COVID-19 Australia: Epidemiology Report 69

Reporting period ending 18 December 2022

COVID-19 Epidemiology and Surveillance Team

# Summary

## Four-week reporting period (21 November – 18 December 2022)

*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).*

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

**Trends –**Nationally, COVID-19 case notifications have increased since late October 2022, consistent with a fourth wave of transmission driven by a combination of existing and newly emerging Omicron subvariants. In the four-week period 21 November – 18 December 2022, there were 167,208 confirmed and 257,771 probable cases of COVID-19 reported in Australia to NNDSS. In the latter reporting fortnight, a total of 223,115 confirmed and probable cases were notified (an average of 15,937 cases per day), compared to 201,864 in the previous fortnight (14,419 cases per day).

**Age group –** Since late October 2022, there has been an increase in notification rates across all age groups, with rates highest among adults aged 70 years and over. In the reporting period 21 November – 18 December 2022, the highest notification rate was observed among adults aged 80 years and over, whilst the lowest rate was among children aged 5 to 11 years. Children aged 17 years or less continue to experience lower notification rates than adults. For the entire Omicron wave to date (15 December 2021 – 18 December 2022), the highest notification rate has been in adults aged 18 to 29 years.

**Aboriginal and Torres Strait Islander people –** In the reporting period 21 November – 18 December 2022, there were 10,396 new cases notified in Aboriginal and Torres Strait Islander people. In the current Omicron wave (15 December 2021 – 18 December 2022) there have been 382,854 cases notified in Aboriginal and Torres Strait Islander people, representing 3.7% (382,854 /10,465,271) of all COVID-19 cases in the Omicron wave to date.

**Severity –** The overall crude case fatality rate in the current fourth Omicron wave is 0.17%, which is slightly less than the rate observed during the third wave (0.20%), greater than the rate observed in the first and second waves (0.13% and 0.09% respectively), and notably less than observed during the Delta wave (0.69%). Since the start of the pandemic to 18 December 2022, there have been 164 cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS) reported to PAEDS, including 130 cases reported in 2022.

**Virology –** For samples collected in the four-week period 21 November – 18 December 2022, all 7,329 samples were assigned against Omicron or against recombinants consisting of two Omicron lineages. There is currently significant diversity in the range of sub- and sub-sub-lineages circulating within Australia. BA.5 is currently the predominant sub-lineage being sequenced, representing 39.4% of sequences collected in the reporting period and available for analysis in AusTrakka. By contrast, recombinant lineages made up 14.0% of sequences available in AusTrakka during the same period. Of the Omicron sequences in AusTrakka to date, 21.06% are BA.1; 39.15% are BA.2; < 0.001% are BA.3; 4.02% are BA.4 and 32.63% are BA.5. Recombinant strains make up 3.09% of all Omicron sequences to date.

**International situation –** According to the World Health Organization (WHO), cumulative global COVID-19 cases stood at over 649 million COVID-19 cases and over 6.6 million deaths as of 18 December 2022. For the South-East Asia and Western Pacific regions combined, there were 6,399,285 new cases and 10,963 deaths in the four-week period to 18 December 2022. Compared to the previous four-week reporting period, new cases and new deaths increased in both the Western Pacific and South-East Asia regions. In total, since the start of the pandemic, over 170 million cases and over one 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 21 November – 18 December 2022. Within this period, data for each week is compared. The previous reporting period was the preceding four weeks (24 October – 20 November 2022).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, the majority of 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

Unless otherwise specified, tabulated data, data within the text, and figures, except those relating to severity, are extracted from the National Notifiable Diseases Surveillance System (NNDSS) based on ‘notification received date’. All tables and figures related to severity data extracted from NNDSS are based on ‘diagnosis date’ to better capture the true onset of severe illness and to enable a more accurate understanding of infection risk and disease severity.

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.

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

# Activity

### COVID-19 trends

### *(NNDSS and jurisdictional reporting to the National Incident Centre)*

Cumulatively, from the beginning of the pandemic to 18 December 2022, jurisdictions within Australia have reported 10,699,888 COVID-19 cases to the NNDSS (Table 1). Nationally, case notifications have been increasing since late October 2022. In the four-week period 21 November – 18 December 2022, there were 167,208 confirmed and 257,771 probable cases of COVID-19 reported in Australia to NNDSS (Table 1). In the most recent reporting fortnight, a total of 223,115 confirmed and probable cases were notified (an average of 15,937 cases per day), compared to 201,864 in the previous fortnight (an average of 14,419 cases per day).

****Table 1: Confirmed and probable COVID-19 cases by jurisdiction and date of notification, Australia, 15 December 2021 – 18 December 2022a,b****

