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COVID-19 Australia: Epidemiology Report 72

Reporting period ending 12 March 2023

COVID-19 Epidemiology and Surveillance Team

Table 6 of this report, on p. 11 of 20, is in error due to the miscalculation of one data column. Please refer to this report's Erratum (<https://doi.org/10.33321/cdi.2023.47.27>) to view the corrected Table 6.

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Surveillance summary

COVID-19 Australia: Epidemiology Report 72

Reporting period ending 12 March 2023

COVID-19 Epidemiology and Surveillance Team

Summary

Four-week reporting period (13 February 2023 – 12 March 2023)

Case definitions for confirmed and probable cases are in accordance with the coronavirus disease 2019 (COVID-19) Series of National Guidelines for Public Health Units (SoNG).

Trends – Nationally, following a relatively low and stable period of COVID-19 transmission from late January to late February 2023, there has been a gradual increase in case notifications since early March 2023. In the four-week period 13 February – 12 March 2023, there were 23,998 confirmed and 52,672 probable cases of COVID-19 reported in Australia to the National Notifiable Diseases Surveillance System (NNDSS). In the most recent reporting fortnight, a total of 40,719 confirmed and probable cases were notified (an average of 2,909 cases per day), compared to 35,951 in the previous fortnight (an average of 2,568 cases per day).

Age group – Since early March 2023, notification rates have increased slightly across all age groups, except for those aged 19 years or less. In the current reporting period 13 February – 12 March 2023, the highest notification rate was observed among adults aged 80 years and over whilst the lowest rates were among people aged nine years or less. For the entire Omicron wave to date (15 December 2021 – 12 March 2023), the highest notification rate has been in adults aged 20 to 29 years.

Aboriginal and Torres Strait Islander people – In the reporting period 13 February – 12 March 2023, there were 2,569 new cases notified in Aboriginal and Torres Strait Islander people. In the entire Omicron wave to date (15 December 2021 – 12 March 2023), there have been 395,364 cases notified in Aboriginal and Torres Strait Islander people, representing 3.6% (395,563/10,853,480) of all cases in the Omicron wave to date.

Severity – The overall crude case fatality rate in the fourth Omicron wave is 0.33%, which is higher than that in the third wave (0.21%). The current case fatality rate is likely overestimated due to changes in case ascertainment and underreporting of non-severe cases. Since the start of the pandemic to 12 March 2023, there have been 173 cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS) reported to PAEDS, including one in the current reporting period and two new cases from the previous reporting period.

Virology – For samples collected in the four-week period 13 February – 12 March 2023, all 3,261 samples were assigned against Omicron or recombinants consisting of Omicron lineages. There is currently significant diversity in the range of sub- and sub-sub-lineages circulating within

Australia. During the reporting period more than 200 unique lineages have been identified. Recombinant lineages represent the majority of sequences collected during 13 February – 12 March 2023, and available for analysis in AusTrakka, with 61.0% of sequences collected in this period found to be a recombinant lineage. BA.2 (now predominantly represented by the BA.2.75 sub-lineage) and BA.5 made up 30.0% and 9.0% of sequences identified in the same period, respectively. Of the Omicron sequences in AusTrakka to date, 19.3% are BA.1; 38.9% are BA.2; < 0.001% are BA.3; 3.7% are BA.4, and 31.6% are BA.5. All sub-lineages have been collapsed into respective major sub-lineages. Recombinants make up 6.4% of all Omicron sequences to date.

Acute respiratory illness – Based on self-reported FluTracking data, there has been an overall increase in the prevalence of ‘fever and cough’ and ‘runny nose and sore throat’ symptoms in the community since late January 2023. Over this period, the rate of ‘fever and cough’ has been consistent with the rates observed during the same period in 2022, while rates of ‘runny nose and sore throat’ have been generally higher than that observed in 2022.

International situation – According to the World Health Organization (WHO), cumulative global COVID-19 cases stood at over 760 million COVID-19 cases and over 6.8 million deaths as of 12 March 2023. For the South-East Asia and Western Pacific regions combined, there were 1,164,984 new cases and 5,358 deaths in the four-week period to 12 March 2023. Compared with the previous four-week reporting period, new cases increased in the South-East Asia Region and decreased in the Western Pacific region, while the number of newly reported deaths decreased in both regions. In total, since the start of the pandemic, over 262 million cases and over 1.2 million deaths have been reported in the two regions.

Keywords: SARS-CoV-2; novel coronavirus; 2019-nCoV; coronavirus disease 2019; COVID-19; acute respiratory disease; epidemiology; Australia

This reporting period covers the four-week period of 13 February – 12 March 2023. Within this period, data for each week is compared. The previous reporting period was the preceding four weeks (16 January – 12 February 2023).¹ The focus of this report is on the epidemiological situation in Australia since the beginning of the Omicron wave. For the purposes of this report, 15 December 2021 is used as a proxy for the beginning of this wave. This date was chosen as from this date onwards, most sequenced strains from cases were Omicron. Readers are encouraged to consult prior reports in this series for information on the epidemiology of coronavirus disease 2019 (COVID-19) in Australia.

Methods of data analysis in these reports have periodically changed over the course of this reporting series to date. Please refer to the Technical Supplement for details of such changes, and for definitions of terminology.²

From this report onward, and unless specified otherwise, all data from the National Notifiable Diseases Surveillance System (NNDSS) are extracted using ‘diagnosis date’ rather than ‘notification received date’ (see the Technical Supplement for definitions). Due to COVID-19 reporting changes in several states and territories, the use of ‘diagnosis date’ now provides a more consistent and accurate method for describing transmission trends in Australia.

The case data provided includes both confirmed cases and probable cases reported to the NNDSS, as defined in accordance with the COVID-19 series of national guidelines (SoNG).³ For the purposes of this report, only probable cases from 5 January 2022 are included.

From report #71, population data for Aboriginal and Torres Strait Islander people was updated (from 2016) and is now based on Australian

Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at 2021. There has been an increase of 185,600 Aboriginal and Torres Strait Islander people (23.2%) since the previous ERP (June 2016). Therefore, notification rate comparisons with reports prior to #71 should be undertaken with caution. Several jurisdictions have stopped reporting SARS-CoV-2 polymerase chain reaction (PCR) denominator testing data, therefore testing rates and percent positivity calculations are no longer included in this report.

Due to the dynamic nature of data in the NNDSS, numbers may be subject to revision and may vary from numbers previously reported and from case notifications released by states and territories.

Background and data sources

See the Technical Supplement for general information on COVID-19 including modes of transmission, common symptoms, and severity.²

Table 1: Confirmed and probable COVID-19 cases by jurisdiction and date of illness onset, Australia, 15 December 2021 – 12 March 2023^{a,b,c}

Jurisdiction	Reporting period						Current Omicron wave		
	13–26 February 2023			27 February–12 March 2023			15 December 2021 – 12 March 2023		
	Confirmed	Probable	Total	Confirmed	Probable	Total	Confirmed	Probable	Total
ACT	233 (23.0%)	779 (77.0%)	1,012	140 (17.8%)	646 (82.2%)	786	130,029 (56.1%)	101,566 (43.9%)	231,595
NSW	6,174 (48.7%)	6,496 (51.3%)	12,670	7,818 (48.9%)	8,185 (51.1%)	16,003	2,066,136 (56.6%)	1,581,280 (43.4%)	3,647,416
NT	71 (37.8%)	117 (62.2%)	188	49 (25.4%)	144 (74.6%)	193	23,467 (22.3%)	81,833 (77.7%)	105,300
Qld	1,764 (25.1%)	5,250 (74.9%)	7,014	1,732 (26.6%)	4,789 (73.4%)	6,521	669,092 (40.3%)	991,417 (59.7%)	1,660,509
SA	1,304 (36.5%)	2,267 (63.5%)	3,571	1,103 (29.6%)	2,627 (70.4%)	3,730	511,945 (57.7%)	374,742 (42.3%)	886,687
Tas.	153 (13.8%)	953 (86.2%)	1,106	129 (10.0%)	1,164 (90.0%)	1,293	64,805 (22.5%)	223,154 (77.5%)	287,959
Vic.	1,087 (18.6%)	4,748 (81.4%)	5,835	1,271 (17.7%)	5,902 (82.3%)	7,173	1,074,555 (39.2%)	1,664,271 (60.8%)	2,738,826
WA	491 (10.8%)	4,064 (89.2%)	4,555	479 (9.5%)	4,541 (90.5%)	5,020	494,150 (38.2%)	801,038 (61.8%)	1,295,188
Australia	11,277 (31.4%)	24,674 (68.6%)	35,951	12,721 (31.2%)	27,998 (68.8%)	40,719	5,034,179 (46.4%)	5,819,301 (53.6%)	10,853,480

a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 15 December 2021 to 12 March 2023.

b ACT: Australian Capital Territory; NSW: New South Wales; NT: Northern Territory; Qld: Queensland; SA: South Australia; Tas.: Tasmania; Vic.: Victoria; WA: Western Australia.

c Cases are classified based on jurisdiction of notification not jurisdiction of residence. Some cases are notified to a different jurisdiction than their location of residence.

