NSW Respiratory Surveillance Report - week ending 13 April 2024

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

Summary

COVID-19 and influenza activity remain at low levels. Presentations to, and admissions from, emergency departments for children with bronchiolitis remain high. RSV activity remains at high levels.

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: COVID-19 and influenza-like illness presentations and admissions remain at a low level. The proportion of presentations for influenza resulting in a hospital admission has increased this week. Presentations and admissions for bronchiolitis in young children remain at a high level. The proportion of presentations resulting in a hospital admission remains stable.

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

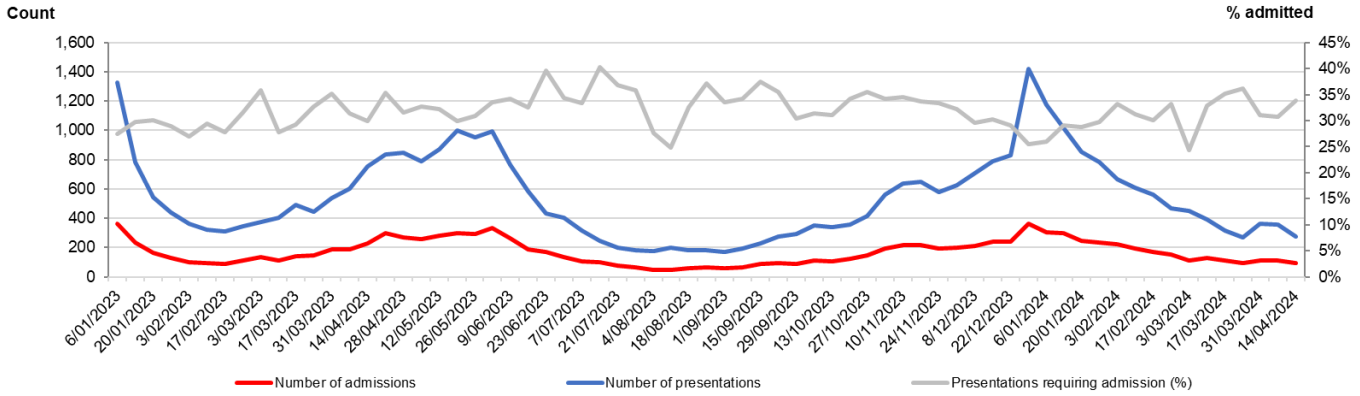


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages.

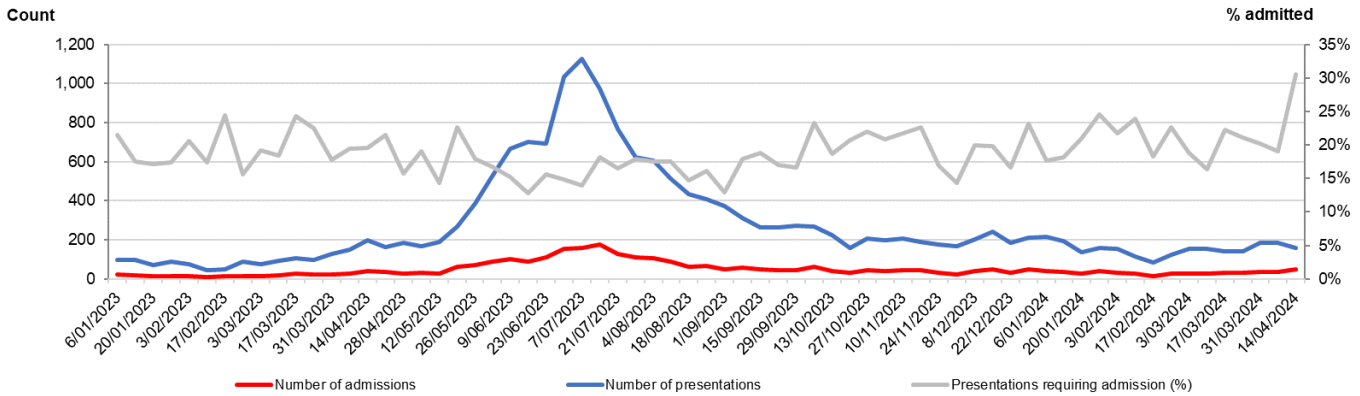
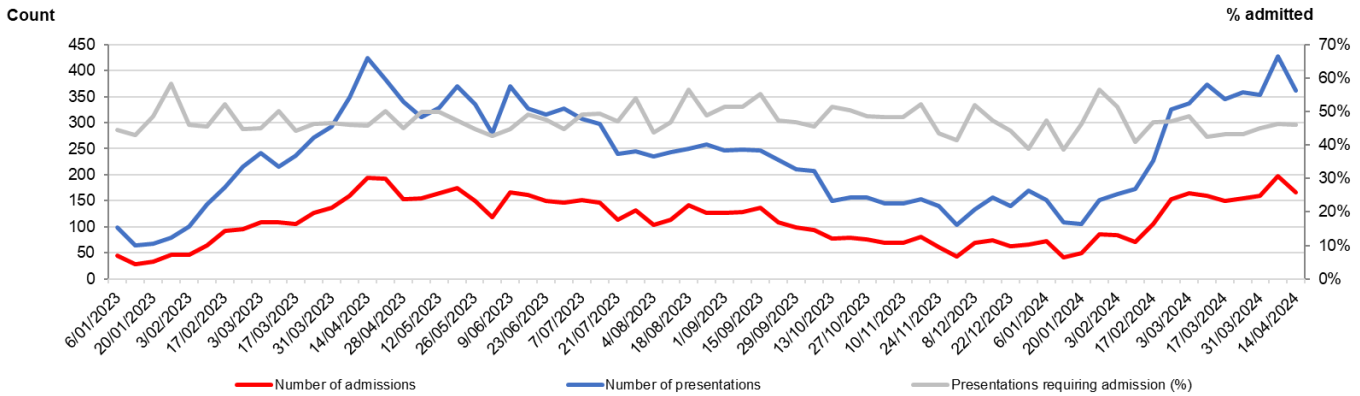


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, children aged 0-4 years.



