

COVID-19 is now at a moderate level of activity. Influenza and RSV are at a low level of activity

Summary

COVID-19 indicators have continued to gradually increase over the last few weeks, and activity is now at a moderate level. Influenza and RSV activity is stable at a low level. Pertussis, or whooping cough, notifications are at a high level but have been decreasing over the last four weeks.

Data sources and methods

NSW Health continually reviews the methods used to monitor respiratory virus activity in New South Wales. This is due to changes in testing, notification patterns and levels of respiratory virus, including COVID-19, in the community. These changes affect the usefulness of notifications for monitoring virus activity and community transmission over time. The Public Health, Rapid, Emergency and Syndromic Surveillance (PHREDSS) data, COVID-19 Wastewater Surveillance Program, Whole Genome Sequencing (WGS) data and the NSW Sentinel Laboratory Network results are currently of most value for monitoring COVID-19 and other respiratory viruses of importance in the community. Public registration of positive COVID-19 rapid antigen tests (RAT) in NSW ceased on 30 September 2023. NSW Health also monitors COVID-19 [outbreaks in residential aged-care facilities](#) that are published by the Australian Government and COVID-19 antiviral prescriptions dispensed in NSW.

The data source for this report updates as new information becomes available. Therefore, this report cannot be directly compared to previous versions of the NSW Respiratory Surveillance Report or to previous reporting periods. For additional information on the data sources and methods presented within this report please refer to [COVID-19 surveillance report data sources and methodology](#).

This is the last report of the 2024 calendar year with the next report to be released on 9 January 2025. Data on pneumonia will not be routinely reported in 2025 as the number of emergency department presentations has now returned to expected levels.

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 respiratory syncytial virus, RSV). These PHREDSS indicators, particularly the number of people admitted to hospital, are useful for monitoring the severity of illness and the impact on the health system.

Interpretation: The presentations to EDs and admissions for COVID-19 have increased in the last week. Influenza-like illness (ILI) remained stable at a low level. Admissions for bronchiolitis in young children continue to slowly decline and are now at a low level.

Figure 1. 'COVID-19' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 15 December 2024, persons of all ages

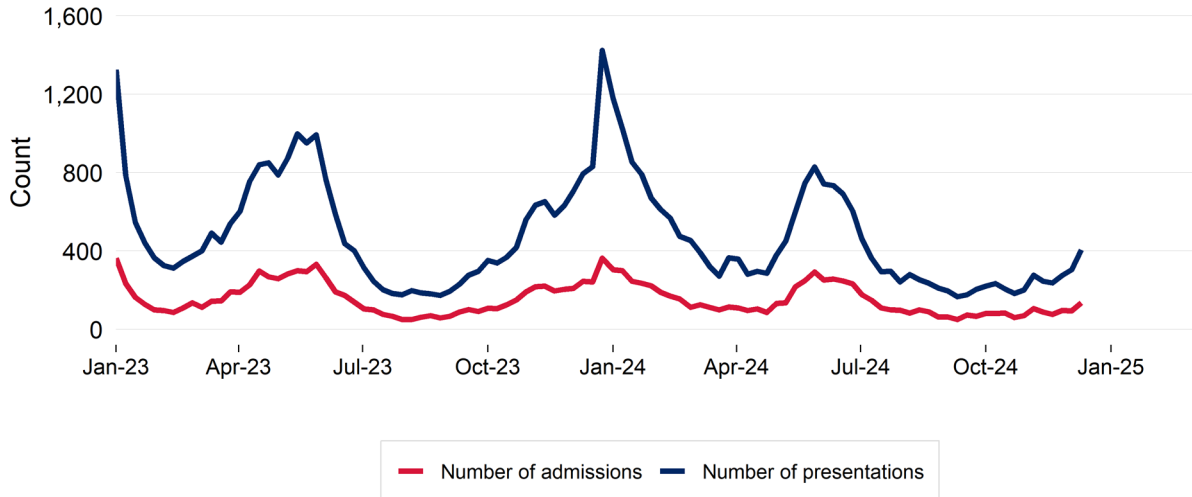


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 15 December 2024, persons of all ages

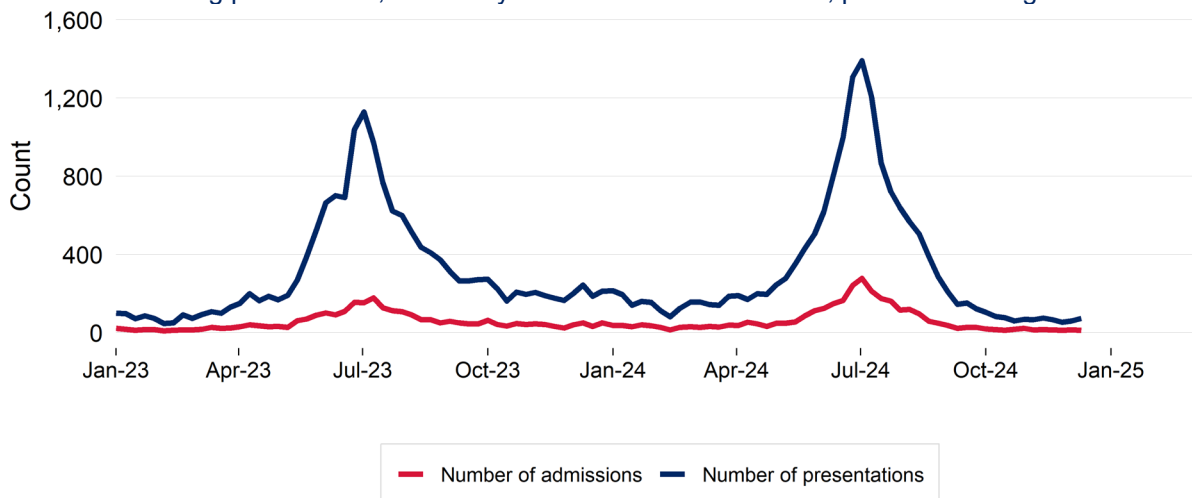
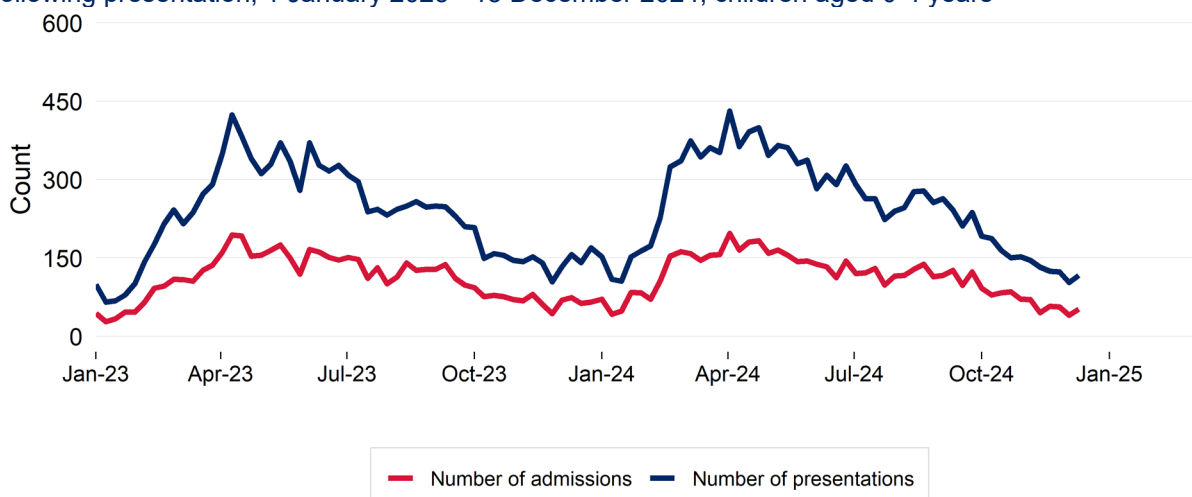


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 15 December 2024, children aged 0-4 years



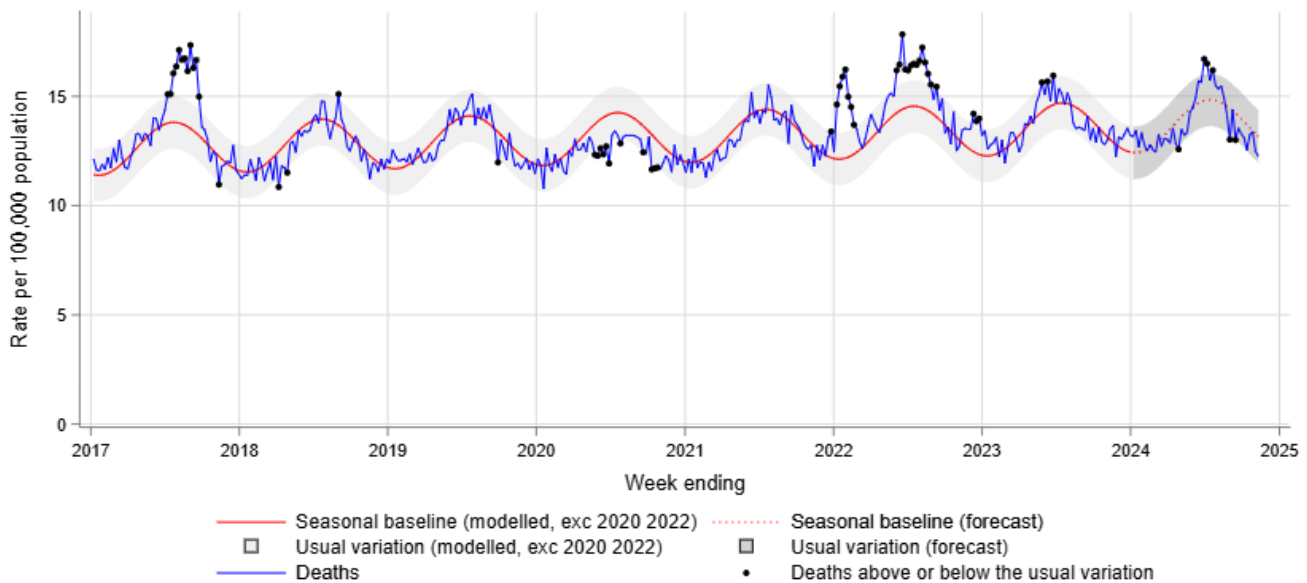
Death surveillance

All-cause mortality

The model for rapid surveillance of excess all-cause mortality in NSW is updated annually, and has a focus on surveillance for increased mortality in recent months. The model outputs for the current year should not be directly compared to previous years' outputs, due to a change in the baseline of the model. The NSW model supports surveillance of the impact of circulating viruses such as COVID-19 and influenza on all-cause mortality. This is not the same approach as that used by the [ABS](#) or by the [Actuaries Institute](#) to examine excess mortality associated with COVID-19 during the pandemic period. These approaches modelled excess mortality in the absence of COVID-19.

