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Reporting period ending 3 July 2022

COVID-19 National Incident Centre Surveillance Team

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COVID-19 Australia: Epidemiology Report 63

Reporting period ending 3 July 2022

COVID-19 National Incident Centre Surveillance Team

Summary

Four-week reporting period (6 June – 3 July 2022)

As of report 62 onward, the case data provided in this report includes both polymerase chain reaction (PCR) confirmed and rapid antigen test (RAT) probable cases reported to the National Notifiable Diseases Surveillance System (NNDSS), unless otherwise specified. Case definitions are in accordance with the coronavirus disease 2019 (COVID-19) National Guidelines for Public Health Units (SoNG).

At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.

Trends – Nationally, weekly case numbers remained relatively stable since early June 2022. In the last four weeks from 6 June to 3 July 2022, there were 290,724 PCR confirmed and 379,244 RAT probable cases of COVID-19 reported in Australia to NNDSS. In the most recent reporting fortnight, a total of 337,316 confirmed and probable cases were notified (an average of 24,094 cases per day), compared to 332,652 in the previous fortnight (23,760 cases per day).

Age group – In the four weeks ending 3 July 2022, the highest case notification rate was observed among adults aged 40 to 49 years; the lowest rate was among adults aged 70 to 79 years. Case rates decreased amongst children aged 0 to 17 years throughout the four-week reporting period, whilst increasing or remaining stable across all other age groups. For the entire Omicron wave to date (15 December 2021 – 3 July 2022), the highest case notification rate was in adults aged 18 to 29 years.

Aboriginal and Torres Strait Islander persons – From 6 June to 3 July 2022, there were 17,925 new cases notified in Aboriginal and Torres Strait Islander people. In the entire Omicron wave to date (15 December 2021 – 3 July 2022), there have been 223,685 cases of COVID-19 notified in Aboriginal and Torres Strait Islander people, representing 3% of all cases (223,685 / 6,923,364) reported to NNDSS.

Severity – The notification rate of cases with severe illness has remained relatively stable since early May 2022, at approximately 1.1 cases per 100,000 population per week. In the Omicron wave, severe cases peaked in the week ending 16 January 2022, at approximately 4.5 per 100,000 population per week. This is more than three times the peak rate of severe cases observed

during the Delta wave, of 1.2 per 100,000 population in the week ending 5 September 2021. In the current reporting period, there were seven notified cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS).

Virology - For samples collected in the four-week period from 6 June to 3 July 2022, the BA.2 Omicron sub-lineage constituted 71.1% (1,518/2,135) of all lineages identified in AusTrakka. While BA.2 remains the predominant sub-lineage being sequenced, the proportion of BA.2 sequences has decreased substantially. Of the Omicron sequences in AusTrakka to date, 41.8% were BA.1; 56.2% were BA.2; and the remaining sequences were made up of BA.3, BA.4 and BA.5.

Acute respiratory illness – Based on self-reported FluTracking data, over the four-week reporting period, there was an overall increase in the prevalence of both fever and cough, and runny nose and sore throat symptoms in the community. In the current reporting period, the weekly prevalence of both sets of symptoms was higher than that observed during the peak of the Omicron wave in January 2022.

International situation – According to the World Health Organization (WHO), cumulative global COVID-19 cases stood at almost 547 million, with over 6.3 million deaths reported globally, as of 3 July 2022. In Australia's near region, the South East Asia and Western Pacific Regions reported 3,874,084 cases and 7,885 deaths in the four-week period to 3 July 2022.

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 6 June – 3 July 2022. Within this period, data for each week is compared. The previous reporting period was the preceding four weeks (9 May – 5 June 2022).¹

The focus of this report is on the epidemiological situation in Australia since the beginning of the current 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 cases were Omicron. Readers are encouraged to consult prior reports in this series for information on the epidemiology of COVID-19 in Australia.

From report 46 onward, and unless otherwise specified, tabulated data and data within the text are extracted from the National Notifiable Diseases Surveillance System (NNDSS) based

on 'notification received date' rather than 'diagnosis date' (see the Technical Supplement for definitions).² As a case's diagnosis date can be several days prior to the date of its notification, there is potential for newly-notified cases to be excluded from the case count in the current reporting period when reporting by 'diagnosis date'. Using 'notification received date' ensures that the case count for the reporting period better reflects the number of newly-notified cases. As the graphs presented in this report, based on NNDSS data, reflect a longer time period (i.e. year to date and entire pandemic), these will continue to be based on diagnosis date to enable a more accurate understanding of infection risk and local transmission.

From report 59 onwards, cases are no longer separated into 'locally acquired' or 'overseas acquired'. This change in reporting practice has been applied because—as a result of community transmission levels, of the increase in international arrivals, and of reduced quarantine and testing requirements—the ability of jurisdictions to accurately report place of acquisition has been greatly reduced. This directly impacts

the value of data around international arrivals. Accordingly, from report 59 onwards, all case numbers should be interpreted as the aggregate of all places of acquisition.

As of report 62 onward, the case data provided in this report includes both polymerase chain

reaction (PCR) confirmed and rapid antigen test (RAT) probable cases reported to the NNDSS, unless otherwise specified.

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

Table 1: PCR-confirmed and RAT probable COVID-19 cases by jurisdiction, 1 January 2020 – 3 July 2022^{a,b}

	Australia (total)	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA
Cases – PCR confirmed	4,097,657	95,210	1,593,359	18,264	560,464	375,194	45,970	1,017,742	391,454
Cases – RAT probable	4,079,079	63,616	1,243,796	60,444	732,245	220,204	143,276	1,098,104	517,394
Cases – total	8,176,736	158,826	2,837,155	78,708	1,292,709	595,398	189,246	2,115,846	908,848

a Source: Jurisdictional reporting to the National Incident Centre.

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

Table 2: PCR-confirmed and RAT probable COVID-19 cases by jurisdiction and date of notification, 15 December 2021 – 3 July 2022^{a,b}

Jurisdiction	Reporting period						Current Omicron wave		
	6 June – 19 June 2022			20 June – 3 July 2022			15 December 2021 – 3 July 2022		
	Confirmed	Probable	Total	Confirmed	Probable	Total	Confirmed	Probable	Total
ACT	5,933 (54.0%)	5,055 (46.0%)	10,988	8,467 (55.0%)	6,937 (45.0%)	15,404	95,501 (59.3%)	65,665 (40.7%)	161,166
NSW	45,800 (47.6%)	50,417 (52.4%)	96,217	63,716 (49.1%)	66,060 (50.9%)	129,776	1,511,422 (58.6%)	1,068,672 (41.4%)	2,580,094
NT ^c	462 (100.0%)	0 (0.0%)	462	544 (99.8%)	1 (0.2%)	545	16,379 (99.7%)	55 (0.3%)	16,434
Qld ^d	11,501 (83.0%)	2,363 (17.0%)	13,864	12,621 (81.9%)	2,783 (18.1%)	15,404	557,463 (92.1%)	47,745 (7.9%)	605,208
SA	17,790 (49.8%)	17,906 (50.2%)	35,696	18,435 (49.0%)	19,154 (51.0%)	37,589	374,910 (61.7%)	232,865 (38.3%)	607,775
Tas. ^c	1,651 (100.0%)	0 (0.0%)	1,651	2,415 (100.0%)	0 (0.0%)	2,415	46,444 (100.0%)	0 (0.0%)	46,444
Vic. ^c	28,664 (30.3%)	65,987 (69.7%)	94,651	30,028 (29.1%)	73,203 (70.9%)	103,231	874,966 (43.8%)	1,120,994 (56.2%)	1,995,960
WA ^{c,d}	27,940 (35.3%)	51,183 (64.7%)	79,123	14,757 (44.8%)	18,195 (55.2%)	32,952	408,249 (44.8%)	502,034 (55.2%)	910,283
Australia	139,741 (42.0%)	192,911 (58.0%)	332,652	150,983 (44.8%)	186,333 (55.2%)	337,316	3,885,334 (56.1%)	3,038,030 (43.9%)	6,923,364

a Source: NNDSS extract from 14 July 2022 for notifications from 15 December 2021 to 3 July 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.

c At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS.

d Data was not available from Western Australia since 29 June 2022.