| Jurisdiction | Reporting period | | | | | | Current Omicron wave | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 November – 4 December 2022 | | | 5–18 December 2022 | | | 15 December 2021 – 18 December 2022 | | |
| Confirmed | Probable | Total | Confirmed | Probable | Total | Confirmed | Probable | Total |
| ACT | 1,601 (37.2%) | 2,698 (62.8%) | 4,299 | 2,551 (42.4%) | 3,466 (57.6%) | 6,017 | 126,640 (57.4%) | 94,109 (42.6%) | 220,749 |
| NSW | 44,108 (61.0%) | 28,203 (39.0%) | 72,311 | 49,001 (60.2%) | 32,442 (39.8%) | 81,443 | 1,991,806  (56.8%) | 1,513,715 (43.2%) | 3,505,521 |
| NT | 288 (23.0%) | 963 (77.0%) | 1,251 | 493 (30.0%) | 1,152 (70.0%) | 1,645 | 22,417  (21.9%) | 80,133 (78.1%) | 102,550 |
| Qld | 4,881 (23.8%) | 15,662 (76.2%) | 20,543 | 7,373 (25.9%) | 21,075 (74.1%) | 28,448 | 652,716 (41.0%) | 941,022 (59.0%) | 1,593,738 |
| SA | 9,726 (47.5%) | 10,759 (52.5%) | 20,485 | 10,266 (45.4%) | 12,334 (54.6%) | 22,600 | 493,847 (58.3%) | 352,924 (41.7%) | 846,771 |
| Tas. | 1,665 (22.9%) | 5,602 (77.1%) | 7,267 | 1,819 (22.8%) | 6,149 (77.2%) | 7,968 | 62,085 (22.6%) | 212,132 (77.4%) | 274,217 |
| Vic. | 12,337 (23.4%) | 40,361 (76.6%) | 52,698 | 13,083 (25.8%) | 37,718 (74.2%) | 50,801 | 1,060,314 (39.6%) | 1,614,493 (60.4%) | 2,674,807 |
| WA | 4,005 (17.4%) | 19,005 (82.6%) | 23,010 | 4,011 (16.6%) | 20,182 (83.4%) | 24,193 | 487,505 (39.1%) | 759,413 (60.9%) | 1,246,918 |
| **Australia** | **78,611 (38.9%)** | **123,253 (61.1%)** | **201,864** | **88,597 (39.7%)** | **134,518 (60.3%)** | **223,115** | **4,897,330 (46.8%)** | **5,567,941 (53.2%)** | **10,465,271** |

a Source: NNDSS extract from 10 January 2023 for notifications from 15 December 2021 to 18 December 2022.

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

Since the emergence of the Omicron variant in Australia, there have been four distinct waves of transmission, defined by the predominant Omicron subvariant circulating. 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. Since late October 2022, case numbers increased, reflecting a fourth wave of transmission driven by a combination of existing and newly emerging Omicron subvariants (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 notification date, Australia, 29 November 2021 – 18 December 2022a****

A stacked bar chart of new case notifications in Australia, by notification date, since 29 November 2021. The chart shows both PCR confirmed and RAT probable cases for each week. The chart’s date range encompasses the extent of the Omicron wave to date. A maximum of approximately 570,000 cases occurred during the second week of January 2022, at the apparent height of the Omicron wave and corresponding mainly to transmission of the BA.1 subvariant, before dropping to a minimum of approximately 160,000 cases in the last week of February 2022; a subsequent lower rise in case notifications led to a further peak of approximately 390,000 cases per week for the week ending 3 April 2022 followed by a lesser secondary peak of approximately 350,000 cases per week for the week ending 15 May, with these peaks marking the highest rates of BA.2 subvariant transmission. A further peak of around 310,000 cases per week, in the week ending 24 July, marks the highest rates to date of BA.5 subvariant transmission. For the current four-week reporting period, still dominated by the BA.5 subvariant, new case numbers have climbed above 100,000 cases per week; nonetheless, the number of weekly notifications in recent weeks remains substantially lower than the number of weekly notifications seen across the first seven months of 2022.


a Source: NNDSS extract from 10 January 2023 for notifications from 29 November 2021 to 18 December 2022.

## Demographic features

### *(NNDSS)*

Since late October 2022, notification rates have increased across all age groups, with rates highest among adults aged 70 years and over. In the current reporting period 21 November – 18 December 2022, the highest notification rate was observed among adults aged 80 years and over, whilst the lowest rate was among children aged 5 to 11 years (Appendix A, Table A.1). Children aged 17 years or less continue to experience considerably lower notification rates than the adult population (Figure 2a). For the entire Omicron wave to date (15 December 2021 – 18 December 2022), the highest notification rate has been in adults aged 18 to 29 years. For this age group, the weekly notification rate peaked in the week ending 9 January 2022 at 5,605 cases per 100,000 population (not depicted). Notification rates have been comparable across all paediatric age groups since late August 2022, with rates beginning to stabilise in the current reporting period (Figure 2b).

****Figure 2: Confirmed and probable COVID-19 notification rates for (a) all ages and (b) children, by age group by notification week, Australia, 27 February – 18 December 2022a****

A pair of line graphs showing the combined PCR-confirmed and RAT probable notification rates per 100,000 population per week, of confirmed COVID-19 cases with notification dates from 27 February 2022 to 18 December 2022, by age group, corresponding to the second (BA.2), third (BA.5) and fourth (‘variant soup’) transmission phases of the Omicron wave. The upper graph shows notification rates for all ages. Until the first week of April, corresponding to the period leading up to and including the BA.2 peak, notification rates were highest in the 0–17 years age group, peaking at approximately 2,100 cases per 100,000 population per week in this age group in the week ending 27 March 2022; from the week ending 10 April 2022 onwards, notification rates have generally been highest in the 30–39 years age group. In most age groups, there is a distinct ‘double peak’ evident in the BA.2 wave, with cases highest in the week ending 27 March or 3 April before dropping significantly and then rising again in mid-May; this trend is, though, strongly subdued in the 70–79 years and 80+ years age groups during the BA.2 wave, which instead show a reasonably gradual rise throughout March and April to a peak of around 650 cases per 100,000 population per week in the week ending 15 May 2022. For the BA.5 wave, all adult age groups show a peak in the week ending 24 July, highest in the 30–39 years age group at approximately 1,500 cases per 100,000 population for that week; the BA.5 peak in the 0–17 years age group occurred in the week ending 31 July. The 70–79 and 80+ year age groups show higher weekly notification rates in the BA.5 peak (approximately 800 and 1,000 cases per 100,000 population per week respectively) than during the BA.2 peak, in contrast to all younger age groups. During the current four-week reporting period (21 November – 18 December 2022), the number of cases per 100,000 population per week has increased across all age groups, though the increase is highest in those aged 80+ years and is lowest in the 0–17 years age group.
The lower graph shows cases rates within children aged 0 to 17 years. In the 5 to 11 and 12 to 17 years age groups, the notification rates peaked at approximately 2,200 and 2,600 cases, respectively, per 100,000 population in the week ending 27 March, then dropping substantially throughout April before rising to a further lesser peak in the week ending 15 May. Somewhat smaller fluctuations, with generally lower peaks, are also evident in the notification rates for the 0 to 4 years age group, which rose to a peak of around 1,200 cases per 100,000 population in the week ending 3 April and reached a further lower peak of approximately 1,000 cases per 100,000 population in the week ending 15 May, then dropping steadily. In the BA.5 wave, the notification rate in the 0 to 4 years age group peaked at approximately 900 cases per 100,000 population per week in the week ending 24 July, while the 5 to 11 and 12 to 17 years age groups both peaked at approximately 1,000 cases per 100,000 population per week in the week ending 31 July 2022. From the week ending 28 August 2022 onwards, there have been only minor weekly differences between the notification rates of the 0–4, 5–11 and 1–17 age groups, with rates in the three paediatric age groups all having increased to approximately 200 cases per 100,000 population per week during the current reporting period (21 November – 18 December 2022).


