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

Summary

There has been some fluctuation in COVID-19 indicators over the last few weeks. Overall, COVID-19 activity is still at a moderate level. Influenza activity has increased over the last few weeks, which is likely influenced by travellers returning from northern hemisphere countries where there has been high influenza activity. Overall, influenza activity is still at a low level. The RSV activity is stable at a low level. Pertussis, or whooping cough, notifications have dropped significantly over the last month, however the number of notifications is still high.

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 EDs and admissions for COVID-19 are at a moderate level. Influenza-like illness (ILI) remained stable at a low level. Admissions for bronchiolitis in young children are relatively stable at a low level.

Figure 1. 'COVID-19' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 July 2023 - 12 January 2025, persons of all ages

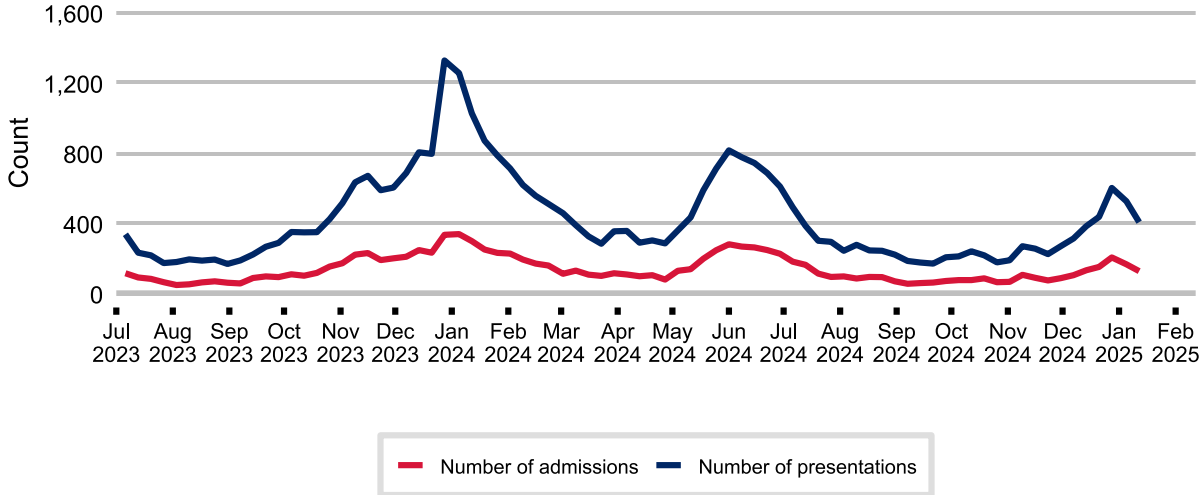


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 July 2023 - 12 January 2025, persons of all ages

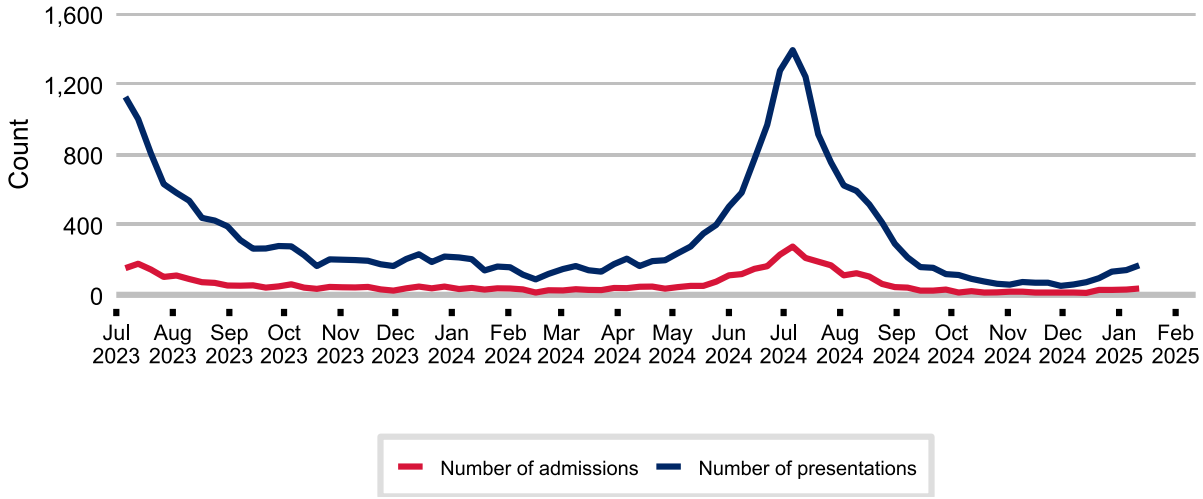
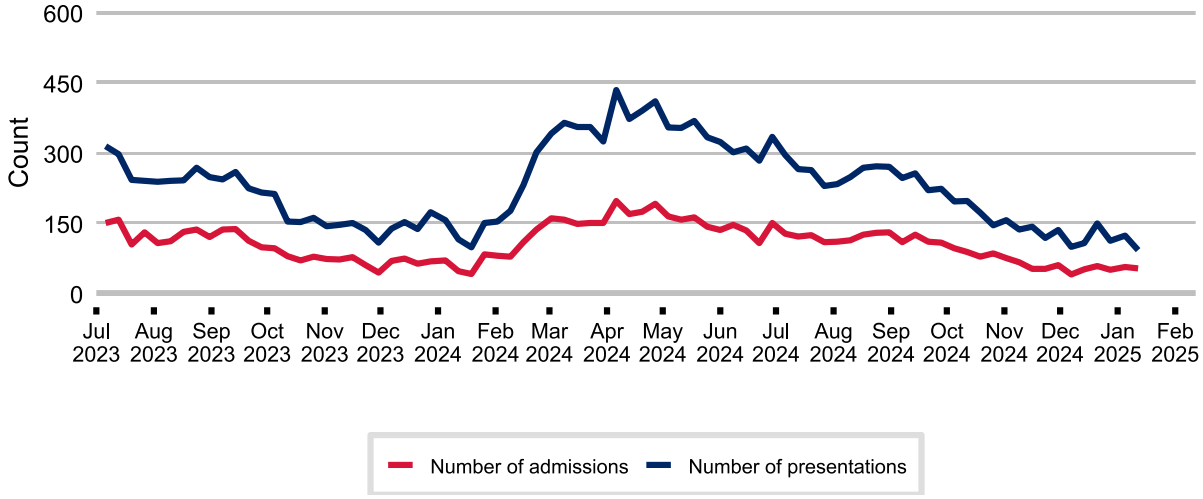


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 July 2023 - 12 January 2025, children aged 0-4 years



