

Influenza is at a low level of activity. COVID-19 remains at a low level of activity and RSV is at a low level of activity.

Summary

COVID-19 and influenza activity are stable at a low level. Considering all RSV indicators, activity is at a low level. Pertussis, or whooping cough, notifications have started to increase again after a substantial decline in the preceding three weeks. This increase is likely to be influenced by the end of school holidays in NSW.

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](#).

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, and admissions from, EDs for COVID-19 and influenza-like illness (ILI) remained stable at low level this week. Admissions for bronchiolitis in young children are continuing to decline slowly.

Figure 1. 'COVID-19' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 20 October 2024, persons of all ages

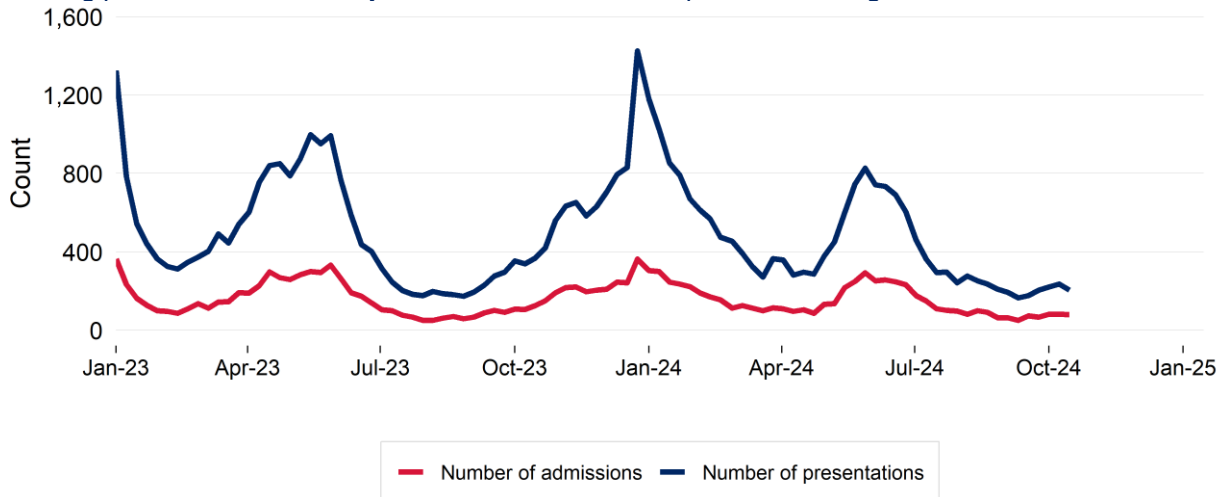


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 20 October 2024, persons of all ages

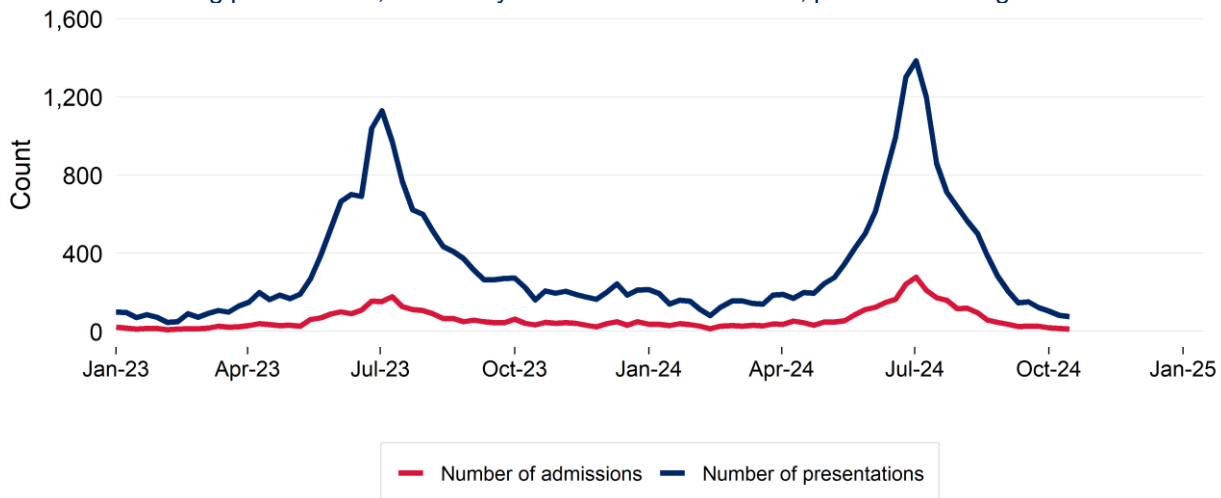
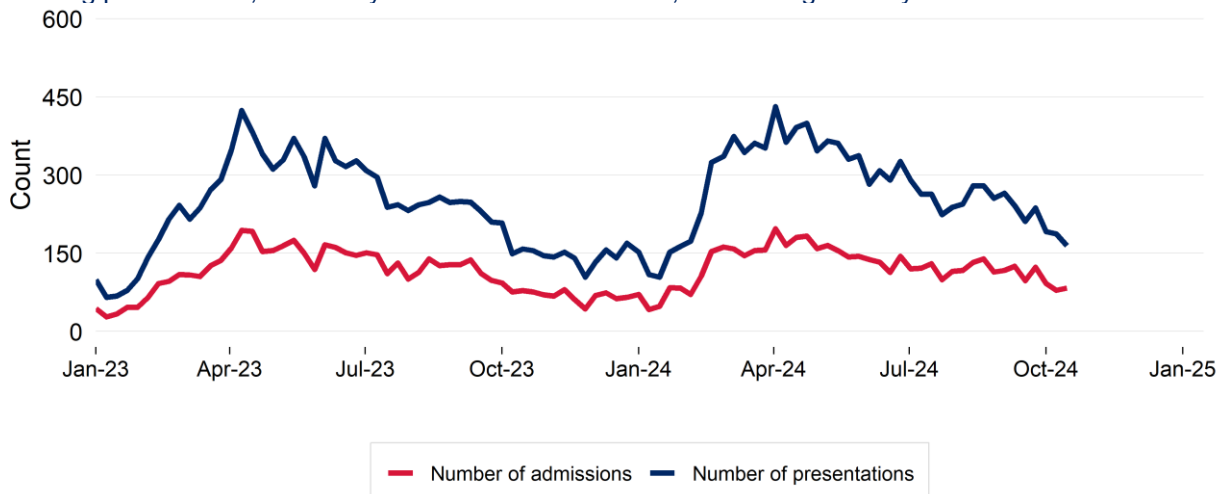


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 January 2023 - 20 October 2024, children aged 0-4 years



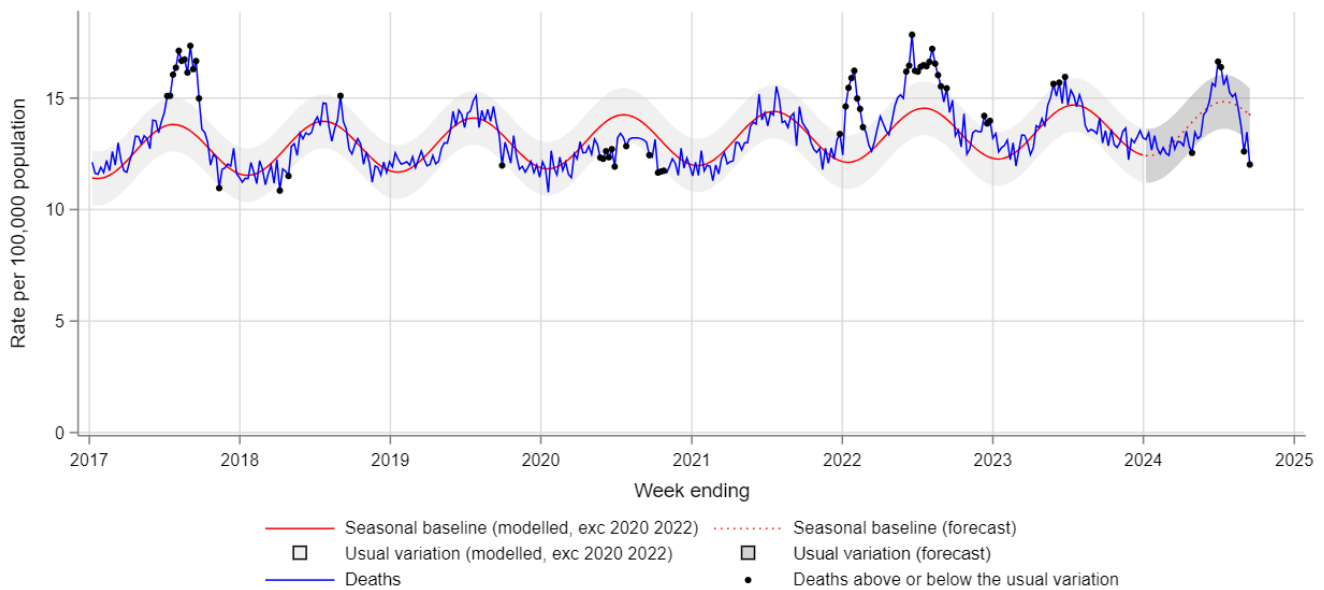
Death surveillance

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 both the seasonal baseline (red dotted line) and 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 15 September 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 11 August 2024 to 15 September 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.