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

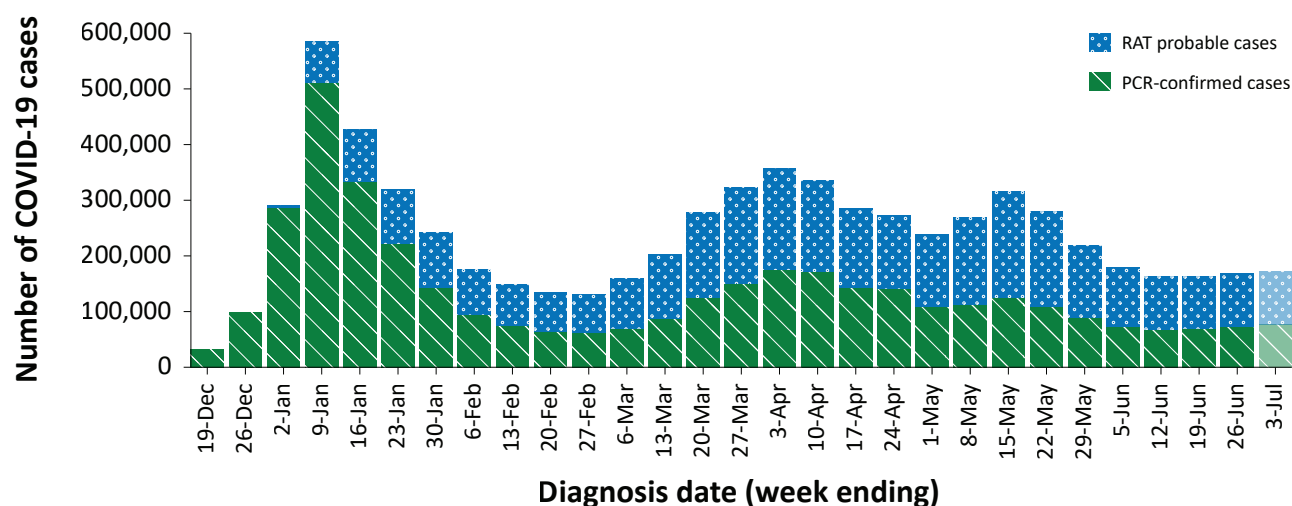
(NNDSS and jurisdictional reporting to the National Incident Centre)

Cumulatively, from the beginning of the pandemic to 3 July 2022, jurisdictions within Australia have reported 8,176,736 COVID-19 cases to the National Incident Centre (Table 1). In the same time period, there have been 3,885,334 PCR-confirmed and 3,038,030 RAT probable cases of COVID-19 reported to NNDSS nationally. The difference in these case numbers arises because cases positive by RAT are not yet systematically reported by all jurisdictions to NNDSS. The analyses in this report include both PCR-confirmed and RAT probable cases reported to the NNDSS, unless otherwise specified.

In the last four weeks from 6 June to 3 July 2022, there were 290,724 PCR confirmed and 379,244 RAT probable cases of COVID-19 reported in Australia to NNDSS. In the most recent reporting fortnight, a total of 337,316 confirmed and probable cases were notified (an average of 24,094 cases per day), compared to 332,652 in the previous fortnight (23,760 cases per day). In the week ending 3 July 2022, case rates were highest in the Australian Capital Territory at 1,947 per 100,000 population per week, followed by South Australia (1,155 per 100,000 population per week).

Since the emergence of the Omicron variant in Australia, there have so far been three 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.

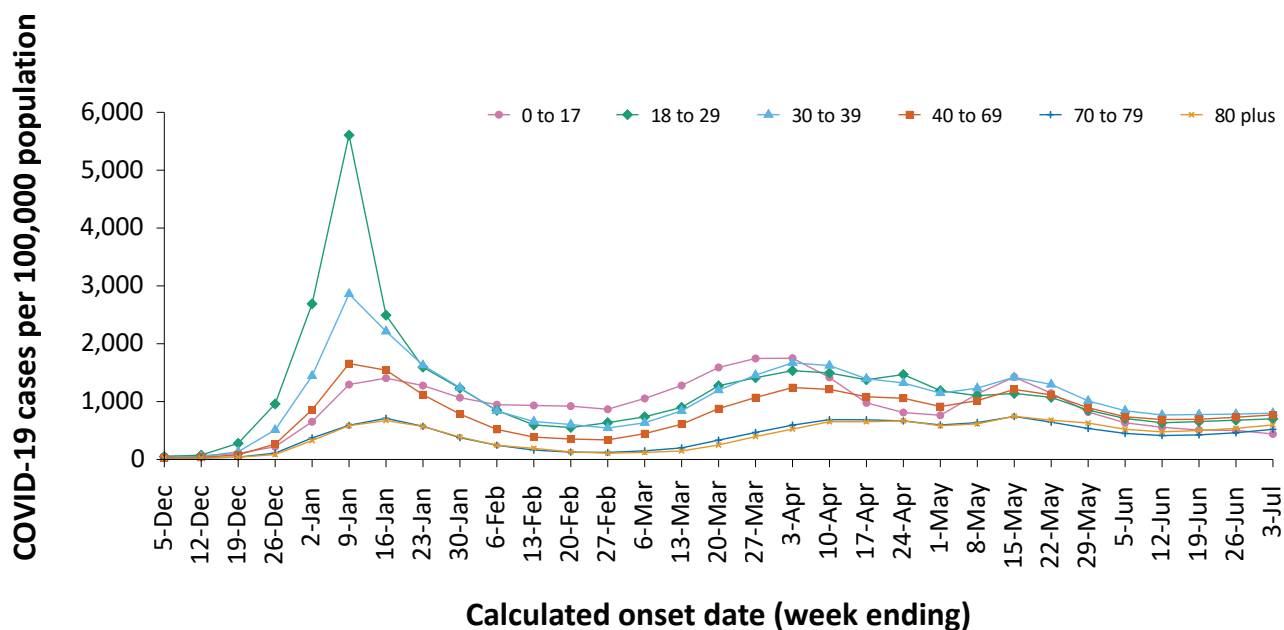
Figure 1: PCR-confirmed and RAT probable weekly COVID-19 notified cases by diagnosis date, 13 December 2021 – 3 July 2022^{a,b}



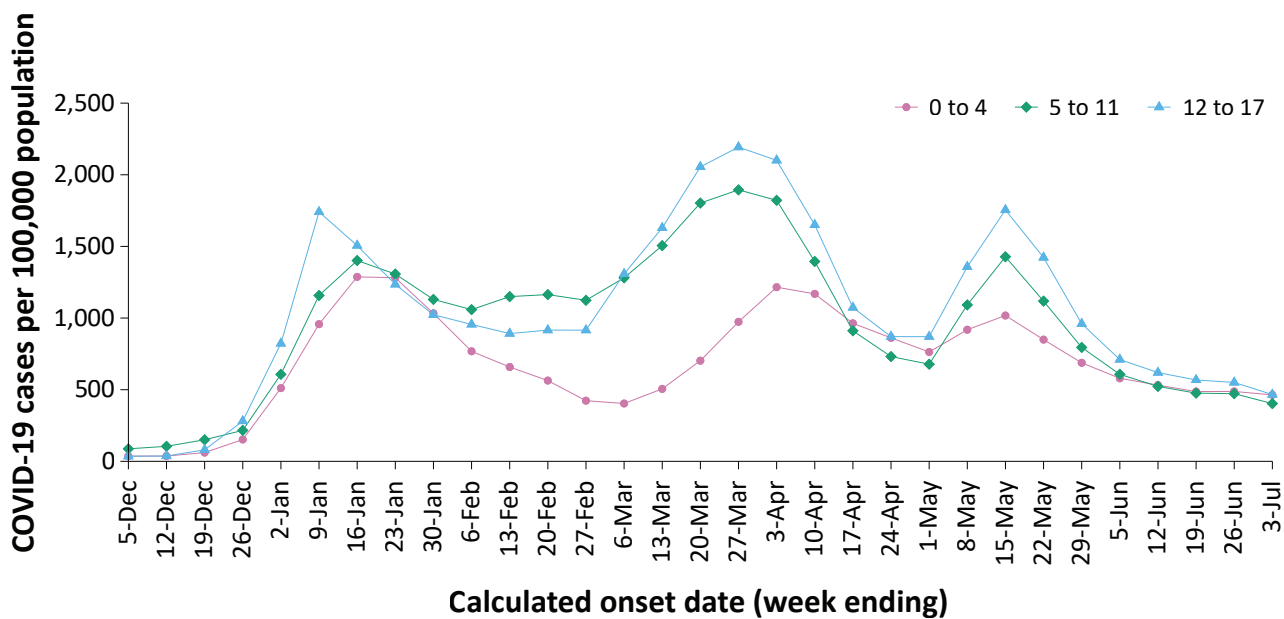
- a Source: extract from 14 July 2022 for notifications from 15 December 2021 to 3 July 2022. At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.
- b The shaded bar at the right represents the most recent reporting week and should be interpreted with caution as additional cases may be identified in the coming week that have a diagnosis date during this period.