Interpretation: Weekly lag adjusted all-cause mortality is below the seasonal baseline (red dotted line) and within the lower threshold of the usual variation band (grey shading).

Figure 4. All-cause death rate per 100,000 population, all ages, 1 January 2017 to 10 November 2024



Notes:

In this report, due to the time interval between a death occurring and the date on which the death is registered, only deaths reported 4 weeks prior to the date of analysis are used. Deaths are lag adjusted for the weeks ending 6 October 2024 to 10 November 2024. For additional information see [COVID-19 surveillance report data sources and methodology](#) for details.

Notifications of COVID-19, influenza and RSV

Notification data is obtained from laboratory tests for infections. This indicator provides information about community infection.

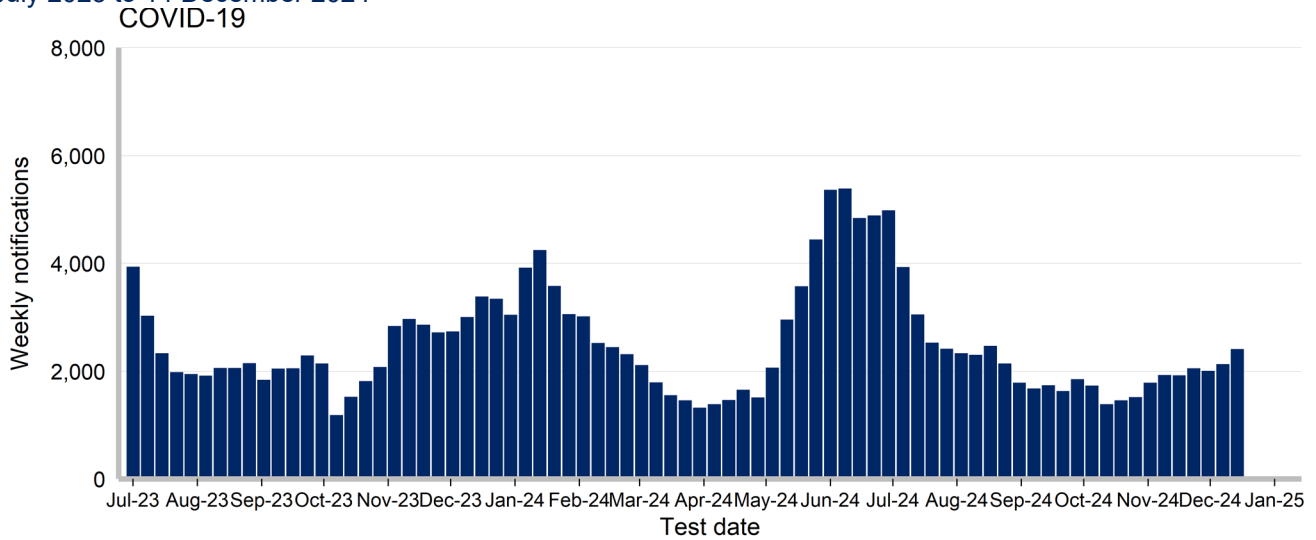
Interpretation: In the past week there was an increase of 15.48% in COVID-19 notifications, an increase of 1.39% in influenza notifications, and an increase of 21.1% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 14 December 2024

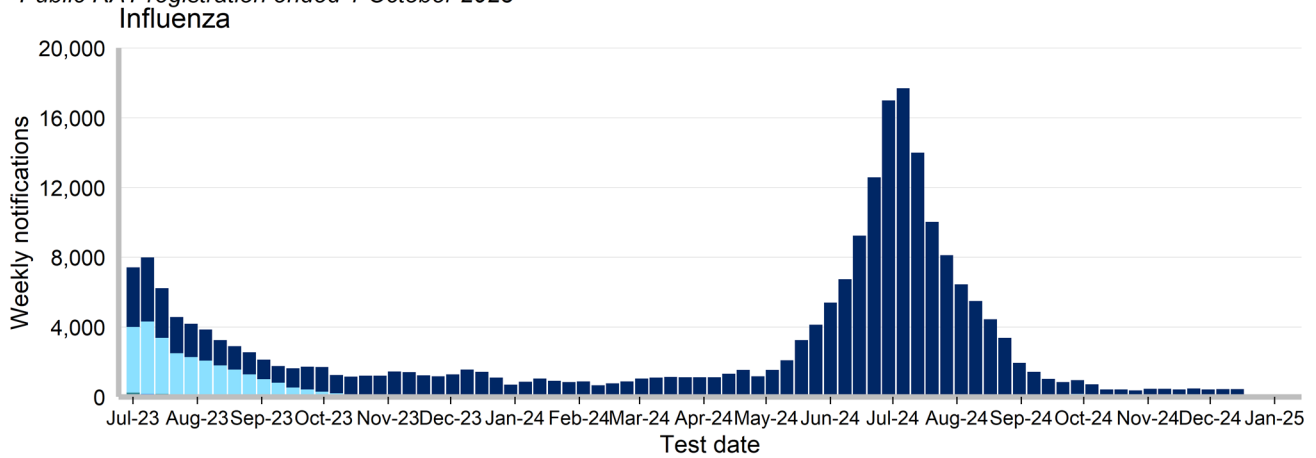
	COVID		Influenza		RSV	
	Week ending 14 December 2024	Year to Date	Week ending 14 December 2024	Year to Date	Week ending 14 December 2024	Year to Date
Gender						
Female	1,398	72,557 (57%)	212	83,785 (52%)	280	37,870 (52%)
Male	1,010	55,029 (43%)	227	76,310 (48%)	225	34,444 (48%)
Age group (years)						
0-4	193	11,341 (9%)	40	23,891 (15%)	227	37,401 (52%)
5-9	82	3,758 (3%)	44	25,226 (16%)	40	6,457 (9%)
10-19	179	8,181 (6%)	69	26,342 (16%)	32	4,974 (7%)
20-29	187	9,621 (8%)	45	15,667 (10%)	24	2,458 (3%)
30-39	265	14,061 (11%)	48	19,596 (12%)	22	3,454 (5%)
40-49	290	13,636 (11%)	46	16,565 (10%)	21	2,823 (4%)
50-59	258	12,553 (10%)	36	11,554 (7%)	40	3,268 (5%)
60-69	239	13,432 (11%)	39	9,245 (6%)	30	3,692 (5%)
70-79	305	16,204 (13%)	34	6,817 (4%)	42	3,711 (5%)
80-89	297	16,654 (13%)	29	4,057 (3%)	15	2,926 (4%)
90+	124	8,195 (6%)	9	1,211 (1%)	12	1,176 (2%)
Local Health District of residence						
Central Coast	99	5,027 (4%)	11	5,559 (3%)	21	2,837 (4%)
Far West	3	357 (0%)	1	339 (0%)	1	116 (0%)
Hunter New England	195	10,758 (8%)	32	12,297 (8%)	48	6,684 (9%)
Illawarra Shoalhaven	147	6,337 (5%)	26	6,480 (4%)	55	3,915 (5%)
Mid North Coast	63	2,689 (2%)	4	1,957 (1%)	20	1,451 (2%)
Murrumbidgee	41	3,582 (3%)	17	4,718 (3%)	9	2,562 (4%)
Nepean Blue Mountains	168	7,017 (5%)	19	9,954 (6%)	14	4,593 (6%)
Northern NSW	150	4,306 (3%)	10	3,910 (2%)	42	2,109 (3%)
Northern Sydney	323	16,816 (13%)	44	20,788 (13%)	58	9,534 (13%)
South Eastern Sydney	253	13,201 (10%)	68	15,307 (10%)	72	7,002 (10%)
South Western Sydney	338	17,420 (14%)	73	26,046 (16%)	50	10,746 (15%)
Southern NSW	29	2,232 (2%)	4	2,470 (2%)	0	1,398 (2%)
Sydney	138	9,550 (7%)	40	10,835 (7%)	26	4,488 (6%)
Western NSW	34	3,448 (3%)	9	3,879 (2%)	17	2,318 (3%)
Western Sydney	432	24,083 (19%)	75	35,157 (22%)	71	12,427 (17%)
Aboriginal status						
Aboriginal and/or Torres Strait	47	2,719 (2%)	9	4,443 (3%)	15	2,328 (3%)
Not Aboriginal or Torres Strait	1,241	69,546 (54%)	231	83,895 (52%)	240	33,368 (46%)
Not Stated / Unknown	1,123	55,413 (43%)	199	71,843 (45%)	250	36,656 (51%)
Total	2,411	127,678	439	160,181	505	72,352 (100%)

Note: Total includes all cases including those with missing gender, age, LHD; or who are interstate or overseas residents.