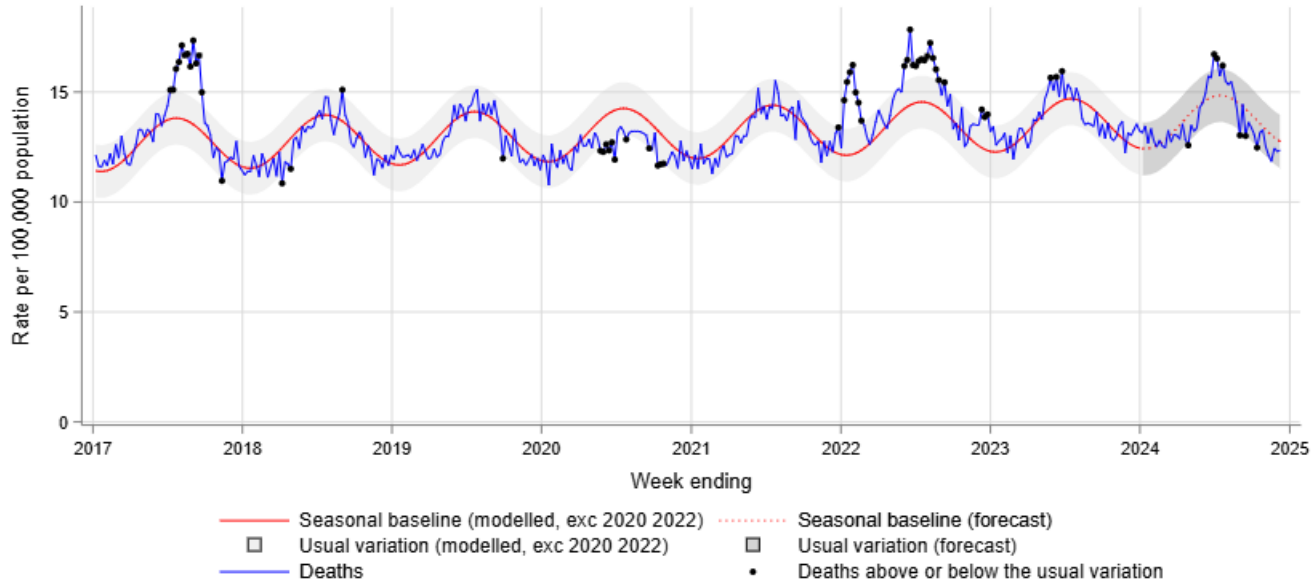
Death surveillance

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 8 December 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 3 November 2024 to 8 December 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.

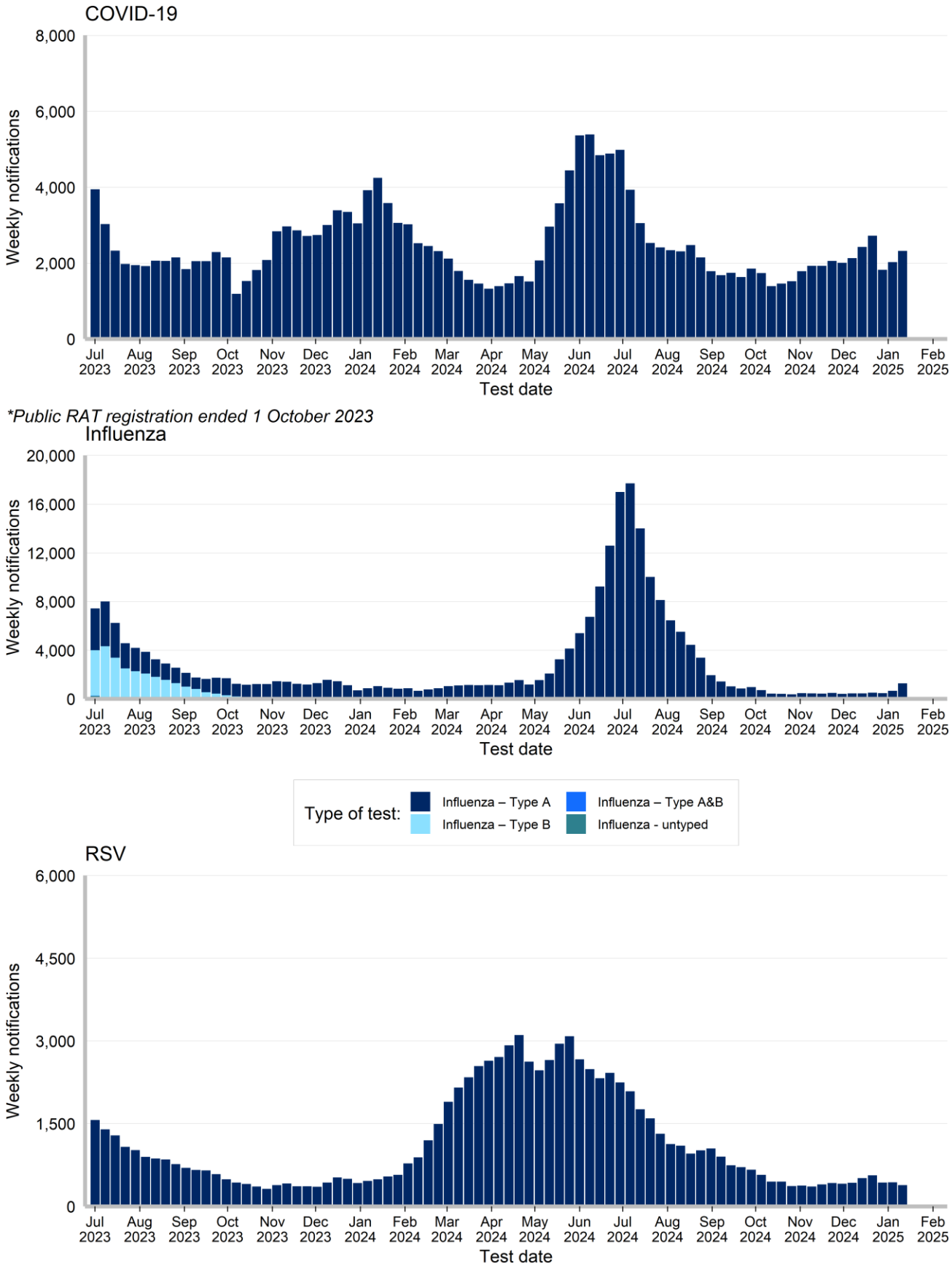
Interpretation: In the past week there was an increase of 18.58% in COVID-19 notifications, an increase of 99.69% in influenza notifications, and a decrease of 9.86% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 11 January 2025

	COVID		Influenza		RSV	
	Week ending 11 January 2025	Year to Date	Week ending 11 January 2025	Year to Date	Week ending 11 January 2025	Year to Date
Gender						
Female	1,301	2,471 (57%)	673	996 (52%)	209	453 (55%)
Male	1,017	1,866 (43%)	603	933 (48%)	175	364 (45%)
Age group (years)						
0-4	205	411 (9%)	127	206 (11%)	127	313 (38%)
5-9	29	66 (2%)	100	148 (8%)	15	37 (5%)
10-19	84	163 (4%)	108	160 (8%)	16	37 (5%)
20-29	218	380 (9%)	143	196 (10%)	25	41 (5%)
30-39	261	465 (11%)	200	278 (14%)	28	41 (5%)
40-49	236	401 (9%)	161	260 (13%)	19	38 (5%)
50-59	235	401 (9%)	158	241 (12%)	38	75 (9%)
60-69	252	459 (11%)	119	189 (10%)	35	74 (9%)
70-79	353	653 (15%)	94	149 (8%)	40	83 (10%)
80-89	308	637 (15%)	50	83 (4%)	33	58 (7%)
90+	146	312 (7%)	16	19 (1%)	8	20 (2%)
Local Health District of residence						
Central Coast	99	192 (4%)	30	37 (2%)	18	34 (4%)
Far West	10	10 (0%)	2	2 (0%)	0	2 (0%)
Hunter New England	158	325 (7%)	67	105 (5%)	42	75 (9%)
Illawarra Shoalhaven	123	211 (5%)	38	54 (3%)	36	74 (9%)
Mid North Coast	61	104 (2%)	9	22 (1%)	6	15 (2%)
Murrumbidgee	72	161 (4%)	24	37 (2%)	10	17 (2%)
Nepean Blue Mountains	132	267 (6%)	52	75 (4%)	15	37 (5%)
Northern NSW	108	231 (5%)	32	52 (3%)	18	56 (7%)
Northern Sydney	275	525 (12%)	277	423 (22%)	59	133 (16%)
South Eastern Sydney	240	440 (10%)	182	272 (14%)	43	96 (12%)
South Western Sydney	357	613 (14%)	112	180 (9%)	33	82 (10%)
Southern NSW	27	44 (1%)	8	20 (1%)	5	8 (1%)
Sydney	162	294 (7%)	122	168 (9%)	19	45 (6%)
Western NSW	35	76 (2%)	26	46 (2%)	4	14 (2%)
Western Sydney	465	837 (19%)	288	422 (22%)	75	126 (15%)
Aboriginal status						
Aboriginal and/or Torres Strait	45	90 (2%)	17	28 (1%)	9	16 (2%)
Not Aboriginal or Torres Strait	1,133	2,115 (49%)	693	1,048 (54%)	208	438 (54%)
Not Stated / Unknown	1,141	2,136 (49%)	566	853 (44%)	167	363 (44%)
Total	2,319	4,341 (100%)	1,276	1,929 (100%)	384	817 (100%)