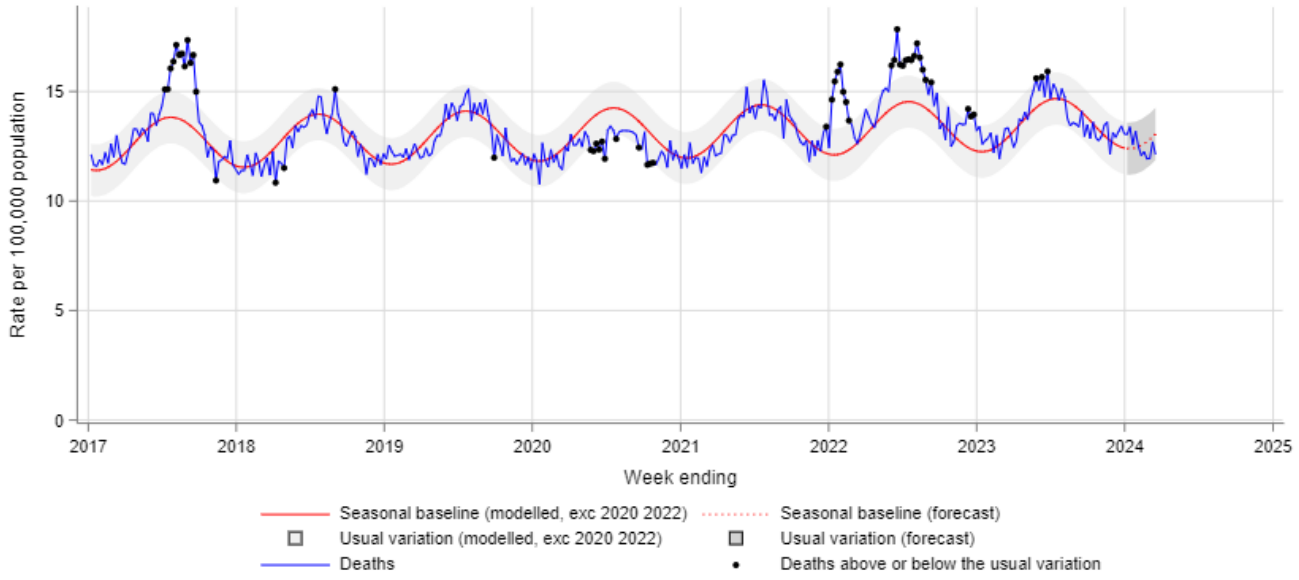
Death surveillance

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 17 March 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 February 2024 to 17 March 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.

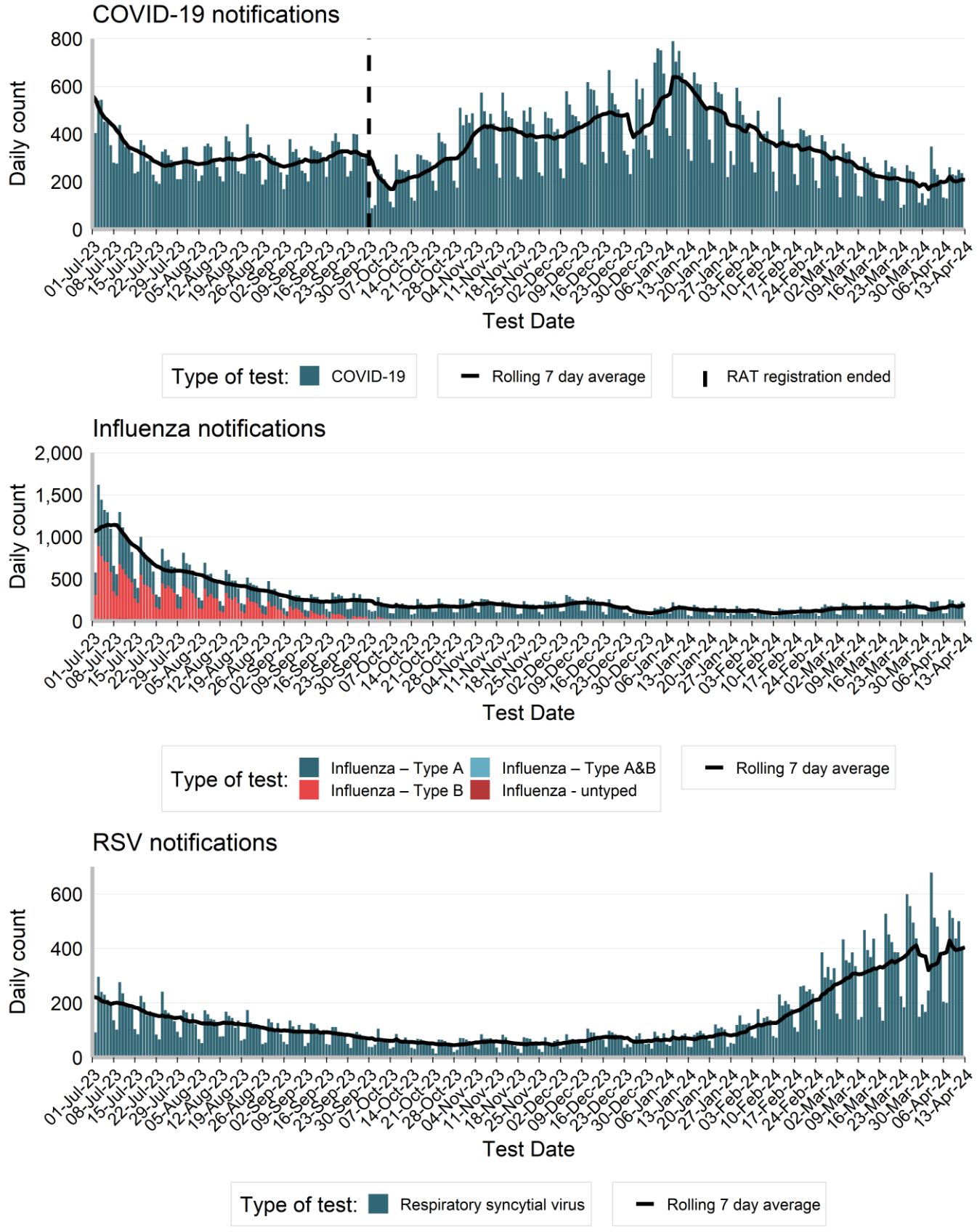
Interpretation: In the past week there was increase of 5.5% in COVID notifications, an increase of 20.3% in influenza notifications, and an increase of 7.0% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 13 April 2024.