Figure 2: PCR-confirmed and RAT probable COVID-19 case rates for (a) all ages and (b) children, by age group by week, Australia, 29 November 2021 – 3 July 2022^a

a



b



a Source: extract from 14 July 2022 for notifications from 15 December 2021 to 3 July 2022. At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.

In recent weeks, there has been an increasing incidence of the BA.4 and BA.5 subvariants, which have now been detected in all jurisdictions. Based on domestic and international data, the BA.5 subvariant is expected become the dominant variant in Australia in coming weeks, driving a third wave of transmission. (Figure 1). As trends are presented using diagnosis date rather than notification date, case numbers for the most recent week are likely an underestimate; additional cases may be identified in the coming week that have a diagnosis date in this period. In addition, case numbers since January 2022 are an underestimate, as RAT probable cases are not yet systematically reported from all jurisdictions.

Demographic features (NNDSS)

In the reporting period 6 June – 3 July 2022, the highest case rate was observed among adults aged 40 to 49 years and the lowest rate among adults aged 70 to 79 years (Appendix A, Table A.1). Case rates decreased amongst children

aged 0 to 17 years throughout the reporting period, whilst increasing or remaining stable across all other age groups (Figure 2). For the entire Omicron wave to date (15 December 2021 – 3 July 2022), the highest case rate was 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.

Among paediatric age groups, the highest notification rate during the reporting period was in children aged 12 to 17 years (Figure 2). Case rates remained relatively stable across all paediatric age groups over the reporting period.

Table 3: PCR-confirmed and RAT probable cases of COVID-19 among Aboriginal and Torres Strait Islander peoples by jurisdiction and date of notification, 31 December 2021 – 3 July 2022^a

Jurisdiction	6–12 June 2022	13–19 June 2022	20–26 June 2022	27 June – 3 July 2022	15 December 2021 – 3 July 2022 (Omicron wave)
Australian Capital Territory	101	88	118	128	2,875
New South Wales	1,706	1,620	1,905	2,162	92,558
Northern Territory ^b	31	50	34	47	3,268
Queensland ^b	540	474	484	357	33,449
South Australia	386	374	359	379	17,194
Tasmania ^b	10	29	32	31	1,584
Victoria ^b	673	648	535	607	25,039
Western Australia ^{b,c}	1,639	1,273	1,031	74	47,718
Total	5,086	4,556	4,498	3,785	223,685

a Source: NNDSS extract from 14 July 2022 for notifications from 15 December 2021 to 3 July 2022.

b At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS.

c Data was not available from Western Australia since 29 June 2022.

Aboriginal and Torres Strait Islander persons (NNDSS)

Overall, since the start of the pandemic, Indigenous status was unknown for approximately 14% of COVID-19 cases. Therefore, the number of cases classified as Aboriginal and Torres Strait Islander people is likely an under-representation. During the reporting period, there were 17,925 new COVID-19 cases notified in Aboriginal and Torres Strait Islander

people (Table 3). In the current Omicron wave (15 December 2021 – 3 July 2022) there have been 223,685 cases of COVID-19 notified in Aboriginal and Torres Strait Islander people, representing 3% (223,685/6,923,364) of all COVID-19 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, 51% (113,158/223,685) lived in a regional or remote area (Table 4).

Table 4: PCR-confirmed and RAT probable cases of COVID-19 among Aboriginal and Torres Strait Islander people by area of remoteness, 15 December 2021 – 3 July 2022^a

Jurisdiction ^{b,c}	Major city			Inner regional			Outer regional			Remote ^d		
	Confirmed	Probable	Total	Confirmed	Probable	Total	Confirmed	Probable	Total	Confirmed	Probable	Total
ACT	1,717 (60.9%)	1,101 (39.1%)	2,818	18 (81.8%)	4 (18.2%)	22	4 (50.0%)	4 (50.0%)	8	1 (100.0%)	0 (0.0%)	1
NSW	30,610 (61.7%)	19,018 (38.3%)	49,628	14,373 (48.2%)	15,425 (51.8%)	29,798	4,177 (39.9%)	6,279 (60.1%)	10,456	748 (34.4%)	1,426 (65.6%)	2,174
NT ^e	0 (0.0%)	0 (0.0%)	0	0 (0.0%)	0 (0.0%)	0	948 (99.4%)	6 (0.6%)	954	2,063 (98.5%)	31 (1.5%)	2,094
Qld ^e	8,460 (95.5%)	403 (4.5%)	8,863	4,962 (93.0%)	371 (7.0%)	5,333	8,065 (59.9%)	5,403 (40.1%)	13,468	1,431 (24.9%)	4,305 (75.1%)	5,736
SA	5,523 (61.1%)	3,509 (38.9%)	9,032	954 (53.1%)	841 (46.9%)	1,795	2,154 (58.7%)	1,513 (41.3%)	3,667	1,817 (71.0%)	743 (29.0%)	2,560
Tas. ^e	16 (100.0%)	0 (0.0%)	16	1,080 (100.0%)	0 (0.0%)	1,080	470 (100.0%)	0 (0.0%)	470	9 (100.0%)	0 (0.0%)	9
Vic. ^e	5,282 (36.9%)	9,029 (63.1%)	14,311	2,064 (25.6%)	5,994 (74.4%)	8,058	496 (18.9%)	2,132 (81.1%)	2,628	0 (0.0%)	10 (100.0%)	10
WA ^{e,f}	9,176 (37.6%)	15,219 (62.4%)	24,395	1,082 (31.9%)	2,315 (68.1%)	3,397	1,202 (20.6%)	4,622 (79.4%)	5,824	4,359 (32.0%)	9,257 (68.0%)	13,616
Australia	60,784 (55.7%)	48,279 (44.3%)	109,063	24,533 (49.6%)	24,950 (50.4%)	49,483	17,516 (46.7%)	19,959 (53.3%)	37,475	10,428 (39.8%)	15,772 (60.2%)	26,200

a Source: NNDSS extract from 14 July 2022 for notifications from 15 December 2021 to 3 July 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 to their location of residence.

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

e At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS.

f Data was not available from Western Australia since 29 June 2022.

Table 5: PCR-confirmed and RAT probable COVID-19 cases in Aboriginal and Torres Strait Islander people by age and highest level of illness severity, Australia, 1 January 2020 to 3 July 2022

Age group (years)	15 December 2021 – 3 July 2022 (Omicron wave)				16 June 2021 – 14 December 2021 (Delta wave)				1 January 2020 – 3 July 2022 (Pandemic to date)			
	ICU ^a	Died ^a	ICU or died ^a	Rate ICU or died ^b	ICU ^a	Died ^a	ICU or died ^a	Rate ICU or died ^b	ICU ^a	Died ^a	ICU or died ^a	Rate ICU or died ^b
0–17	35	1	35	10.8	8	0	8	2.5	43	1	43	13.2
18–59	167	56	217	52.0	85	11	89	21.3	253	67	307	73.6
60+	91	109	179	317.2	26	14	33	58.5	119	123	214	379.2
All	293	166	431	54.0	119	25	130	16.3	415	191	564	70.6

- 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.

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 incomplete capture of RAT probable cases in NNDSS.

Nationally, there have been 191 COVID-19 associated deaths reported in Aboriginal and Torres Strait Islander people from the start of the pandemic to 3 July 2022. This comprises 62 from New South Wales, 52 from Queensland, 32 from the Northern Territory, 24 from Western Australia, 11 from South Australia, nine from Victoria and one from the Australian Capital Territory. An additional 415 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 54.0 per 100,000 population, compared to 16.3 per 100,000 population during the Delta wave (Table 5). The higher rates of severe illness during the Omicron wave may be 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. Note that ICU status in NNDSS is likely incomplete.

Vaccinations

(Department of Health and Aged Care)

As of 3 July 2022, a total of 60,360,880 doses of COVID-19 vaccine had been administered (Table 6), of which 39,050,901 doses were administered by the Commonwealth in primary care or aged care and disability facilities. Nationally, the number of eligible people who have had three or more doses was 13,899,663 (70.5%).ⁱ Nationally, 19,779,577 people aged 16 years and over (> 95%) were fully vaccinated.ⁱⁱ Among children aged 5–11 years, 1,190,193 (52.3%) had received at least one dose, including 903,543 (39.7%) who were fully vaccinated.

