

NSW Respiratory Surveillance Report - week ending 07 October 2023

While COVID activity in the community is at low levels, indicators suggest transmission in the community is increasing. Influenza activity persists at moderate levels and has not yet returned to inter-seasonal levels. RSV activity is at moderate levels and is declining.

Summary

The NSW School Holiday period continued to 6 October 2023, potentially impacting respiratory virus activity, testing patterns and notifications. Registration of COVID-19 rapid antigen tests through the public portal was discontinued from 30 September. COVID-19 notifications will now predominantly reflect polymerase chain reaction (PCR) tests conducted via referral from a medical practitioner.

At this stage of the pandemic, the best indicators of COVID-19 activity in the community are emergency department presentations (Figure 1) and sewage surveillance (Figure 10). These suggest COVID-19 transmission continues to slowly increase. COVID-19 PCR test positivity at sentinel laboratories is 6.7%. Influenza-like illness activity is persisting at moderate levels. The proportion of influenza notifications that are type B is 15.7% and PCR test positivity at sentinel laboratories is 5.9%. RSV notifications declined by 10% in the past week and ED presentations for young children with bronchiolitis were stable.

Most indicators demonstrate a prolonged respiratory virus season, traditionally associated with winter, 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 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.

This report will now be published fortnightly with the next report due for publication on 26 October 2023.

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 (ILI) 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: ED presentations for COVID-19 continued to increase; the proportion requiring admission is consistent with trends over the year to date. Presentations for ILI were stable. Bronchiolitis presentations in young children were stable.

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

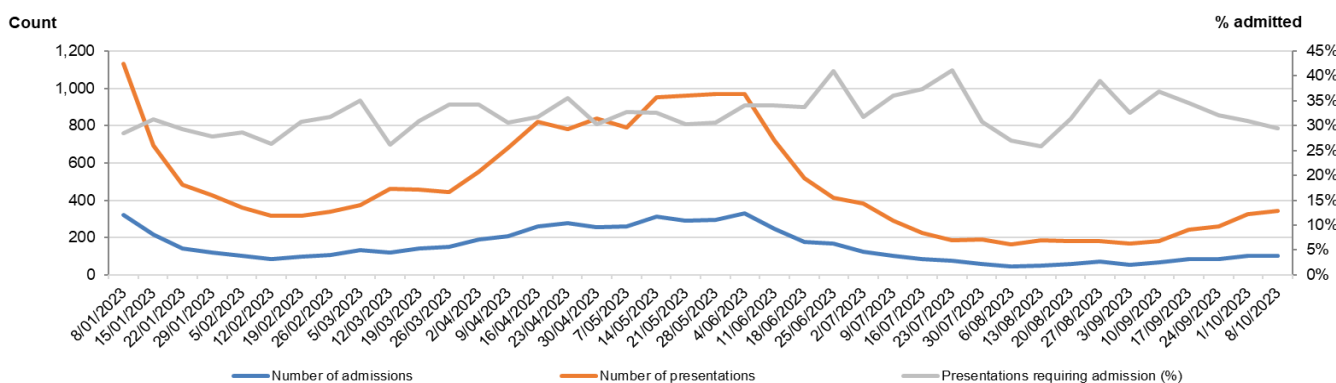


Figure 2a. ‘Influenza-like illness’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

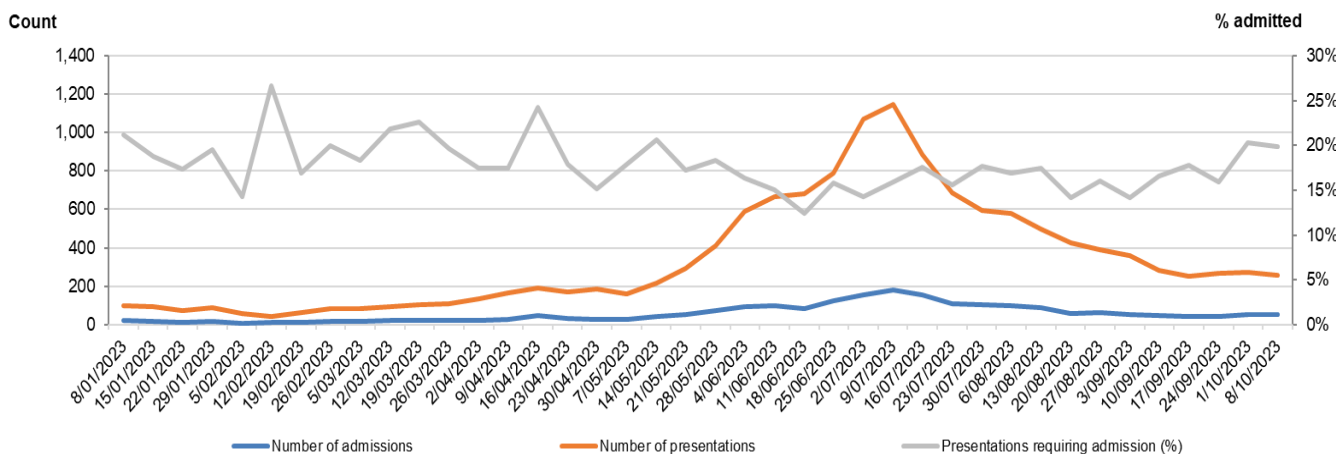
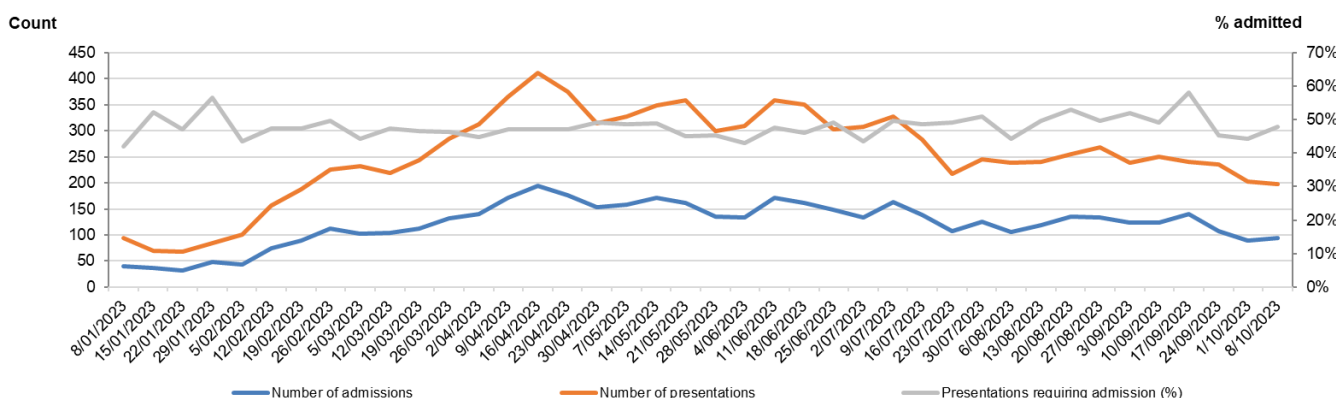


