

Australian Respiratory Surveillance Report

Viral Respiratory Diseases Epidemiology and Surveillance Section

Report 10, 2024

Key messages

This report presents a national epidemiological update for coronavirus disease 2019 (COVID-19), influenza and respiratory syncytial virus (RSV) with a focus on the current reporting period (29 July to 11 August 2024) and earlier severity reporting periods (up to 28 July 2024).

Activity: In recent weeks, respiratory illness activity (self-reported new fever and cough symptoms) in the community has decreased and is currently lower than the levels of activity observed in the same period in previous years. General practice consultation rates for respiratory illnesses (new fever and cough symptoms) monitored through sentinel surveillance sites have decreased in the last fortnight but remain slightly higher than consultation rates observed in previous years. Nationally, COVID-19 activity has been decreasing since early June 2024, and RSV activity has been decreasing since late May 2024, except in Western Australia where RSV activity is increasing. Influenza activity is not consistent across jurisdictions, with influenza notifications decreasing steadily in New South Wales and increasing in other jurisdictions, particularly the Northern Territory, Queensland, South Australia and Western Australia.

Severity: The number of patients hospitalised with COVID-19 monitored through sentinel hospital-based surveillance has been decreasing since reaching an apparent peak in May 2024. The number of patients hospitalised with influenza, monitored through sentinel hospital-based surveillance, has followed an increasing trend since April 2024. In 2024, the proportion of those patients with a severe acute respiratory infection (SARI) who were admitted directly to an intensive care, monitored through sentinel hospital-based surveillance, has remained low and stable. Nationally, the number of patients admitted to sentinel intensive care surveillance sites with COVID-19 or influenza have increased across July 2024, whereas the number of patients admitted with RSV have followed a decreasing trend since May 2024. Patients with COVID-19 accounted for more than half of the SARI admissions at sentinel intensive care surveillance sites.

At-risk populations: For patients admitted with a SARI to sentinel intensive care sites, the largest proportion of in-hospital mortality has been in those aged 60 years or over. Nationally, in the year to date, age-specific mortality rates for COVID-19, influenza and RSV cases have been highest among those aged 70 years or over.

Impact: The proportion of people taking time off work due to respiratory illness (self-reported new fever and cough symptoms) decreased last fortnight, compared with the previous fortnight. Nationally, the mean number of COVID-19 cases in intensive care this fortnight decreased compared with the previous fortnight, while the mean number of intensive care staff unavailable due to COVID-19 illness or exposure increased during the last fortnight.

Genomic surveillance and virology: Nationally, the Omicron BA.2.86 sublineage, JN.1, remains the dominant circulating sub-lineage (which includes the KP, JN.1.17, and JN.1.8 sub-sub-lineages). The KP.3 sub-sub-lineage represents the most common JN.1 sub-lineage in AusTrakka, followed KP.2, JN.1.18 and JN.1.7. In this year to date, influenza A has accounted for most influenza notifications nationally.

Vaccine coverage, effectiveness and match: It is too early to assess influenza vaccine effectiveness for the 2024 influenza season. COVID-19 and RSV vaccination data will be included in future iterations of the Australian Respiratory Surveillance Report.

Introduction

This Australian Respiratory Surveillance Report was prepared by Jenna Hassall, Suzie Whitehead and Aaliya Ibrahim on behalf of the interim Australian Centre for Disease Control. We thank the staff and participants from the surveillance systems who contribute data for acute respiratory illness surveillance across Australia.

The Australian Respiratory Surveillance Reports present a national overview of acute respiratory infections in Australia, drawing information from several different surveillance systems. Our surveillance systems help us to understand the distribution of acute respiratory illness activity in the community, the severity of disease, which populations might be at risk of severe disease, and the impact of acute respiratory illness on the community and health system in Australia. Surveillance indicators presented in this report are based on the [Australian National Surveillance Plan for COVID-19, Influenza, and RSV](#).

A summary of data considerations for this Australian Respiratory Surveillance Report are provided below. Please refer to the [Technical Supplement – Australian Respiratory Surveillance Report](#) for further detail on our surveillance sources and data considerations, including the considerable impact of the COVID-19 pandemic on acute respiratory infection surveillance in Australia.

Data considerations

- Due to the dynamic nature of the surveillance systems used in this report, surveillance data are considered preliminary and subject to change as updates are received, with the most recent weeks considered particularly incomplete. Data in this report may vary from data reported in other national reports and reports by states and territories. Data in this report are presented by *International Organization for Standardization (ISO) 8601* weeks, where the week ends on a Sunday.
- In Australia, states and territories report notified cases to the **National Notifiable Diseases Surveillance System (NNDSS)** based on the [Australian national surveillance case definitions](#). From 1 July 2024, only laboratory-confirmed COVID-19 cases are notified to the NNDSS and included in this report (except where specified otherwise). NNDSS data are analysed and reported based on diagnosis date, which is the true onset date of a case if known, otherwise it is the earliest of the specimen date, the notification date, or the notification received date. NNDSS data were extracted on 14 August 2024.
- To account for the lag in collection and provision of severity data from some surveillance systems, and for the time delay between illness onset and the development of severe disease outcomes, cases with an admission date or a diagnosis date in the last two weeks are excluded from severity analyses, which includes analyses of hospitalisations, intensive care admissions and deaths. As such, the severity reporting periods are two weeks behind the current reporting period. For this report, severity reporting includes data up to 28 July 2024.
- While every care has been taken in preparing this report, the Australian Government Department of Health and Aged Care does not accept liability for any injury or loss or damage arising from the use of, or reliance upon, the content of the report or Technical Supplement. For further information about this report please refer to the [Technical Supplement – Australian Respiratory Surveillance Report](#) or contact respiratory.surveillance@health.gov.au.

1. Activity

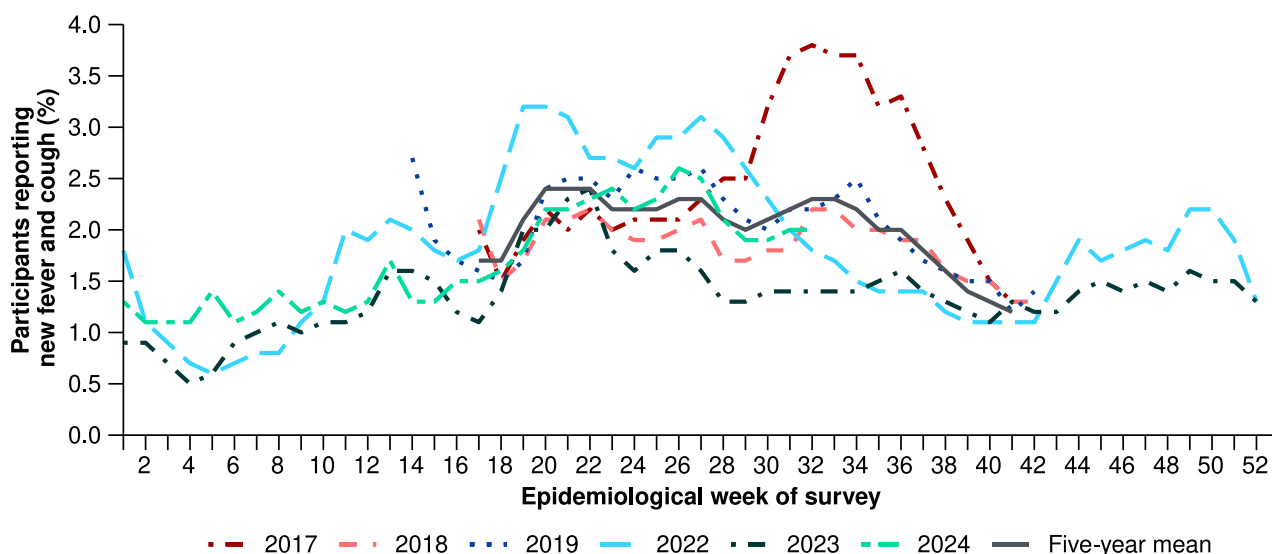
Activity measures the capacity of the circulating respiratory viruses to spread from person to person and may be measured indirectly through systems that monitor acute respiratory illnesses and more directly through systems that monitor cases.

1.1 Community-based surveillance

FluTracking

- This fortnight (29 July to 11 August 2024), the mean incidence of new fever and cough among FluTracking participants was 2.0%, an increase compared with the mean incidence of 1.9% in the previous fortnight (Figure 1). Note, FluTracking data are age standardised.
- This fortnight, 14.4% (183/1,273) of FluTracking participants who reported new fever and cough symptoms reported testing for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) with a polymerase chain reaction (PCR) test and 61.2% (779/1,273) reported testing with a rapid antigen test (RAT) (noting that in some instances a RAT will be followed by a PCR test for the same participant, or vice versa).
 - This fortnight, the self-reported percent positivity among participants with new fever and cough symptoms increased for SARS-CoV-2 PCR tests (9.8%; 18/183) and increased for RATs (25.3%; 197/779) compared with the previous fortnight (8.7% [20/229] and 20.5% [180/878] respectively).
- This fortnight, 22.3% (284/1,273) of FluTracking participants with new fever and cough symptoms reported testing for influenza with a PCR test.
 - This fortnight, the self-reported percent positivity among participants with new fever and cough symptoms decreased for influenza PCR tests (35.9%; 102/284), compared with the previous fortnight (39.8%; 136/342).
- In the year to date, the incidence of new fever and cough symptoms reported to FluTracking has fluctuated, peaking in the week ending 30 June 2024 at 2.6% (Figure 1). The incidence of fever and cough is currently similar to the proportion observed in the same period across most previous years but lower than the proportion observed in the same period for the five-year mean (Figure 1).

Figure 1: Age standardised percentage of FluTracking participants reporting new fever and cough symptoms compared with the five-year mean by year and week of report*, Australia, 2017 to 11 August 2024

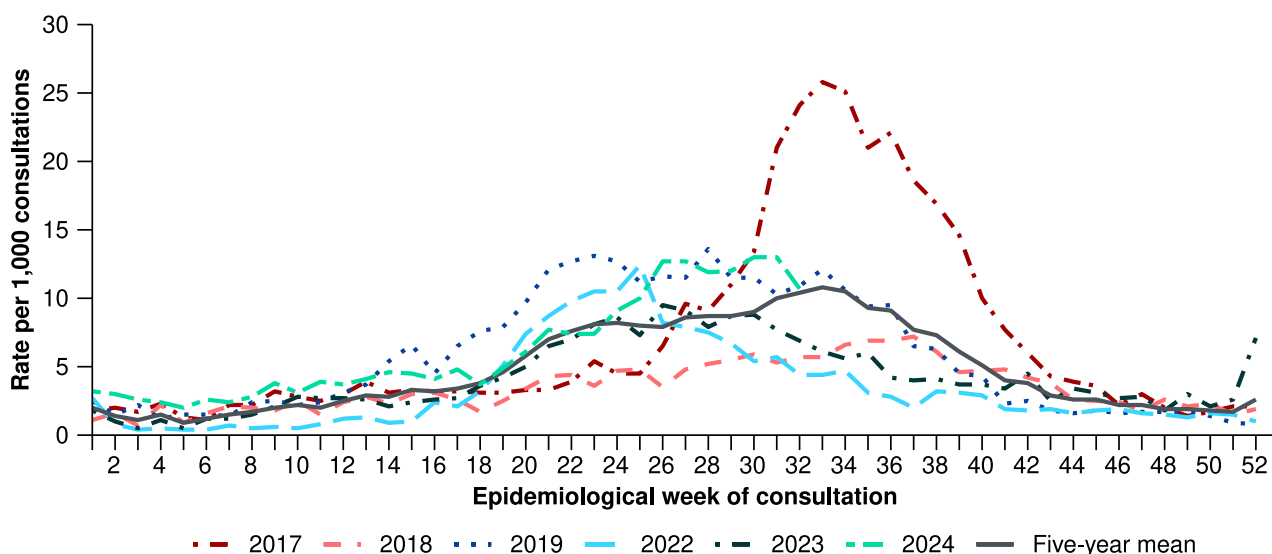


* FluTracking has expanded the reporting period from 2020 onwards due to COVID-19. As such, five-year historical comparisons are not available for data reported before May and after October for any year before 2020. The years 2020 and 2021 are excluded when comparing the current season to historical periods when influenza virus has circulated without public health restrictions. As such, the five-year mean includes the years 2017 to 2019 and 2022 to 2023. Please refer to the Technical Supplement for interpretation of the five-year mean and for notes on impact of COVID-19 on FluTracking data.

Australian Sentinel Practice Research Network (ASPREN)

- This fortnight (29 July to 11 August 2024), a mean rate of 11.9 per 1,000 consultations per fortnight due to new fever and cough symptoms were reported by ASPREN sentinel general practitioners and nurse practitioners. This is a decrease compared with 12.5 per 1,000 consultations in the previous fortnight (Figure 2).
- This fortnight, 142 people presented to ASPREN sentinel general practitioners and nurse practitioners with new fever and cough symptoms and were tested for respiratory pathogens. Of those, 71.8% (102/142) tested positive for a respiratory pathogen.
 - Among those positive for a respiratory pathogen, the most common respiratory pathogen reported was rhinovirus (31.4%; 32/102). Other respiratory pathogens detected included influenza (30.4%; 31/102), parainfluenza type-3 (11.8%; 12/102), and SARS-CoV-2 (8.8%; 9/102).
- In the year to date, the rate of new fever and cough symptoms per 1,000 consultations per week has generally remained above the rate observed in the corresponding weeks of earlier years (excluding 2017 in recent weeks) and the five-year mean (Figure 2).
- In the year to date, 1,726 people presented to ASPREN sentinel general practitioners and nurse practitioners with new fever and cough symptoms and have been tested for respiratory pathogens. Of those, 67.4% (1,163/1,726) have tested positive for a respiratory pathogen.
 - Among those positive for a respiratory pathogen, the most common respiratory pathogen reported has been rhinovirus (30.0%; 349/1,163). Other respiratory pathogens detected included influenza (24.6%; 286/1,163), SARS-CoV-2 (13.3%; 155/1,163), RSV (10.0%; 116/1,163), *mycoplasma pneumoniae* (6.5%; 76/1,163) and parainfluenza type-3 (4.5%; 52/1,163).