	COVID		Influenza		RSV	
	Week ending 13 April 2024	Year to Date	Week ending 13 April 2024	Year to Date	Week ending 13 April 2024	Year to Date
Gender						
Female	808	19,644(55%)	734	7,573(52%)	1,453	11,899(51%)
Male	640	16,153(45%)	590	7,041(48%)	1,374	11,378(49%)
Age group (years)						
0-4	123	3,648(10%)	169	1,882(13%)	1,705	15,081(65%)
5-9	39	691(2%)	185	1,718(12%)	270	1,606(7%)
10-19	68	1,636(5%)	172	1,999(14%)	137	863(4%)
20-29	104	2,841(8%)	90	1,608(11%)	75	645(3%)
30-39	136	3,859(11%)	144	1,820(12%)	113	1,011(4%)
40-49	135	3,602(10%)	134	1,655(11%)	82	663(3%)
50-59	134	3,559(10%)	110	1,310(9%)	97	769(3%)
60-69	154	3,970(11%)	116	1,065(7%)	122	912(4%)
70-79	223	4,913(14%)	107	935(6%)	114	855(4%)
80-89	233	4,761(13%)	78	479(3%)	82	641(3%)
90+	111	2,323(6%)	19	154(1%)	33	250(1%)
Local Health District of residence						
Central Coast	39	1,311(4%)	46	482(3%)	150	1,272(5%)
Far West	6	128(0%)	0	15(0%)	3	19(0%)
Hunter New England	146	2,794(8%)	79	768(5%)	217	1,543(7%)
Illawarra Shoalhaven	101	1,615(5%)	53	689(5%)	166	1,149(5%)
Mid North Coast	52	978(3%)	15	207(1%)	46	297(1%)
Murrumbidgee	78	915(3%)	37	299(2%)	23	151(1%)
Nepean Blue Mountains	67	1,663(5%)	79	645(4%)	201	1,319(6%)
Northern NSW	57	1,268(4%)	42	278(2%)	53	427(2%)
Northern Sydney	187	4,198(12%)	243	2,686(18%)	405	3,573(15%)
South Eastern Sydney	159	3,888(11%)	172	1,828(12%)	263	2,559(11%)
South Western Sydney	193	5,263(15%)	194	2,146(15%)	503	4,317(19%)
Southern NSW	21	612(2%)	5	150(1%)	18	175(1%)
Sydney	97	2,973(8%)	114	1,234(8%)	169	1,515(7%)
Western NSW	27	743(2%)	14	188(1%)	52	267(1%)
Western Sydney	224	7,075(20%)	232	2,953(20%)	560	4,672(20%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	36	774(2%)	24	295(2%)	70	601(3%)
Not Aboriginal or Torres Strait Islander	783	20,374(57%)	658	8,131(56%)	1,242	10,178(44%)
Not Stated / Unknown	633	14,675(41%)	646	6,207(42%)	1,520	12,523(54%)
Total	1,452	35,823(100%)	1,328	14,633(100%)	2,832	23,302(100%)

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

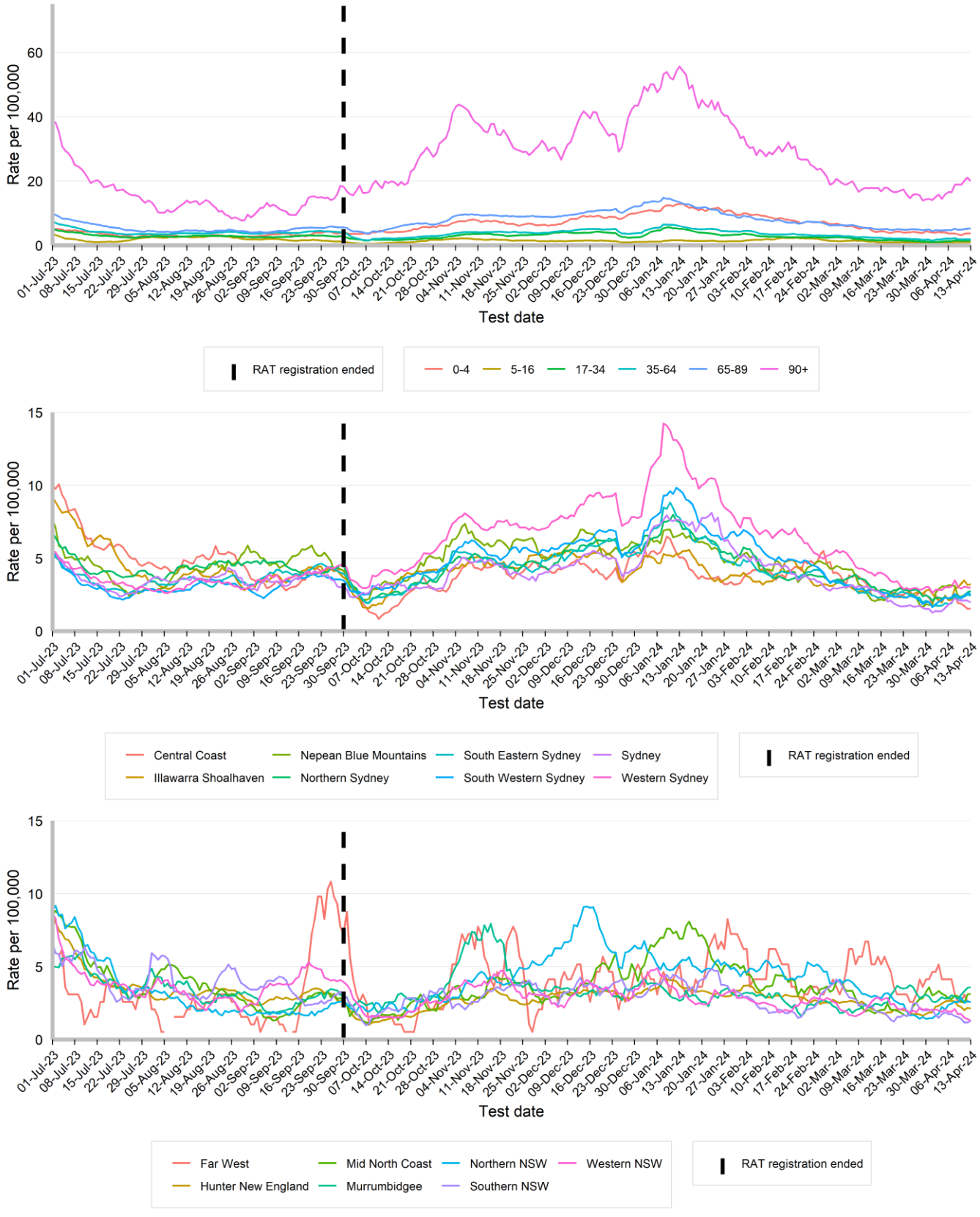
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 13 April 2024.



Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are low and stable most age groups and regions. Rates have increased slightly in the 90 year and older age group.

