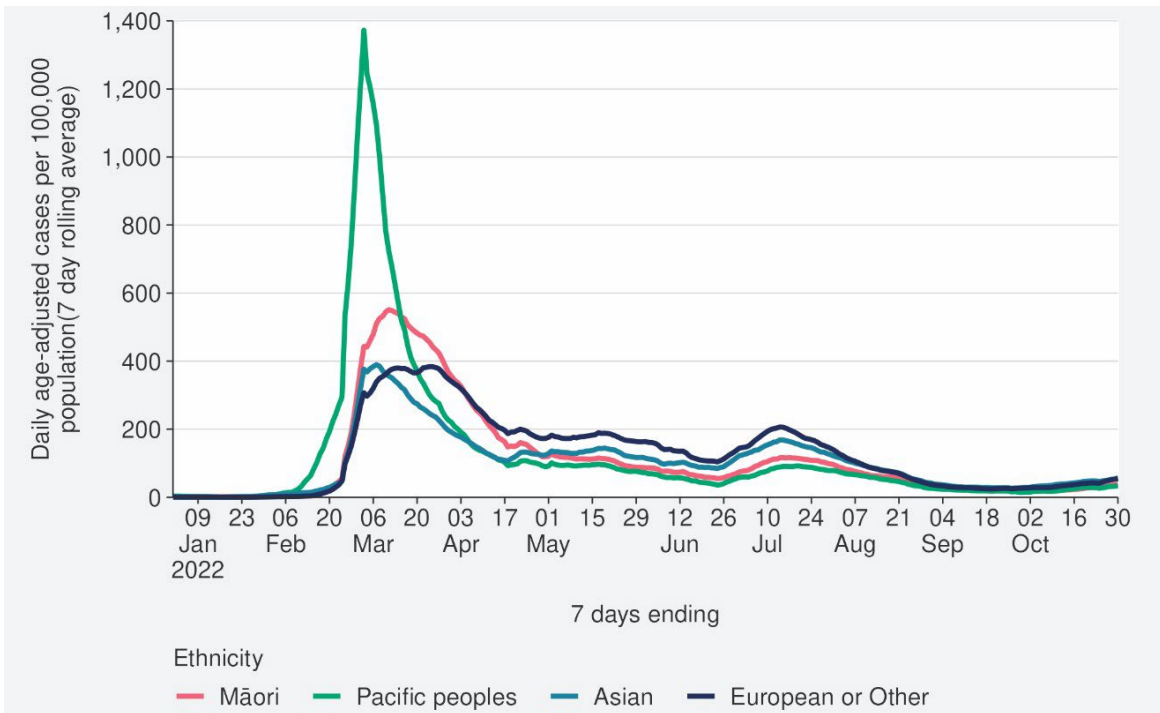
The cumulative total for the year shows that overall, Pacific peoples and Māori have had the highest risks of hospitalisation for COVID-19 – 2.3 and 1.8 times the risk of European or Other, respectively for 01 January to 30 October. The Asian ethnicity has had a hospitalisation rate almost 12% lower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

