

NSW Respiratory Surveillance Report - fortnight ending 21 October 2023

COVID-19 activity is increasing and is at moderate levels. Influenza remains at moderate levels and RSV is at low levels. Both influenza and RSV are declining.

Summary

At this stage of the pandemic, the best indicators of COVID-19 activity in the community are emergency department (ED) presentations (Figure 1) and sewage surveillance (Figure 10). These suggest COVID-19 transmission continues to increase in NSW. COVID-19 PCR test positivity at sentinel laboratories was 9.5% in the past week however fewer laboratories provided test data and this should be interpreted cautiously. Influenza-like illness activity is declining with a 20% decrease in notifications and gradual decreases in ED activity in the past fortnight; PCR test positivity at sentinel laboratories was 5.6%. RSV notifications decreased by 18% in the past fortnight and ED presentations for young children with bronchiolitis have also declined.

Data sources and methods

NSW Health continually reviews the methods used to monitor respiratory virus activity in New South Wales. This is due to the 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. From this edition, the report is now published fortnightly.

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 (ED) 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 number of people admitted to hospital, are useful for monitoring the severity of illness and impact on the health system.

Interpretation: COVID-19 presentations to EDs continue to increase (Figure 1a), particularly in young children aged 0–4 years (Figure 1b) and in those aged 65-years and older (Figure 1c). These age groups are more likely to seek healthcare when unwell. Influenza-like illness (Figure 2) and bronchiolitis (Figure 3) presentations are decreasing, consistent with the decline in influenza and RSV notifications observed in the past fortnight.

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

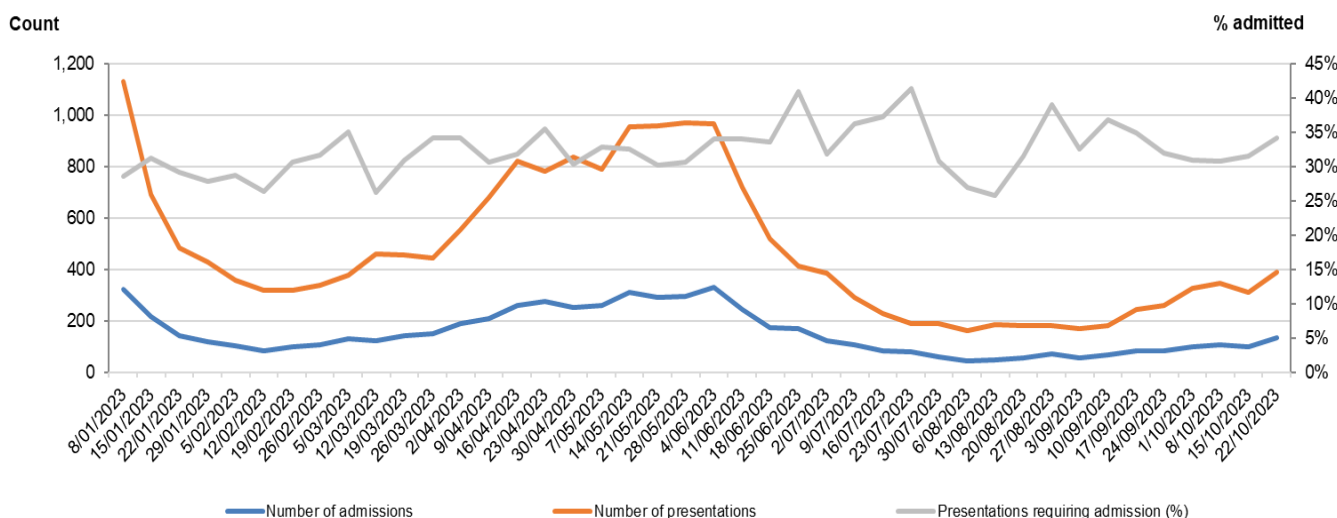


Figure 1b. ‘COVID-19’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.

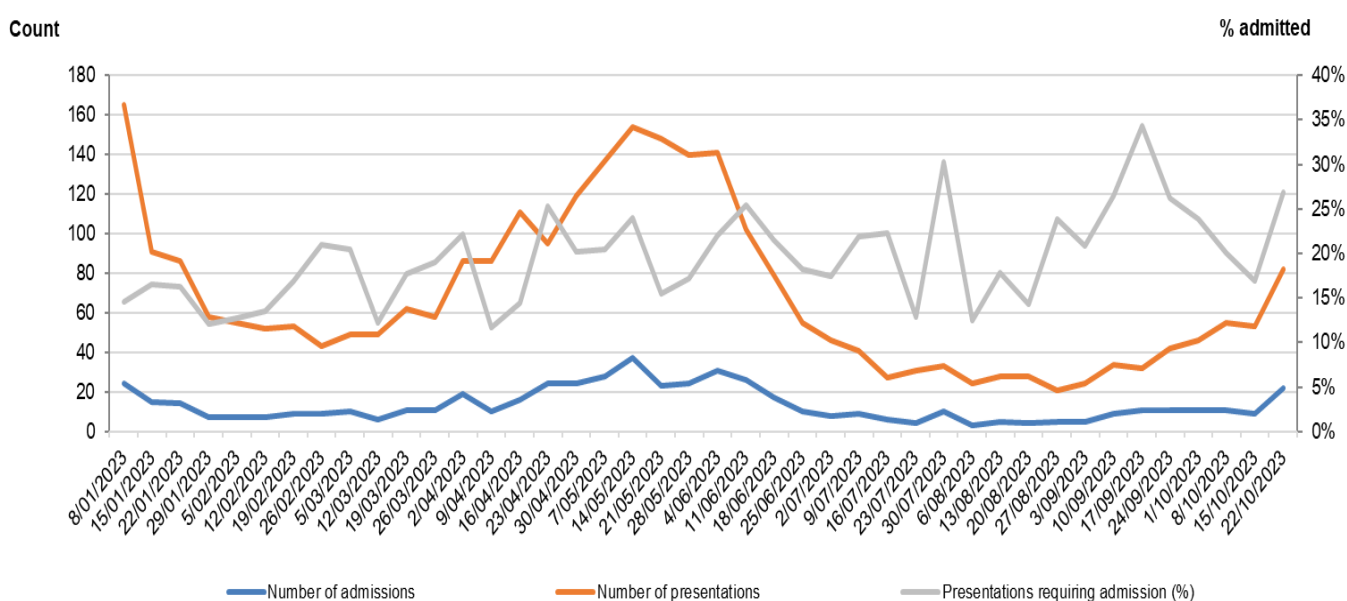


Figure 1c. 'COVID-19' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons aged 65+ years.