- i Eligible persons are defined in accordance with recommendations by the Australian Technical Advisory Group on Immunisation as at the conclusion of the reporting period for this report.⁴
- ii Individuals who are considered 'fully vaccinated' against COVID-19 are those who have received a complete schedule of a Therapeutic Goods Administration (TGA) approved COVID-19 vaccine and are at least seven days post their second dose, with doses at least 14 days apart. This is with the exception of the Janssen (Johnson and Johnson) vaccine, where people are regarded as 'fully vaccinated' seven days after a single dose.⁵

Table 6: Total number of vaccinations administered, by jurisdiction, Australia, 3 July 2022^a

Jurisdiction ^b	Total number of doses administered	Percentage of eligible people who have had three or more doses
Australian Capital Territory	1,582,805	79.0%
New South Wales	18,728,715	68.1%
Northern Territory	596,002	78.1%
Queensland	11,414,215	63.5%
South Australia	4,204,384	74.1%
Tasmania	1,370,790	73.1%
Victoria	15,827,851	72.9%
Western Australia	6,636,118	82.8%
Total	60,360,880	70.5%

a Source: Australian Government Department of Health and Aged Care website.³

b 'Jurisdiction' refers to state/territory of residence.

Among children aged 12–15 years, 1,048,354 (84.3%) had received at least one dose, including 991,969 (79.7%) who were fully vaccinated.

Severity

(*NNDSS, FluCAN, 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.

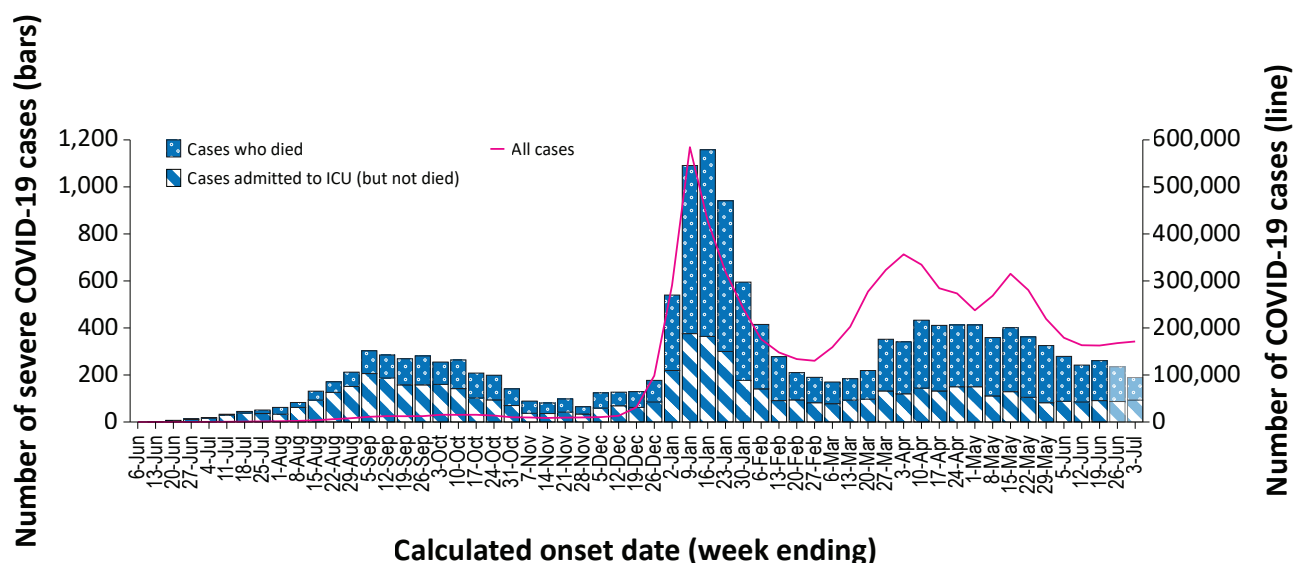
In the current wave, the notification rate of cases with severe illness peaked in the week ending 16 January 2022, at approximately 4.5 severe cases per 100,000 population per week (Figure 3). This is more than three times the peak weekly rate of severe cases observed during the Delta wave, of 1.2 per 100,000 population in the week ending 5 September 2021. Since early May 2022, severe cases have remained relatively stable at approximately 1.1 cases per 100,000 population per week. Rates of severe cases continue to be greater in older age groups (Figure 4).

Hospitalisation and ICU admissions

Between 15 December 2021 and 3 July 2022, there were 4,722 hospital admissions with confirmed COVID-19 reported at Influenza Complications Alert Network (FluCAN) sentinel sites, including 8% (368/4,722) admitted directly to ICU. In the current reporting period to 3 July 2022, there were 404 admissions with COVID-19 reported, including 6% (26/404) who were admitted directly to ICU. From the start of the Omicron wave to 3 July 2022, there were 2,843 COVID-19 cases admitted to ICUs participating in the sentinel surveillance system, Short Period Incidence Study of Severe Acute Respiratory Infection (SPRINT-SARI),⁶ with 199 of these admitted during this reporting period (6 June – 3 July 2022).

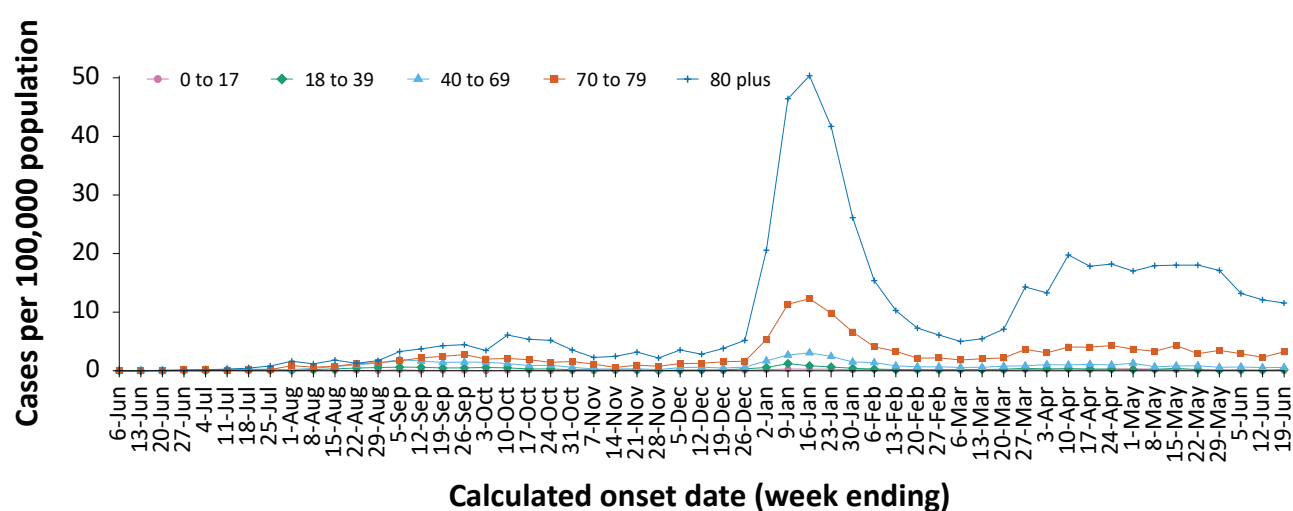
Since 15 December 2021, for patients admitted to FluCAN sentinel sites with confirmed COVID-19, the median length of stay was 4 days (interquartile range, IQR: 2–8); mean (standard deviation, SD) = 6.9 days (19.3). This is lower than the median length of stay observed during the Delta wave, which was 6 days (IQR: 3–10); mean (SD) = 8.3 days (16.8).

