

NSW Respiratory Surveillance Report - week ending 16 September 2023

COVID-19 activity is at low levels. Influenza activity is at moderate levels and continues to decrease. Respiratory syncytial virus (RSV) activity is stable at moderate levels.

Summary

COVID-19 activity continues at low levels. While COVID-19 notifications were stable, polymerase chain reaction (PCR) test positivity at sentinel labs increased to 5.2% in the past week. This positivity is comparable to early July 2023. A small increase in presentations to emergency departments for COVID-19 illness was also observed. Influenza notifications decreased by 8% and other indicators of influenza activity continue to decline. RSV notifications and presentations to emergency departments for bronchiolitis in young children are stable. Rhinovirus continues to dominate respiratory virus test positivity at sentinel laboratories; human metapneumovirus positivity continues to increase and is now at 4.6%.

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 (PHREDDS) 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 be published fortnightly from 28 September 2023. The scope of data reported may vary as required for effective public health messaging and action.

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

Interpretation: A small increase in ED presentations for COVID-19 was observed in the past week. Presentations for influenza-like illness continue to decline. Bronchiolitis presentations in young children remain stable and continue to persist at moderate levels. As bronchiolitis can be due to several other circulating respiratory viruses (Figure 14 and Table 2), caution is required in attributing activity to RSV alone.

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

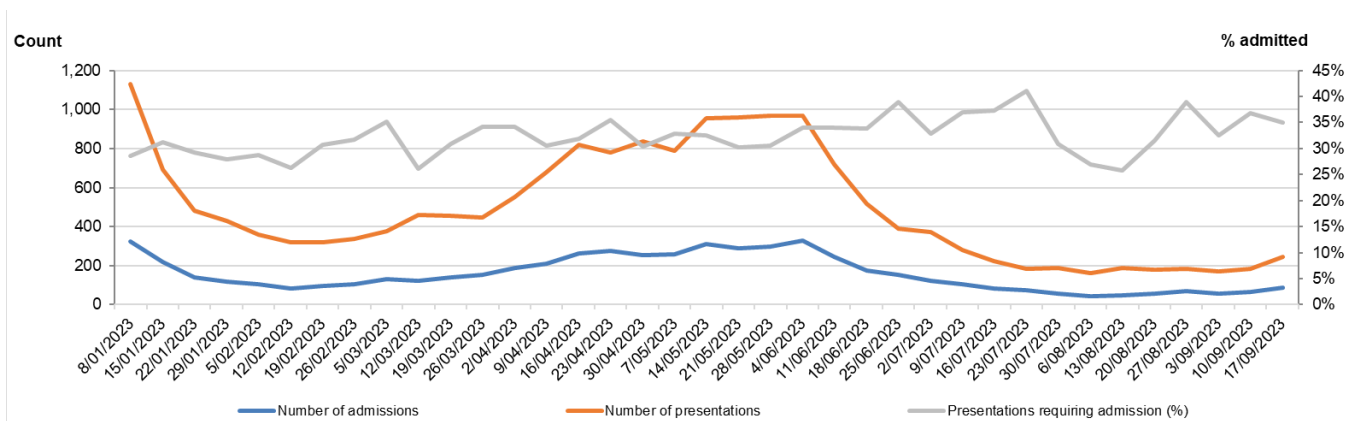


Figure 2. ‘Influenza-like illness’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

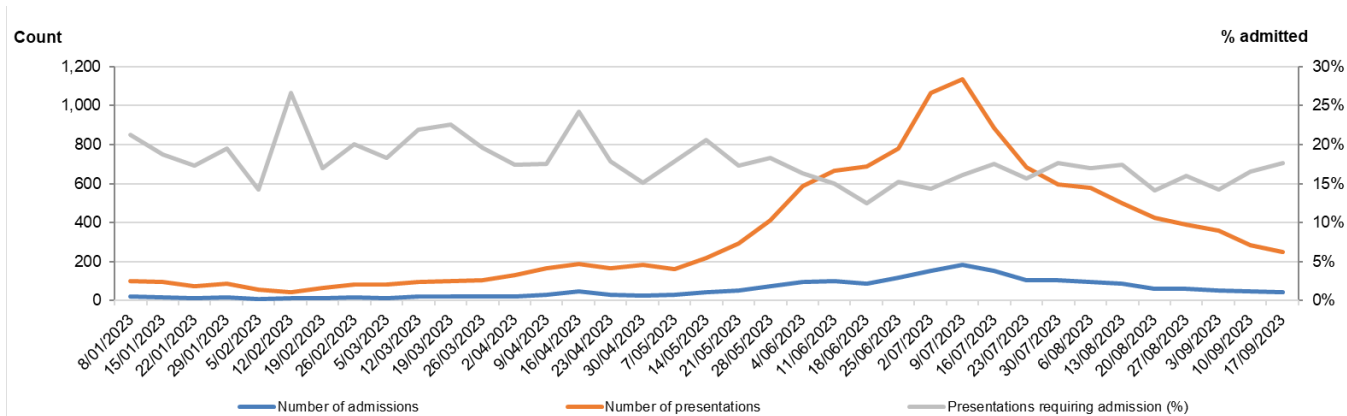
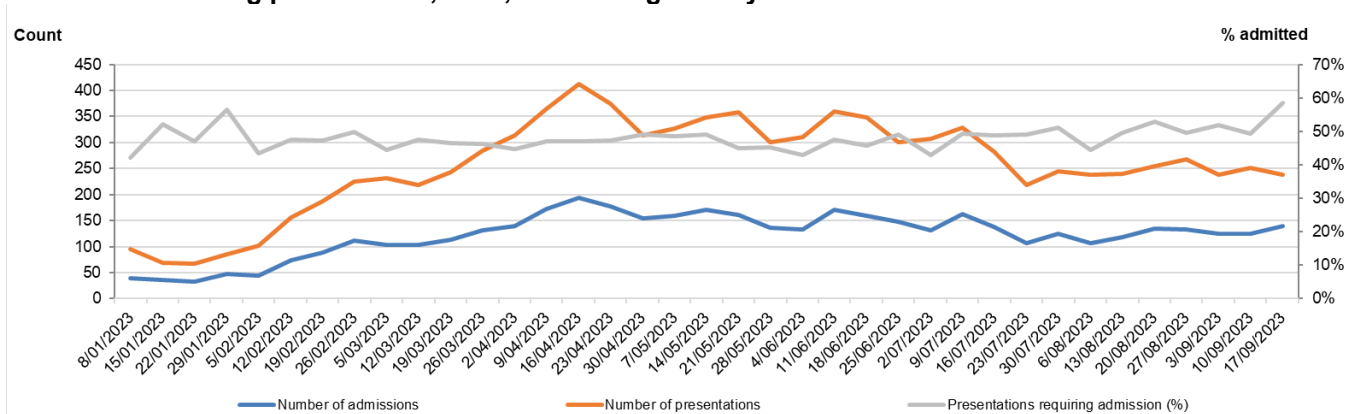