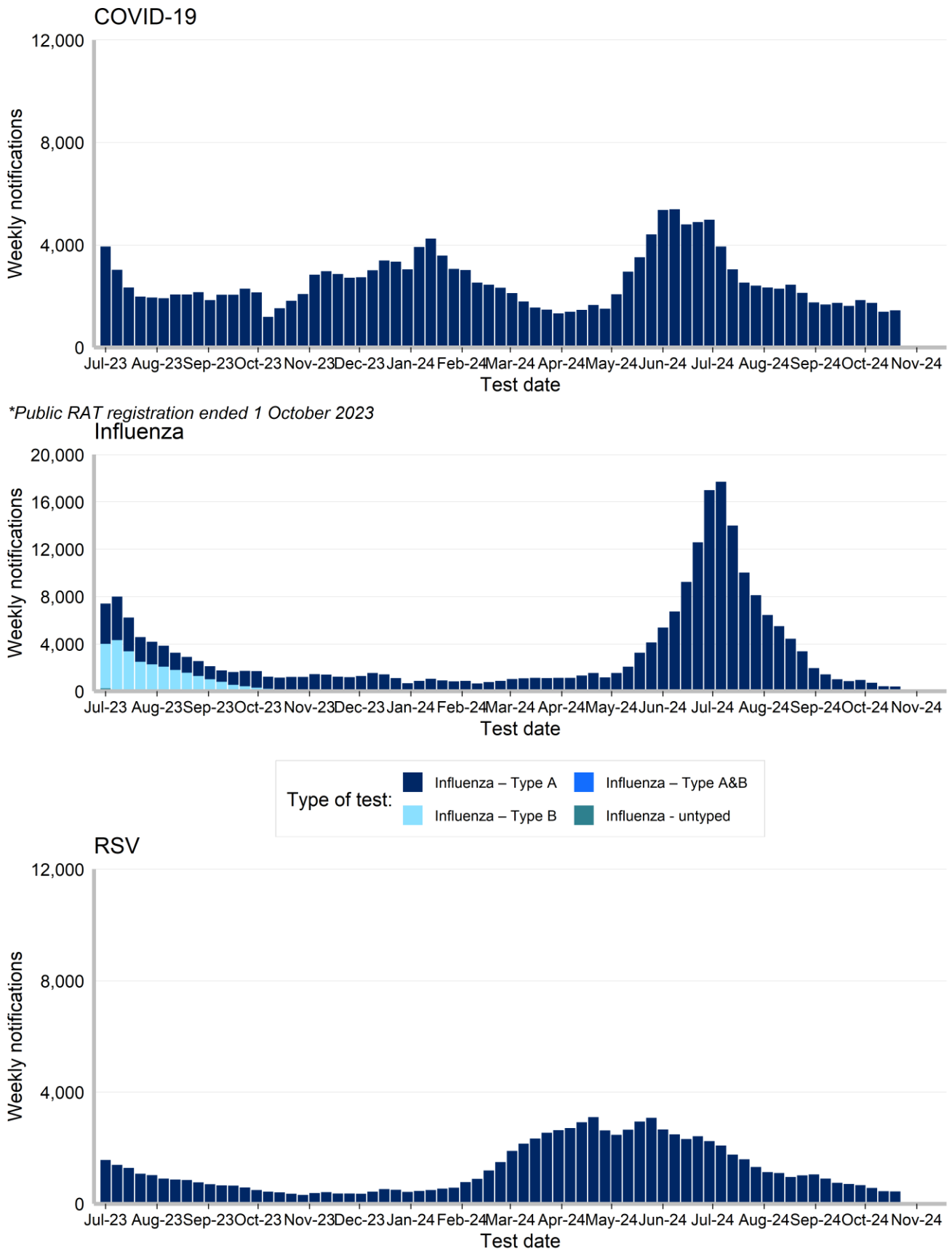
Interpretation: In the past week there was an increase of 4.57% in COVID-19 notifications, a decrease of 3.62% in influenza notifications, and an increase of 1.39% in RSV notifications.

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

	COVID		Influenza		RSV	
	Week ending 19 October 2024	Year to Date	Week ending 19 October 2024	Year to Date	Week ending 19 October 2024	Year to Date
Gender						
Female	855	63,219 (57%)	217	81,973 (52%)	239	36,129 (52%)
Male	585	48,344 (43%)	182	74,634 (48%)	198	32,907 (48%)
Age group (years)						
0-4	120	10,010 (9%)	40	23,584 (15%)	191	35,992 (52%)
5-9	38	3,251 (3%)	24	24,831 (16%)	22	6,176 (9%)
10-19	88	6,698 (6%)	54	25,747 (16%)	27	4,712 (7%)
20-29	141	8,345 (7%)	34	15,343 (10%)	8	2,325 (3%)
30-39	179	12,294 (11%)	58	19,198 (12%)	29	3,322 (5%)
40-49	150	11,786 (11%)	60	16,195 (10%)	24	2,682 (4%)
50-59	149	10,942 (10%)	37	11,185 (7%)	28	3,083 (4%)
60-69	177	11,759 (11%)	35	8,970 (6%)	34	3,466 (5%)
70-79	188	14,284 (13%)	32	6,559 (4%)	32	3,470 (5%)
80-89	150	14,809 (13%)	21	3,898 (2%)	24	2,737 (4%)
90+	69	7,426 (7%)	4	1,172 (1%)	18	1,098 (2%)
Local Health District of residence						
Central Coast	46	4,376 (4%)	8	5,479 (3%)	23	2,690 (4%)
Far West	3	326 (0%)	1	326 (0%)	0	110 (0%)
Hunter New England	126	9,406 (8%)	14	12,103 (8%)	54	6,311 (9%)
Illawarra Shoalhaven	59	5,564 (5%)	21	6,285 (4%)	31	3,600 (5%)
Mid North Coast	22	2,389 (2%)	10	1,901 (1%)	17	1,312 (2%)
Murrumbidgee	32	3,174 (3%)	5	4,555 (3%)	13	2,481 (4%)
Nepean Blue Mountains	103	5,989 (5%)	19	9,801 (6%)	30	4,483 (6%)
Northern NSW	54	3,723 (3%)	18	3,774 (2%)	29	1,837 (3%)
Northern Sydney	237	14,758 (13%)	59	20,251 (13%)	51	9,175 (13%)
South Eastern Sydney	153	11,553 (10%)	46	14,838 (9%)	42	6,611 (10%)
South Western Sydney	177	15,104 (14%)	58	25,642 (16%)	30	10,406 (15%)
Southern NSW	25	2,029 (2%)	10	2,436 (2%)	10	1,369 (2%)
Sydney	95	8,472 (8%)	31	10,561 (7%)	17	4,314 (6%)
Western NSW	41	3,150 (3%)	17	3,797 (2%)	23	2,204 (3%)
Western Sydney	277	20,861 (19%)	79	34,503 (22%)	67	12,014 (17%)
Aboriginal status						
Aboriginal and/or Torres Strait	23	2,413 (2%)	12	4,367 (3%)	15	2,182 (3%)
Not Aboriginal or Torres Strait	763	61,070 (55%)	229	81,888 (52%)	217	31,692 (46%)
Not Stated / Unknown	658	48,184 (43%)	158	70,439 (45%)	205	35,204 (51%)
Total	1,444	111,667	399	156,694	437	69,078 (100%)