Figure 3: COVID-19 cases, deaths and ICU admissions, Australia, by date of onset, Australia, 31 May 2021 to 3 July 2022^{a,b}



- a Source: NNDSS extract from 14 July 2022 for notifications to 3 July 2022. At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.
- 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 19 June 2022^a



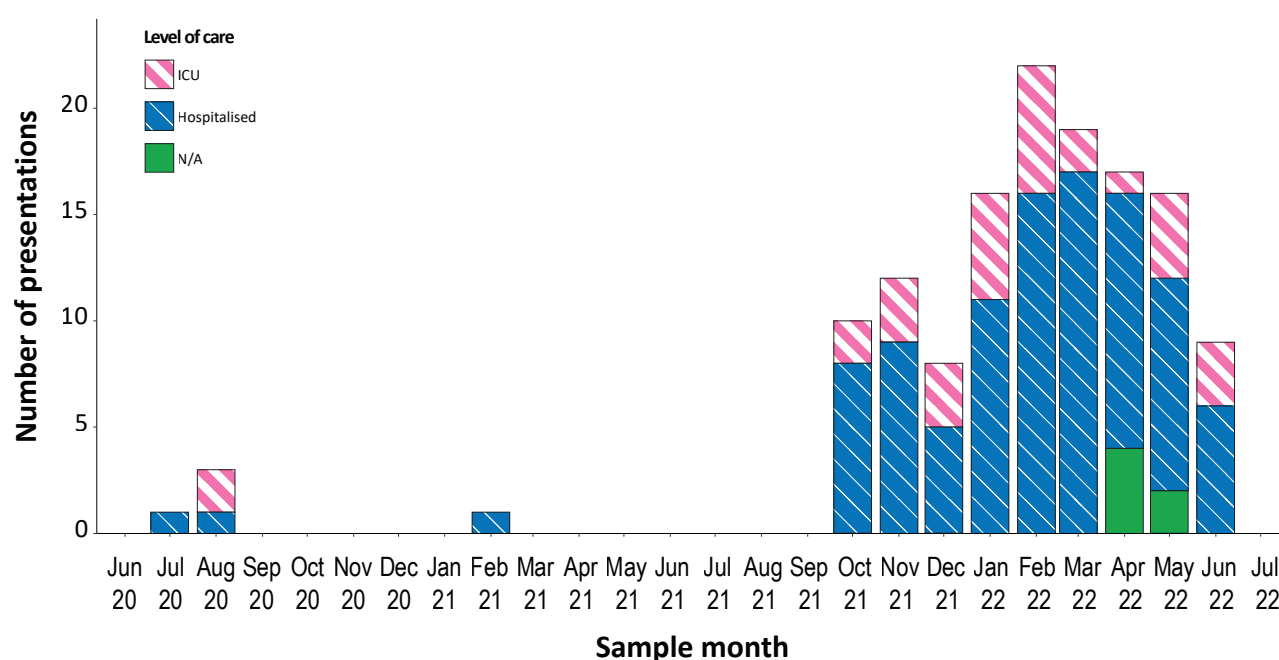
- a Source: NNDSS extract from 14 July 2022 for notifications to 3 July 2022. Includes cases with an illness onset from 31 May 2021 to 19 June 2022; cases with an illness onset in the last two weeks (20 June – 3 July 2022) were excluded to account for the delay between onset and development of severe illness.

Table 7: Comorbidities for adult COVID-19 cases (aged greater than or equal to 18 years) amongst those admitted to ICU, Australia, 15 December 2021 – 3 July 2022^a

Comorbidity	ICU cases ^a (n = 2,146) (%)
Cardiac disease (n = 2,124)	531 (25%)
Chronic respiratory condition (n = 2,123) ^b	503 (24%)
Diabetes (n = 2,112)	709 (34%)
Obesity (n = 2,084)	527 (25%)
Chronic renal disease (n = 2,108)	329 (16%)
Chronic neurological condition (n = 2,112)	131 (6%)
Malignancy (n = 2,119)	255 (12%)
Chronic liver disease (n = 2,117)	115 (5%)
Immunosuppression (n = 2,099)	387 (18%)
Number of specified comorbidities (n = 2,146)^c	
No comorbidities	530 (25%)
One or more	1,616 (75%)
Two or more	1,020 (48%)
Three or more	535 (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 2020 – 3 July 2022^a



a Source: PAEDS.

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 7). In adult patients admitted to ICU with COVID-19 since 15 December 2021, the most prevalent comorbidity was diabetes, followed by cardiac disease and obesity (a body mass index of > 30 or weight over 120 kg). Of those adult patients admitted to ICU since 15 December 2021 for whom comorbidity data was known, 75% (1,616/2,146) had at least one comorbidity; 25% of patients (530/2,146) had none of the listed comorbidities recorded.

PIMS-TS (PAEDS)

Since the start of the pandemic to 3 July 2022, there have been 134 cases of paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS) reported to Paediatric Active Enhanced Disease Surveillance (PAEDS), including 99 cases reported in 2022, seven of which have been reported in the current reporting period, compared to 14 in the previous reporting period (Figure 5). The majority of PIMS-TS cases to date have occurred in those aged 5 to < 12 years (55%; 74/134), followed by those aged 6 months to < 5 years (25%; 33/134). To date, there have been no PIMS-TS-associated deaths.

Table 8: Deaths associated with COVID-19 by reporting period, Australia, 1 January 2020 – 3 July 2022^{a,b}

Jurisdiction ^c	6 – 12 June 2022	13 – 19 June 2022	20 – 26 June 2022	27 June – 3 July 2022	15 December 2021 – 3 July 2022 (Omicron wave)	1 January 2020 – 3 July 2022 (Pandemic to date)
ACT	1 (0.4%)	4 (1.8%)	0 (0.0%)	3 (1.8%)	55 (0.7%)	67 (0.7%)
NSW	95 (38.3%)	91 (40.3%)	99 (46.9%)	56 (33.1%)	3,005 (40.7%)	3,752 (38.5%)
NT ^d	0 (0.0%)	1 (0.4%)	1 (0.5%)	0 (0.0%)	54 (0.7%)	56 (0.6%)
Qld ^d	31 (12.5%)	47 (20.8%)	45 (21.3%)	44 (26.0%)	1,333 (18.0%)	1,358 (13.9%)
SA	9 (3.6%)	15 (6.6%)	6 (2.8%)	0 (0.0%)	527 (7.1%)	531 (5.4%)
Tas. ^d	1 (0.4%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	20 (0.3%)	47 (0.5%)
Vic. ^d	90 (36.3%)	66 (29.2%)	59 (28.0%)	63 (37.3%)	2,132 (28.9%)	3,667 (37.6%)
WA ^{d,e}	21 (8.5%)	2 (0.9%)	0 (0.0%)	3 (1.8%)	260 (3.5%)	269 (2.8%)
Total	248 (100.0%)	226 (100.0%)	211 (100.0%)	169 (100.0%)	7,386 (100.0%)	9,747 (100.0%)

a Source: NNDSS, extract from 14 July 2022 for deaths to 3 July 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.

d At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS.

e Data was not available from Western Australia since 29 June 2022.

COVID-19 deaths

There were 854 COVID-19-associated deaths among COVID-19 cases notified during the reporting period. This brings the total number of COVID-19-associated deaths reported in NNDSS to 9,747 (Table 8).

Across all age groups, the population mortality rate for the current Omicron wave to date has exceeded that of the Delta wave. For those aged 70–79 years, the population mortality rate during the Omicron wave is almost four

times as high as that observed during the Delta wave, and in those aged 90 years and over, the population mortality rate during the Omicron wave is more than eight times higher than that observed during the Delta wave (Table 9). The higher mortality rates 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.