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



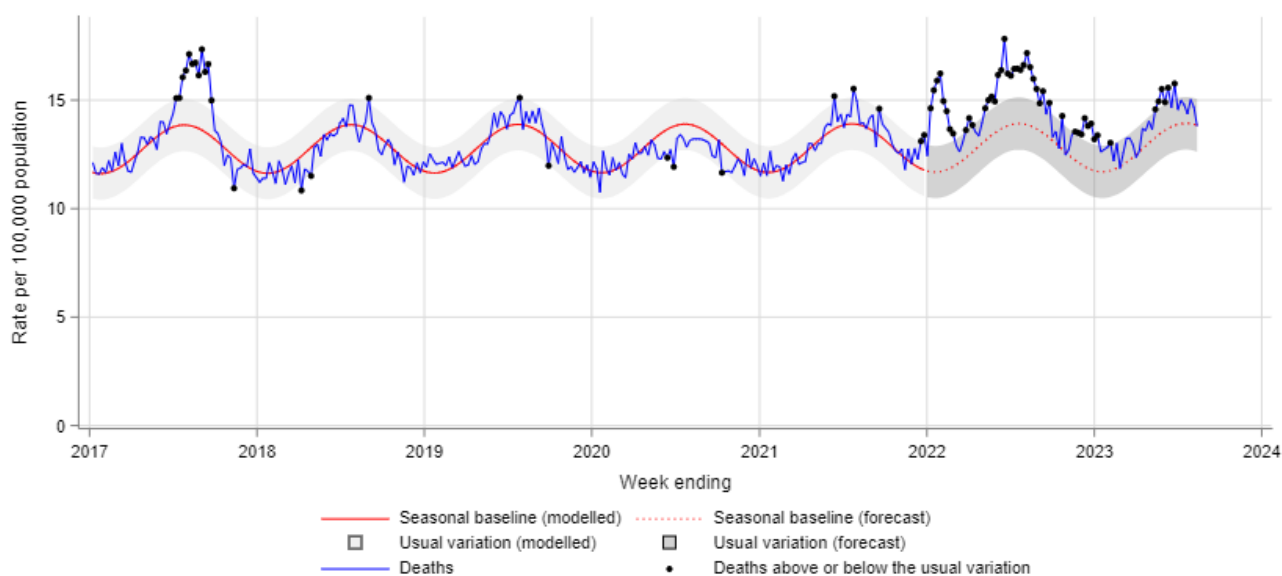
Death surveillance

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 13 August 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 9 July 2023 to 13 August 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 week 37, ending 16 September 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.

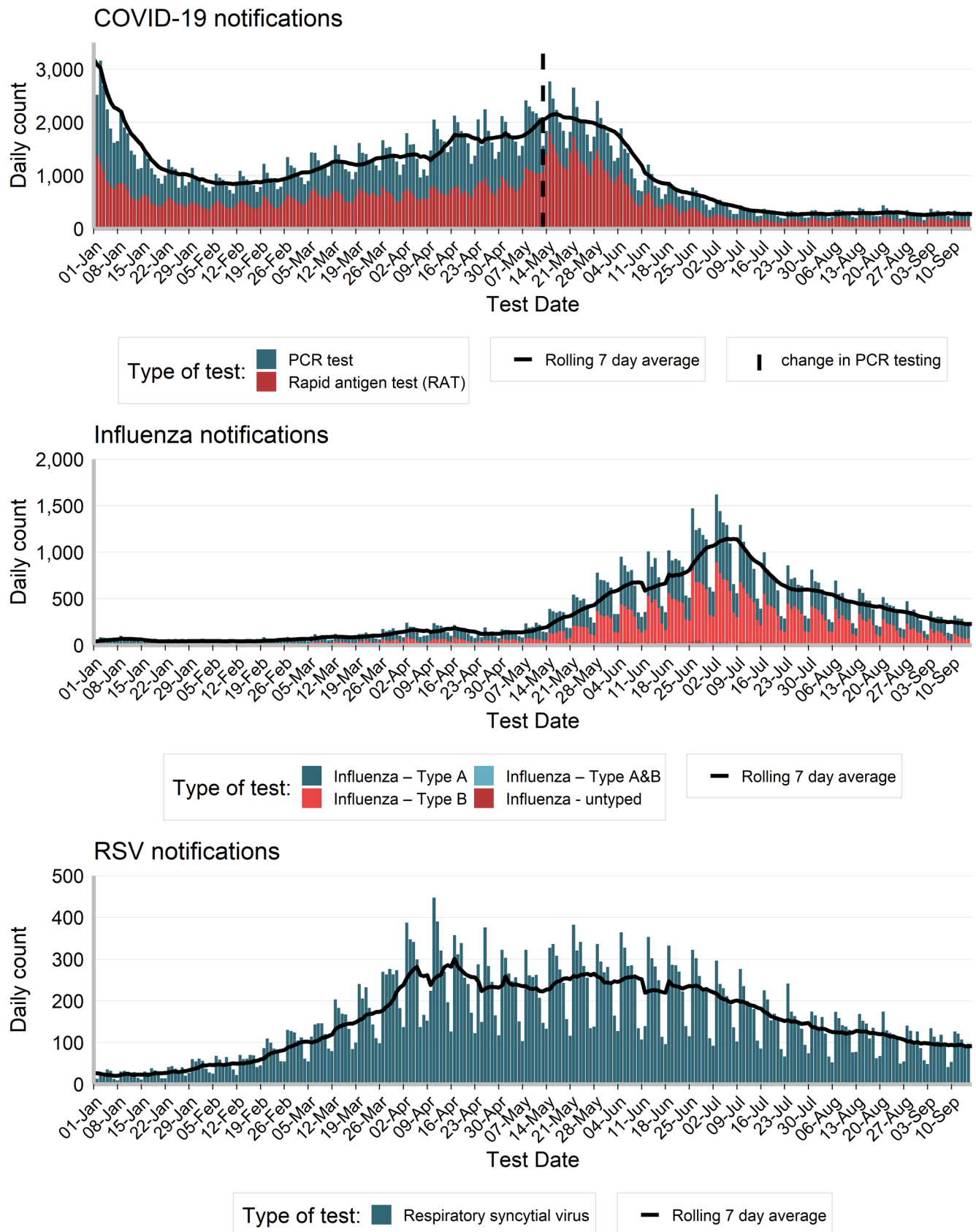
Interpretation: COVID-19 was the most common of the notifiable respiratory viruses in the past week. The distribution of COVID-19, influenza and RSV across age-groups and Local Health Districts remains unchanged.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 16 September 2023.