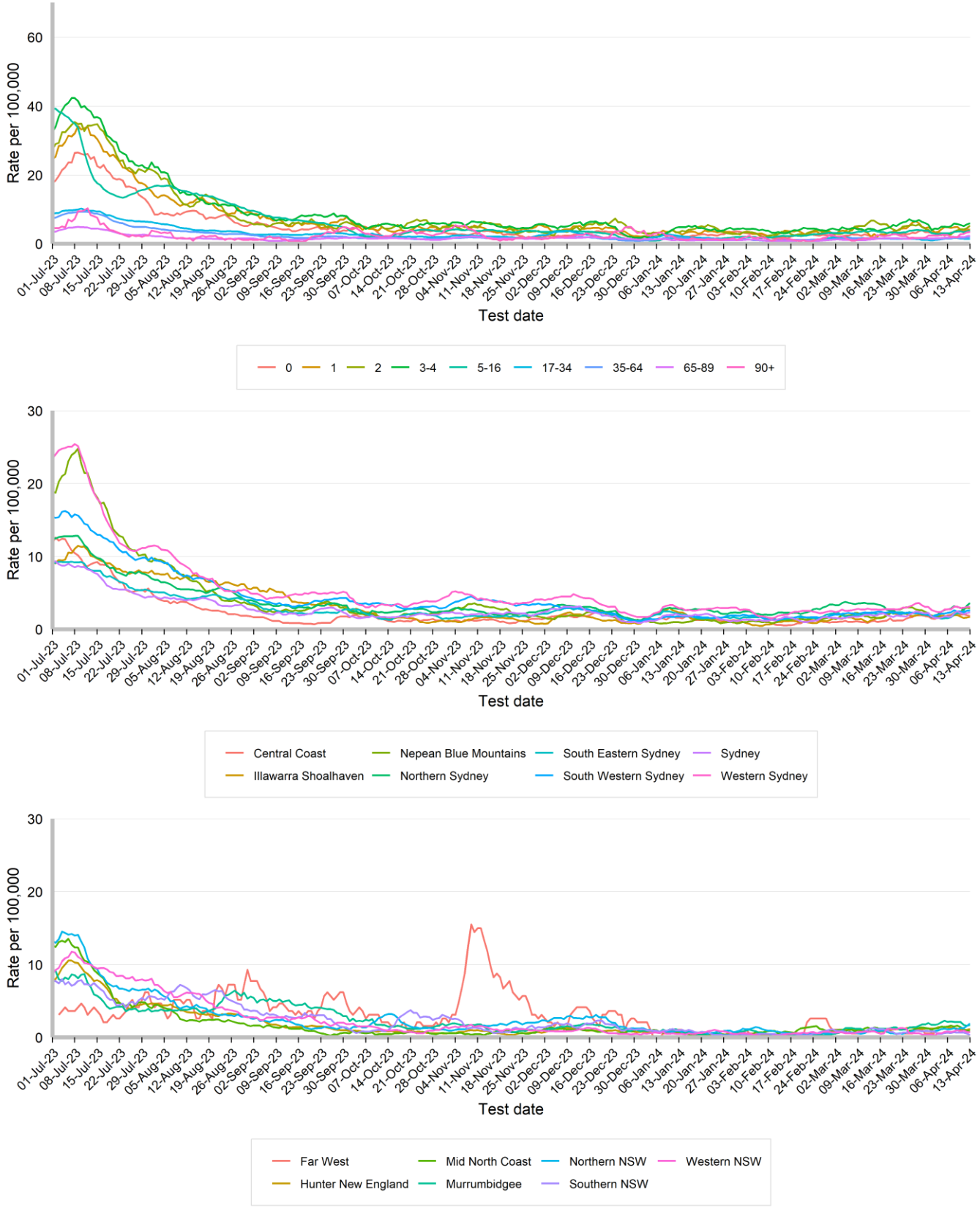
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 13 April 2024.



Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications are low and stable.

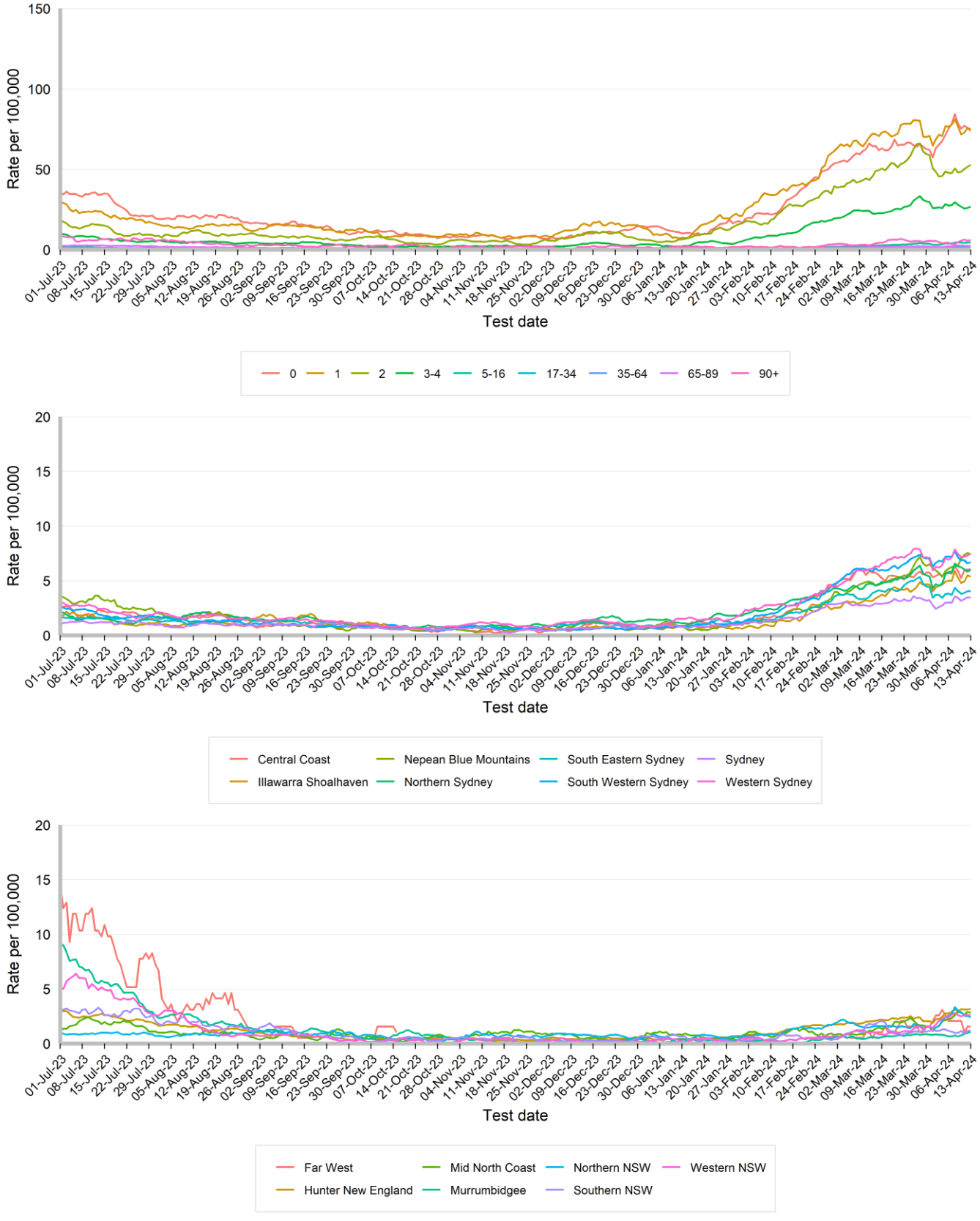
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 13 April 2024.