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



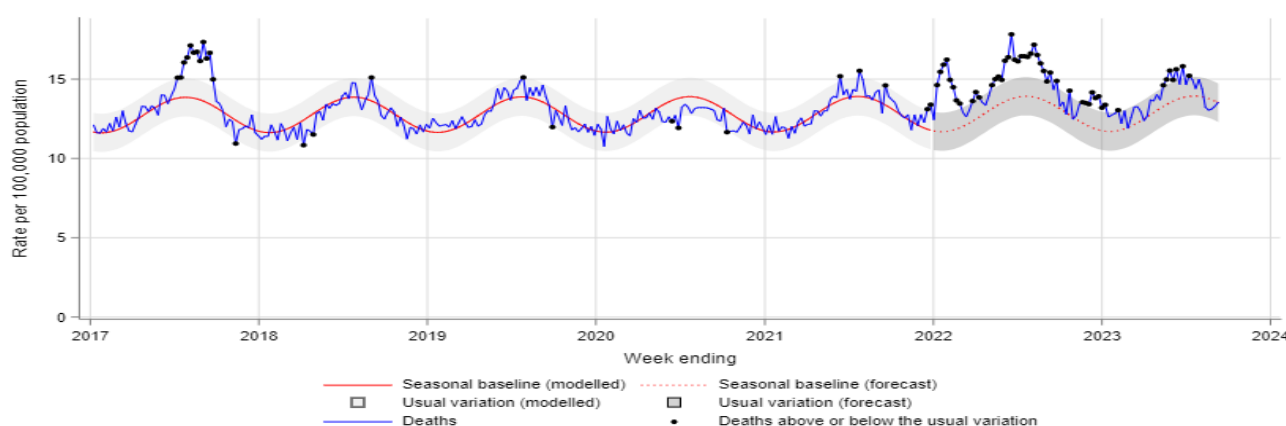
Death surveillance

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 10 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 6 August 2023 to 10 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.

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.

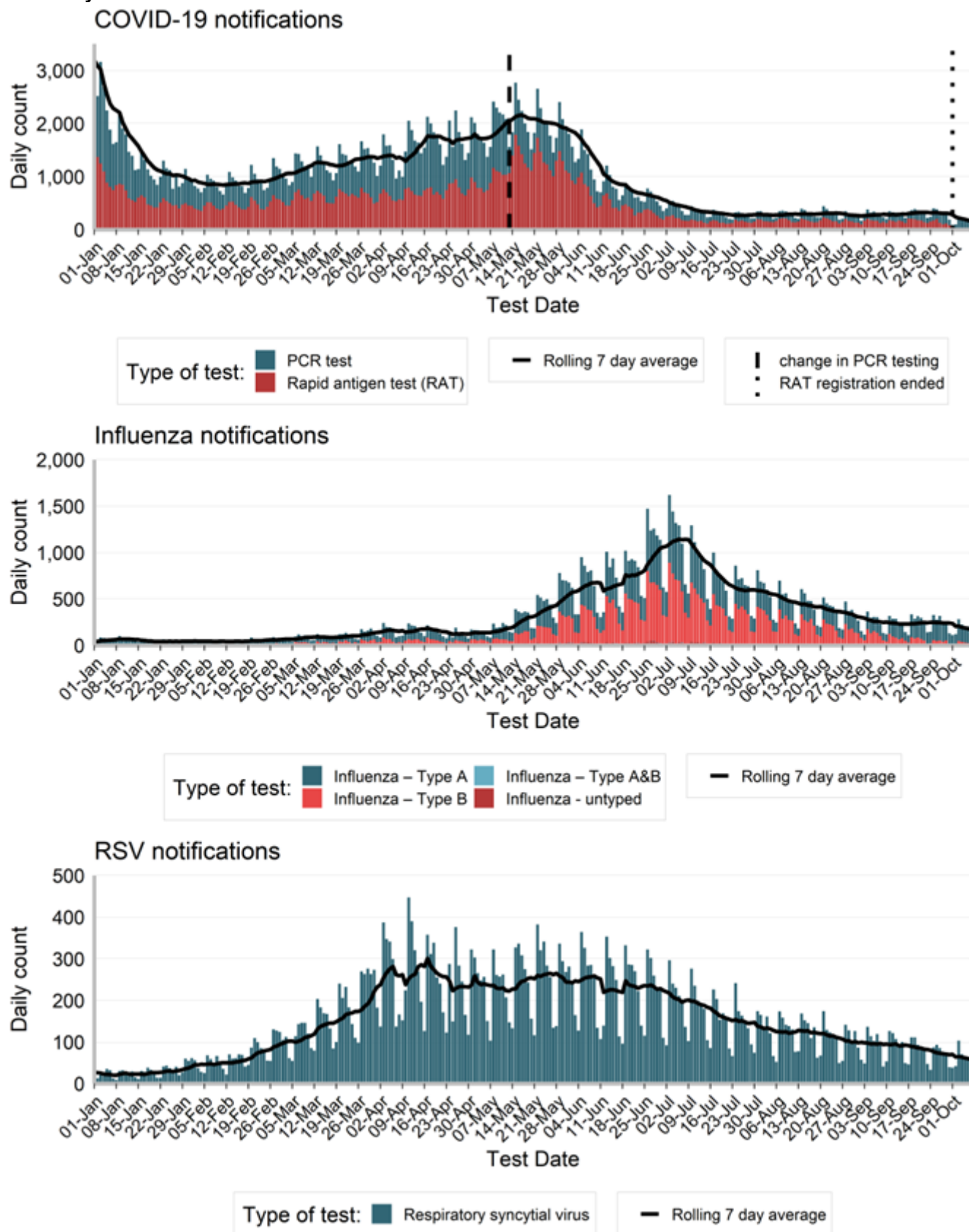
Interpretation: COVID-19 notifications declined by 38% in the past week, reflecting the cessation of RAT registrations in NSW. Influenza notifications decreased by 22.5% and RSV notifications 9.2%. The year-to-date distribution of COVID-19, influenza and RSV across age-groups and Local Health Districts remains unchanged.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 07 October 2023.