a Source: NNDSS extract from 10 January 2023 for notifications from 21 February to 18 December 2022.

## Aboriginal and Torres Strait Islander persons

### *(NNDSS)*

Overall, since the start of the pandemic, Indigenous status is unknown for approximately 13% 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 10,396 new cases notified in Aboriginal and Torres Strait Islander people (Table 2). In the Omicron wave (15 December 2021 – 18 December 2022) there have been 382,854 cases notified in Aboriginal and Torres Strait Islander people, representing 3.7% (382,854/10,465,271) of all cases in the Omicron wave to date.

****Table 2: Confirmed and probable cases of COVID-19 among Aboriginal and Torres Strait Islander peoples by jurisdiction and date of notification, Australia, 15 December 2021 – 18 December 2022a****

| Jurisdiction | 21–27 November 2022 | 28 November – 4 December 2022 | 5–11 December 2022 | 12–18 December 2022 | 15 December 2021 – 18 December 2022 (Omicron wave) |
| --- | --- | --- | --- | --- | --- |
| ACTa | 22 | 28 | 34 | 36 | 3,950 |
| NSW | 770 | 960 | 1,062 | 1,047 | 128,302 |
| NT | 61 | 108 | 177 | 152 | 24,771 |
| Qldb | 424 | 517 | 628 | 645 | 95,932 |
| SA | 152 | 152 | 177 | 151 | 22,274 |
| Tas | 143 | 204 | 183 | 168 | 15,944 |
| Vic | 298 | 316 | 271 | 246 | 34,786 |
| WA | 244 | 286 | 333 | 401 | 56,895 |
| **Australia** | **2,114** | **2,571** | **2,865** | **2,846** | **382,854** |

a Source: NNDSS extract from 10 January 2023 for notifications from 15 December 2021 to 18 December 2022.

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% (210,573/380,329) 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% (50,985/71,384) and 73% (14,670/20,115), 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 3: COVID-19 cases among Aboriginal and Torres Strait Islander people by area of remoteness, Australia, 15 December 2021 – 18 December 2022a****

| Jurisdictionb,c | Major city | Inner regional | Outer regional | Remoted |
| --- | --- | --- | --- | --- |
| ACT | 3,899 | 35 | 11 | 1 |
| NSW | 69,099 | 41,420 | 14,193 | 2,903 |
| NT | 64 | 18 | 7,734 | 16,091 |
| Qld | 34,903 | 22,110 | 28,300 | 10,520 |
| SA | 12,059 | 2,398 | 4,707 | 2,997 |
| Tas. | 202 | 9,693 | 5,634 | 278 |
| Vic. | 19,854 | 11,181 | 3,701 | 15 |
| WA | 29,676 | 4,082 | 7,104 | 15,447 |
| **Australia** | **169,756** | **90,937** | **71,384** | **48,252** |

a Source: NNDSS extract from 10 January 2023 for notifications from 15 December 2021 to 18 December 2022. 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’.

Nationally, there have been 303 associated deaths reported in Aboriginal and Torres Strait Islander people from the start of the pandemic to 18 December 2022 (Table 4). This comprises 100 from New South Wales; 89 from Queensland; 44 from the Northern Territory; 36 from Western Australia; 20 from South Australia; 10 from Victoria; and two each from the Australian Capital Territory and Tasmania. An additional 551 Aboriginal and Torres Strait Islander cases have been admitted to intensive care units (ICU) nationally. During the Omicron wave to date, the overall 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 82.3 per 100,000 population, compared to 16.8 per 100,000 population during the Delta wave (Table 4). The higher rates of severe illness during the Omicron wave are attributed to the significantly higher levels of disease transmission in the community during the Omicron wave, rather than the Omicron variant inherently causing more severe illness compared to the Delta variant. It should be noted that ICU status in NNDSS is likely incomplete.

