
Annual Acute Respiratory Infections Report - 2024

Issued February 2025

Data Summary

This report details acute respiratory infections (ARI), with a focus on COVID-19, influenza, and respiratory syncytial virus (RSV), in South Eastern Sydney Local Health District (SESLHD) from 1 January to 31 December 2024.

- COVID-19 activity varied throughout the year with a peak across all indicators in January, May-June and again at the end of the year. Those people aged 65 years or older had the highest rates of notifications across SESLHD.
- Influenza activity followed a usual seasonal pattern with a peak between May – September. Activity increased across all indicators during May-August with rates of notifications highest amongst those aged less than 5 years of age.
- Respiratory syncytial virus (RSV) activity increased in February to peak in March and remained steady until mid-July, following which it remained at low level for the rest of the year. Rate of notifications was highest in those aged 1 year of age.

Data Sources and Methods

This report adopts new approaches to monitoring respiratory virus activity to align with NSW Health respiratory surveillance methods and World Health Organisation surveillance guidelines. Changes to respiratory virus testing over time affect the number of cases notified, meaning case numbers are not a good measure of respiratory virus in the community and limit the validity of comparing trends between years. The data sources used for this report have been referenced throughout the document. All data used in this report is limited to SESLHD unless otherwise stated.

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Acknowledgements

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Next report to be issued:	Quarter 1, 2026	

Transmission

The following section uses data such as test positivity, rate of disease notifications, FluTracking, and sewage surveillance as indicators for community transmission and infection rates.

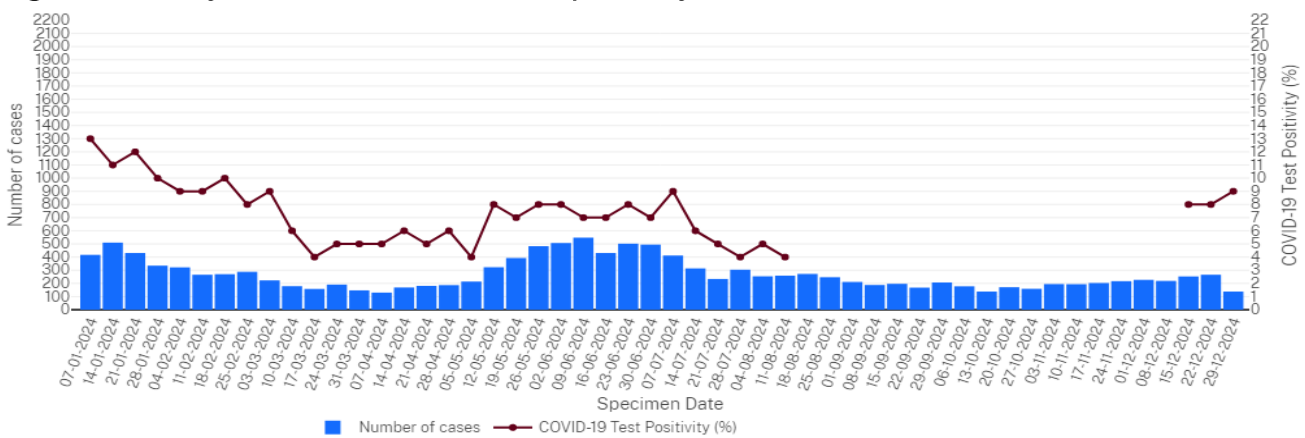
Notification and test positivity for COVID-19, influenza, and RSV

Notification data is obtained from all laboratory tests for infections. Test positivity data is calculated using laboratory testing data from NSW Health Pathology-Randwick and St George.

COVID-19

Figure 1 shows the weekly number of COVID-19 notifications and test positivity for 2024. Test positivity was highest in January, increased with notifications in May-June, with a third test positivity peak in December at 13% despite notifications remaining low. Positivity rate data were not available between mid-August and mid-December.

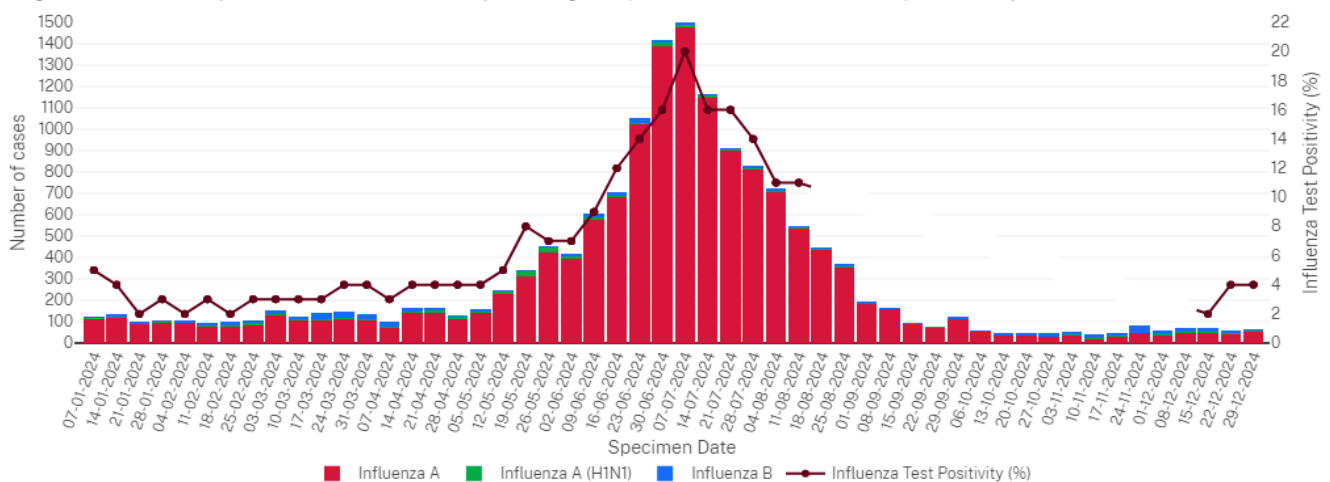
Figure 1: Weekly COVID-19 cases and test positivity, 2024, SESLHD



Influenza

Figure 2 shows weekly influenza notifications by serogroup and test positivity. Influenza followed a usual seasonal trend with a peak over the winter months of May - September. Influenza A was largely predominant this year and test positivity peaked at 20% in July. Positivity rate data were not available between mid-August and mid-December.