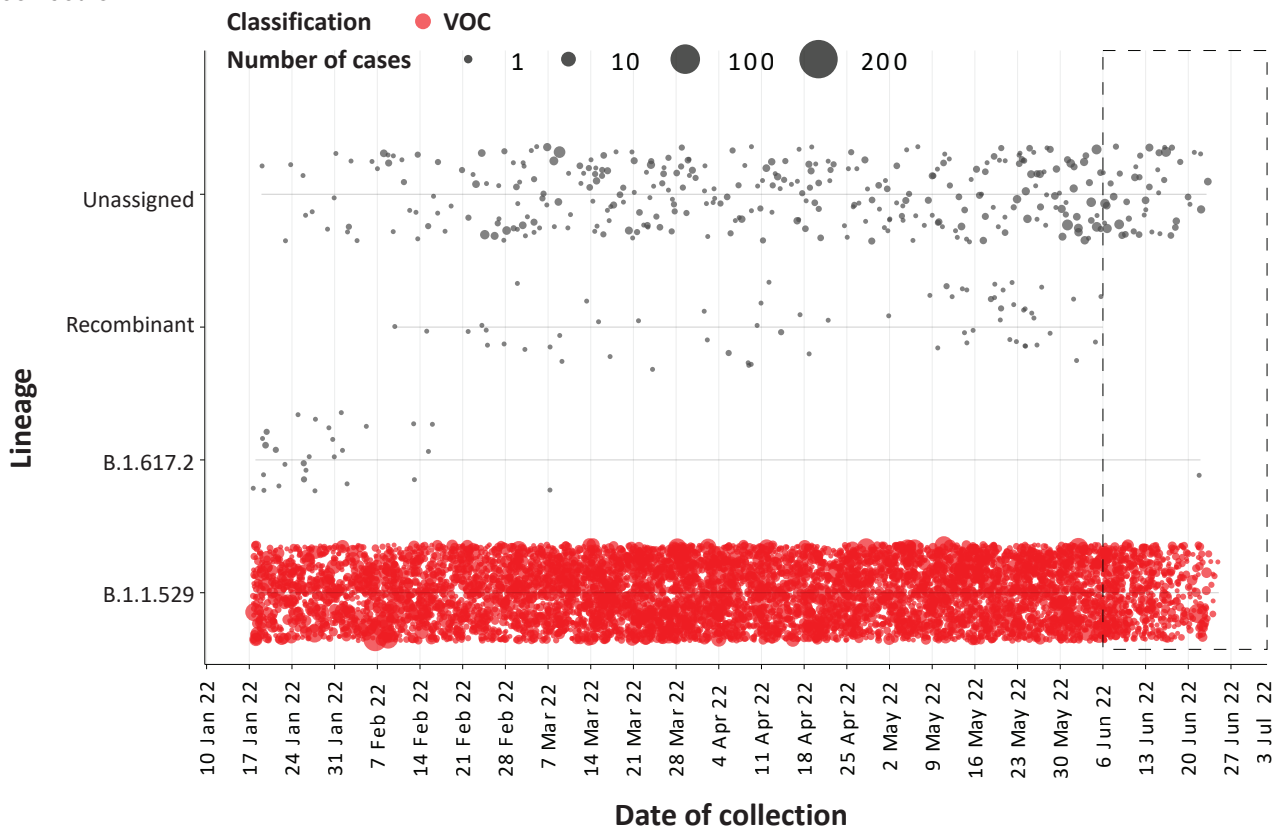
Table 9: COVID-19-associated deaths notified to NNDSS, by age group and date of onset, 1 January 2020 to 3 July 2022^a

Age group (years)	15 December 2021 – 3 July 2022 (Omicron wave)		16 June 2021 – 14 December 2021 (Delta wave)		1 January 2020 – 3 July 2022 (Pandemic to date)	
	Deaths	Population mortality rate ^b	Deaths	Population mortality rate ^b	Deaths	Population mortality rate ^b
0–4	9	0.6	0	0.0	9	0.6
5–11	1	< 0.05	1	< 0.05	2	0.1
12–15	2	0.2	1	0.1	3	0.2
16–17	2	0.3	0	0.0	2	0.3
18–29	24	0.6	8	0.2	33	0.8
30–39	56	1.5	22	0.6	80	2.1
40–49	111	3.4	49	1.5	162	4.9
50–59	251	8.0	124	3.9	390	12.4
60–69	640	23.4	217	7.9	894	32.7
70–79	1,478	75.7	372	19.1	2,017	103.3
80–89	2,704	308.6	446	50.9	3,534	403.3
90+	2,059	927.7	231	104.1	2,615	1,178.2
Total	7,343	28.5	1,471	5.7	9,747	37.9

a Source: NNDSS, extract from 14 June 2022 for deaths to 3 July 2022. At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.

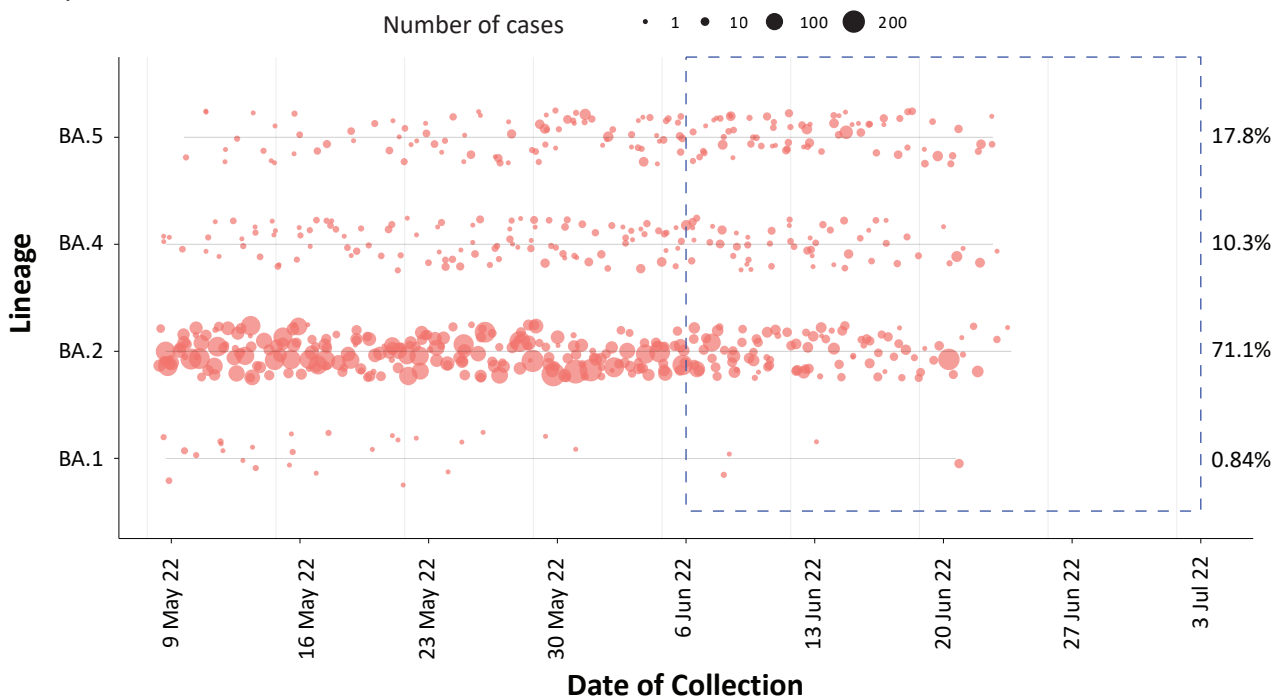
b Population mortality rates are presented per 100,000 population for the given time period.

Figure 6: Samples in AusTrakka from 10 January 2021 to 3 July 2022, by lineage and date of collection^a



a The current reporting period (6 June to 3 July 2022) is marked by the dashed lines, and variant of concern samples are coloured red. The size of the circle is proportional to the number of samples in the lineage at each time point.

Figure 7: Sequences in AusTrakka by Omicron sub-lineage and collection date, 9 May to 3 July 2022^a



a The current reporting period (6 June to 3 July 2022) is marked by the dashed lines. The size of the circle is proportional to the number of samples in the lineage at each time point.

Genomic surveillance and virology

Communicable Disease Genomics Network, AusTrakka and jurisdictional sequencing laboratories)

Nationally, 2.74% of confirmed COVID-19 case strains were sequenced since the start of the pandemic in January 2020, based on jurisdictional reporting (Table 10). Case numbers and sequencing proportion are based on PCR results only, as rapid antigen tests do not allow for sequencing. The significant rise in case numbers nationally during recent reporting periods has required jurisdictional laboratories to move towards sequencing for surveillance purposes, resulting in a drop in the overall sequencing proportion. However, overall output of number of cases sequenced remains similar to, or higher than, previous periods (Figure 6).

Variants of concern (VOC)

AusTrakka⁷ is actively monitoring and reporting on the one lineage 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. The CDGN VOC working group demoted four previously-designated VOCs (Alpha (B.1.1.7); Beta (B.1.351), Gamma (P.1) and Delta (B.1.617)) 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

For samples collected in the four-week period from 6 June to 3 July 2022, the BA.2 sub-lineage constituted 71.1% (1,518/2,135) of all Omicron lineages. While BA.2 remains the predominant sub-lineage being sequenced, the proportion of BA.2 sequences has decreased substantially from > 93% of all new sequences in the previous reporting period (ending 5 June 2022). Of the Omicron sequences in AusTrakka to date, 41.8% are BA.1; 56.2% are BA.2; 0.001% are BA.3; 0.94% are BA.4; and 1.13% are BA.5. All sub-sub-lineages have been collapsed into their respective major sub-lineage.