	COVID		Influenza		RSV	
	Week ending 07 October 2023	Year to Date	Week ending 07 October 2023	Year to Date	Week ending 07 October 2023	Year to Date
Gender						
Female	659	159,179(58%)	645	45,348(51%)	217	21,633(52%)
Male	491	115,778(42%)	581	44,243(49%)	196	19,979(48%)
Age group (years)						
0-4	120	9,681(4%)	152	12,292(14%)	215	22,190(53%)
5-9	18	8,476(3%)	103	18,692(21%)	11	2,307(6%)
10-19	39	22,287(8%)	141	17,503(20%)	16	1,951(5%)
20-29	114	30,809(11%)	220	7,397(8%)	15	1,517(4%)
30-39	127	41,081(15%)	166	11,571(13%)	22	1,963(5%)
40-49	97	40,151(15%)	118	9,229(10%)	19	1,525(4%)
50-59	115	37,805(14%)	99	4,920(5%)	17	2,086(5%)
60-69	147	34,571(13%)	88	3,598(4%)	38	2,496(6%)
70-79	170	26,313(10%)	66	2,546(3%)	31	2,526(6%)
80-89	130	16,898(6%)	57	1,447(2%)	18	2,134(5%)
90+	86	7,172(3%)	16	404(0%)	11	921(2%)
Local Health District of residence						
Central Coast	41	13,023(5%)	44	2,840(3%)	16	1,961(5%)
Far West	6	804(0%)	5	187(0%)	0	208(0%)
Hunter New England	71	35,212(13%)	54	6,703(7%)	30	3,684(9%)
Illawarra Shoalhaven	51	17,275(6%)	71	4,411(5%)	35	2,100(5%)
Mid North Coast	20	6,205(2%)	9	2,016(2%)	9	753(2%)
Murrumbidgee	50	8,599(3%)	51	2,962(3%)	9	1,958(5%)
Nepean Blue Mountains	59	13,635(5%)	53	5,461(6%)	26	2,415(6%)
Northern NSW	42	7,898(3%)	30	3,144(4%)	17	924(2%)
Northern Sydney	132	33,680(12%)	149	11,181(12%)	54	5,515(13%)
South Eastern Sydney	126	29,407(11%)	137	7,809(9%)	46	4,005(10%)
South Western Sydney	187	29,071(11%)	268	14,129(16%)	58	5,834(14%)
Southern NSW	12	7,282(3%)	12	1,543(2%)	2	844(2%)
Sydney	113	22,966(8%)	79	5,702(6%)	31	2,681(6%)
Western NSW	33	10,928(4%)	30	2,288(3%)	3	1,728(4%)
Western Sydney	218	36,370(13%)	224	18,913(21%)	75	6,892(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	26	8,853(3%)	31	3,087(3%)	7	1,457(3%)
Not Aboriginal or Torres Strait Islander	740	202,458(74%)	734	47,257(53%)	219	20,128(48%)
Not Stated / Unknown	389	63,976(23%)	461	39,310(44%)	187	20,060(48%)
Total	1,155	275,287(100%)	1,226	89,654(100%)	413	41,645(100%)