Activity

COVID-19 trends

(NNDSS and jurisdictional reporting to the National Incident Centre)

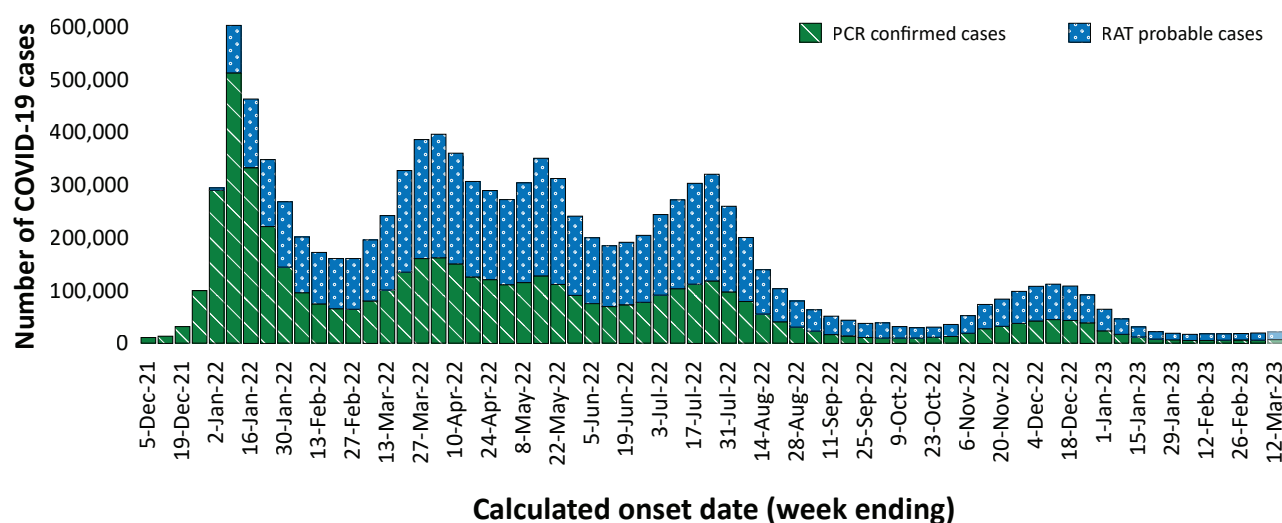
Cumulatively, from the beginning of the pandemic to 12 March 2023, jurisdictions within Australia have reported 11,096,848 COVID-19 cases to the NNDSS. Nationally, following a relatively low and stable period of COVID-19 transmission from late January to late February 2023, there has been a gradual increase in case notifications since early March 2023. In the four-week period 13 February – 12 March 2023, there were 23,998 confirmed and 52,672 probable cases of COVID-19 reported in Australia to NNDSS (Table 1). In the most recent reporting fortnight, a total of 40,719 confirmed and probable cases were notified (an average of 2,909 cases per day), compared to 35,951 in the previous fortnight (an average of 2,568 cases per day).

Since the emergence of the Omicron variant in Australia, there have been four distinct waves of transmission, defined by the predominant Omicron subvariant circulating (Figure 1). The first wave, driven by the BA.1 subvariant, occurred from mid-December 2021 to February 2022, with a peak in cases observed in early

January 2022. From March 2022, the BA.2 subvariant was the predominant strain; in this second Omicron wave, there was a primary peak in early April and a secondary peak in late May 2022 (Figure 1). In early July 2022, BA.5 (including sub-lineages) became the predominant subvariant detected in Australia, driving a third wave of transmission which peaked in the week ending 24 July 2022. A fourth wave of transmission commenced in late October 2022, driven by a combination of existing and newly emerging Omicron subvariants. This wave peaked during the week ending 11 December 2022 (Figure 1).

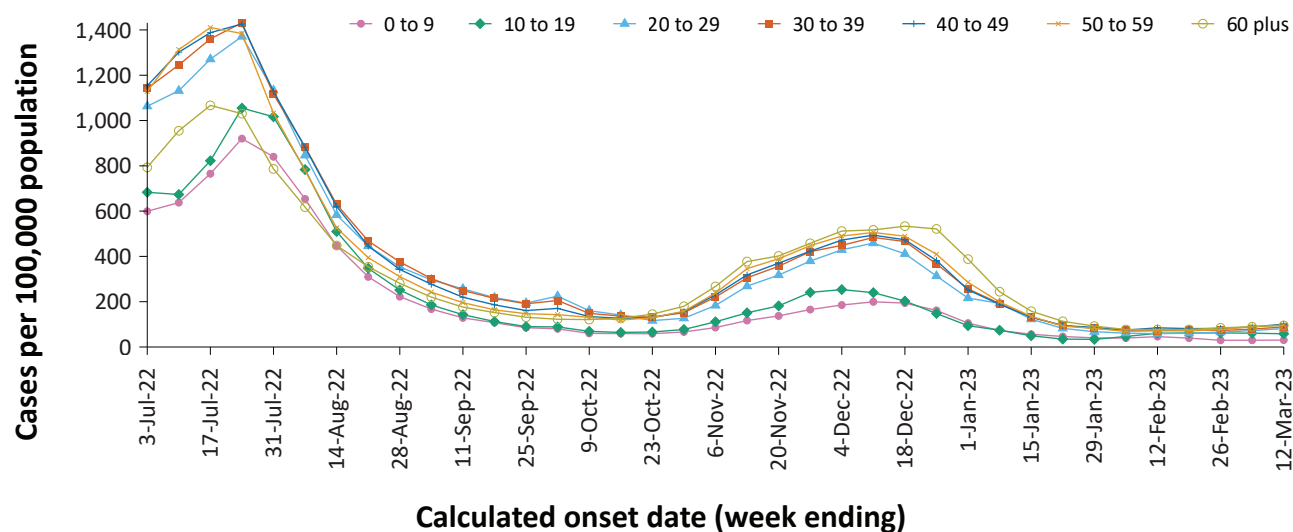
In October 2022, mandatory reporting of positive rapid antigen tests (RATs) ceased in several jurisdictions. Therefore, the current data in NNDSS will underestimate the true incidence of disease in the community.

Figure 1: Confirmed and probable weekly COVID-19 notified cases by date of onset, Australia, 29 November 2021 – 12 March 2023^a



^a Source: NNDSS extract from 21 March 2023 for cases with an illness onset 29 November 2021 to 12 March 2023.

Figure 2: Confirmed and probable COVID-19 notification rates for ten-year age groups by date of onset, Australia, 27 June 2022 – 12 March 2023^{a,b}



a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 27 June 2022 to 12 March 2023.

b Population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2022.

Demographic features (NNDSS)

Since early March 2023, notification rates have increased slightly across all age groups, except for those aged 19 years or less (Figure 2). The highest notification rates continue to be among adults aged 40 years and over (Figure 2). In the current reporting period 13 February – 12 March 2023, the highest notification rate was observed among adults aged 80 years and over whilst the lowest rates were among people aged nine years or less (Appendix A, Table A.1). For the entire Omicron wave to date (15 December 2021 – 12 March 2023), the highest notification rate has been in adults aged 20 to 29 years (Appendix A, Table A.1). For this age group, the weekly notification rate peaked in the week ending 9 January 2022 at approximately 5,800 cases per 100,000 population (not depicted).

Aboriginal and Torres Strait Islander persons (NNDSS)

Overall, since the start of the pandemic, Indigenous status is unknown for approximately 13.5% of COVID-19 cases in NNDSS. Therefore, the number of cases classified as

Aboriginal and Torres Strait Islander people is likely an under-representation. During the reporting period, there were 2,569 new cases notified in Aboriginal and Torres Strait Islander people (Table 2). In the Omicron wave (15 December 2021 – 12 March 2023) there have been 395,364 cases notified in Aboriginal and Torres Strait Islander people, representing 3.6% (395,364/10,853,480) of all cases in the Omicron wave to date.