Table 10: Australian SARS-CoV-2 genome sequences and proportion of positive cases sequenced, 6 June – 3 July 2022 and cumulative to date

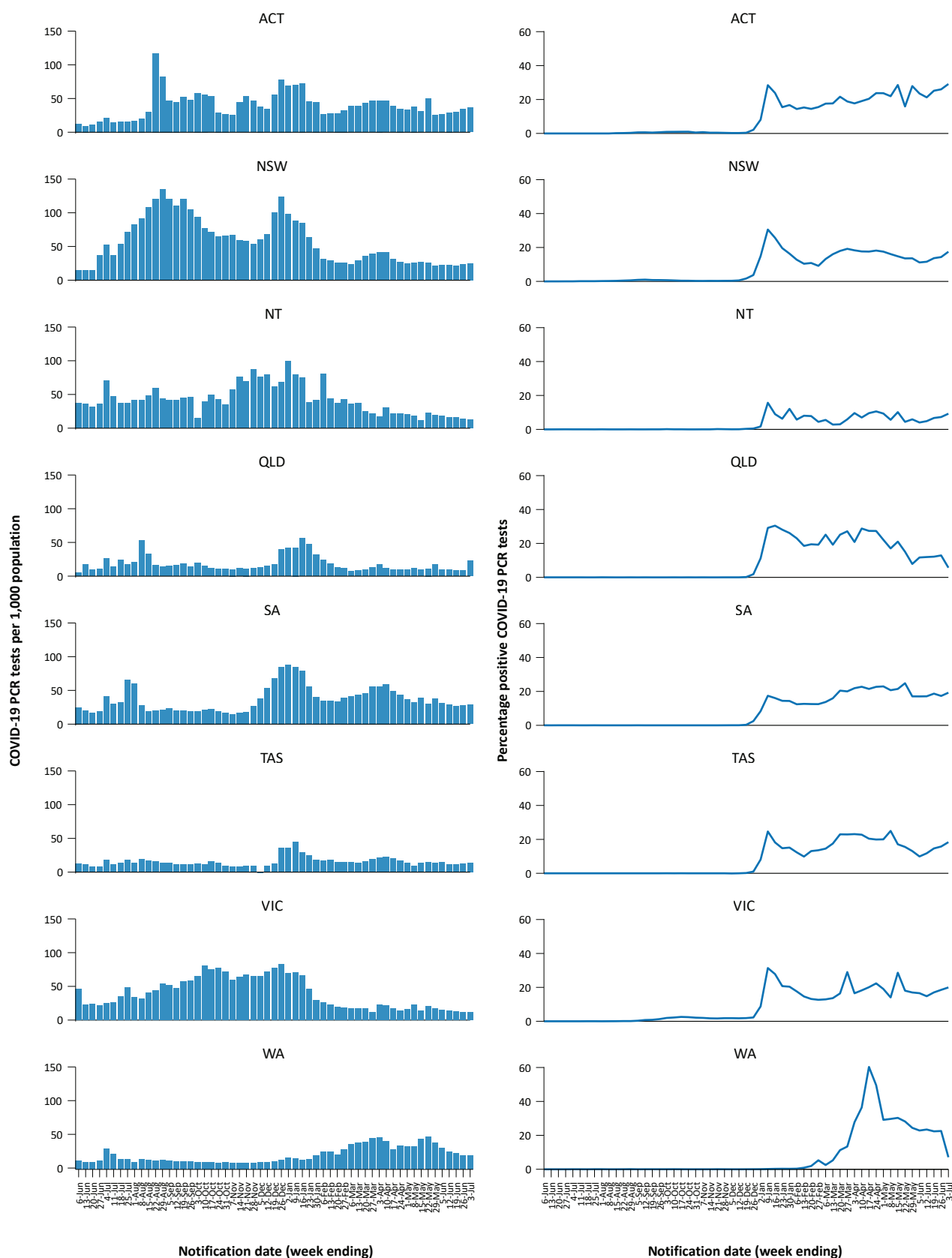
Measure	Reporting period 6 June – 3 July 2022 ^a	Cumulative 23 January 2020 – 3 July 2022
SARS-CoV-2 cases sequenced ^b	7,940	113,947
Percentage of positive cases sequenced ^c	2.6%	2.7%

a Sequence data for some jurisdictions (Queensland, Northern Territory and Western Australia) was only available up until 30 June 2022. Data from these jurisdictions for 1–3 July 2022 will be included in the next reporting period.

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 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).

Figure 8: SARS-CoV-2 polymerase chain reaction (PCR) testing rates per 1,000 population and percent positivity by jurisdiction and date of notification, 31 May 2021 – 3 July 2022^a



^a Source: testing data provided by jurisdictions to the NIR daily, current to 3 July 2022; case data extracted from NNDSS on 14 July 2022 for cases with a notification date up to 3 July 2022; population data based on Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2021. Note: data was not available for Western Australia since 29 June 2022.

Testing

(State and territory reporting)

From the commencement of the pandemic to 3 July 2022, over 74 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.

During the four-week reporting period from 6 June to 3 July 2022, over 2 million PCR tests were conducted. During the reporting period, there was an overall increase in weekly PCR

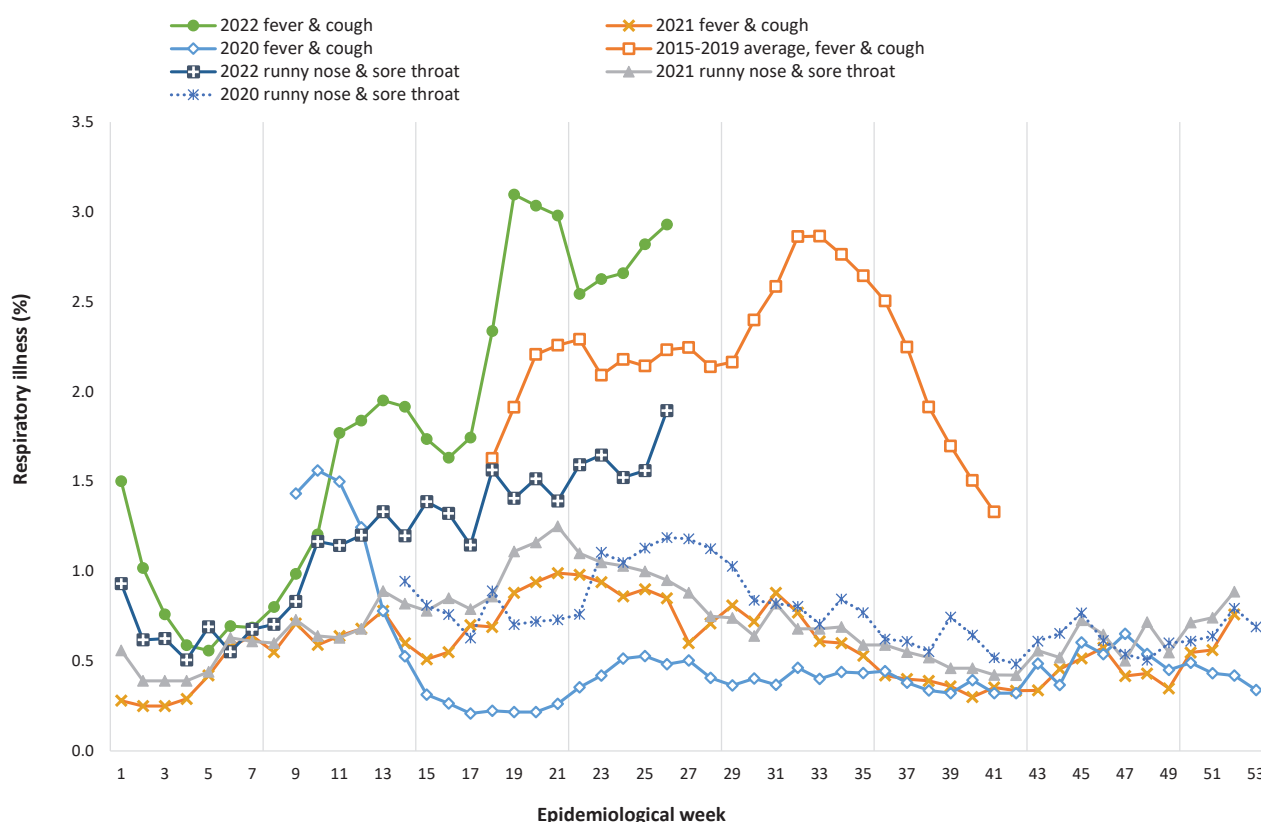
testing rates in the Australian Capital Territory, New South Wales, Queensland, and Tasmania, with a decrease in PCR testing rates occurring in all other jurisdictions (Figure 8). In the week ending 3 July 2022, PCR percent positivity by jurisdiction ranged from 5.7% in Queensland to 29.1% in the Australian Capital Territory.