****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 to 18 December 2022****

| Age group (years) | 15 December 2021 – 18 December 2022 (Omicron wave) | | | | 16 June 2021 – 14 December 2021 (Delta wave) | | | | 1 January 2020 – 18 December 2022 (Pandemic to date) | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ICUa,c | Dieda | ICU or dieda,c | Rate ICU or diedb,c | ICUa,c | Dieda | ICU or dieda | Rate ICU or diedb | ICUa,c | Dieda | ICU or dieda,c | Rate ICU or diedb,c |
| 0–17 | 56 | 2 | 57 | 17.6 | 8 | 0 | 8 | 2.5 | 64 | 2 | 65 | 20.0 |
| 18–59 | 240 | 87 | 311 | 74.5 | 86 | 11 | 90 | 21.6 | 327 | 98 | 402 | 96.3 |
| 60+ | 129 | 188 | 289 | 512.1 | 29 | 15 | 36 | 63.8 | 160 | 203 | 327 | 579.4 |
| **All** | **425** | **277** | **657** | **82.3** | **123** | **26** | **134** | **16.8** | **551** | **303** | **794** | **99.5** |

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.

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

## Severity

### *(NNDSS, SPRINT-SARI)*

Given the delay between illness onset and severe illness, and so as 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.

In the Omicron wave, the notification rate of cases with severe illness peaked in the week ending 16 January 2022, at approximately 4.5 severe cases per 100,000 population per week (Figure 3). Since the start of the fourth Omicron wave in late October 2022, there has been a gradual increase in the notification rate of cases with severe illness, although rates appear to have stabilised over the current reporting period. Rates of severe cases continue to be greater in older age groups; since the start of the fourth Omicron wave, rates of severe illness in those aged 80 years and over have been increasing, while rates in all other age groups have remained relatively stable (Figure 4).

****Figure 3: COVID-19 cases, deaths and ICU admissions, Australia, by date of onset, Australia, 31 May 2021 to 18 December 2022a,b****

A bar chart encompassing the Delta wave and the Omicron wave to date, showing cases of severe illness (defined as cases admitted to ICU and/or died) by week of onset from 31 May 2021. The peak onset week for severe illness during the Delta wave occurred in the week ending 5 September 2021, with approximately 300 such cases. For the Omicron wave to date, the peak onset week for cases developing severe illness was the week ending 16 January 2022, with almost 1,200 cases of severe illness from this week. In terms of both the weekly number of deaths and the weekly number of admissions to ICU for cases who did not die, numbers were substantially higher during the Omicron wave’s severe illness peak than the corresponding Delta wave severe illness peak. While weekly ICU admissions not resulting in death have since remained lower, from February 2022 onwards, than was seen at the Delta wave severe illness peak, weekly COVID-19 deaths from late March to mid-August 2022 remained higher than was seen at any time during the Delta wave, though were considerably lower than was seen at the Omicron wave’s severe illness peak in mid-January 2022. From late August to the end of October 2022, the number of weekly severe cases (both ICU admissions and deaths) remained substantially below levels seen at the Delta wave severe illness peak. A further rise in severe illness throughout November and December 2022 has seen severe case numbers comparable to those of the Delta wave’s peak (approximately 300 such cases per week), with a higher proportion of such cases resulting in death than was seen at the peak of Delta wave severe illness.
The chart also shows the total weekly number of COVID-19 cases without consideration of severity. A higher number of COVID-19 cases occurred during the Omicron wave (peaking during the week ending 9 January 2022, at around 600,000 cases per week) than the height of the Delta wave in mid-October 2021, with approximately 30,000 cases per week. Case numbers per week since the first Omicron wave’s peak have shown substantial fluctuations, rising to additional lesser peaks in the weeks ending 3 April (at approximately 400,000 cases per week), 15 May (at approximately 350,000 cases per week), and 24 July (at approximately 320,000 cases per week). While the numbers of cases for each week of the most recent reporting period (21 November – 18 December 2022) have increased from those of the previous four-week reporting period, case numbers remain substantially below the BA.1, BA.2 and BA.5 peaks to date.


a Source: NNDSS extract from 10 January 2023 for notifications to 18 December 2022. 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 diagnosis, Australia, 31 May 2021 to 4 December 2022a****

A line graph encompassing the Delta wave and the Omicron wave to date, showing the notification rates per 100,000 population per week of ICU admission or death, by age group (0–17; 18–39; 40–69; 70–79; and 80+ years of age). Rates of ICU admission and death have been consistently higher in those aged 80 years and older than in other age groups, with the Delta wave’s severe-illness peak among such cases occurring across the weeks ending 10 October, 17 October and 24 October 2021, at approximately 5 severe illness cases per 100,000 population per week. A substantially higher severe-illness peak in those aged 80 years and older is evident during the Omicron peak, for the week ending 16 January 2022, of approximately 50 cases per 100,000 population per week in this age group. Commencing in April 2022, the rate of severe illness in those aged 80 years and older has fluctuated between approximately 15 and 25 cases per 100,000 population per week, though rising to a peak of approximately 43 cases per 100,000 per week in the week ending 24 July 2022 before dropping steadily across the next three months to remain at or below 4 cases per 100,000 population per week throughout October. The severe illness notification rate in those aged 80 years and over has again risen in recent weeks, to reach approximately 15 cases per 100,000 population per week for the weeks ending 27 November and 4 December 2022.


a Source: NNDSS extract from 10 January 2023 for notifications to 18 December 2022. Includes cases with an illness onset from 31 May 2021 to 4 December 2022; cases with an illness onset in the last two weeks (5–18 December 2022) 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.

****Figure 5: PIMS-TS cases reported to PAEDS, by sample month and level of care required, Australia, 1 June 2020 – 18 December 2022a****

A stacked-bar chart showing the incidence each month, from June 2020 to December 2022, of cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS). In 2020, four cases of PIMS-TS were reported in July and August, with two cases admitted to ICU and the remaining two hospitalised but not admitted to ICU. No further PIMS TS cases were reported until October 2021, following which a substantial increase in reported cases occurred, peaking in February 2022 with 23 hospitalised cases during that month, six of whom were admitted to ICU. Throughout the first six months of 2022, reported PIMS-TS cases exceeded ten hospitalised cases each month, with one or more cases each of these months admitted to ICU. Lower numbers of PIMS-TS cases were reported in July (8 cases), August (9 cases), and September 2022 (5 cases), with only one case reported in October and none in November or December 2022 to date. No PIMS-TS deaths have yet been reported in Australia.


a Source: PAEDS.