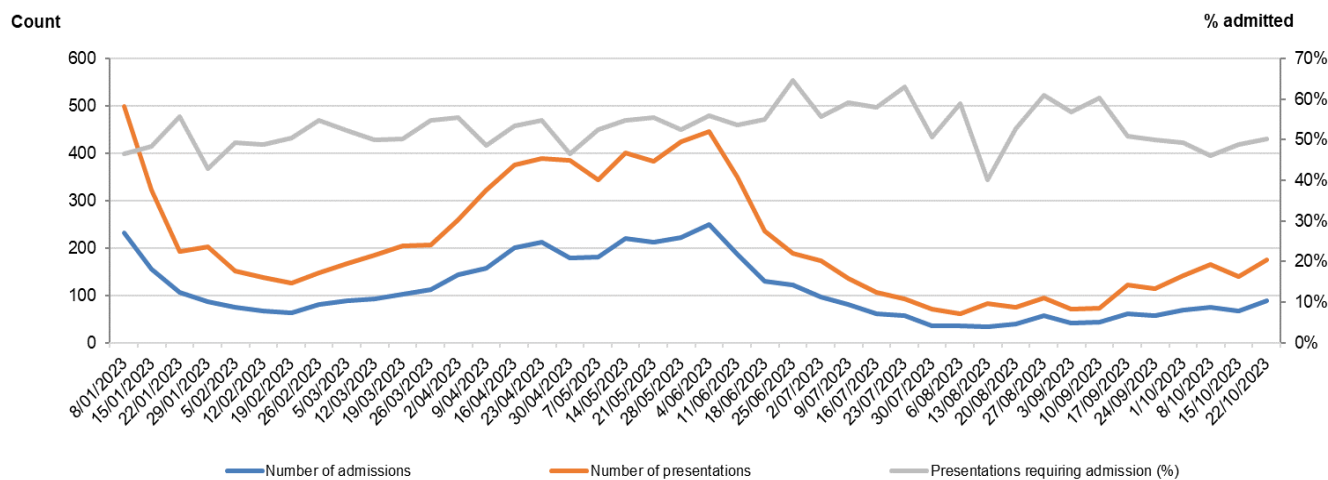


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

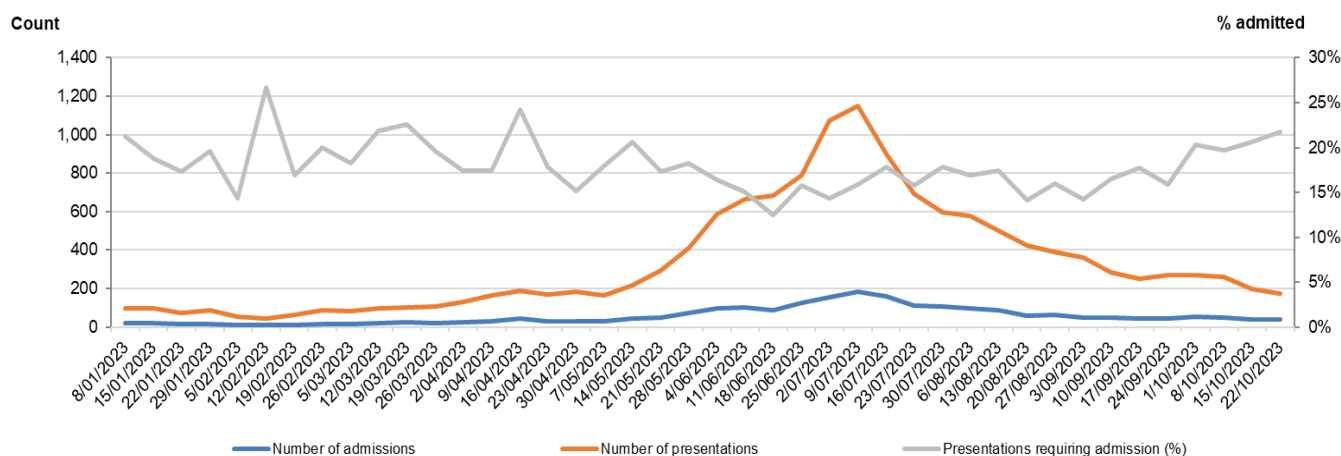
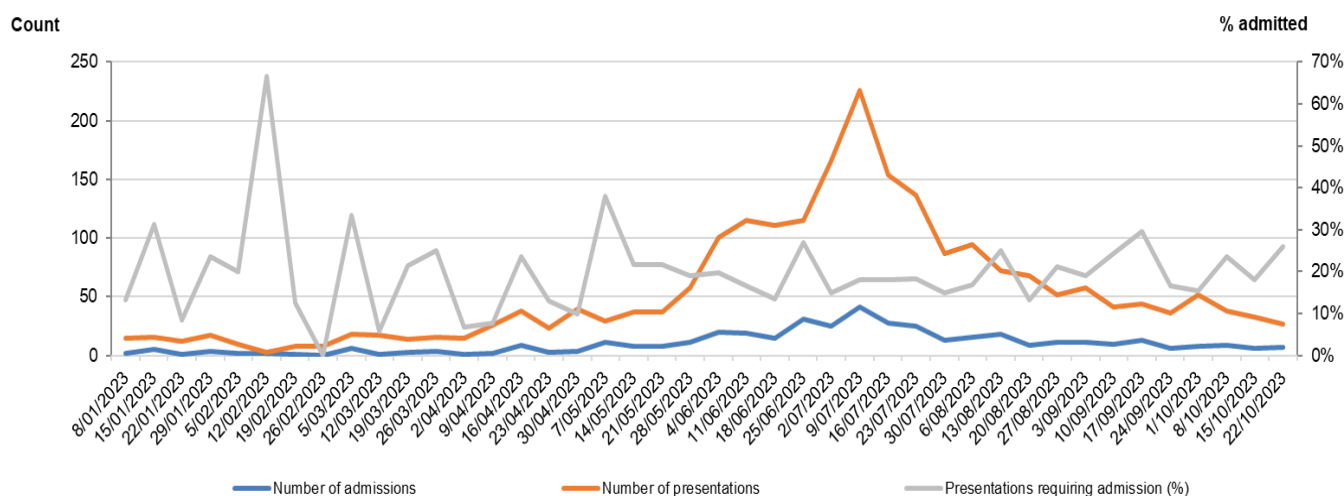