	COVID		Influenza		RSV	
	Week ending 16 September 2023	Year to Date	Week ending 16 September 2023	Year to Date	Week ending 16 September 2023	Year to Date
Gender						
Female	1,116	155,872(58%)	781	42,931(51%)	347	20,846(52%)
Male	797	113,426(42%)	820	42,011(49%)	292	19,278(48%)
Age group (years)						
0-4	103	9,300(3%)	203	11,706(14%)	313	21,472(53%)
5-9	43	8,369(3%)	293	18,087(21%)	35	2,216(6%)
10-19	112	22,002(8%)	339	16,792(20%)	43	1,862(5%)
20-29	197	30,271(11%)	174	6,756(8%)	21	1,468(4%)
30-39	267	40,367(15%)	201	10,941(13%)	41	1,887(5%)
40-49	254	39,440(15%)	159	8,782(10%)	25	1,467(4%)
50-59	251	37,041(14%)	84	4,592(5%)	30	2,012(5%)
60-69	253	33,809(13%)	58	3,331(4%)	41	2,390(6%)
70-79	209	25,638(10%)	54	2,341(3%)	41	2,419(6%)
80-89	172	16,432(6%)	29	1,279(2%)	40	2,051(5%)
90+	60	6,915(3%)	4	348(0%)	11	884(2%)
Local Health District of residence						
Central Coast	70	12,745(5%)	20	2,729(3%)	24	1,888(5%)
Far West	3	764(0%)	5	160(0%)	1	207(1%)
Hunter New England	178	34,636(13%)	92	6,467(8%)	41	3,586(9%)
Illawarra Shoalhaven	110	16,943(6%)	113	4,131(5%)	55	1,998(5%)
Mid North Coast	36	6,090(2%)	17	1,987(2%)	10	718(2%)
Murrumbidgee	51	8,410(3%)	95	2,760(3%)	24	1,910(5%)
Nepean Blue Mountains	136	13,303(5%)	68	5,227(6%)	25	2,352(6%)
Northern NSW	34	7,741(3%)	38	3,053(4%)	19	861(2%)
Northern Sydney	262	32,940(12%)	206	10,582(12%)	114	5,309(13%)
South Eastern Sydney	230	28,664(11%)	145	7,332(9%)	79	3,796(9%)
South Western Sydney	260	28,305(10%)	245	13,237(16%)	68	5,648(14%)
Southern NSW	41	7,185(3%)	42	1,459(2%)	12	821(2%)
Sydney	162	22,496(8%)	88	5,369(6%)	45	2,554(6%)
Western NSW	79	10,706(4%)	54	2,176(3%)	14	1,701(4%)
Western Sydney	268	35,470(13%)	354	17,931(21%)	108	6,630(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	44	8,703(3%)	54	2,962(3%)	24	1,422(4%)
Not Aboriginal or Torres Strait Islander	1,479	198,204(74%)	879	44,564(52%)	314	19,355(48%)
Not Stated / Unknown	392	62,714(23%)	668	37,477(44%)	303	19,378(48%)
Total	1,915	269,621(100%)	1,601	85,003(100%)	641	40,155(100%)

