

NSW Respiratory Surveillance Report - week ending 23 March 2024

COVID-19 activity is low. Influenza activity is low. Respiratory syncytial virus activity is high.

Summary

All COVID-19 indicators have declined in the last week and activity is now at low levels. Influenza activity remains at low levels. Presentations to and admissions from emergency departments for children with bronchiolitis remain elevated. Respiratory syncytial virus (RSV) notifications have increased by 9% since last week. RSV activity remains at high levels.

Pertussis (whooping cough) notifications dramatically decreased during the pandemic period (2020-2022). Notifications have recently started to increase, particularly for school-aged children. See the In Focus section at the end of this report for details about current notification patterns. For further information about this infection, refer to the NSW Health website for [whooping cough](#).

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 sewage surveillance program, whole genome sequencing (WGS) data and sentinel laboratory respiratory virus test results are currently of most value for monitoring COVID-19 and other respiratory viruses of importance in the community. Registration of positive COVID-19 rapid antigen tests (RAT) in NSW ceased on 30 September 2023 and notifications now only reflect cases referred by a doctor for PCR. 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: Presentations to and admissions from EDs for COVID-19 have declined. Influenza-like illness presentations and admissions are relatively stable at a low level. Presentations and admissions for bronchiolitis in young children remain at a high level.

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

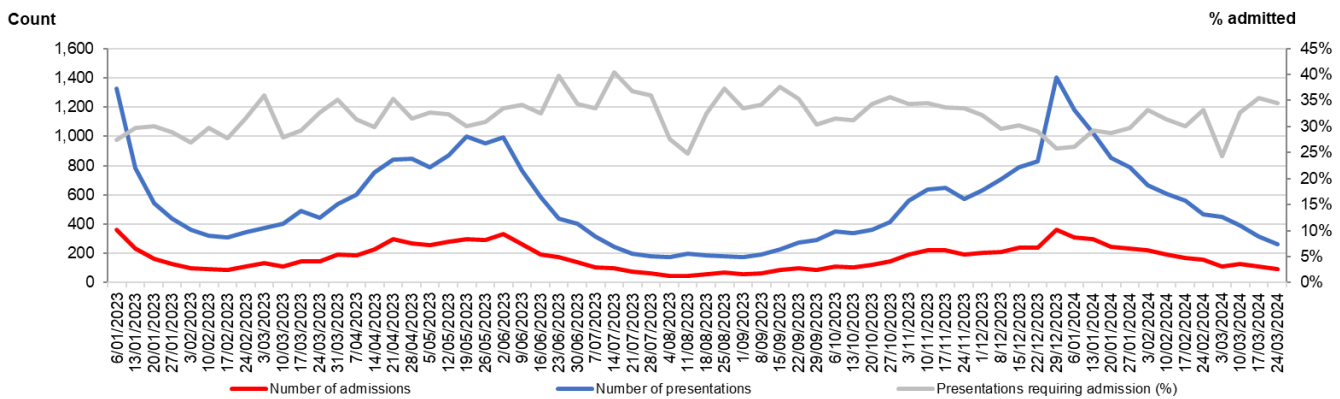


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages.

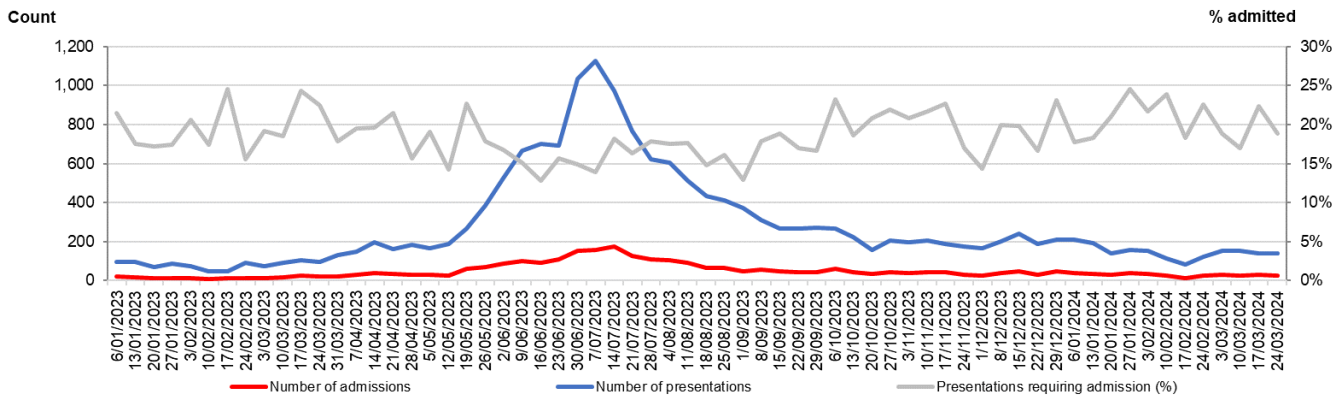
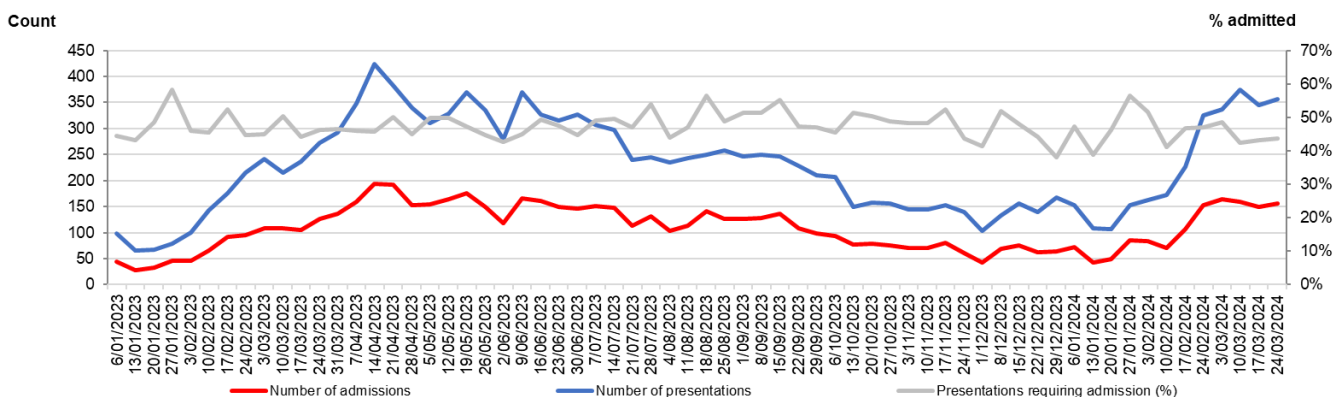


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, children aged 0-4 years.