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



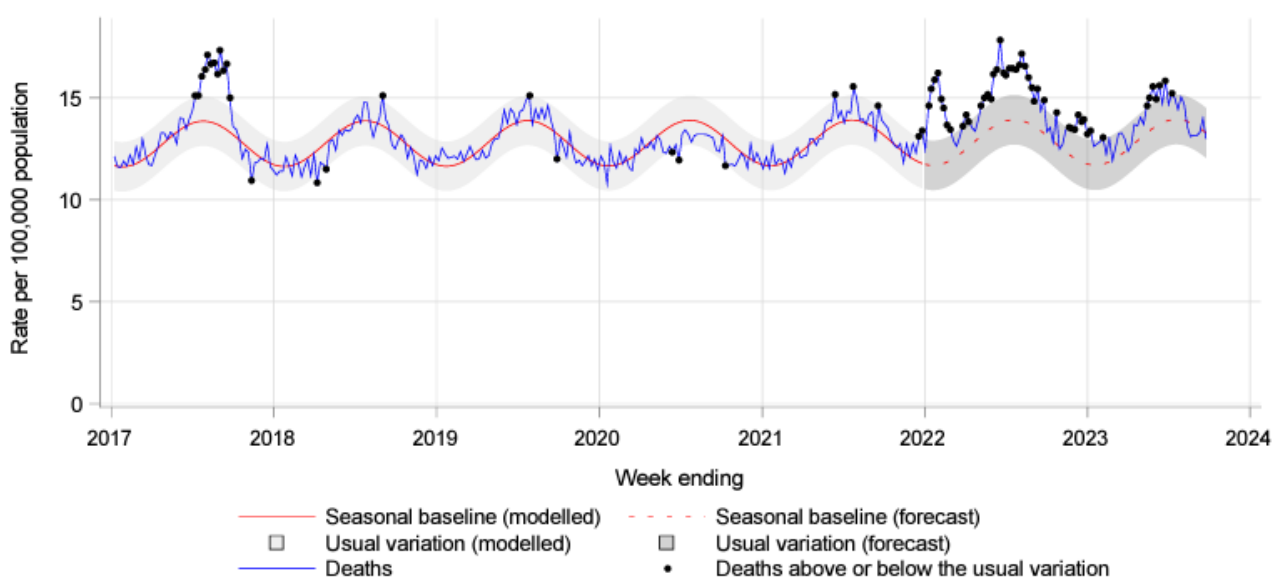
Death surveillance

All-cause mortality

All-cause mortality provides a comprehensive measure of total impact of health threats, such as severe influenza period, COVID-19 and heatwaves, by counting both deaths directly attributable and indirectly associated with the threat. Monitoring all-cause mortality allows rapid assessment of changing patterns of mortality, and whether the number of deaths in a period is more or less than expected. In this report mortality is determined from counts of deaths in the NSW Registry of Births Deaths & Marriages. The rate of death per week is presented with the seasonal baseline, which summarises the historic (2017-2021) rate of deaths for corresponding week (red dashed line, grey shading indicates the 95% confidence interval). This indicator provides a signal of the impact from any significant and prolonged cause on the NSW population.

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 24 September 2023.



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 20 August 2023 to 24 September 2023. For additional information see data sources and methods for details.

Death rates presented in this report are not directly translatable to analyses in the [ABS Provisional Mortality Statistics and Actuaries Institute COVID-19 Working Group](#) reports which make specific comparisons of mortality in the pre and during pandemic periods.

Epidemiological weeks 41 & 42, ending 21 October 2023

Notifications of COVID-19, influenza and RSV

Notification data is obtained from laboratory tests for infections, and for COVID-19 only includes tests reported by the public to NSW Health. This indicator provides information about community infection.

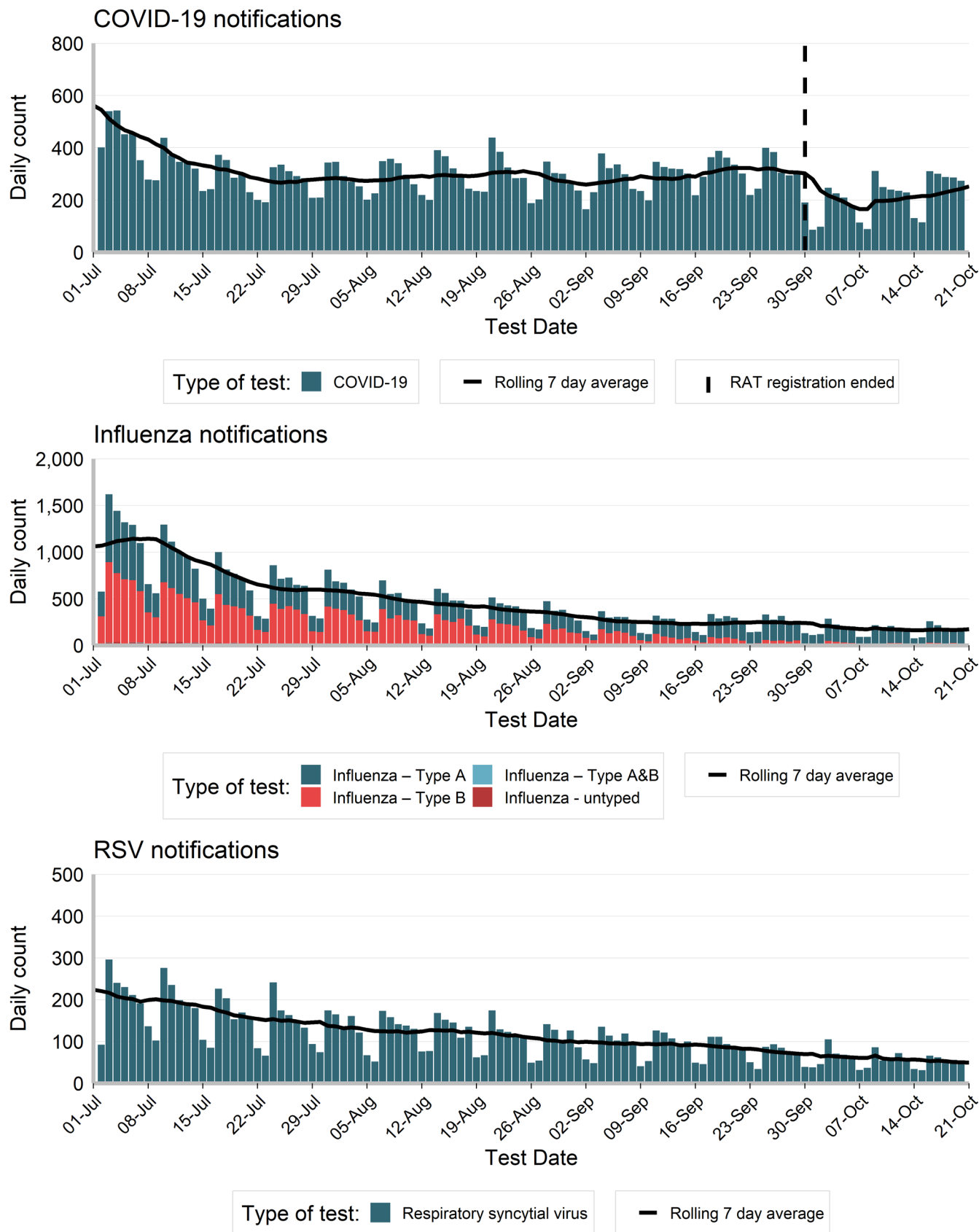
Interpretation: Community-based registration of COVID-19 positive RAT results ceased on 30 September 2023 and COVID-19 notifications now predominantly reflect PCR tests. The total number of notifications in the past fortnight was similar to the previous fortnight. Influenza and RSV notifications declined.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 21 October 2023.