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

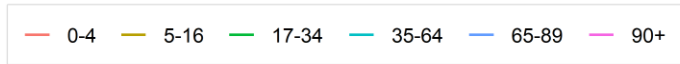
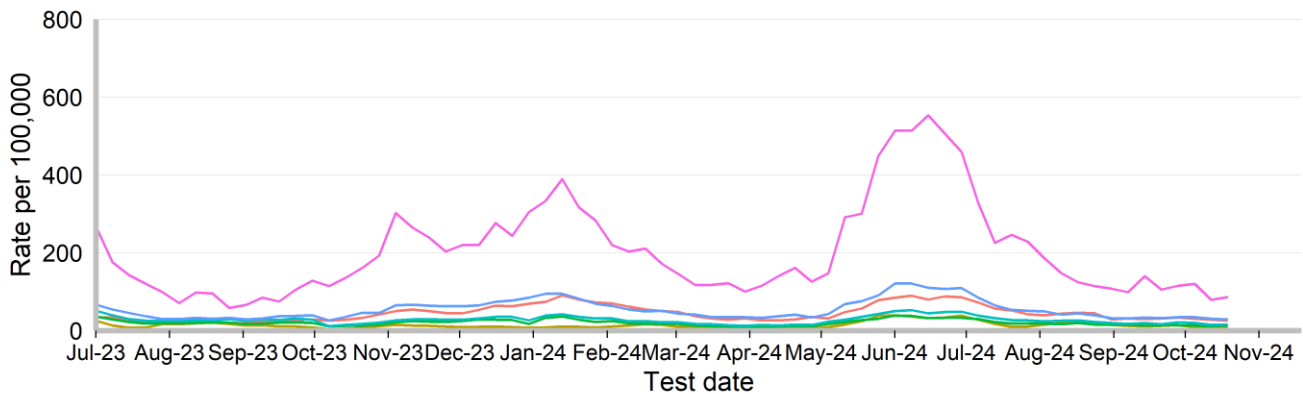
Figure 5. Weekly notifications of COVID-19*, Influenza and RSV, by date of test and type of test performed, NSW, 1 July 2023 to 19 October 2024



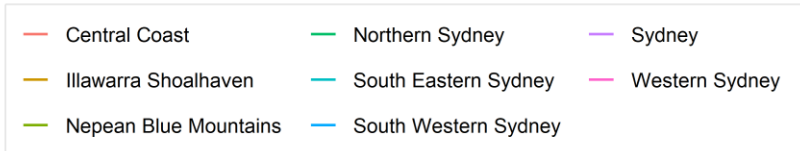
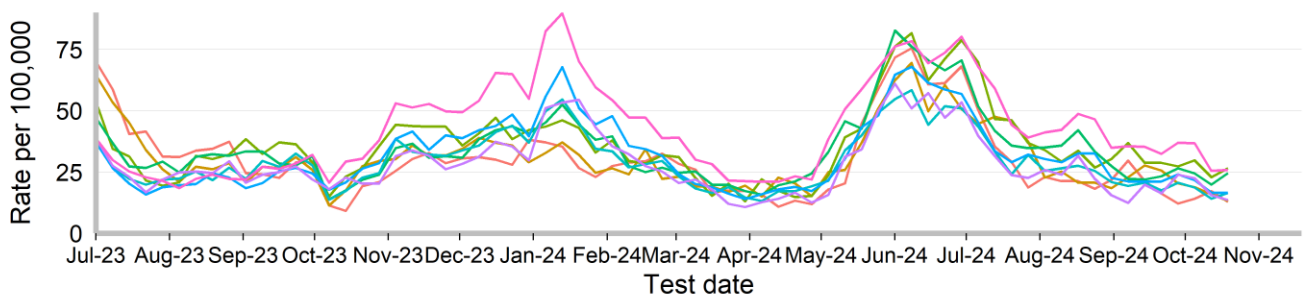
Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are stable across all ages. Those aged 90 and over continue to experience the highest rate of notification.

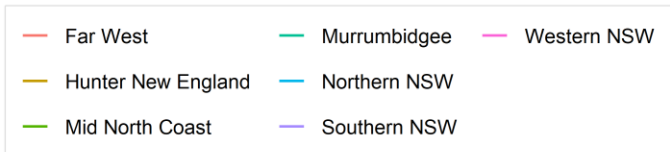
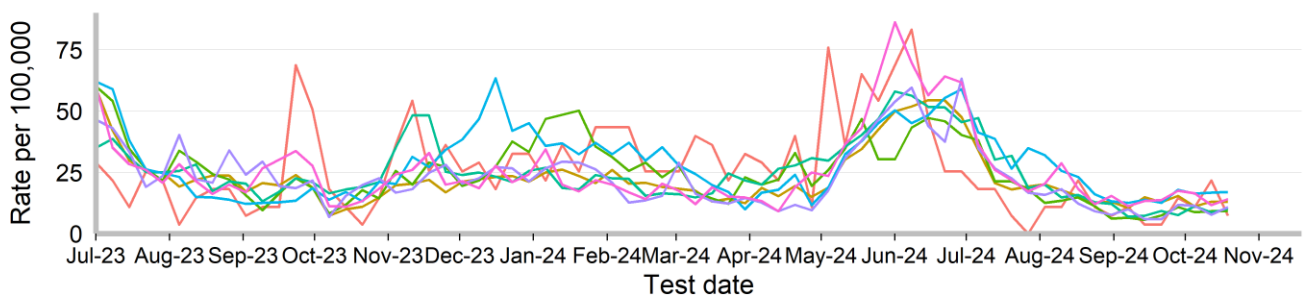
Figure 6. Weekly rate of COVID-19* notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 19 October 2024



*Public RAT registration ended 1 October 2023



*Public RAT registration ended 1 October 2023

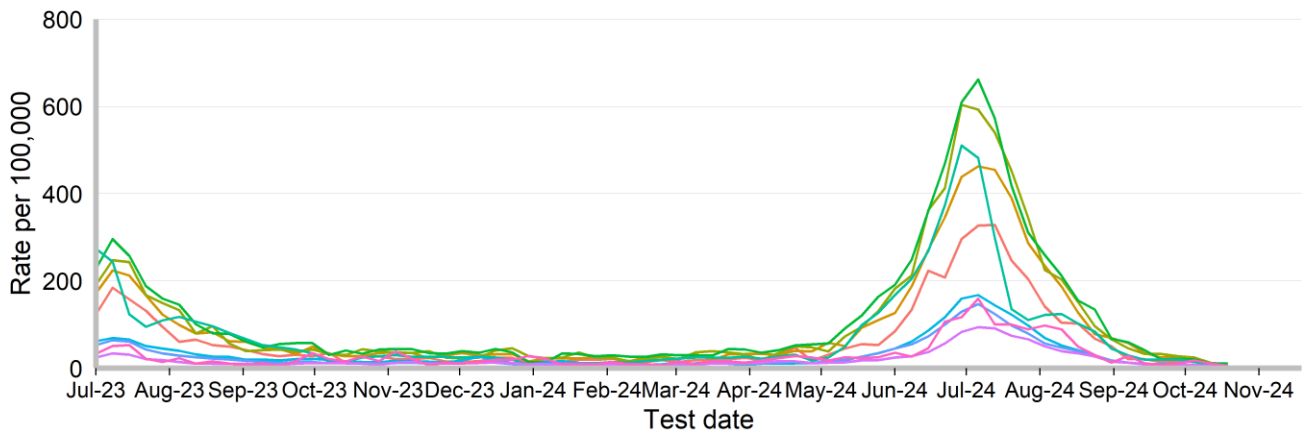


*Public RAT registration ended 1 October 2023

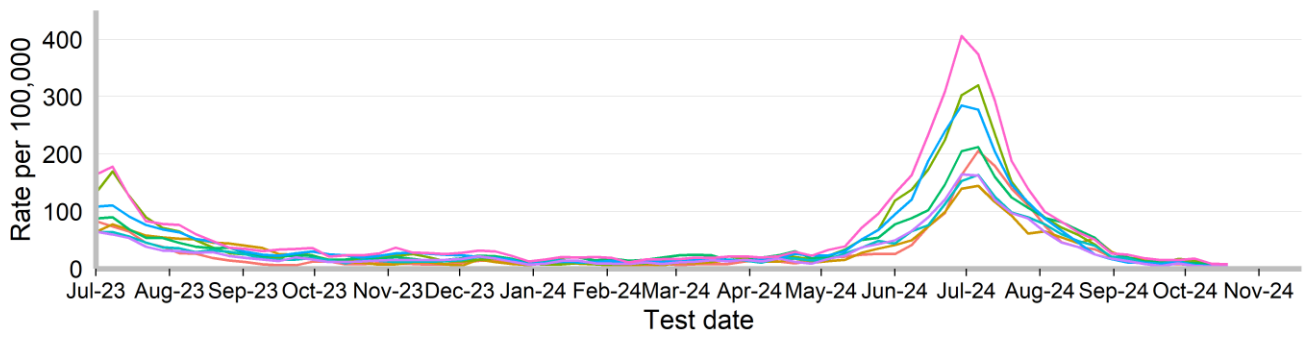
Rates of influenza notifications per 100,000 population

