

NSW Respiratory Surveillance Report - week ending 23 September 2023

COVID-19 activity remains at low levels however is gradually increasing across indicators. Influenza activity is at moderate levels. Respiratory syncytial virus (RSV) activity is moderate with notifications declining.

Summary

COVID-19 notifications increased by 10.5% in the past week and polymerase chain reaction (PCR) test positivity at sentinel laboratories is at 5.5%, similar to early July 2023. Emergency department (ED) presentations for COVID-19 are slowly increasing. Influenza notifications increased by 5% and PCR positivity is 5.8%; ED activity is stable. Respiratory syncytial virus (RSV) notifications declined by 12% overall in the past week (-15.7% in 0-4-year-olds) and PCR positivity is 1.8%. ED presentations for bronchiolitis in young children are stable. Human metapneumovirus test positivity is at 4.7%.

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 be published fortnightly from 13 October 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 number of people admitted to hospital, are useful for monitoring the severity of illness and impact on the health system.

Interpretation: An increase in ED presentations for COVID-19 was observed in the past week, predominantly in children aged 0 – 4 years. Presentations for influenza-like illness stabilised. Bronchiolitis presentations in young children remain stable 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.

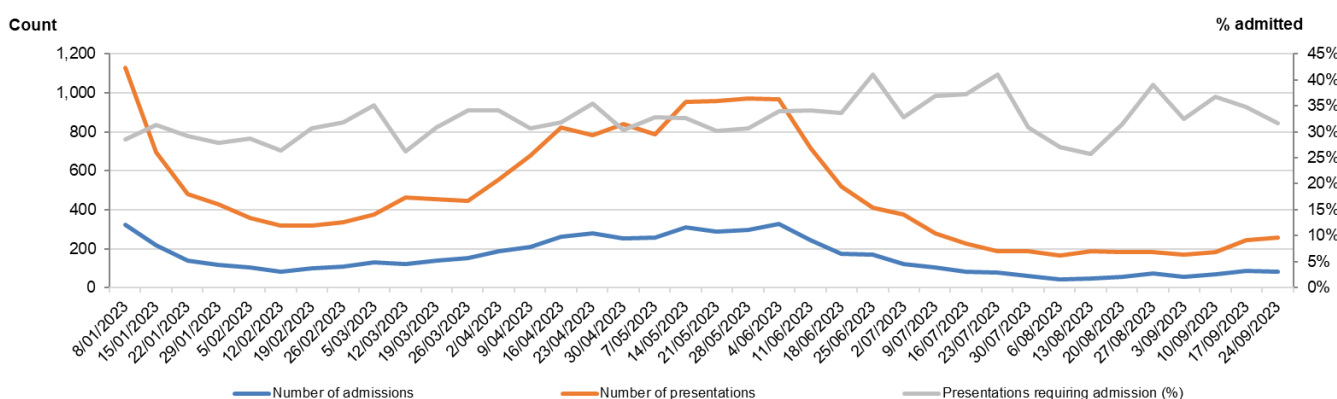


Figure 2. ‘Influenza-like illness’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