	COVID		Influenza		RSV	
	Fortnight ending 21 October 2023	Year to Date	Fortnight ending 21 October 2023	Year to Date	Fortnight ending 21 October 2023	Year to Date
Gender						
Female	1,824	161,007(58%)	1,212	46,563(51%)	398	22,040(52%)
Male	1,422	117,201(42%)	1,123	45,375(49%)	347	20,338(48%)
Age group (years)						
0-4	283	9,964(4%)	294	12,587(14%)	368	22,571(53%)
5-9	51	8,526(3%)	230	18,921(21%)	23	2,330(5%)
10-19	161	22,447(8%)	324	17,831(19%)	34	1,985(5%)
20-29	249	31,058(11%)	313	7,711(8%)	37	1,555(4%)
30-39	336	41,416(15%)	334	11,907(13%)	31	1,994(5%)
40-49	307	40,457(15%)	244	9,473(10%)	36	1,562(4%)
50-59	333	38,137(14%)	173	5,096(6%)	33	2,119(5%)
60-69	343	34,913(13%)	163	3,763(4%)	52	2,549(6%)
70-79	490	26,803(10%)	135	2,683(3%)	52	2,579(6%)
80-89	485	17,382(6%)	91	1,538(2%)	50	2,187(5%)
90+	220	7,393(3%)	33	438(0%)	29	951(2%)
Local Health District of residence						
Central Coast	101	13,123(5%)	54	2,894(3%)	34	1,995(5%)
Far West	5	808(0%)	6	193(0%)	3	211(0%)
Hunter New England	202	35,414(13%)	110	6,813(7%)	67	3,751(9%)
Illawarra Shoalhaven	199	17,473(6%)	92	4,504(5%)	42	2,142(5%)
Mid North Coast	68	6,272(2%)	18	2,034(2%)	9	762(2%)
Murrumbidgee	113	8,711(3%)	58	3,021(3%)	36	1,995(5%)
Nepean Blue Mountains	182	13,816(5%)	98	5,559(6%)	34	2,450(6%)
Northern NSW	95	7,992(3%)	101	3,245(4%)	21	945(2%)
Northern Sydney	374	34,053(12%)	345	11,530(13%)	98	5,614(13%)
South Eastern Sydney	369	29,775(11%)	224	8,035(9%)	93	4,101(10%)
South Western Sydney	492	29,562(11%)	457	14,588(16%)	119	5,959(14%)
Southern NSW	72	7,353(3%)	72	1,615(2%)	13	857(2%)
Sydney	260	23,226(8%)	164	5,870(6%)	51	2,740(6%)
Western NSW	70	10,997(4%)	33	2,321(3%)	14	1,742(4%)
Western Sydney	630	37,001(13%)	497	19,411(21%)	109	7,001(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	72	8,926(3%)	71	3,160(3%)	17	1,476(3%)
Not Aboriginal or Torres Strait Islander	1,939	204,420(73%)	1,312	48,598(53%)	375	20,524(48%)
Not Stated / Unknown	1,239	65,193(23%)	952	40,243(44%)	353	20,410(48%)
Total	3,250	278,539(100%)	2,335	92,001(100%)	745	42,410(100%)

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

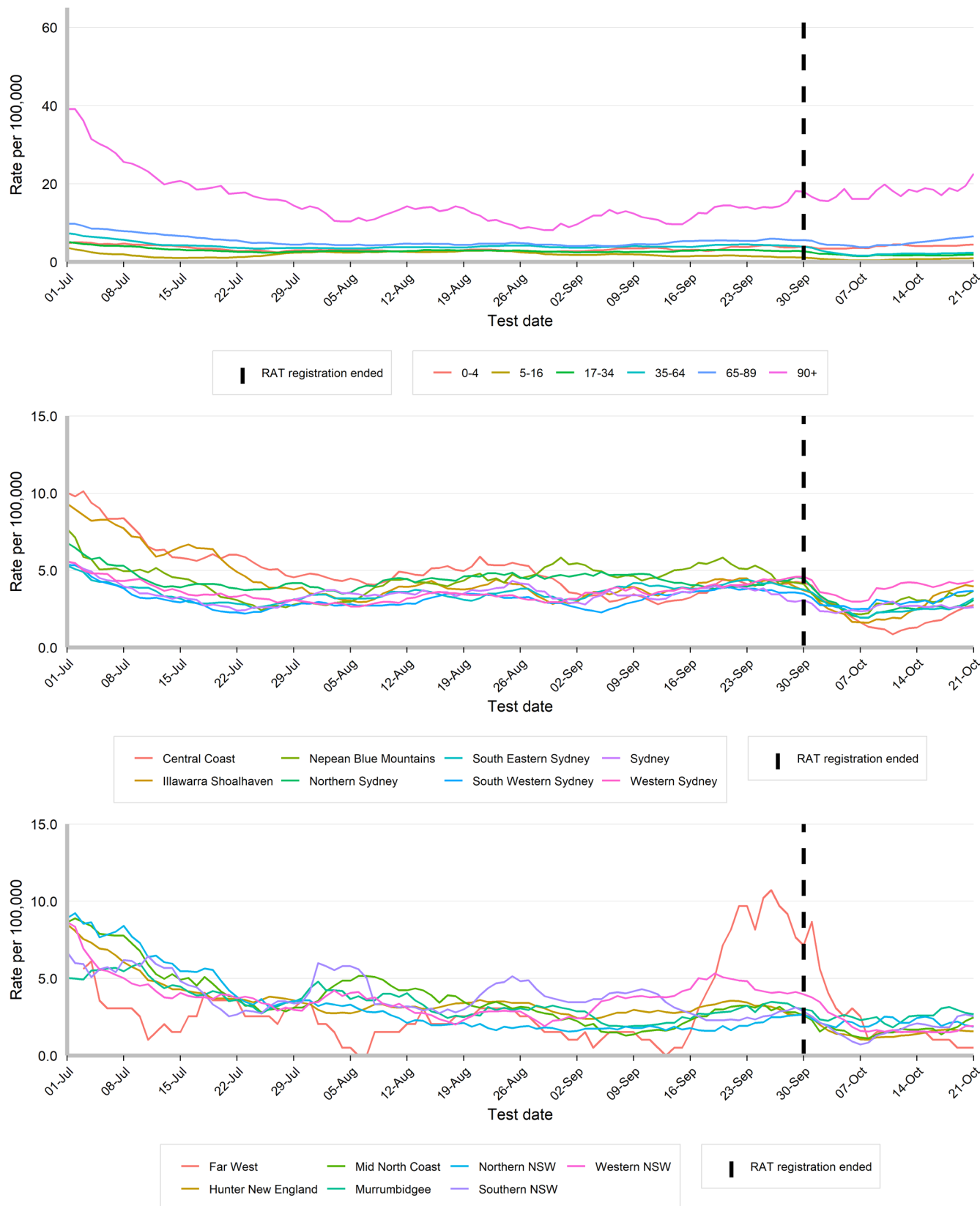
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 21 October 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates are increasing in those aged 65 years and older. Increases were observed in almost all metropolitan Local Health Districts with trends variable in other regions.