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

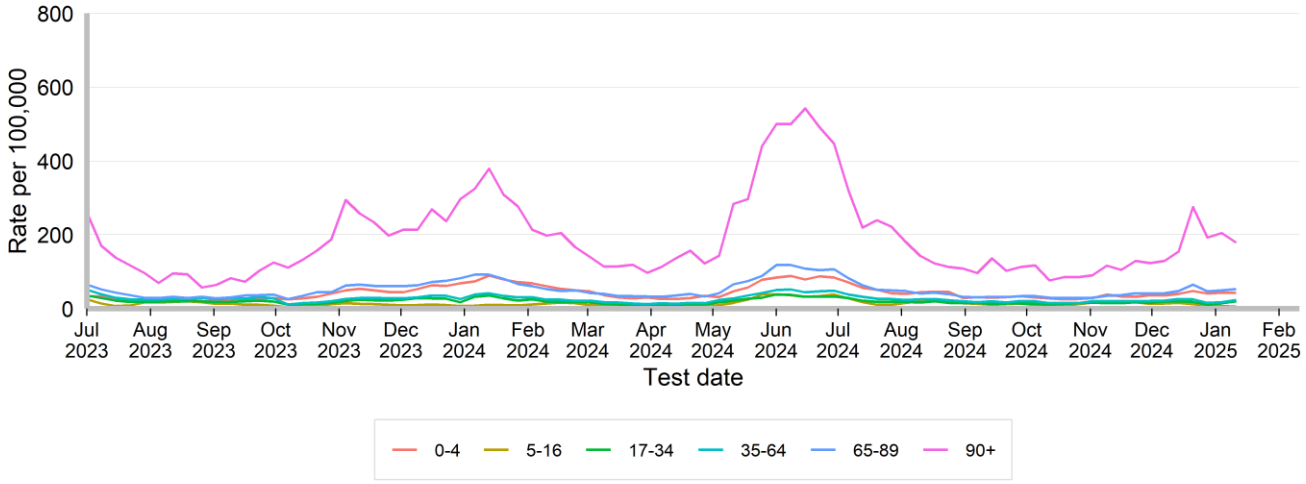
Figure 5. Weekly notifications of COVID-19*, Influenza and RSV, by date of test and type of test performed, NSW, 1 July 2023 to 11 January 2025



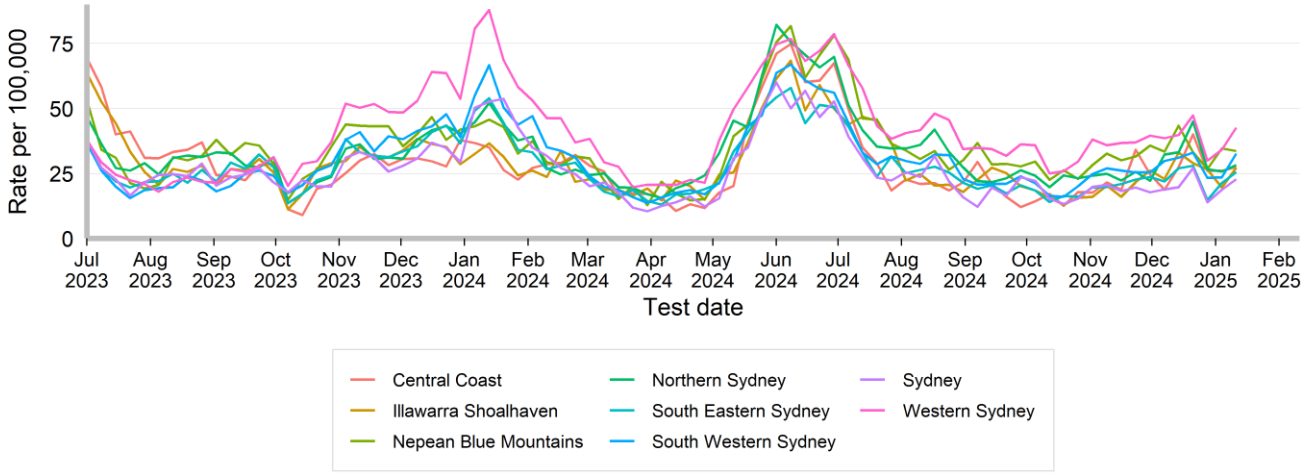
Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are stable across all age groups except for those aged 90 and over. There has been a substantial increase in notification rates in Northern NSW in the last weeks but these are now declining. Far West has also experienced a rapid increase in notification rates but these have to be interpreted with caution due to a small population denominator.

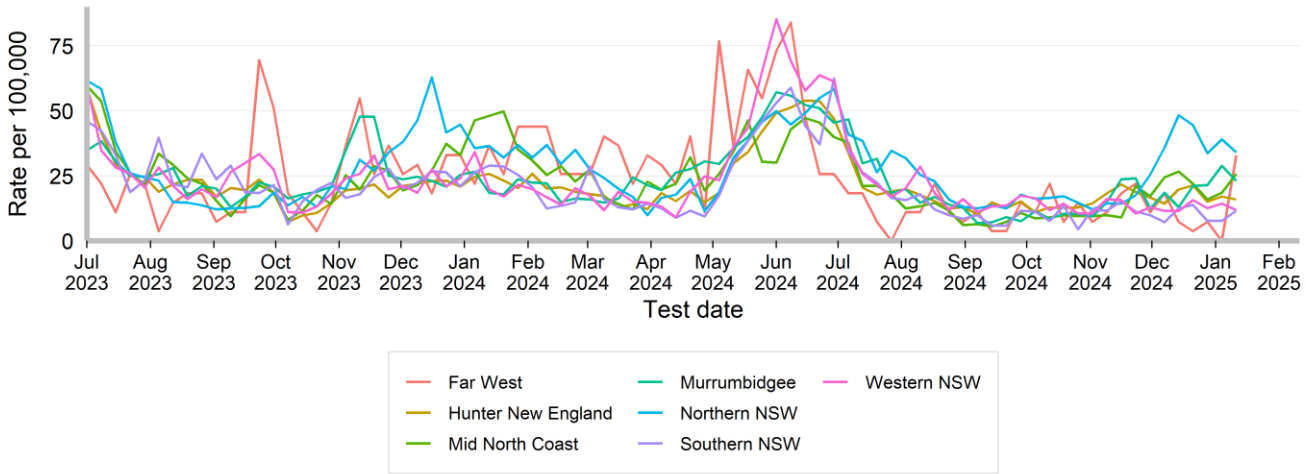
Figure 6. Weekly rate of COVID-19* notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 11 January 2025