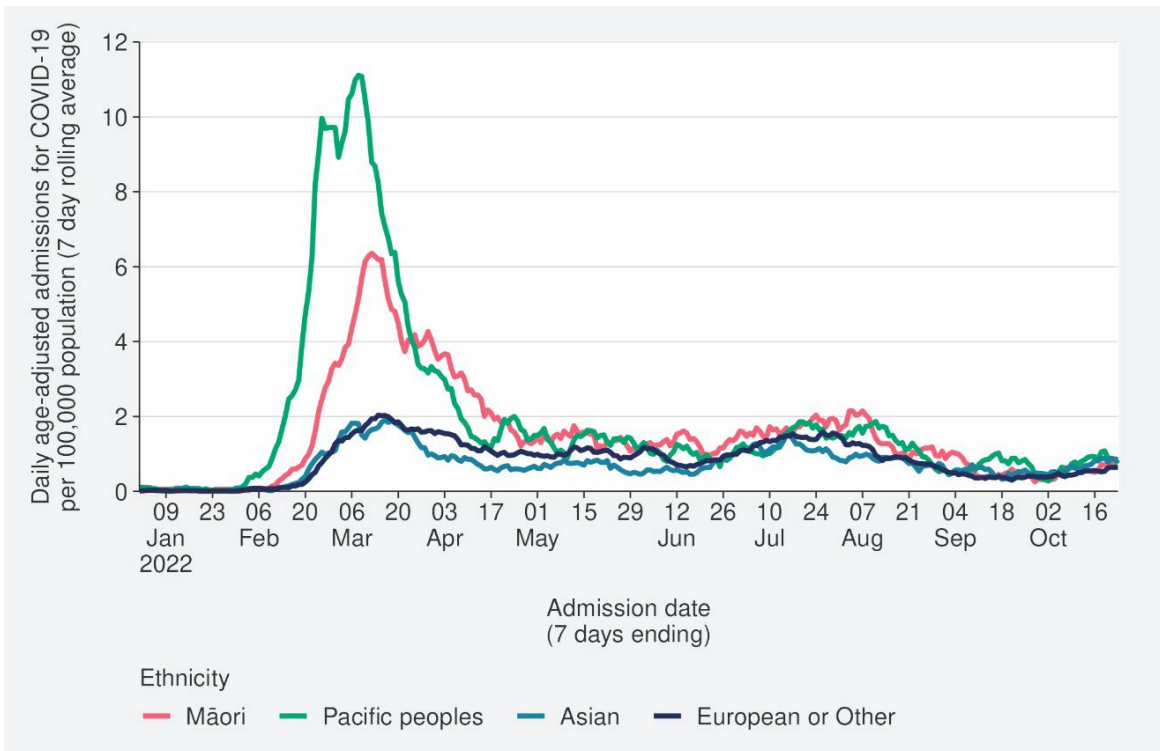
¹¹ These calculations are based on 1,896 deaths occurring between January 2022 and 02 October 2022 (excludes deaths in the last 2 weeks and deaths where ethnicity was unknown).

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

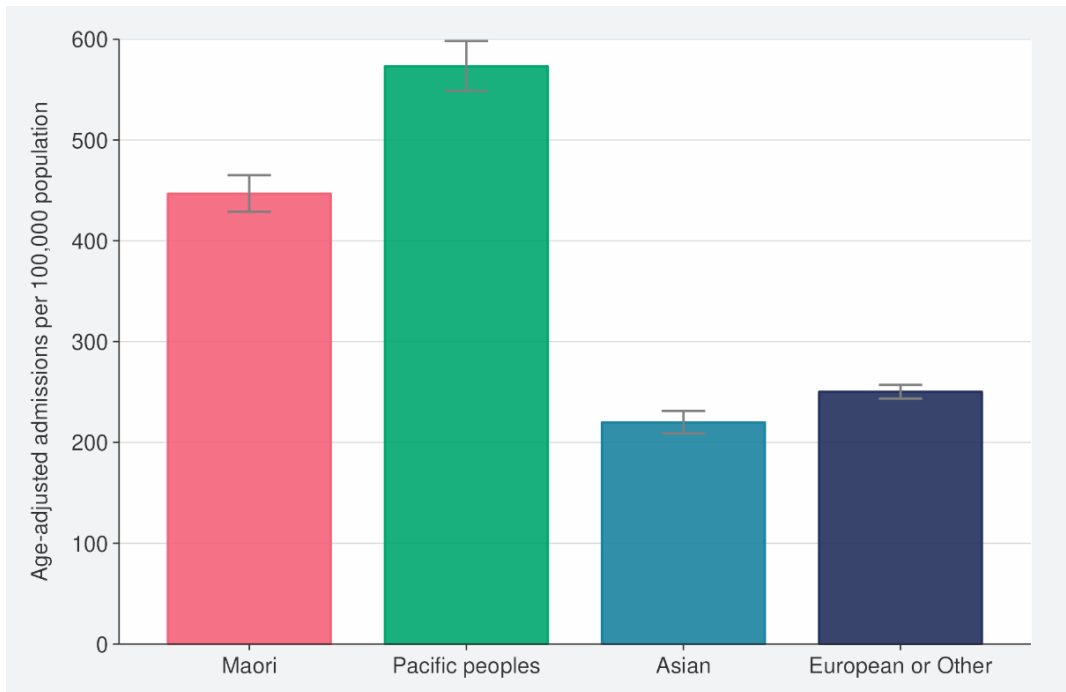
Figure 13: National age-standardised hospitalisation rates by ethnicity from January to 23 October 2022