### ICU admissions

From the start of the Omicron wave to 18 December 2022, there were 4,841 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 237 of these admitted during this reporting period (21 November – 18 December 2022).

### 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% (2,608/3,370) had at least one of the listed comorbidities.

****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 – 18 December 2022a****

| Comorbidity | ICU casesa (n = 3,370) (%) |
| --- | --- |
| Cardiac disease (n = 3,348) | 927 (28%) |
| Chronic respiratory condition (n = 3,352)b | 821 (25%) |
| Diabetes (n = 3,323) | 1,101 (33%) |
| Obesity (n = 3,305) | 712 (22%) |
| Chronic renal disease (n = 3,341) | 534 (16%) |
| Chronic neurological condition (n = 3,339) | 271 (8%) |
| Malignancy (n = 3,350) | 505 (15%) |
| Chronic liver disease (n = 3,345) | 198 (6%) |
| Immunosuppression (n = 3,309) | 598 (18%) |
| **Number of specified comorbidities (n = 3,370)c** | |
| No comorbidities | 762 (23%) |
| One or more | 2,608 (77%) |
| Two or more | 1,666 (49%) |
| Three or more | 860 (26%) |

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.

## PIMS-TS

### *(PAEDS)*

Since the start of the pandemic to 18 Dec 2022, there have been 164 cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS) reported to Paediatric Active Enhanced Disease Surveillance (PAEDS), including 130 cases reported in 2022, zero in the current reporting period and six new cases from previous reporting periods; two of them were reported by a non-PAEDS site. The majority of PIMS-TS cases to date have occurred in those aged 5 to < 12 years (52%; 86/164), followed by those aged 6 months to < 5 years (28%; 46/164). To date, there have been no PIMS-TS associated deaths.

### COVID-19 deaths

There were 746 COVID-19-associated deaths among cases notified during the reporting period (21 November – 18 December 2022). In total there have been 16,371 COVID-19-associated deaths reported in NNDSS since the start of the pandemic (Table 6). The overall crude case fatality rate in the current fourth Omicron wave is 0.17%, which is slightly less than the rate observed during the third wave (0.20%), greater than the rates observed in the first and second waves (0.13% and 0.09% respectively), and notably less than observed during the Delta wave (0.69%) (Table 7).

****Table 6: Deaths associated with COVID-19 by reporting period, Australia, 1 January 2020 – 18 December 2022a,b****

| Jurisdictionc | 21 November – 4 December 2022 | 5–18 December 2022 | 15 December 2021 – 18 December 2022 (Omicron wave) | 1 January 2020 – 18 December 2022 (Pandemic to date) |
| --- | --- | --- | --- | --- |
| ACT | 4 (1.2%) | 3 (0.7%) | 134 (1.0%) | 150 (0.9%) |
| NSW | 121 (35.2%) | 109 (27.1%) | 5,133 (36.8%) | 5,876 (35.9%) |
| NT | 3 (0.9%) | 3 (0.7%) | 86 (0.6%) | 87 (0.5%) |
| Qld | 43 (12.5%) | 65 (16.2%) | 2,461 (17.7%) | 2,493 (15.2%) |
| SA | 17 (4.9%) | 33 (8.2%) | 1,135 (8.1%) | 1,154 (7.0%) |
| Tas. | 8 (2.3%) | 10 (2.5%) | 198 (1.4%) | 214 (1.3%) |
| Vic. | 110 (32.0%) | 144 (35.8%) | 3,951 (28.4%) | 5,558 (34.0%) |
| WA | 38 (11.0%) | 35 (8.7%) | 836 (6.0%) | 839 (5.1%) |
| **Australia** | **344 (100.0%)** | **402 (100.0%)** | **13,934 (100.0%)** | **16,371 (100.0%)** |

a Source: NNDSS, extract from 22 November 2022 for deaths to 18 December 2022.

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 4 December 2022a,b,c****

| Age group | Fourth Omicron wave 24 October – 4 December 2022 | Third Omicron wave 15 June – 23 October 2022 | Second Omicron wave 1 March – 14 June 2022 | First Omicron wave 15 December 2021 – 28 February 2022 | Omicron 15 December 2021 – 4 December 2022 | Delta 16 June – 14 December 2021 | Pandemic 1 January 2020 – 4 December 2022 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 0–4 | 0.00% | < 0.05% | < 0.05% | < 0.05% | < 0.05% | 0.00% | < 0.05% |
| 5–11 | 0.00% | 0.00% | 0.00% | < 0.05% | < 0.05% | < 0.05% | < 0.05% |
| 12–15 | 0.00% | < 0.05% | 0.00% | < 0.05% | < 0.05% | < 0.05% | < 0.05% |
| 16–17 | 0.00% | 0.00% | < 0.05% | 0.00% | < 0.05% | 0.00% | < 0.05% |
| 18–29 | < 0.05% | < 0.05% | < 0.05% | < 0.05% | < 0.05% | < 0.05% | < 0.05% |
| 30–39 | < 0.05% | < 0.05% | < 0.05% | < 0.05% | < 0.05% | 0.06% | < 0.05% |
| 40–49 | < 0.05% | < 0.05% | < 0.05% | < 0.05% | < 0.05% | 0.18% | < 0.05% |
| 50–59 | < 0.05% | < 0.05% | < 0.05% | 0.05% | < 0.05% | 0.65% | < 0.05% |
| 60–69 | 0.10% | 0.14% | 0.10% | 0.24% | 0.14% | 1.93% | 0.17% |
| 70–79 | 0.34% | 0.64% | 0.44% | 1.13% | 0.59% | 6.13% | 0.69% |
| 80–89 | 1.32% | 2.48% | 2.03% | 5.01% | 2.47% | 14.75% | 2.81% |
| 90+ | 3.15% | 6.64% | 5.84% | 10.76% | 6.29% | 27.73% | 6.93% |
| Unknown | < 0.05% | 0.00% | 0.00% | 0.00% | <0.05% | 0.00% | < 0.05% |
| **Australia** | **0.17%** | **0.20%** | **0.09%** | **0.13%** | **0.13%** | **0.69%** | **0.15%** |