**Public RAT registration ended 1 October 2023*



**Public RAT registration ended 1 October 2023*

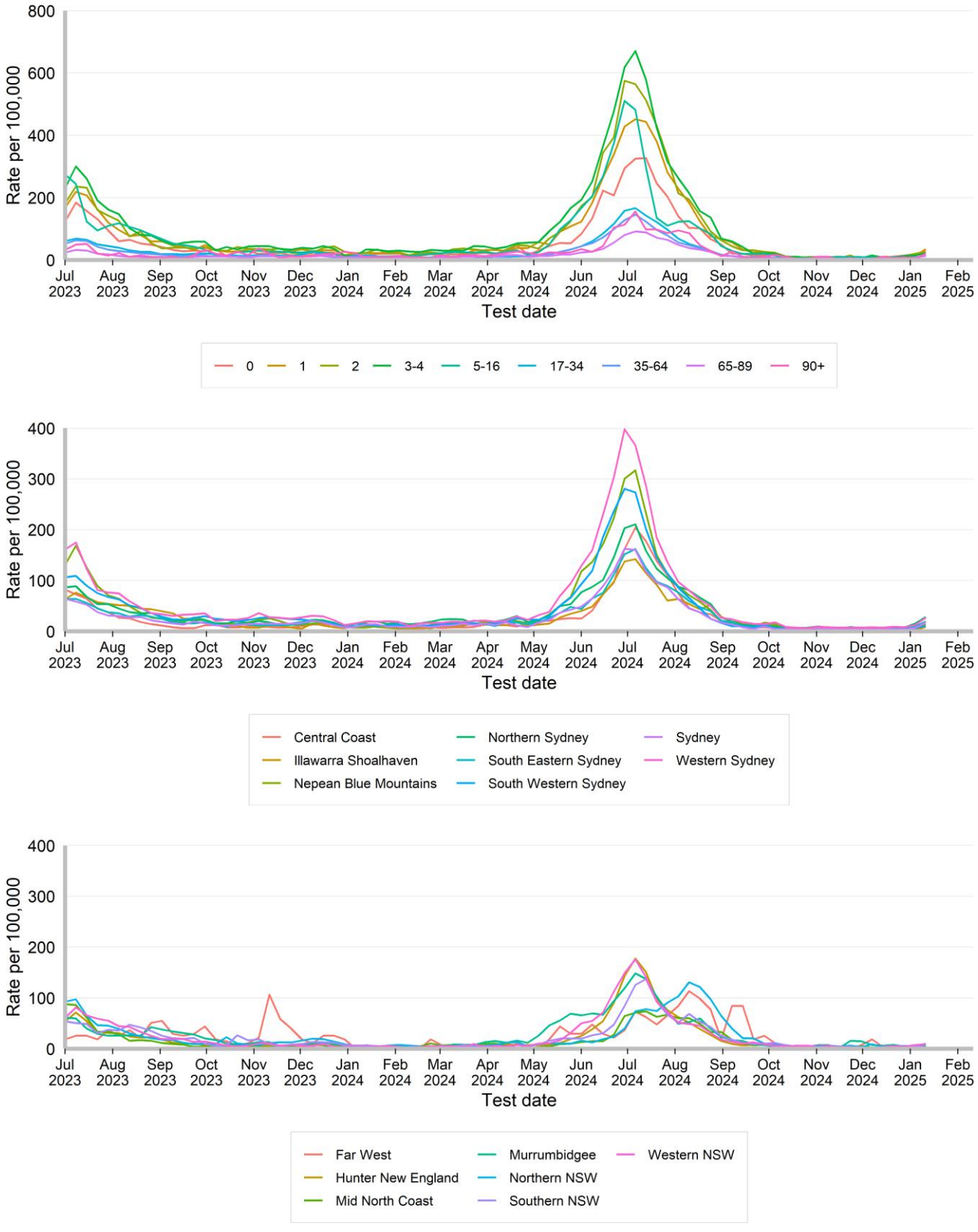


**Public RAT registration ended 1 October 2023*

Rates of influenza notifications per 100,000 population

Interpretation: There has been a small increase in rates of influenza notifications in the last week, but rates are still considered low across all age groups. These patterns are also observed across all the Local Health Districts.

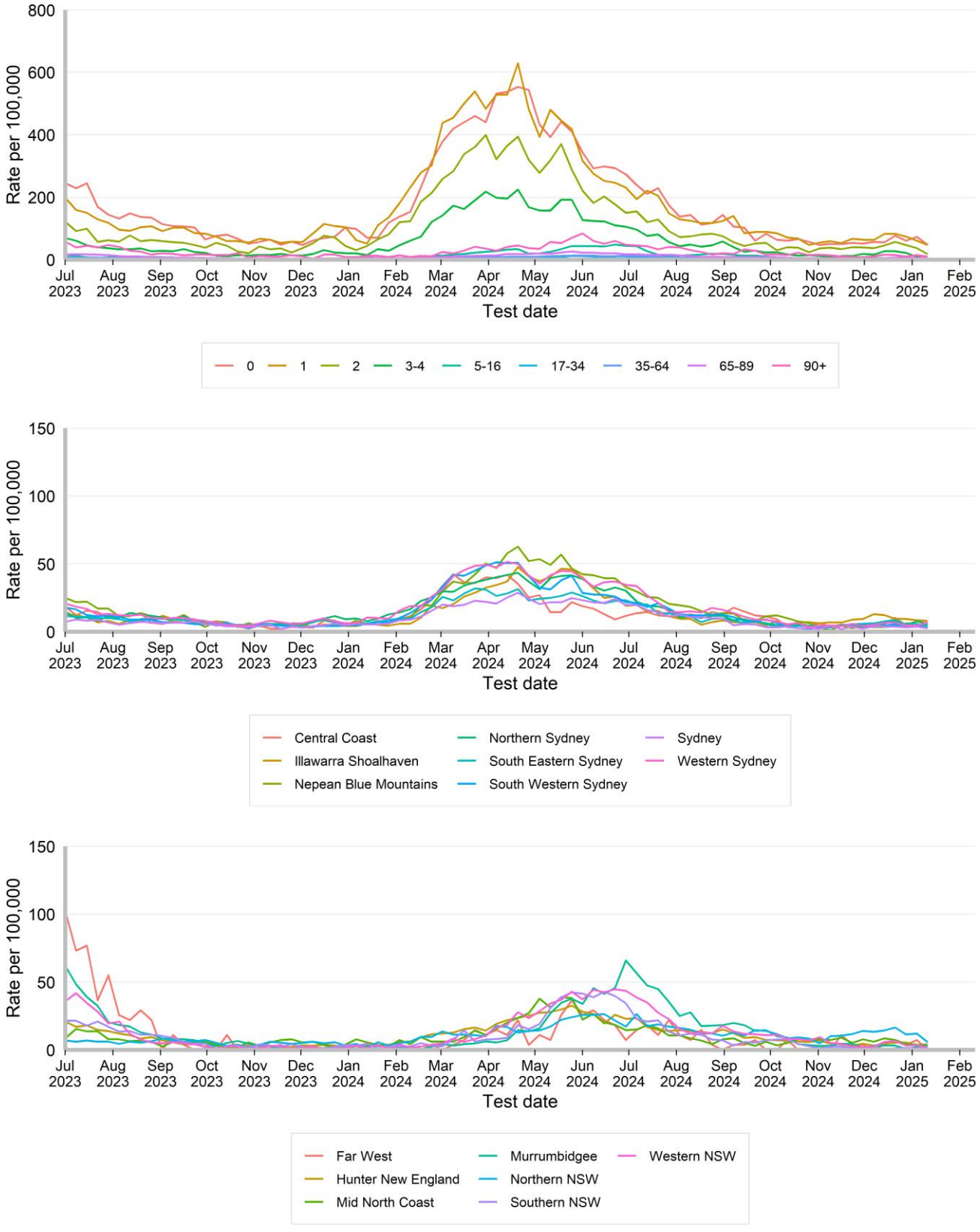
Figure 7. Weekly rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 1 July 2023 to 11 January 2025



Rates of RSV notifications per 100,000 population

Interpretation: Rates of RSV notifications have been low and stable across all ages.