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

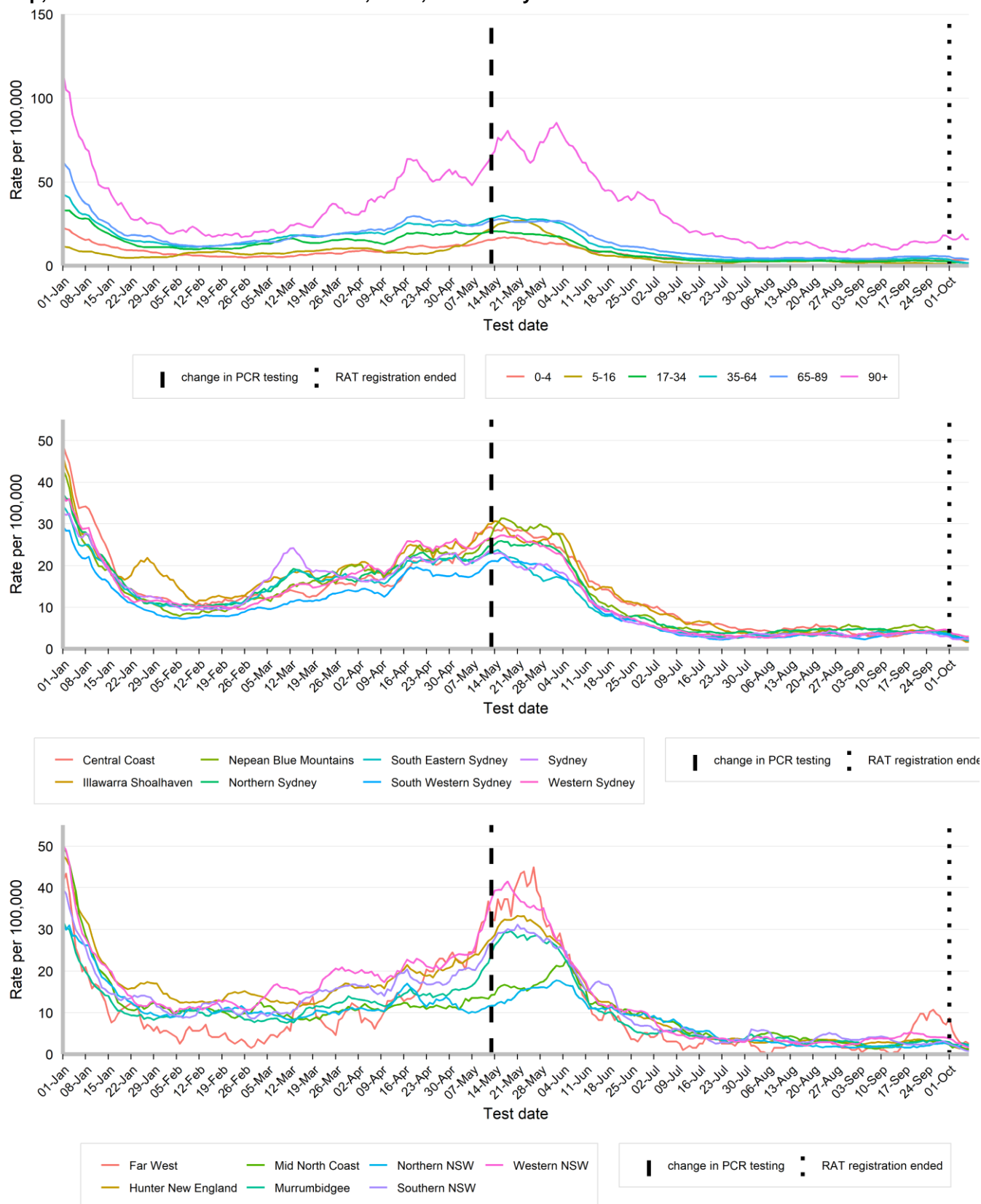
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 January 2023 to 07 October 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates declined across most age-groups except for those aged 0 – 4 years and 90 years and older. This may partially reflect the increased likelihood of having a COVID-19 PCR test rather than a RAT in those age-groups.

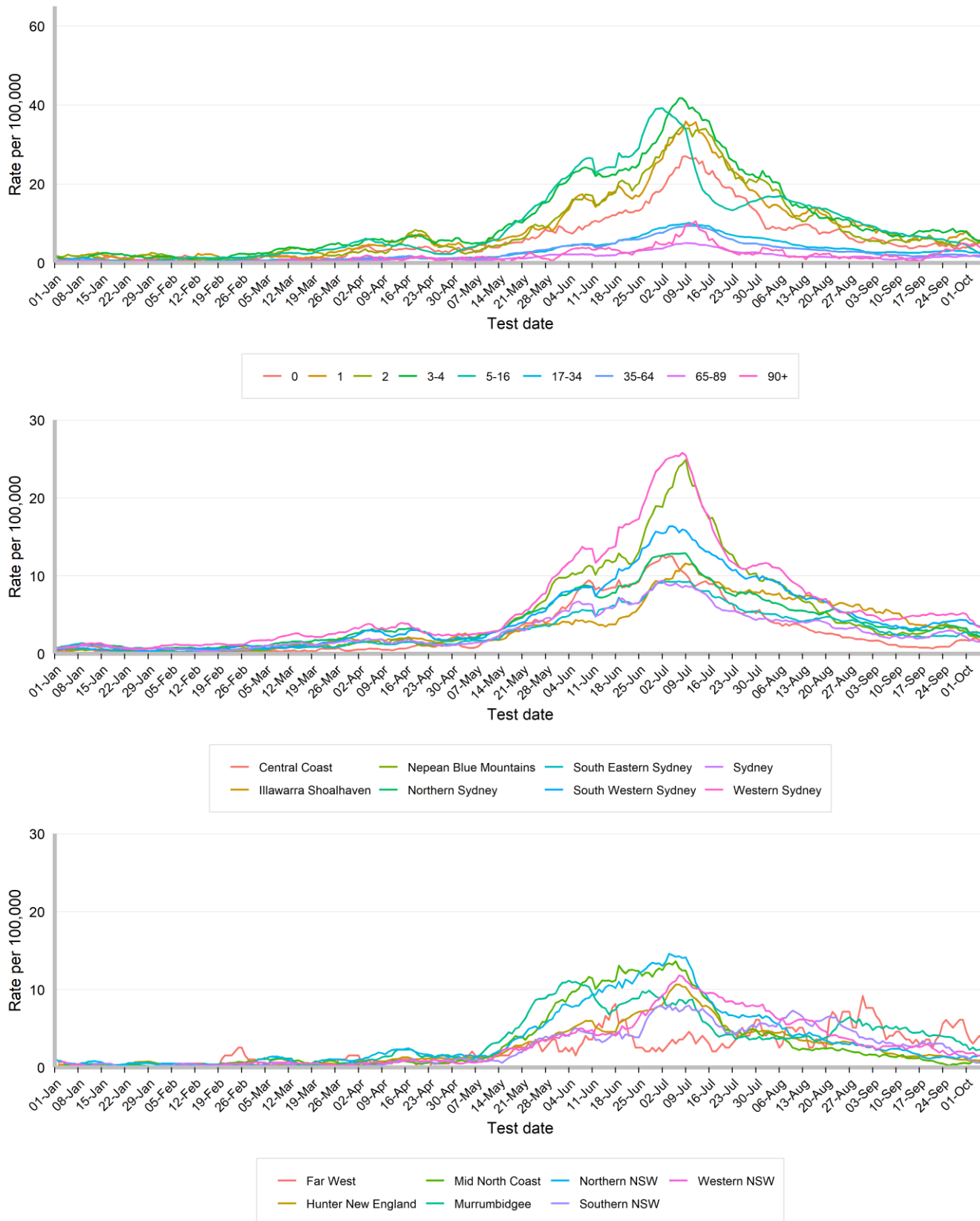
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 07 October 2023.