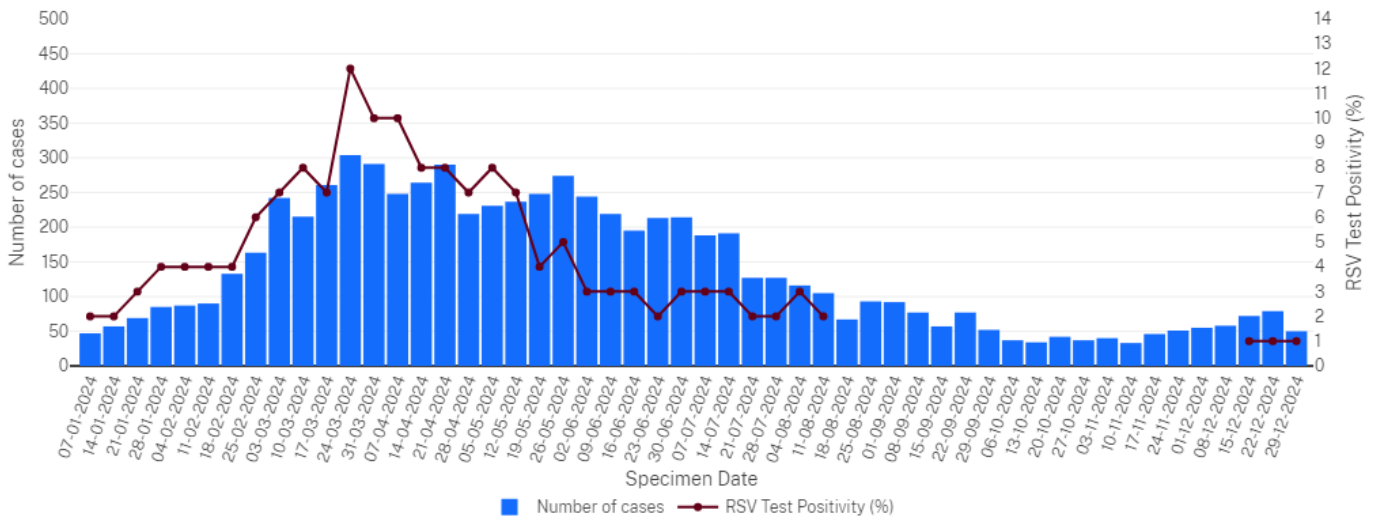
Figure 2: Weekly influenza cases, by serogroup and influenza test positivity, 2024, SESLHD



RSV

RSV notifications increased from February with test positivity reaching a peak of 12 % in March. While positivity was moderate from mid-May notifications remained at high levels until mid-July. Positivity rate data were not available between mid-August and mid-December.

Figure 3: Weekly RSV cases and RSV test positivity, 2024, SESLHD

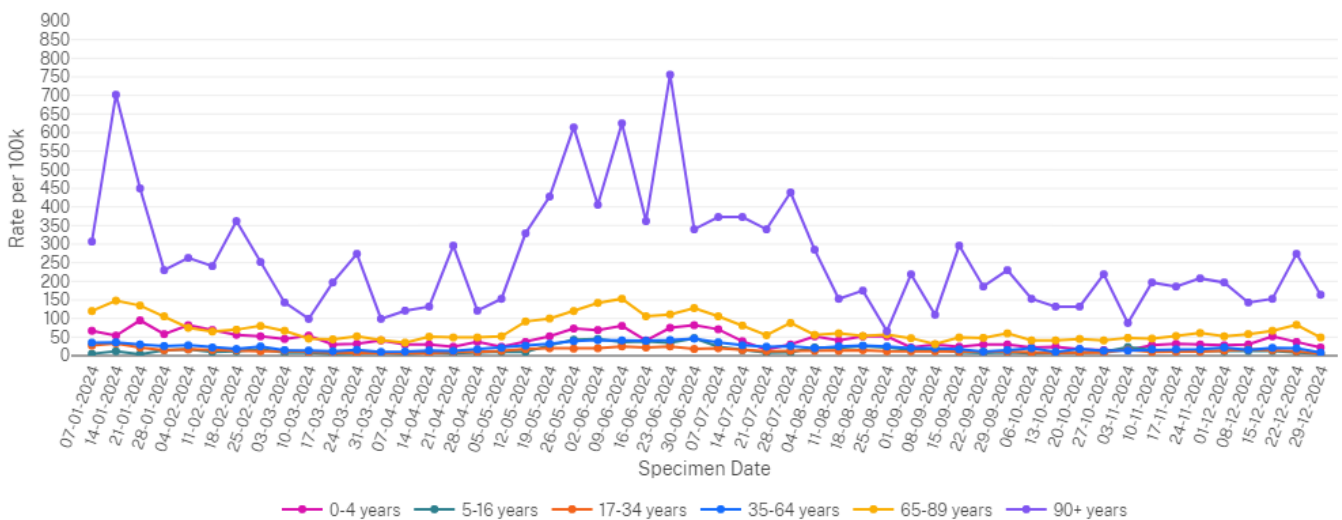


Rates of COVID-19, influenza, and RSV notifications by age

Figures 4, 5 and 6 show the rate of notifications by age group per 100,000 population. Population data were sourced from the Australian Bureau of Statistics (ABS) and are the official estimates from the ABS for 2022. Overall, the highest rates of COVID-19 notifications are seen in those aged 90 years or older. This could be as a result of testing during outbreaks in residential aged care facilities leading to an over representation of notifications in this population within the district. The 17–34-year age group had the lowest annual rate of notifications at 14 per 100,000 population.