a Source: NNDSS, extract from 22 November 2022 for deaths to 18 December 2022.

b To account for the lag between illness onset and the development of severe illness, cases with an onset date in the last two weeks have been excluded from calculations of the case fatality rate.

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

## Genomic surveillance and virology

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

Nationally, 3.19% of COVID-19 cases have been sequenced since the start of the pandemic in January 2020, based on jurisdictional reporting of confirmed cases (Table 8). Case numbers and sequencing proportion are based on polymerase chain reaction (PCR) results only, as rapid antigen tests do not allow for sequencing. A significant rise in case numbers nationally at the start of 2022, and a change in the pandemic response across Australia, saw jurisdictional laboratories move towards sequencing for surveillance purposes. This resulted in a drop in the overall sequencing proportion in 2022. However, as the sequencing output has remained steady, any drop in recorded case numbers related to significant changes in testing and isolation requirements – such as that observed prior to the start of the fourth Omicron wave – may cause the sequencing proportion to rise again.

****Table 8: Australian SARS-CoV-2 genome sequences and proportion of positive cases sequenced, 21 November – 18 December 2022 and cumulative to date****

| Measure | Reporting period 21 November – 18 December 2022 | Cumulative 23 January 2020 – 18 December 2022 |
| --- | --- | --- |
| SARS-CoV-2 cases sequenceda | 7,328 | 167,425 |
| Percentage of positive cases sequencedb | 4.01% | 3.19% |

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.

****Figure 6: Omicron sub-lineages proportions in Australia since 1 January 2022 by sample collection datea,b,c.****

Figure 6 plots the proportions of SARS-CoV-2 sequences recorded, by lineage and by date of specimen collection, from 1 January 2022 by sample collection date. It is apparent that BA.1 was the most frequently reported Omicron lineage across January and February 2022, replaced gradually by BA.2 during March 2022, with BA.2 then predominating across April to mid-June 2022 before that lineage was in turn largely replaced by BA.5 and (to a lesser extent) by BA.4. The BA.5 lineage has dominated recorded sequences from the start of July through to mid-October 2022, though has since lost ground to Omicron recombinant lineages and to sub-lineages classified as BA.2.


a Sequences in AusTrakka; aggregated by week.

b The current reporting period (21 November to 18 December 2022) 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, BA.3, BA.4 and BA.5 or as recombinants of these lineages.

****Figure 7: Samples in AusTrakka in the past 28 weeks, by lineage and date of collectiona,b****

Figure 7 plots the numbers of SARS-CoV-2 sequences recorded, by Omicron sub-lineage (BA.1, BA.2, BA.4, BA.5 and recombinant) and by date of specimen collection, from 30 May to 19 December 2022. Across the bulk of this 28-week period, BA.5 has been the dominant Omicron sub-lineage detected, gaining prominence over BA.2 during June 2022, though the latest four-week reporting period has seen an increase in BA.2 and recombinant lineages alongside BA.5.


a The current reporting period (21 November to 18 December 2022) 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, BA.3, BA.4 and BA.5 and recombinants are designated by X\*.

### 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. 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) and XBF (recombinant of BA.2.75 and BA.5) have emerged with strong signals both within and across different jurisdictions and are being monitored by AusTrakka and the Communicable Disease Genomics Network (CDGN) VOC working group due to their increasing prevalence.

All 7,329 sequences from samples collected within the reporting period were assigned to Omicron or to recombinants consisting of two Omicron lineages. BA.5 is currently the predominant sub-lineage being sequenced, representing 39.4% of sequences collected in the reporting period and available for analysis in AusTrakka. By contrast, recombinant lineages made up 14.0% of sequences available in AusTrakka during the same period.

Of the Omicron sequences in AusTrakka to date, 21.06% are BA.1; 39.15% are BA.2; < 0.001% are BA.3; 4.02% are BA.4; and 32.63% are BA.5. All sub-sub-lineages have been collapsed into respective major sub-lineage. Recombinants make up 3.09% of all Omicron sequences to date.

## Testing

### *(State and territory reporting)*

From the commencement of the pandemic to 18 December 2022, over 80 million PCR tests for SARS-CoV-2 have been conducted nationally. Jurisdictional PCR testing rates are driven by current case numbers, testing policies and numbers of people experiencing symptoms. The number, rates, and percent positivity of RATs cannot be calculated, as there is currently no reporting of negative RATs. The Australian Capital Territory (ACT) did not supply testing data from 12 November 2022 due to technical reasons, therefore percent positivity calculations are currently not available for the Australian Capital Territory.

During the four-week reporting period (21 November – 18 December 2022), PCR testing rates increased in the Northern Territory and remained relatively stable in all other jurisdictions. There was an overall increase in percent positivity in all jurisdictions, except in the Northern Territory and Tasmania where percent positivity decreased over the reporting period. In the week ending 18 December 2022, the highest PCR percent positivity was observed in New South Wales at 23% (Figure 8).