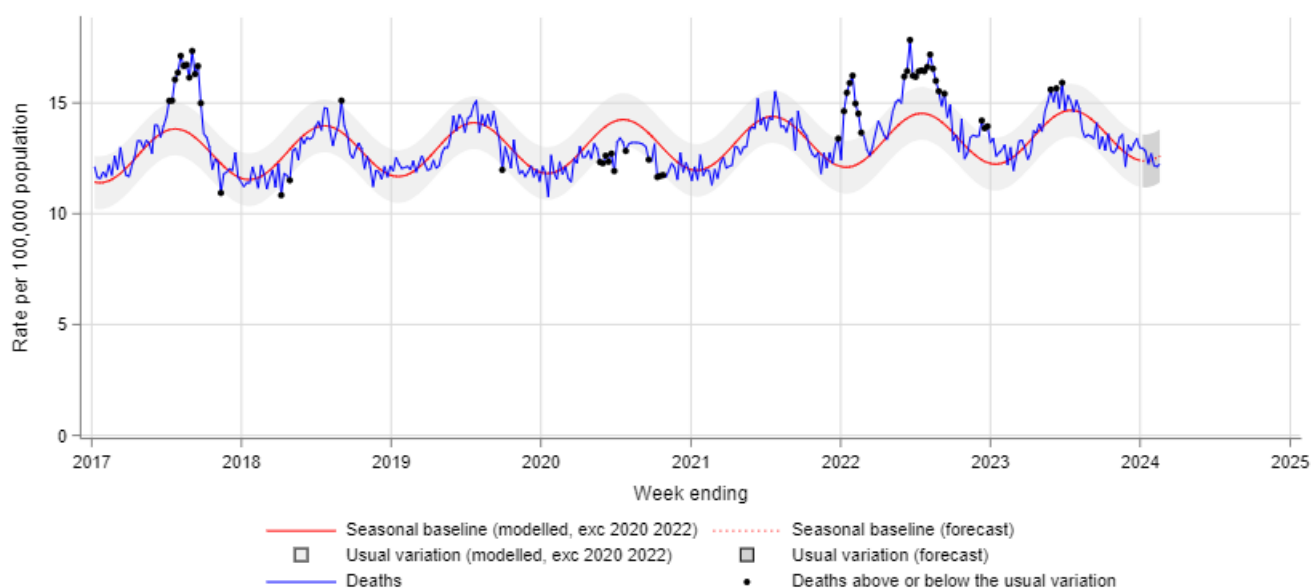
Death surveillance

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 within the usual variation.

Figure 4. All-cause death rate per 100,000 population, all ages, 2017 to 18 February 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 14 January 2024 to 18 February 2024. For additional information see [COVID-19 surveillance report data sources and methodology](#) for details.

Epidemiological week 11, ending 23 March 2024

Notifications of COVID-19, influenza and RSV

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

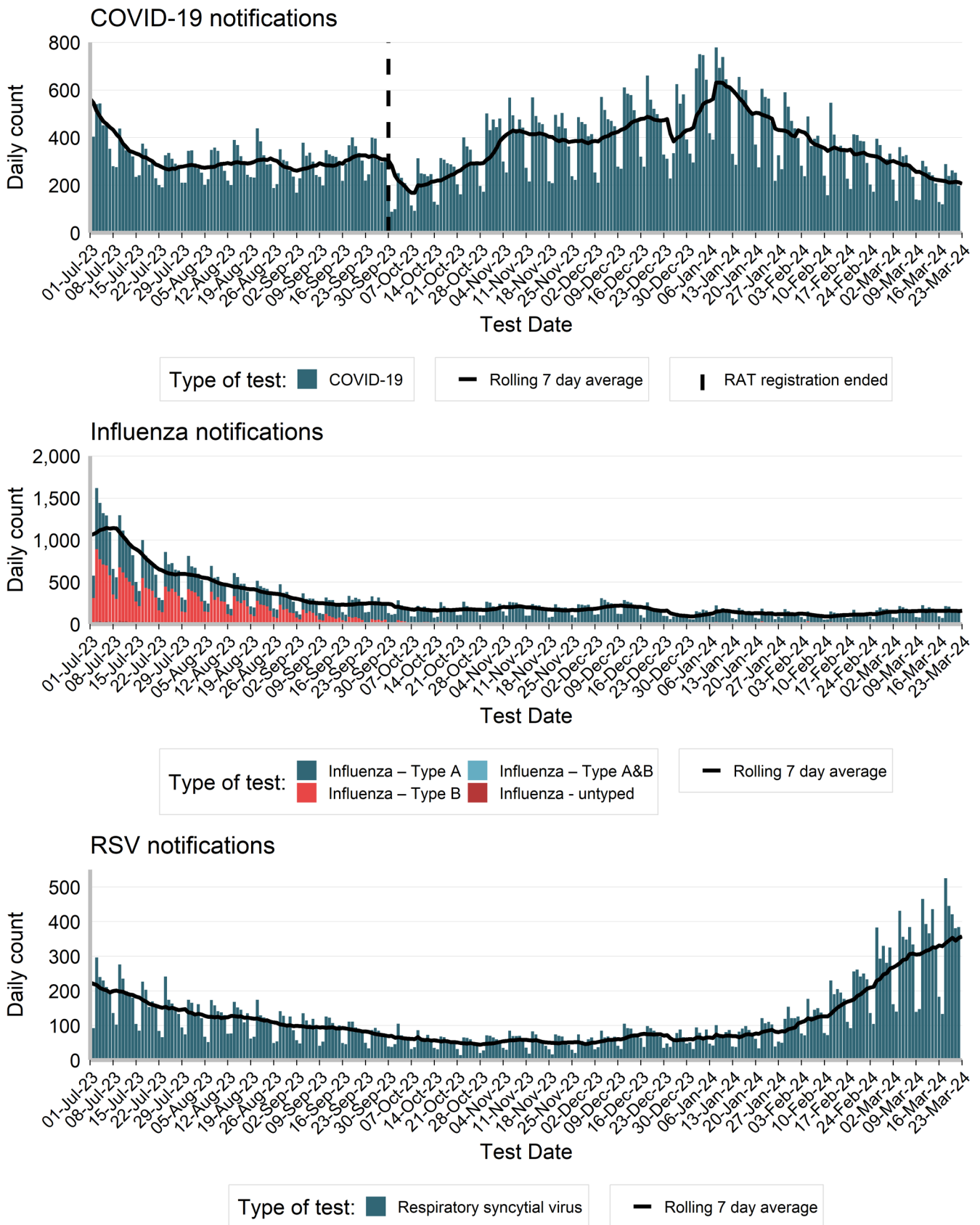
Interpretation: In the past week there was decrease of 5.7% in COVID notifications, a decrease of 0.3% in influenza notifications, and an increase of 8.7% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 23 March 2024.