Of the COVID-19 cases notified in Aboriginal and Torres Strait Islander people from 15 December 2021 to date, and where location of residence was known, 55.4% (217,524/392,822) lived in a regional or remote area (Table 3). Most cases reported in outer regional and remote areas since the start of the Omicron wave were diagnosed using RATs, at 71.7% (52,726/73,578) and 73.4% (36,554/49,820), respectively. It should be noted that the reliance on RATs for diagnosing COVID-19 is greater in regional and remote areas than in major cities, resulting in a larger under-representation of cases in regional and remote areas than in major cities, due to the changes in reporting requirements of positive RATs.

Table 2: Confirmed and probable cases of COVID-19 among Aboriginal and Torres Strait Islander peoples by jurisdiction and date of onset, Australia, 15 December 2021 – 12 March 2023^a

Jurisdiction ^{b,c}	13–19 February 2023	20–26 February 2023	27 February – 5 March 2023	6–12 March 2023	15 December 2021 – 12 March 2023 (Omicron wave)
ACT	4	8	4	4	4088
NSW	238	210	220	251	132,669
NT	26	17	18	22	25,515
Qld	193	199	181	178	99,328
SA	48	40	37	34	23,183
Tas.	28	33	32	30	16,576
Vic.	37	40	26	48	35,261
WA	114	97	84	68	58,943
Australia	688	644	602	635	395,563

a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 15 December 2021 to 12 March 2023.

b ACT: Australian Capital Territory; NSW: New South Wales; NT: Northern Territory; Qld: Queensland; SA: South Australia; Tas: Tasmania; Vic: Victoria; WA: Western Australia

c Cases are classified based on jurisdiction of notification not jurisdiction of residence. Some cases are notified to a different jurisdiction than their location of residence.

Table 3: COVID-19 cases among Aboriginal and Torres Strait Islander people by area of remoteness, Australia, 15 December 2021 – 12 March 2023^a

Jurisdiction ^{b,c}	Major city	Inner regional	Outer regional	Remote ^d
ACT	4,034	37	12	1
NSW	71,286	42,897	14,753	3,009
NT	68	18	7,919	16,516
Qld	36,398	22,976	29,095	10,749
SA	12,529	2,486	4,863	3,179
Tas.	204	10,091	5,850	288
Vic.	20,076	11,389	3,741	18
WA	30,703	4,232	7,345	16,060
Australia	175,298	94,126	73,578	49,820

a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 15 December 2021 to 12 March 2023. Excludes cases with an overseas place of residence, and where place of residence is unknown.

b ACT: Australian Capital Territory; NSW: New South Wales; NT: Northern Territory; Qld: Queensland; SA: South Australia; Tas.: Tasmania; Vic.: Victoria; WA: Western Australia.

c Cases are classified based on jurisdiction of notification not jurisdiction of residence. Some cases are notified to a different jurisdiction than their location of residence.

d 'Remote' here also includes areas classified as 'very remote'.

Table 4: Confirmed and probable COVID-19 cases in Aboriginal and Torres Strait Islander people by age and highest level of illness severity, Australia, 1 January 2020 – 12 March 2023^a

Age group (years)	Fourth Omicron wave 24 October 2022 – 12 March 2023				Third Omicron wave 15 June – 23 October 2022				15 December 2021 – 12 March 2023 (Omicron wave to date)				1 January 2020 – 12 March 2023 (Pandemic to date)			
	ICU ^{a,c}	Died ^a	ICU or died ^{a,c}	Rate ICU or died ^{b,c}	ICU ^{a,c}	Died ^a	ICU or died ^{a,c}	Rate ICU or died ^{b,c}	ICU ^{a,c}	Died ^a	ICU or died ^a	Rate ICU or died ^b	ICU ^{a,c}	Died ^a	ICU or died ^{a,c}	Rate ICU or died ^{b,c}
0 to 9	7	0	7	3.3	10	1	11	5.1	37	2	38	17.7	39	2	40	18.6
10 to 19	3	0	3	1.4	6	0	6	2.9	35	0	35	16.9	45	0	45	21.7
20 to 29	5	0	5	3.0	6	0	6	3.6	59	0	59	35.7	74	0	74	44.8
30 to 39	8	2	9	7.3	9	2	11	8.9	41	11	51	41.1	60	11	70	56.4
40 to 49	10	0	10	10.1	9	5	12	12.1	64	27	84	84.7	86	32	107	107.9
50 to 59	18	6	24	27.3	30	19	44	50.1	97	53	142	161.8	125	59	173	197.1
60 plus	19	38	56	65.3	36	63	93	108.4	146	220	337	392.8	177	235	375	437.1
All	70	46	114	11.6	106	90	183	18.6	479	313	746	75.8	606	339	884	89.8

a 'ICU' and 'died' are not mutually exclusive categories; 'died' can include cases who died with or without prior admission to ICU. Therefore, the number of cases admitted to ICU or having died will not equal the sum of cases in ICU or died.

b Rate per 100,000 population for the given time period. Aboriginal and Torres Strait Islander population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at 2021.

c The Australian Capital Territory did not supply hospitalisation data from 12 November to 24 November 2022 due to technical reasons.

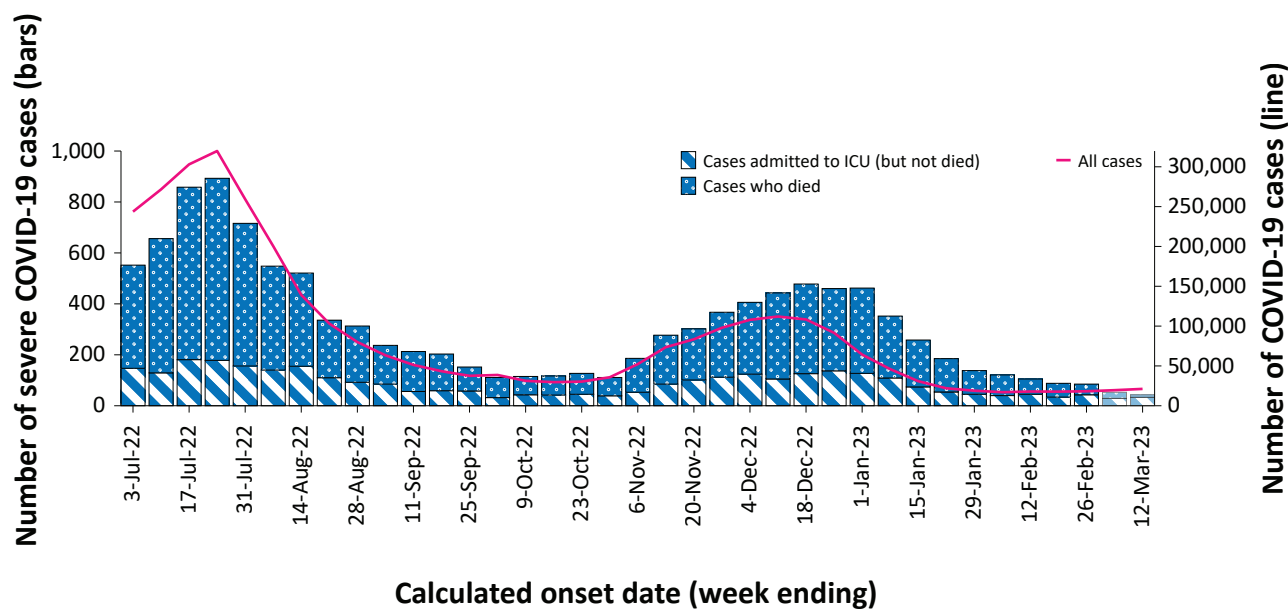
Nationally, there have been 339 COVID-19 associated deaths reported in Aboriginal and Torres Strait Islander people from the start of the pandemic to 12 March 2023 (Table 4). This comprises 112 from New South Wales; 97 from Queensland; 49 from the Northern Territory; 42 from Western Australia; 21 from South Australia; 14 from Victoria; and two each from the Australian Capital Territory and Tasmania. Additionally, 606 Aboriginal and Torres Strait Islander cases have been admitted to intensive care units (ICU) nationally. During the fourth Omicron wave, the notification rate, to NNDSS, of severe cases (measured as those who were admitted to ICU or died) in Aboriginal and Torres Strait Islander people was 11.6 per 100,000 population, compared to 18.6 per 100,000 population during the third wave (Table 4). It should be noted that ICU status in NNDSS is likely incomplete.