Figure 2: Rate of new fever and cough symptoms per 1,000 consultations per week with ASPREN sentinel general practitioners and nurse practitioners compared with the five-year mean by year and week of consultation*†, Australia, 2017 to 11 August 2024



* The years 2020 and 2021 are excluded when comparing the current season to historical periods when influenza virus has circulated without public health restrictions. As such, the five-year mean includes the years 2017 to 2019 and 2022 to 2023. Please refer to the Technical Supplement for interpretation of the five-year mean.

† Please refer to the Technical Supplement for notes on impact of COVID-19 on ASPREN data.

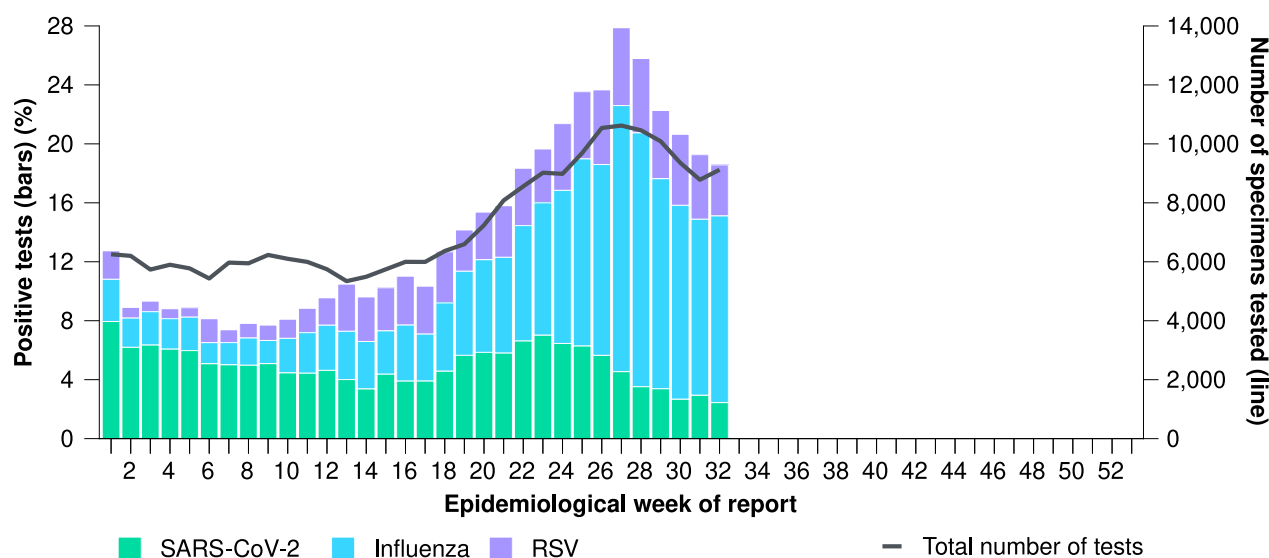
1.2 Laboratory-based surveillance

Sentinel laboratories, including National Influenza Centres

- This fortnight (29 July to 11 August 2024), 2.7% (482/17,904) of samples tested for SARS-CoV-2 across sentinel laboratories have been positive for SARS-CoV-2, a slight decrease in positivity compared with the previous fortnight (3.0%; 593/19,446) (Figure 3).
- This fortnight, 12.6% (2,705/21,511) of the samples tested for influenza across sentinel laboratories have been positive for influenza, a decrease in positivity compared with the previous fortnight (13.9%; 3,183/22,877) (Figure 3).
- This fortnight, 3.9% (701/17,904) of the samples tested for RSV across sentinel laboratories have been positive for RSV, a decrease in positivity compared with the previous fortnight (4.7%; 918/19,446) (Figure 3).
- This fortnight, the most commonly detected respiratory viruses by sentinel laboratory site and week were:
 - New South Wales: influenza A (both weeks)
 - South Australia: influenza A (both weeks)
 - Tasmania: influenza A (both weeks)
 - Victoria: SARS-CoV-2 (week 31) and picornavirus (week 32)
 - Western Australia: influenza A (both weeks).
- In the year to date, 4.9% (11,532/233,380) of samples tested for SARS-CoV-2 have been positive for SARS-CoV-2, 7.5% (20,406/273,135) of samples tested for influenza have been

positive for influenza and 3.2% (7,408/233,380) of samples tested for RSV have been positive for RSV (Figure 3).

Figure 3: Total number of specimens tested by sentinel laboratories and proportion of positive sentinel laboratory tests by pathogen and week of report^{*†}, 1 January to 11 August 2024



* Number of specimens tested excludes data from Western Australia as testing denominator data are different for the three pathogens in Western Australia.

† A small minority of total samples from Victoria are tested only by respiratory panel (influenza, parainfluenza, adenovirus, human metapneumovirus, seasonal coronaviruses, RSV, and some picornaviruses) but not for SARS-CoV-2. These minority samples include only forensic materials; all other samples are tested by respiratory panel and SARS-CoV-2 assay.

1.3 Case-based surveillance

NNDSS

- Nationally, COVID-19 activity has been decreasing since early June 2024, and RSV activity has been decreasing since late May 2024, except in Western Australia where RSV activity is increasing. Influenza activity is not consistent across jurisdictions, with influenza notifications decreasing steadily in New South Wales and increasing in other jurisdictions, particularly the Northern Territory, Queensland, South Australia and Western Australia.

Table 1: Notifications to the NNDSS and notification rate per 100,000 population by disease, five-year age group, and jurisdiction*†, Australia, 1 January to 11 August 2024

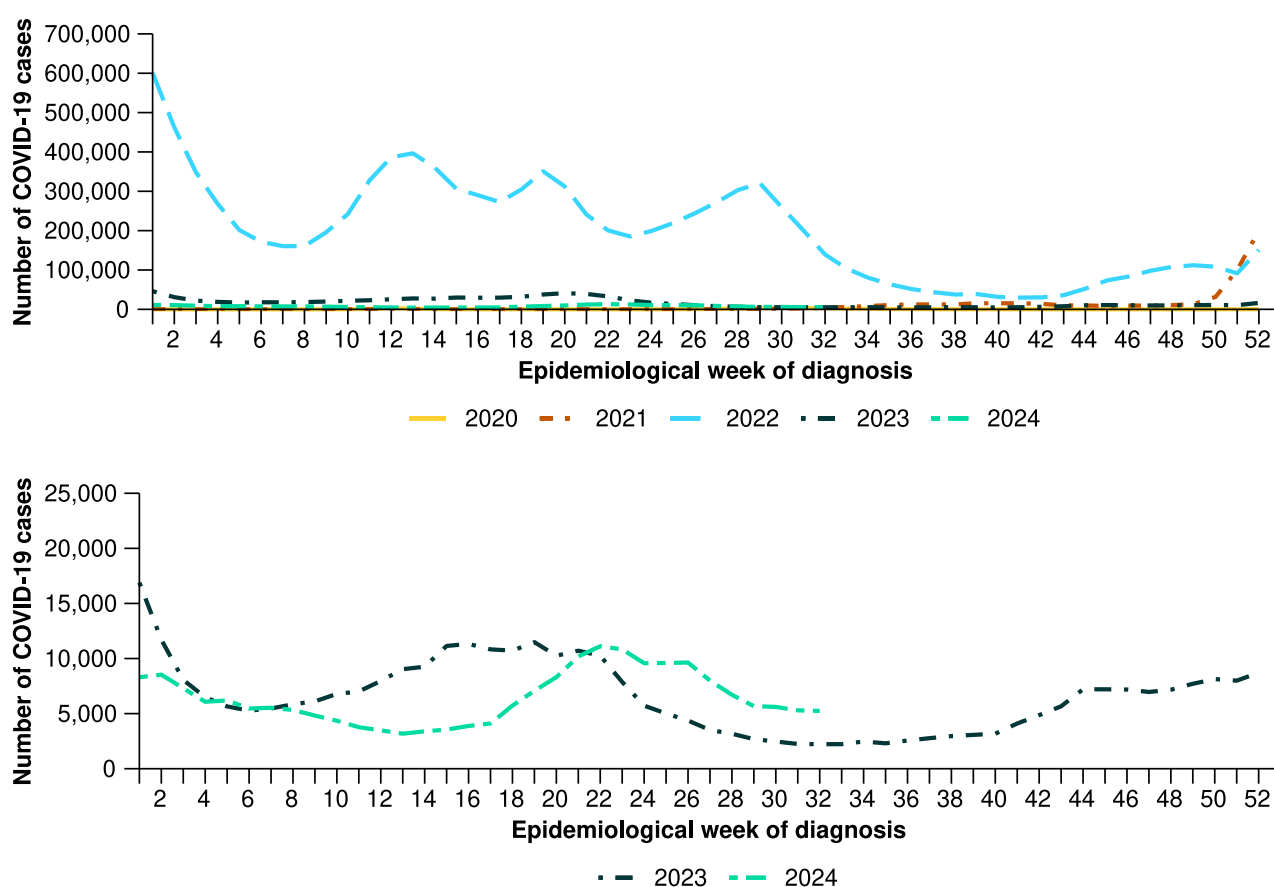
	COVID-19			Influenza			RSV		
	Reporting fortnight (n)	Year to date (n)	Year to date (rate)	Reporting fortnight (n)	Year to date (n)	Year to date (rate)	Reporting fortnight (n)	Year to date (n)	Year to date (rate)
Age group (years)									
0–4	833	16,702	1,101.7	5,437	39,034	2,574.8	3,099	71,995	4,749.0
5–9	373	4,690	291.2	5,832	41,902	2,602.0	668	11,419	709.1
10–14	368	4,776	288.2	4,125	26,848	1,619.9	420	5,498	331.7
15–19	394	5,801	360.6	2,891	17,897	1,112.4	233	2,957	183.8
20–24	362	6,755	390.0	2,074	13,843	799.3	142	2,253	130.1
25–29	414	8,711	453.3	2,455	15,517	807.5	158	2,581	134.3
30–34	550	10,393	524.2	2,478	17,217	868.4	211	3,408	171.9
35–39	693	11,318	584.0	2,602	18,759	968.0	226	3,430	177.0
40–44	630	10,778	605.4	2,277	16,922	950.6	190	2,869	161.2
45–49	540	9,894	612.9	1,725	13,066	809.4	193	2,769	171.5
50–54	556	10,549	627.8	1,673	12,260	729.6	216	3,408	202.8
55–59	506	10,287	675.2	1,491	10,483	688.0	216	3,398	223.0
60–64	549	11,096	731.6	1,415	9,995	659.0	272	3,893	256.7
65–69	564	11,651	878.0	1,166	8,062	607.6	219	3,836	289.1
70+	3,205	72,289	2,238.1	3,617	24,134	747.2	1,087	16,326	505.5
Jurisdiction									
ACT	121	3,468	742.9	620	3,695	791.5	57	2,466	528.3
NSW	4,577	90,239	1,082.1	11,807	141,435	1,696.0	2,200	61,625	739.0
NT	96	2,105	833.8	201	2,417	957.3	28	1,299	514.5
Qld	3,412	48,059	880.3	15,284	57,432	1,052.0	1,746	31,571	578.3
SA	260	13,434	725.5	3,008	14,996	809.8	1,204	9,122	492.6
Tas.	70	3,354	585.6	437	2,749	479.9	128	1,776	310.1
Vic.	1,620	33,905	497.7	7,702	53,027	778.4	1,039	26,839	394.0
WA	386	11,266	391.4	2,204	10,214	354.8	1,152	5,364	186.3
Total	10,542	205,830	772.7	41,263	285,965	1,073.5	7,554	140,062	525.8

* Rate per 100,000 population for the given time period. Population data are based on the Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at June 2023.

† Total includes cases with missing age.

- This year to date, COVID-19 notifications followed a decreasing trend from January through to mid-April before increasing to an apparent peak in early June 2024. COVID-19 notifications have decreased since the apparent peak, with notifications plateauing in recent weeks (Figure 4).
- Nationally, there were 10,542 COVID-19 notifications with a diagnosis date this fortnight (29 July to 11 August 2024), a decrease compared with 11,286 notifications in the previous fortnight (Figure 4).
- In the year to date, there have been 205,830 COVID-19 notifications reported to the NNDSS. This is approximately 14% lower than the number of laboratory-confirmed COVID-19 notifications in the same period in 2023; however, this trend should be interpreted with caution due to a reduction in case ascertainment and reporting in all jurisdictions (Figure 4).
- In the year to date, COVID-19 notification rates have been highest in people aged 70 years or over, followed by people aged 0–4 years (Table 1).
 - The trend for older age groups is likely to be a reflection of higher case ascertainment due to targeted testing strategies in place for populations at-risk of severe disease and who live in a high-risk setting, such as a residential aged care facility.