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. Children less than two years of age have the highest notification rates,

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 13 April 2024.

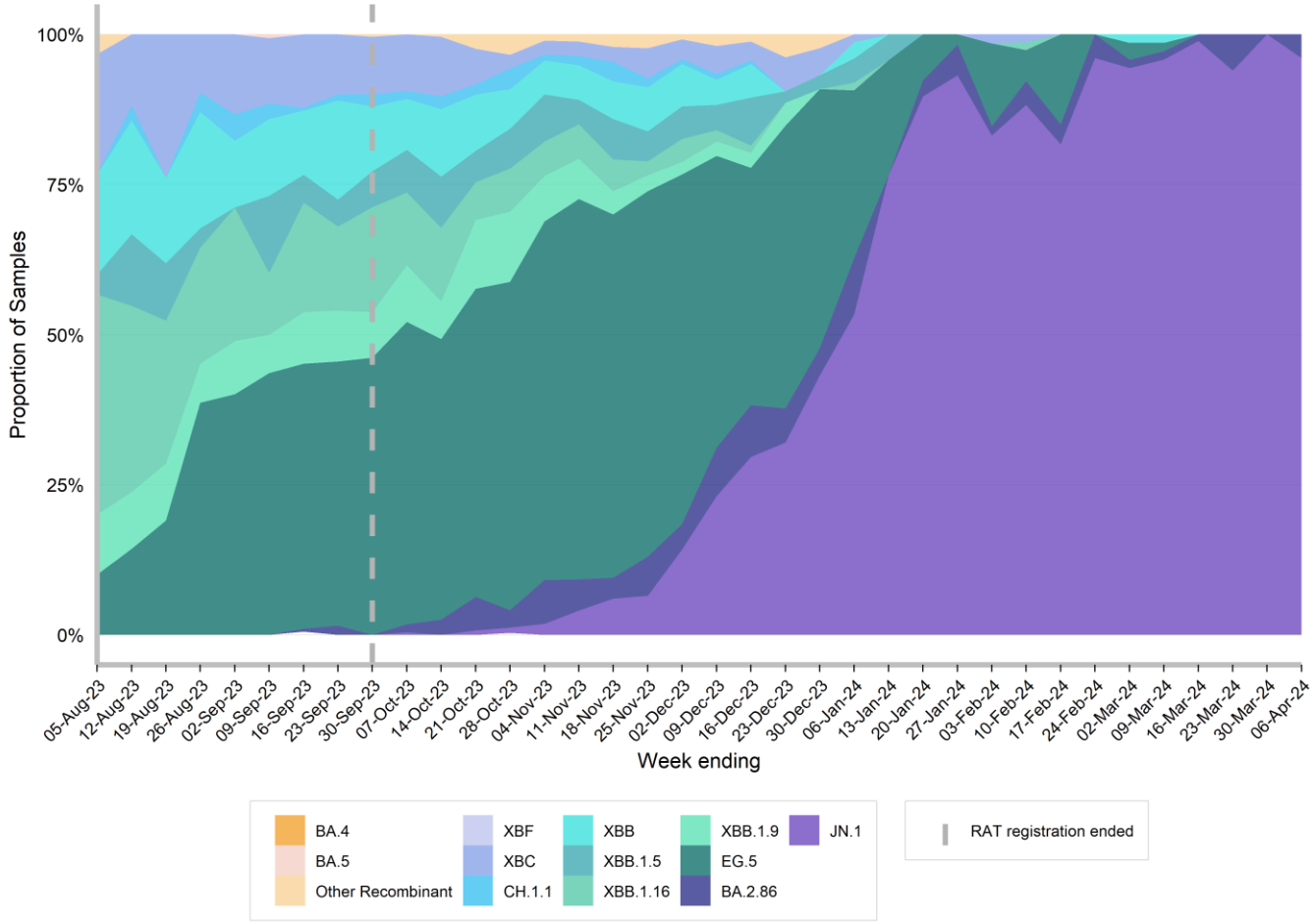


COVID-19 Whole Genome Sequencing

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 06 April 2024.



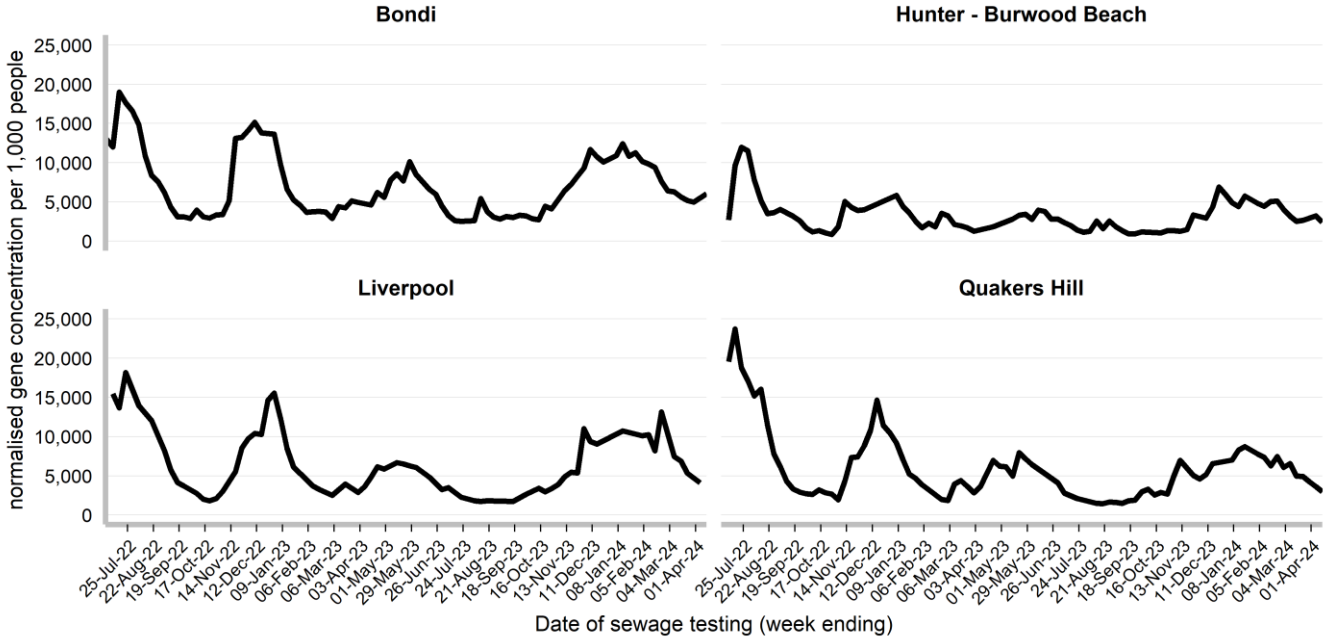
Other surveillance indicators

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 13 April 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 Sydney catchments.