Figure 5. Weekly notifications of COVID-19*, Influenza and RSV, by date of test and type of test performed, NSW, 1 July 2023 to 14 December 2024

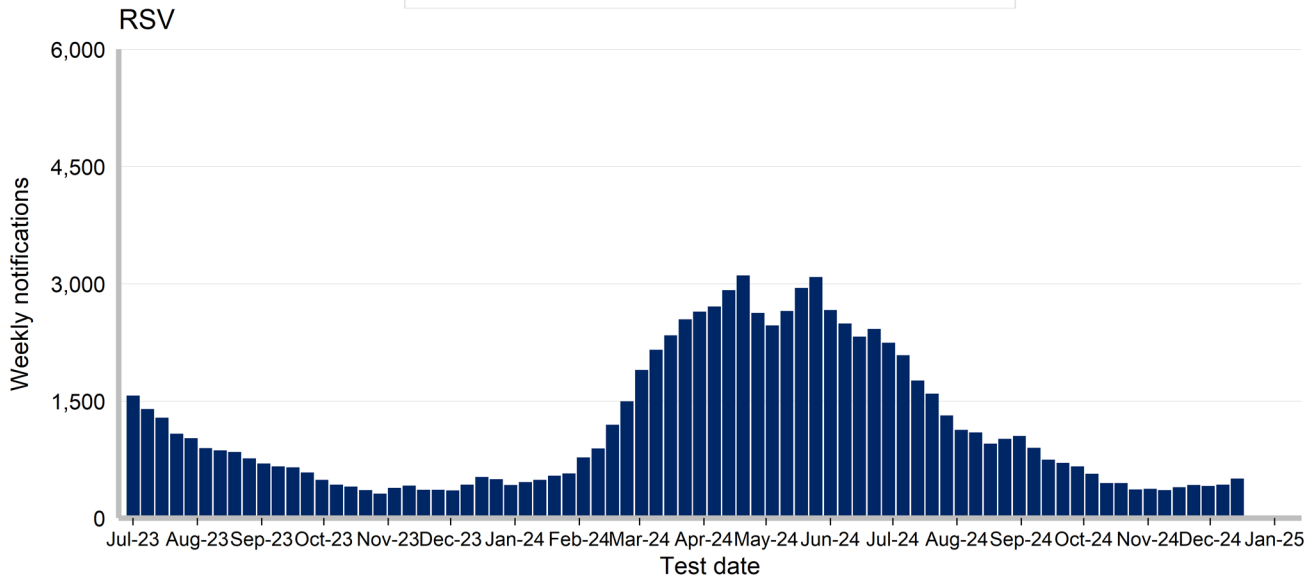


*Public RAT registration ended 1 October 2023



Type of test:

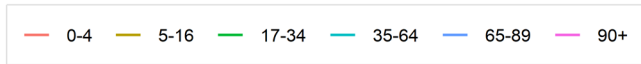
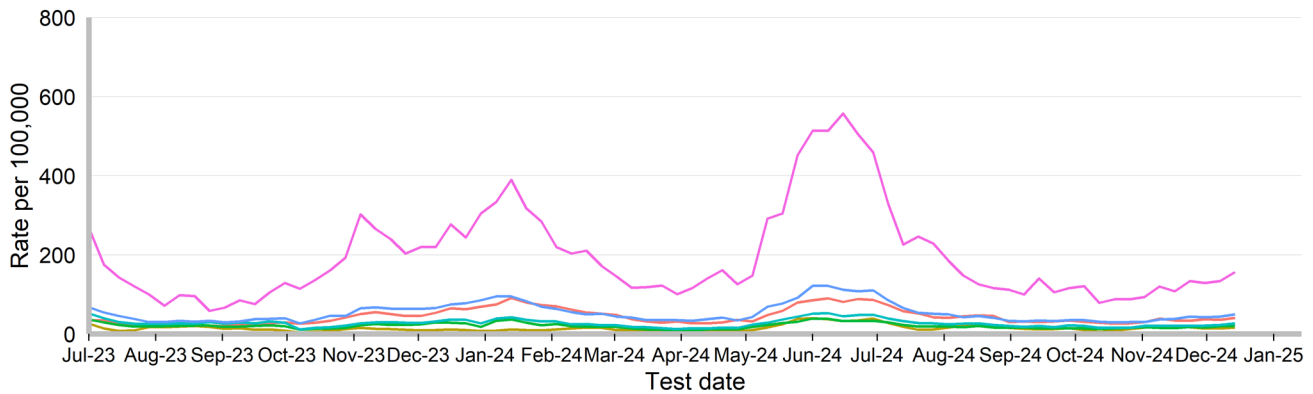
- Influenza – Type A
- Influenza – Type A&B
- Influenza – Type B
- Influenza - untyped



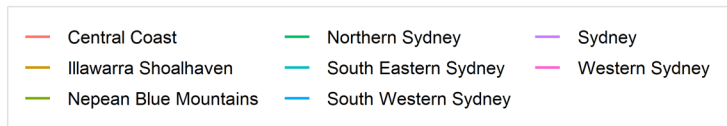
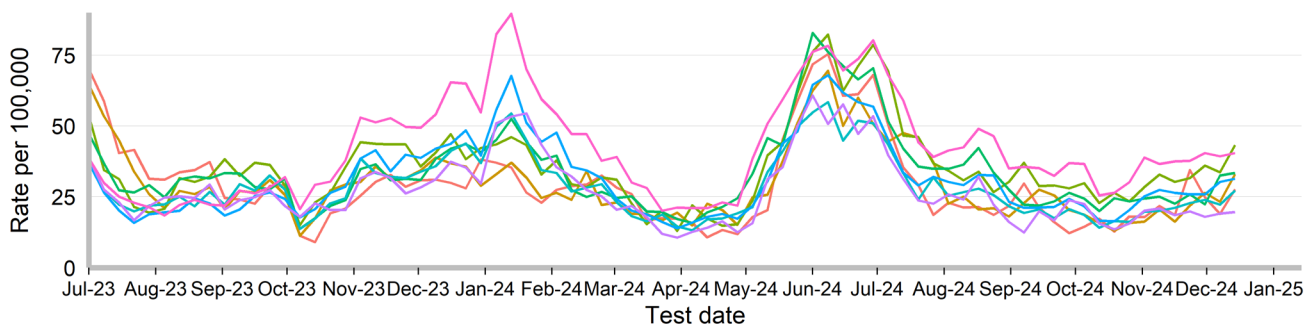
Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications have slightly increased in those aged 90 and over. There has been a substantial increase in notification rates in Northern NSW.

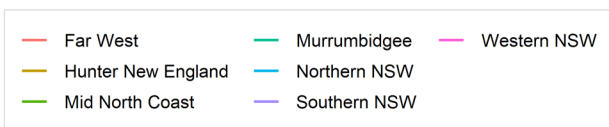
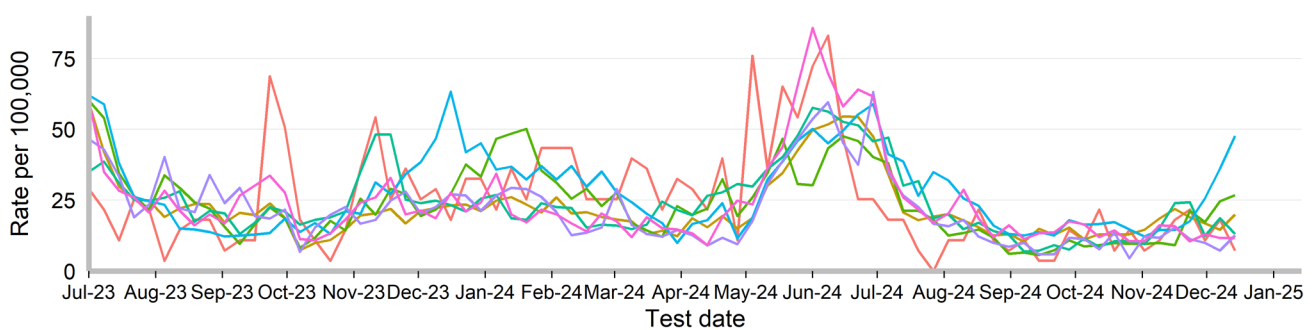
Figure 6. Weekly rate of COVID-19* notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 14 December 2024