Figure 4: COVID-19 cases notified to the NNDSS showing (A) laboratory-confirmed and probable cases in all pandemic years 2020–2024 and (B) laboratory-confirmed cases in recent pandemic years 2023 and 2024 by year and week of diagnosis, Australia, 1 January 2020 to 11 August 2024

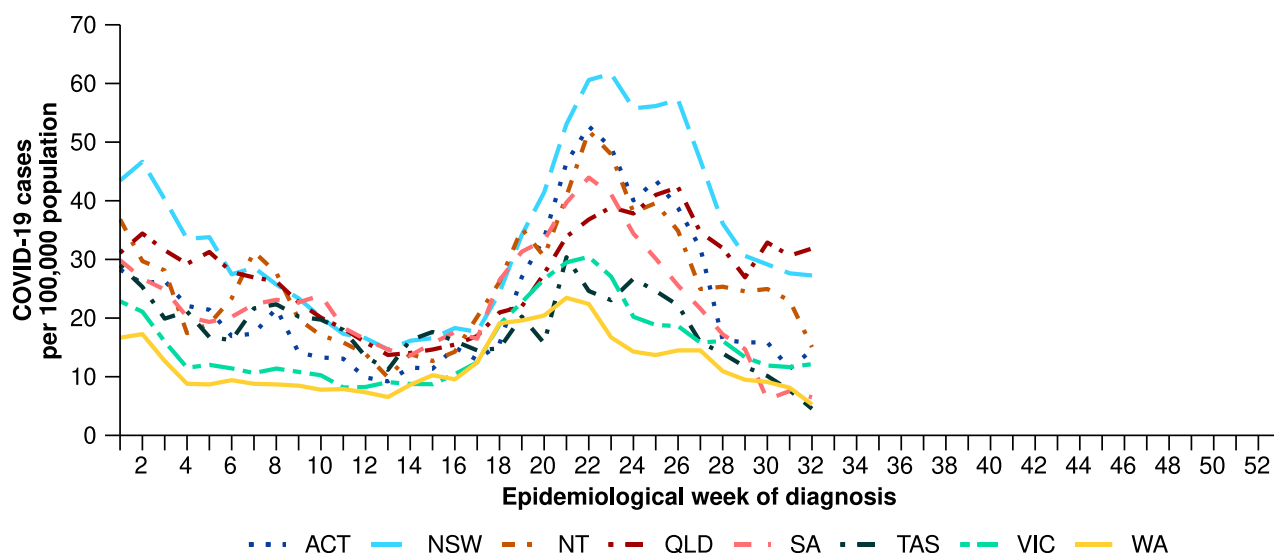


- This fortnight, COVID-19 notification rates have decreased or plateaued across most jurisdictions compared with the previous fortnight, except in Queensland where a small

increase in COVID-19 notification rates was observed compared with the previous fortnight (Figure 5).

- In the year to date, COVID-19 notification rates have been highest in New South Wales, followed by Queensland (Table 1).

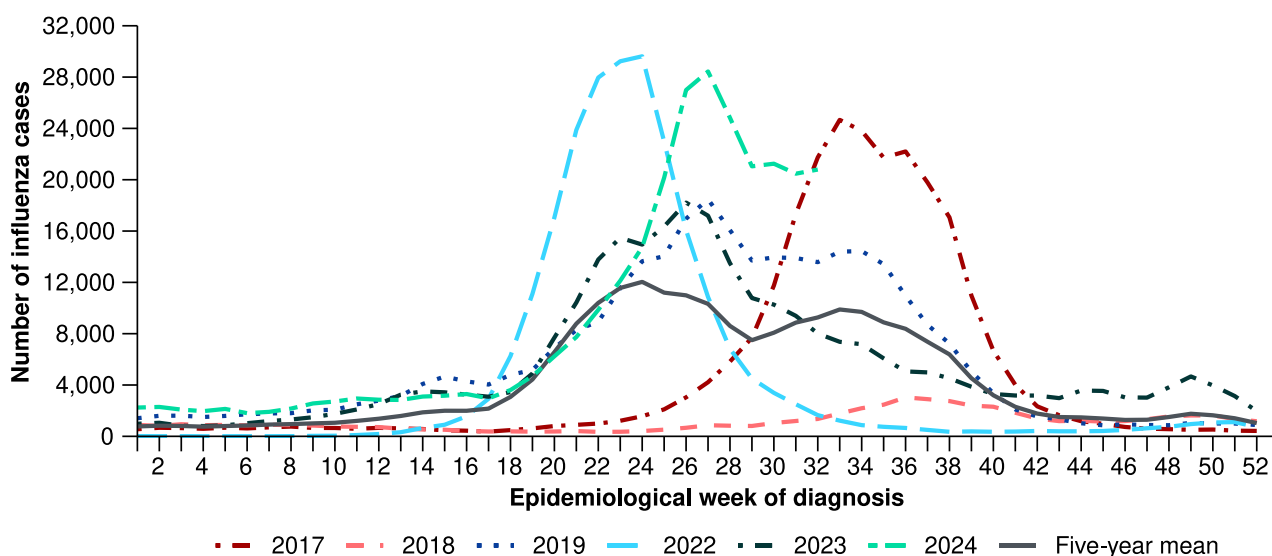
Figure 5: Notification rates per 100,000 population for COVID-19 cases notified to the NNDSS* by state or territory and week of diagnosis, Australia, 1 January to 11 August 2024



* Rate per 100,000 population for the given time period. Population data are based on the ABS ERP as at June 2023.

- Nationally, influenza notifications rose steeply from late April 2024 to an apparent peak in the week ending 7 July 2024. Nationally, influenza notifications have decreased since early July 2024, stabilising in recent weeks. However, this trend has not been consistent across jurisdictions, and it is too early to determine a peak in the 2024 influenza season (Figure 6).
- Nationally, there were 41,263 influenza notifications with a diagnosis date this fortnight, a decrease compared with 42,292 notifications in the previous fortnight (Figure 6).
- In the year to date, there have been 285,965 influenza notifications reported to the NNDSS, which is higher than the number of notifications in the same period in all other years and the five-year mean (Figure 6).
 - The higher number of influenza notifications observed during the most recent interseasonal period (typically November to the following March) may have been due to an increase in influenza circulation in the community. However, it may also have been influenced by changes in health-seeking behaviour, such as increased laboratory testing for viral respiratory infections, associated with increases in COVID-19 activity observed in many jurisdictions from late 2023 into early 2024.
- In the year to date, influenza notification rates have been highest in children aged 5–9 years, followed closely by children aged 0–4 years (Table 1).

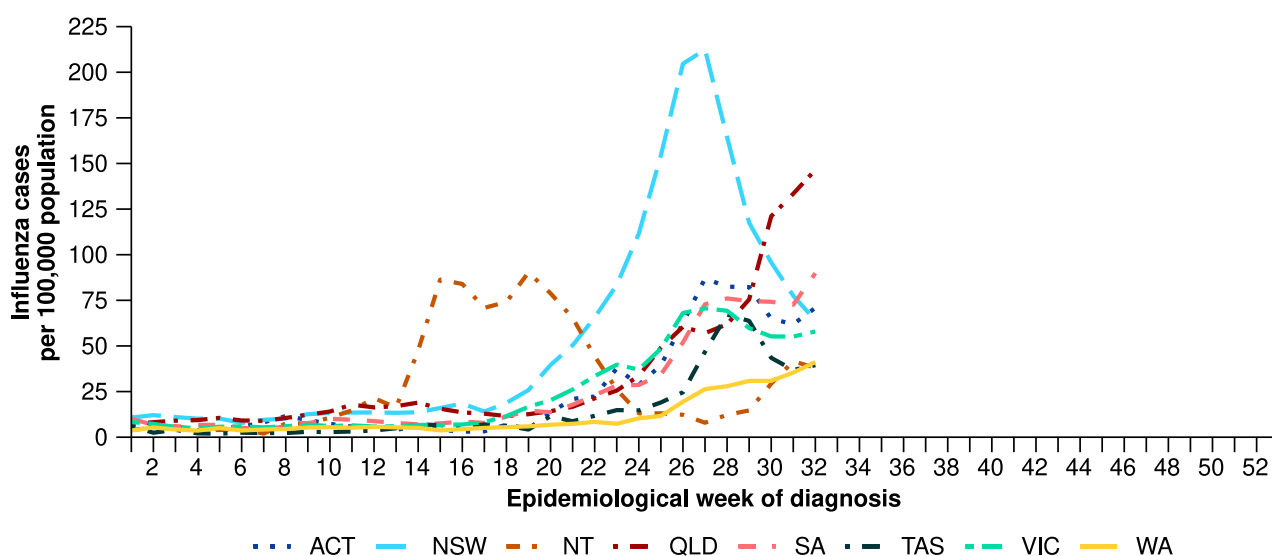
Figure 6: Influenza cases notified to the NNDSS and five-year mean* by year and week of diagnosis, Australia, 2017 to 11 August 2024



* The years 2020 and 2021 are excluded when comparing the current season to historical periods when influenza virus has circulated without public health restrictions. As such, the five-year mean includes the years 2017 to 2019 and 2022 to 2023. Please refer to the Technical Supplement for interpretation of the five-year mean.

- In this fortnight, influenza notification rates increased or remained stable across most jurisdictions compared with the previous fortnight, except in New South Wales where influenza notification rates have continued to decrease since an apparent peak in the week ending 7 July 2024 (Figure 7). This fortnight, influenza notification rates were highest in Queensland (Figure 7).
- In the year to date, influenza notification rates have been highest in New South Wales, followed by Queensland (Table 1).

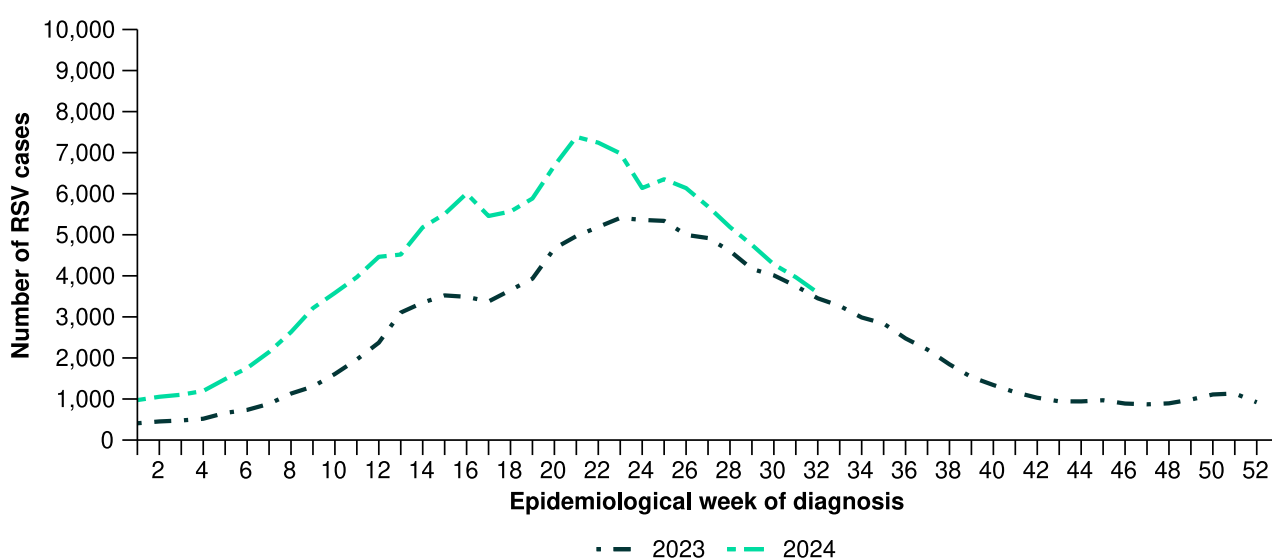
Figure 7: Notification rates per 100,000 population for influenza cases notified to the NNDSS* by state or territory and week of diagnosis, Australia, 1 January to 11 August 2024



* Rate per 100,000 population for the given time period. Population data are based on the ABS ERP as at June 2023.

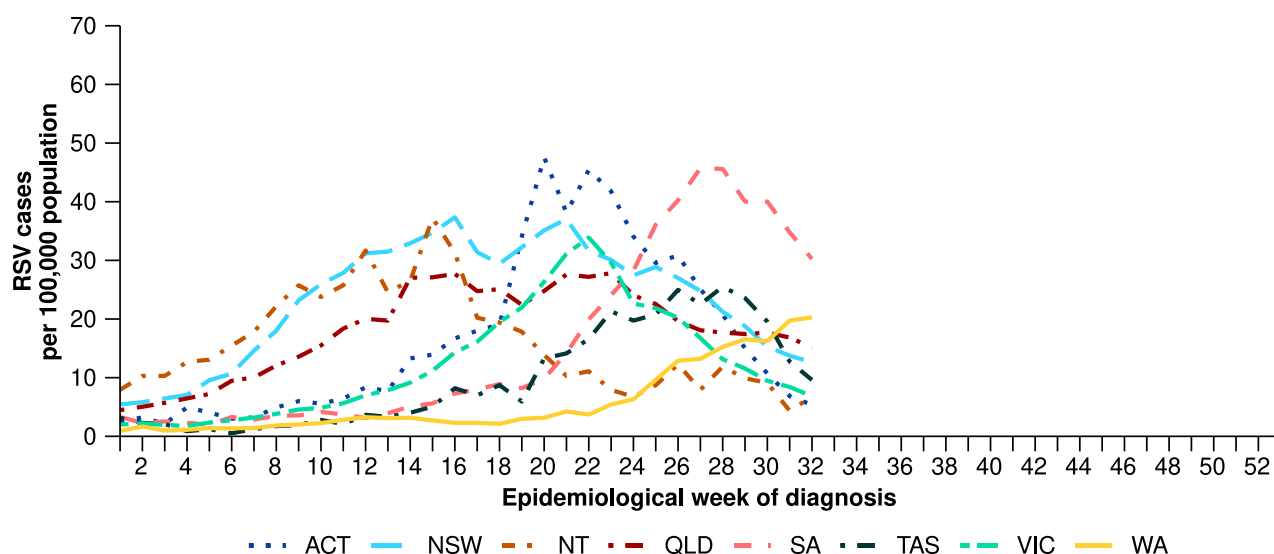
- This year to date, RSV notifications followed an increasing trend from January through to an apparent peak in late May 2024 and have since followed a decreasing trend (Figure 8).
- Nationally, there were 7,554 RSV notifications with a diagnosis date this fortnight, a decrease compared with 9,030 notifications in the previous fortnight (Figure 8).
- In the year to date, there have been 140,062 RSV notifications reported to the NNDSS, which is approximately 1.5 times the number of RSV notifications in the same period in 2023 (Figure 8).
 - The higher number of RSV notifications observed during the period January to March 2024 may have been due to an increase in RSV circulation in the community. However, it may also have been influenced by changes in health-seeking behaviour, such as increased laboratory testing for viral respiratory infections, associated with increases in COVID-19 activity observed in many jurisdictions from late 2023 into early 2024. Note, RSV notifications are not available nationally for historical comparisons prior to January 2023.
- In the year to date, RSV notification rates have been highest in children aged 0–4 years, followed by children aged 5–9 years (Table 1).