COVID-19

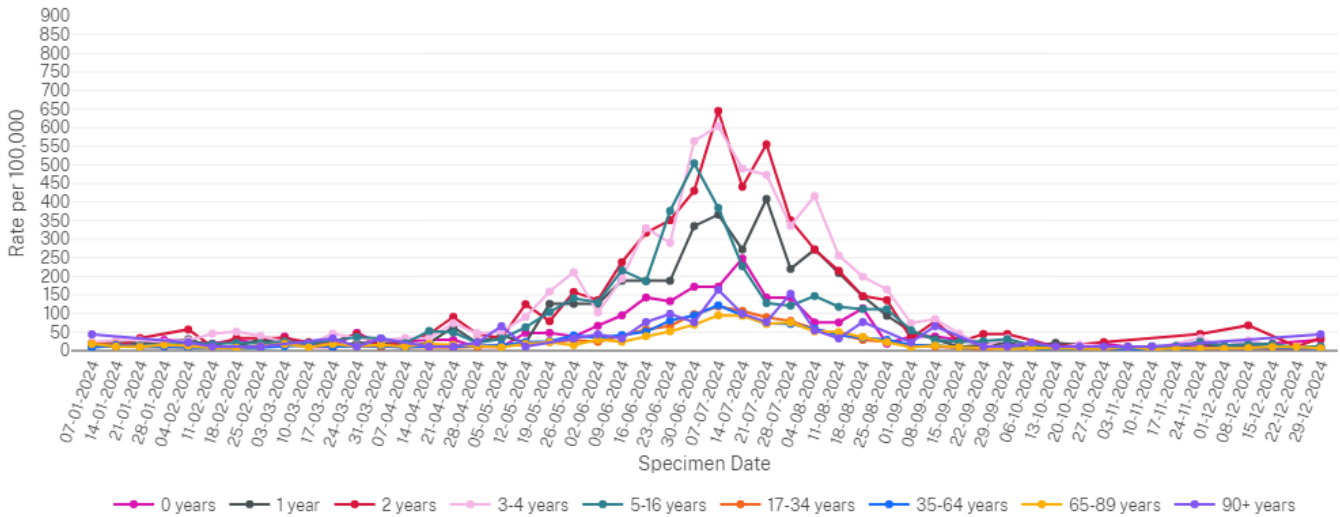
Figure 4: Rate of COVID-19 notifications by age group per 100,000 population, 2024, SESLHD



Influenza

Influenza notifications were highest amongst children and were elevated during May through to August. The rate of influenza notifications among children aged 2 years peaked at 645 per 100,000 in late June. The age group with the next highest rate was in children aged 3-4 years with a rate of 604 per 100,000 people in early July.

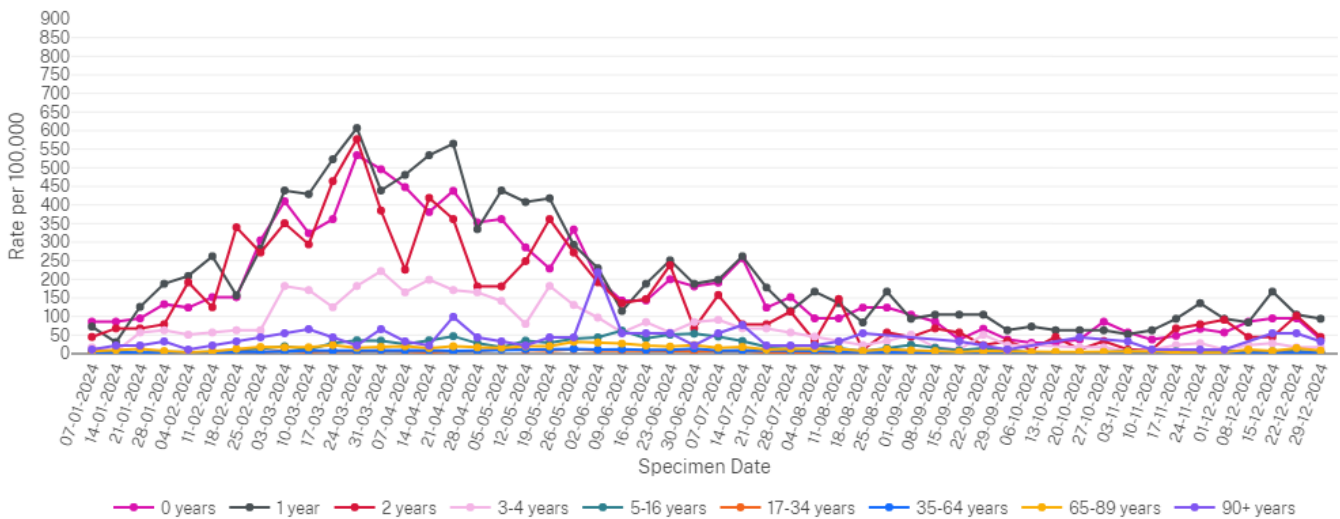
Figure 5: Rate of influenza notifications by age group per 100,000 population, 2024, SESLHD



RSV

Rates of RSV notifications were highest in children aged less than 5 years. The rate of RSV notifications among children aged 1 year peaked at 607 per 100,000 in March. The age group with the next highest rate was in children aged 2 years with a rate of 577 per 100,000 also in March.