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 11 January 2025



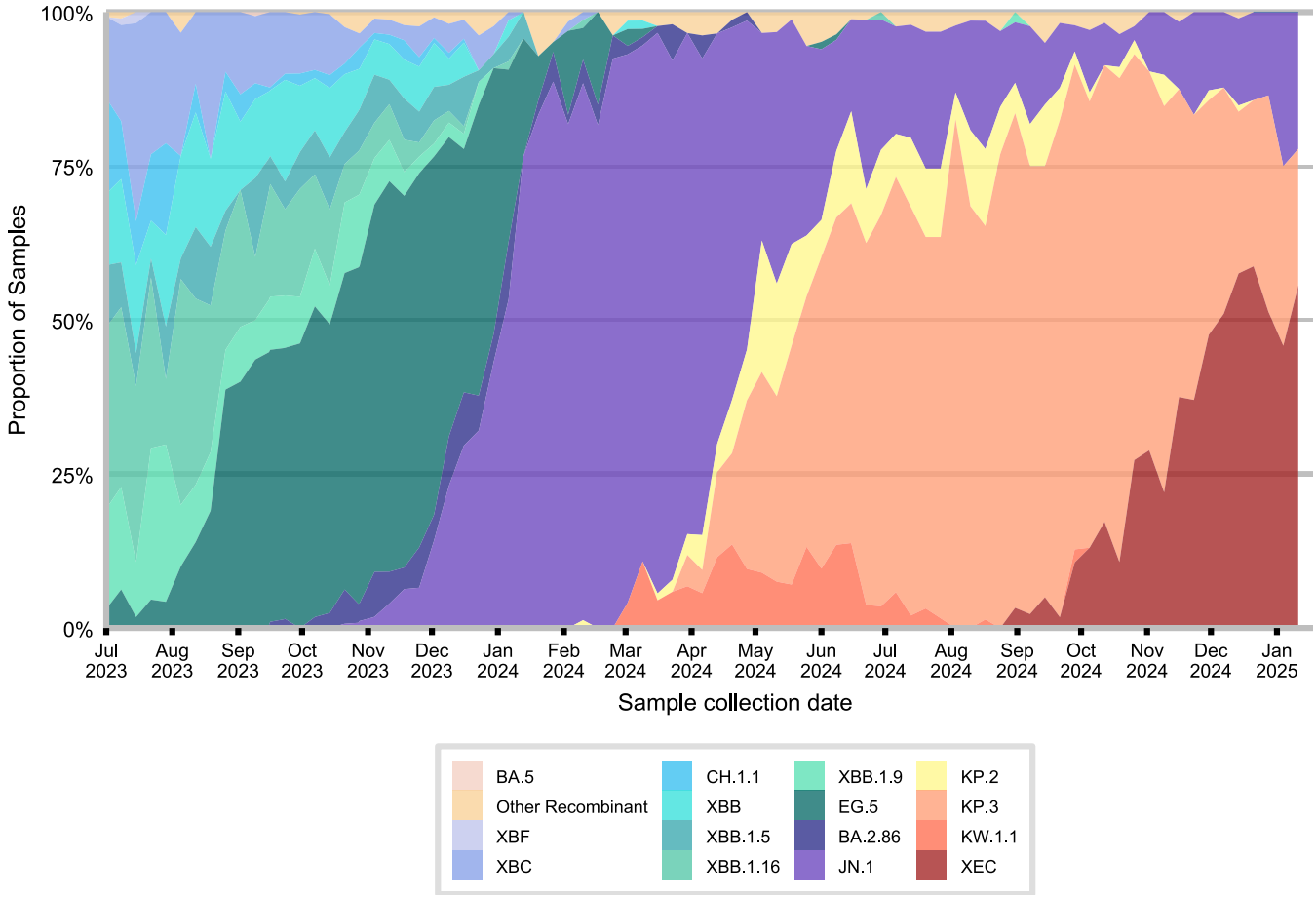
Other surveillance indicators

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, 1 July 2023 to 11 January 2025

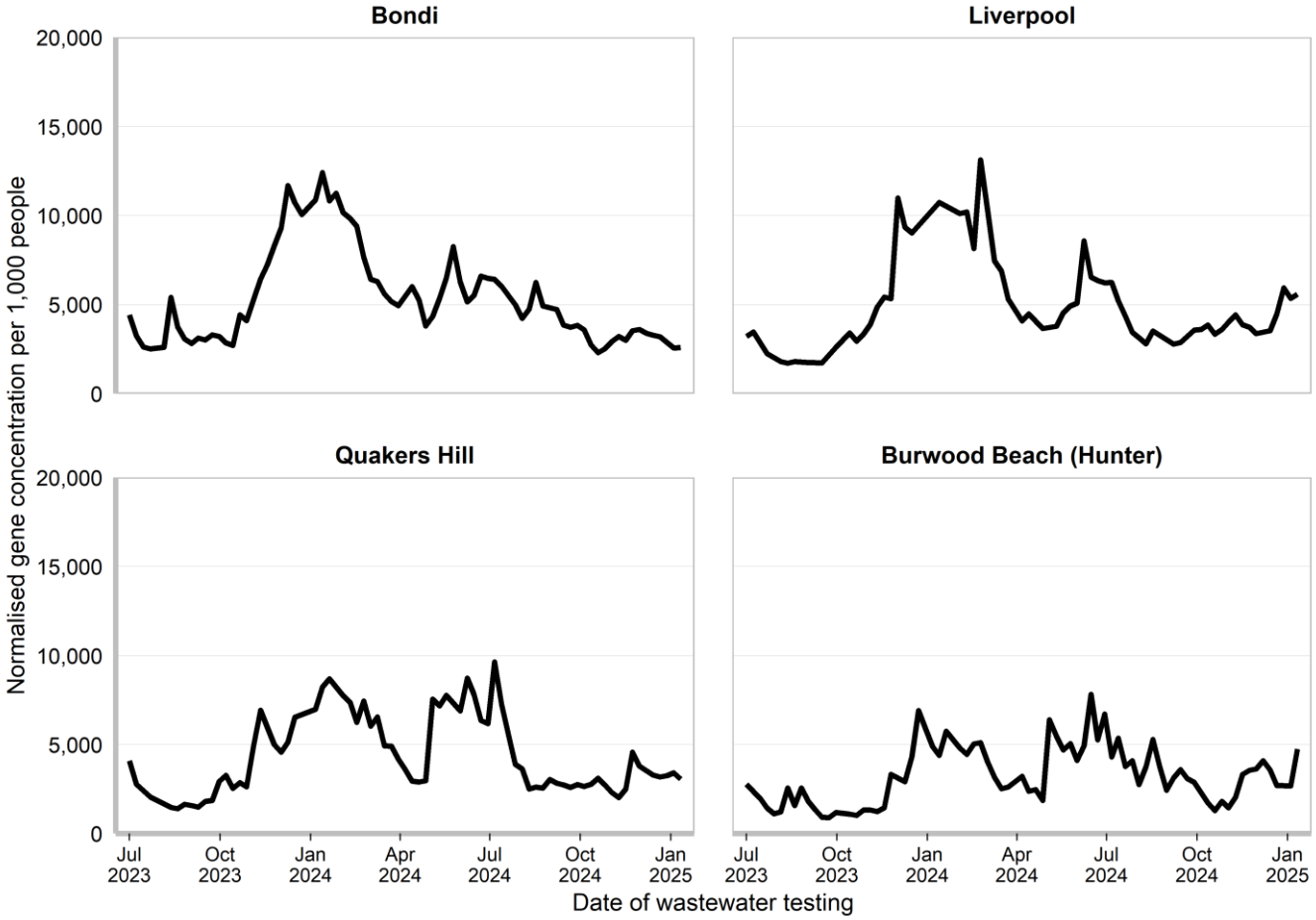


COVID-19 Wastewater Surveillance Program

Trends are presented for Bondi, Liverpool, Quakers Hill, and Burwood Beach (Hunter) wastewater catchments from 11 July 2023 to the week ending 11 January 2025. 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 are low to moderate across all catchment areas.