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

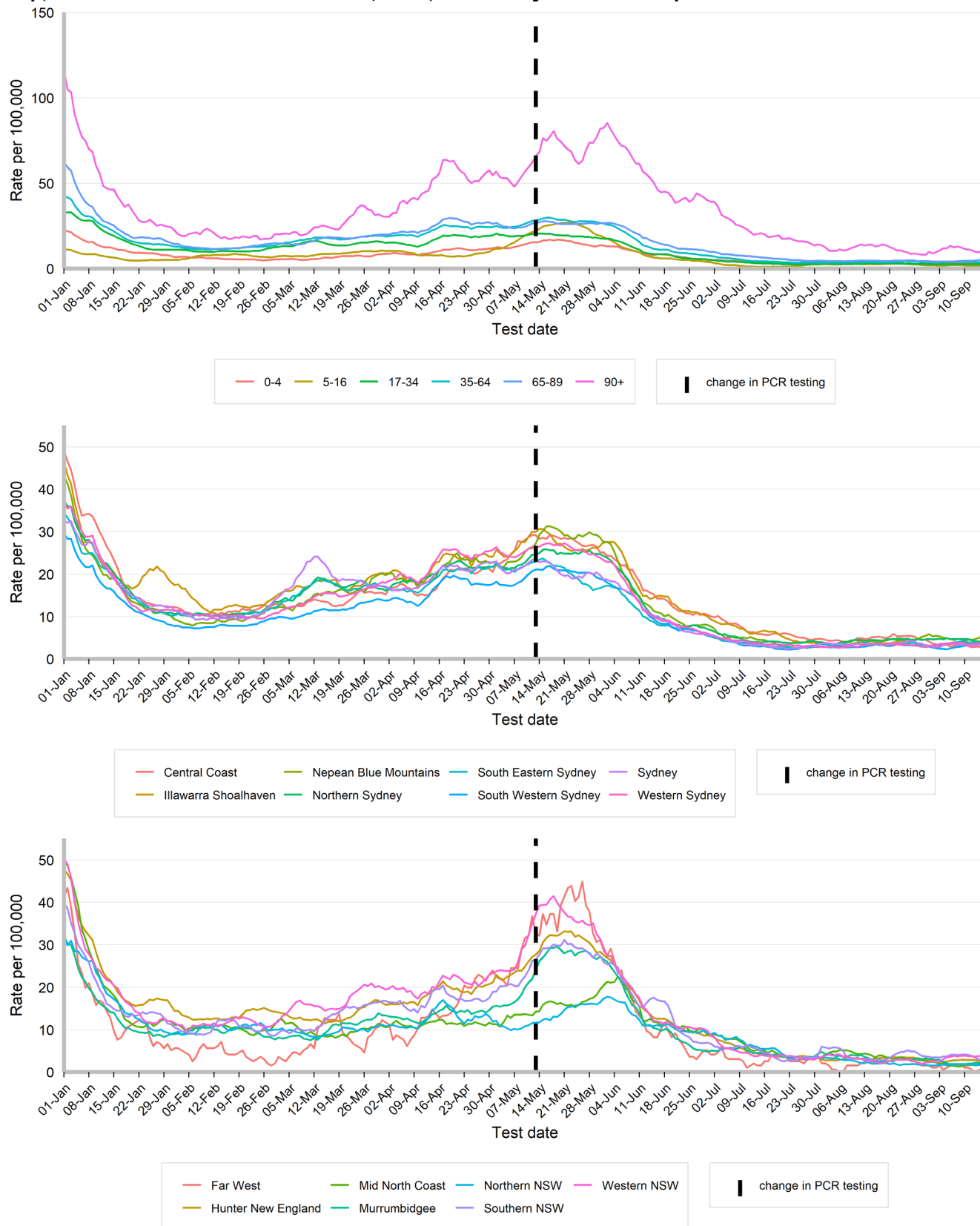
Figure 5. People notified with COVID-19, influenza and RSV, by date of test and type of test performed, NSW, 01 January 2023 to 16 September 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates are stable across age-groups and Local Health Districts.

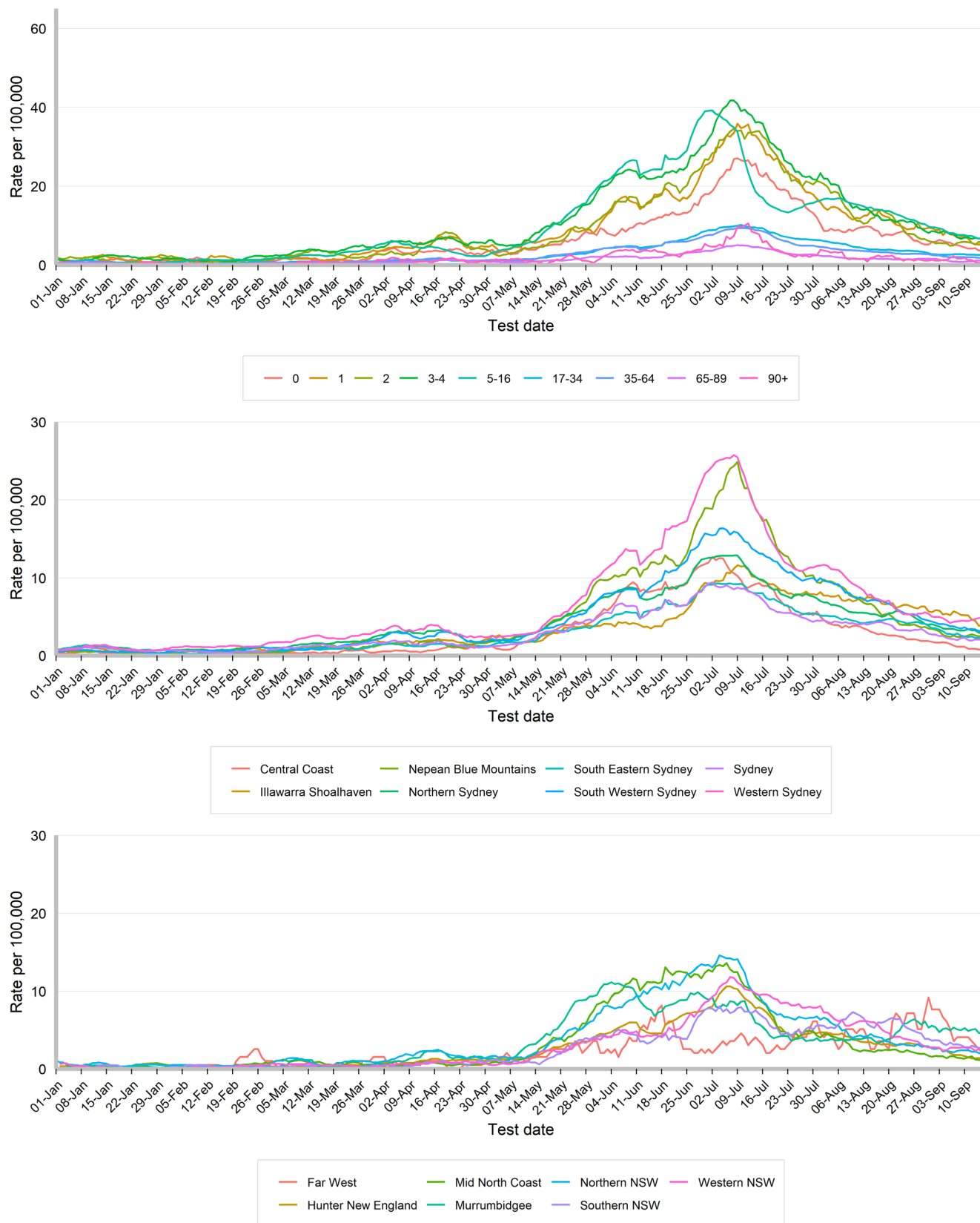
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 16 September 2023.