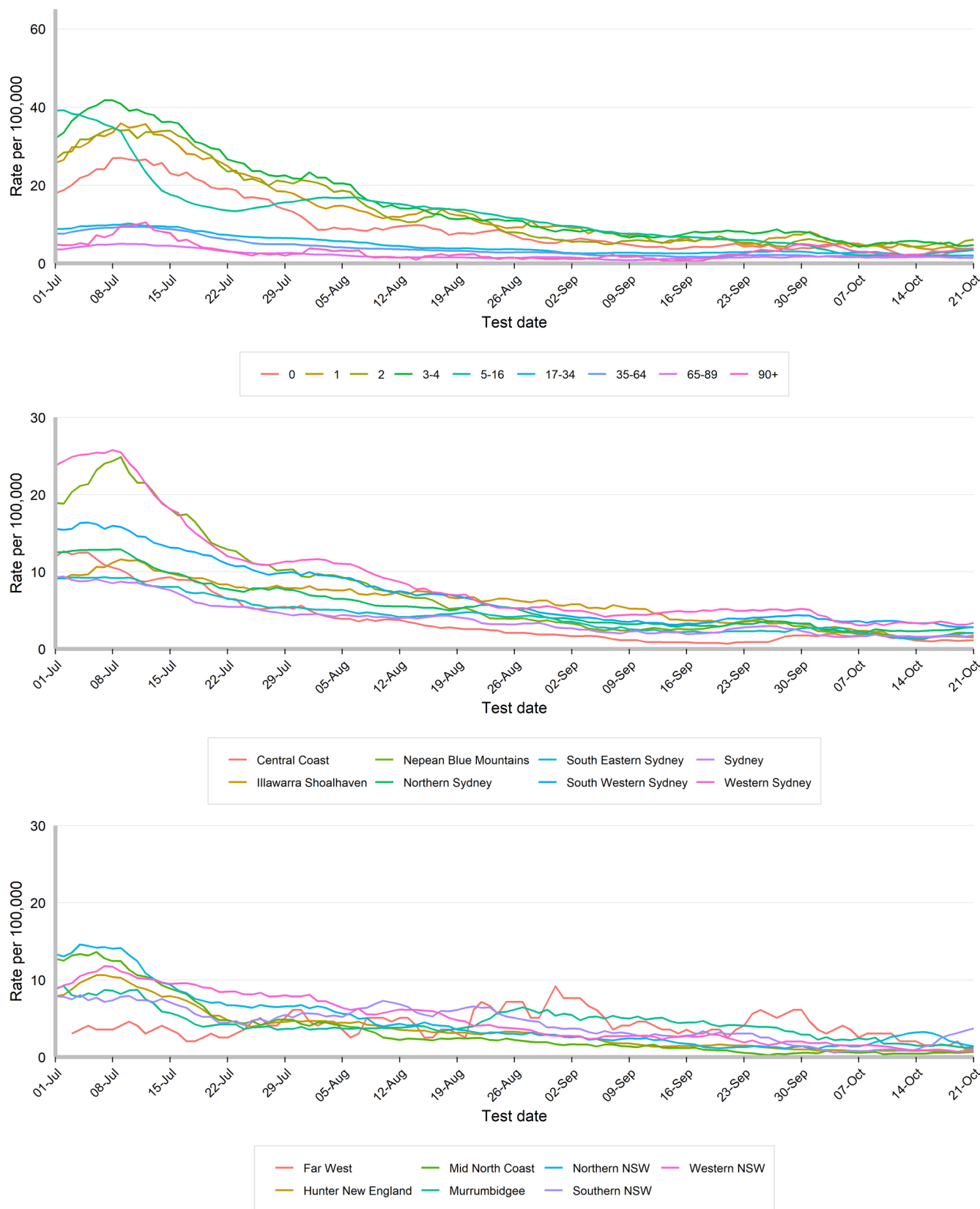
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 21 October 2023.



Rates of influenza notifications per 100,000 population

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

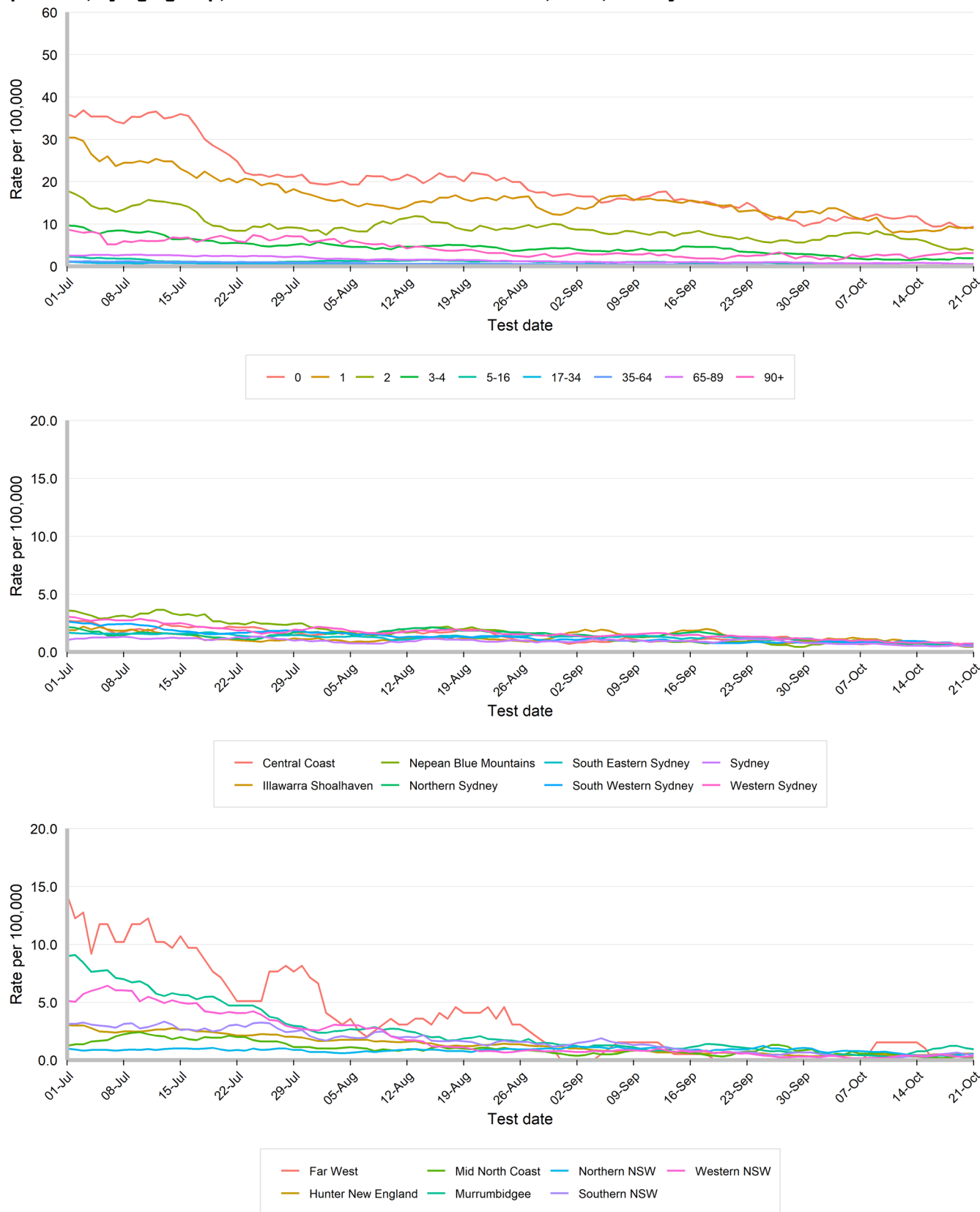
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 21 October 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