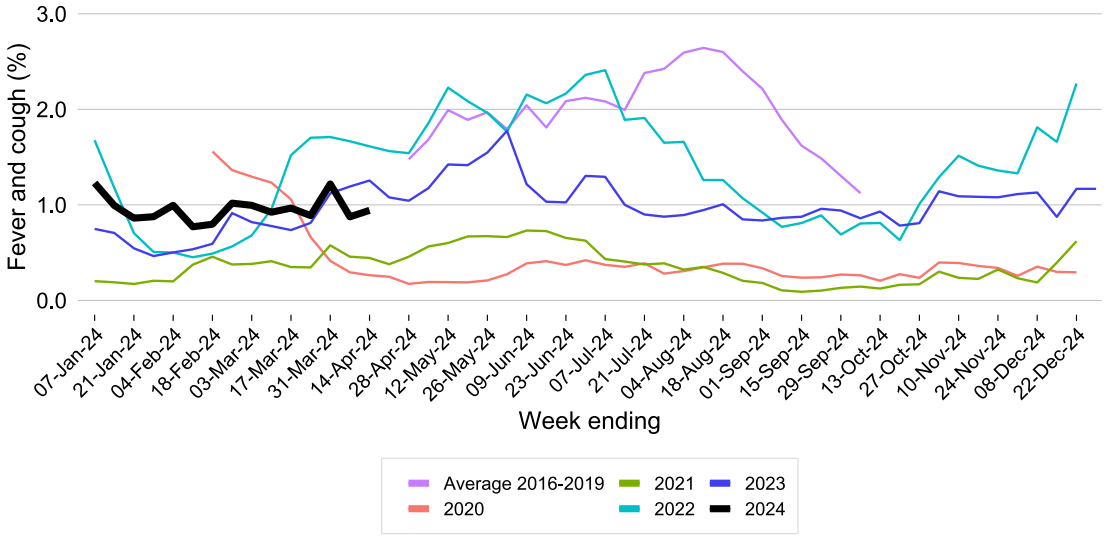
Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 13 April 2024.



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 14 April 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 is low and influenza positivity is low and stable. RSV positivity remains high.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 July 2023 to 14 April 2024.

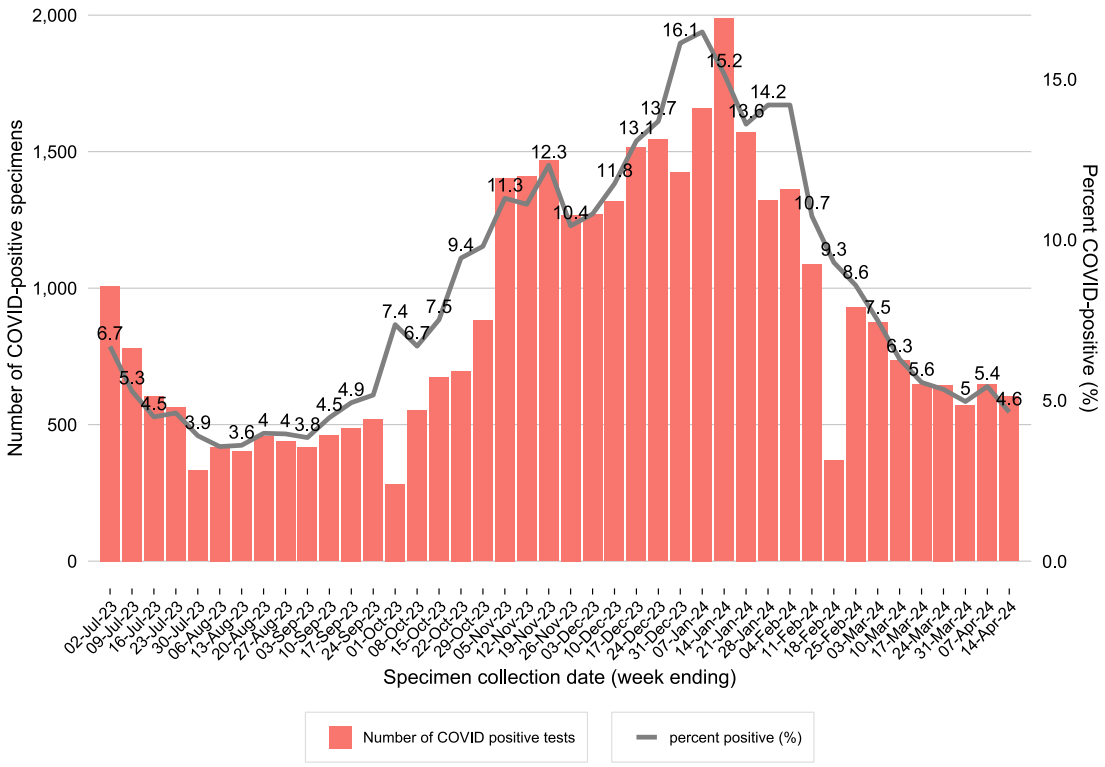


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 July 2023 to 14 April 2024.