Rates of influenza notifications per 100,000 population

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

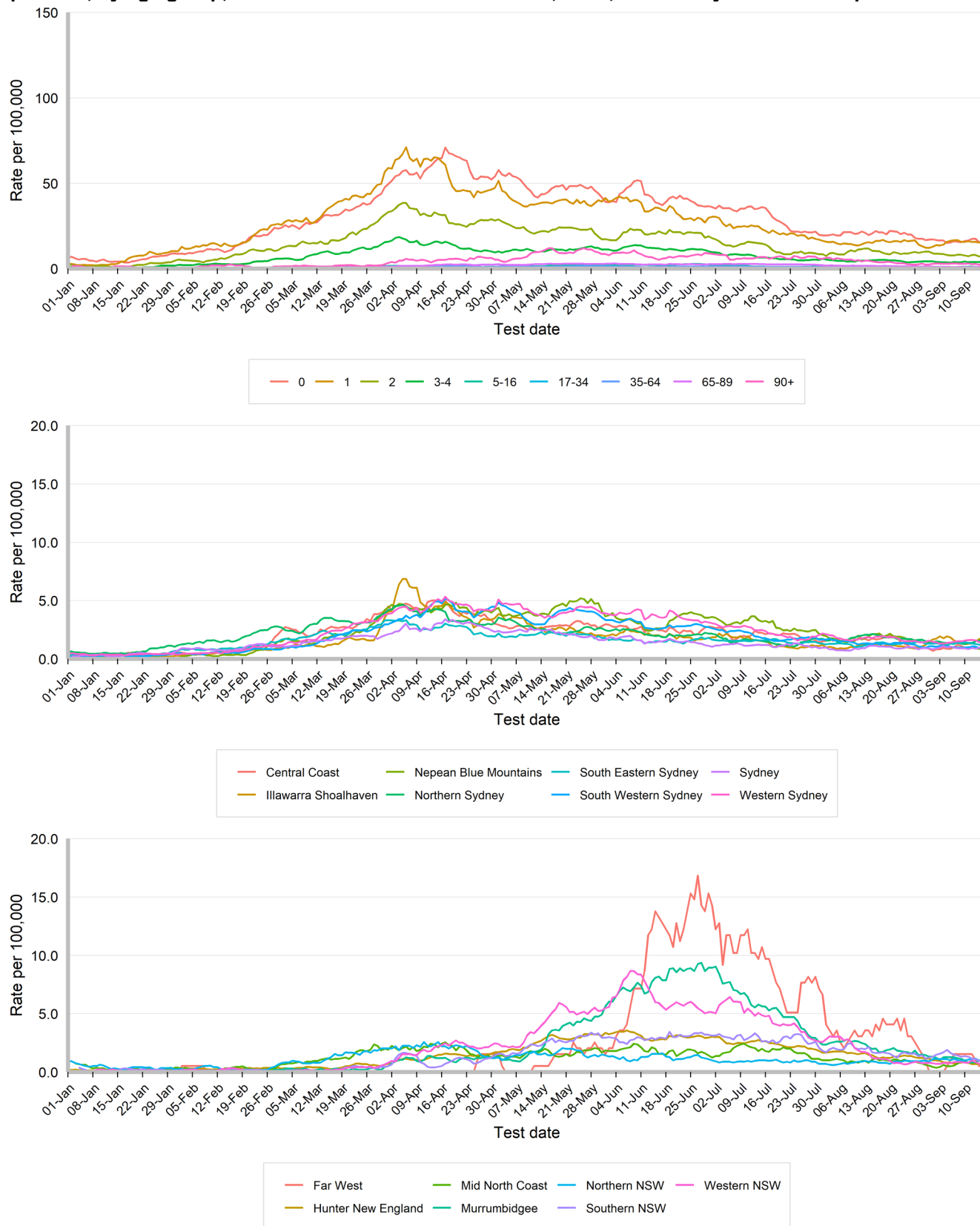
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 16 September 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates are stable across all ages 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 16 September 2023.