	COVID		Influenza		RSV	
	Week ending 23 March 2024	Year to Date	Week ending 23 March 2024	Year to Date	Week ending 23 March 2024	Year to Date
Gender						
Female	786	17,160(55%)	564	5,658(51%)	1,268	7,728(51%)
Male	655	14,147(45%)	547	5,404(49%)	1,229	7,378(49%)
Age group (years)						
0-4	132	3,233(10%)	161	1,416(13%)	1,660	9,959(66%)
5-9	28	594(2%)	154	1,199(11%)	179	870(6%)
10-19	77	1,428(5%)	156	1,535(14%)	100	508(3%)
20-29	119	2,538(8%)	117	1,335(12%)	67	429(3%)
30-39	132	3,445(11%)	108	1,414(13%)	104	680(4%)
40-49	134	3,144(10%)	134	1,287(12%)	60	435(3%)
50-59	157	3,106(10%)	80	1,012(9%)	68	504(3%)
60-69	153	3,470(11%)	91	791(7%)	101	591(4%)
70-79	214	4,207(13%)	67	659(6%)	71	558(4%)
80-89	207	4,108(13%)	32	313(3%)	57	423(3%)
90+	97	2,038(7%)	12	111(1%)	33	163(1%)
Local Health District of residence						
Central Coast	63	1,157(4%)	36	350(3%)	127	839(6%)
Far West	7	107(0%)	0	13(0%)	4	9(0%)
Hunter New England	137	2,346(7%)	80	513(5%)	161	996(7%)
Illawarra Shoalhaven	75	1,362(4%)	66	522(5%)	128	683(5%)
Mid North Coast	29	828(3%)	10	147(1%)	33	189(1%)
Murrumbidgee	72	708(2%)	21	175(2%)	13	89(1%)
Nepean Blue Mountains	79	1,380(4%)	79	454(4%)	148	780(5%)
Northern NSW	52	1,127(4%)	13	194(2%)	34	286(2%)
Northern Sydney	190	3,669(12%)	147	2,122(19%)	352	2,404(16%)
South Eastern Sydney	174	3,448(11%)	150	1,421(13%)	296	1,753(12%)
South Western Sydney	173	4,651(15%)	162	1,624(15%)	485	2,728(18%)
Southern NSW	25	530(2%)	10	122(1%)	13	121(1%)
Sydney	84	2,679(9%)	88	928(8%)	158	1,022(7%)
Western NSW	44	637(2%)	27	152(1%)	23	137(1%)
Western Sydney	217	6,350(20%)	220	2,282(21%)	519	3,050(20%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	32	646(2%)	20	198(2%)	61	367(2%)
Not Aboriginal or Torres Strait Islander	744	17,351(55%)	589	6,097(55%)	1,038	6,457(43%)
Not Stated / Unknown	668	13,332(43%)	503	4,781(43%)	1,401	8,297(55%)
Total	1,444	31,329(100%)	1,112	11,076(100%)	2,500	15,121(100%)

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

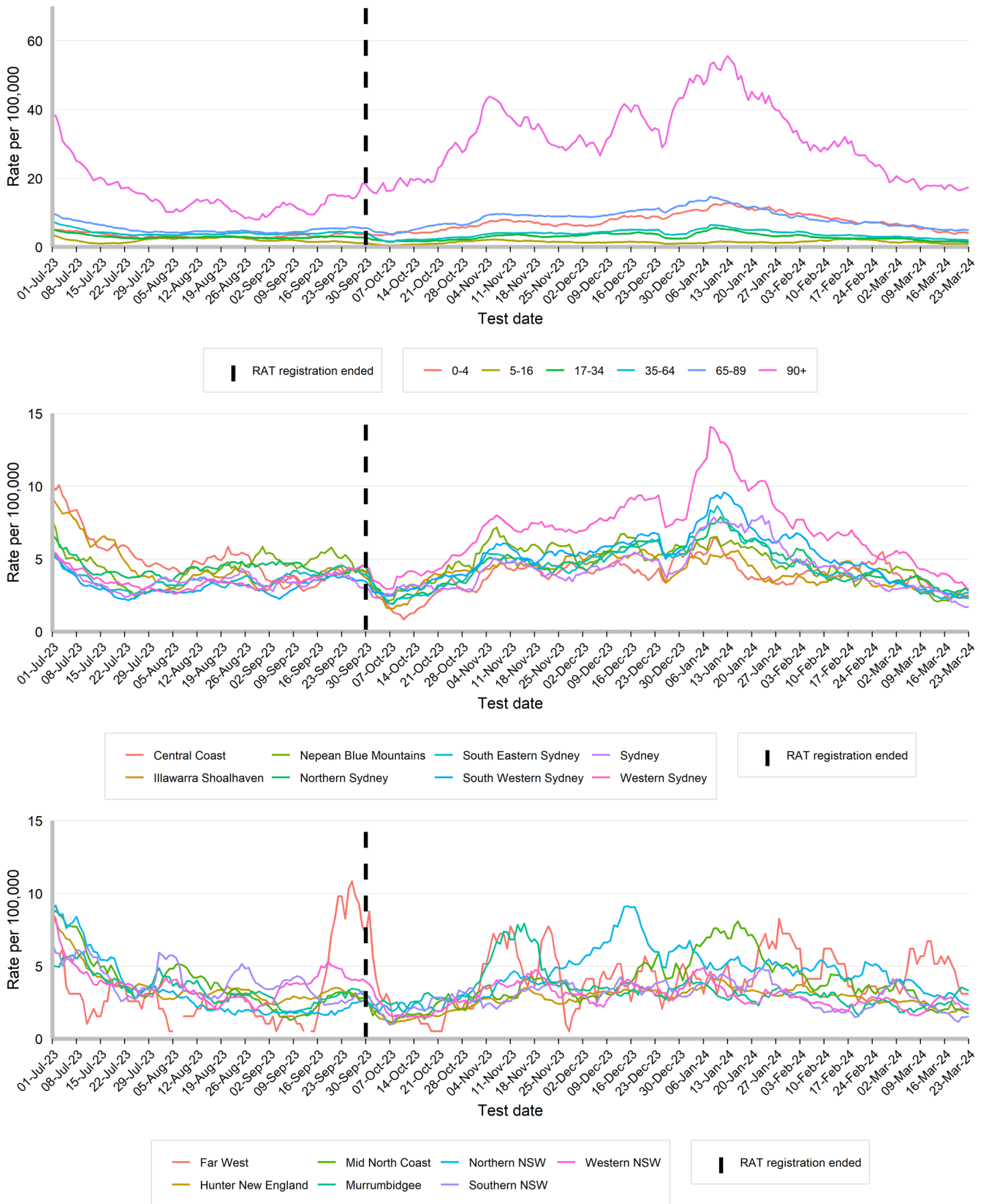
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 23 March 2024.



Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are declining or stable at low levels across all ages and regions.

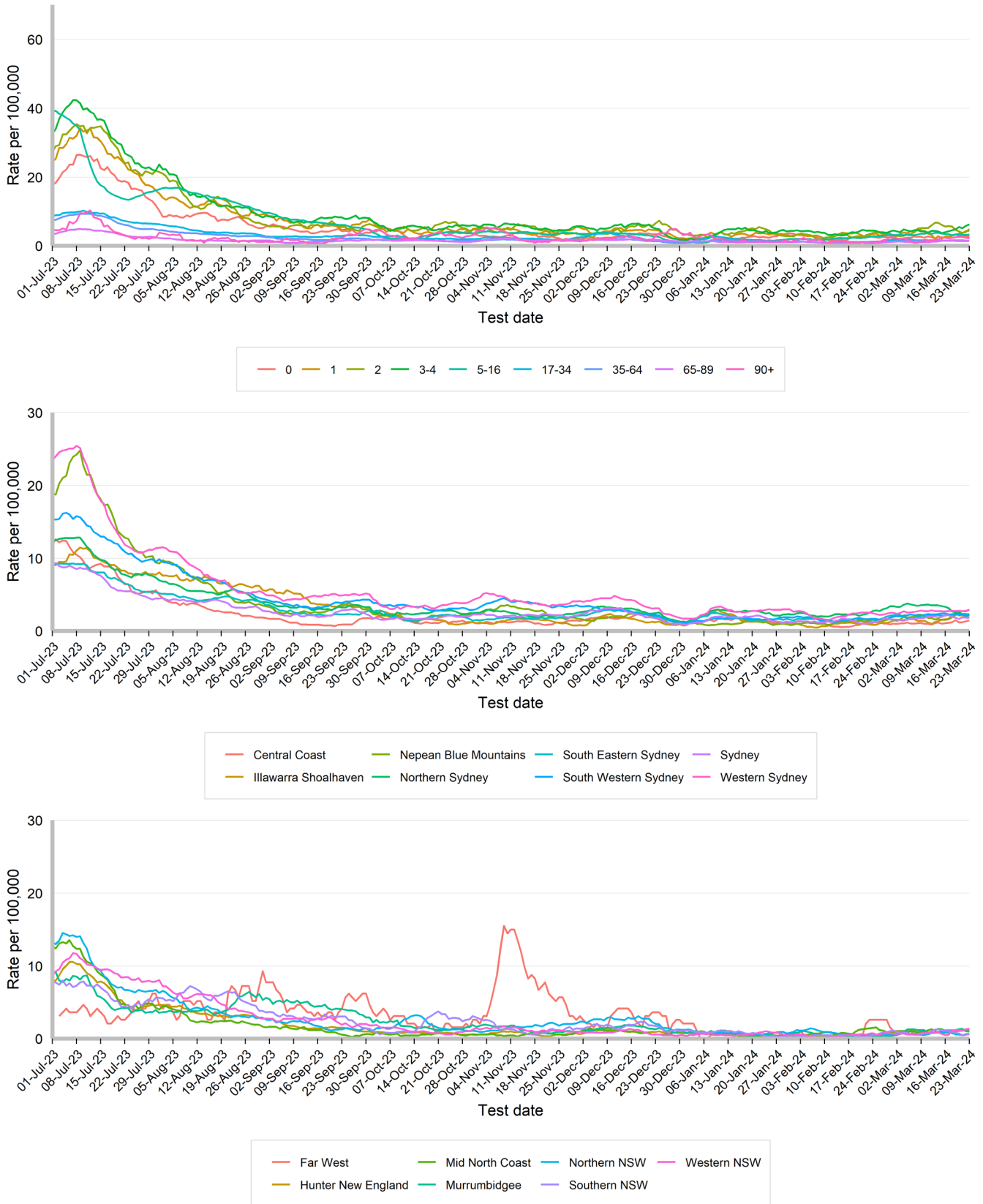
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 23 March 2024.



Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications are low and stable.

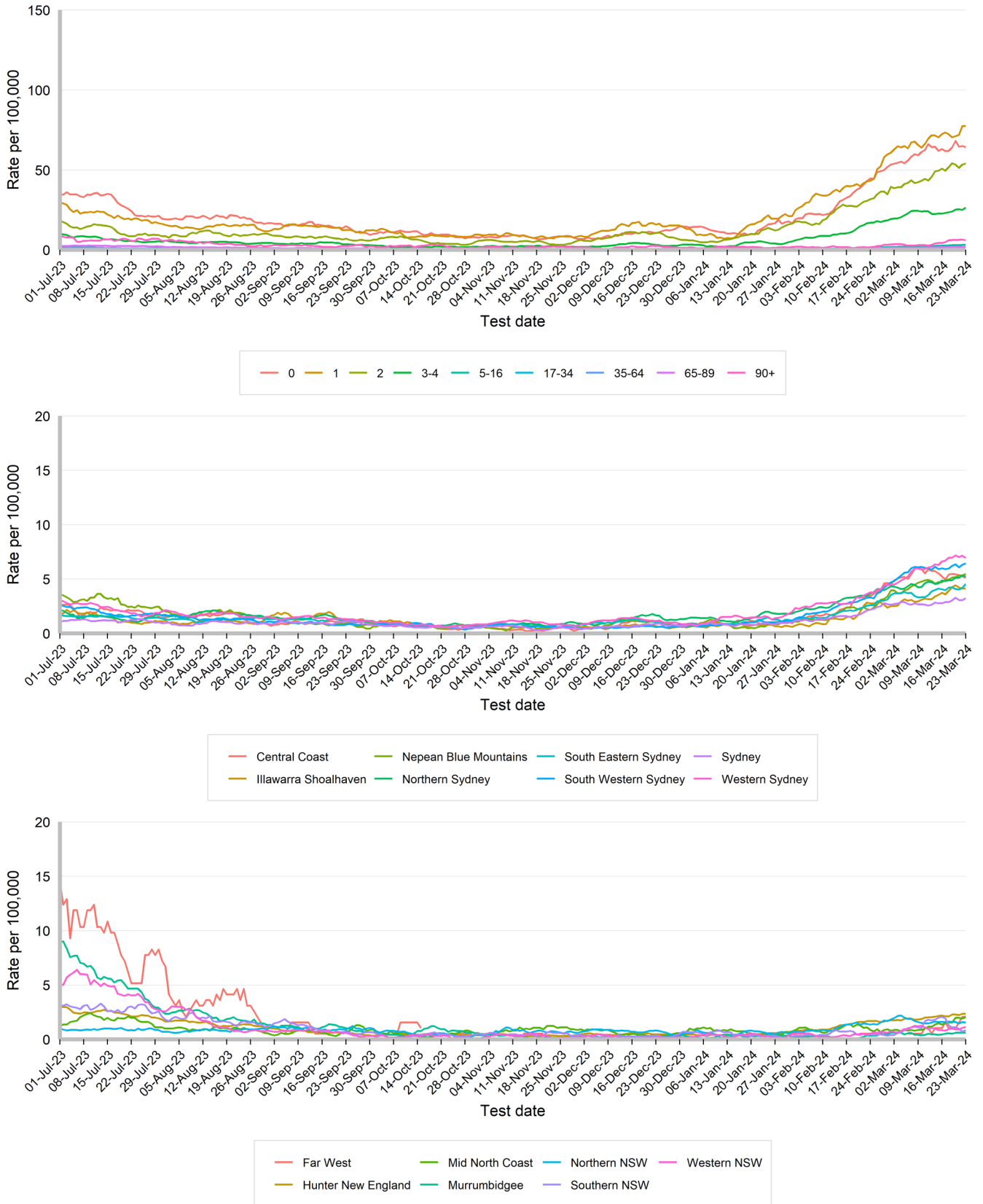
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 23 March 2024.