Figure 10. Gene concentration, per 1,000 people in each wastewater catchment, 1 July 2023 to 11 January 2025



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 slightly decreased to 9.2%, influenza has almost doubled from 3.3% to 5.8% and RSV positivity remains low at below 2%.

Figure 11. Number and proportion of tests positive for COVID-19 at NSW sentinel laboratories by week, 1 July 2023 to 12 January 2025

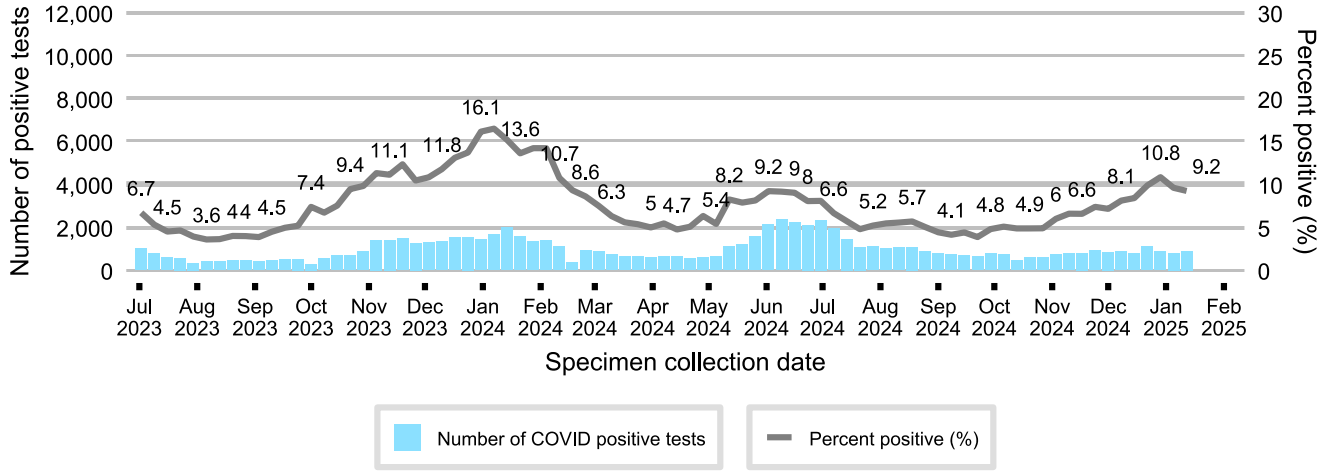


Figure 12. Number and proportion of tests positive for influenza at NSW sentinel laboratories by week, 1 July 2023 to 12 January 2025

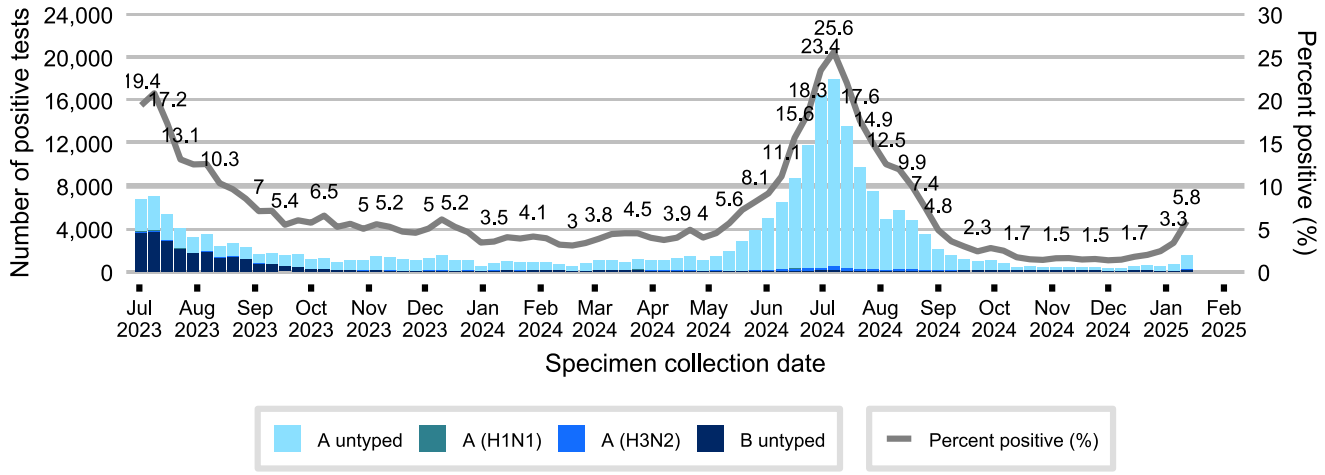


Figure 13. Number and proportion of tests positive for RSV at NSW sentinel laboratories by week, 1 July 2023 to 12 January 2025

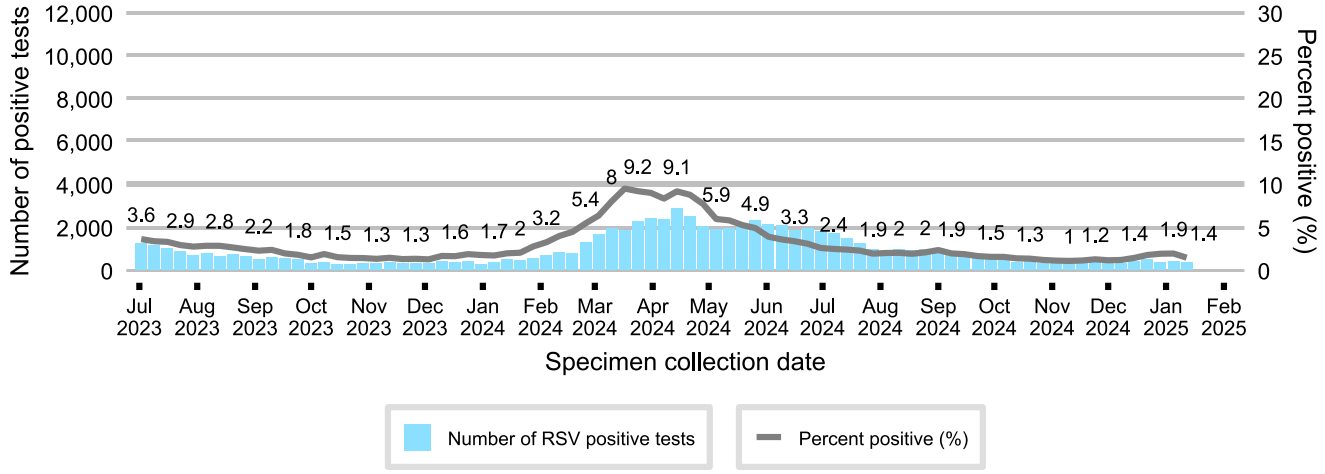


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at NSW sentinel laboratories by week, 1 July 2023 to 12 January 2025