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

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 21 October 2023.

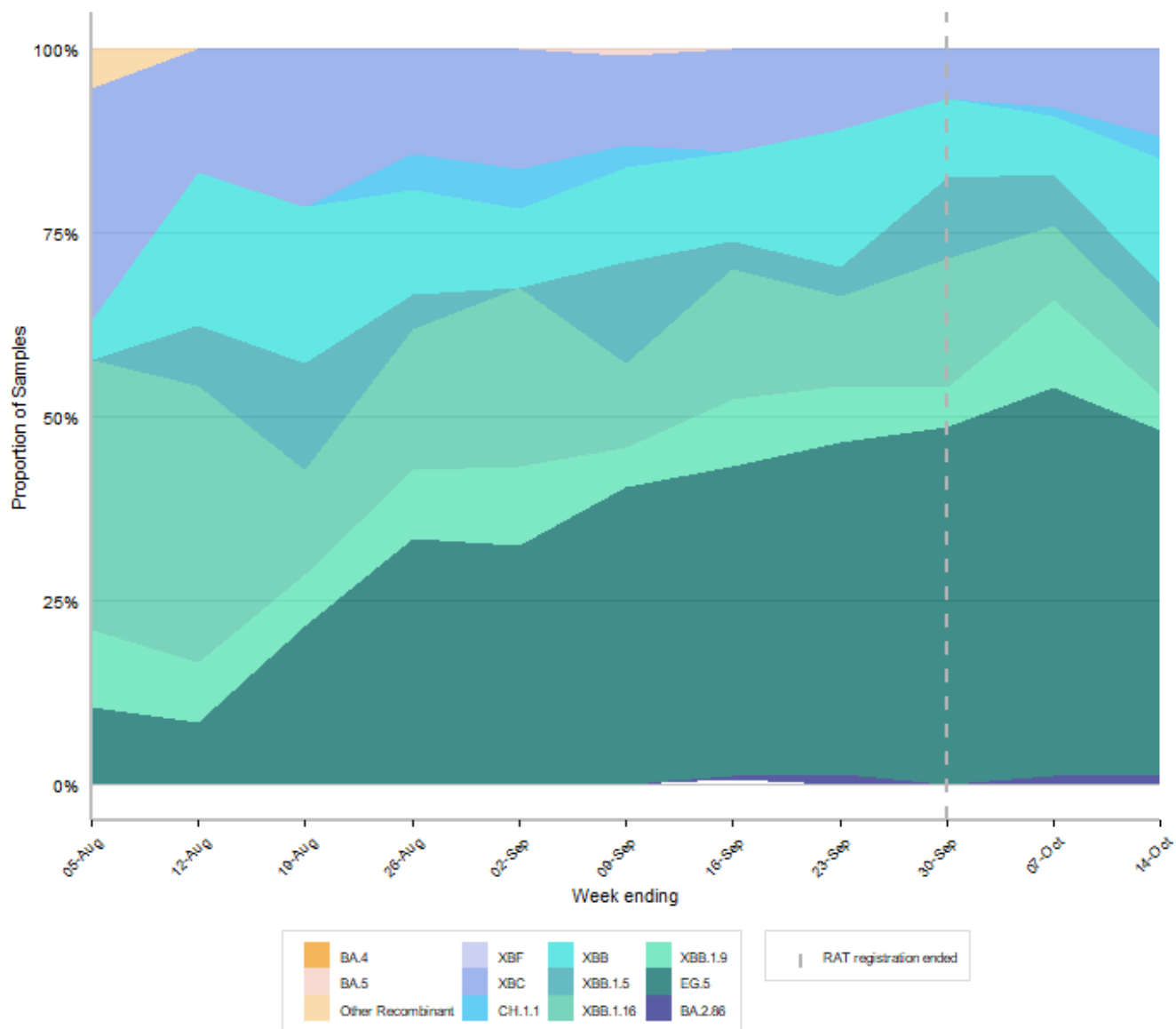


COVID-19 Whole Genome Sequencing

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: WGS data are now reported on a weekly basis beginning week ending 5 August 2023 to the smaller number of samples received over that time compared to the COVID-19 peaks in 2023. EG.5 now accounts for almost half of all isolates. The number of BA.2.86 detections in NSW is now 6.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 14 October 2023.