Figure 6: Rate of RSV notifications by age group per 100,000 population, 2024, SESLHD

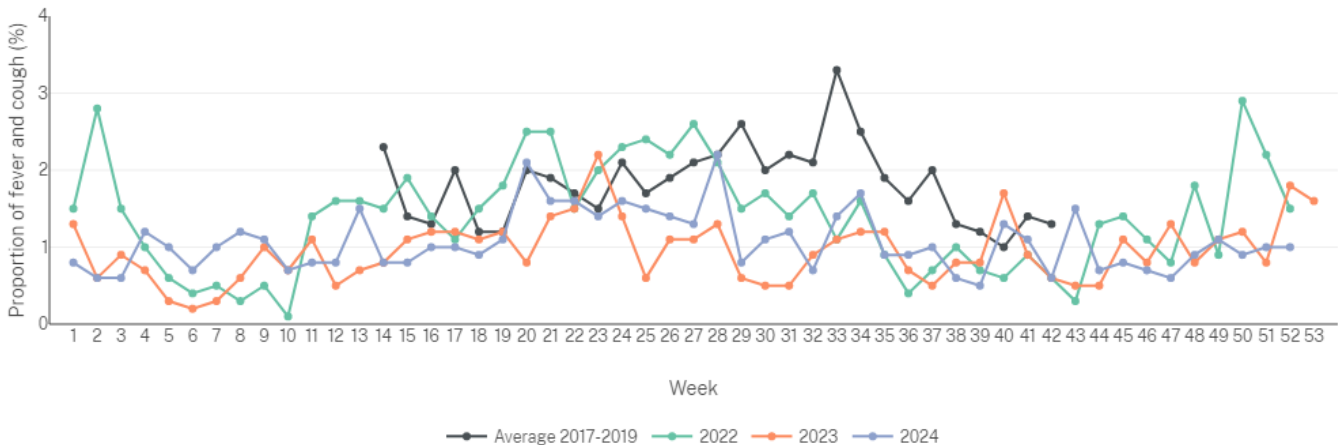


FluTracking

FluTracking is an online health surveillance system used to monitor influenza and COVID-19 activity across Australia and New Zealand. Participants complete an online survey each week to provide community level influenza-like illness surveillance. FluTracking provides a consistent approach to surveillance of influenza activity across all jurisdictions over time, allowing year to year comparisons of the timing, attack rates and seriousness of respiratory illness in the community. Prior to the pandemic FluTracking was only conducted during the expected influenza season, so comparative data prior to 2020 is only available from April to October. More information about FluTracking and ways to be involved are available here: <https://info.flutracking.net/about/>

The proportion of people reporting influenza-like illness was overall less in 2024 compared to 2023. Proportions increased during the winter months and remained steady before decreasing towards the end of spring.

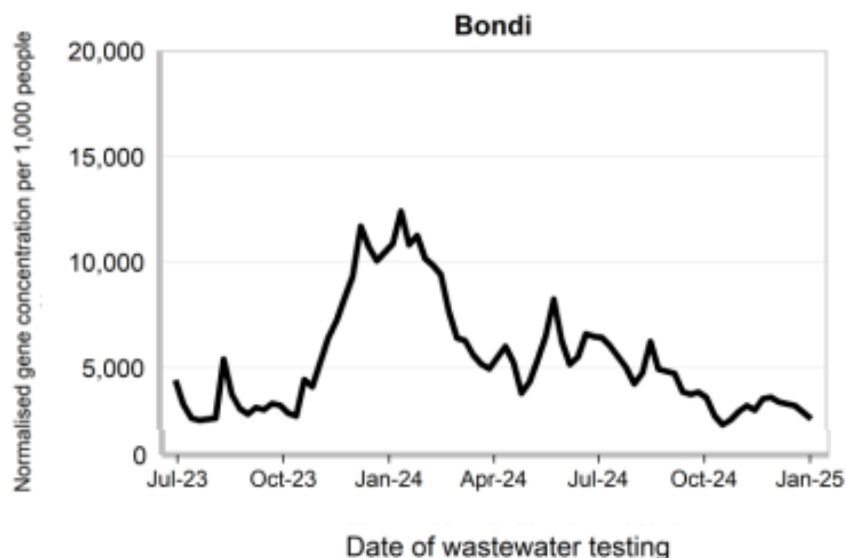
Figure 7: Proportion of SESLHD FluTracking participants who reported fever and cough, by week ending, 1 January - 31 December 2024



COVID-19 sewage surveillance program

Sewage surveillance gives an indication of levels of infection in the community. This can be used to estimate changes in the level of transmission, even if people do not get tested. For more information, please see the COVID-19 Sewage Surveillance Program website: <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/sewage-surveillance.aspx>.