Rates of RSV notifications per 100,000 population

Interpretation: Rates of RSV notifications have been stable across all ages except those aged 0 to 4.

Figure 8. Daily seven-day rolling average rate of respiratory syncytial virus notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 23 March 2024.

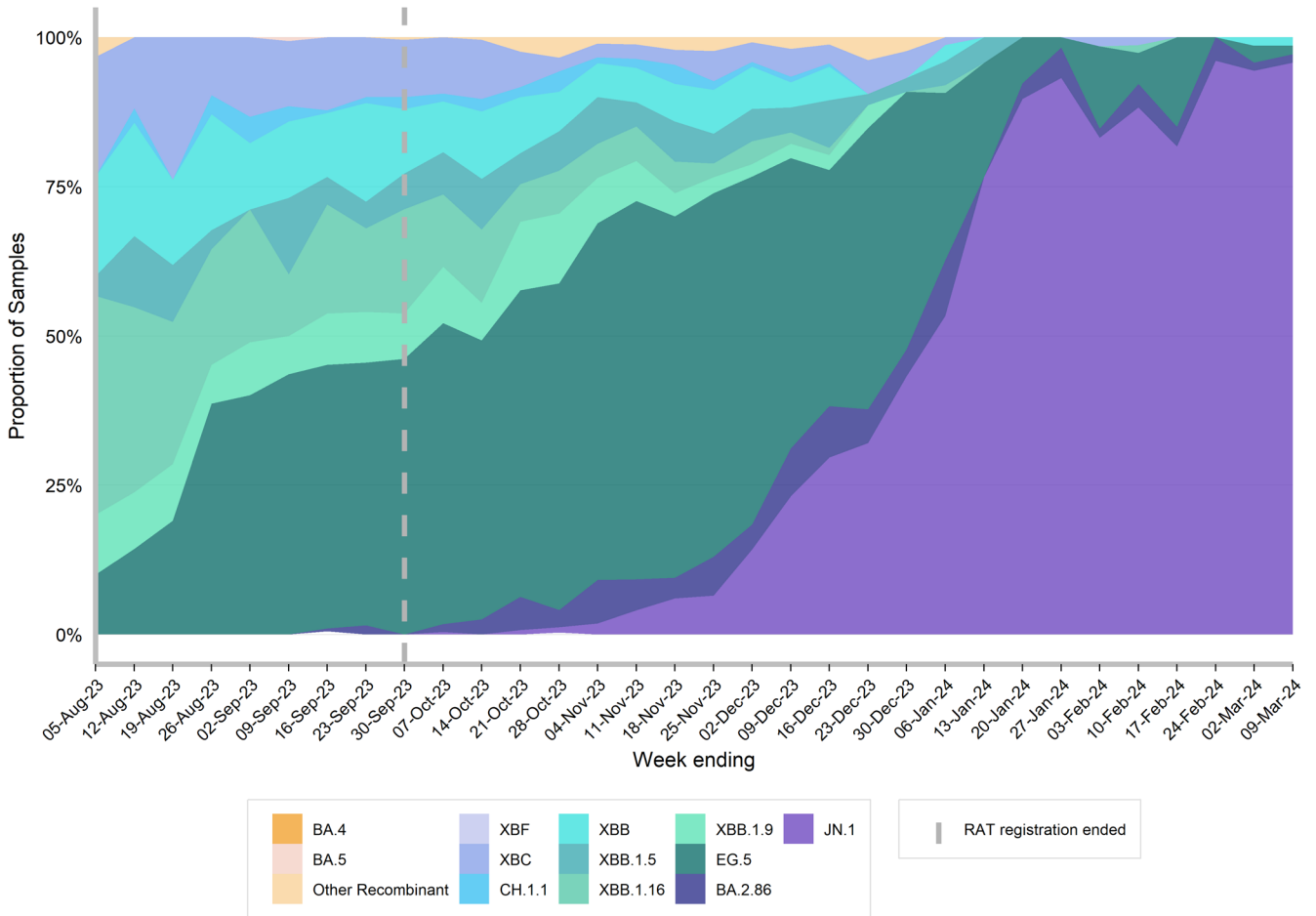


COVID-19 Whole Genome Sequencing

Specimens from people with COVID-19 undergo whole genome sequencing to identify and understand the behaviour of circulating variants. Community samples are sourced from cases who test via PCR at community pathology services, and may not necessarily reflect the distribution in all cases across NSW. NSW continues to monitor results from cases who are admitted from ICU to monitor for increased disease severity and from cases who return from overseas to monitor for new variants introduced into NSW. There is a lag between the date a PCR test is taken and the date that the results of WGS are reported.

Interpretation: JN.1 dominates sub-lineages circulating in the community.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 09 March 2024.