Rates of influenza notifications per 100,000 population

Interpretation: Influenza notification rates are continuing to decline gradually across most age-groups and Local Health Districts.

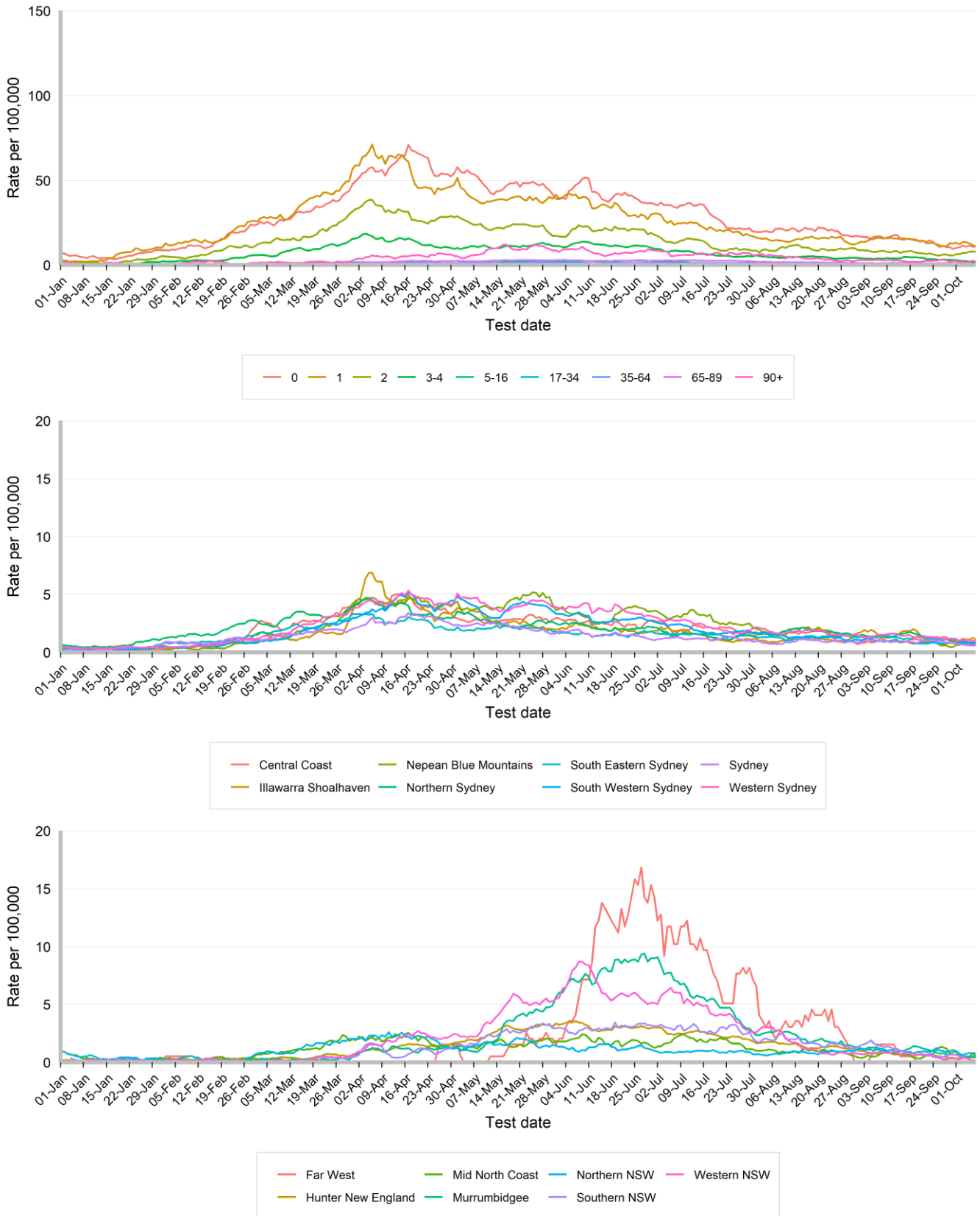
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 07 October 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates are stable across 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 January 2023 to 07 October 2023.