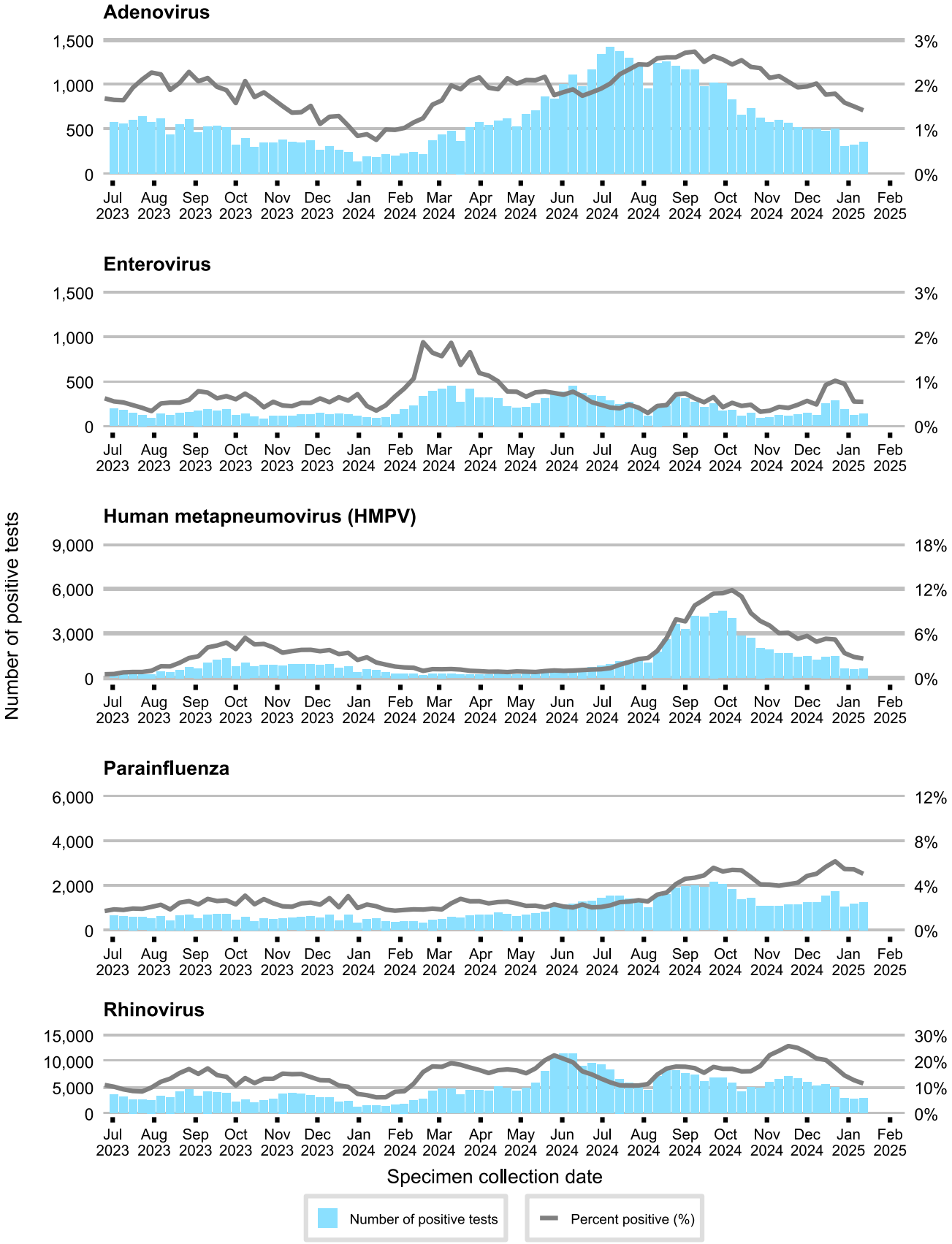


Table 2. Total number of COVID-19 notifications from NSW sentinel laboratories, in the four weeks to 12 January 2025

	Week ending							
	22 December		29 December		05 January		12 January	
	n	% pos	n	% pos	n	% pos	n	% pos
SARS-CoV-2	1,090	9.9%	879	10.8%	797	9.6%	893	9.2%
Number of COVID PCR tests conducted	11,050		8,117		8,313		9,678	
Number of laboratories reporting COVID	2		3		3		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 12 January 2025

	Week ending							
	22 December		29 December		05 January		12 January	
	n	% pos	n	% pos	n	% pos	n	% pos
Influenza	546	1.9%	460	2.4%	713	3.3%	1,458	5.8%
Respiratory syncytial virus (RSV)	489	1.7%	365	1.9%	407	1.9%	354	1.4%
Adenovirus	507	1.8%	310	1.6%	324	1.5%	356	1.4%
Human metapneumovirus (HMPV)	1,462	5.2%	650	3.4%	607	2.8%	653	2.6%
Rhinovirus	4,939	17.5%	2,815	14.5%	2,717	12.7%	2,849	11.4%
Enterovirus	286	1.0%	183	0.9%	117	0.5%	135	0.5%
Parainfluenza	1,741	6.2%	1,063	5.5%	1,167	5.5%	1,261	5.1%
Number of PCR tests conducted	28,169		19,398		21,395		24,945	
Number of laboratories reporting	10		11		11		10	

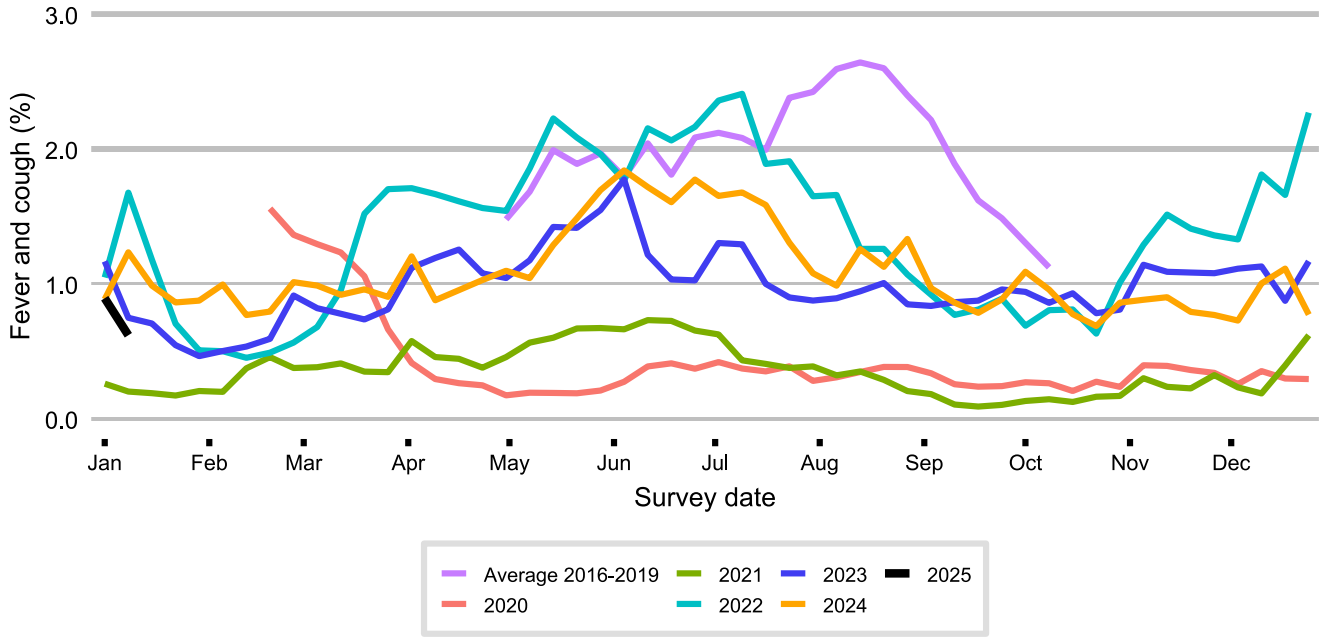
Recent data is subject to change.