****Figure 8: SARS-CoV-2 polymerase chain reaction (PCR) testing rates per 1,000 population and percent positivity by jurisdiction and date of notification, 13 December 2021 – 18 December 2022a****

A set of eight combined bar charts and line graphs. The bar charts show the SARS-CoV-2 PCR testing rates per 1,000 population each week by jurisdiction, with the line graphs showing the percent PCR testing positivity per week in each jurisdiction, for the period 13 December 2021 to 18 December 2022. Weekly testing rates in all jurisdictions have fluctuated during this time; the highest testing rate (approaching 120 tests per 1,000 population per week) was seen in New South Wales during late December 2021. Across the four weeks of the latest reporting period, testing rates have remained at or below twenty PCR tests per 1,000 population in all jurisdictions, noting however that rates for the Australian Capital Territory are unavailable from 12 November 2022 onwards, for technical reasons. 
Test positivity rose rapidly during December 2021 and the first week of January 2022 in all jurisdictions except Western Australia (where the rise in positivity commenced in mid-February 2022). Positivity has since reached or exceeded 30% in several jurisdictions before falling below 10% across September and October 2022 in all jurisdictions except Western Australia. In the most recent four-week reporting period, positivity has increased in most jurisdictions, notably in New South Wales, Queensland, South Australia and Western Australia, where it has approached or exceeded 20%.


a Source: testing data provided by jurisdictions to the NIR daily, current to 18 December 2022; case data extracted from NNDSS on 10 January 2023 for cases with a notification date up to 18 December 2022; population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2021. The Australian Capital Territory did not supply testing data from 12 November 2022 due to technical reasons.

## Acute respiratory illness

### *(FluTracking, ASPREN, and Commonwealth Respiratory Clinics)*

Based on self-reported FluTracking data,6 there has been an overall increasing trend in the prevalence of fever and cough in the community since late October 2022 (Figure 9). Over the same period, the prevalence of runny nose and sore throat symptoms in the community has remained relatively stable, with a slight increase observed in the latest reporting fortnight (Figure 10).

****Figure 9: 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 – 18 December 2022a,b****

A line graph comparing weekly fever and cough notifications, as an age-standardised percentage of FluTracking survey participants, since 1 January 2020 with the averaged notifications each week for the years 2015–2019. It is apparent that the reporting of ‘fever and cough’ symptom has been systematically higher across most of 2022 to date than was the case during the corresponding weeks of 2020 and 2021, reaching peaks of approximately 3.1% of survey participants per week in the weeks ending 15 May 2022 and 10 July 2022. During the four-week reporting period, the rate of ‘fever and cough’ has risen and then fallen within a range between approximately 1.8% and 2.1% of survey respondents in each week, an overall increase on the preceding four-week reporting period. From late July to mid-October 2022, reporting of the ‘fever and cough’ symptom lay substantially lower than the 2015–2019 average value for the same weeks but remained substantially above the reporting rates for the same weeks in 2020 and 2021. ‘Fever and cough’ symptom reporting remains considerably higher in recent weeks than was the case in 2020 and 2021, noting that comparison with the historical 2015–2019 average value is not possible after mid-October because of the seasonal limits to reporting prior to 2020.


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.

Over the reporting period, FluTracking data indicated that 22.4% of participants with ‘fever and cough’ were tested for SARS-CoV-2 with a PCR test and 89.5% 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, 9% were tested for SARS-CoV-2 using a PCR test and 74% were tested using a RAT. In the current reporting period, the percent positivity for fever and cough symptoms increased compared to the previous reporting period for both PCR and RAT, to 56% and 64%, respectively. For runny nose and sore throat symptoms, the percent positivity increased for PCR and RAT to 17% and 12%, 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 21 November to 18 December 2022, of presentations to Commonwealth Respiratory Clinics that were tested for SARS-CoV-2, 16.9% (6,467/38,106) were found to be positive. Since the start of the pandemic, the most commonly reported symptom amongst presentations that tested positive for COVID-19 was sore throat (57%), followed by cough (56%) and tiredness (44%).

Since the start of 2022, of those presenting to sentinel ASPREN sites with influenza-like illness who were tested for respiratory viruses, 56% (581/1,031) tested positive. Among those positive, the most common virus detected was influenza A (28%; 162/581), followed by rhinovirus (27%; 155/581); of those testing positive, 13% (73/581) were positive for SARS-CoV-2.

****Figure 10: Weekly trends in runny nose and sore throat symptoms amongst FluTracking survey participants (age-standardised), Australia, 29 March 2020 – 18 December 2022a,b****

A line graph comparing weekly ‘runny nose and sore throat’ notifications, as an age-standardised percentage of FluTracking survey participants, since 29 March 2020. The reporting of ‘runny nose and sore throat’ symptom has been systematically higher across most of 2022 to date than was the case during the corresponding weeks of 2020 and 2021. The reporting rate for this symptom has fluctuated between approximately 0.9% and 1.1% of survey participants in the most recent four-week reporting period, slightly below the range seen in the previous four-week reporting period but substantially higher than the rate for the same weeks of 2021 and 2020. No comparison with a historical five-year average can be made for the ‘runny nose and sore throat’ symptoms; no FluTracking data are available for these symptoms for the years 2015–2019.


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.