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

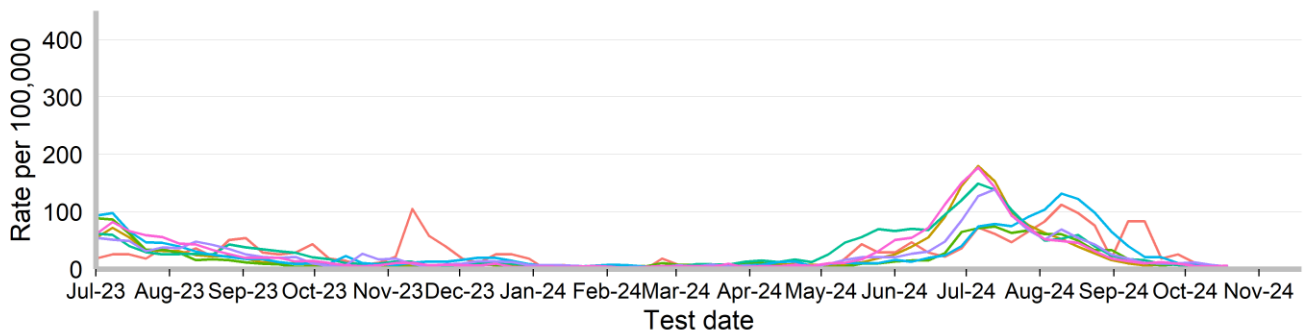
Figure 7. Weekly rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 19 October 2024



- 0
- 1
- 2
- 3-4
- 5-16
- 17-34
- 35-64
- 65-89
- 90+



- Central Coast
- Illawarra Shoalhaven
- Nepean Blue Mountains
- Northern Sydney
- South Eastern Sydney
- South Western Sydney
- Sydney
- Western Sydney

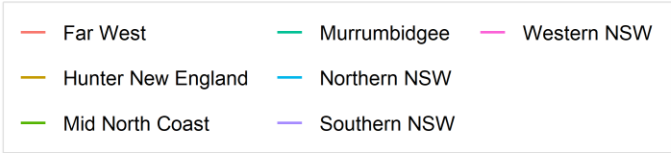
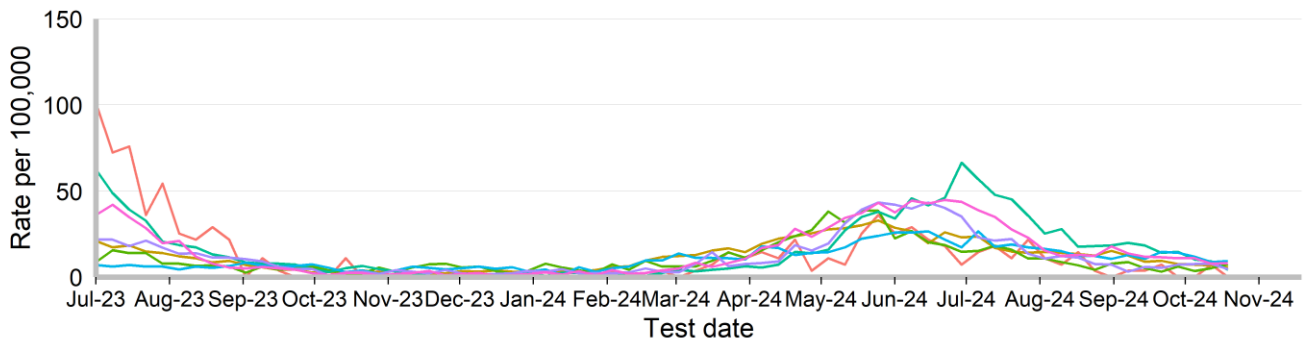
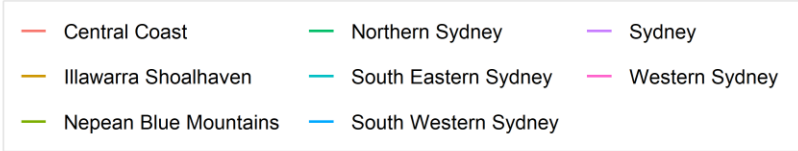
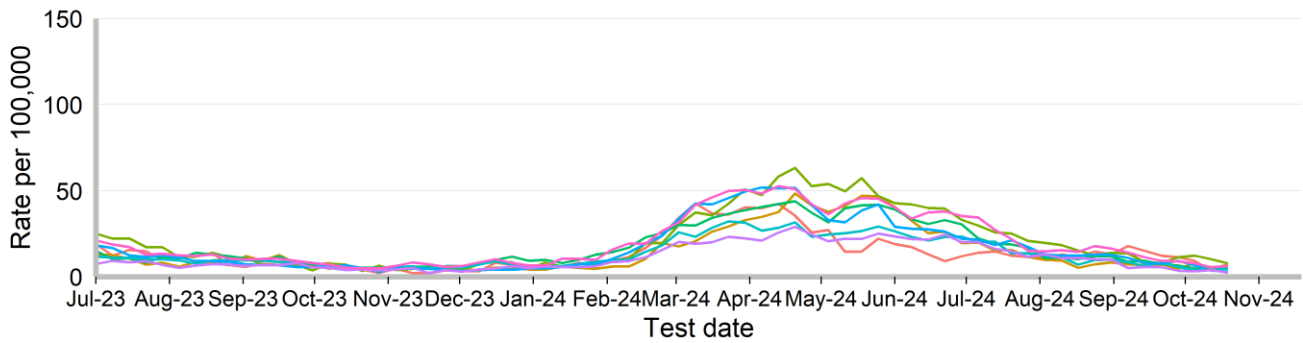
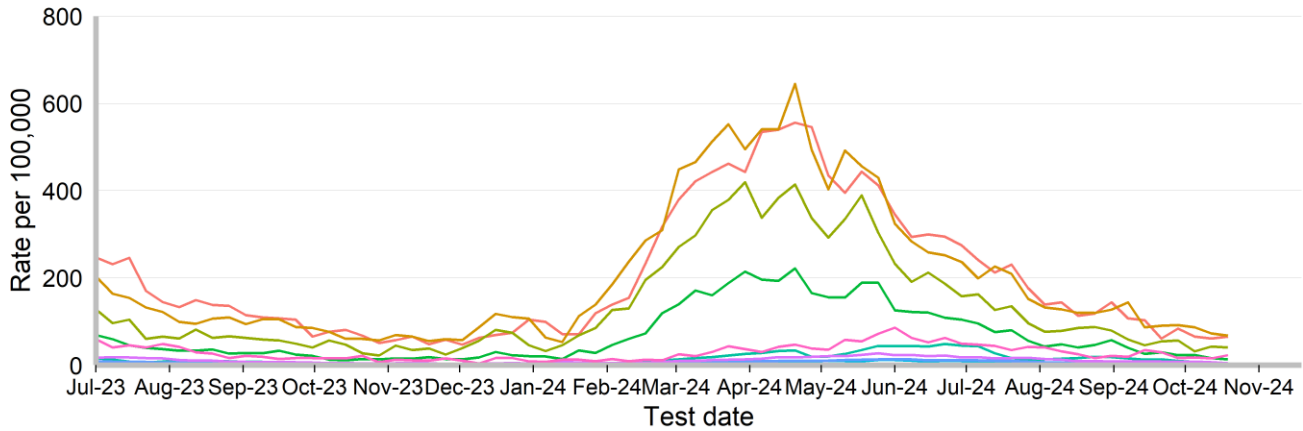


- Far West
- Hunter New England
- Mid North Coast
- Murrumbidgee
- Northern NSW
- Southern NSW
- Western NSW

Rates of RSV notifications per 100,000 population

Interpretation: RSV notification rates are stable or declining across most age-groups and Local Health Districts.