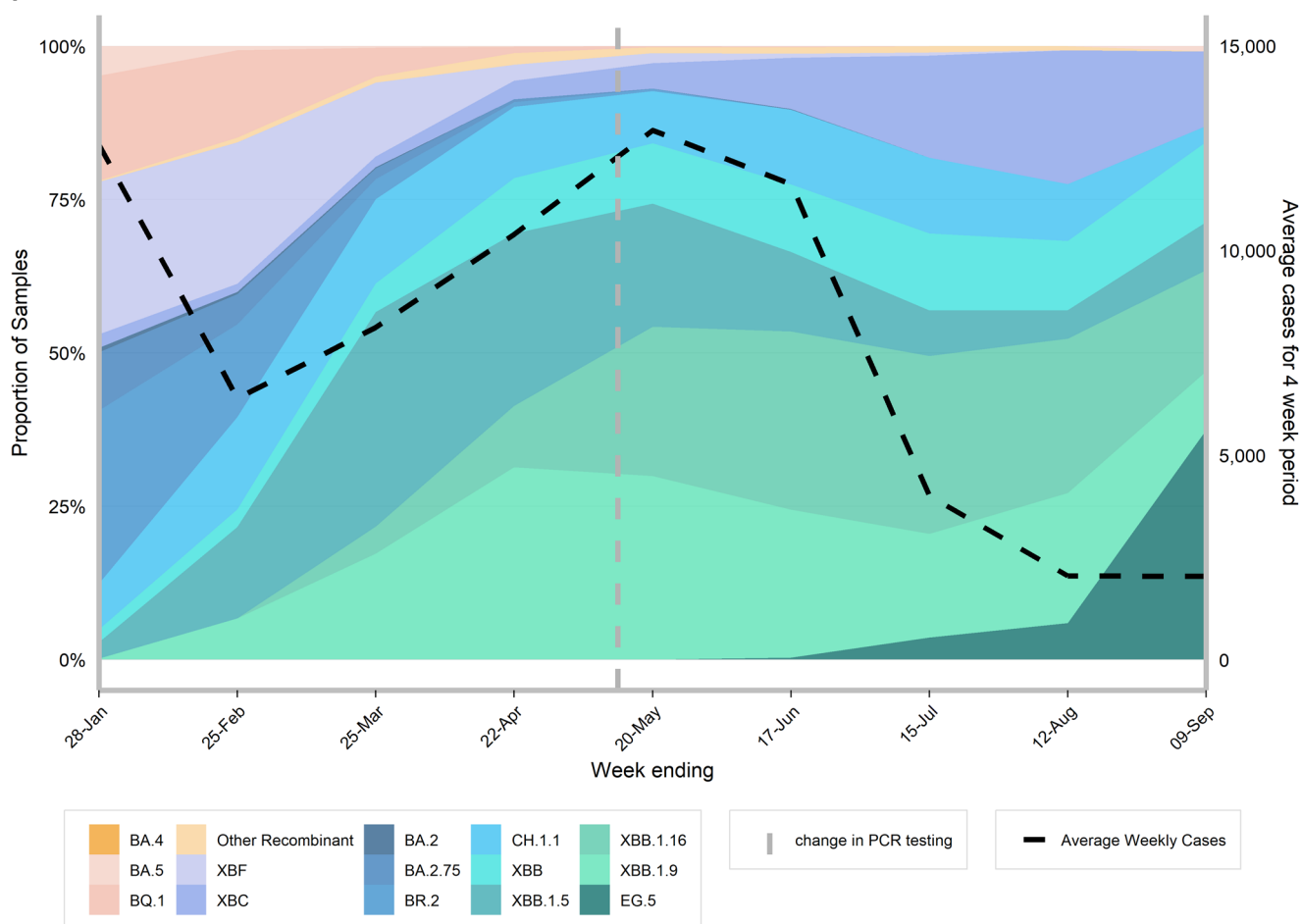


COVID-19 Whole Genome Sequencing

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. As the current number of specimens undergoing WGS is low, the data should be interpreted cautiously.

Interpretation: The proportion of samples identified with the EG.5 lineage is increasing. BA.2.86 has been detected in multiple countries but has not been detected in local samples received to date.

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



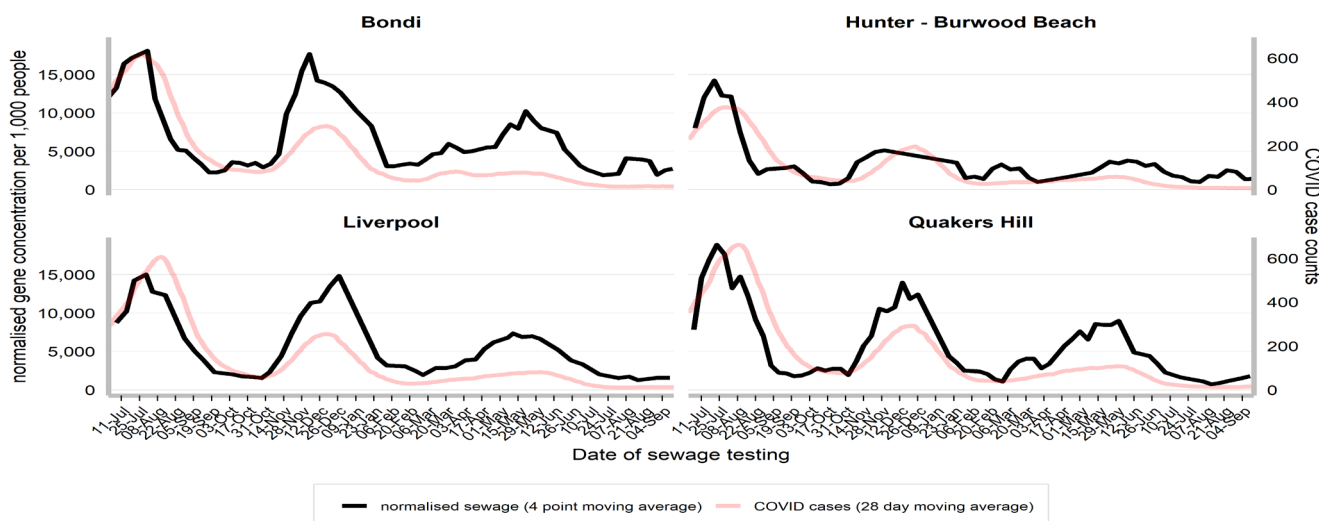
Other surveillance indicators

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 13 September 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 vary across the four sewage surveillance sites. Concentrations indicate COVID-19 transmission is continuing to occur at low levels.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 13 September 2023.