## Countries and territories in Australia’s near region

According to WHO, countries and territories in the South-East Asia and Western Pacific regions reported 6,399,285 new cases and 10,963 deaths in the four-week period to 18 December 2022.7 Compared with the previous four-week reporting period, new cases and new deaths increased in the Western Pacific region and decreased in the South-East Asia region.7 In total, since the start of the pandemic, over 170 million cases and over one million deaths have been reported in the two regions.8

In the four-week period 21 November to 18 December 2022, 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). Among the two regions, the greatest increase in new cases (142%) and new deaths (170%) in the previous four weeks, was observed in Australia (Table 9).

As of 18 December 2022, over 649 million COVID-19 cases and over 6.6 million deaths have been reported globally since the start of the pandemic, with a global case fatality rate (CFR) of approximately 1.02%. The two regions reporting the largest burden of disease over the past four weeks were the Western Pacific (46% of total cases) and the European (30% of total cases).7

****Table 9: Cumulative cases and deaths, and new cases and deaths reported in the four-week period to 18 December 2022 for selected countries in Australia’s near region according to WHOa****

| Country | Cumulative cases | New cases reported in the last 4 weeks | Change in new cases in the last 4 weeksb | Cumulative deaths | New deaths reported in the last 4 weeks | Change in new deaths in the last 4 weeksb |
| --- | --- | --- | --- | --- | --- | --- |
| **South-East Asia region** |  |  |  |  |  |  |
| Indonesia | 6,709,597 | 101,230 | -26% | 160,398 | 1,019 | +7% |
| Thailand | 4,718,908 | 16,578 | +33% | 33,505 | 399 | +117% |
| India | 44,675,952 | 6,937 | -74% | 530,672 | 98 | -94% |
| Bangladesh | 2,036,928 | 561 | -75% | 29,438 | 8 | -53% |
| Myanmar | 633,555 | 550 | -77% | 19,488 | 1 | -91% |
| **Western Pacific region** |  |  |  |  |  |  |
| Japan | 27,116,473 | 3,344,688 | +88% | 53,319 | 5,038 | +151% |
| Republic of Korea | 28,188,293 | 1,629,528 | +29% | 31,395 | 1364 | +31% |
| China | 10,051,042 | 587,663 | -27% | 31,235 | 1,509 | -21% |
| New Zealand | 2,027,981 | 133,823 | +62% | 2,288 | 106 | +22% |
| Australia | 10,938,096 | 405,730 | +142% | 15,937 | 791 | +170% |

a Source: World Health Organization Coronavirus (COVID-19) Dashboard, accessed 12 January 2023, for data until 18 December 2022.

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

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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 notification received date, Australia, 15 December 2021 – 18 December 2022a,b,c****

| Age group | Four-week reporting period | | | | | | Current ‘Omicron’ wave | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 November – 18 December 2022 | | | | | | 15 December 2021 – 18 December 2022 | | | | | |
| Cases | | | Rate per 100,000 population | | | Cases | | | Rate per 100,000 population | | |
| Male | Female | Peopled | Male | Female | Peopled | Male | Female | Peopled | Male | Female | Peopled |
| 0–4 | 5,869 | 5,761 | 12,576 | 750.0 | 780.2 | 826.9 | 207,235 | 197,471 | 457,731 | 26,481.9 | 26,744.3 | 30,095.6 |
| 5–11 | 7,835 | 7,439 | 16,244 | 667.1 | 668.0 | 709.9 | 415,470 | 395,129 | 910,711 | 35,376.5 | 35,480.9 | 39,802.7 |
| 12–15 | 4,648 | 4,912 | 10,103 | 711.8 | 794.1 | 794.5 | 247,874 | 248,848 | 557,328 | 37,958.9 | 40,230.3 | 43,830.1 |
| 16–17 | 2,496 | 3,511 | 6,363 | 822.5 | 1,226.2 | 1,078.8 | 113,347 | 129,910 | 266,729 | 37,350.4 | 45,368.8 | 45,222.8 |
| 18–29 | 23,862 | 38,829 | 65,665 | 1,152.0 | 1,951.7 | 1,617.0 | 882,690 | 1,054,844 | 2,087,160 | 42,613.4 | 53,021.6 | 51,397.1 |
| 30–39 | 25,783 | 40,190 | 69,025 | 1,382.9 | 2,097.3 | 1,825.8 | 765,228 | 929,417 | 1,843,134 | 41,045.3 | 48,502.2 | 48,752.6 |
| 40–49 | 22,978 | 36,295 | 61,754 | 1,407.3 | 2,183.4 | 1,874.2 | 628,484 | 773,966 | 1,525,201 | 38,493.1 | 46,560.0 | 46,288.1 |
| 50–59 | 23,046 | 35,751 | 61,369 | 1,501.6 | 2,222.1 | 1,952.2 | 501,734 | 603,941 | 1,193,803 | 32,690.8 | 37,538.1 | 37,974.9 |
| 60–69 | 21,871 | 29,164 | 53,165 | 1,649.1 | 2,066.0 | 1,941.8 | 351,774 | 398,230 | 803,446 | 26,523.8 | 28,210.9 | 29,345.6 |
| 70–79 | 17,776 | 19,816 | 39,344 | 1,879.2 | 1,968.4 | 2,014.9 | 213,754 | 216,823 | 455,071 | 22,597.5 | 21,537.8 | 23,305.5 |
| 80–89 | 8,631 | 10,109 | 19,686 | 2,227.1 | 2,068.2 | 2,246.4 | 91,334 | 102,054 | 202,055 | 23,567.3 | 20,879.2 | 23,057.0 |
| 90 + | 2,230 | 4,289 | 6,825 | 2,866.8 | 2,975.2 | 3,075.1 | 22,520 | 41,088 | 65,771 | 28,950.5 | 28,502.5 | 29,634.1 |

a Source: NNDSS, extract from 10 January 2023 for notifications to 18 December 2022.

b Population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2021.

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.

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