*Public RAT registration ended 1 October 2023



*Public RAT registration ended 1 October 2023

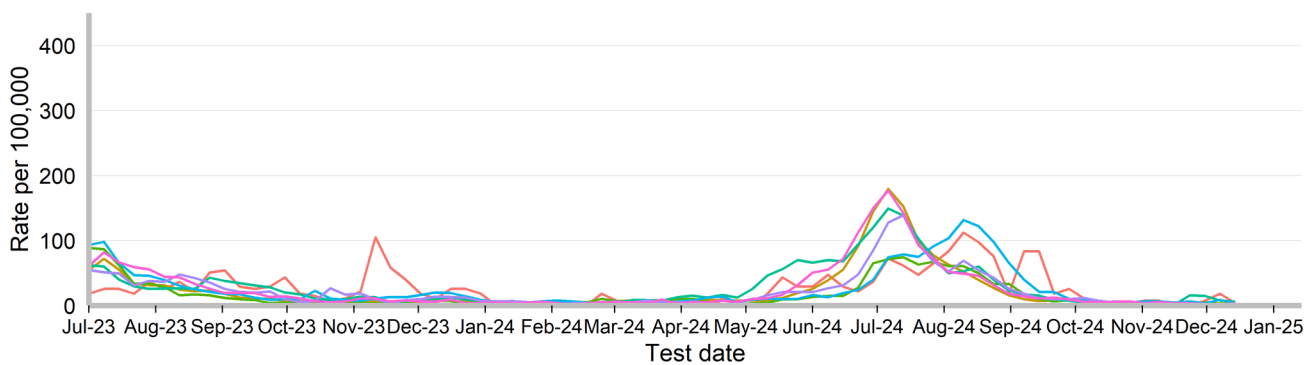
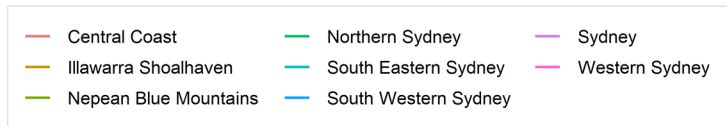
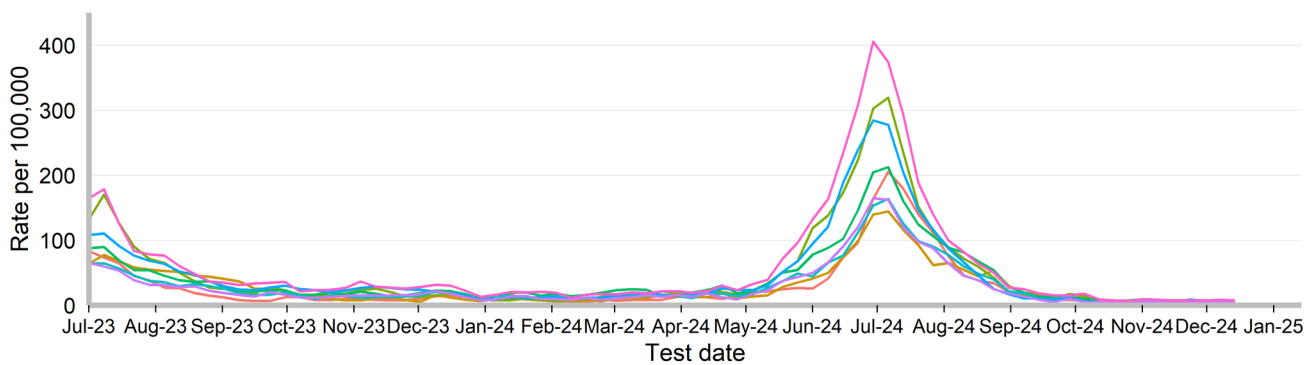
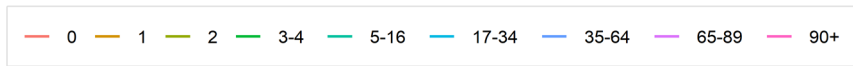
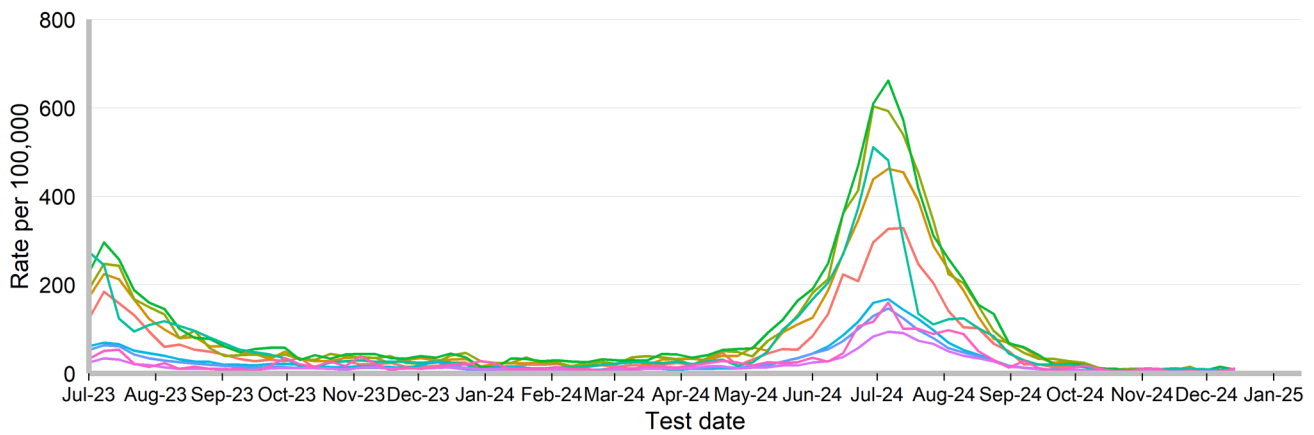


*Public RAT registration ended 1 October 2023

Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications are low across all age groups. These patterns are also observed across all the Local Health Districts.

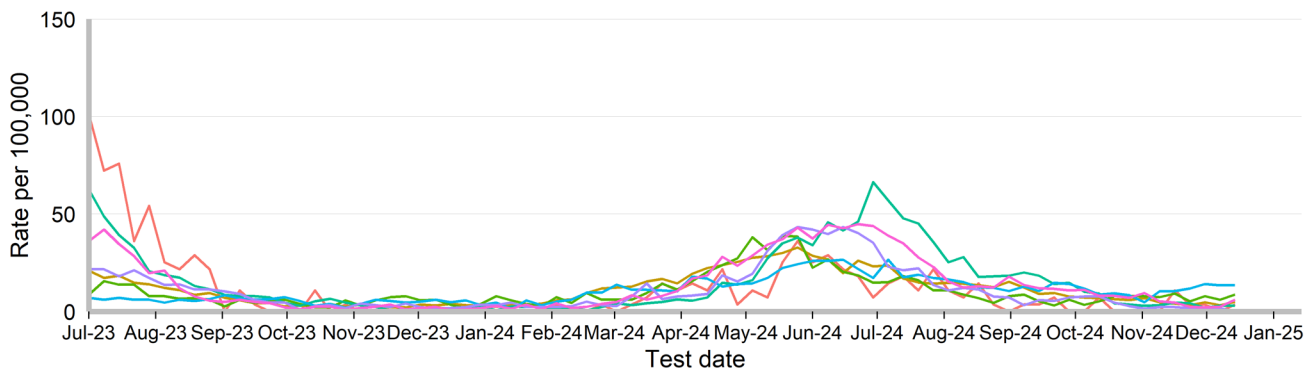
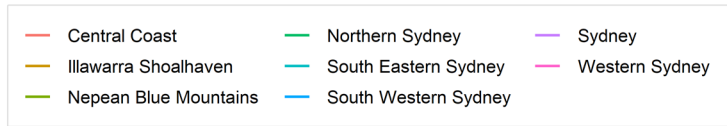
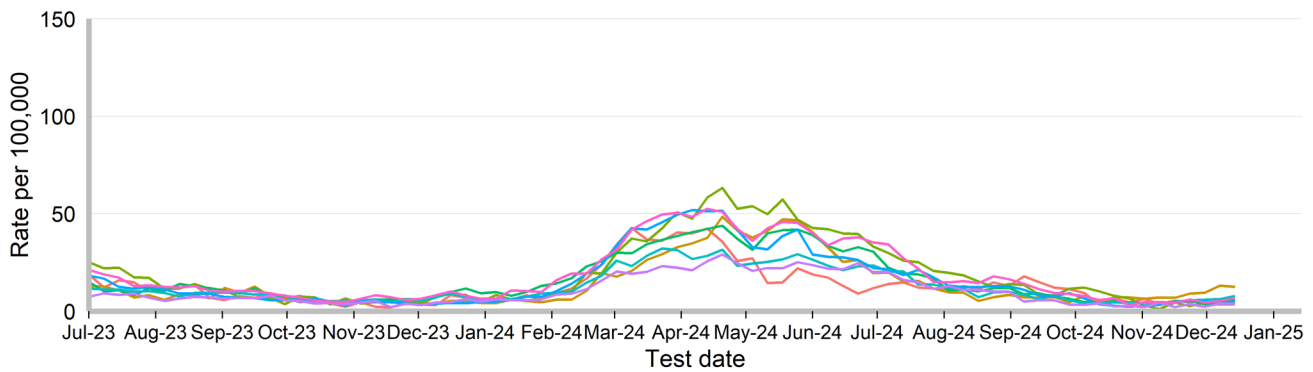
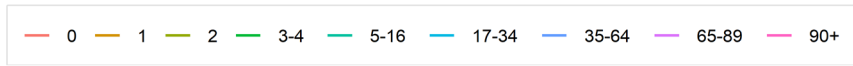
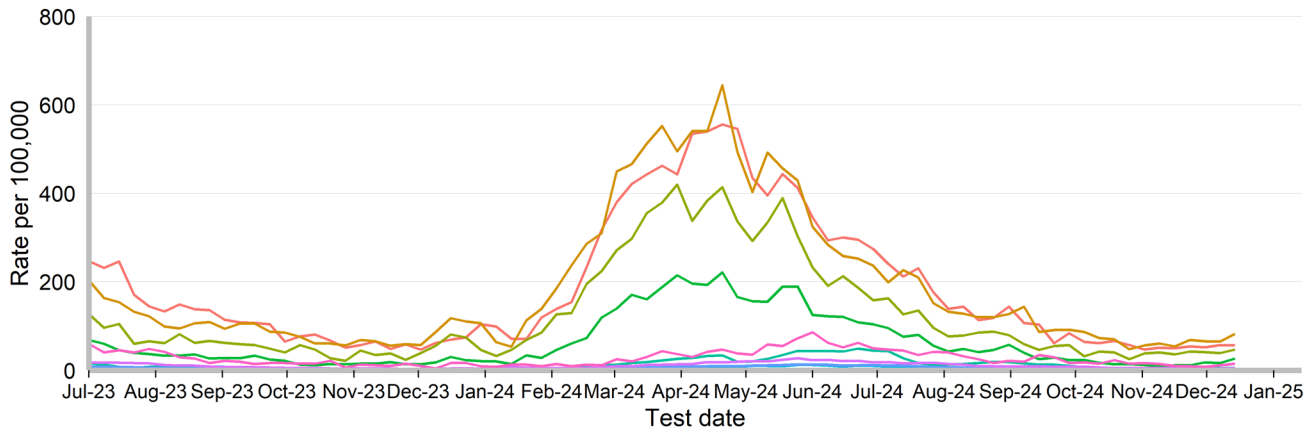
Figure 7. Weekly rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 14 December 2024



Rates of RSV notifications per 100,000 population

Interpretation: Rates of RSV notifications are stable or declining across all age groups.