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

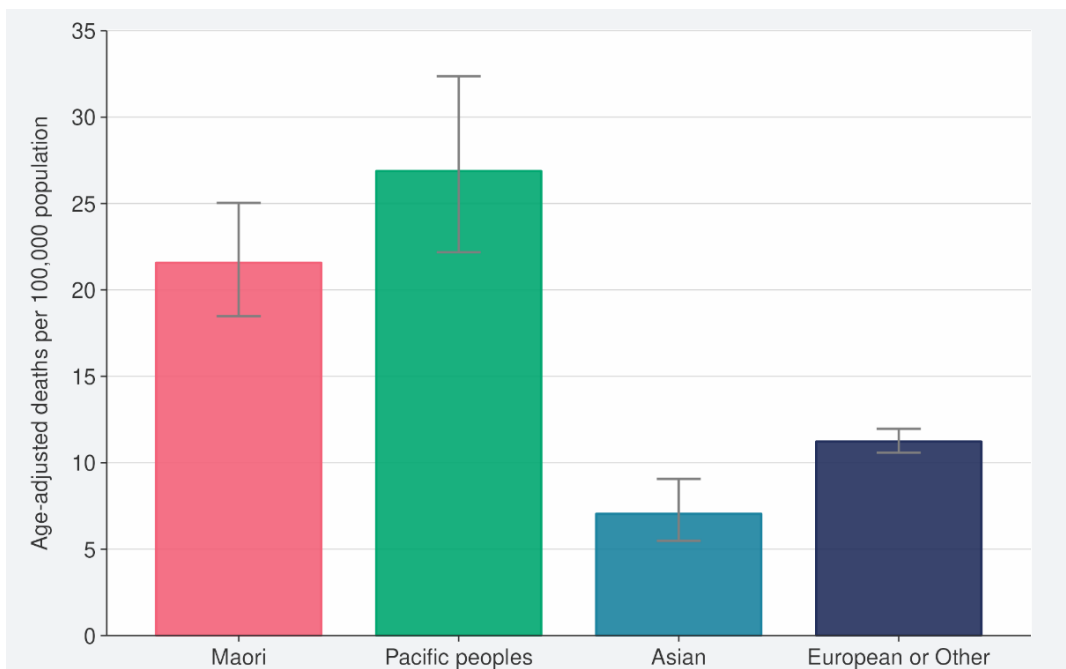


Figure 14: Age-standardised cumulative incidence (and 95% confidence intervals) of hospitalisation for COVID-19 by ethnicity, 01 January 2022 to 30 October 2022



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

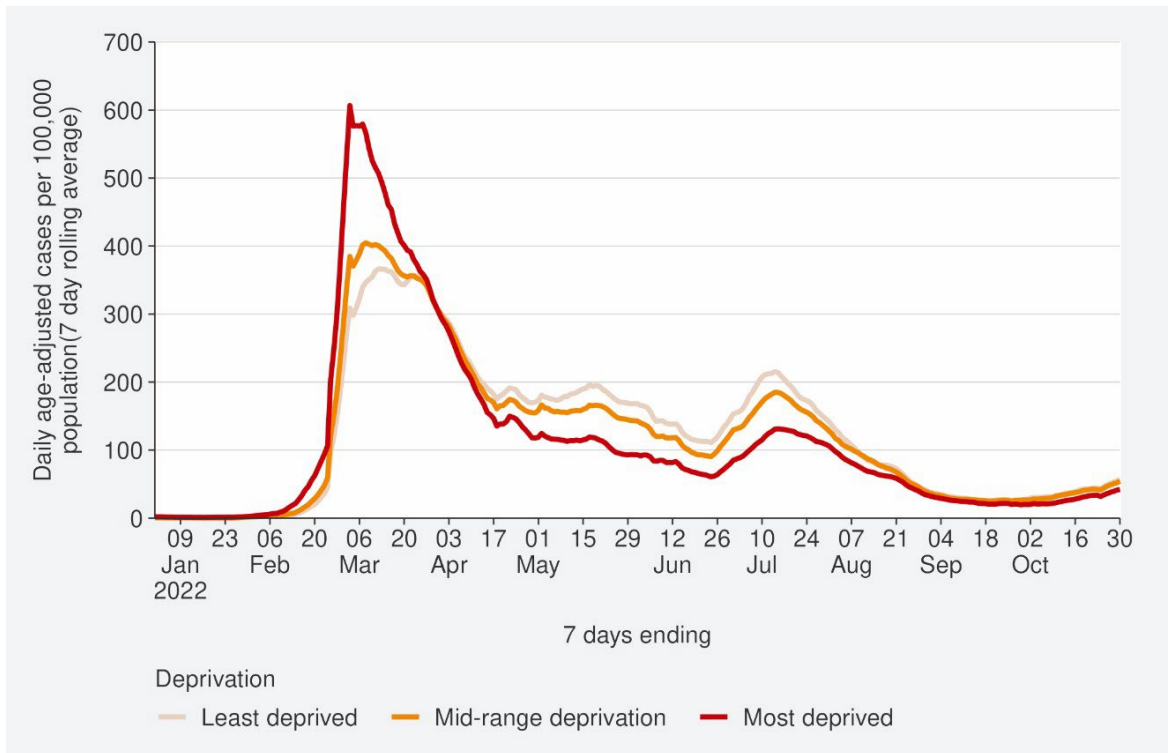
As lower case rates have been reported among those most deprived, continued higher hospitalisation and death rates suggest those who are most deprived may have lower levels of case ascertainment and/or a higher risk of poor outcomes after infection compared with those who are least deprived.