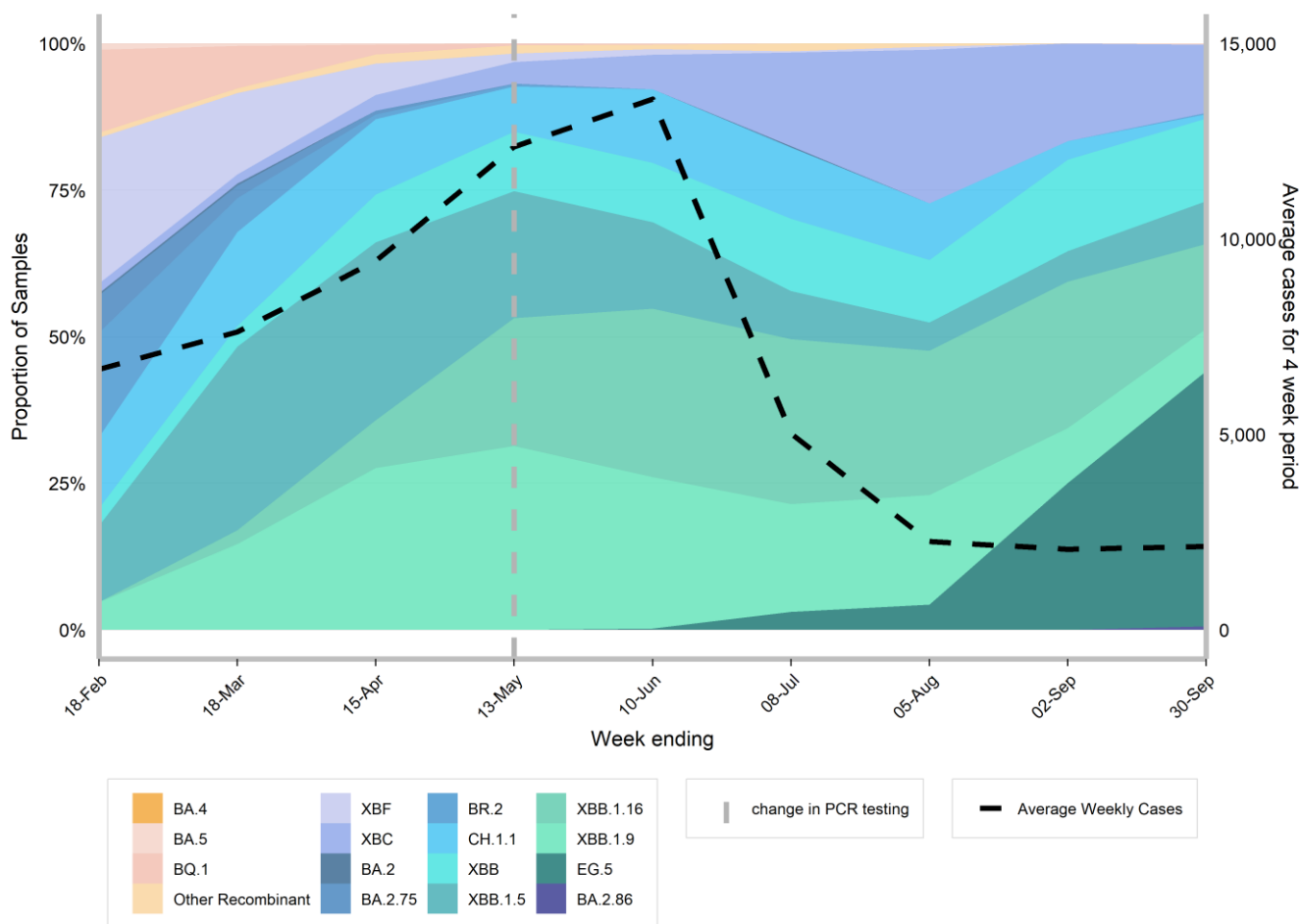


COVID-19 Whole Genome Sequencing

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: The proportion of samples identified with the EG.5 lineage continues to increase. Four cases of BA.2.86 been detected in NSW since 15 September 2023.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 01 January 2023 to 30 September 2023.



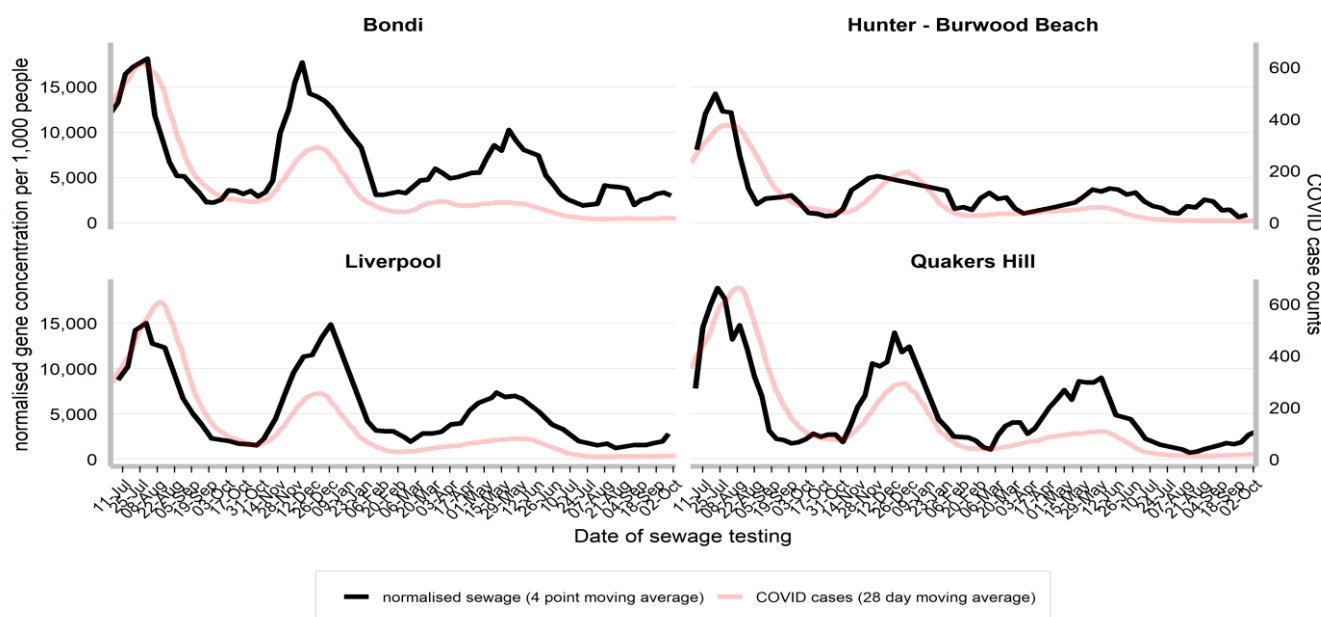
Other surveillance indicators

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 04 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 are slowly increasing in 3 of the 4 catchment areas.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 04 October 2023.