Figure 8: RSV cases notified to the NNDSS by year and week of diagnosis*, Australia, 2023 to 11 August 2024



- This fortnight, RSV notification rates decreased across most jurisdictions compared with the previous fortnight, except in Western Australia where an increase in RSV notifications compared to the previous fortnight was observed (Figure 9). Since the week ending 30 June 2024, RSV notification rates have been considerably higher in South Australia compared with RSV notification rates across other jurisdictions (Figure 9).
- In the year to date, RSV notification rates have been highest in New South Wales, followed by Queensland (Table 1).

Figure 9: Notification rates per 100,000 population for RSV cases notified to the NNDSS* by state or territory and week of diagnosis, Australia, 1 January to 11 August 2024



* Rate per 100,000 population for the given time period. Population data are based on the ABS ERP as at June 2023.

For further information regarding respiratory virus activity at the jurisdictional level, please refer to the state and territory health respiratory surveillance reports.

2. Severity*

The severity of acute respiratory infections is measured as those who are hospitalised, admitted to intensive care, or have died. Measuring and understanding severity quantifies the most significant health impacts of circulating respiratory viruses.

2.1 Hospital-based surveillance

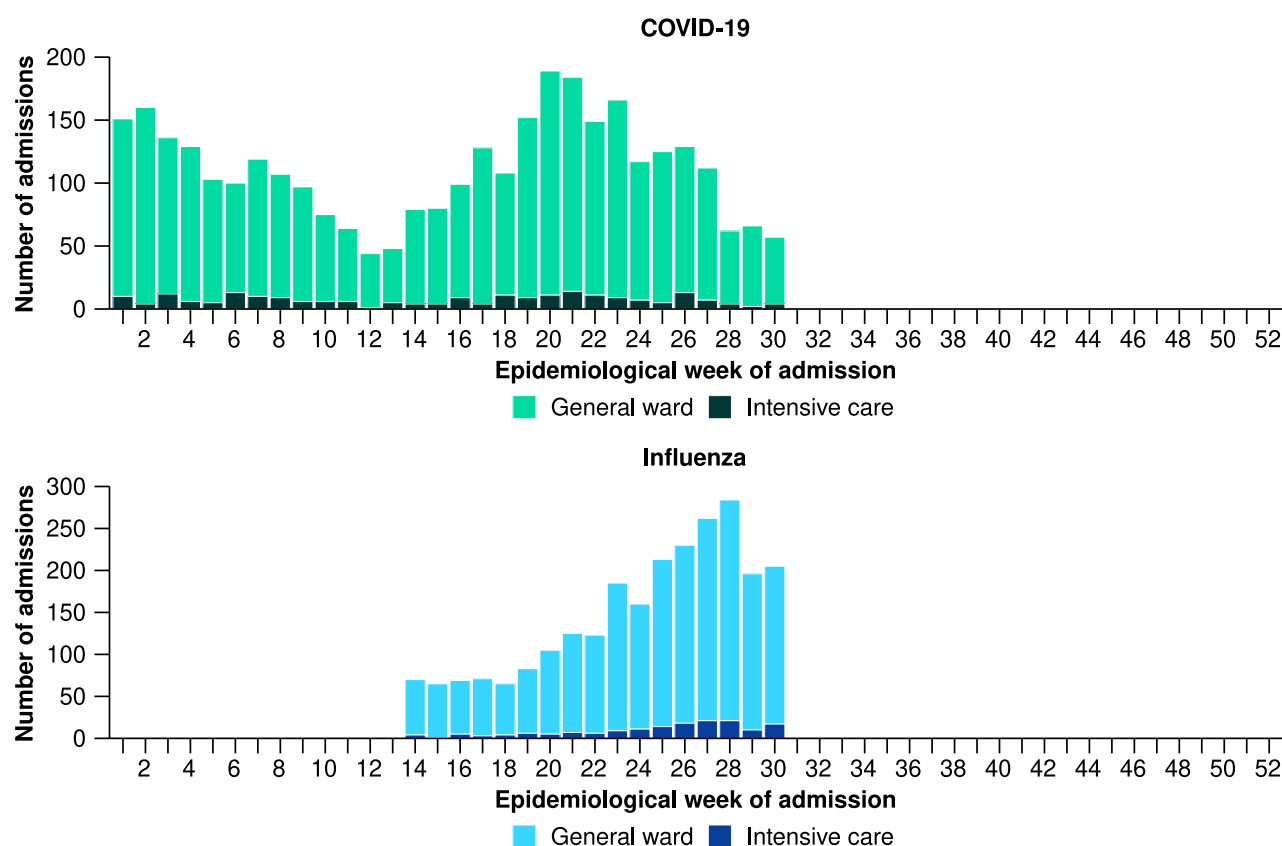
In interpreting data from hospital-based sentinel systems, it is important to note these data reflect the sickest patients with severe acute respiratory infections who are hospitalised or admitted to intensive care; data are therefore not generalisable to all cases or patients in hospital.

Influenza Complications Alert Network (FluCAN)

- In this fortnight for FluCAN severity reporting (15 July to 28 July 2024), there were 524 patients admitted with a severe acute respiratory infection (SARI) to FluCAN sentinel hospitals, of whom 6.3% (33/524) were admitted directly to intensive care (Figure 10).
- In the year to date for FluCAN severity reporting (1 January to 28 July 2024), there have been 5,846 patients admitted with a SARI to FluCAN sentinel hospitals, of which 6.6% (383/5,846) have been admitted directly to intensive care (Figure 10).
- In the year to date for FluCAN severity reporting, there have been 3,335 patients admitted with COVID-19 to FluCAN sentinel hospitals, of whom 6.6% (221/3,335) were admitted directly to intensive care (Figure 10). This excludes three patients with COVID-19 admitted to FluCAN sentinel hospitals with a missing admission location. The number of patients admitted with COVID-19 to FluCAN sentinel hospitals each week reached an apparent peak in the week ending 19 May 2024, and a decreasing trend in the number of patients admitted with COVID-19 each week has been observed since the apparent peak (Figure 10).
 - For patients admitted with COVID-19 to FluCAN sentinel hospitals, the median length of stay in hospital was 3 days (interquartile range [IQR]: 2–7 days).
 - Note, all length of stay calculations exclude patients that acquired their infection in hospital. Please see the Technical Supplement for further detail.
- Since influenza surveillance commenced on 1 April 2024 to date for FluCAN severity reporting, there have been 2,511 patients admitted with influenza to FluCAN sentinel hospitals, of whom 6.5% (162/2,511) were admitted directly to intensive care (Figure 10). The number of patients admitted with influenza to FluCAN sentinel hospitals each week has followed an increasing trend since influenza surveillance commenced, noting that data in the most recent weeks may be incomplete (Figure 10).
 - For patients admitted with influenza to FluCAN sentinel hospitals, the median length of stay in hospital was 2 days (IQR: 1–4 days).

* To account for the lag in collection and provision of severity data from some surveillance systems, and for the time delay between illness onset and the development of severe disease, cases with a diagnosis date in the last two weeks are excluded from severity analyses which include analyses of hospitalisations, intensive care admissions and deaths. For this reason, the severity reporting periods are two weeks behind the current reporting period.

Figure 10: Number of patients admitted with a severe acute respiratory infection to FluCAN sentinel hospitals by disease, admission location and week of admission*†‡, Australia, 1 January to 28 July 2024



* Axis varies between disease groups.

† Excludes three patients with a severe acute respiratory infection admitted to FluCAN sentinel hospitals with a missing admission location.

‡ Admission location reflects the initial admission ward; some patients may be initially admitted to general ward then later admitted to an intensive care and this is not reflected here.

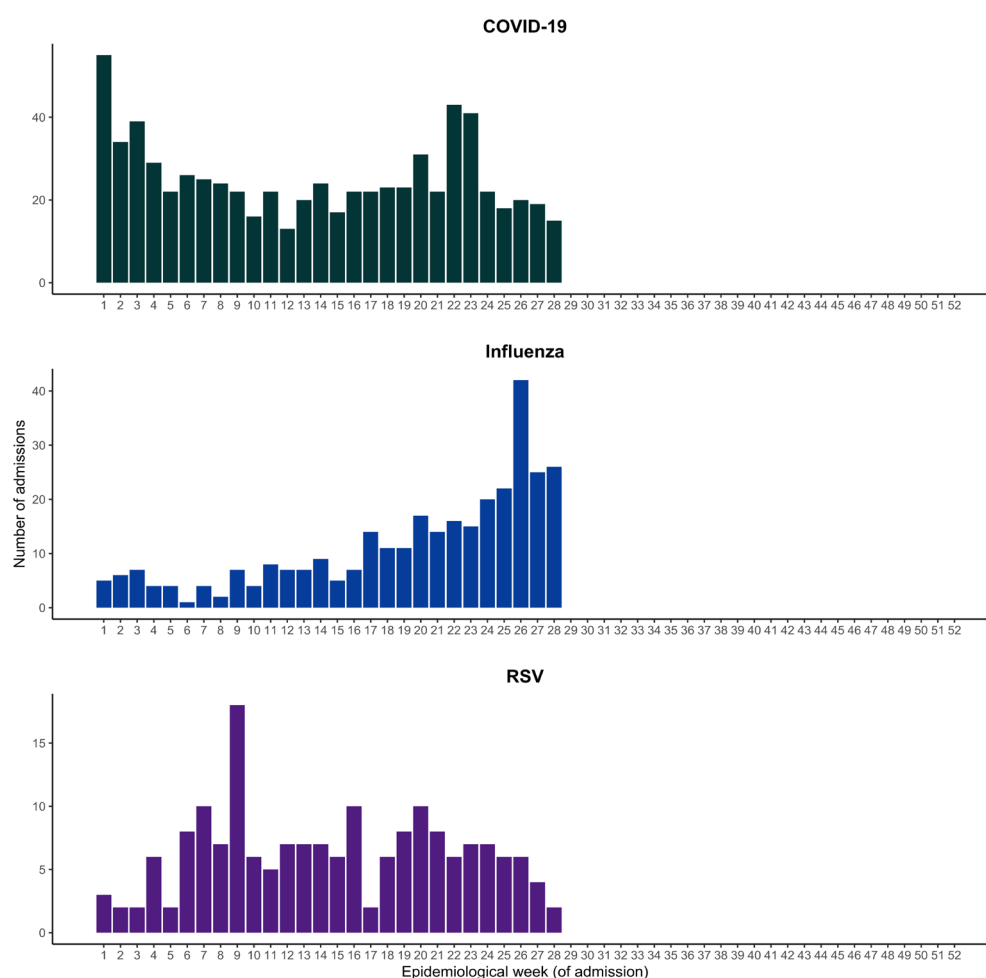
Short Period Incidence Study of Severe Acute Respiratory Infection (SPRINT-SARI) Australia (last updated 2 August 2024)

This section will be updated every four weeks; therefore, reporting periods presented here may not align with other sections of the report. Note, intensive care includes intensive care units and high dependency units that are managed by an intensive care team.

- In the most recent 28-day period for SPRINT-SARI severity reporting (17 June to 14 July 2024), there were 226 patients admitted with a SARI to a SPRINT-SARI sentinel intensive care. Patients with influenza accounted for the highest proportion of patients admitted with a SARI to a SPRINT-SARI sentinel intensive care during this time (Figure 11).
- In the year to date for SPRINT-SARI severity reporting (1 January to 14 July 2024), there have been 1,421 patients admitted with a SARI to a SPRINT-SARI sentinel intensive care (Figure 11). This includes:
 - 49.9% (709/1,421) patients with SARS-CoV-2
 - 22.5% (320/1,421) patients with influenza
 - 12.5% (178/1,421) patients with RSV

- 17.1% (243/1,421) patients with other respiratory pathogens including parainfluenza and rhinovirus.
- Approximately 2.0% (29/1,421) of patients had co-infections of multiple pathogens; therefore, the sum of pathogen-specific totals above may not equal the total number of patients.
- In the year to date for SPRINT-SARI severity reporting, for all patients admitted with a SARI to a SPRINT-SARI sentinel intensive care, the median duration of mechanical ventilation was 3.2 days (IQR: 1.3–7.2 days), the median length of stay in intensive care was 3.0 days (IQR: 1.7–5.6 days), and the median length of stay in hospital was 8.0 days (IQR: 4.8–15.0 days).
- In the year to date for SPRINT-SARI severity reporting, most patients admitted with a SARI (67.7%; 962/1,421) have been discharged home, 6.9% (98/1,421) died in intensive care and 3.3% (47/1,421) died within a general hospital ward after intensive care admission, with an overall in-hospital mortality rate of 10.2% (145/1,421) for all patients admitted with a SARI to a SPRINT-SARI sentinel intensive care.
 - Note, deaths in patients admitted with a SARI to a SPRINT-SARI sentinel intensive care may not necessarily represent a death due to SARI.