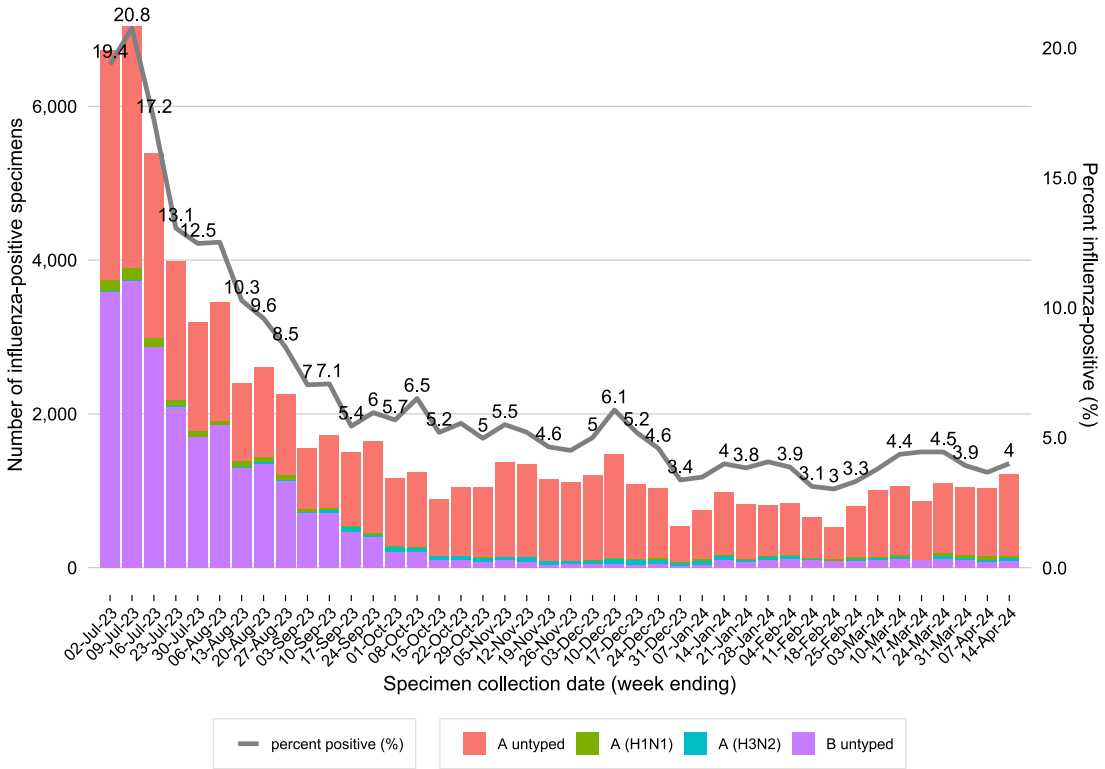


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 July 2023 to 14 April 2024.

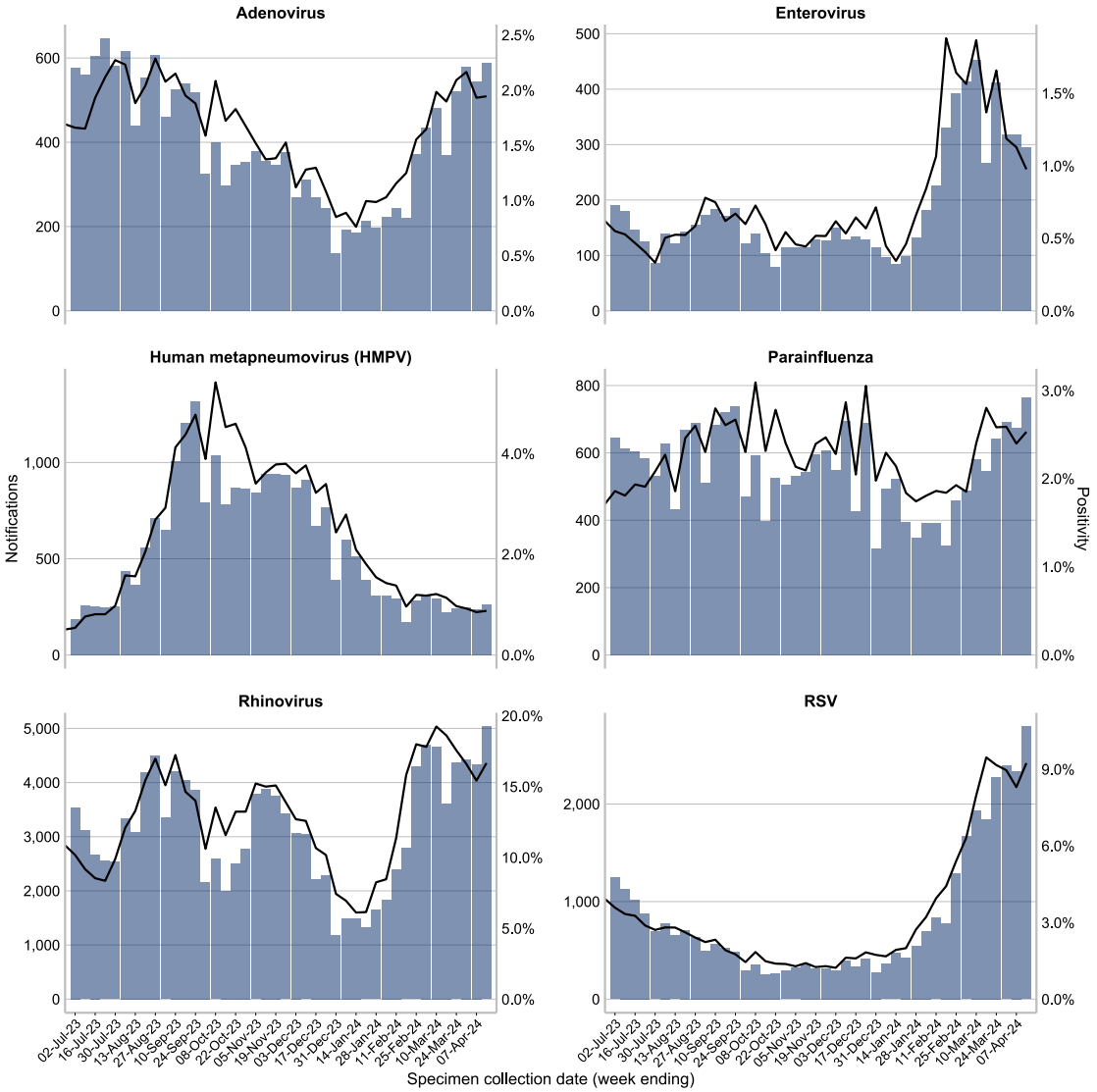


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 14 April 2024.

	Week ending				Year to date
	24 March	31 March	07 April	14 April	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,106 (4.5%)	1,048 (3.9%)	1,031 (3.7%)	1,211 (4.0%)	13,507
Adenovirus	520 (2.1%)	578 (2.2%)	543 (1.9%)	588 (1.9%)	5,360
Parainfluenza	642 (2.6%)	691 (2.6%)	674 (2.4%)	765 (2.5%)	7,715
Respiratory syncytial virus (RSV)	2,279 (9.2%)	2,393 (9.0%)	2,334 (8.3%)	2,795 (9.2%)	20,649
Rhinovirus	4,363 (17.6%)	4,429 (16.6%)	4,334 (15.4%)	5,036 (16.7%)	48,407
Human metapneumovirus (HMPV)	241 (1.0%)	246 (0.9%)	239 (0.9%)	265 (0.9%)	4,675
Enterovirus	412 (1.7%)	317 (1.2%)	317 (1.1%)	295 (1.0%)	4,013
Number of PCR tests conducted	24,849	26,683	28,099	30,220	351,470
SARS-CoV-2	645 (5.3%)	570 (5.0%)	648 (5.4%)	602 (4.6%)	15,011
Number of COVID PCR tests	12,061	11,471	11,913	12,973	161,944
Number of laboratories reporting	12	12	12	10	-
Number of laboratories reporting COVID	4	4	4	3	-

Recent data is subject to change.

In Focus

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

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 15). Notifications of people with pertussis in NSW started to increase in 2023 and are expected to continue to increase. The highest rates of pertussis are observed in children 5- 14 years, followed by those 0-4 years of age (Figure 16). Notifications in 5-14 year olds are continuing to increase (Figure 17). 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).