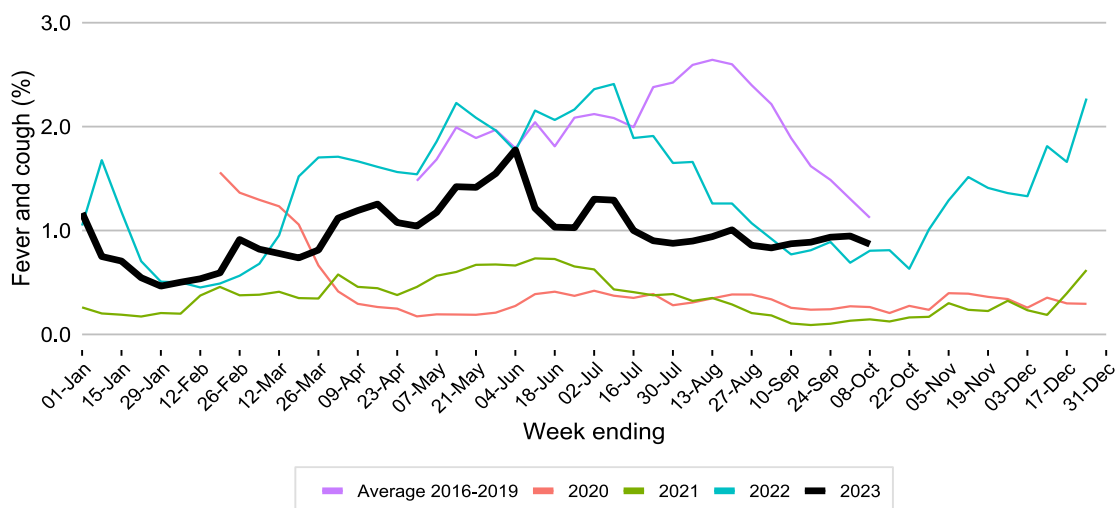


FluTracking and NSW sentinel laboratory network

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 is stable and approaching the average for this time of year for 2016 – 2019.

Figure 11. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 08 October 2023.



Epidemiological week 40, ending 07 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 has been increasing in recent weeks however there was a small decline in the past week. Influenza test positivity is persisting at approximately 6%.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 08 October 2023.

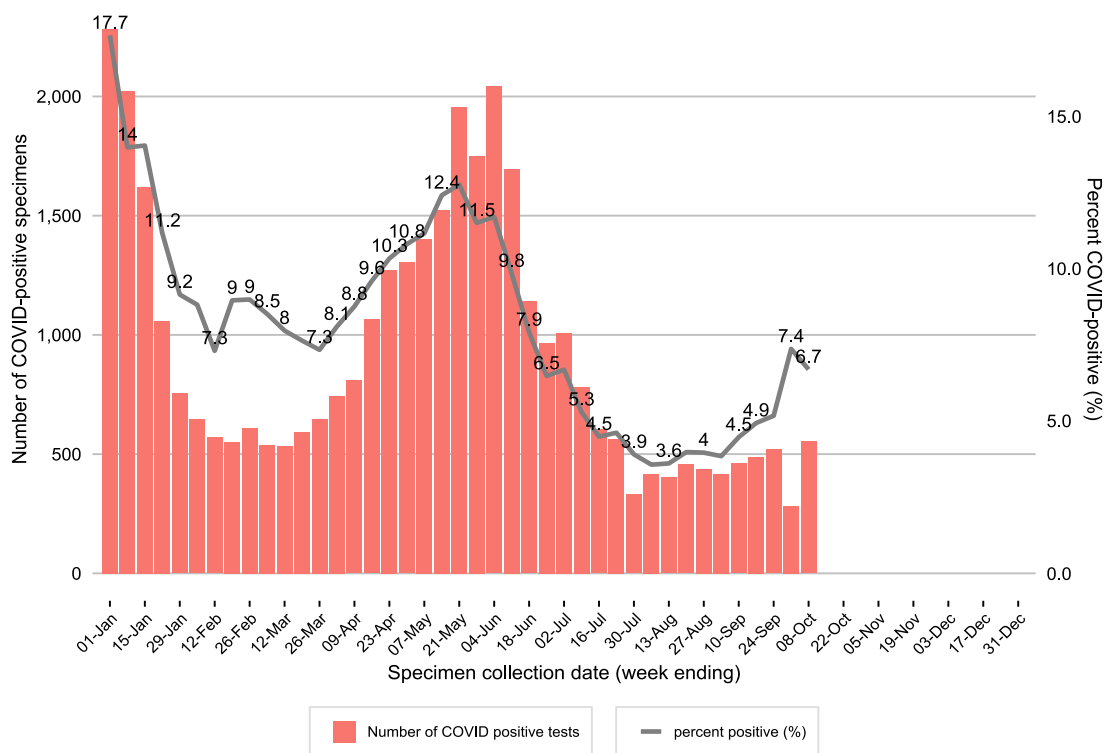


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 08 October 2023.

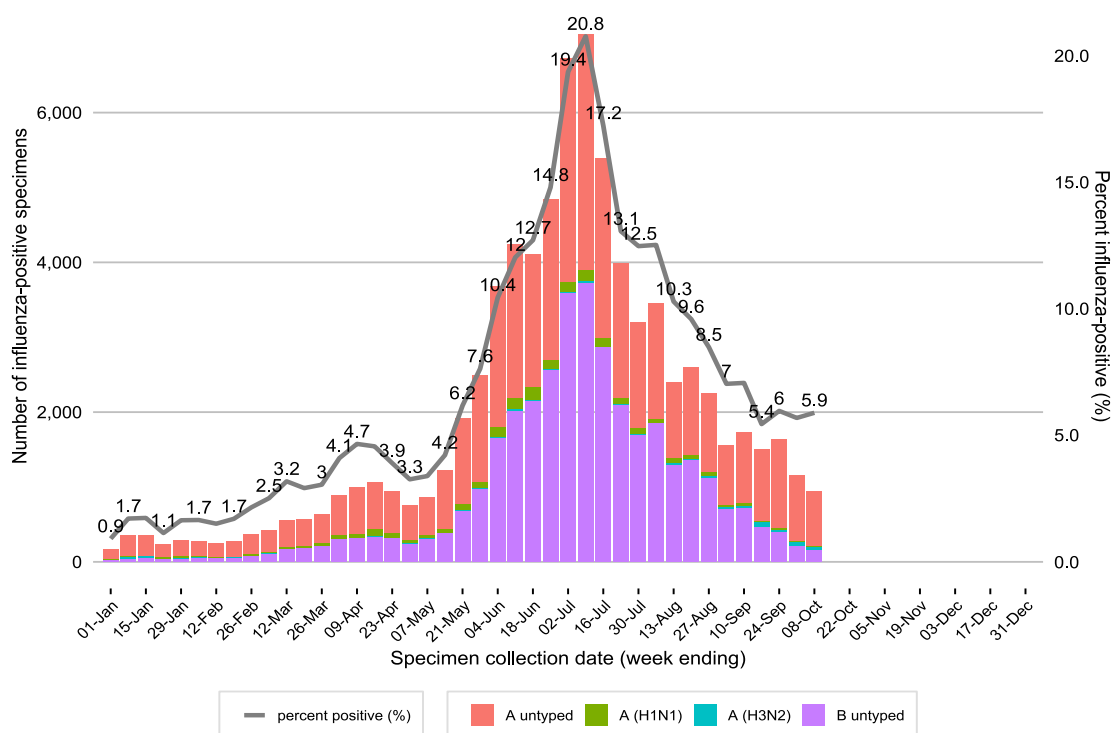


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 08 October 2023.