Severity (NNDSS, FluCAN, SPRINT-SARI)

Given the delay between illness onset and severe illness, and to provide a more accurate assessment of severity, cases with an onset in the last two weeks have been excluded from analyses on the weekly rate of cases with severe illness (defined as cases admitted to ICU or died) and on the proportion of cases admitted to ICU or died.

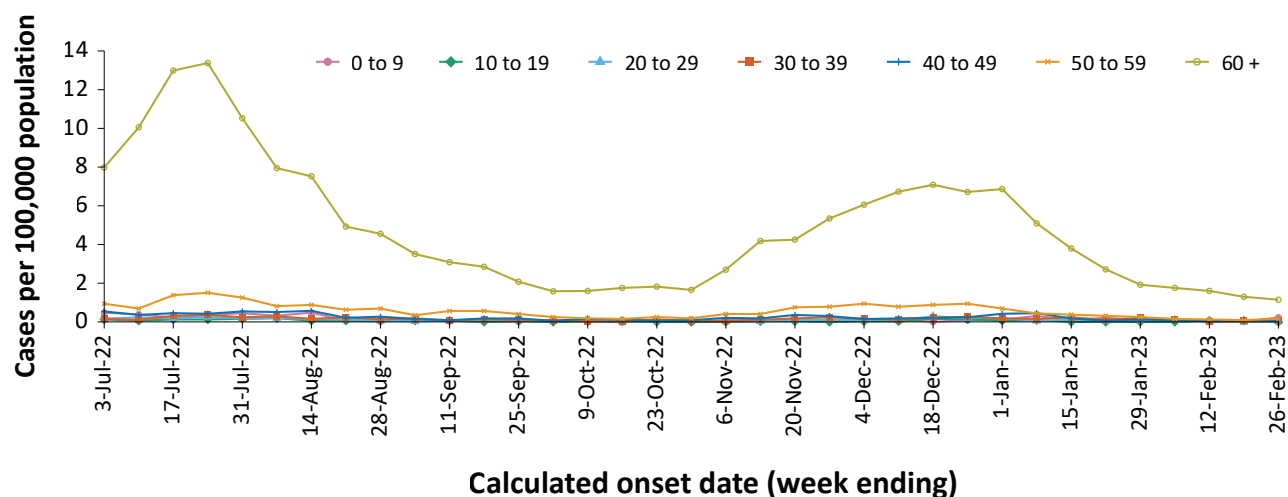
Following the emergence of the Omicron wave, the notification rate of cases with severe illness peaked in mid-January 2022, at approximately 1,200 severe cases per week (not depicted). The peaks observed in the two most recent Omicron waves have been considerably less than this, at 893 severe cases during the third Omicron wave (week ending 24 July) and 478 severe cases in the fourth wave (week ending 18 December 2022; Figure 3).

Figure 3: COVID-19 cases, deaths and ICU admissions, Australia, by date of onset, Australia, 27 June 2022 – 12 March 2023^{a,b}



- a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 27 June 2022 to 12 March 2023. The Australian Capital Territory did not supply hospitalisation data from 12 November to 24 November 2022 due to technical reasons.
- b The shaded bars at the right represent the most recent two reporting weeks and should be interpreted with caution, as cases with an illness onset in these weeks may not have yet developed severe disease.

Figure 4: Age-specific rates of COVID-19 cases admitted to ICU or died, by date of onset, Australia, 27 June 2022 – 26 February 2023^{a, b}



- a Source: NNDSS extract from 21 March 2023 for cases with an illness onset from 27 June 2022 to 26 February 2023; cases with an illness onset in the last two weeks (27 February – 12 March 2023) were excluded to account for the delay between onset and development of severe illness. The Australian Capital Territory did not supply hospitalisation data from 12 November to 24 November 2022 due to technical reasons.
- b Population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2022.

Rates of severe illness continue to be greater in older age groups, with the highest rates among those aged 60 years and older (Figure 4). Among this age group, there have been three notable peaks in severe illness since the emergence of Omicron: in the week ending 16 January 2022 (17.2 cases per 100,000 population; not depicted), in the week ending 24 July 2022 (13.3 cases per 100,000 population) and in the week ending 18 December 2022 (7.0 cases per 100,000 population; Figure 4). In comparison, rates of severe illness in younger age groups have remained relatively low and stable throughout the Omicron waves (Figure 4).

Hospitalisation and ICU admissions

Between 15 December 2021 and 12 March 2023, there were 13,569 hospital admissions with confirmed COVID-19 reported at Influenza Complications Alert Network (FluCAN)

sentinel sites, including 6% (756/13,569) admitted directly to ICU. During the four-week reporting period (13 February – 12 March 2023) there were 84 admissions with COVID-19 reported at FluCAN sentinel sites, with 6% (5/84) admitted directly to ICU.

Since the start of the fourth Omicron wave (24 October 2022), for patients admitted to FluCAN sentinel sites with confirmed COVID-19, the median length of stay was 3 days (interquartile range, IQR: 2–7 days); mean = 6.2 days (standard deviation, SD: 23.6 days). This is on par with the median length of stay observed during the third Omicron wave (3 days [IQR: 2–7 days]; mean = 6.4 days [SD: 14.2 days]).

Table 5: Comorbidities for adult COVID-19 cases (aged greater than or equal to 18 years) amongst those admitted to ICU, Australia, 15 December 2021 – 12 March 2023^a

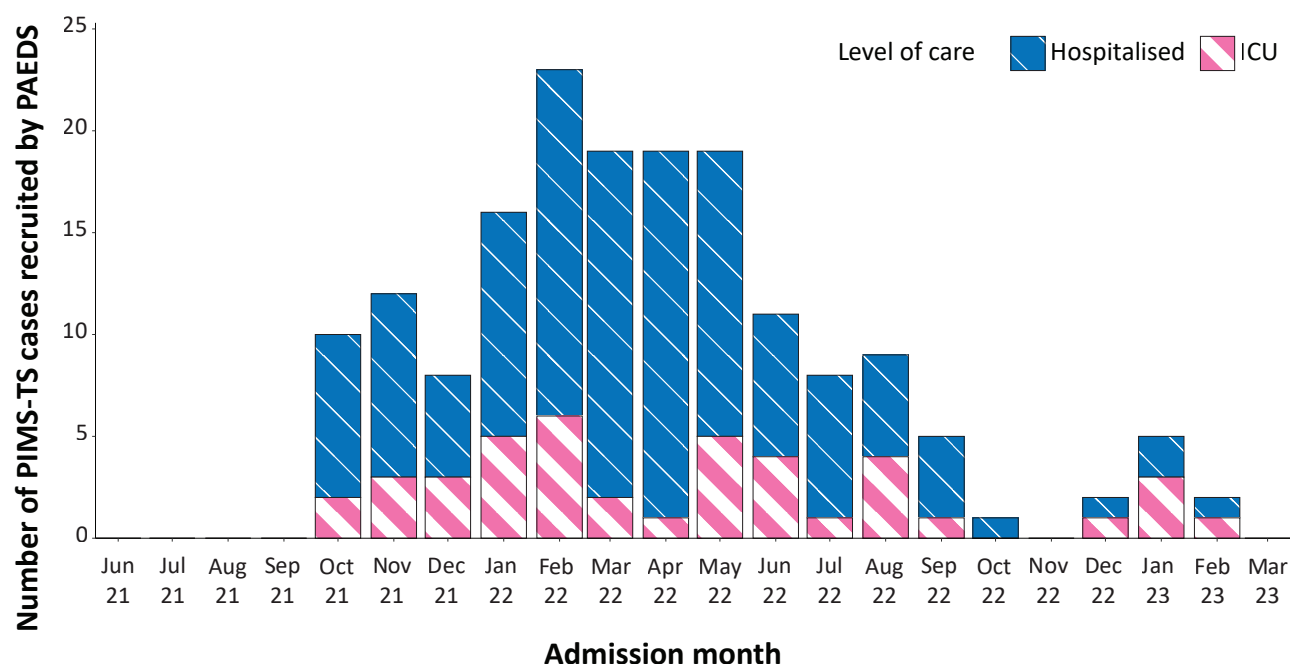
Comorbidity	ICU cases ^a (n = 3,982) (%)
Cardiac disease (n = 3,959)	1,133 (29%)
Chronic respiratory condition (n = 3,961) ^b	974 (25%)
Diabetes (n = 3,912)	1,278 (33%)
Obesity (n = 3,917)	789 (20%)
Chronic renal disease (n = 3,950)	649 (16%)
Chronic neurological condition (n = 3,949)	321 (8%)
Malignancy (n = 3,961)	600 (15%)
Chronic liver disease (n = 3,945)	232 (6%)
Immunosuppression (n = 3,918)	708 (18%)
Number of specified comorbidities (n = 3,982)^c	
No comorbidities	898 (23%)
One or more	3,084 (77%)
Two or more	1,951 (49%)
Three or more	1,014 (25%)

a Source: SPRINT-SARI. Only includes adult cases (≥ 18 years old) and excludes those with missing data on comorbidities or where comorbidity is unknown.

b Includes asthma.

c Includes chronic respiratory conditions, cardiac disease (excluding hypertension), immunosuppressive condition/therapy, diabetes, obesity, liver disease, renal disease, and neurological disorder.