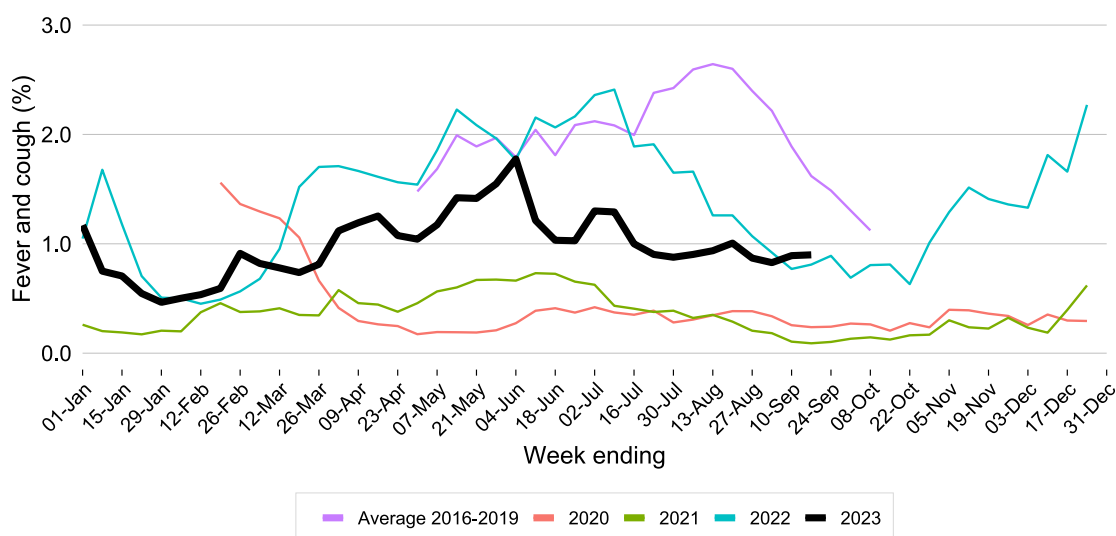


FluTracking and NSW sentinel laboratory network

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 participants reporting fever and cough is stable and now comparable to the same time point in 2022. It remains well below the average for 2016 – 2019.

Figure 11. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 17 September 2023.



Epidemiological week 37, ending 16 September 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 increased to 5.2% in the past week, comparable to levels in early July 2023. Influenza and RSV test positivity continue to decline. Rhinovirus continues to dominate respiratory virus detections and human metapneumovirus (HMPV) test positivity has increased further to 4.6%.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 17 September 2023.

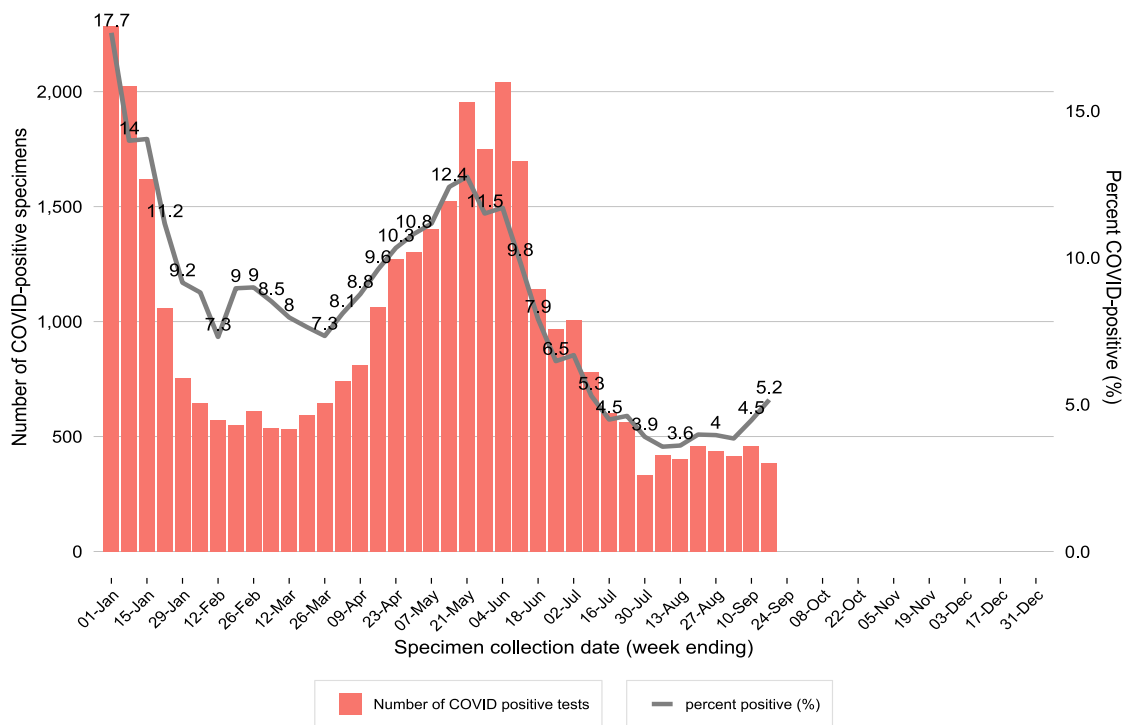


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 17 September 2023.

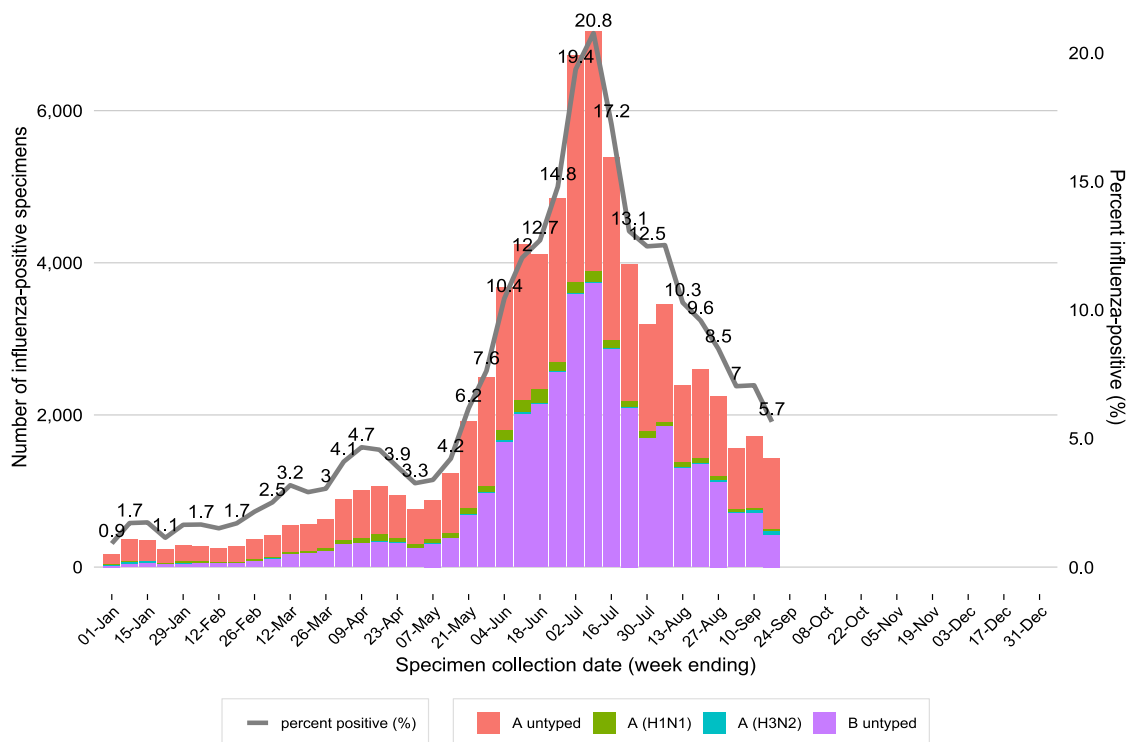


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 17 September 2023.