Figure 11: Number of patients admitted with severe acute respiratory infections to a SPRINT-SARI sentinel intensive care by disease*† and week of admission, Australia, 1 January to 14 July 2024



* Axis varies between disease groups.

† Includes 10 patients with viral co-infection of SARS-CoV-2/influenza/RSV in the year to date for severity reporting.

Table 2: Outcomes for patients admitted with a severe acute respiratory infection(s) to a SPRINT-SARI sentinel intensive care by disease*†‡, Australia, 1 January to 14 July 2024

	COVID-19		Influenza		RSV		Other	
	Severity reporting period (n=72)	Year to date for severity reporting (n=709)	Severity reporting period (n=115)	Year to date for severity reporting (n=320)	Severity reporting period (n=18)	Year to date for severity reporting (n=178)	Severity reporting period (n=23)	Year to date for severity reporting (n=243)
Received invasive mechanical ventilation								
Number (%)	20 (27.8%)	209 (29.5%)	32 (27.8%)	101 (31.6%)	5 (27.8%)	44 (24.7%)	6 (26.1%)	75 (30.9%)
Duration of invasive mechanical ventilation (days)								
Median [IQR]	1.5 [1.1–2.2]	2.5 [1.0–7.2]	1.7 [0.97–3.8]	4.6 [1.7–8.3]	3.4 [2.2–4.8]	4.7 [2.3–6.7]	13.0 [8.2–15]	3.2 [1.6–7.9]
Length of intensive care stay (days)								
Median [IQR]	2.9 [1.7–4.0]	2.9 [1.7–5.2]	3.0 [1.9–5.0]	3.4 [2.0–6.2]	2.1 [1.9–4.8]	2.8 [1.7–4.8]	4.9 [2.2–7.4]	3.0 [1.8–5.8]
Length of hospital stay (days)								
Median [IQR]	11 [5.6–17]	8.8 [5.0–17]	7.1 [4.8–11]	8.1 [4.8–13]	7.8 [4.6–13]	6.9 [4.3–12]	9.3 [5.7–13]	7.5 [4.0–14]
Patient outcome								
Ongoing care in intensive care	14 (19.4%)	41 (5.8%)	29 (25.2%)	36 (11.3%)	1 (5.6%)	6 (3.4%)	8 (34.8%)	13 (5.3%)
Ongoing care in hospital ward*	11 (15.3%)	26 (3.7%)	10 (8.7%)	13 (4.1%)	4 (22.2%)	8 (4.5%)	1 (4.3%)	6 (2.5%)
Transfer to other hospital or facility	8 (11.1%)	63 (8.9%)	6 (5.2%)	15 (4.7%)	0 (0%)	7 (3.9%)	1 (4.3%)	18 (7.4%)
Transfer to rehabilitation	2 (2.8%)	37 (5.2%)	4 (3.5%)	10 (3.1%)	0 (0%)	1 (0.6%)	2 (8.7%)	9 (3.7%)
Discharge home	32 (44.4%)	442 (62.3%)	59 (51.3%)	218 (68.1%)	11 (61.1%)	143 (80.3%)	9 (39.1%)	182 (74.9%)
Death† – intensive care†	4 (5.6%)	60 (8.5%)	4 (3.5%)	19 (5.9%)	1 (5.6%)	9 (5.1%)	2 (8.7%)	13 (5.3%)
Death† – hospital ward†	1 (1.4%)	34 (4.8%)	3 (2.6%)	8 (2.5%)	1 (5.6%)	3 (1.7%)	0 (0%)	2 (0.8%)
Missing‡	14 (19.4%)	41 (5.8%)	29 (25.2%)	36 (11.3%)	1 (5.6%)	6 (3.4%)	8 (34.8%)	13 (5.3%)

Note: Includes two patients with viral co-infection of multiple pathogens in the 28-day severity reporting period and 29 patients with viral co-infection of multiple pathogens in the year to date for severity reporting. For patients whom are still receiving treatment in intensive care data may not be complete; therefore, data are not included in the duration of ventilation or length of intensive care stay.

* Patients who have been admitted in intensive care/hospital wards with no discharge information for less than 90 days have been assumed to have ongoing care in the hospital.

† Death may not necessarily represent a death due to the disease.

‡ Patients who have no outcome entered or have been admitted to intensive care/hospital wards for more than 90 days with no discharge information have been treated as missing.

2.2 Case-based surveillance

NNDSS

The number of deaths associated with COVID-19, influenza or RSV reported to the NNDSS is based on data reported to the NNDSS by states and territories. The completeness of information on deaths in the NNDSS varies, as data are sourced in different ways by state and territories based on their local surveillance system capabilities, definitions, priorities, and needs. Therefore, the number of deaths associated with COVID-19, influenza or RSV reported to the NNDSS are likely to be an underestimate and do not represent the true mortality associated with these diseases. In the NNDSS, death notifications may not necessarily represent a death due to the disease and public health follow-up is not a requirement to determine the outcome of disease. For more detail, please refer to reports and data considerations published by individual jurisdictions, or the [Technical Supplement – Australian Respiratory Surveillance Report](#).

- In the year to date for severity reporting (1 January to 28 July 2024), there have been 1,460 COVID-19-associated deaths notified to the NNDSS (Table 3).
- In the year to date for severity reporting, there have been 238 influenza-associated deaths notified to the NNDSS (Table 3).
 - Of the influenza-associated deaths, 90.8% (216/238) have been attributed to influenza A(Unsubtyped), 5.5% (13/238) to influenza A(H1N1), 3.4% (8/238) to influenza A(H3N2), and 0.4% (1/238) to influenza B.
- In the year to date for severity reporting, there have been 118 RSV-associated deaths notified to the NNDSS (Table 3).

Table 3: Notifications of deaths to the NNDSS and mortality rates per 100,000 population by disease and ten-year age groups*†‡, Australia, 1 January to 28 July 2024

Age group (years)	COVID-19		Influenza		RSV	
	Year to date (n)	Year to date (rate)	Year to date (n)	Year to date (rate)	Year to date (n)	Year to date (rate)
0–9	–	–	5	0.2	–	–
10–19	–	–	–	–	–	–
20–29	–	–	–	–	–	–
30–39	7	0.2	–	–	–	–
40–49	15	0.4	8	0.2	–	–
50–59	39	1.2	11	0.3	7	0.2
60–69	100	3.5	26	0.9	10	0.4
70+	1,295	40.1	183	5.7	97	3.0
Total	1,460	5.5	238	0.9	118	0.4

Note: To reduce the risk of re-identification, primary cell suppression has been applied to cells with a value of < 5.

* Rate per 100,000 population for the given time period. Population data are based on the ABS ERP as at June 2023.

† Notified deaths are reported based on diagnosis date not date of death, as date of death data are not collected for influenza or RSV in the NNDSS. Death may not necessarily represent a death due to the disease.

‡ Total may include cases with missing age.

3. At-risk populations*

At-risk populations are people who may be more susceptible to infection with circulating respiratory viruses and/or who may be more likely to experience severe disease associated with their infection.

3.1 Hospital-based surveillance

In interpreting data from hospital-based sentinel systems, it is important to note these data reflect the sickest patients with severe acute respiratory infections who are hospitalised or admitted to intensive care; data are therefore not generalisable to all cases or patients in hospital.

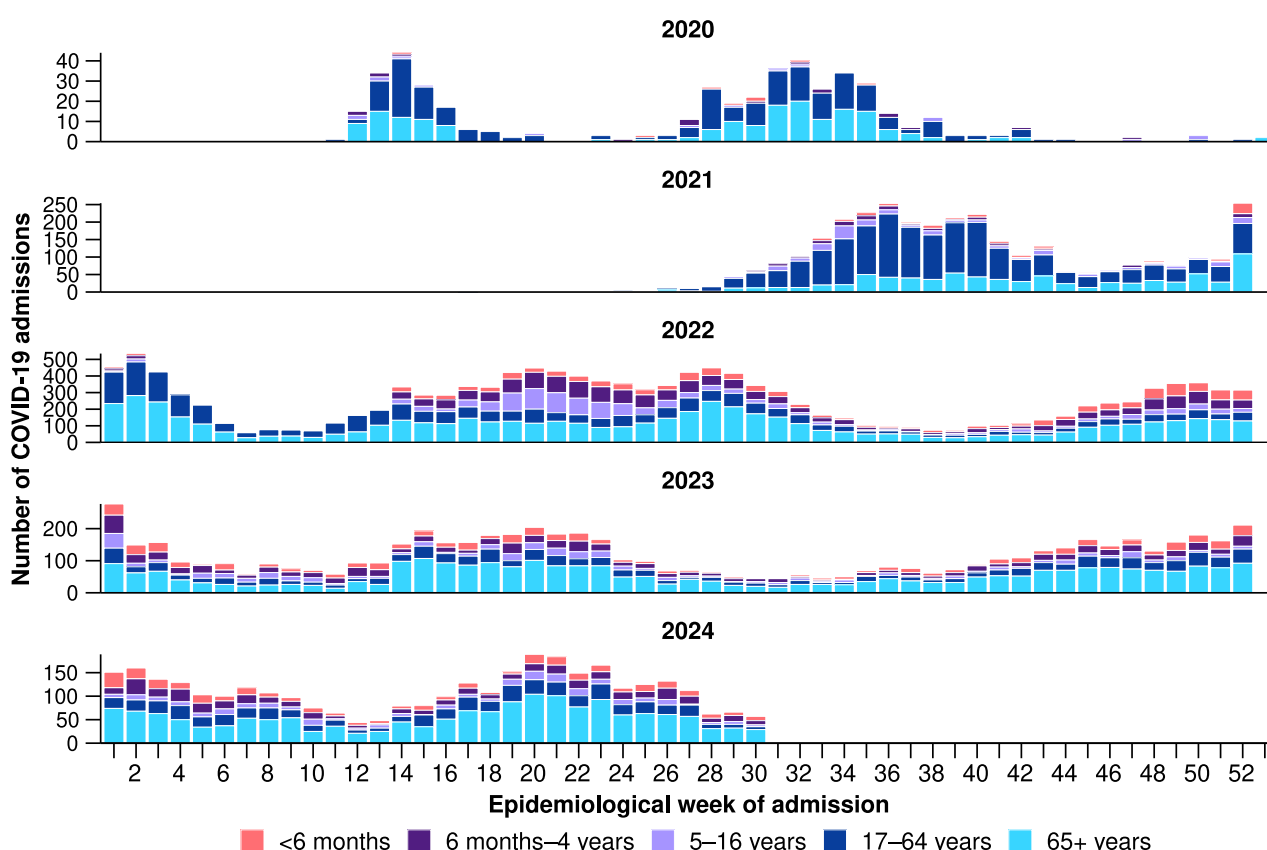
FluCAN

There are a higher proportional number of paediatric hospitals that contribute to the FluCAN dataset. Hospital admissions in children 16 years of age or less are over-represented to provide enhanced surveillance on this at-risk population. For this reason, paediatric (16 years of age or less) and adult (> 16 years of age) patients in the FluCAN dataset are reported on separately. Please note, the age distribution of hospital admissions in the FluCAN sentinel surveillance system may not reflect the age distribution of admissions nationally.

- In the year to date for FluCAN severity reporting (1 January to 28 July 2024), there have been 1,055 paediatric patients admitted with COVID-19 to FluCAN sentinel hospitals (Figure 12). The median age at admission was 1 years (IQR: 0–4 years) and 7.3% (77/1,055) of admissions were among Aboriginal and Torres Strait Islander people.
 - The highest proportion of paediatric patients admitted with COVID-19 to FluCAN sentinel hospitals with a direct admission to intensive care has been in those aged 5–16 years.
- In the year to date for FluCAN severity reporting, there have been 2,283 adult patients admitted with COVID-19 to FluCAN sentinel hospitals (Figure 12). The median age at admission was 75 years (IQR: 62.5–84 years) and 3.4% (78/2,283) of admissions were among Aboriginal and Torres Strait Islander people.
 - The highest proportion of adult patients admitted with COVID-19 to FluCAN sentinel hospitals with a direct admission to intensive care has been in those aged 65 years or over.
- In the year to date for FluCAN severity reporting, the greatest proportion of patients admitted with confirmed COVID-19 to FluCAN sentinel hospitals has been in those aged 65 years or over. This is consistent with trends observed in all previous years, except in 2020 and 2021 when those aged 17–64 years accounted for the largest proportion of admissions to FluCAN sentinel hospitals (Figure 12).

* To account for the lag in collection and provision of severity data from some surveillance systems, and for the time delay between illness onset and the development of severe disease, cases with a diagnosis date in the last two weeks are excluded from severity analyses which include analyses of hospitalisations, intensive care admissions and deaths. For this reason, the severity reporting periods are two weeks behind the current reporting period.