Figure 5: PIMS-TS cases reported to PAEDS, by sample month and level of care required, Australia, 1 June 2021 – 12 March 2023^a



^a Source: PAEDS.

From the start of the Omicron wave to 12 March 2023, there were 5,484 COVID-19 cases admitted to ICUs participating in the sentinel surveillance system—Short Period Incidence Study of Severe Acute Respiratory Infection (SPRINT-SARI)⁴—with 60 of these admitted during this reporting period (13 February – 12 March 2023).

Risk factors for severe disease

Comorbidity data extracted from SPRINT-SARI reflect the sickest patients with COVID-19 who are managed in ICU; data are therefore not generalisable to all cases (Table 5). In adult patients admitted to ICU with COVID-19 since 15 December 2021, where comorbidity information was available, the most prevalent comorbidity was diabetes, followed by cardiac disease. Of those adult patients admitted to ICU since 15 December 2021 for whom comorbidity data was known, 77% (3,084/3,982) had at least one of the listed comorbidities.

Paediatric Inflammatory Multisystem Syndrome - Temporally Associated with SARS-CoV-2 (Paediatric Active Enhanced Disease Surveillance)

Since the start of the pandemic to 12 March 2023, there have been 173 cases of paediatric inflammatory multisystem syndrome - temporally associated with SARS-CoV-2 (PIMS-TS) reported to the Paediatric Active Enhanced Disease Surveillance network (PAEDS), including one in the current reporting period and two new cases from the previous reporting period (Figure 5). The majority of PIMS-TS cases to date have occurred in those aged 5 to < 12 years (52%; 90/173), followed by those aged 6 months to < 5 years (28%; 48/173). To date, there have been no PIMS-TS associated deaths.

Table 6: Deaths associated with COVID-19 by reporting period, Australia, 1 January 2020 – 12 March 2023^{a,b}

Jurisdiction ^c	Reporting period (13 February – 12 March 2023)	Fourth Omicron wave 24 October 2022 – 12 March 2023	Third Omicron wave 15 June – 23 October 2022	15 December 2021 – 12 March 2023 (Omicron wave)	1 January 2020 – 12 March 2023 (Pandemic to date)
ACT	1 (0.4%)	37 (1.0%)	120 (1.2%)	206 (1.2%)	221 (1.1%)
NSW	67 (27.7%)	1,060 (29.2%)	3,030 (31.2%)	5,850 (33.6%)	6,550 (33.2%)
NT	1 (0.4%)	13 (0.4%)	35 (0.4%)	91 (0.5%)	92 (0.5%)
Qld	45 (18.6%)	517 (14.3%)	1,593 (16.4%)	2,824 (16.2%)	2,831 (14.4%)
SA	19 (7.9%)	305 (8.4%)	795 (8.2%)	1,359 (7.8%)	1,364 (6.9%)
Tas.	9 (3.7%)	65 (1.8%)	166 (1.7%)	239 (1.4%)	253 (1.3%)
Vic.	84 (34.7%)	1,354 (37.3%)	3,346 (34.4%)	5,857 (33.6%)	7,391 (37.5%)
WA	16 (6.6%)	275 (7.6%)	628 (6.5%)	993 (5.7%)	1,002 (5.1%)
Australia	242 (100.0%)	3,626 (100.0%)	9,713 (100.0%)	17,419 (100.0%)	19,704 (100.0%)

a Source: NNDSS, extract from 22 November 2022 for deaths to 12 March 2023.

b Deaths are categorised into time periods using date of death. Deaths with a missing date of death are classified using date of illness onset.

c ACT: Australian Capital Territory; NSW: New South Wales; NT: Northern Territory; Qld: Queensland; SA: South Australia; Tas.: Tasmania; Vic.: Victoria; WA: Western Australia.

Table 7: COVID-19 associated case fatality rates, among cases notified to NNDSS, by age group and date of onset, 1 January 2020 to 26 February 2023^{a,b}

Age group (years)	Fourth Omicron wave 24 October 2022 – 26 February 2023	Third Omicron wave 15 June – 23 October 2022	Omicron 15 December 2021 – 26 February 2023	Delta 16 June – 14 December 2021	Pandemic 1 January 2020 – 26 February 2023
0–9	0.00% ^c	< 0.05%	< 0.05%	< 0.05%	< 0.05%
10–19	0.00% ^c	< 0.05%	< 0.05%	< 0.05%	< 0.05%
20–29	< 0.05%	< 0.05%	< 0.05%	< 0.05%	< 0.05%
30–39	< 0.05%	< 0.05%	< 0.05%	0.06%	< 0.05%
40–49	< 0.05%	< 0.05%	< 0.05%	0.18%	< 0.05%
50–59	0.05%	< 0.05%	< 0.05%	0.65%	0.05%
60+	1.07%	1.04%	1.00%	6.13%	1.11%
Australia	0.33%	0.21%	0.16%	0.71%	0.18%

a Source: NNDSS, extract from 21 March 2023 for deaths to 26 February 2023. To account for the lag between illness onset and the development of severe illness, cases with an onset date in the last two weeks (27 February – 12 March 2023) have been excluded from calculations of the case fatality rate.

b Crude case fatality rates which reflect number of deaths as a proportion of reported COVID-19 cases during specific periods, noting these rates are likely overestimated due to underreporting of cases.

c A value of 0.00% indicates that no COVID-19 associated fatalities occurred during the indicated period for the specified age group.

COVID-19 deaths

There were 242 COVID-19-associated deaths notified during the reporting period (13 February – 12 March 2023). In total, there have been 19,704 COVID-19-associated deaths reported in NNDSS since the start of the pandemic (Table 6). The overall crude case fatality rate in the fourth Omicron wave is 0.33%, which is higher than the rate observed during the third wave (0.21%), and notably less than observed during the Delta wave (0.71%) (Table 7). It should be noted that the current case fatality rate is likely to be overestimated due to changes in case ascertainment and under-reporting of non-severe cases.

Genomic surveillance and virology

(Communicable Disease Genomics Network, AusTrakka and jurisdictional sequencing laboratories)

Nationally, 2.9% of COVID-19 cases have been sequenced since the start of the pandemic in January 2020, based on jurisdictional reporting (Table 8). Case numbers and sequencing proportion are based on polymerase chain reaction (PCR) results only, as rapid antigen tests (RAT) do not allow for sequencing. Where jurisdictions are unable to separate PCR confirmed and RAT only cases, proportions are an estimate only. Case numbers have been dropping since late 2022, and referrals of positive PCR samples to some sequencing laboratories have decreased significantly, resulting in changes to sequencing strategies across the country. However, the proportion of cases sequenced each reporting period has risen over the past few months. Changes in case numbers and availability of testing may cause these proportions to fluctuate over the coming months.

Variants of concern (VOC)

AusTrakka⁵ is actively monitoring and reporting on one lineage and its associated sub- and sub-sub-lineages, currently designated as a Variant of Concern (VOC) by international organisations, including the World Health Organization (WHO): Omicron (B.1.1.529). The Omicron variant displays a characteristic set of mutations, including a number of variations in the genomic region encoding the spike protein thought to have the potential to increase transmissibility and/or immune evasion.^{6,7} The Communicable Diseases Genomics Network (CDGN) VOC Working Group demoted four previously designated VOC (Alpha (B.1.1.7); Beta (B.1.351), Delta (B.1.617) Gamma (P.1)) due to the sustained absence of any cases in Australia, and very limited prevalence globally. Further information on variants is available in the Technical Supplement.²

Unlike previous periods in Australia's COVID-19 waves, where one or two dominant lineages were the main driver of disease, there is currently significant diversity in the range of sub-sub-lineages circulating within Australia. During this reporting period, more than 200 unique lineages have been identified, and it is likely that there are more that are not being characterised through whole genome sequencing. This diversity of circulating lineages has sometimes been referred to as a 'variant soup'. Many of these circulating lineages will die out without causing a significant disease burden, but others appear to have stronger growth potential.