Acute respiratory illness

(FluTracking, ASPREN, and Commonwealth Respiratory Clinics)

Based on self-reported FluTracking data,⁸ the prevalence of fever and cough in the community over this reporting period increased to 2.9% for the week ending 3 July 2022 (Figure 9). This is almost double the rate observed during

Figure 9: Weekly trends in respiratory illness amongst FluTracking survey participants (age-standardised) compared to the average of the previous five years, Australia, by epidemiological week,^a 1 January 2020 – 3 July 2022^b



- a Epidemiological weeks are a standardised method for numbering weeks across years, with the first epidemiological week of any year ending on the first Saturday in January.
- b 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. 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.

the peak of cases in the first Omicron wave in January 2022, which was 1.5% during the week ending 9 January 2022. There was also an overall increase in the prevalence of runny nose and sore throat symptoms, increasing to 1.9% in the most recent reporting week, which is notably higher than the prevalence of 0.9% that was observed for this set of symptoms during the peak of the first Omicron wave in January 2022.

In this reporting period, acute respiratory illness was highest in those aged 0 to 9 years, based on both self-reported FluTracking data and presentations to Commonwealth Respiratory Clinics. Throughout the reporting period, fever and cough symptoms were observed more commonly in younger age groups and generally decreased with age, whilst the rate of runny nose and sore throat symptoms were highest in those aged 30 to 39 years.

Over the reporting period, FluTracking data indicated that 31% of participants with 'fever and cough' were tested for SARS-CoV-2 with a PCR test and 80% 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, 11% were tested for SARS-CoV-2 using a PCR test and 65% were tested using a RAT. Of those with fever and cough who tested for SARS-CoV-2, 45% who were tested with a PCR test, and 44% who were tested with a RAT, were positive. Notably, the proportion of those with fever and cough that tested positive, regardless of test type, increased by approximately 20% throughout the reporting period. In comparison, of participants with runny nose and sore throat who tested for SARS-CoV-2, 17% of those tested by PCR, and 11% of those tested by RAT, tested positive. 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 chronic diseases, such as asthma.

From 6 June to 3 July 2022, there were 82,162 presentations to Commonwealth Respiratory Clinics. Of these, there were 73,715 presentations with consent to share information, with 86% of these (63,149 /73,715) tested for SARS-CoV-2. Of those tested, 12% (7,577 /63,149) were found to be positive. The most commonly reported symptom amongst presentations that tested positive for COVID-19 was sore throat (56%), followed by cough (53%) and tiredness (44%).

From 6 June to 3 July 2022, there were 688 respiratory illness presentations to the Australian Sentinel Practices Research Network (ASPREN) and Victorian Sentinel Practice Influenza Network (VicSPIN), representing 10% (688/67,329) of all presentations. Respiratory illness presentations to ASPREN and VicSPIN more than doubled when compared to the previous four-week reporting period. During the reporting period, of those presenting to sentinel ASPREN sites with influenza-like illness who were tested for respiratory viruses, 68% (90/133) tested positive. Among those positive, the most common virus detected was influenza A (53%; 48/90), followed by rhinovirus (18%; 16/90); of those testing positive, 7% (6/90) were positive for SARS-CoV-2.

Countries and territories in Australia's near region

According to WHO, countries and territories in the South East Asian and Western Pacific regions reported 3,874,084 newly-confirmed cases and 7,885 deaths in the four-week period to 3 July 2022. Compared to the previous four-week reporting period, new cases increased substantially in South East Asia and decreased in the Western Pacific, whilst new deaths decreased in South East Asia and increased in the Western Pacific.⁹ In total, since the start of the pandemic, over 123 million cases and over 1 million deaths have been reported in the two regions.¹⁰

Table 11 outlines new cases and deaths in the four-week period to 3 July 2022 and cumulative cases and deaths for the pandemic in selected countries with the highest number of new cases in the South East Asian region and the Western Pacific region.

As of 3 July 2022, over 547 million COVID-19 cases and approximately 6.3 million deaths have been reported globally since the start of the pandemic, with a global case fatality rate (CFR) of 1.2%. The two regions reporting the largest burden of disease over the past four weeks were the European region (44% of total cases) and the Americas region (32% of total cases).

Table 11: Cumulative cases and deaths, and new cases and deaths reported in the four-week period to 3 July 2022 for selected countries in Australia's near region according to WHO^a

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 Asian region						
Indonesia	6,093,917	37,117	+344%	156,749	134	-43%
Thailand	4,530,105	63,312	-55%	30,700	529	-51%
India	43,502,429	325,612	+336%	525,199	507	-19%
Bangladesh	1,978,689	25,066	+2942%	29,162	31	+675%
Western Pacific region						
China	4,841,957	1,511,919	-26%	21,499	4,076	+104%
Republic of Korea	18,389,611	225,925	-64%	24,562	304	-66%
Vietnam	10,748,127	23,573	-53%	43,087	7	-72%
Japan	9,375,972	462,945	-46%	31,297	562	-41%
Australia	8,156,829	782,887	-35%	9,930	1,268	+5%
Philippines	3,706,948	15,621	+222%	60,555	99	482%

a Source: World Health Organization Coronavirus (COVID-19) Dashboard, accessed 12 July 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.

Acknowledgements

We thank public health staff from incident emergency operations centres and public health units in state and territory health departments, and the Australian Government Department of Health and Aged Care, along with state and territory public health laboratories. We thank those who have provided data from surveillance systems, such as Commonwealth respiratory clinics, ASPREN, FluTracking, FluCAN, SPRINT-SARI, Communicable Disease Genomics Network, AusTrakka and jurisdictional sequencing laboratories.

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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 – 3 July 2022^{a,b}

Age group	Four-week reporting period						Current 'Omicron' wave							
	6 June – 3 July 2022			15 December 2021 – 3 July 2022			15 December 2021 – 3 July 2022			15 December 2021 – 3 July 2022				
	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	Male	Female	People	Male	Female	People	Male	Female	People	Male	Female	People
0–4	14,085	13,536	30,786	1,800	1,833	2,024	150,618	143,043	322,315	19,247	19,373	21,192	19,373	21,192
5–11	19,708	18,803	44,339	1,678	1,688	1,938	308,629	294,757	670,965	26,279	26,468	29,325	26,468	29,325
12–15	11,833	12,645	27,925	1,812	2,044	2,196	182,442	185,502	413,434	27,939	29,989	32,514	29,989	32,514
16–17	5,944	6,991	14,638	1,959	2,442	2,482	81,340	92,982	190,467	26,803	32,472	32,293	32,472	32,293
18–29	43,535	55,330	108,702	2,102	2,781	2,677	642,855	739,217	1,472,767	31,035	37,157	36,267	37,157	36,267
30–39	48,287	59,363	119,283	2,590	3,098	3,155	526,644	619,283	1,237,512	28,248	32,318	32,733	32,318	32,733
40–49	42,515	52,345	105,026	2,604	3,149	3,187	422,306	503,779	1,004,071	25,865	30,306	30,472	30,306	30,472
50–59	38,297	47,585	94,106	2,495	2,958	2,994	321,521	367,853	739,045	20,949	22,864	23,509	22,864	23,509
60–69	28,600	32,326	65,906	2,156	2,290	2,407	213,049	230,114	470,952	16,064	16,301	17,201	16,301	17,201
70–79	16,884	17,035	35,430	1,785	1,692	1,815	118,821	115,470	244,912	12,561	11,470	12,543	11,470	12,543
80–89	7,696	8,831	16,973	1,986	1,807	1,937	48,859	52,387	104,639	12,607	10,718	11,941	12,607	11,941
90+	2,083	3,817	6,028	2,678	2,648	2,716	11,616	20,409	32,951	14,933	14,158	14,847	14,933	14,847

a Source: NNDSS, extract from 14 June 2022 for deaths to 3 July 2022. At the time of extraction, RAT probable cases were not yet available from the Northern Territory, or Tasmania; nor from Victoria since 13 June 2022, nor from Western Australia since 26 June 2022. At the time of extraction, Queensland was only reporting RAT cases that were conducted in a clinical setting; self-administered RAT probable cases were not reported to NNDSS. Data was not available from Western Australia since 29 June 2022.

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