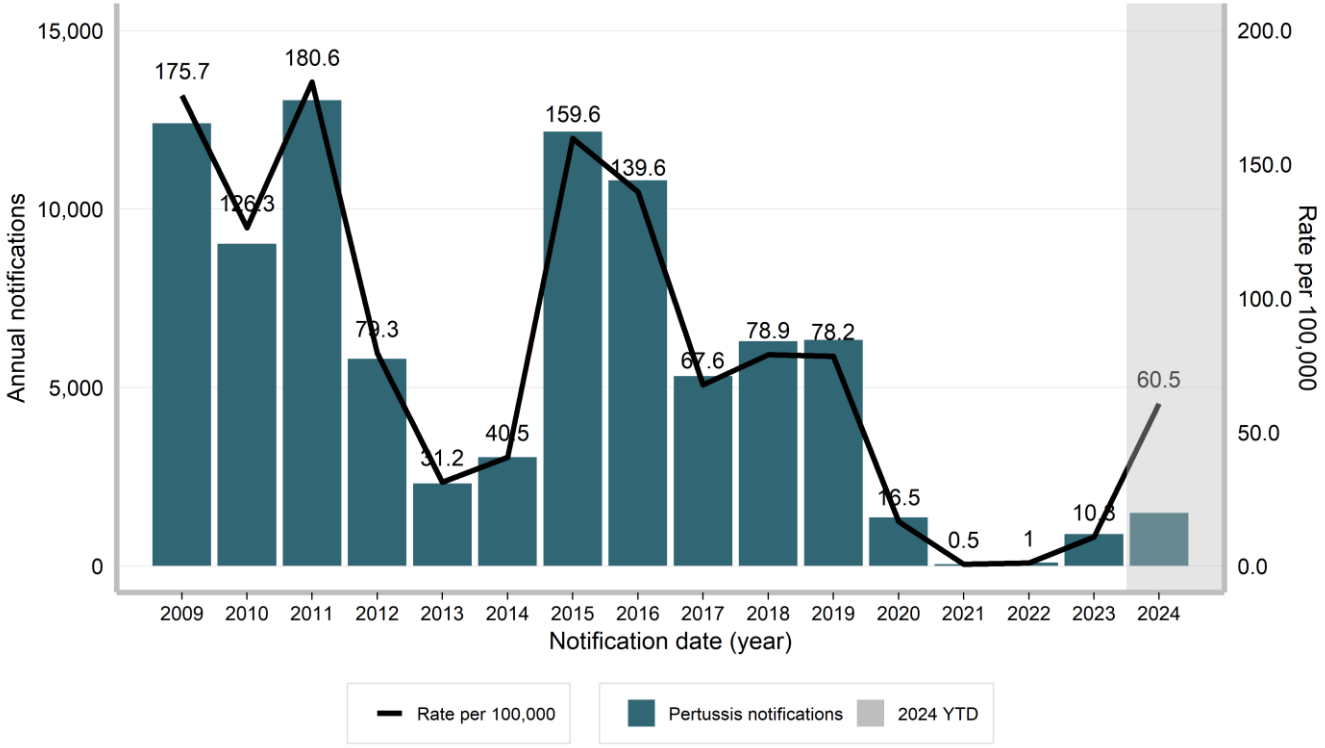


Figure 16. Monthly pertussis notification rates per 100,000 by age group, 1st September 2022 to 30 March 2024.

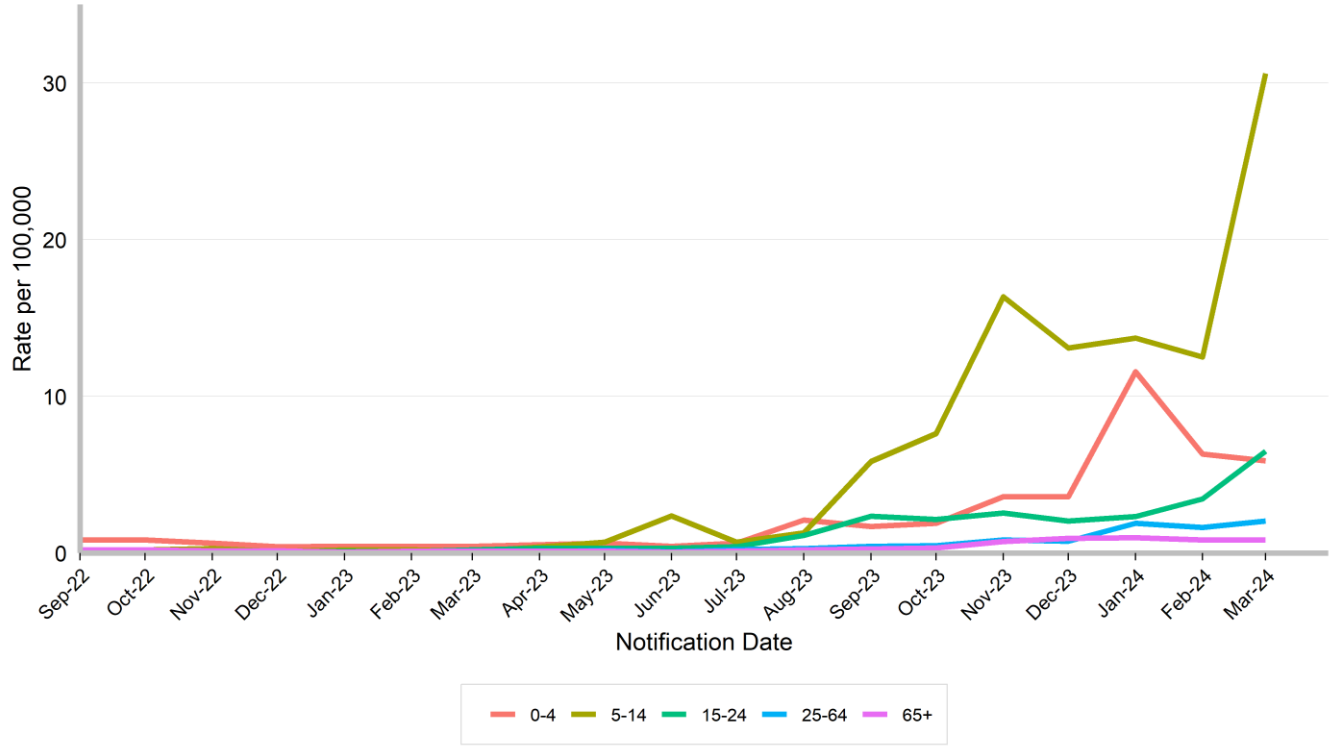


Figure 17. Weekly pertussis notifications by age group, 31st December 2023 to 13 April 2024.