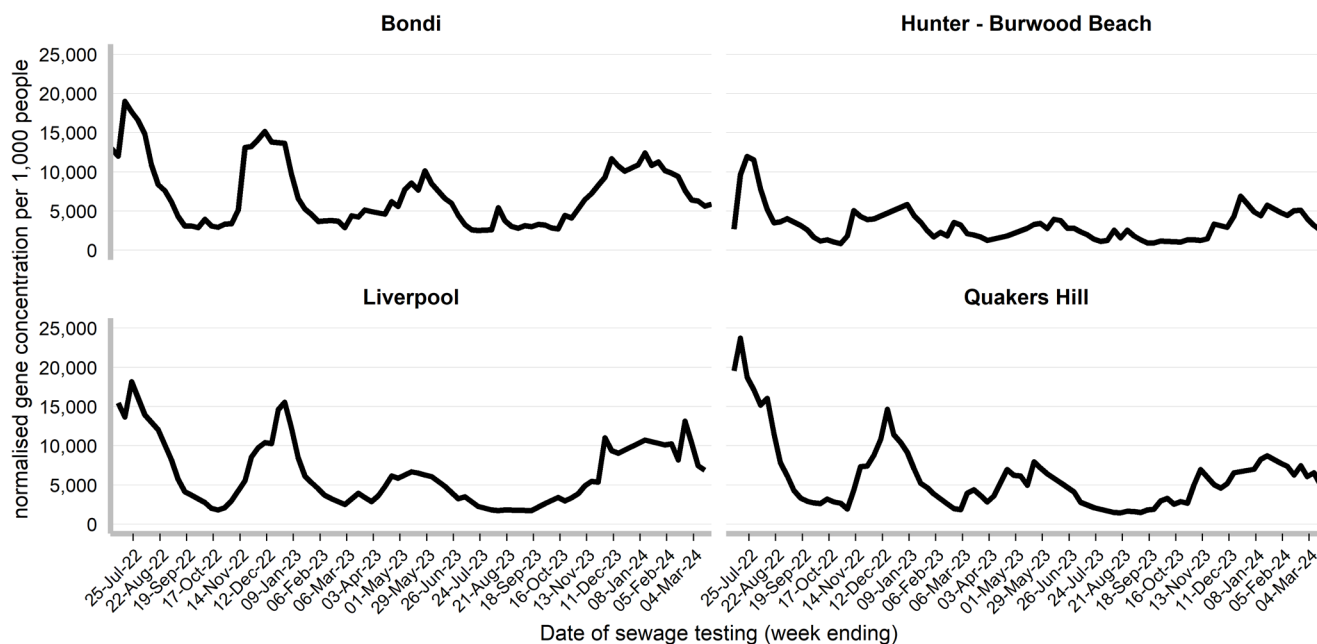
Other surveillance indicators

COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 23 March 2024. 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>.

Interpretation: Gene concentrations per 1,000 people have declined in all catchments.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 23 March 2024.

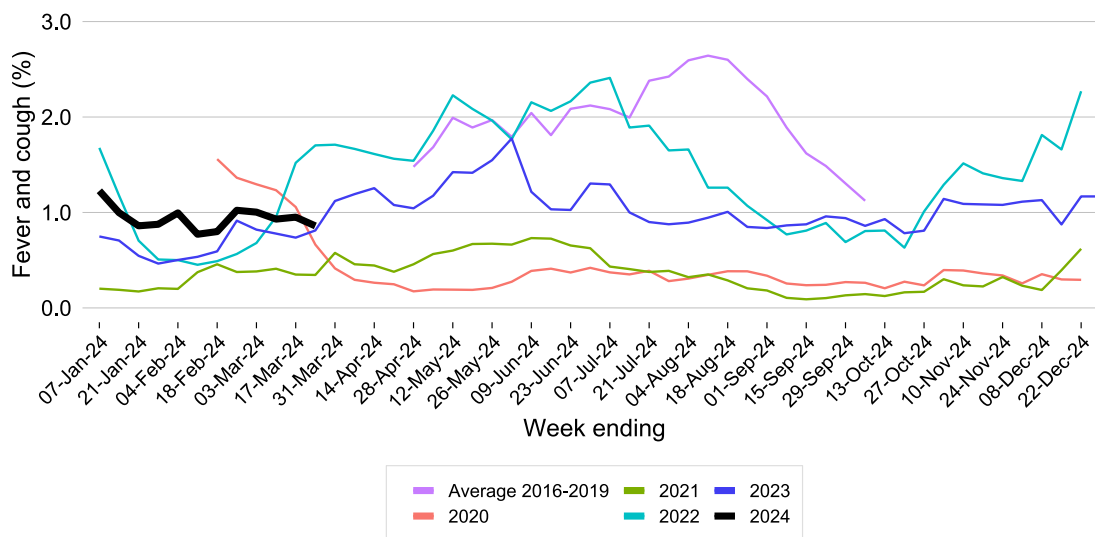


*Note: we have changed the method for tracking gene concentration to using a model that weights more recent weeks of data collection. For additional information see COVID-19 surveillance report data sources and methodology.

FluTracking and NSW sentinel laboratory network

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/>

Figure 11. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 24 March 2024.



Epidemiological week 11, ending 23 March 2024

The NSW sentinel laboratory network comprises of 13 public and private laboratories throughout NSW who provide additional data on positive and negative test results. This helps us to understand which respiratory viruses are circulating as well as how much.

Interpretation: COVID-19 PCR positivity continues to decrease and influenza positivity is stable. Data for this week should be interpreted with caution due to low test numbers.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 July 2023 to 24 March 2024.