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 19 October 2024



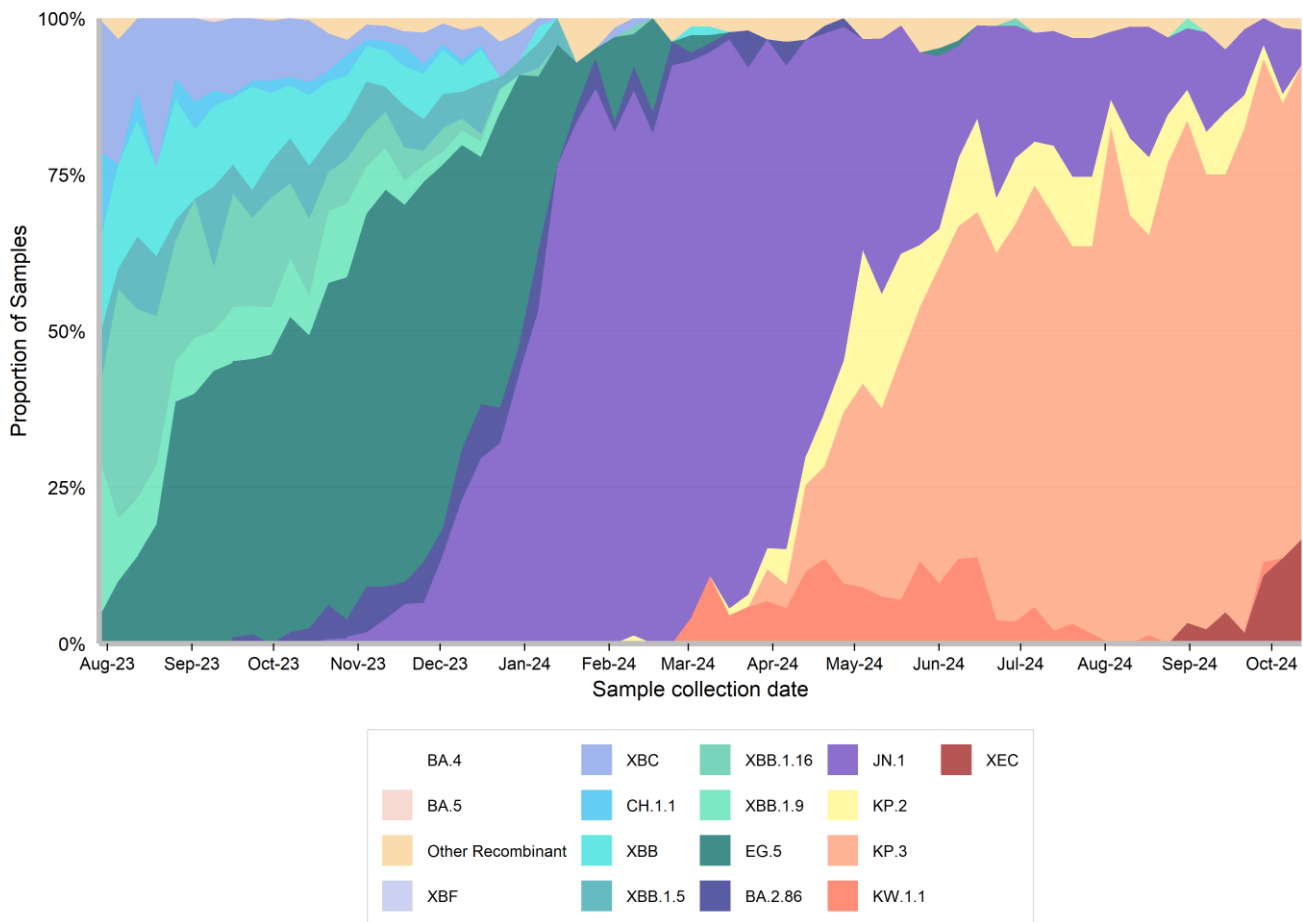
Other surveillance indicators

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. We continue to report the emergence of the variant XEC which has been increasing globally.

Figure 9. Estimated weekly distribution of COVID-19 sub-lineages in the community, 29 July 2023 to 12 October 2024

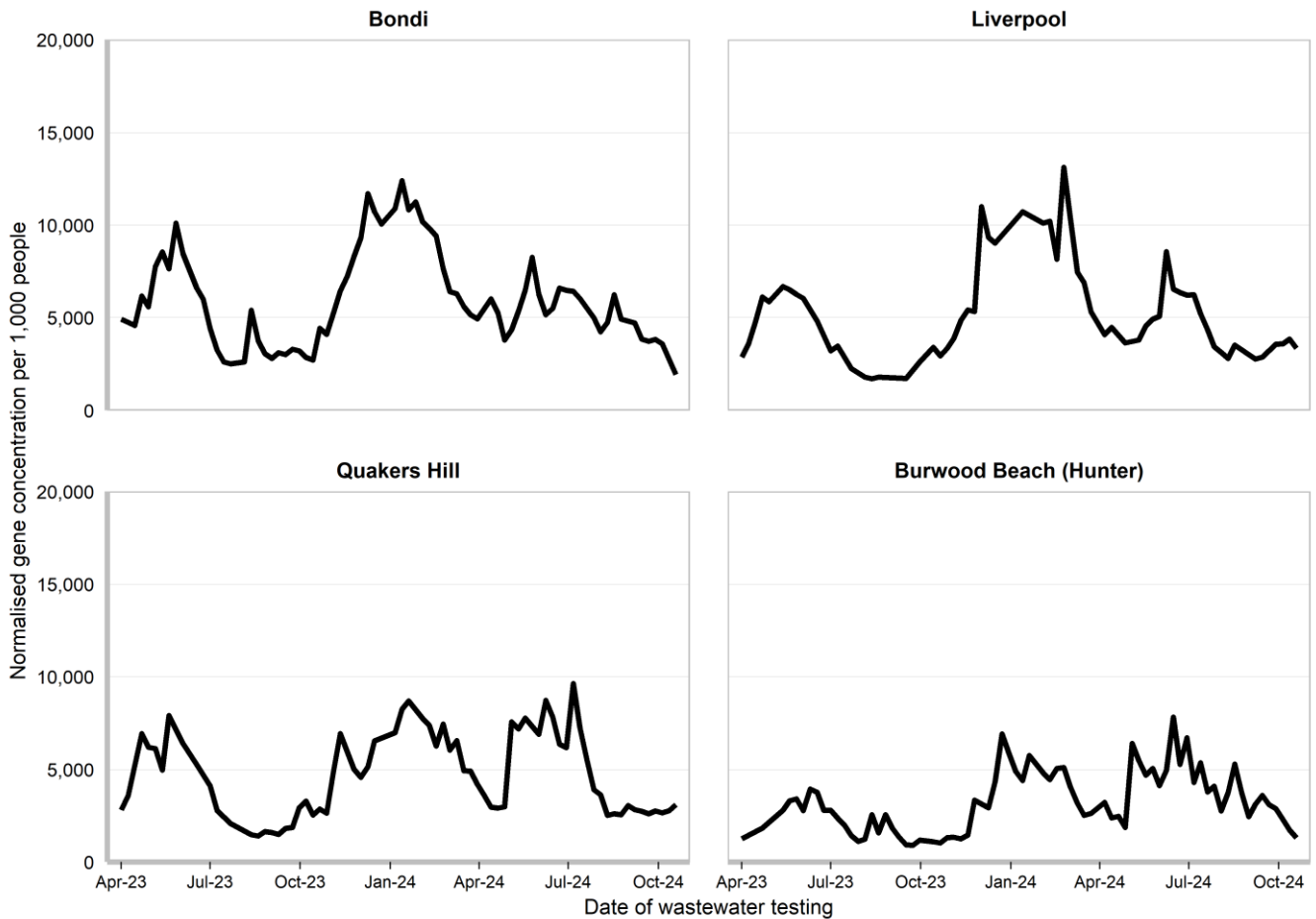


COVID-19 Wastewater Surveillance Program

Trends are presented for Bondi, Liverpool, Quakers Hill, and Burwood Beach (Hunter) wastewater catchments from 19 April 2023 to the week ending 19 October 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 in Bondi, Liverpool, Quakers Hill and Burwood Beach (Hunter) catchment areas are stable.

Figure 10. Gene concentration, per 1,000 people in each wastewater catchment, 1 April 2023 to 19 October 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 at sentinel laboratories is currently low for COVID-19, influenza and RSV.