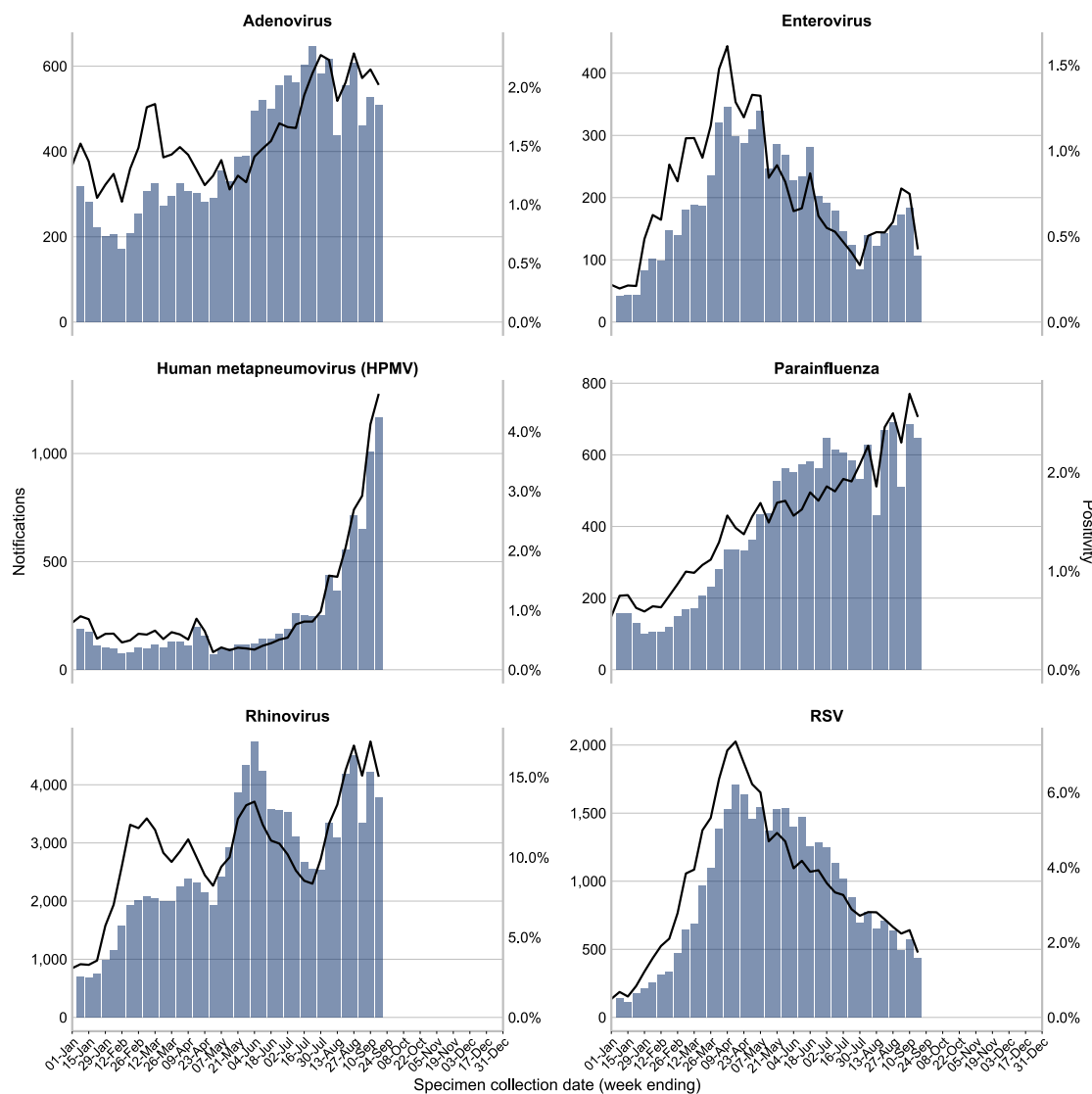


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 17 September 2023.

	Week ending				Year to date
	27 August	03 September	10 September	17 September	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	2,250 (8.5%)	1,560 (7.0%)	1,728 (7.1%)	1,424 (5.7%)	74,539
Adenovirus	607 (2.3%)	461 (2.1%)	526 (2.2%)	509 (2.0%)	15,027
Parainfluenza	690 (2.6%)	511 (2.3%)	684 (2.8%)	646 (2.6%)	15,009
Respiratory syncytial virus (RSV)	640 (2.4%)	496 (2.2%)	569 (2.3%)	436 (1.7%)	33,872
Rhinovirus	4,503 (17.0%)	3,349 (15.1%)	4,212 (17.2%)	3,787 (15.0%)	100,007
Human metapneumovirus (HMPV)	713 (2.7%)	648 (2.9%)	1,008 (4.1%)	1,168 (4.6%)	9,271
Enterovirus	155 (0.6%)	173 (0.8%)	183 (0.7%)	107 (0.4%)	6,924
Number of PCR tests conducted	26,525	22,181	24,444	25,199	939,230
SARS-CoV-2	438 (4.0%)	416 (3.8%)	460 (4.5%)	386 (5.2%)	36,359
Number of COVID PCR tests	11,055	10,813	10,296	7,477	425,497

Recent data is subject to change. For the week ending 17 September 2023, 10 of 13 sentinel laboratories provided PCR testing data related to influenza and 3 of 4 sentinel laboratories provided PCR data related to COVID.