Figure 8: SARS-CoV-2 gene concentration, per 1,000 people in Bondi sewage catchment, 01 July 2023 to 04 January 2025



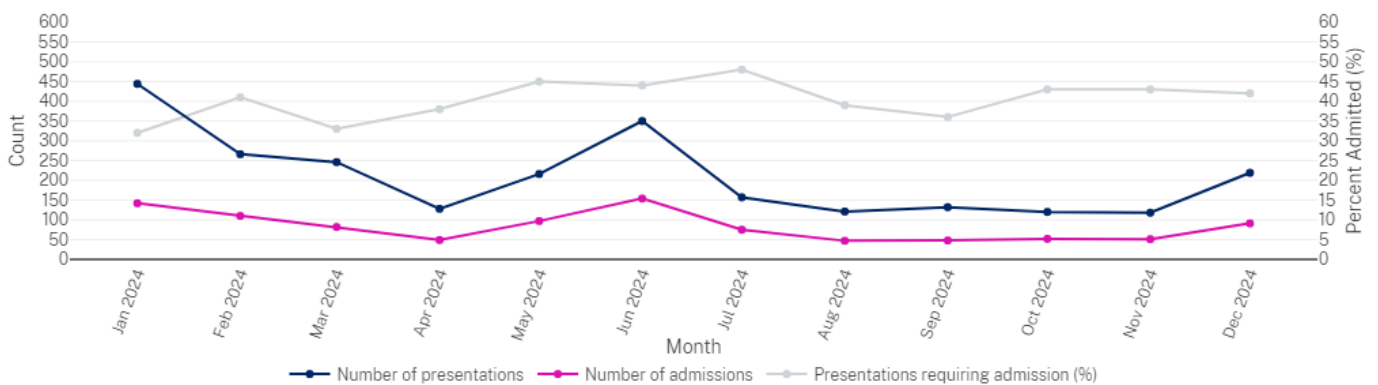
Severity

Public Health Rapid Emergency, Disease and Syndromic Surveillance

The PHREDSS system provides daily information about presentations to NSW public hospital emergency departments and subsequent admission to hospital categorised by symptom profile. Here we report on COVID-19, influenza-like illness, and bronchiolitis (which is mainly caused by RSV) presentations and admissions. These PHREDSS indicators, particularly the proportion of people admitted to hospital, are useful for monitoring the severity of illness and impact on the health system.

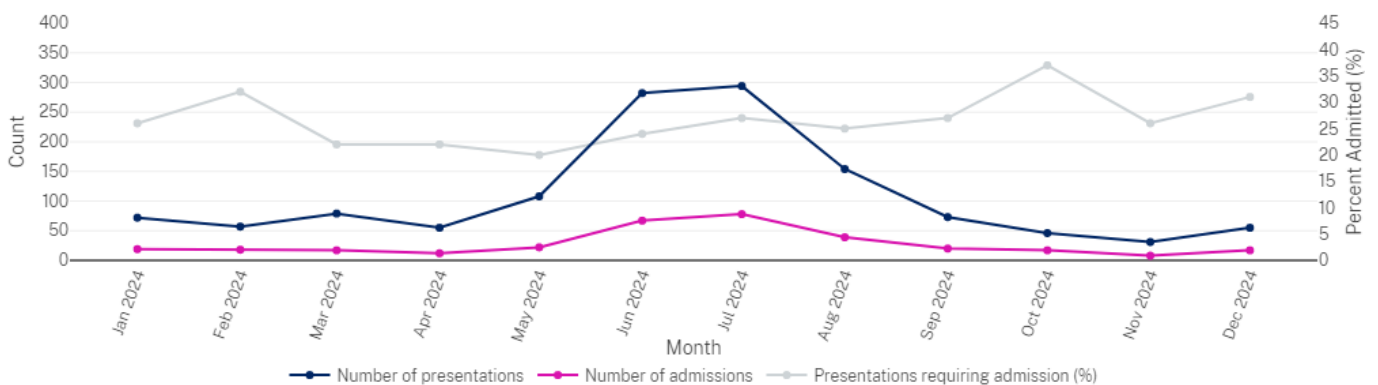
Presentation to EDs for COVID-19 were high in January, then increased again during May to June and again in December. Admissions increased during the same time periods. The proportion of people requiring admission remained stable throughout the year ranging between 30-45% of people presenting to ED requiring admission to hospital.

Figure 9: 'COVID-19/coronaviruses' monthly counts of unplanned emergency department presentations and admission following presentation, 2024, persons of all ages, SESLHD



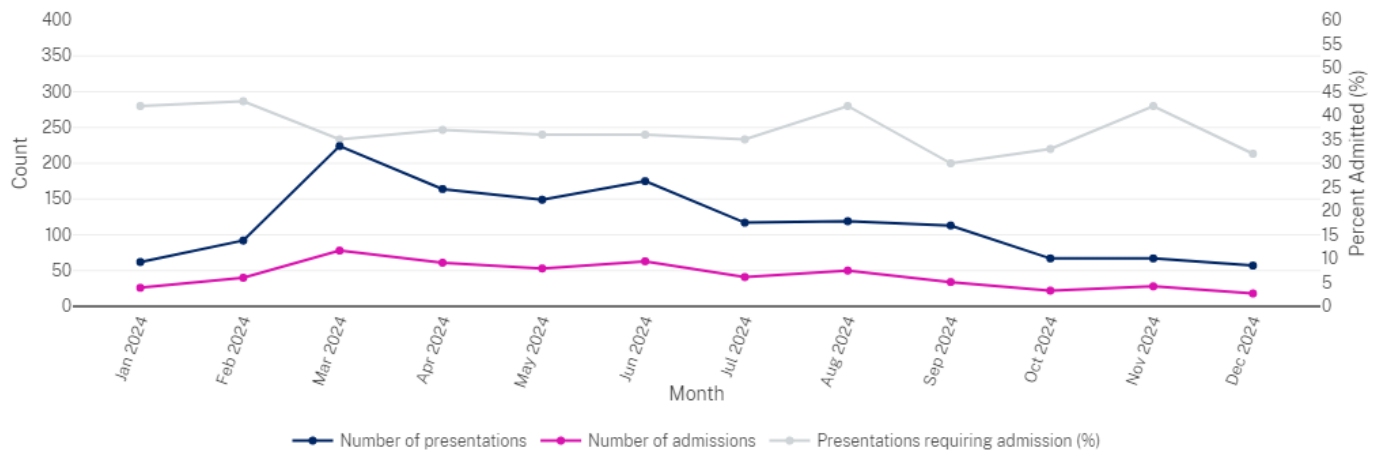
ED presentations and admissions for influenza-like illness peaked during June and July. The proportion of people requiring admission was highest during February, October and December, however the absolute number of presentations during those months was small.