Figure 11. Number and proportion of tests positive for COVID-19 at NSW sentinel laboratories by week, 1 July 2023 to 20 October 2024

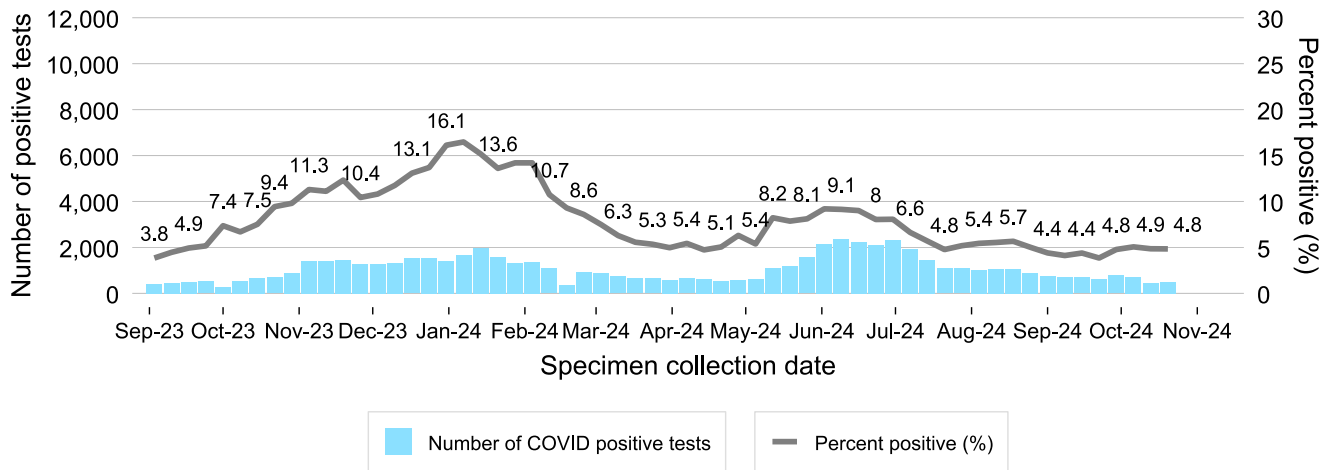


Figure 12. Number and proportion of tests positive for influenza at NSW sentinel laboratories by week, 1 July 2023 to 20 October 2024

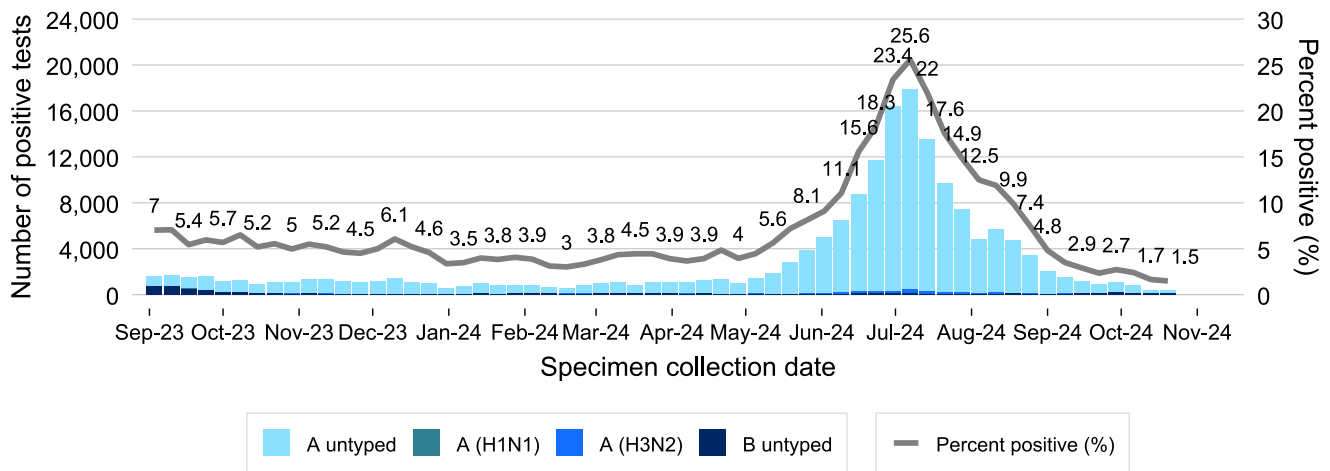


Figure 13. Number and proportion of tests positive for RSV at NSW sentinel laboratories by week, 1 July 2023 to 20 October 2024

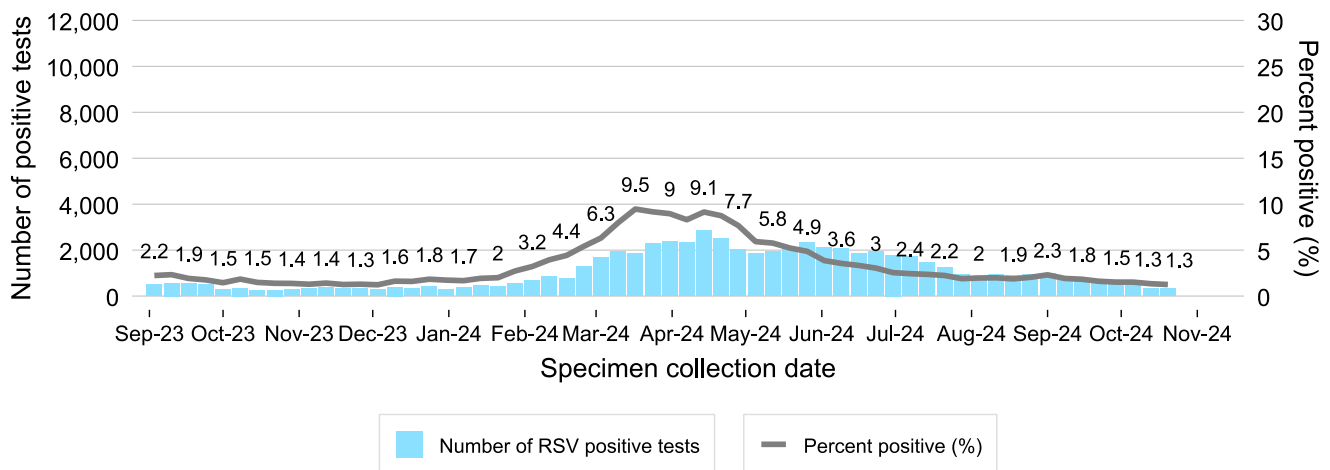


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at NSW sentinel laboratories by week, 1 July 2023 to 20 October 2024

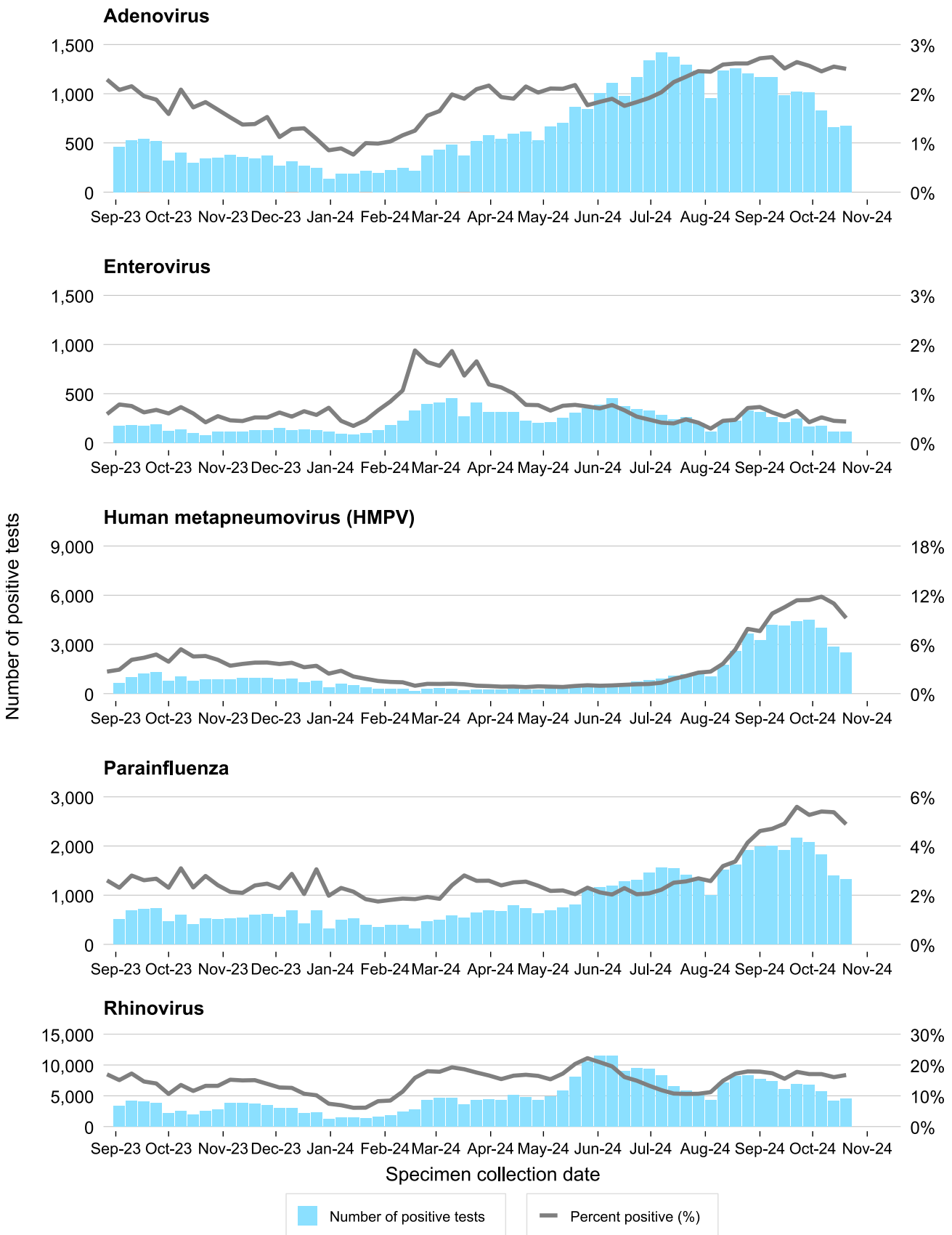


Table 2. Total number of COVID-19 notifications from NSW sentinel laboratories, in the four weeks to 20 October 2024

	Week ending							
	29 September		06 October		13 October		20 October	
	n	% pos	n	% pos	n	% pos	n	% pos
SARS-CoV-2	773	4.8%	720	5.1%	451	4.9%	482	4.8%
Number of COVID PCR tests conducted	16,180		14,224		9,289		9,955	
Number of laboratories reporting COVID	4		3		2		3	

Recent data is subject to change.