Figure 8. Weekly rate of respiratory syncytial virus notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 14 December 2024



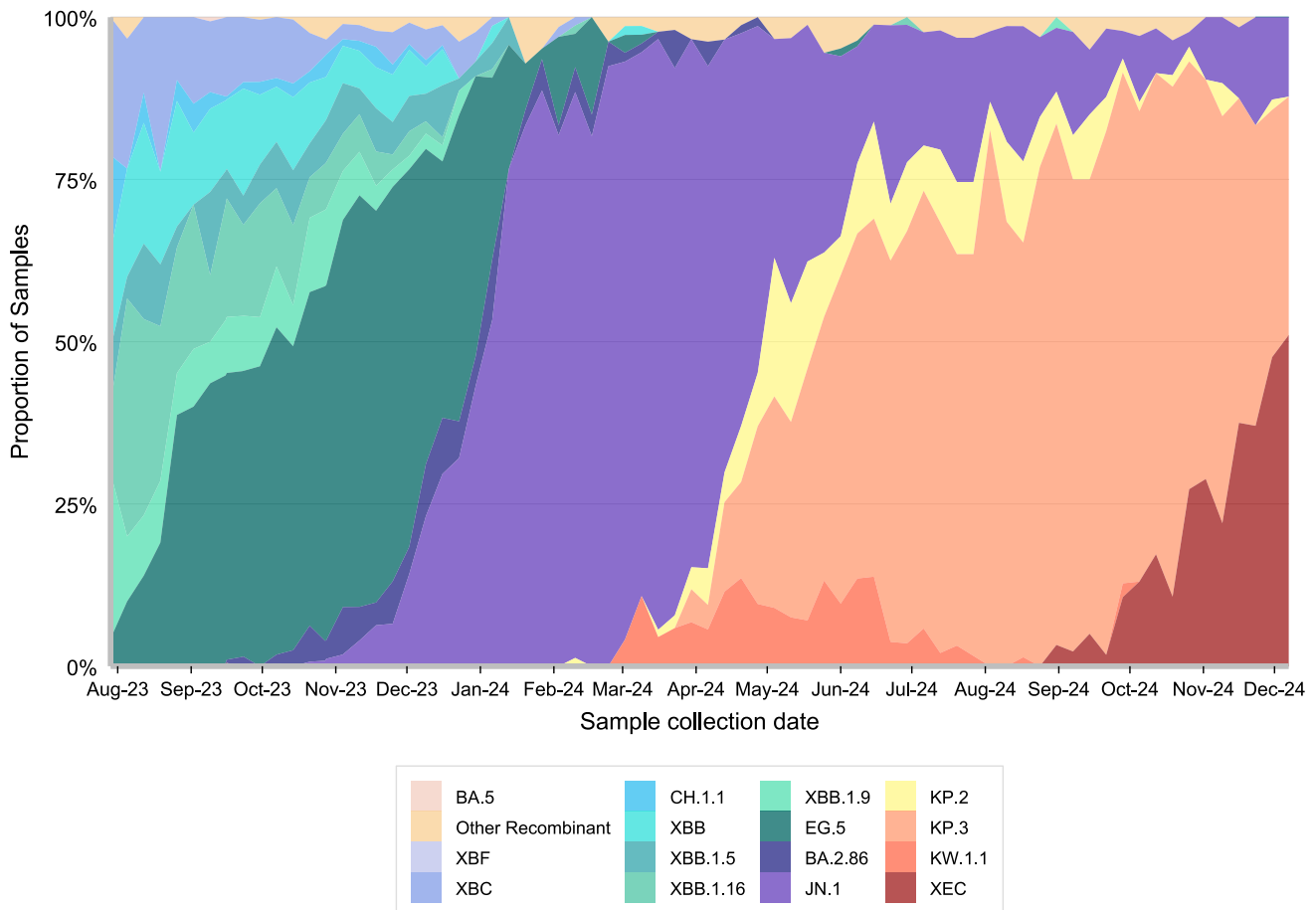
Other surveillance indicators

COVID-19 Whole Genome Sequencing

A subset of specimens from people who test positive with COVID-19 via PCR at NSW Health Pathology services undergo whole genome sequencing each week to identify and understand the behaviour of circulating variants. This sample may not necessarily reflect the distribution of all cases across NSW. NSW continues to monitor the sub-lineages in samples from ICU to monitor for increased disease severity.

Interpretation: NSW continues to monitor sub-lineages emerging globally and locally and consider their impact in the context of the local immunity profile.

Figure 9. Estimated weekly distribution of COVID-19 sub-lineages in the community, 29 July 2023 to 7 December 2024

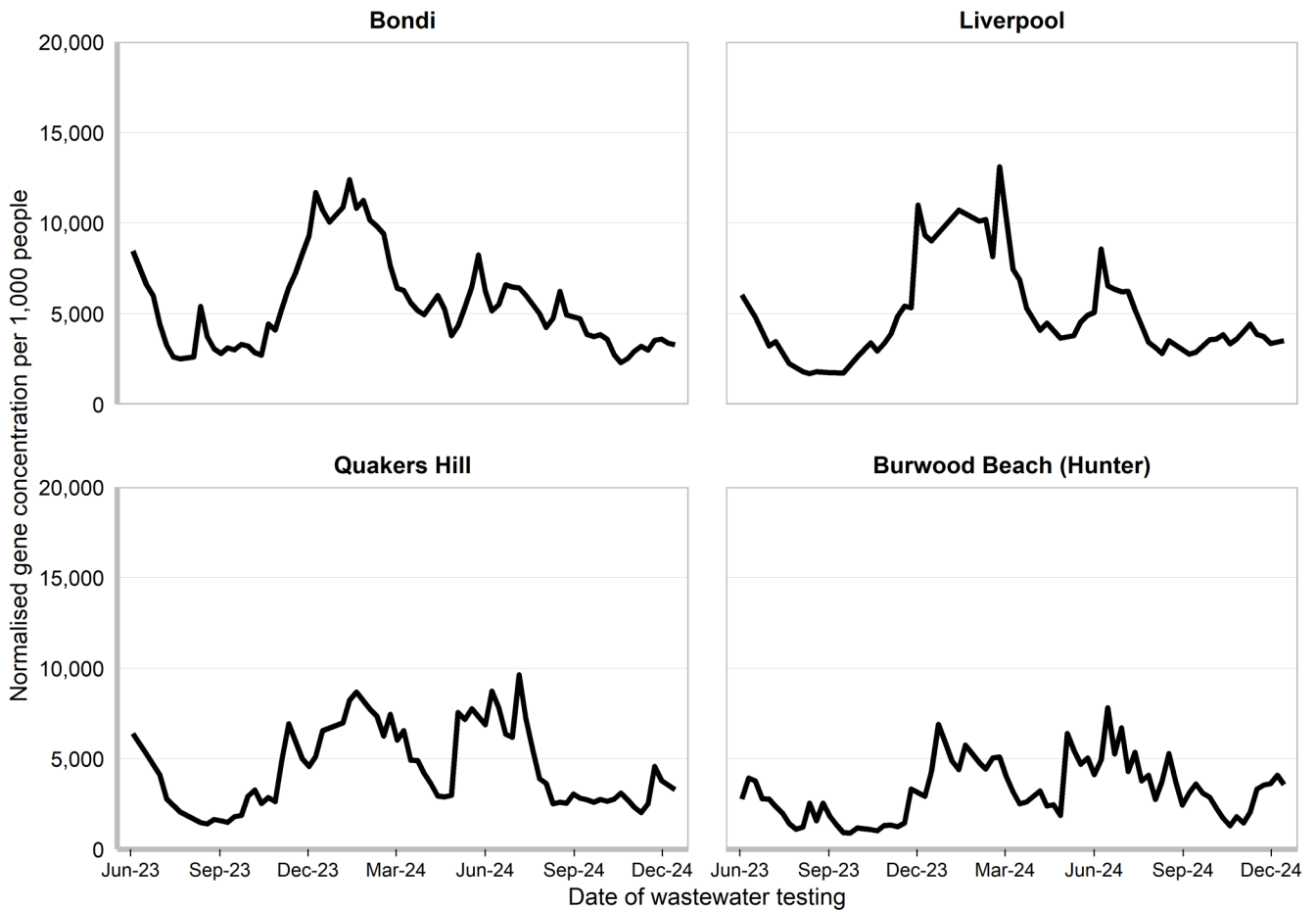


COVID-19 Wastewater Surveillance Program

Trends are presented for Bondi, Liverpool, Quakers Hill, and Burwood Beach (Hunter) wastewater catchments from 14 June 2023 to the week ending 14 December 2024. For more information, please see the COVID-19 Wastewater Surveillance Program website: <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/sewage-surveillance.aspx>.

Interpretation: Gene concentrations per 1,000 people increased over the previous weeks particularly in Bondi, Quakers Hill, and Burwood Beach.

Figure 10. Gene concentration, per 1,000 people in each wastewater catchment, 1 June 2023 to 14 December 2024



NSW Sentinel Laboratory Network

The NSW Sentinel Laboratory Network comprises of 12 public and private laboratories throughout NSW who provide additional data on positive and negative test results. This data helps us understand which respiratory viruses are circulating and their level of activity. Note that the number of laboratories providing data differs between viruses and changes between weeks (Tables 2 and 3).

Interpretation: Test positivity for COVID-19 has increased to 8.4% and influenza and RSV positivity remain low at below 2%.

Figure 11. Number and proportion of tests positive for COVID-19 at NSW sentinel laboratories by week, 1 September 2023 to 15 December 2024

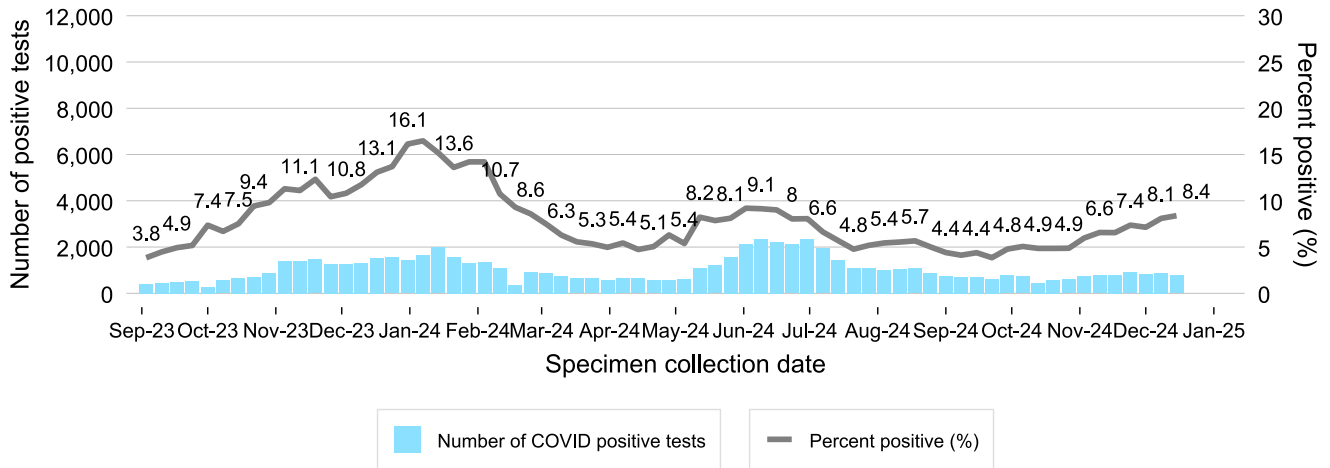


Figure 12. Number and proportion of tests positive for influenza at NSW sentinel laboratories by week, 1 September 2023 to 15 December 2024