Figure 10: Influenza-like illness monthly counts of unplanned emergency department presentations and admission following presentation, 2024, persons of all ages, SESLHD



Presentations for bronchiolitis had a steep increase between February and March and declined steadily from then. Admissions followed a similar trend. Proportions of children requiring admission ranged from 30-40%.

Figure 11: Bronchiolitis monthly counts of unplanned emergency department presentations and admission following presentation, 2024, children aged 0-4 years, SESLHD



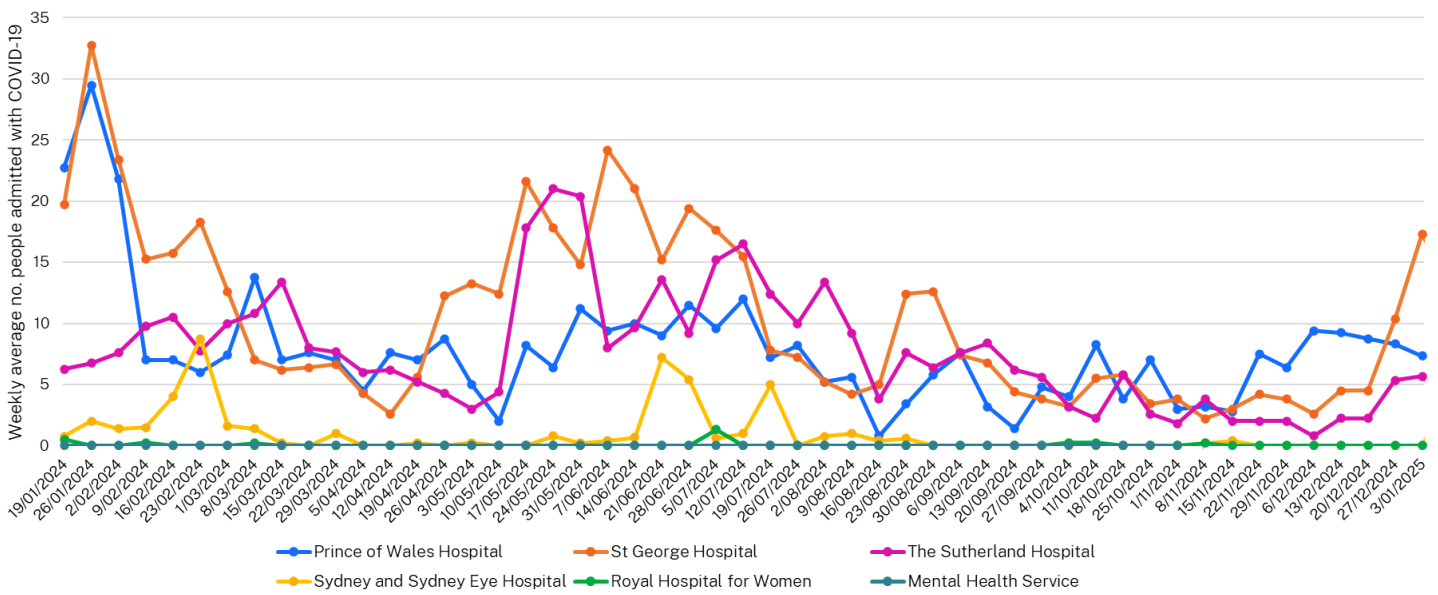
Impact

COVID-19 Hospital Admission Tracking

The COVID-19 admission tracking data is sourced from the Access and Patient Flow Portal for SESLHD facilities. It reflects the current count of patients occupying beds, irrespective of their admission date, who have tested positive for COVID-19.

In line with COVID notifications and presentations to ED due to COVID-19, the number of people occupying beds with COVID-19 was higher at the start of the year and during the winter months and increased again in December.

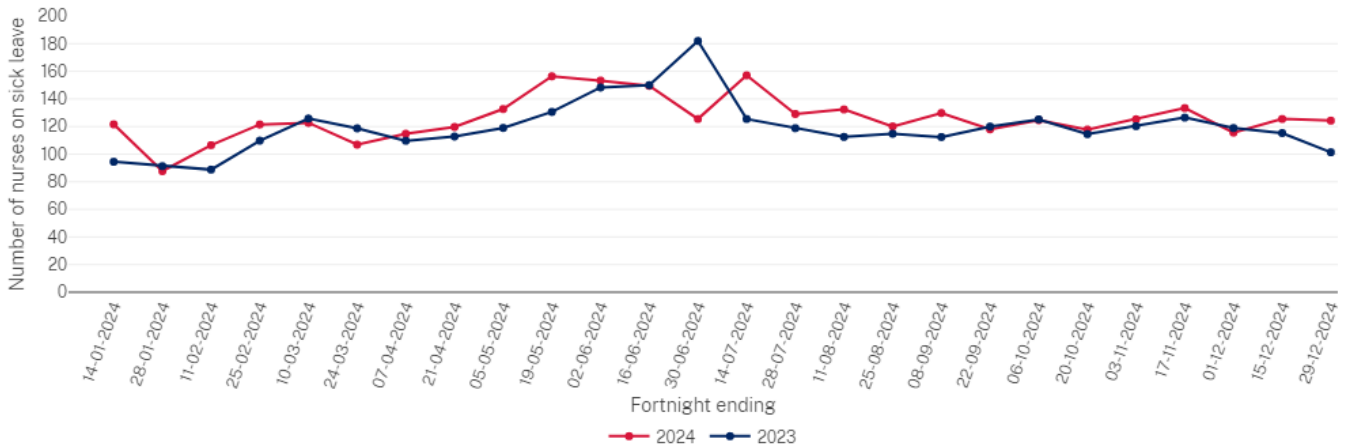
Figure 11: Number of people occupying beds with COVID-19 in SESLHD hospitals, 16 January 2024 to 03 January 2025



NSW Healthcare worker furloughing

The inclusion of healthcare workers' sick leave statistics is helpful to assess the level of respiratory viruses circulating in the community during periods of decreased community testing and assess the impact of respiratory illnesses on the workforce, although the absence of recorded reasons for sick leave may overestimate the true burden. Healthcare workers are included in these statistics if they are a full-time nursing staff member in SESLHD who were paid sick leave.