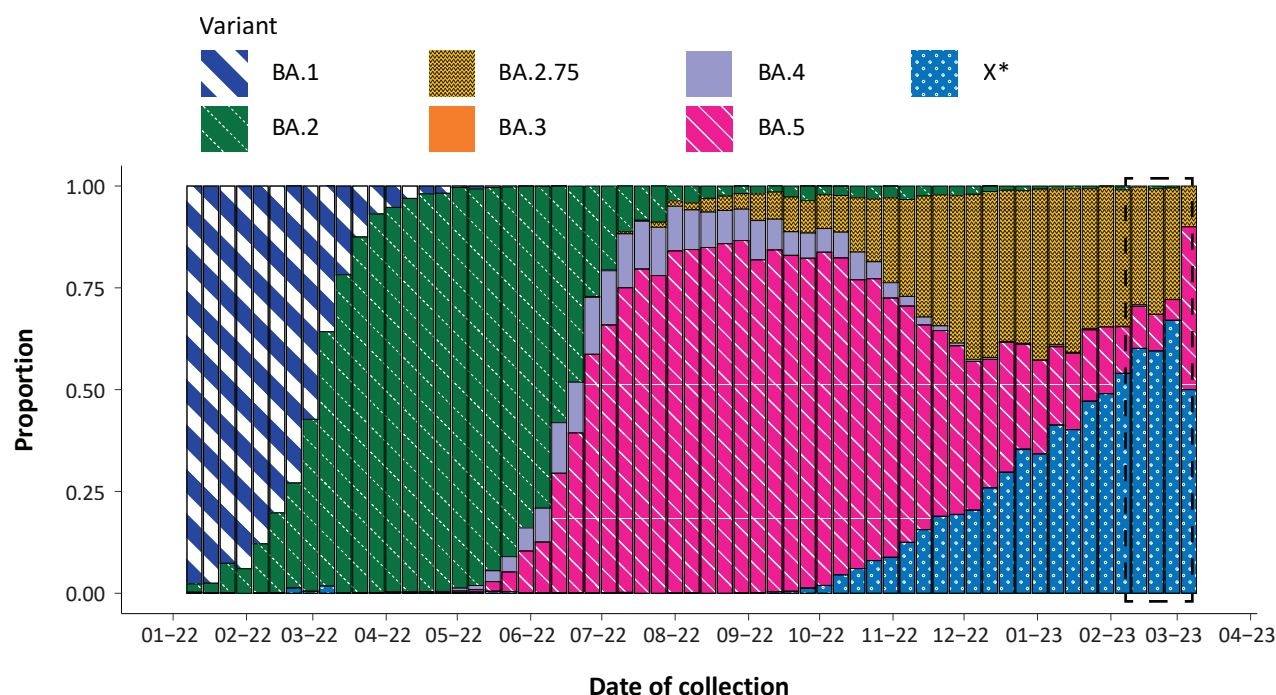
Lineages such as BQ.1 (sub-sub-lineage of BA.5), BA.2.75 and associated sub-lineages such as BR, XBB (recombinant of BJ.1 [BA.2.10] and BM.1.1.1 [BA.2.75.3]), including the sub-lineage XBB.1.5 which is showing significant growth in the US, have emerged with strong signals both within and across different jurisdictions and are being monitored by AusTrakka and the CDGN VOC Working Group due to their increasing prevalence.

Table 8: Australian SARS-CoV-2 genome sequences and proportion of positive cases sequenced, 13 February – 12 March 2023 and cumulative to date^{a, b, c}

Measure	Reporting period 13 February – 12 March 2023	Cumulative 23 January 2020 – 12 March 2023
SARS-CoV-2 cases sequenced ^a	3,261	183,542
Percentage of positive cases sequenced ^b	13.7%	2.9%

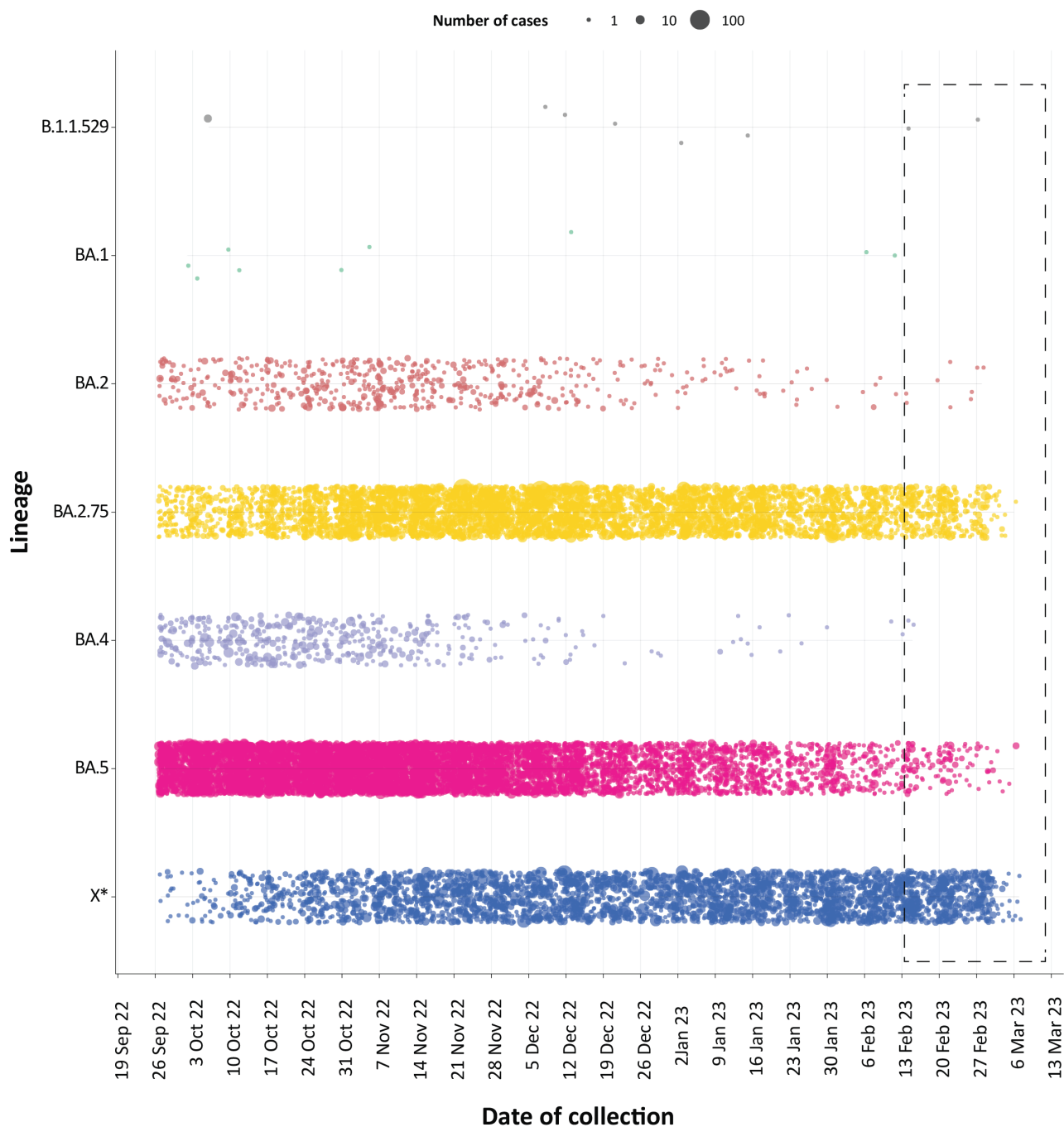
- a Total SARS-CoV-2 case numbers as reported by jurisdictional laboratories based on PCR results only. Cases identified via rapid antigen testing are reported differently by each jurisdiction and cannot be followed up for sequencing. They are therefore not included in the sequencing proportions reported here. Sequencing of samples from cases identified in the reporting period may be in process at the time of reporting. Remaining unsequenced samples may be due to jurisdictional sequencing strategy, or where samples have been deemed unsuitable for sequencing (typically because viral loads were too low for sequencing to be successful).
- b Based on individual jurisdictional reports of sequences and case numbers. Calculations of the percentage of cases sequenced based on the number of sequences available in AusTrakka may not always be up to date, since this may include duplicate samples from cases and may not represent all available sequence data.
- c Changes to reporting of case numbers in some jurisdictions has impacted the ability of laboratories to calculate proportion of sequenced case numbers for specified reporting periods.