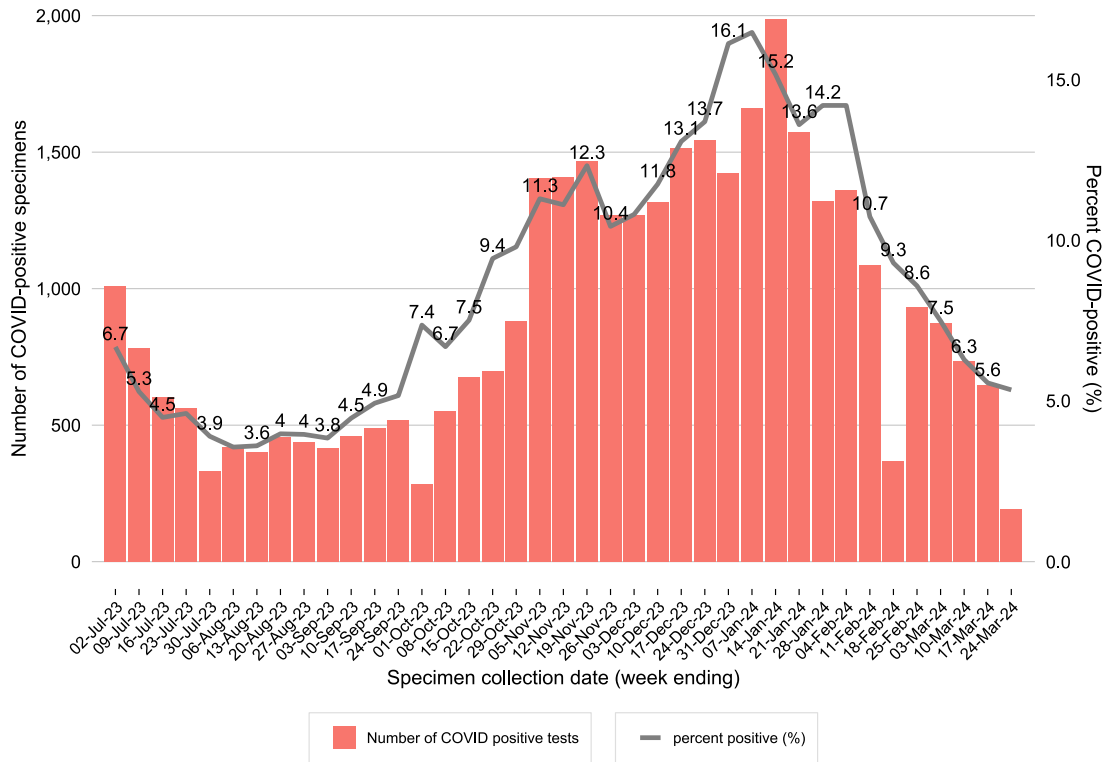


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 July 2023 to 24 March 2024.

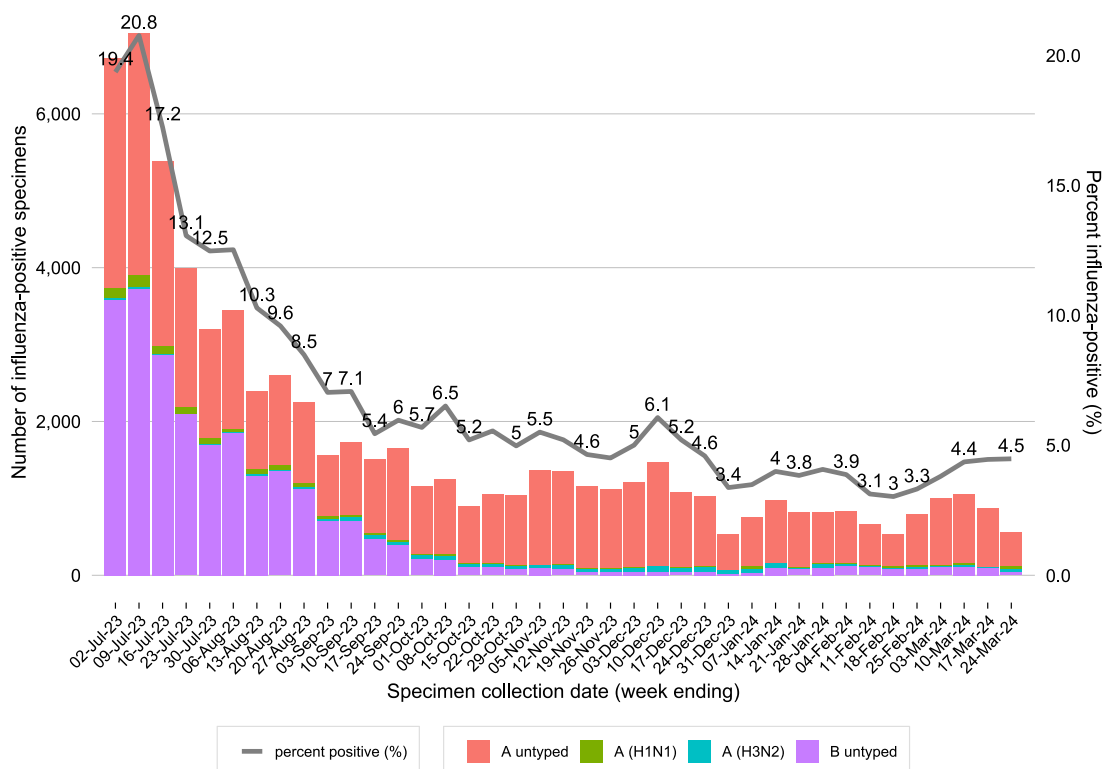


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 July 2023 to 24 March 2024.