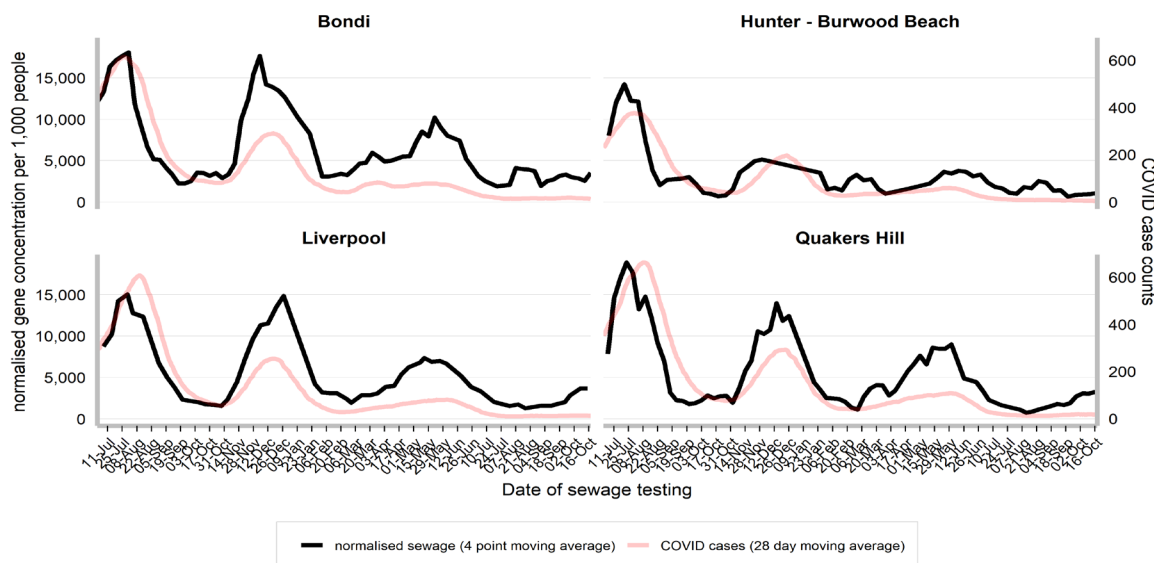
Other surveillance indicators

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 18 October 2023. 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 continued to increase over the previous weeks in Liverpool and Quakers Hill. This is consistent with increasing transmission translating to increasing COVID-19 activity observed in other indicators.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 18 October 2023.

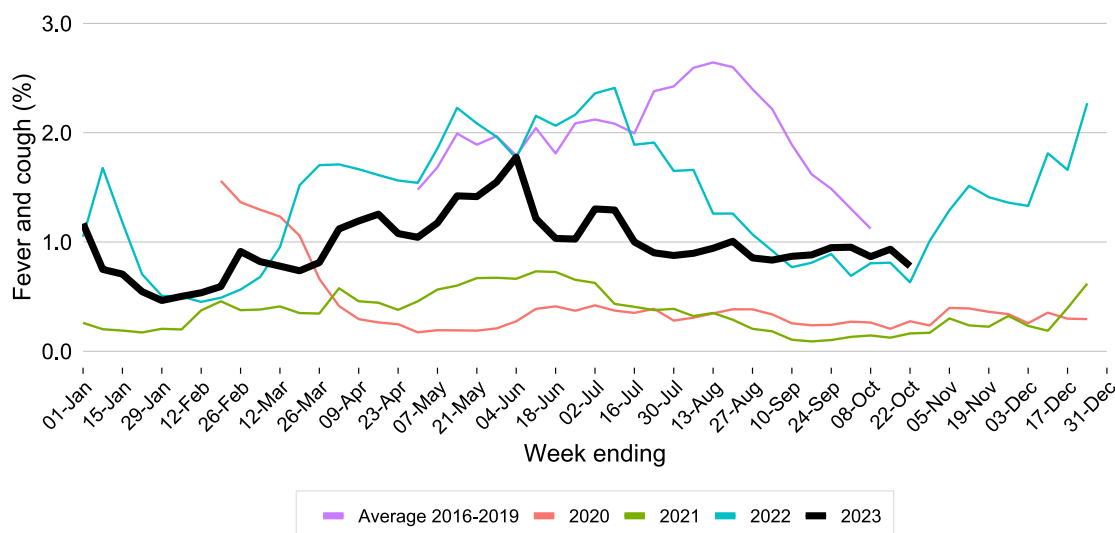


FluTracking and NSW sentinel laboratory network

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/>

Interpretation: The proportion of people reporting fever and cough in the community remains stable and consistent with the same time period in 2022.

Figure 11. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 22 October 2023.



Epidemiological weeks 41 & 42, ending 21 October 2023

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 test positivity is increasing. This week's data should be interpreted cautiously as only two of the four laboratories reporting COVID-19 results provided data. Influenza test positivity is persisting above 5%. Rhinovirus remains the most common virus identified.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 22 October 2023.

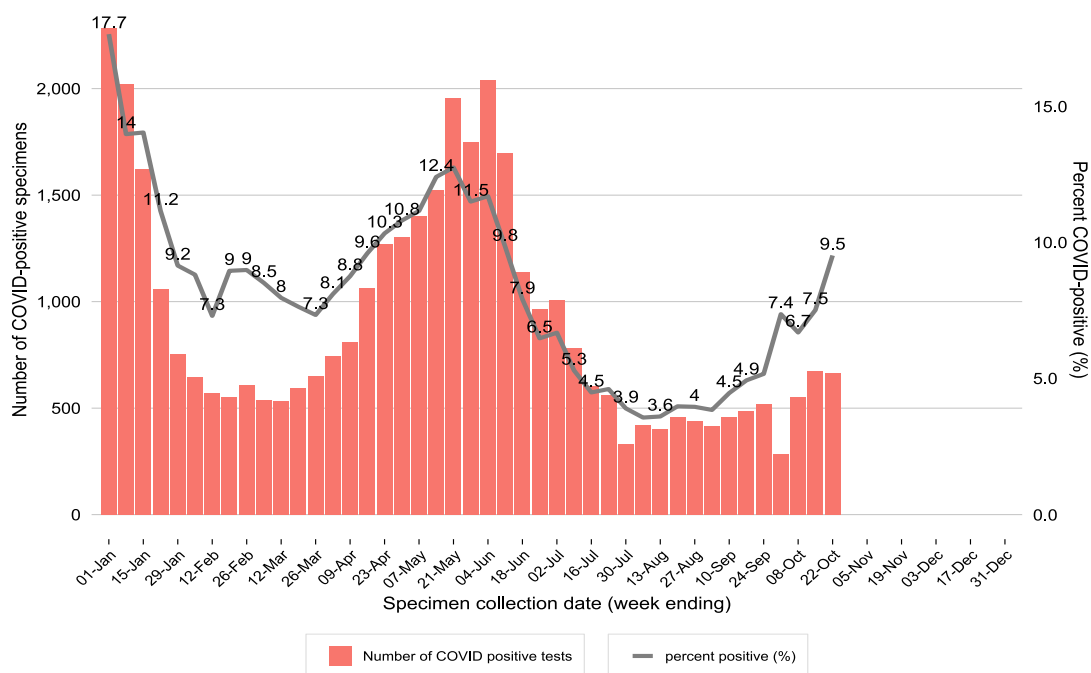


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 22 October 2023.