Figure 6: Omicron sub-lineage proportions in Australia since 1 January 2022 by sample collection date^{a, b, c}



- a Sequences in AusTrakka; aggregated by week.
- b The current reporting period (13 February to 12 March 2023) is marked by the dashed lines.
- c Proportions in the figure may not be representative when sequence numbers are small. Data may change week-to-week as sequences with older collection dates are uploaded. These numbers are not equivalent to number of cases, as there may be duplicates in the AusTrakka data. Newly designated Omicron sub-lineages have been collapsed into parent lineages BA.1, BA.2 (except BA.2.75, displayed separately), BA.3, BA.4 and BA.5; recombinants are designated by X*.

Figure 7: Samples in AusTrakka since 19 September 2022, by lineage and date of collection ^{a, b}



- a The current reporting period (13 February to 12 March 2023) is marked by the dashed lines. The size of each dot is proportional to the number of sequences observed in each jurisdiction each day.
- b Newly designated Omicron sub-lineages have been collapsed into parent lineages BA.1, BA.2 (except BA.2.75, displayed separately), BA.3, BA.4 and BA.5; recombinants are designated by X*.

All 3,261 sequences from samples collected within the reporting period were assigned to Omicron or recombinants consisting of Omicron lineages. There have been five major sub-lineages defined under B.1.1.529: BA.1, BA.2, BA.3, BA.4 and BA.5, and a large number of sub-lineages, including recombinants, under these; all are designated Omicron. Recombinant lineages made up the majority of sequences collected between 13 February and 12 March 2023, and available for analysis in AusTrakka, with 61.0 % of sequences found to be a recombinant lineage (Figures 6 and 7). BA.2 (now predominantly represented by the BA.2.75 sub-lineage) and BA.5 made up 30.0% and 9.0 % of sequences identified in the same period, respectively.

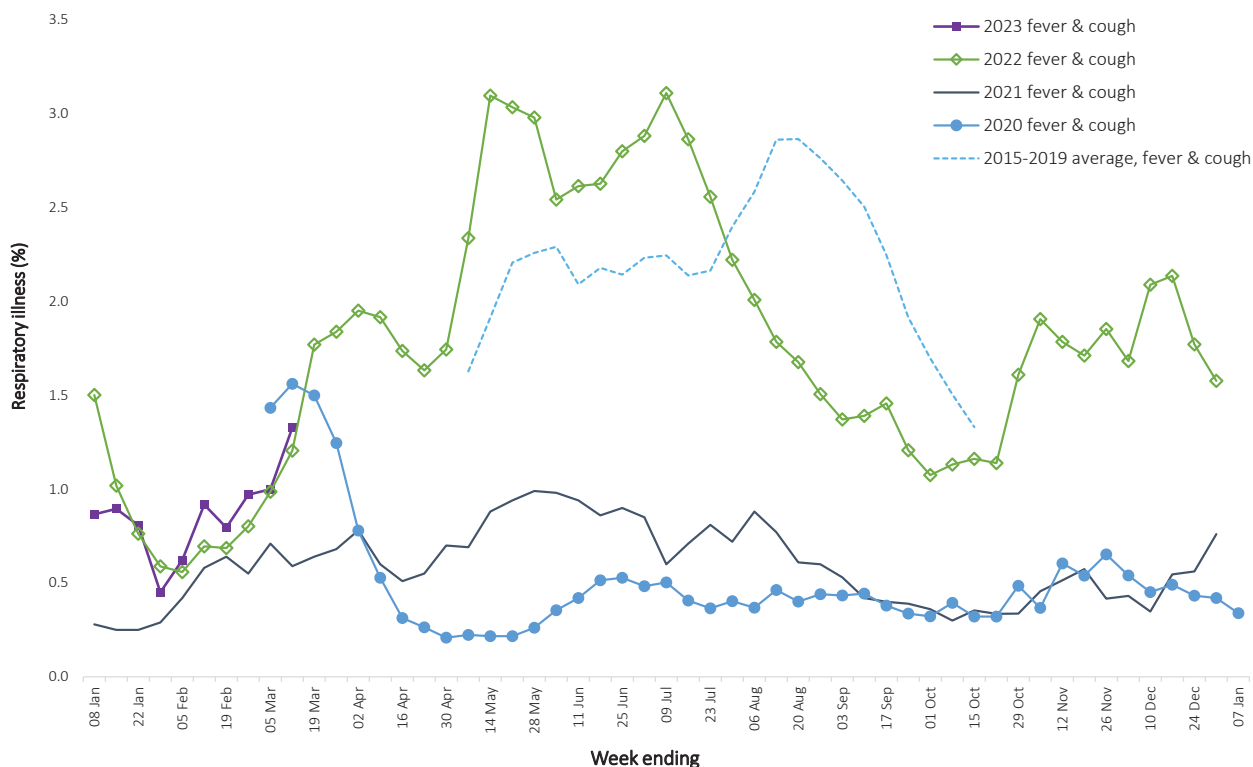
The sub-lineage breakdown of all Omicron sequences uploaded to AusTrakka since first identification in November 2021 to date: 19.3%

are BA.1; 38.9% are BA.2; < 0.001% are BA.3; 3.7% are BA.4, and 31.6% are BA.5. All sub-sub-lineages have been collapsed into respective major sub-lineages. Recombinants make up 6.4% of all Omicron sequences to date.

Acute respiratory illness (FluTracking, ASPREN, and Commonwealth Respiratory Clinics)

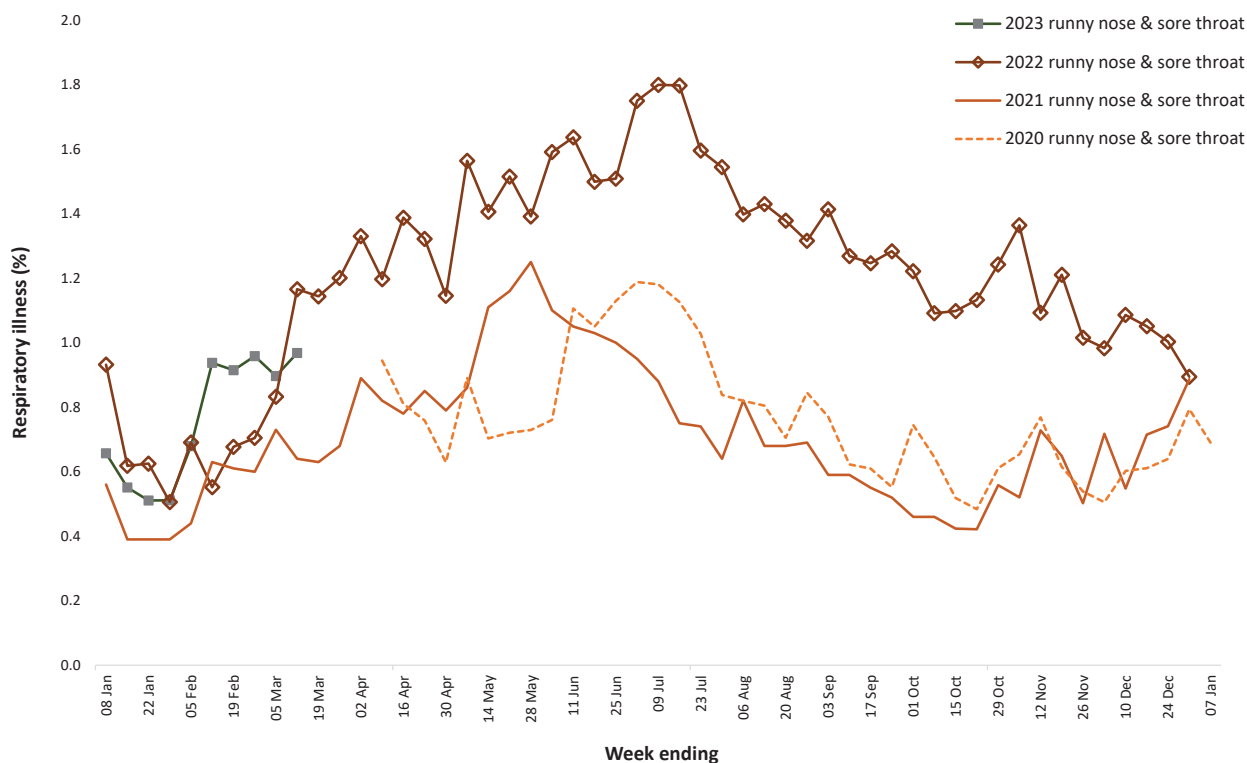
Based on self-reported FluTracking data,⁸ there has been an overall increase in the prevalence of ‘fever and cough’ and ‘runny nose and sore throat’ symptoms in the community since late January 2023. Over this period, the rate of ‘fever and cough’ has been consistent with the rates observed during the same period in 2022, while rates of ‘runny nose and sore throat’ have been generally higher than that observed in 2022 (Figure 8; Figure 9).