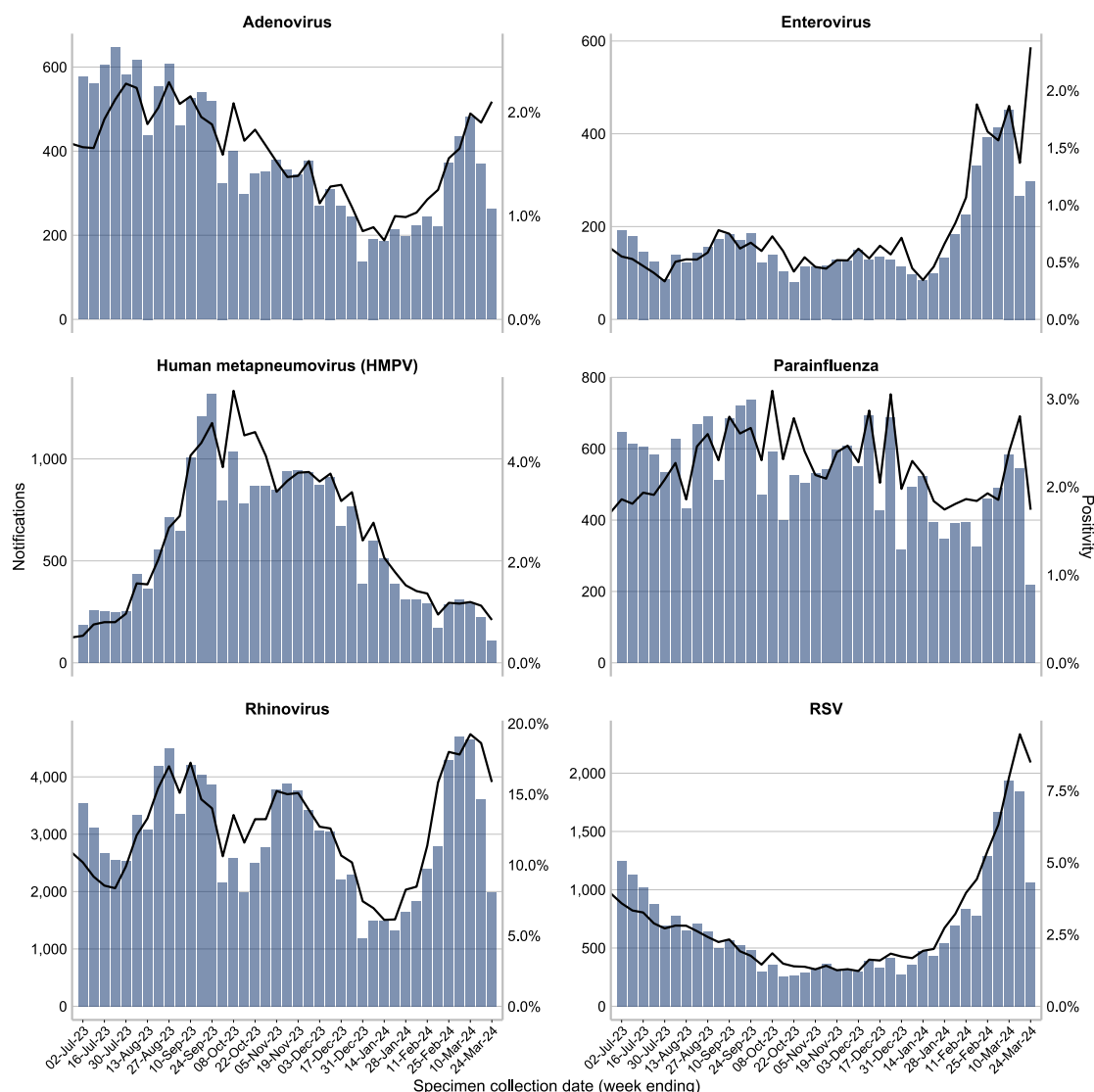


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 24 March 2024.

	Week ending				Year to date n
	03 March	10 March	17 March	24 March	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	
Influenza	1,004 (3.8%)	1,056 (4.4%)	866 (4.5%)	561 (4.5%)	9,672
Adenovirus	435 (1.6%)	481 (2.0%)	369 (1.9%)	263 (2.1%)	3,394
Parainfluenza	489 (1.9%)	582 (2.4%)	545 (2.8%)	218 (1.7%)	5,161
Respiratory syncytial virus (RSV)	1,668 (6.3%)	1,933 (8.0%)	1,841 (9.5%)	1,063 (8.5%)	11,911
Rhinovirus	4,700 (17.8%)	4,661 (19.2%)	3,619 (18.6%)	1,987 (15.9%)	32,232
Human metapneumovirus (HMPV)	311 (1.2%)	293 (1.2%)	221 (1.1%)	107 (0.9%)	3,791
Enterovirus	413 (1.6%)	452 (1.9%)	266 (1.4%)	298 (2.4%)	2,970
Number of PCR tests conducted	26,393	24,218	19,438	12,525	254,144
SARS-CoV-2	875 (7.5%)	736 (6.3%)	646 (5.6%)	192 (5.3%)	12,738
Number of COVID PCR tests	11,673	11,701	11,607	3,590	117,116
Number of laboratories reporting	12	12	8	8	-
Number of laboratories reporting COVID	4	4	4	2	-

Recent data is subject to change.

In Focus

This section of the report will be provided when NSW Health is investigating a particular aspect of respiratory illness activity.

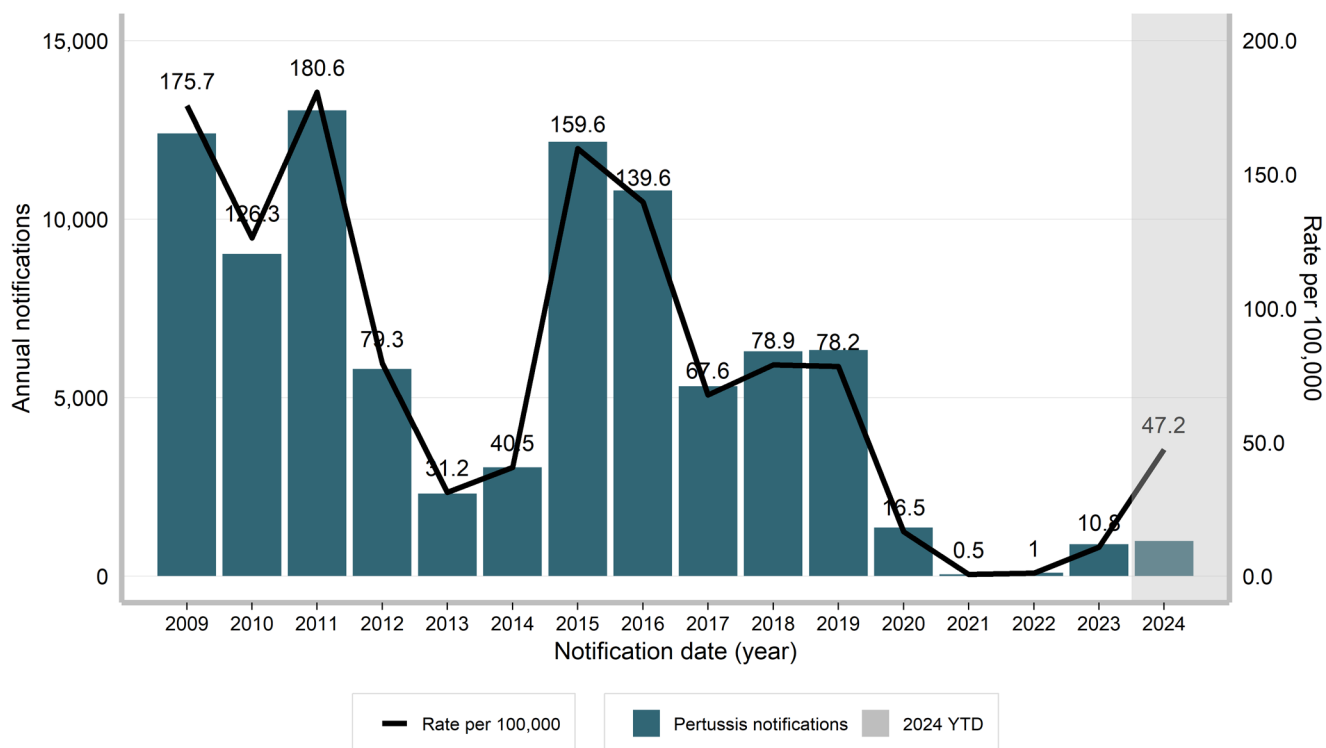
Pertussis

Pertussis (commonly known as whooping cough) is caused by a bacteria called *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 that of low in 2013, with further reductions in 2021 and 2022 (Figure 15). Notifications of people with pertussis in NSW started to increase in 2023 and are expected to increase further. The highest rates are observed in children 5-14 years, followed by those 0-4 years of age (Figure 16).

Additional notification data can be found on the [NSW Health pertussis data](#) page.

Figure 15. Pertussis notifications and rates per 100,000 by year, 2009 to 2024 year to date (YTD).



*rate for the first quarter of 2024

Figure 16. Monthly pertussis notification rates per 100,000 by age group, September 2022 to March 2024