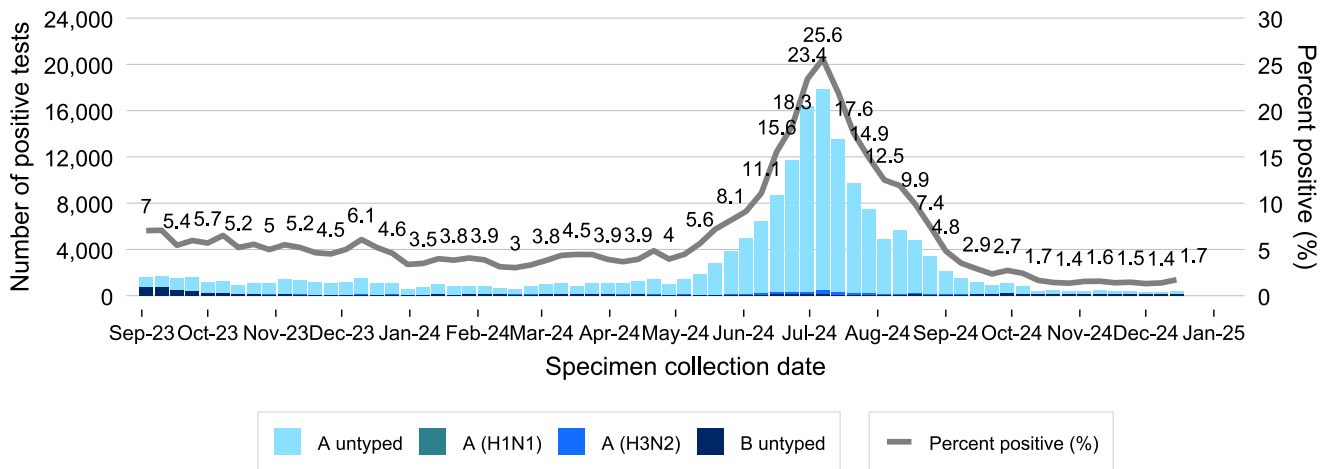


Figure 13. Number and proportion of tests positive for RSV at NSW sentinel laboratories by week, 1 September 2023 to 15 December 2024

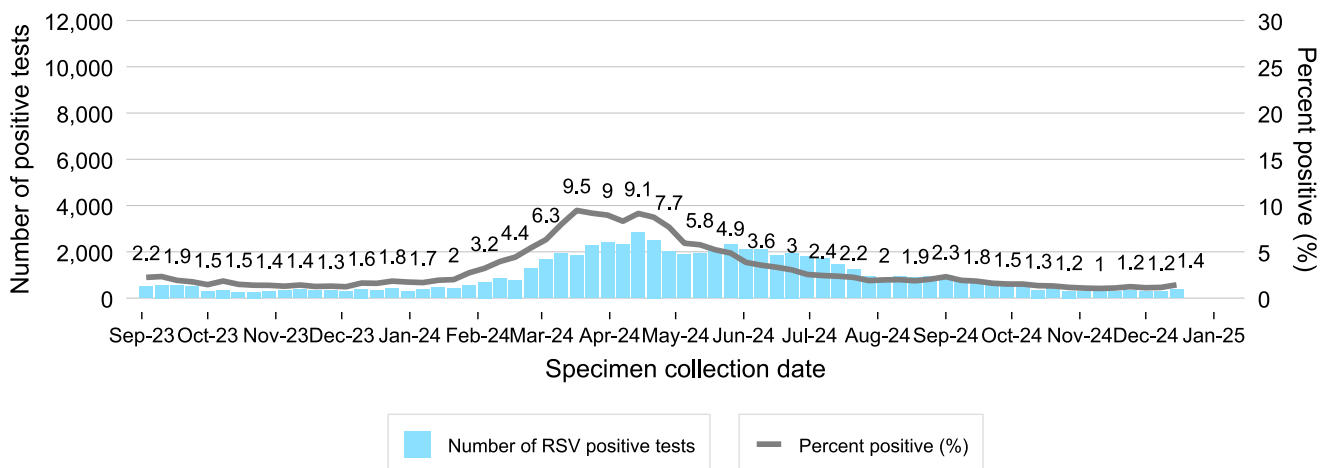


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at NSW sentinel laboratories by week, 1 September 2023 to 15 December 2024

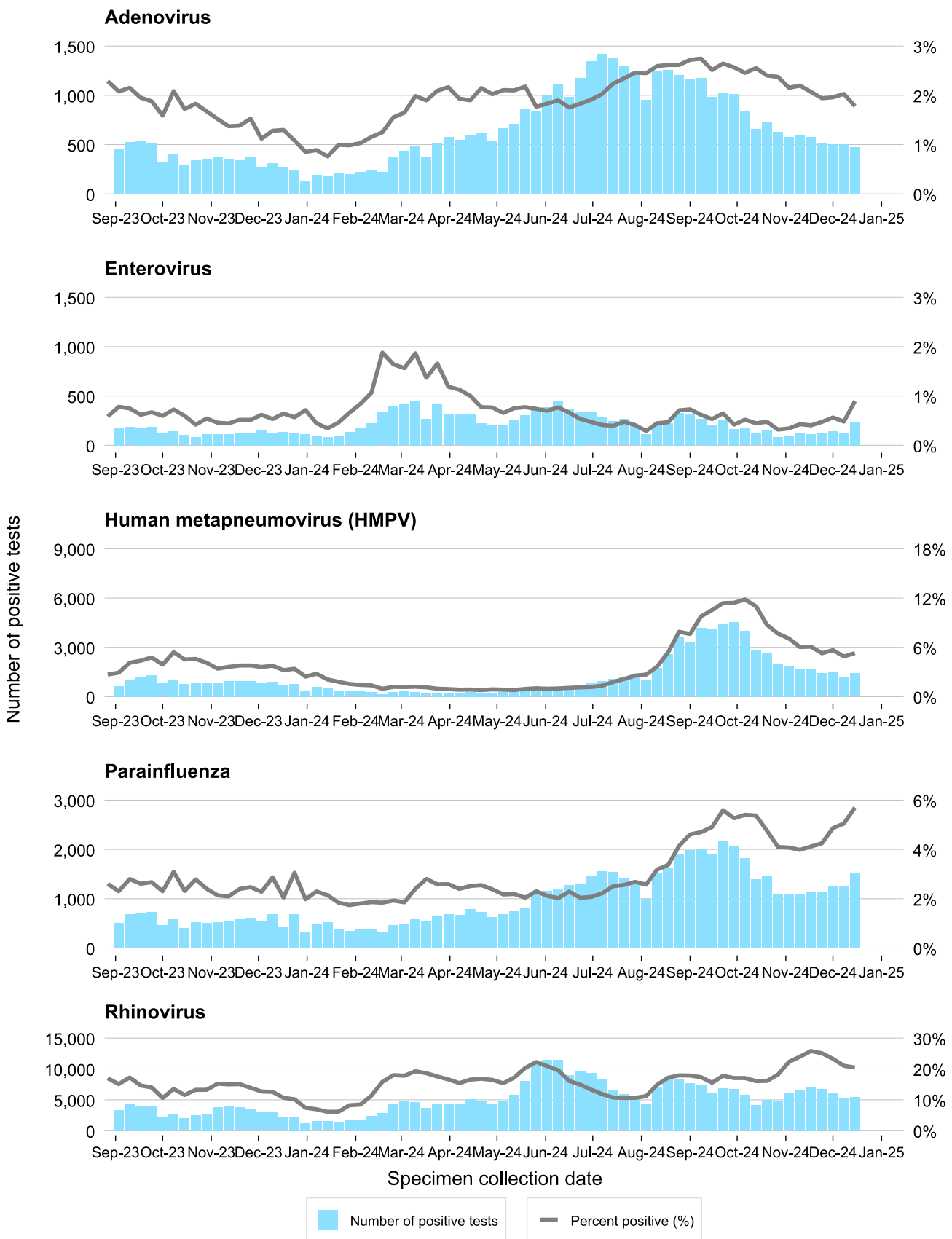


Table 2. Total number of COVID-19 notifications from NSW sentinel laboratories, in the four weeks to 15 December 2024

	Week ending							
	24 November		01 December		08 December		15 December	
	n	% pos	n	% pos	n	% pos	n	% pos
SARS-CoV-2	898	7.4%	842	7.1%	885	8.1%	772	8.4%
Number of COVID PCR tests conducted	12,185		11,796		10,931		9,200	
Number of laboratories reporting COVID	3		3		3		2	

Recent data is subject to change.