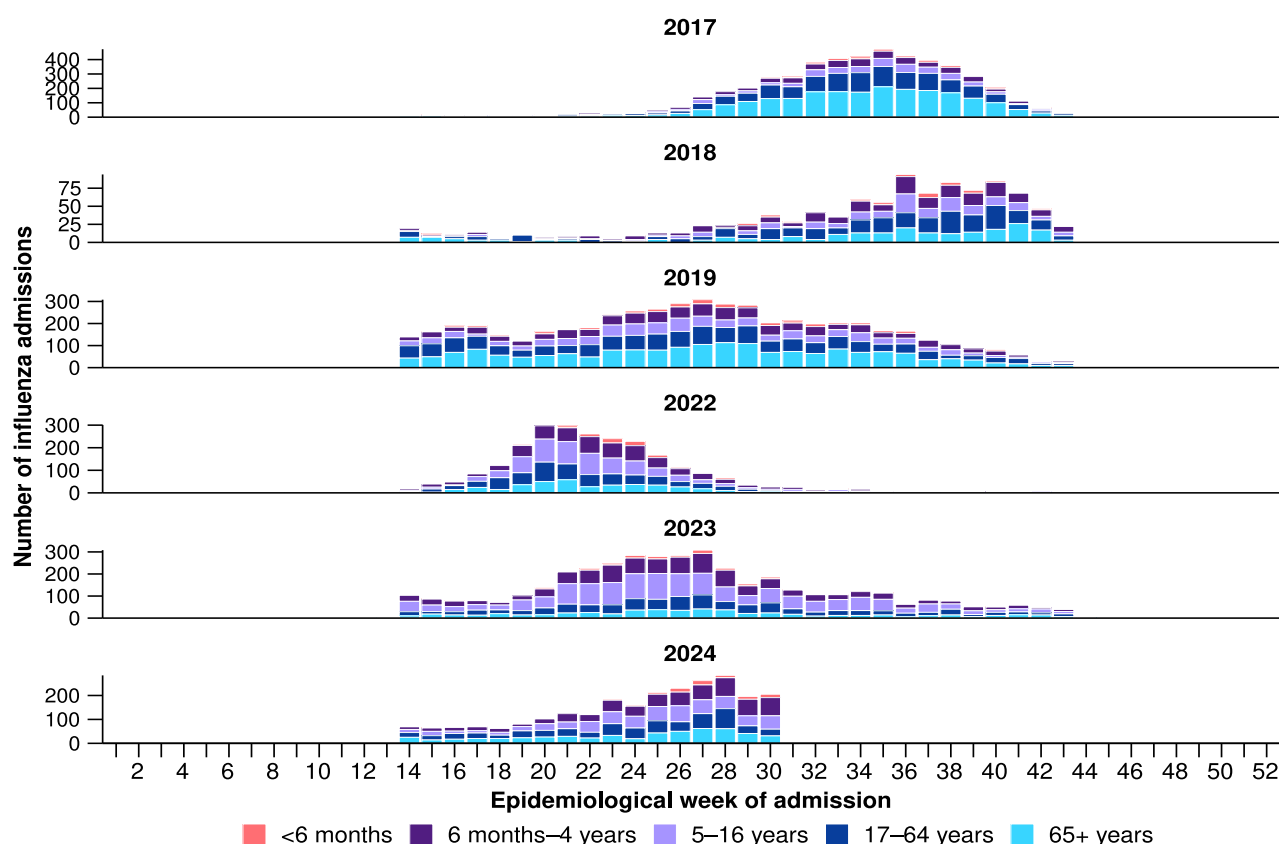
Figure 12: Number of patients admitted with confirmed COVID-19 to FluCAN sentinel hospitals by age group, year and week of admission*, Australia, 2020 to 28 July 2024



* Axis varies between years.

- Since influenza surveillance commenced on 1 April 2024 to date for FluCAN severity reporting (28 July 2024), there have been 1,372 paediatric patients admitted with influenza to FluCAN sentinel hospitals (Figure 13). The median age at admission was 4 years (IQR: 1–7 years) and 7.1% (98/1,372) of admissions were among Aboriginal and Torres Strait Islander people.
 - The highest proportion of paediatric patients with influenza admitted to FluCAN sentinel hospitals with a direct admission to intensive care has been in those aged 5–16 years.
- Since influenza surveillance commenced on 1 April 2024 to date for FluCAN severity reporting, there have been 1,139 adult patients admitted with influenza to FluCAN sentinel hospitals (Figure 13). The median age at admission was 63 years (IQR: 46–76 years) and 10.5% (120/1,139) of admissions were among Aboriginal and Torres Strait Islander people.
 - The highest proportion of adult patients with influenza admitted to FluCAN sentinel hospitals with a direct admission to intensive care has been in those aged 17–64 years.

Figure 13: Number of patients admitted with confirmed influenza to FluCAN sentinel hospitals by age group, year and week of admission*†, from April to October, 2017 to 28 July 2024



* Axis varies between years.

† The years 2020 and 2021 are excluded when comparing the current season to historical periods when influenza virus has circulated without public health restrictions. Please refer to the Technical Supplement for further detail.

Paediatric Active Enhanced Disease Surveillance (PAEDS) (last updated 2 August 2024)

This section will be updated every four weeks; therefore, reporting periods presented here may not align with other sections of the report.

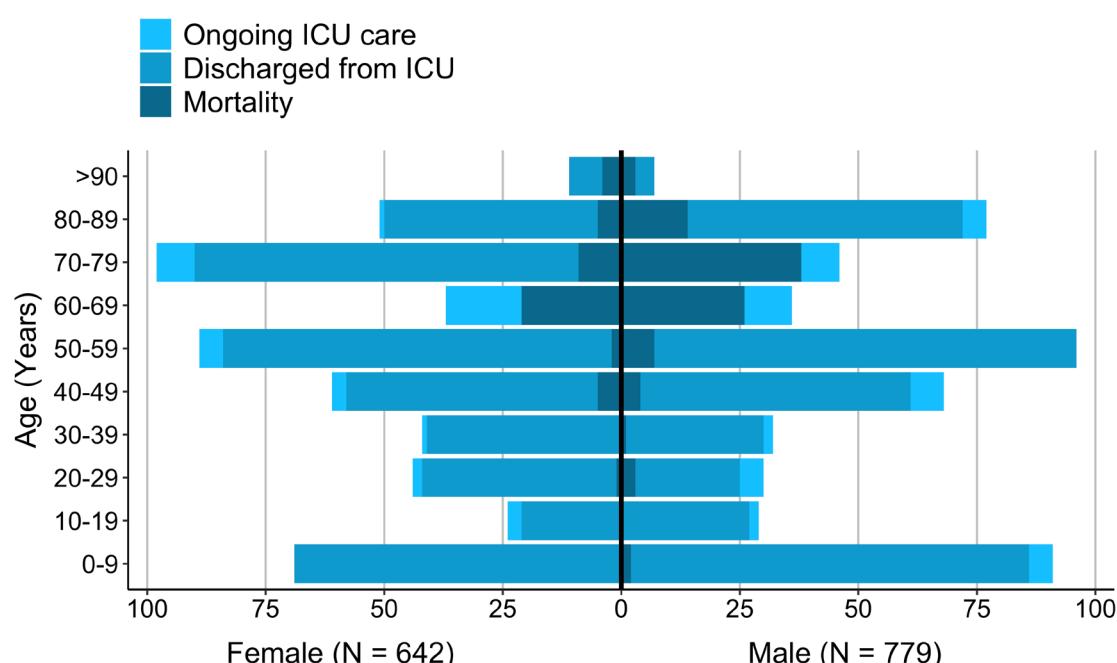
- Since the start of the COVID-19 pandemic to date for PAEDS severity reporting (1 January 2020 to 14 July 2024), there have been 200 cases of possible, probable, or confirmed paediatric inflammatory multisystem syndrome – temporally associated with SARS-CoV-2 (PIMS-TS) admitted to PAEDS sentinel hospitals. To date for severity reporting, there have been no PIMS-TS associated deaths.
- Since the start of the COVID-19 pandemic to date for PAEDS severity reporting, the highest proportion of PIMS-TS cases occurred in 2022 (66.0%; 132/200), followed by 2021 (15.0%; 30/200). In the year to date for PAEDS severity reporting there have been 10 PIMS-TS cases reported, with the last PIMS-TS case reported in June 2024, noting data have not been updated this fortnight.
- The majority of PIMS-TS cases have occurred in those aged 5 to < 12 years (52.5%; 105/200), followed by those aged 6 months to < 5 years (28.0%; 56/200). Approximately 5.5% (11/200) of PIMS-TS cases occurred among Aboriginal and Torres Strait Islander people.

SPRINT-SARI Australia (last updated 2 August 2024)

This section will be updated every four weeks; therefore, reporting periods presented here may not align with other sections of the report. Note, intensive care includes intensive care units and high dependency units that are managed by an intensive care team.

- In this 28-day period for SPRINT-SARI severity reporting (17 June to 14 July 2024), there have been 226 patients admitted with a SARI to a SPRINT-SARI sentinel intensive care. The median age at admission was 62 years (IQR: 46–73 years) and 4.9% (11/226) of patients admitted with a SARI were among Aboriginal and Torres Strait Islander people.
- In the year to date for SPRINT-SARI severity reporting (1 January to 14 July 2024), there have been 1,421 patients admitted with a SARI to a SPRINT-SARI sentinel intensive care. The median age at admission was 60 years (IQR: 38–72 years) and 54.8% (779/1,421) of patients admitted with a SARI have been male. Of the patients admitted with a SARI to a SPRINT-SARI sentinel intensive care, 7.6% (108/1,421) have been among Aboriginal and Torres Strait Islander people.
- In the year to date for SPRINT-SARI severity reporting, there have been 145 patients admitted with a SARI to a SPRINT-SARI sentinel intensive care who died in hospital. The majority of deaths were in patients aged 60 years or over: 32.4% (47/145) were aged 60–69 years, 32.4% (47/145) were aged 70–79 years, 13.1% (19/145) were aged 80–89 years, and 4.8% (7/145) were aged 90 years or over (Figure 14).

Figure 14: Number of patients admitted with severe acute respiratory infections to a SPRINT-SARI sentinel intensive care by age group, sex and outcome*†‡, Australia, 1 January to 14 July 2024



* The age and sex distribution of severe acute respiratory infection (SARI) intensive care admissions in the SPRINT-SARI Australia sentinel surveillance system may not reflect the age or sex distribution of all patients admitted with a SARI nationally.

† Ongoing care reflects the need for ongoing care in intensive care. Where a patient has been discharged from intensive care, the patient may still be receiving ongoing care in a hospital ward.

‡ Death may not necessarily represent a death due to the disease.

3.2 Case-based surveillance

NNDSS

The numbers of deaths in the year to date associated with COVID-19, influenza and RSV notified to the NNDSS are provided in Table 3. Note, the numbers of deaths associated with COVID-19, influenza or RSV reported to the NNDSS are likely to be an underestimate and do not represent the true mortality associated with these diseases. In the NNDSS, death notifications may not necessarily represent a death due to the disease.

- The ascertainment of Indigenous status in the NNDSS for influenza and RSV, and more recently for COVID-19, remains insufficient for accurate epidemiological assessments or meaningful interpretation. This is due to a number of factors, including: most laboratory notifications do not include Indigenous status, case follow-ups are not routinely conducted and are not a requirement of notification, and data linkage systems that have been used to help capture Indigenous status for COVID-19 cases have not been extended for COVID-19 in the post emergency climate, and have not been comprehensively extended to influenza or RSV cases. For this reason, data are only presented for COVID-19 up to the end of 2023.
- Since the start of the COVID-19 pandemic to 31 December 2023, there were 438,307 COVID-19 cases and 523 COVID-19-associated deaths among Aboriginal and Torres Strait Islander people notified to the NNDSS.
 - This includes both laboratory-confirmed and probable cases among Aboriginal and Torres Strait Islander people notified to the NNDSS.
 - Readers are encouraged to consult the [COVID-19 Epidemiology Reports](#) previously published in *Communicable Diseases Intelligence* for information on the epidemiology of COVID-19 in Aboriginal and Torres Strait Islander people in Australia from the start of the COVID-19 pandemic to 10 March 2024.
- In the year to date for severity reporting (1 January to 28 July 2024), the rate of COVID-19-associated deaths in cases notified to the NNDSS has been highest in those aged 70 years or over (Table 3). The median age of COVID-19-associated deaths notified is 84 years.
- In the year to date for severity reporting, the rate of influenza-associated deaths in cases notified to the NNDSS has been highest in those aged 70 years or over (Table 3). The median age of influenza-associated deaths notified is 83 years.
- In the year to date for severity reporting, the rate of RSV-associated deaths in cases notified to the NNDSS has been highest in those aged 70 years or over (Table 3). The median age of RSV-associated deaths notified is 86 years.

4. Impact

Impact measures how circulating respiratory viruses adversely affect the community and the healthcare system.

4.1 Community-based surveillance

FluTracking

- This fortnight (29 July to 11 August 2024), 46.1% (587/1,273) of FluTracking participants reported taking three or more days off work or normal duties due to fever and cough symptoms, a decrease compared with 53.2% (726/1,365) in the previous fortnight.