Figure 12: Number of full-time nursing staff in SESLHD on sick leave 2023 and 2024

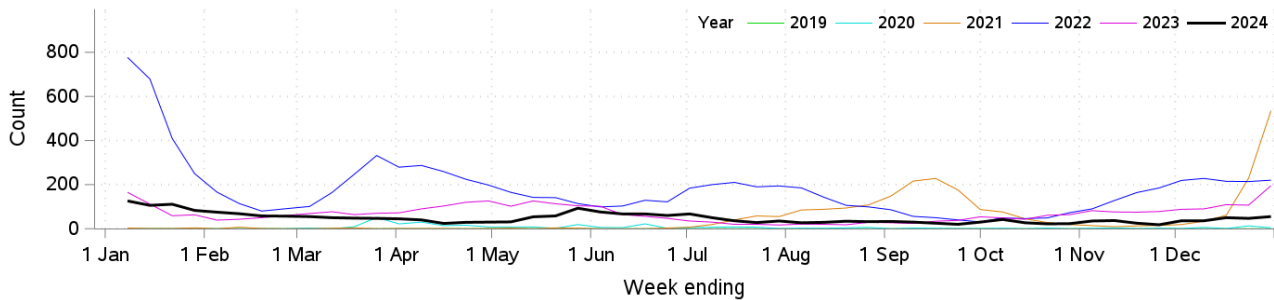


Emergency Department Presentations

PHREDSS provides daily information about presentations to NSW public hospital emergency departments and subsequent admission to hospital, categorised by symptom profile. COVID-19, influenza-like illness, and bronchiolitis (which is mainly caused by RSV) presentations in 2024 are reported below (black line) compared to previous years. It includes presentations to all public emergency departments in SESLHD, including Sydney Children’s Hospital and St Vincent’s Hospital. These PHREDSS indicators are useful for monitoring the impact on emergency departments.

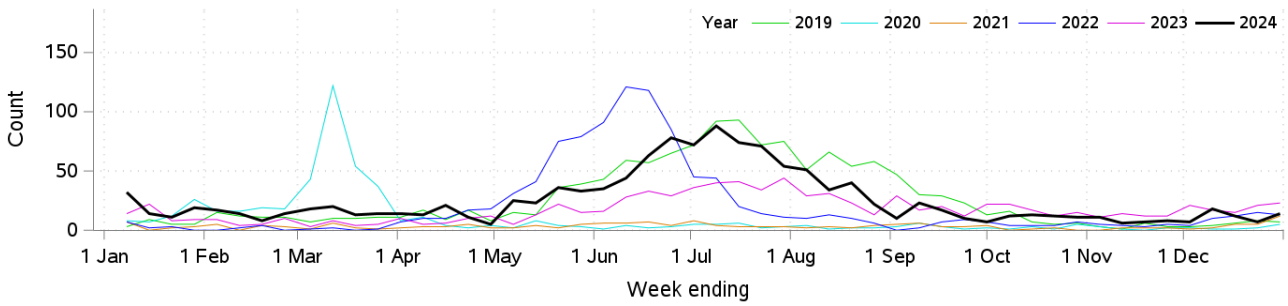
COVID-19

Figure 13: ‘COVID-19/coronaviruses’ weekly counts of unplanned emergency department presentations, 2024, persons of all ages, SESLHD



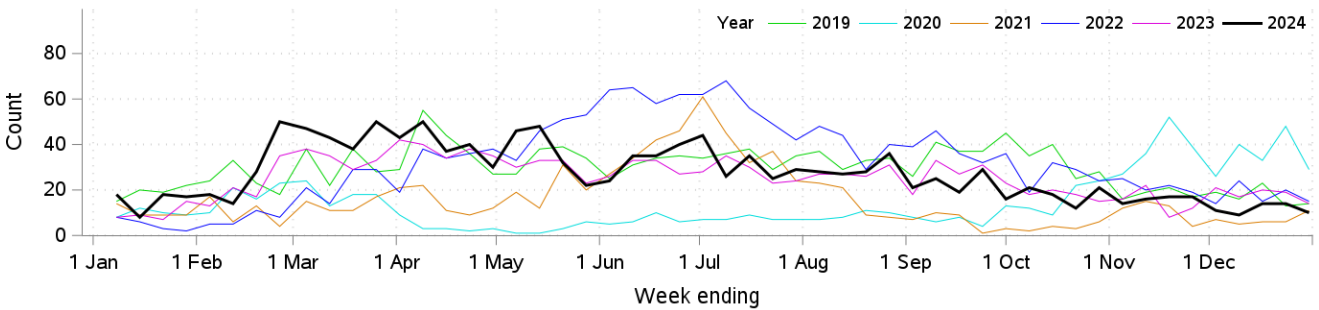
Influenza-like illness

Figure 14: 'Influenza-like illness' weekly counts of unplanned emergency department presentations, 2024, persons of all ages, SESLHD