Table 3. Total number of other respiratory disease notifications from NSW sentinel laboratories, in the four weeks to 15 December 2024

	Week ending							
	24 November		01 December		08 December		15 December	
	n	% pos	n	% pos	n	% pos	n	% pos
Influenza	390	1.5%	336	1.3%	341	1.4%	459	1.7%
Respiratory syncytial virus (RSV)	330	1.2%	288	1.1%	286	1.2%	375	1.4%
Adenovirus	520	1.9%	505	2.0%	502	2.0%	476	1.8%
Human metapneumovirus (HMPV)	1,414	5.3%	1,459	5.7%	1,210	4.9%	1,415	5.3%
Rhinovirus	6,720	25.1%	6,001	23.3%	5,205	21.0%	5,467	20.5%
Enterovirus	127	0.5%	145	0.6%	119	0.5%	239	0.9%
Parainfluenza	1,138	4.2%	1,253	4.9%	1,250	5.1%	1,522	5.7%
Number of PCR tests conducted	26,784		25,755		24,748		26,712	
Number of laboratories reporting	10		9		9		9	

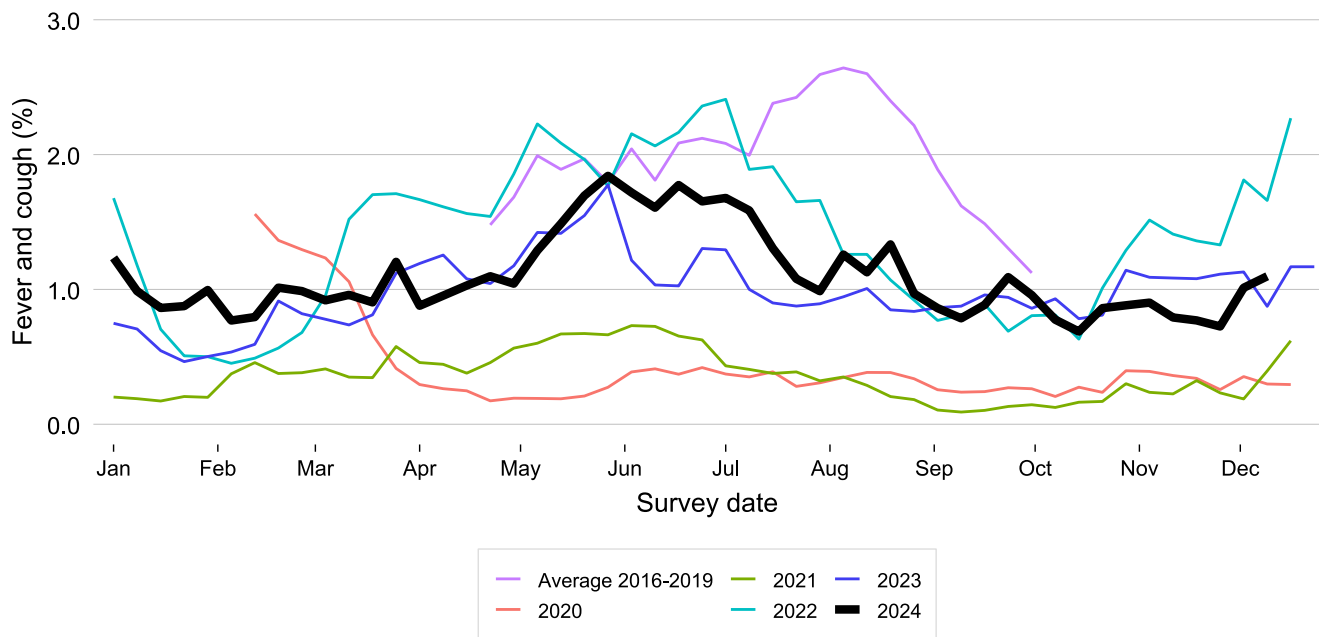
Recent data is subject to change.

FluTracking

FluTracking is an online health surveillance system used to detect epidemics of influenza across Australia and New Zealand. Participants complete an online survey each week to provide community level influenza-like illness surveillance, consistent surveillance of influenza activity across all jurisdictions over time, and year to year comparisons of the timing, attack rates and seriousness of influenza in the community. More information about FluTracking and ways to be involved are available here: <https://info.flutracking.net/about/>

Interpretation: The proportion of people reporting fever and cough has been increasing since February but stabilised in June. This indicates that symptomatic respiratory illness is continuing in the community.

Figure 15. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 15 December 2024



Pertussis

Pertussis (commonly known as whooping cough) is caused by the bacteria *Bordetella pertussis*. Pertussis can cause serious illness in all ages but can be particularly dangerous in babies. Pertussis can cause pneumonia and can be life threatening. Anyone with pertussis can spread it to others. The bacteria spread from one person to another mainly when someone with the infection coughs and fine droplets that contain the bacteria spread into the surrounding air. Vaccination reduces the risk of infection and severe disease. There is seasonal variation in pertussis activity, with greater activity typically in the spring and summer months. Outbreaks of pertussis usually occur every few years as population immunity wanes.

Public health interventions in place during 2020 and 2021 to reduce the transmission of COVID-19, also reduced other respiratory infections, including pertussis. In 2020 there was dramatic reduction in the rate of notifications to almost half of the low in 2013, with further reductions in 2021 and 2022 (Figure 16). Notifications of people with pertussis in NSW started to increase in 2023 and are expected to continue to increase. The highest rates of pertussis notifications are observed in children 5-14 years (Figure 17). The number of notifications in this age group increased rapidly since February 2024 and have now been declining over the last four weeks (Figure 18). Additional notification data can be found on the [NSW Health pertussis data page](#).

Figure 16. Pertussis notifications and rates per 100,000 by year, 2009 to 2024 year to date (YTD)

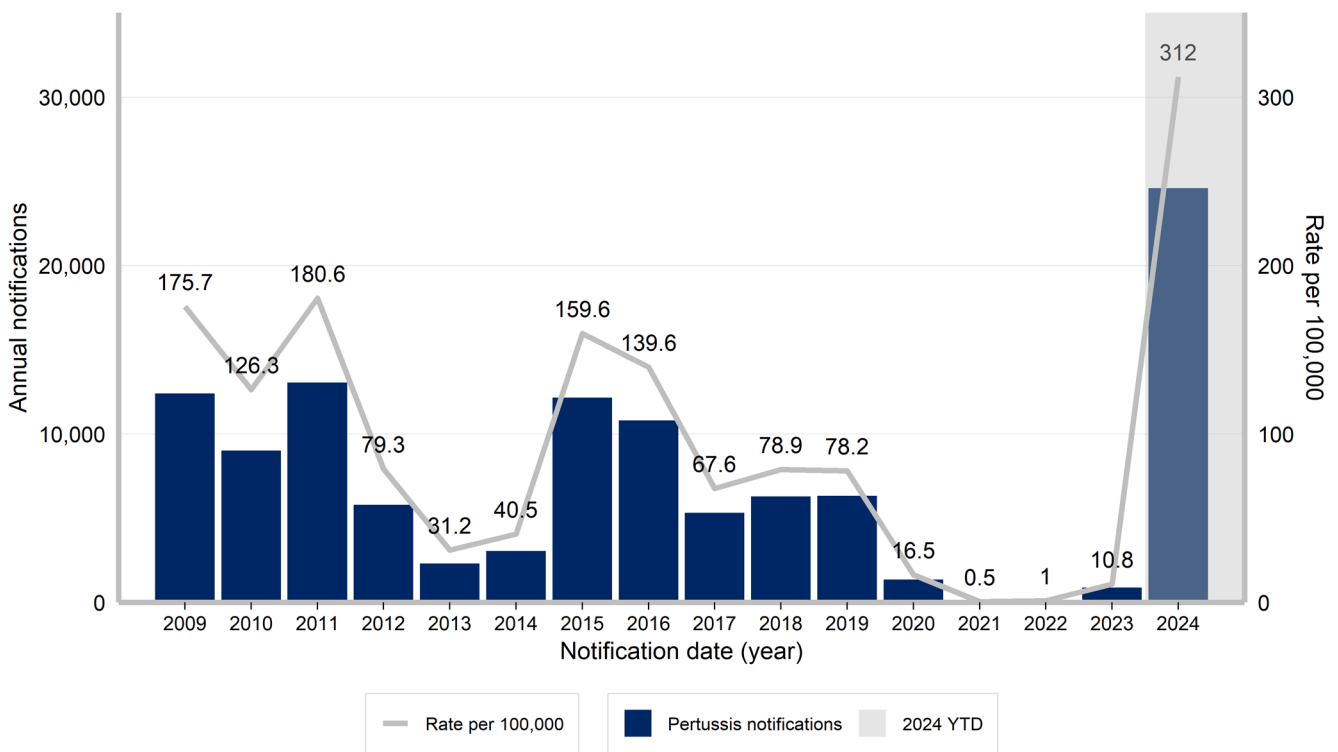


Figure 17. Monthly pertussis notification rates per 100,000 by age group, 1 January 2023 to 30 November 2024