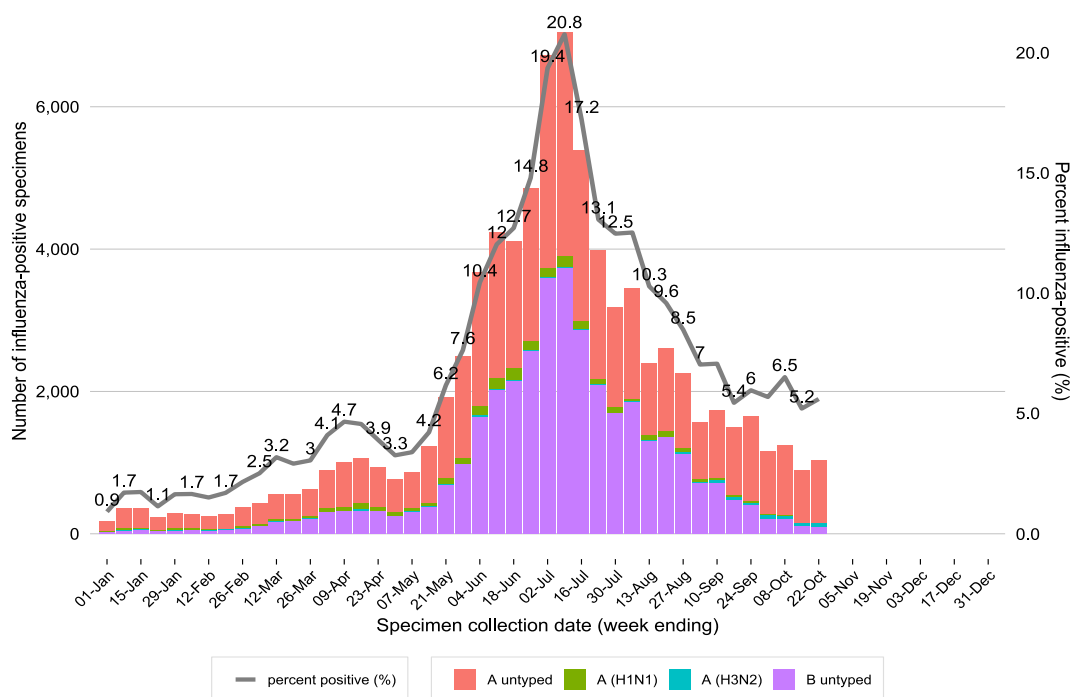


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 22 October 2023.

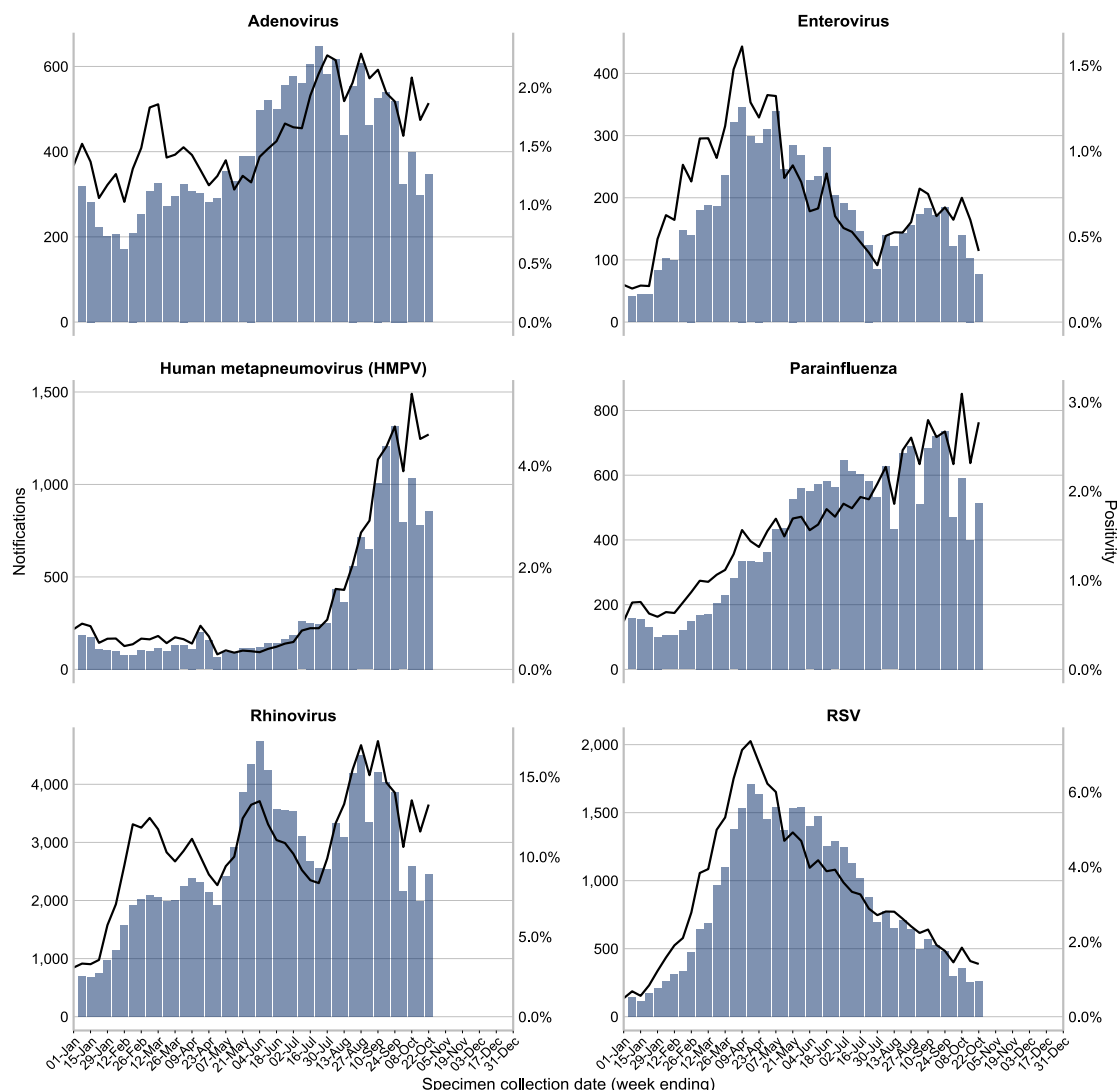


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 22 October 2023.

	Week ending				Year to date
	01 October	08 October	15 October	22 October	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,160 (5.7%)	1,246 (6.5%)	897 (5.2%)	1,038 (5.6%)	80,605
Adenovirus	324 (1.6%)	399 (2.1%)	297 (1.7%)	346 (1.9%)	16,942
Parainfluenza	470 (2.3%)	592 (3.1%)	399 (2.3%)	514 (2.8%)	17,795
Respiratory syncytial virus (RSV)	296 (1.5%)	353 (1.8%)	256 (1.5%)	261 (1.4%)	35,616
Rhinovirus	2,165 (10.6%)	2,589 (13.5%)	1,995 (11.6%)	2,458 (13.3%)	113,334
Human metapneumovirus (HMPV)	794 (3.9%)	1,036 (5.4%)	780 (4.5%)	855 (4.6%)	14,093
Enterovirus	122 (0.6%)	139 (0.7%)	103 (0.6%)	77 (0.4%)	7,614
Number of PCR tests conducted	20,402	19,137	17,235	18,531	1,044,548
SARS-CoV-2	283 (7.4%)	553 (6.7%)	674 (7.5%)	664 (9.5%)	39,154
Number of COVID PCR tests	3,842	8,262	8,966	6,973	465,989
Number of laboratories reporting	10	10	8	9	-
Number of laboratories reporting COVID	3	4	4	2	-

Recent data is subject to change.