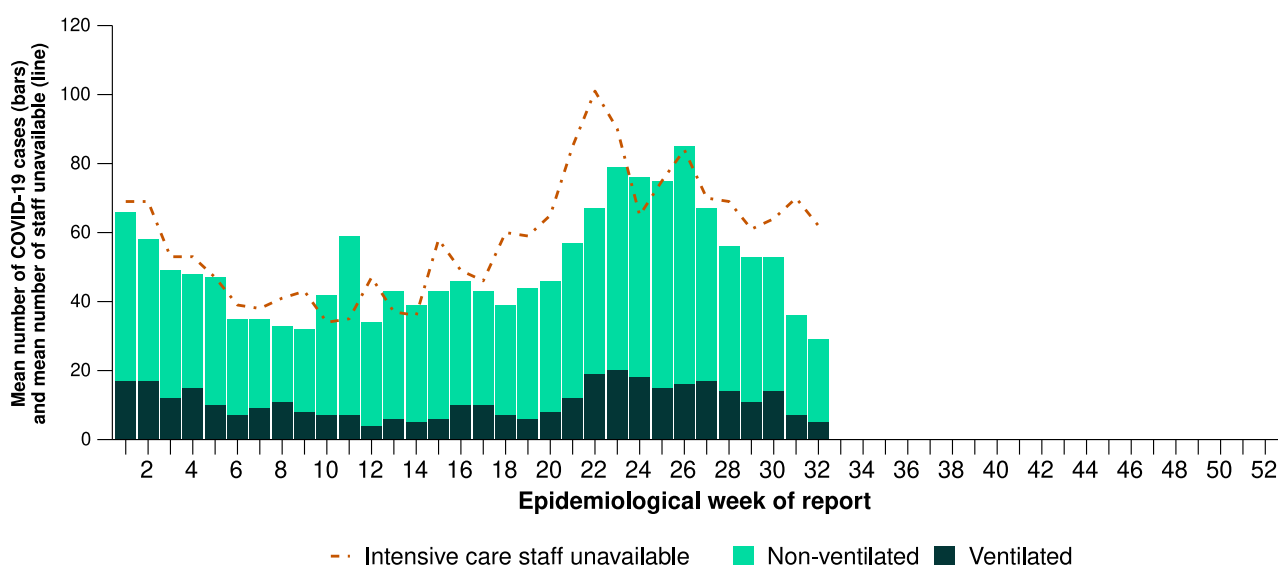
4.2 Hospital-based surveillance

Critical Health Resource Information System (CHRIS)

Note, intensive care includes intensive care units and high dependency units that are managed by the intensive care team.

- As of 12 August 2024, 1.7% (29/1,738) of total staffed intensive care beds were occupied by COVID-19 patients.
- This fortnight (29 July to 11 August 2024), the mean number of COVID-19 cases in intensive care across Australia has decreased compared with the previous fortnight (Figure 15). This fortnight, the mean number of intensive care staff unavailable to work due to COVID-19 exposure or illness across Australia has increased compared with the previous fortnight (Figure 15).

Figure 15: Mean number of COVID-19 cases in intensive care and the mean number of intensive care staff unavailable to work due to COVID-19 exposure or illness reported to CHRIS by week of report*†, Australia, 1 January to 11 August 2024

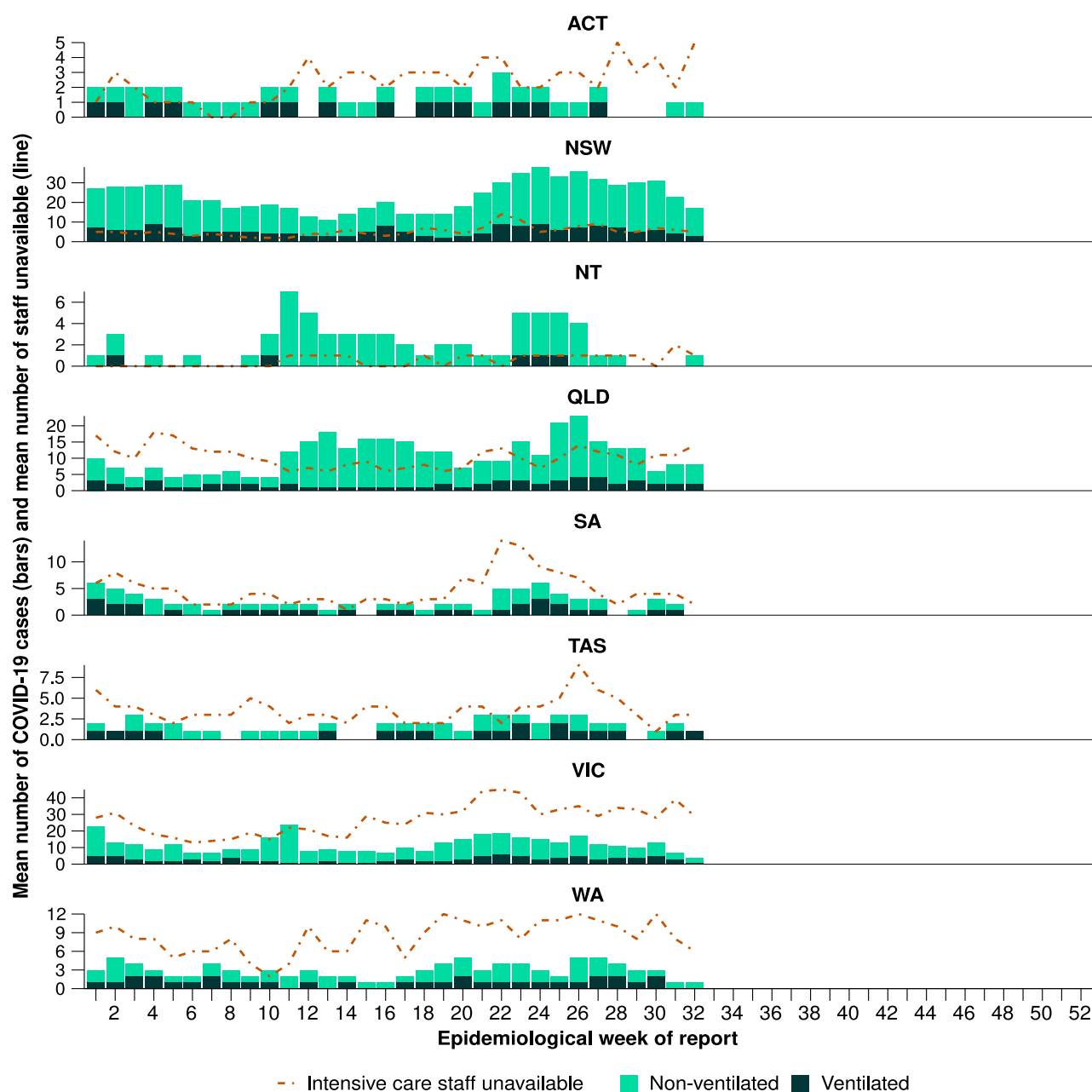


* Mean number of ventilated and non-ventilated COVID-19 cases in intensive care includes only active COVID-19 cases (those in isolation) and does not include cleared COVID-19 cases.

† Intensive care staff include both medical and nursing staff.

- This fortnight, the mean number of COVID-19 cases in intensive care has decreased or remained stable across all jurisdictions compared with the previous fortnight, with the largest decrease observed in New South Wales (Figure 16).
- This fortnight, the mean number of intensive care staff unavailable to work due to COVID-19 exposure or illness increased across the Northern Territory, Queensland, Tasmania and Victoria compared with the previous fortnight. Other jurisdictions observed a decrease in the number of intensive care staff unavailable to work due to COVID-19 exposure or illness compared with the previous fortnight (Figure 16).

Figure 16: Mean number of COVID-19 cases in intensive care and the mean number of intensive care staff unavailable to work due to COVID-19 exposure or illness reported to CHRIS by jurisdiction and week of report*†‡, Australia, 1 January to 11 August 2024



* Axis varies between jurisdictions.

† Mean number of ventilated and non-ventilated COVID-19 cases in intensive care includes only active COVID-19 cases (those in isolation) and does not include cleared COVID-19 cases.

‡ Intensive care staff include both medical and nursing staff.

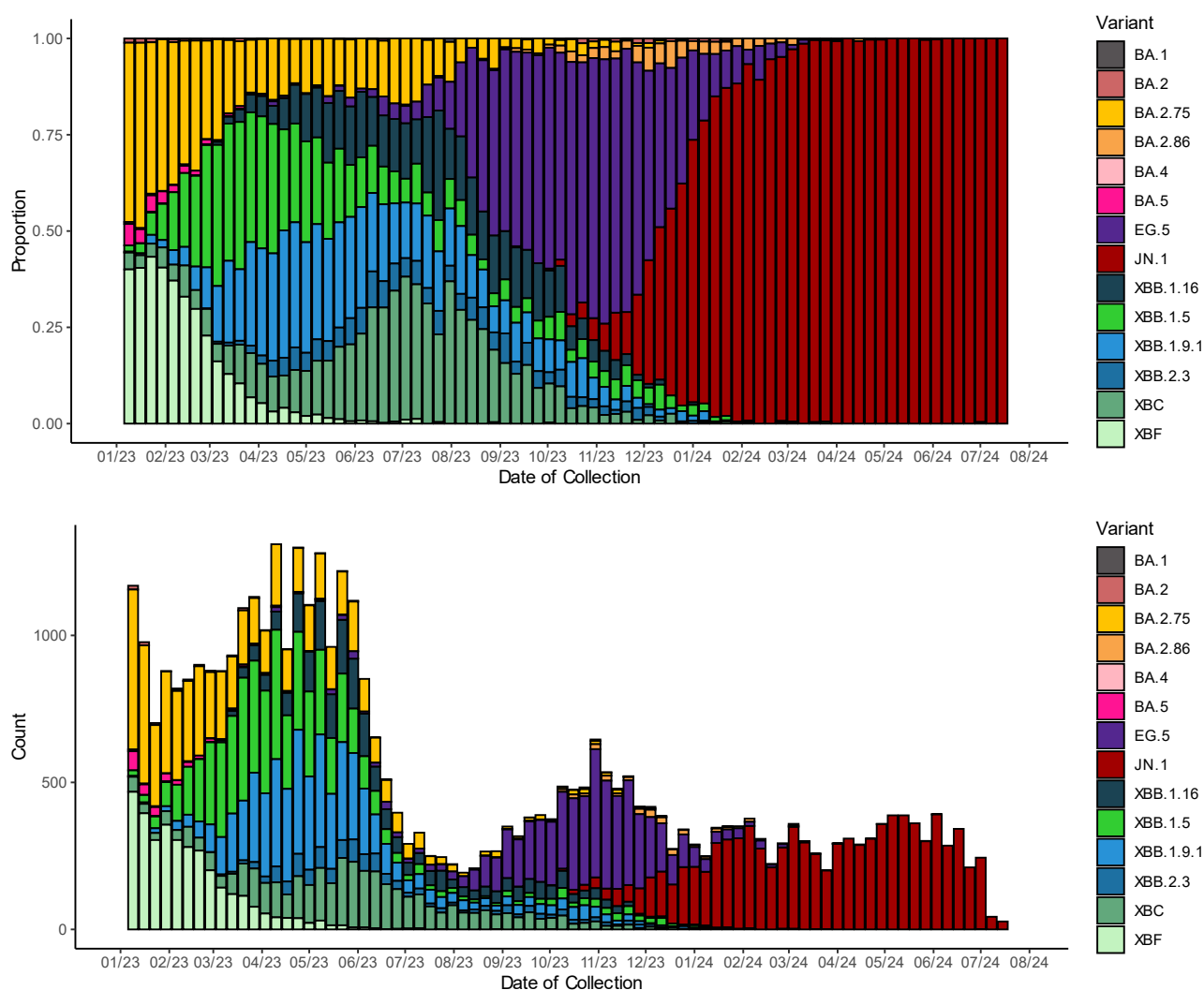
5. Genomic surveillance and virology

AusTrakka (last updated 2 August 2024)

Data on SARS-CoV-2 genomics should be interpreted with caution as SARS-CoV-2 sequencing strategies have changed significantly, and the representativeness of sequences uploaded to AusTrakka may be limited by the different sample referral pathways for each jurisdiction and a significant reduction in sequencing across the country. Sequences are reported based on date of sample collection, not date of sequencing. Due to the small number of sequences received and some delays in provision of data to AusTrakka, this section will be updated every four weeks; therefore, reporting periods presented here may not align with other sections of the report.

- As of 29 July 2024, jurisdictions that have samples with dates of collection during the past 28 days include Queensland, South Australia, Tasmania, Victoria, and Western Australia, with the most recent collection date 21 July 2024.
- As of 29 July 2024, 316 sequences have been uploaded to AusTrakka with dates of collection within the past 28-day period (1 July to 28 July 2024). All sequences were assigned to the BA.2.86 sub-lineage within B.1.1.529 (Omicron) or recombinants consisting of one or more Omicron sub-lineages. There were no BA.1, BA.3, BA.4, BA.5 or other BA.2 sub-sub-lineage sequences identified in the past 28 days (Figure 17).
- Of the 316 sequences collected in the past 28 days, 99.1% (313/316) were BA.2 sub-lineages, specifically from the sub-sub-lineages JN.1 (BA.2.86.1.1), including from KP.2 (7.0%; 22/316) and KP.3 (63.9%; 202/316). The remaining 0.9% (3/316) were recombinant or recombinant sub-lineages, two of which were XDV and one XBB.1.9.1.
- The World Health Organization have identified certain sub-sub-lineages and recombinants as variants under monitoring (VUM) or variants of interest (VOI) because of their epidemiological, pathological, or immunological features of concern. A select number of designated VUM or VOI are highlighted below due to their relevance in the Australian context:
 - Since the last reporting period, two new VUMs have been designated by the WHO: LB.1 and KP.3.1.1. There is limited evidence to suggest LB.1 and KP.3.1.1 may exhibit higher infectivity and greater immune evasion than KP.2 and KP.3.
 - A total of 74 sequences of LB.1 are identified in AusTrakka, with eight sequences identified in the past 28 days.
 - A total of 12 sequences of KP.3.1.1 are identified in AusTrakka, with three sequences identified in the past 28 days.
 - The proportion of JN.1 sequences has been consistent (99.1%; 313/316) in the past 28 days, compared with the previous 28-day period.
 - There have been three recombinant sequences identified in the past 28-day period, two of which were XDV and one XBB.1.9.1.