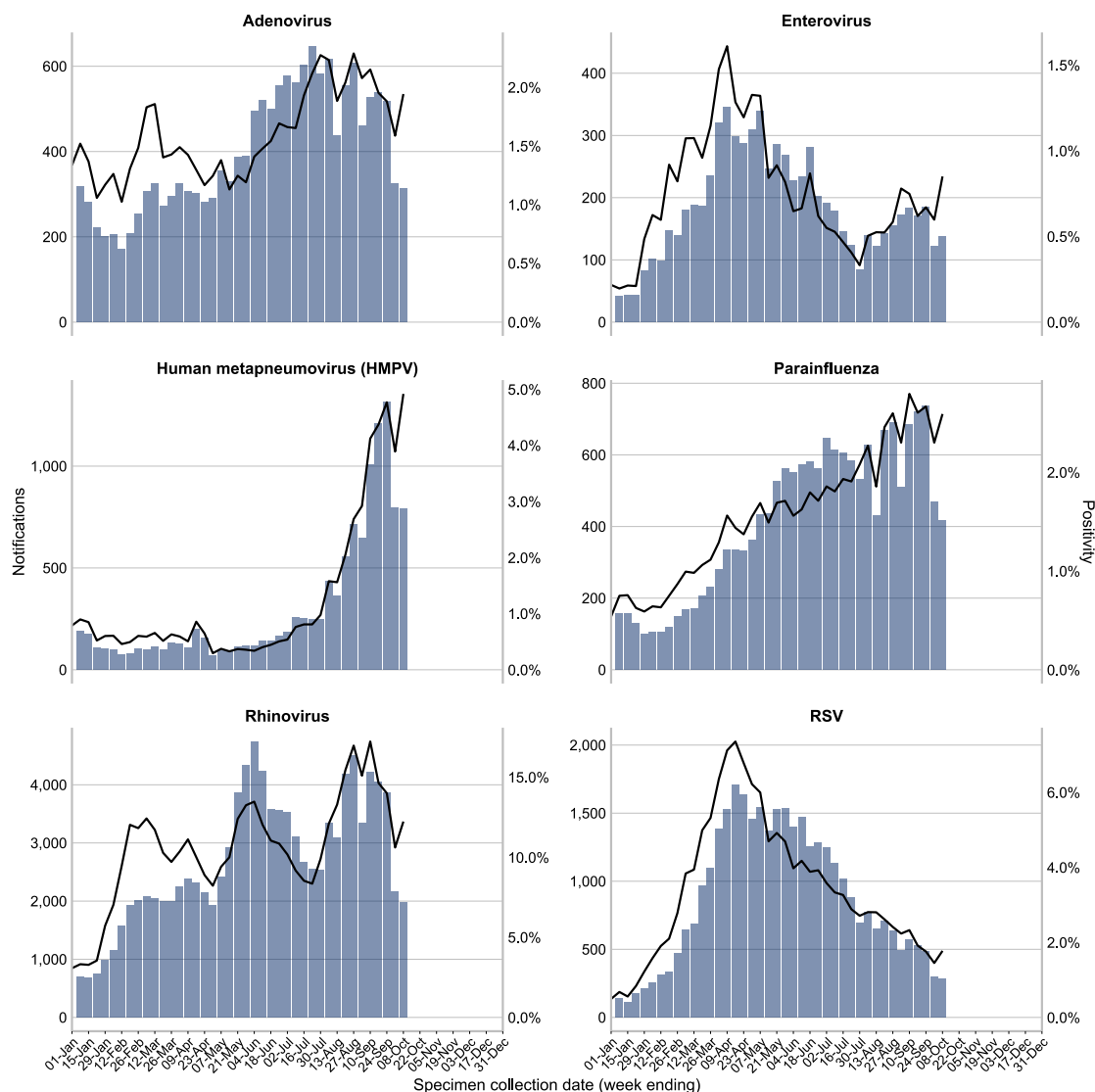


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 08 October 2023.

	Week ending				Year to date
	17 September	24 September	01 October	08 October	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,503 (5.4%)	1,646 (6.0%)	1,160 (5.7%)	949 (5.9%)	78,373
Adenovirus	539 (2.0%)	519 (1.9%)	324 (1.6%)	313 (1.9%)	16,213
Parainfluenza	720 (2.6%)	737 (2.7%)	470 (2.3%)	418 (2.6%)	16,708
Respiratory syncytial virus (RSV)	529 (1.9%)	485 (1.8%)	296 (1.5%)	286 (1.8%)	35,032
Rhinovirus	4,042 (14.6%)	3,865 (14.0%)	2,165 (10.6%)	1,971 (12.2%)	108,263
Human metapneumovirus (HMPV)	1,208 (4.4%)	1,317 (4.8%)	794 (3.9%)	793 (4.9%)	12,215
Enterovirus	171 (0.6%)	185 (0.7%)	122 (0.6%)	137 (0.9%)	7,432
Number of PCR tests conducted	27,612	27,600	20,402	16,113	1,005,758
SARS-CoV-2	488 (4.9%)	519 (5.2%)	283 (7.4%)	553 (6.7%)	37,816
Number of COVID PCR tests	9,890	10,036	3,842	8,262	450,050

Recent data is subject to change. For the week ending 08 October 2023, 9 out of 13 sentinel laboratories provided PCR testing data related to influenza and 4 out of 4 sentinel laboratories provided PCR data related to COVID.