Table 3. Total number of other respiratory disease notifications from NSW sentinel laboratories, in the four weeks to 20 October 2024

	Week ending							
	29 September		06 October		13 October		20 October	
	n	% pos	n	% pos	n	% pos	n	% pos
Influenza	1,080	2.7%	820	2.4%	430	1.7%	403	1.5%
Respiratory syncytial virus (RSV)	600	1.5%	513	1.5%	348	1.3%	339	1.3%
Adenovirus	1,015	2.6%	832	2.5%	661	2.6%	676	2.5%
Human metapneumovirus (HMPV)	4,516	11.4%	4,008	11.8%	2,848	11.0%	2,487	9.2%
Rhinovirus	6,744	17.1%	5,777	17.0%	4,161	16.1%	4,517	16.7%
Enterovirus	166	0.4%	176	0.5%	116	0.4%	117	0.4%
Parainfluenza	2,081	5.3%	1,831	5.4%	1,392	5.4%	1,318	4.9%
Number of PCR tests conducted	39,539		33,888		25,904		26,973	
Number of laboratories reporting	11		10		8		8	

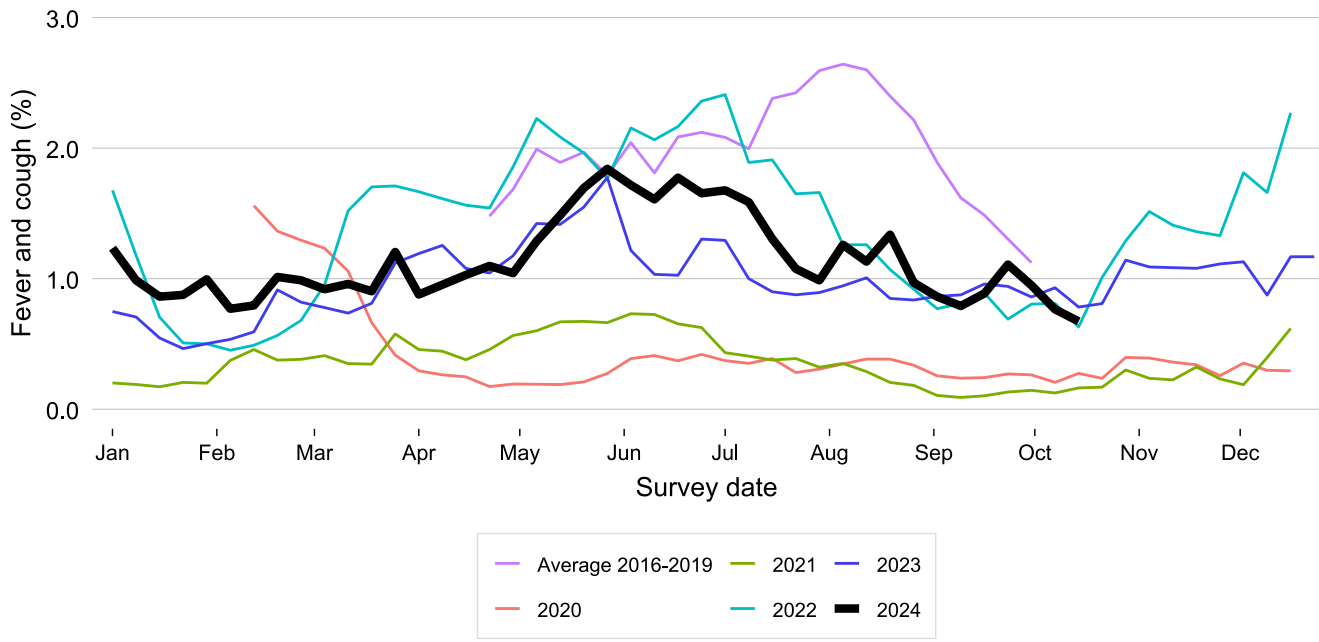
Recent data is subject to change.

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 increased since February but has stabilised or decreased since June 2024. This indicates that symptomatic respiratory illness is now stable among FluTracking.

Figure 15. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 20 October 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 the annualised notification rate is now at the highest level recorded over the last 15 years. 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 (Figure 18). There has been an increase in notifications in the last week in school aged children, following a drop in notifications in the preceding three weeks. The drop and subsequent increase are likely to be a result of the commencing and end of NSW school holidays respectively. 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 September 2024