Bronchiolitis

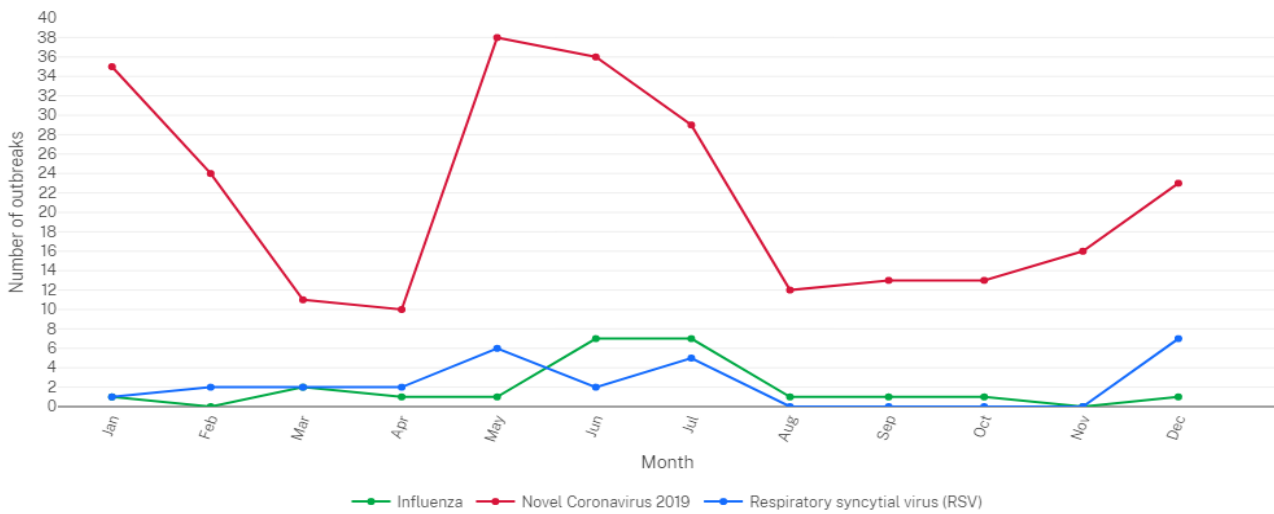
Figure 15: 'Bronchiolitis' weekly counts of unplanned emergency department presentations, 2024, persons of all ages, SESLHD



Outbreaks in residential aged care facilities

COVID-19 was the main cause for ARI outbreaks in residential aged care facilities during 2024. The number of outbreaks of COVID-19 reported in a month reached a peak of 38 in April. Outbreaks of influenza and RSV remained low throughout the year.

Figure 16: Acute respiratory infection outbreaks in SESLHD residential aged care facilities, 2024

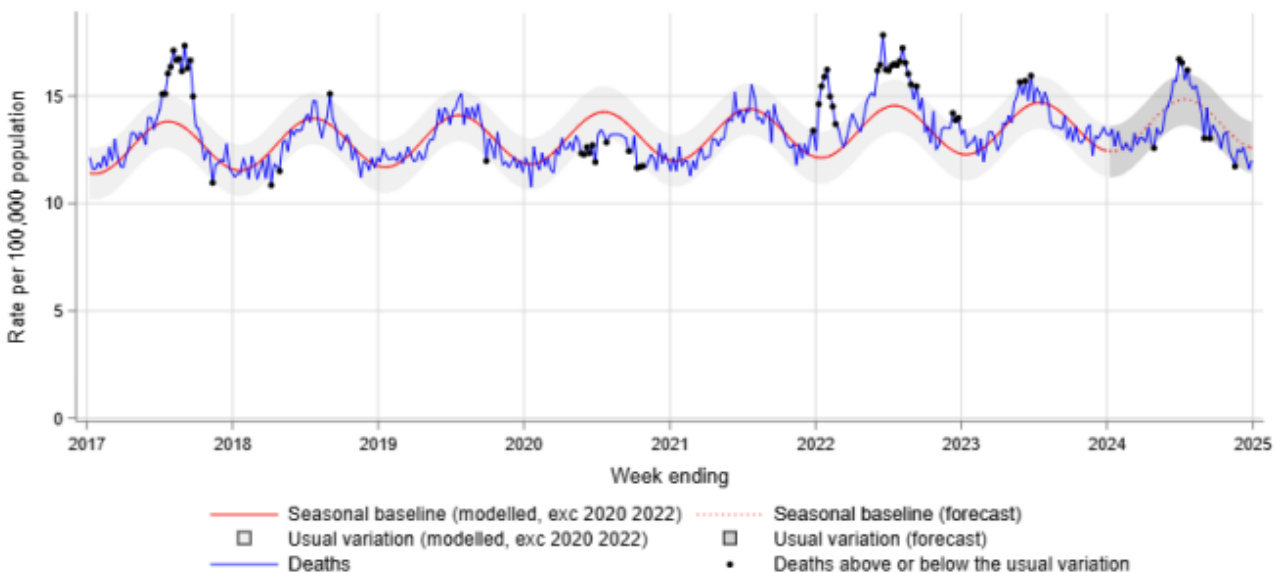


Excess All-cause Mortality

NSW Health receives daily reports of deaths reported to NSW Registry of Births, Deaths and Marriages (BDM). Deaths from all-causes are tracked against previous death rates at the same time of year to detect when respiratory outbreaks may be more severe. Increased excess mortality (population-wide impact) may be due to increased transmission or increased virulence of the virus.

The data is available at a state-level only.

Figure 17: All-cause death rate per 100,000 population, all ages, 1 January 2017 to 29 December 2024



All-cause mortality in the week ending 7 July 2024 was at the upper limit of the interval of usual variation but was otherwise within or below the usual variation in 2024.