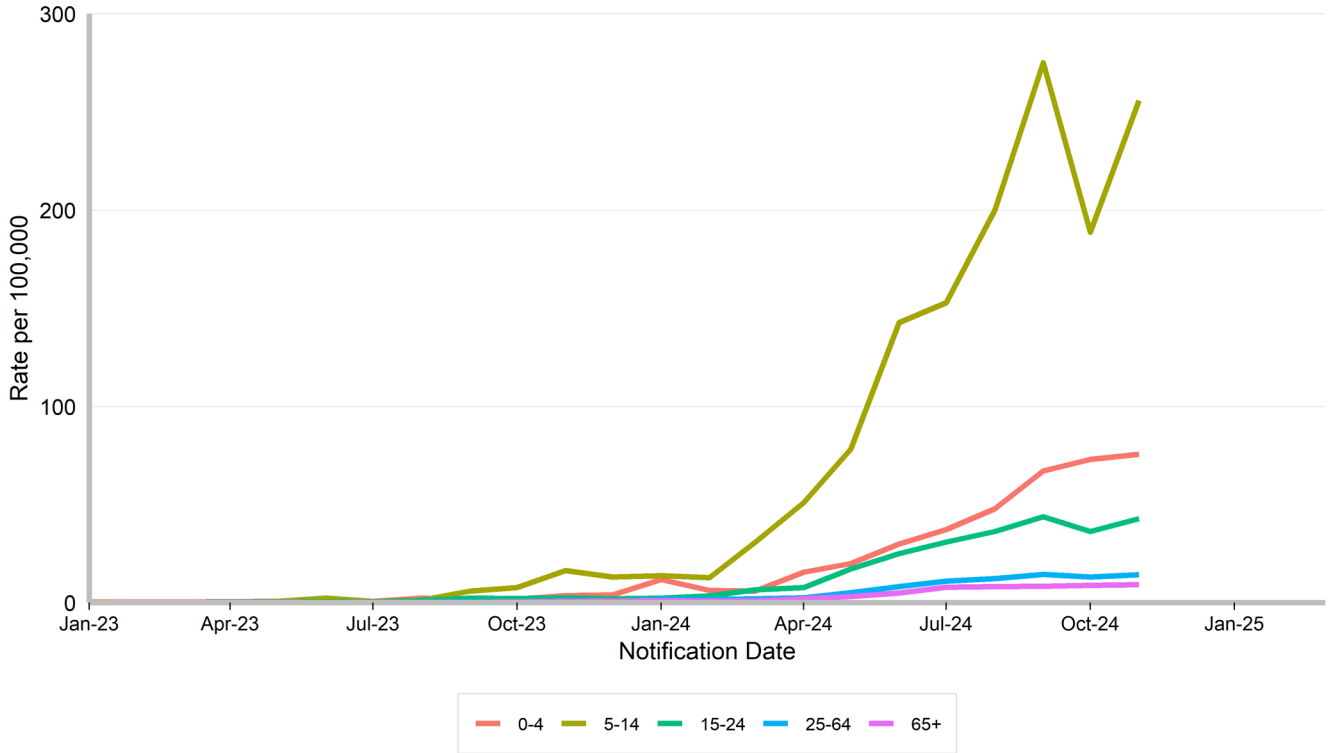
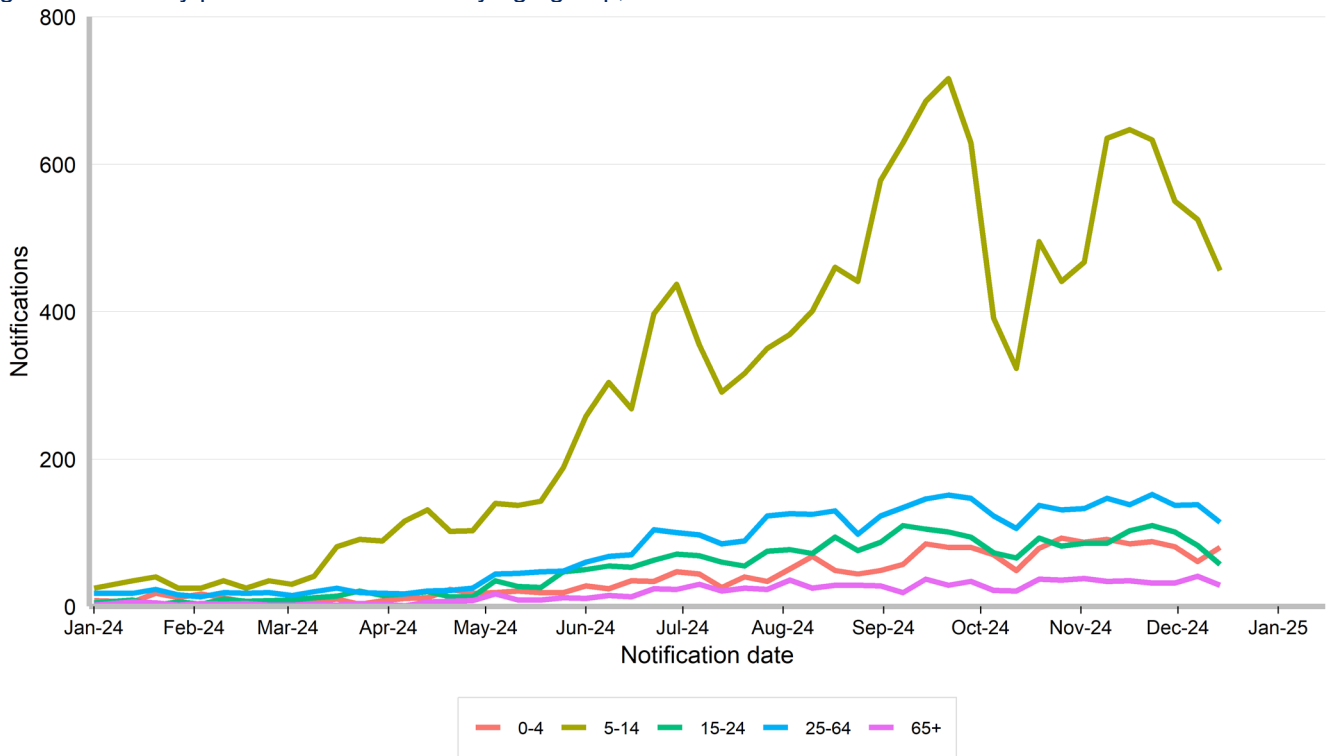


Figure 18. Weekly pertussis notifications by age group, 31 December 2023 to 14 December 2024



Pneumonia

There have been unseasonably high pneumonia presentations to emergency departments (ED) in NSW for children (Figure 19), particularly in those aged 5 – 16 years (Figure 20), and young adults (Figure 21) since the beginning of the year. The numbers of presentations are now within the expected levels in these age groups.

There is some indication, from a number of different data sources, that increases in pneumonia are likely contributed to by infection with *Mycoplasma pneumoniae*. *M. pneumoniae* is a common cause of pneumonia in school aged children and epidemics occur every 3-5 years. The last epidemic in NSW was before the COVID-19 pandemic. Both *M. pneumoniae* and *B. pertussis* cause persistent cough, sometimes wheezing and can cause pneumonia.

Everyone can help reduce the spread of these pathogens through simple measures such as, staying home if unwell and wearing a mask if you need to go out, staying up to date with recommended vaccinations and practicing good hygiene, including regular handwashing and covering your coughs and sneezes.

Figure 19. Unplanned emergency department (ED) weekly counts of presentations with a diagnosis of pneumonia, 1 January to 15 December 2024 and comparison with the previous 5 years, persons aged 0 – 4 years

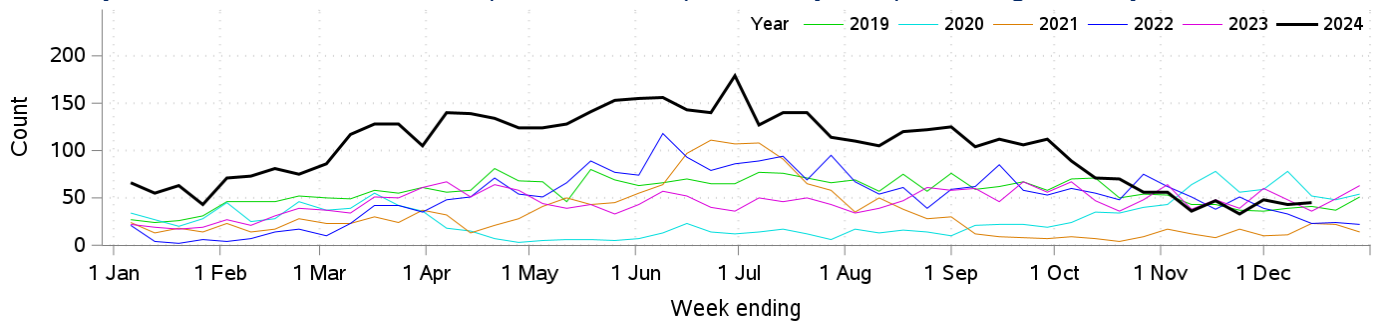


Figure 20. Unplanned emergency department (ED) weekly counts of presentations with a diagnosis of pneumonia, 1 January to 15 December 2024 and comparison with the previous 5 years, persons aged 5 – 16 years

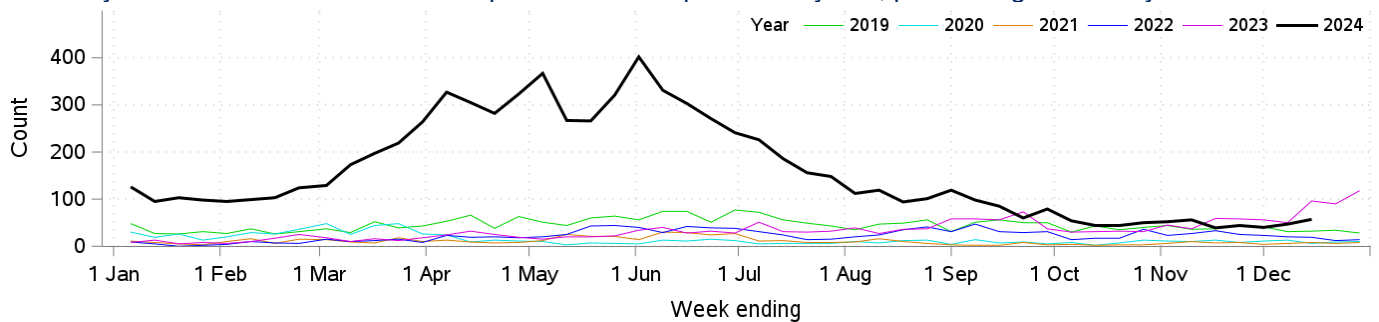


Figure 21. Unplanned emergency department (ED) weekly counts of presentations with a diagnosis of pneumonia, 1 January to 15 December 2024 and comparison with the previous 5 years, persons aged 17 – 34 years

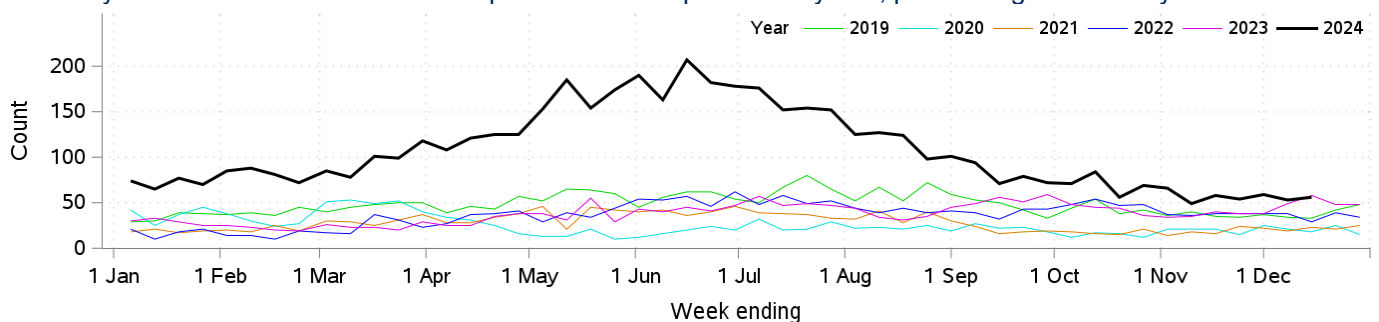


Figure 22. Pneumonia weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages