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).

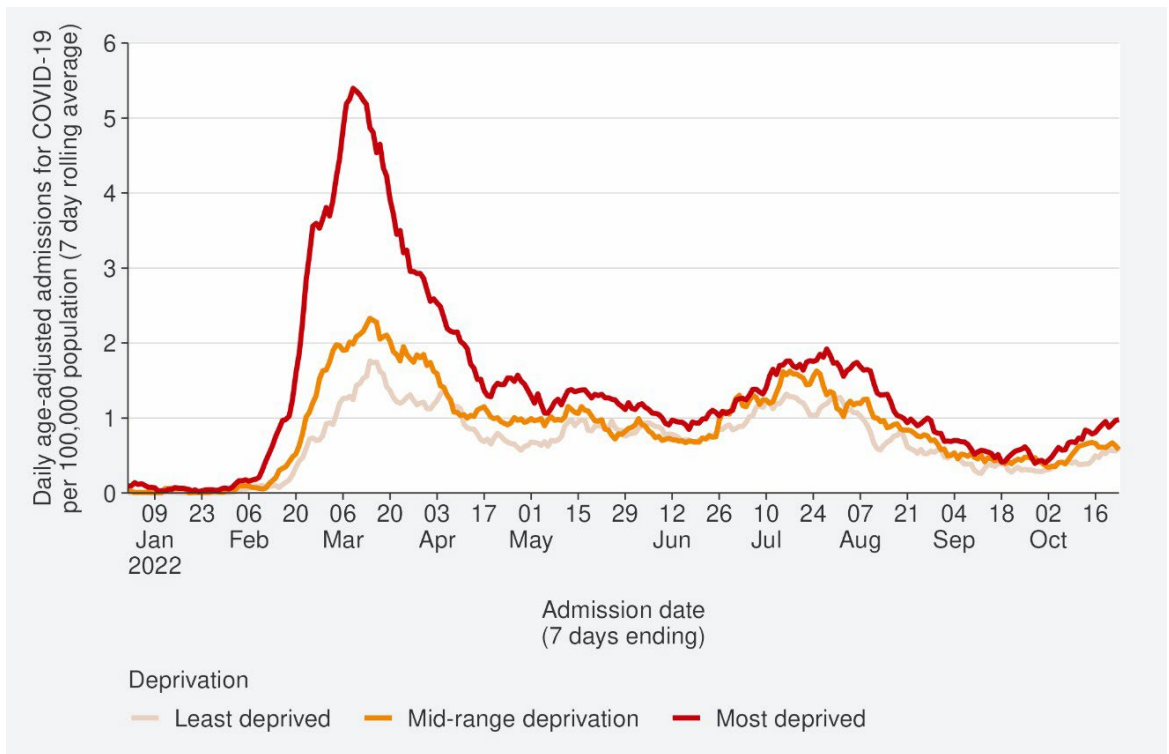


Figure 16: National age-standardised reported case rates by deprivation status for weeks 01 January – 30 October 2022