Figure 8: Weekly trends in fever and cough amongst FluTracking survey participants (age-standardised) compared to the average of the previous five years, Australia, 1 January 2020 – 12 March 2023^a



a In years prior to 2020, FluTracking was activated during the main Influenza season from May to October. A historical average beyond the week ending 11 October (epidemiological week 41) is therefore not available. In 2020, FluTracking commenced ten weeks early to capture data for COVID-19.

Figure 9: Weekly trends in runny nose and sore throat amongst FluTracking survey participants (age-standardised), Australia, 29 March 2020 – 12 March 2023^a



a Data on runny nose and sore throat were only collected systematically after 29 March 2020, therefore a historical average for this symptom profile is unavailable.

Over the reporting period, FluTracking data indicated that 13.9% of participants with ‘fever and cough’ were tested for SARS-CoV-2 with a PCR test and 81.2% were tested using a RAT (noting that in some instances RATs will be followed up by a PCR test for the same case). Of those with ‘runny nose and sore throat’, 3.8% were tested for SARS-CoV-2 using a PCR test and 58.4% were tested using a RAT. In the current reporting period, the percent positivity for ‘fever and cough’ symptoms increased for PCR (40.2%) and remained stable for RAT (41.2%) compared to the previous reporting period. For ‘runny nose and sore throat’ symptoms, the percent positivity decreased for both PCR and RAT to 5.7% and 4.4%, respectively. Note that participants with one set of symptoms are not excluded from having the other. It is important to acknowledge that there may be legitimate reasons why people did not get tested, including

barriers to accessing testing. Symptoms reported to FluTracking are not specific to COVID-19 and may also be due to infections with other respiratory pathogens and to chronic diseases, such as asthma.

From 13 February to 12 March 2023, of presentations to Commonwealth Respiratory Clinics that were tested for SARS-CoV-2, 6.0% (450/7,521) were found to be positive. Since the start of the pandemic, the most frequently reported symptoms among presentations that tested positive for COVID-19 were sore throat (57%) and cough (57%), followed by tiredness (45%).

Since the start of 2023 to 12 March 2023, of those presenting to sentinel ASPREN sites with influenza-like illness who were tested for respiratory viruses, 55.0% (55/100) tested positive.

Table 9: Cumulative cases and deaths, and new cases and deaths reported in the four-week period to 12 March 2023 for selected countries in Australia's near region according to WHO^{a, b}

Country	Cumulative cases	New cases reported in the last 4 weeks	Change in new cases in the last 4 weeks ^b	Cumulative deaths	New deaths reported in the last 4 weeks	Change in new deaths in the last 4 weeks ^b
South-East Asia region						
India	44,690,492	6,374	+107%	530,781	31	+29%
Indonesia	6,739,067	6,268	-7%	160,948	84	-39%
Thailand	4,728,304	676	-61%	33,924	30	-71%
Bangladesh	2,037,922	243	-22%	29,445	1	-67%
Western Pacific region						
Japan	33,316,509	380,898	-77%	73,156	2,598	-69%
China	99,159,203	370,020	-71%	120,453	1,586	-92%
Republic of Korea	30,634,731	284,532	-48%	34,103	367	-53%
New Zealand	2,176,499	32,233	-31%	2,548	46	-58%
Australia	11,380,700	54,668	-37%	19,447	308	-50%

a Source: World Health Organization Coronavirus (COVID-19) Dashboard, accessed 17 March 2023, for data until 12 March 2023.

b Percent change in the number of newly confirmed cases/deaths in the most recent four-week period compared to the four weeks prior.

Among those positive, the most common virus detected was rhinovirus (38.2%; 21/55), followed by influenza A (18.2%; 10/55) and SARS-CoV-2 (16.4%; 9/55).

Countries and territories in Australia's near region

According to WHO, countries and territories in the South-East Asia and Western Pacific regions reported 1,164,984 new cases and 5,358 deaths in the four-week period to 12 March 2023.⁷ Compared with the previous four-week reporting period, new cases increased in the South-East Asia Region and decreased in the Western Pacific region, while the number of newly reported deaths decreased in both regions.⁹ In total, since the start of the pandemic, over 262 million cases and over 1.2 million deaths have been reported in the two regions.^{i,10}

In the four-week period 13 February to 12 March 2023, changes in COVID-19 cases and deaths are highlighted in selected countries in the South-East Asia region and the Western Pacific region (Table 9). In the previous four weeks, at the country level, the highest number of in new cases and deaths were reported from Japan (380,898 and 2,598) and China (370,020 and 1,586) (Table 9). India reported the greatest proportional increase in new cases (+107%) and deaths (+29%) in the last four weeks (Table 9).

As of 12 March 2023, over 760 million COVID-19 cases and over 6.8 million deaths have been reported globally since the start of the pandemic, with a global case fatality rate (CFR) of approximately 0.90%. The two regions reporting the largest burden of disease over the past four weeks were Europe (38% of total cases) and the Americas (32% of total cases).⁹

i Epidemiologic trends in recent weeks have been dominated by a large wave of cases and deaths in the Western Pacific Region, notably in China.¹⁰

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Appendix A: Supplementary figures and tables

Table A.1: COVID-19 cases and rates per 100,000 population, by age group, sex, and date of onset, Australia, 15 December 2021 – 12 March 2023^{a,b,c,d}

Age group	Four-week reporting period						Current 'Omicron' wave							
	13 February – 12 March 2023			15 December 2021 – 12 March 2023			15 December 2021 – 12 March 2023			15 December 2021 – 12 March 2023				
	Cases		Rate per 100,000 population	Cases		Rate per 100,000 population	Cases		Rate per 100,000 population	Cases		Rate per 100,000 population		
Male	Female	People ^d	Male	Female	People ^d	Male	Female	People ^d	Male	Female	People ^d	Male	Female	People ^d
0–9	1,890	1,797	4,037	117.7	118.5	129.3	499,397	474,820	1,096,943	31,113.1	31,319.9	35,145.6		
10–19	3,442	3,887	7,718	210.9	252.6	243.4	631,941	671,355	1,441,496	38,718.4	43,621.9	45,456.2		
20–29	3,240	5,957	9,654	184.0	353.0	279.9	772,565	930,853	1,832,406	43,863.4	55,163.9	53,132.8		
30–39	4,180	7,188	11,988	222.2	374.8	315.5	787,169	965,497	1,903,666	41,837.2	50,345.9	50,106.6		
40–49	4,068	7,188	11,726	247.6	427.6	352.8	648,722	807,174	1,580,583	39,488.6	48,017.1	47,553.1		
50–59	3,853	6,464	10,681	245.8	399.2	335.2	522,112	636,665	1,248,717	33,303.3	39,323.4	39,184.1		
60–69	3,819	5,130	9,205	282.3	355.8	329.4	372,783	426,624	854,485	27,553.2	29,592.4	30,576.0		
70–79	3,105	3,331	6,627	320.0	317.9	328.4	232,585	236,821	495,227	23,968.3	22,603.1	24,539.0		
80–89	1,599	1,846	3,516	397.3	370.6	390.4	101,679	114,284	225,528	25,265.3	22,943.7	25,043.3		
90+	382	783	1,193	503.7	563.7	555.5	25,465	46,972	74,953	33,579.0	33,815.2	34,903.4		

a Source: NNDS, extract from 21 March 2023 for notifications to 12 March 2023.

b Population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2022.

c Excludes cases where age was unknown.

d Total cases includes those where sex was unknown and those classified as X, i.e., persons who reported their sex as another term, other than male or female.