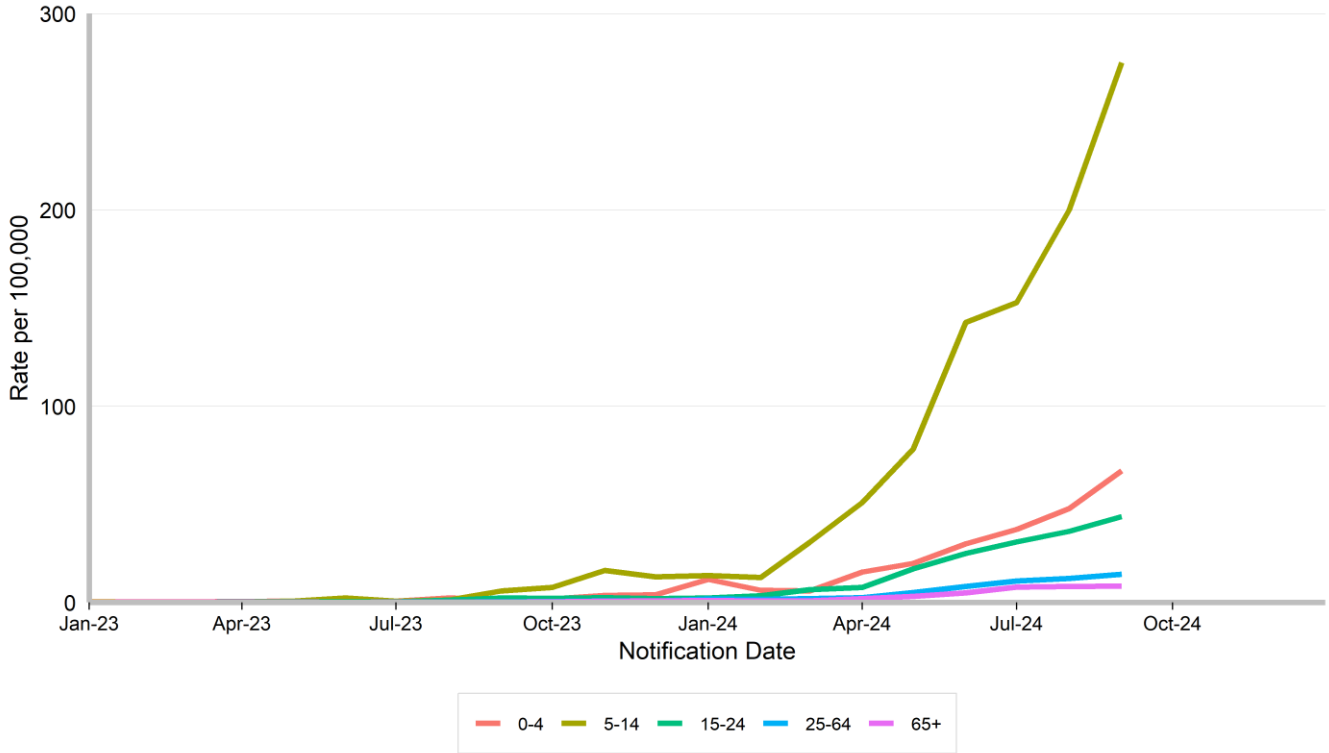
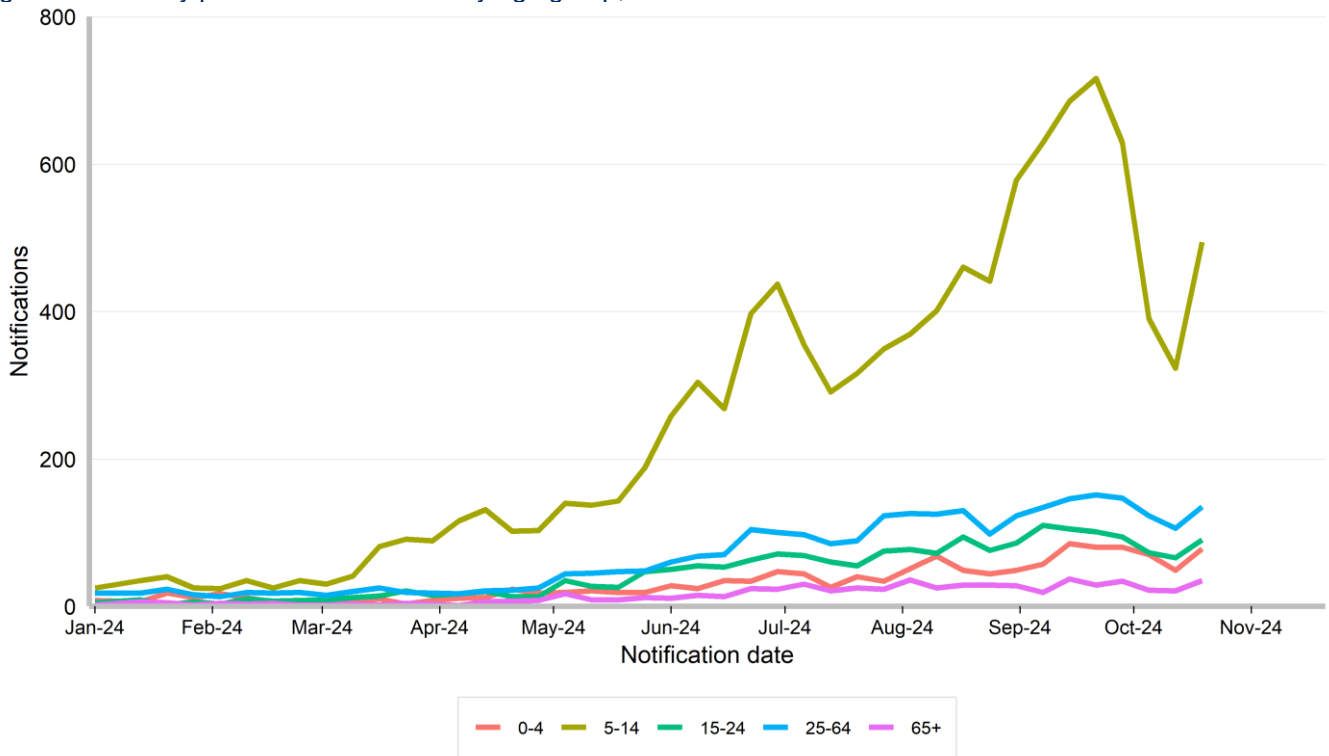


Figure 18. Weekly pertussis notifications by age group, 31 December 2023 to 19 October 2024



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 ED presentations and admissions have decreased since last week and returned to expected levels in these age groups.

Within the ED, most pneumonia presentations are classified as unspecified pneumonia, that is, a specific cause of the pneumonia has not yet been identified. This information may become available later in the admission or following discharge from hospital.

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 20 October 2024 and comparison with the previous 5 years, persons aged 0 – 4 years

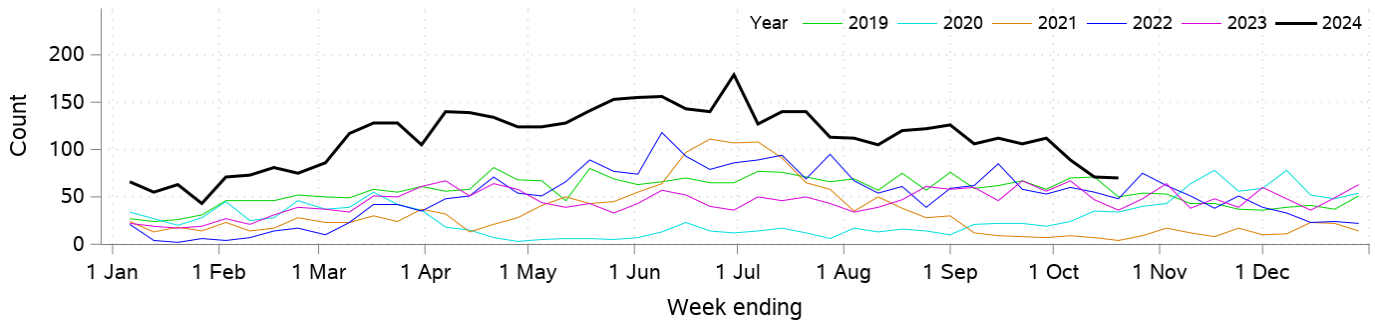


Figure 20. Unplanned emergency department (ED) weekly counts of presentations with a diagnosis of pneumonia, 1 January to 20 October 2024 and comparison with the previous 5 years, persons aged 5 – 16 years

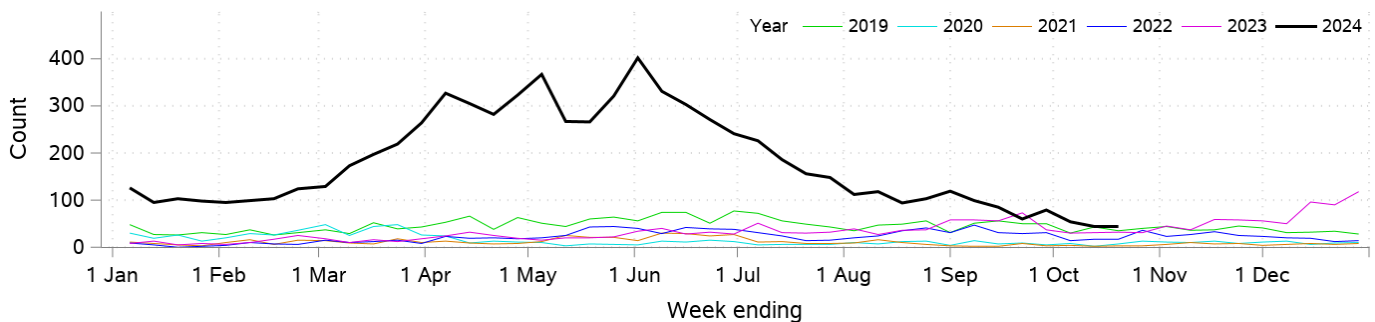


Figure 21. Unplanned emergency department (ED) weekly counts of presentations with a diagnosis of pneumonia, 1 January to 20 October 2024 and comparison with the previous 5 years, persons aged 17 – 34 years

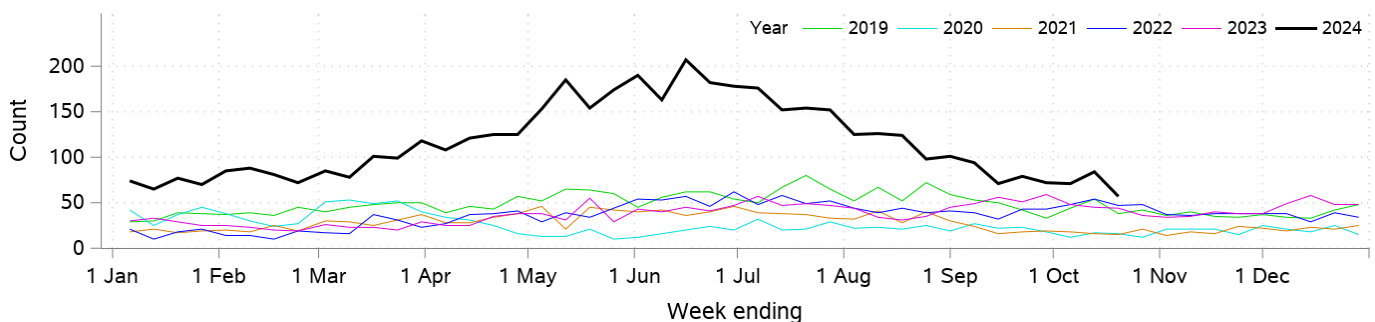


Figure 22. Pneumonia weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages