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 at a low level.

Figure 15. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 12 January 2025



In Focus

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, with 2024 having the highest notification rate recorded since 2009. 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, reaching its maximum in September, and still remains elevated compared to other age groups (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

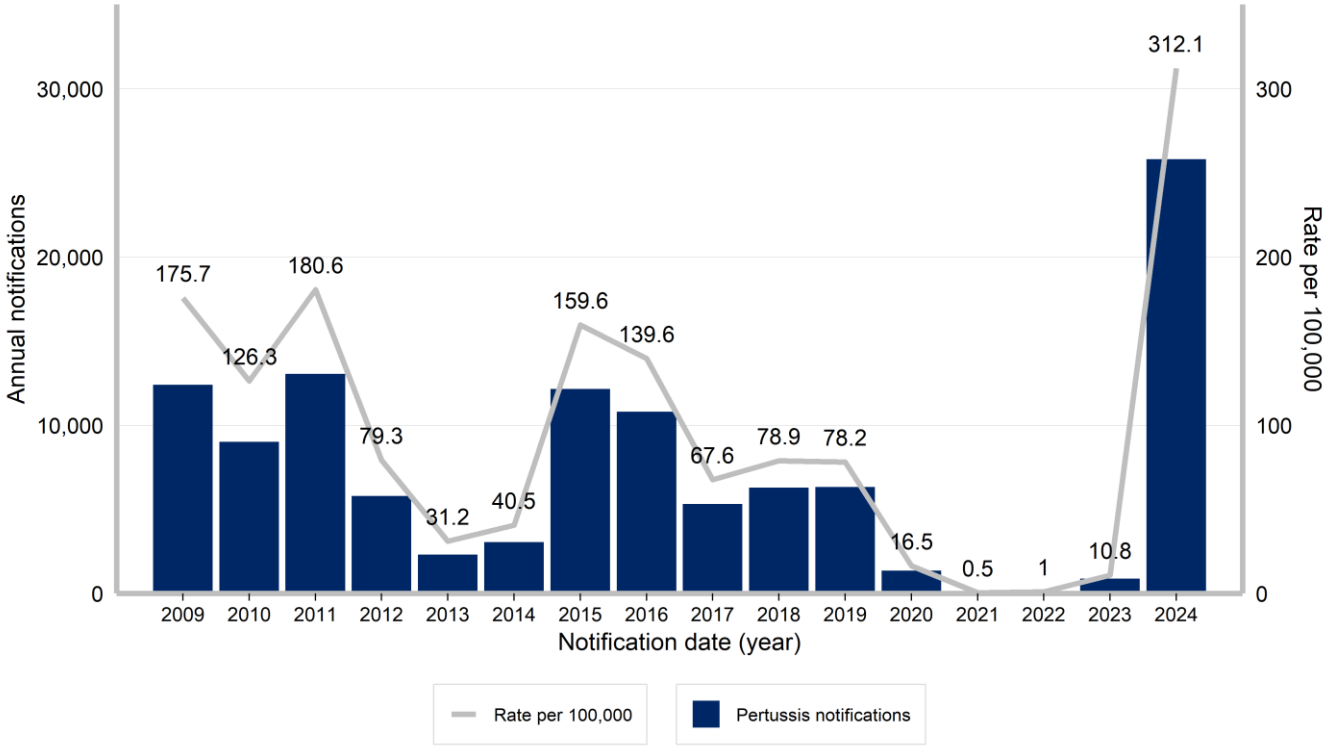


Figure 17. Monthly pertussis notification rates per 100,000 by age group, 1 January 2023 to 31 December 2024

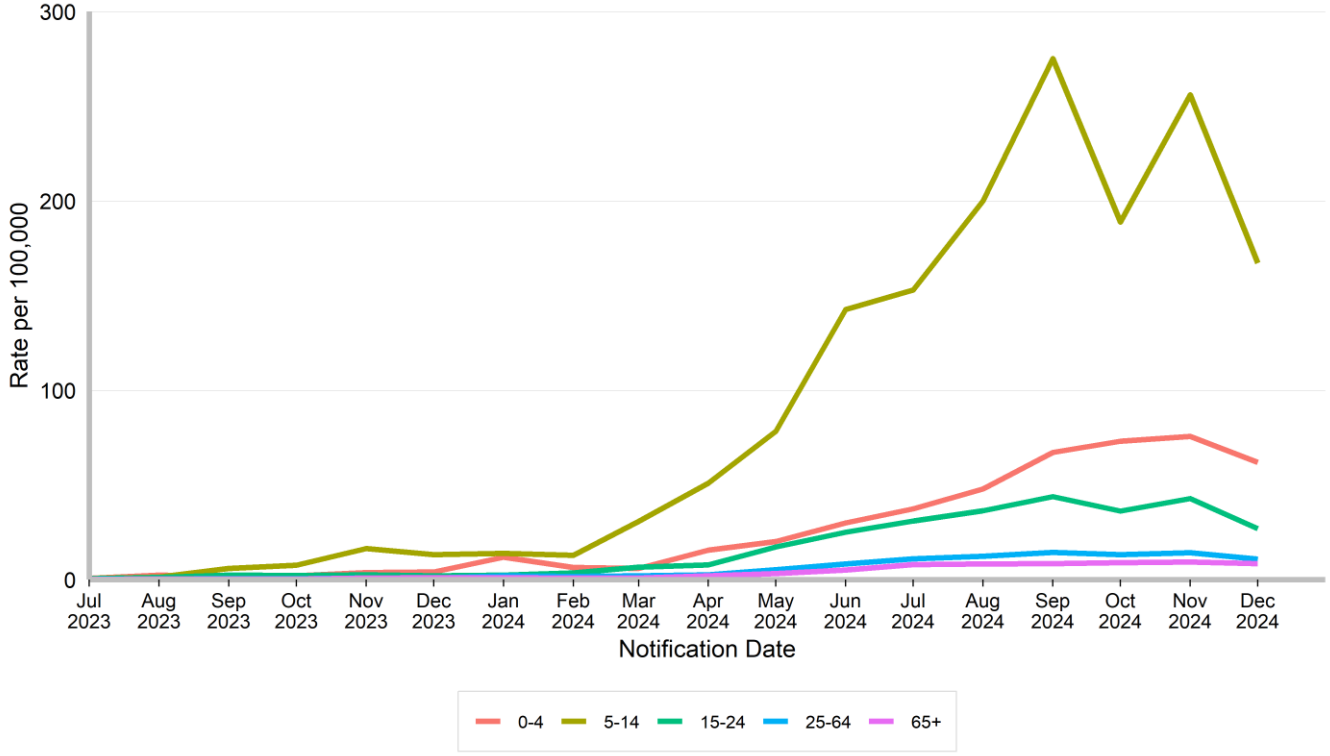


Figure 18. Weekly pertussis notifications by age group, 1 January 2024 to 11 January 2025