Figure 17: Omicron sub-lineage sequences in AusTrakka by sample collection date, showing (A) proportions and (B) count per week*†, Australia, 1 January 2023 to 28 July 2024



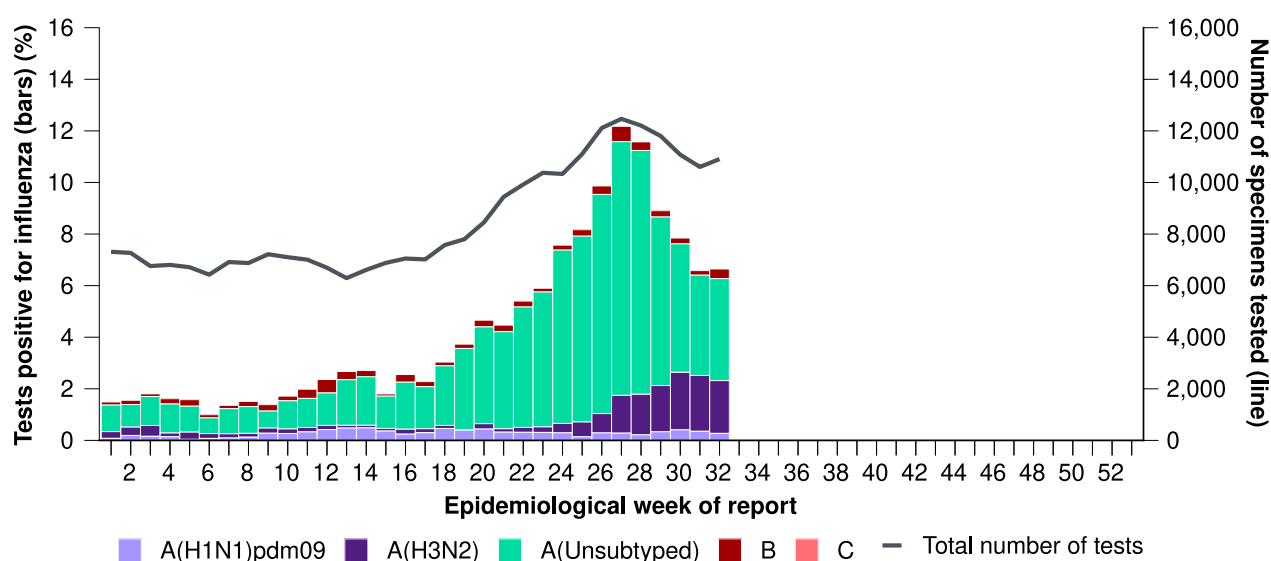
* Sequences in AusTrakka aggregated by epidemiological week. Sequences are reported based on date of sample collection, not date of sequencing.

† Proportions in Figure 17A may not be representative when sequence numbers are small; refer to Figure 17B. Data for earlier epidemiological weeks may change between reporting periods as sequences with older collection dates are uploaded. These numbers are not equivalent to number of cases, as there are many cases which may not be sequenced. Non-VOI and non-VUM Omicron sub-lineages have been collapsed into parent lineages BA.1, BA.2, BA.3, BA.4 and BA.5.

Sentinel laboratories, including National Influenza Centres

- In the year to date, there have been 20,406 influenza positive samples received by sentinel laboratories. Of those, influenza A accounted for 96.7% (19,724/20,406) of positive samples and influenza B accounted for 3.3% (683/20,406) of positive samples (Figure 18).
 - Note, the sum of the number of samples by type may not equal the total number of positive samples, due to multiple influenza detections in some individual samples.

Figure 18: Proportion of sentinel laboratory tests positive for influenza and total number of specimens tested by subtype and week of report*, Australia, 1 January to 11 August 2024



*Total number of tests include all specimens that have been tested for influenza, including multiplex panels used to test for SARS-CoV-2. Testing methodologies vary across jurisdictions and laboratories. Please refer to the Technical Supplement for interpretation of testing methodologies across jurisdictions and laboratories.

World Health Organization Collaborating Centre (WHOCC) for Reference and Research on Influenza

- In the year to date, the WHOCC has characterised 2,316 influenza viruses, of which 47.9% (1,109/2,316) have been influenza A(H1N1), 47.8% (1,107/2,316) have been influenza A(H3N2), and 4.3% (100/2,316) have been influenza B/Victoria. In the year to date, there have been no influenza B/Yamagata viruses characterised by the WHOCC (Table 4).
- Of the influenza A(H1N1) samples tested for neuraminidase inhibitor resistance 0.68% (5/740) demonstrated reduced inhibition to Oseltamivir. Of the influenza A(H3N2) samples tested for neuraminidase inhibitor resistance, 0.17% (1/587) demonstrated reduced inhibition to Oseltamivir. None of the influenza B/Victoria samples tested for neuraminidase inhibitor resistance demonstrated reduced inhibition to Oseltamivir or Zanamivir.

Table 4: Australian influenza viruses typed by the WHOCC for Reference and Research on Influenza by haemagglutination inhibition assay and jurisdiction*, 1 January to 11 August 2024

Strain	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
A(H1N1)	60	197	321	53	34	85	298	61	1,109
A(H3N2)	74	147	374	51	23	32	321	85	1,107
B/Victoria lineage	13	4	6	4	7	3	42	21	100
B/Yamagata lineage	0	0	0	0	0	0	0	0	0
Total	147	348	701	108	64	120	661	167	2,316

*Viruses tested by the WHOCC for Reference and Research on Influenza are not necessarily a random sample of all those in the community and early-year data may be based on limited samples received. There may be up to a month delay on reporting of samples.
† Jurisdiction indicates the residential location for the individual tested, not the submitting laboratory.

NNDSS

- This fortnight (29 July to 11 August 2024), of the 41,263 influenza notifications reported to the NNDSS, 95.6% (39,463/41,263) were influenza A(Unsubtyped), 1.4% (597/41,263) were influenza A(H3N2), 1.2% (495/41,263) were influenza B, 0.3% (127/41,263) were influenza A(H1N1) and 1.4% (576/41,263) were influenza untyped. Five notifications were influenza A&B co-detections (Figure 19).
- In the year to date, influenza A has accounted for the majority of influenza notifications across all jurisdictions (Figure 20).

Figure 19: Proportion of influenza notifications to the NNDSS by subtype and week of diagnosis, Australia, 1 January to 11 August 2024

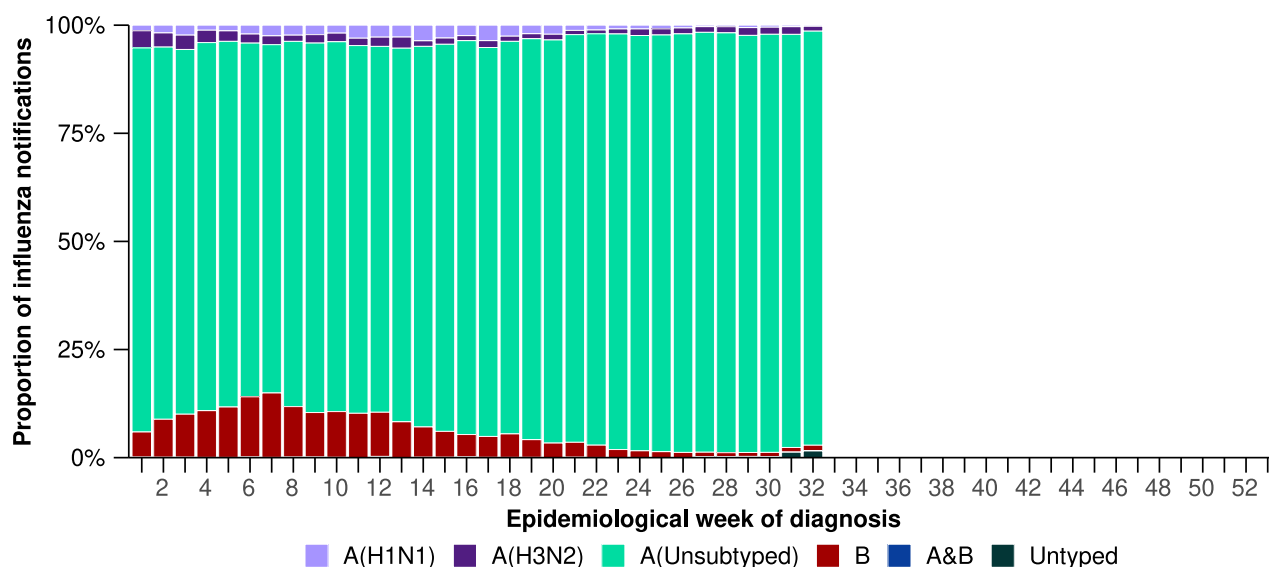
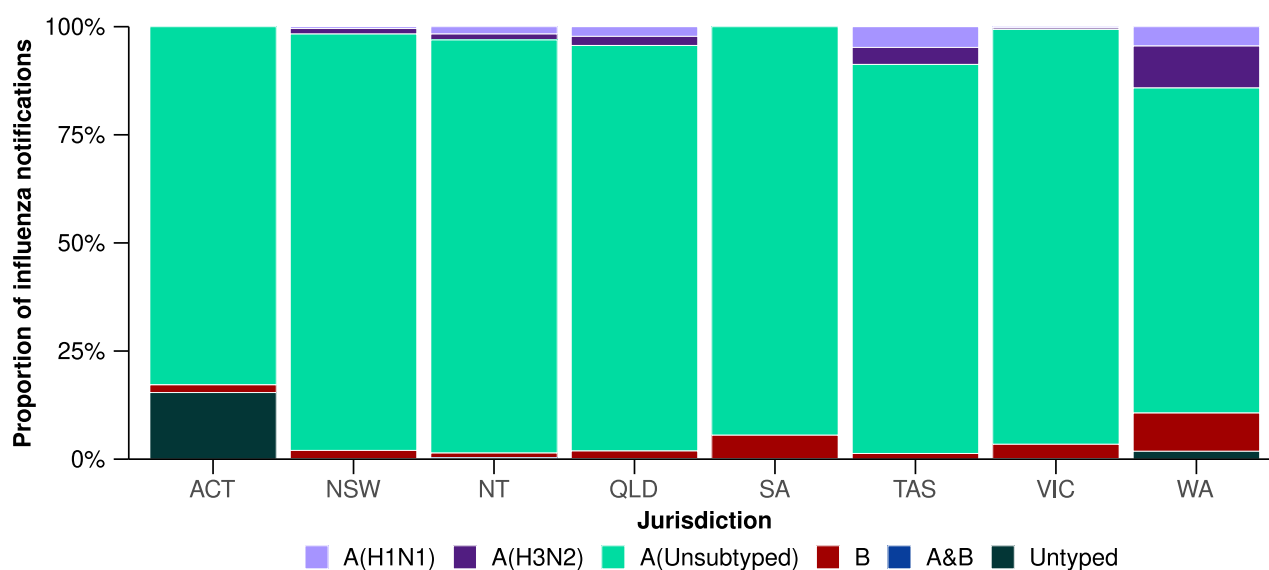


Figure 20: Proportion of influenza notifications to the NNDSS by subtype and jurisdiction*, Australia, 1 January to 11 August 2024



FluCAN

- Since influenza surveillance commenced on 1 April 2024 to date for FluCAN severity reporting (28 July 2024), 98.0% (2,461/2,511) of patients admitted with influenza to FluCAN sentinel hospitals have been due to influenza A and 2.0% (50/2,511) of patients admitted to FluCAN sentinel hospitals have been due to influenza B. Of the hospital admissions due to influenza A: 90.5% (2,228/2,461) were A(Unsubtyped), 5.8% (142/2,461) were A(H1N1) and 3.7% (91/2,461) were A(H3N2).
- Since influenza surveillance commenced on 1 April 2024 to date for FluCAN severity reporting, of the 162 patients who have been admitted directly to intensive care in a FluCAN sentinel hospital with influenza, 99.4% (161/162) have been due to influenza A and 0.6% (1/162) have been due to influenza B. Of the intensive care admissions due to influenza A: 85.2% (138/161) were A(Unsubtyped), 7.4% (12/161) were A(H1N1) and 6.8% (11/161) were A(H3N2).

6. Vaccine coverage, effectiveness and match

In the present report, data reported on vaccine coverage, effectiveness and match relate to influenza vaccinations. COVID-19 and RSV vaccination data will be included in future iterations of the Australian Respiratory Surveillance Report. Refer to the [Technical Supplement – Australian Respiratory Surveillance Report](#) for further detail on relevant vaccine terminology.

6.1 Vaccine coverage

- Data on vaccine coverage is currently unavailable.

6.2 Vaccine effectiveness

- It is too early to assess vaccine effectiveness for the 2024 influenza season.

6.3 Vaccine match

WHOCC for Reference and Research on Influenza

- In the year to date, of the 2,316 samples referred to the WHOCC, 98.2% (1,089/1,109) of influenza A(H1N1) isolates, 92.1% (1,020/1,107) of influenza A(H3N2) isolates and 100.0% (100/100) of influenza B/Victoria isolates have been antigenically similar to the corresponding vaccine components.

Australian Influenza Vaccines Composition 2024

- All 2024 southern hemisphere [seasonal influenza vaccinations](#) registered for use in Australia are quadrivalent influenza vaccines.
- The influenza virus strains included in egg-based quadrivalent influenza vaccines in Australia in 2024 are:
 - A/Victoria/4897/2022 (H1N1)pdm09-like virus
 - A/Thailand/8/2022 (H3N2)-like virus
 - B/Austria/1359417/2021 (B/Victoria lineage)-like virus
 - B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.
- The influenza virus strains included in cell-based quadrivalent influenza vaccines in Australia in 2024 are:
 - A/Wisconsin/67/2022 (H1N1)pdm09-like virus
 - A/Massachusetts/18/2022 (H3N2)-like virus
 - B/Austria/1359417/2021 (B/Victoria lineage)-like virus
 - B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.