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

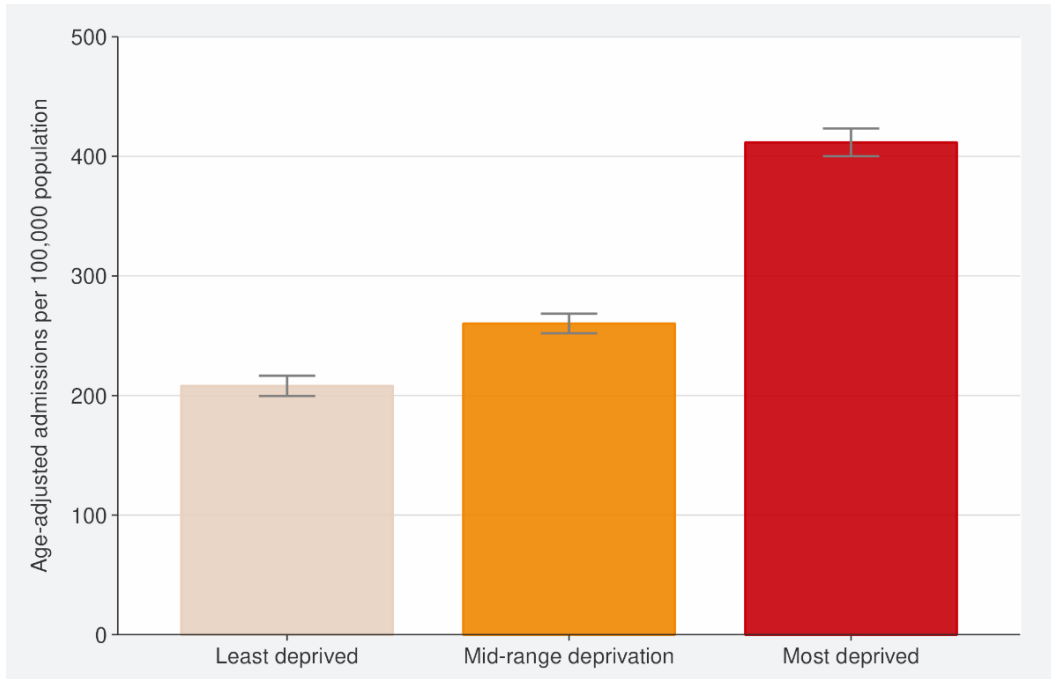
Figure 17: Age-standardised hospital admission rates for COVID-19 by deprivation from January to 23 October 2022



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

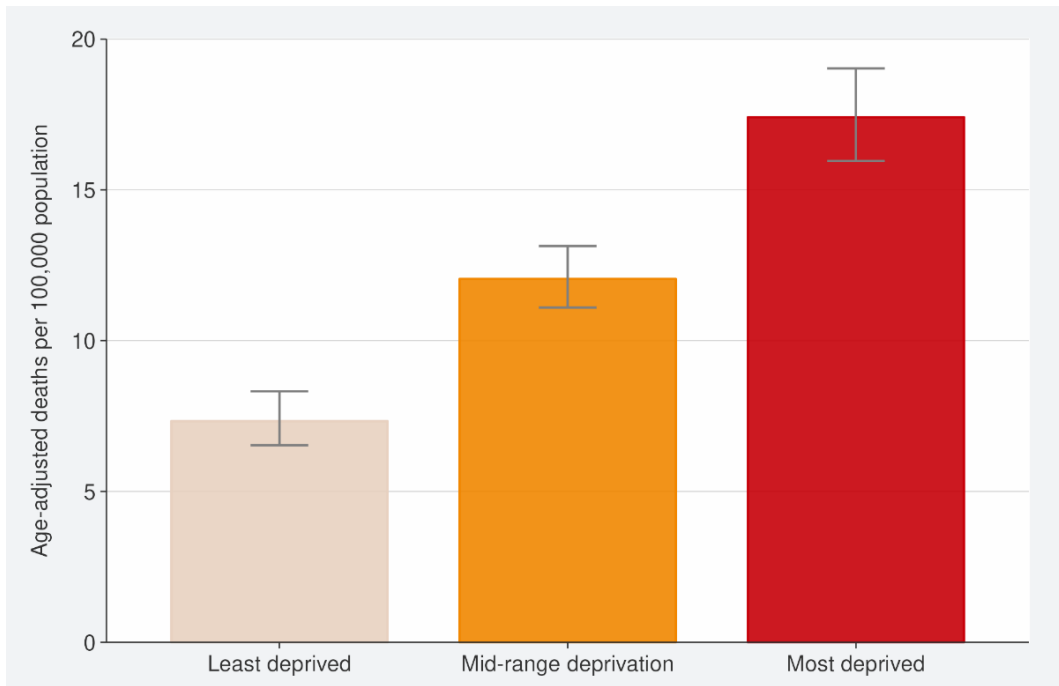


Figure 18: Age-standardised cumulative incidence (and 95% confidence intervals) of hospitalisation for COVID-19 by deprivation, 01 January 2022 to 30 October 2022



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