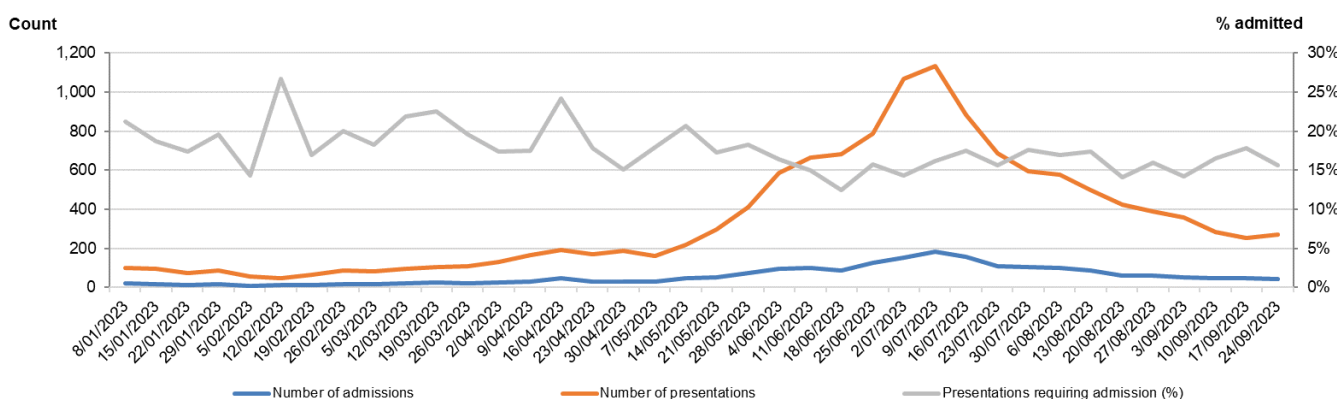
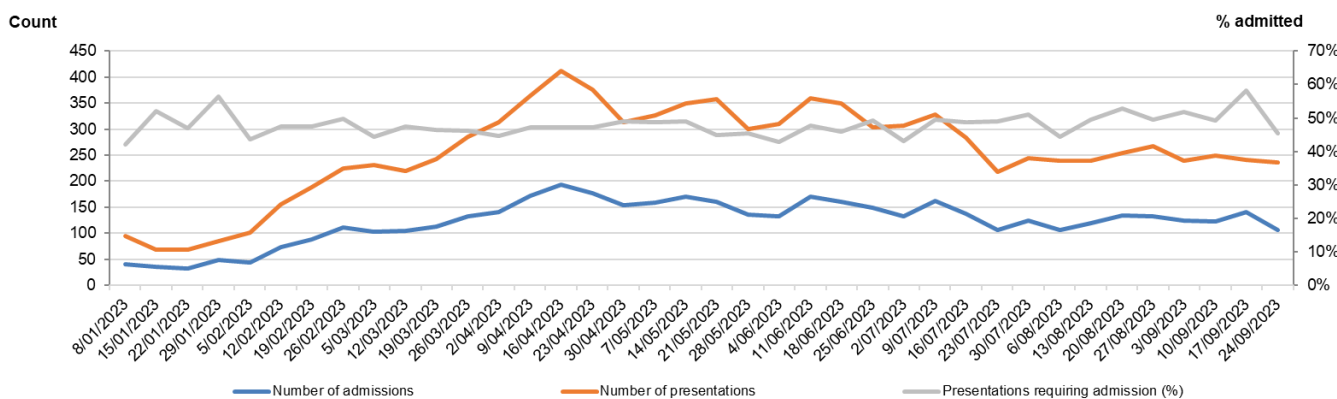


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



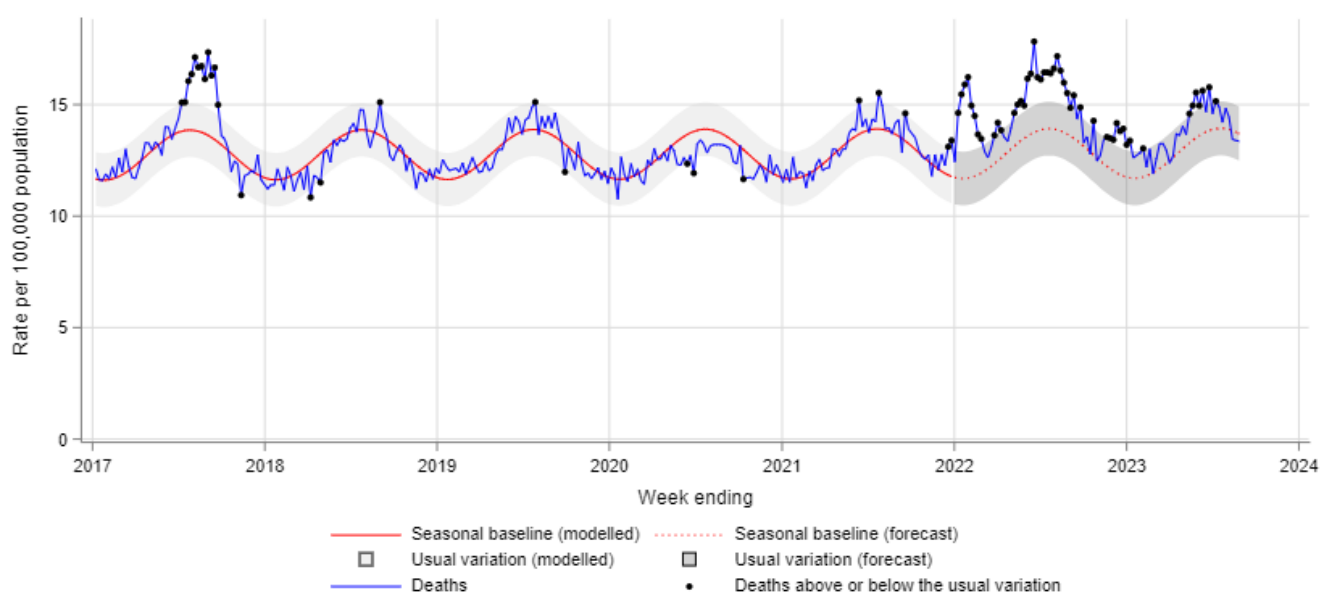
Death surveillance

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 27 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 23 July 2023 to 27 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.

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.

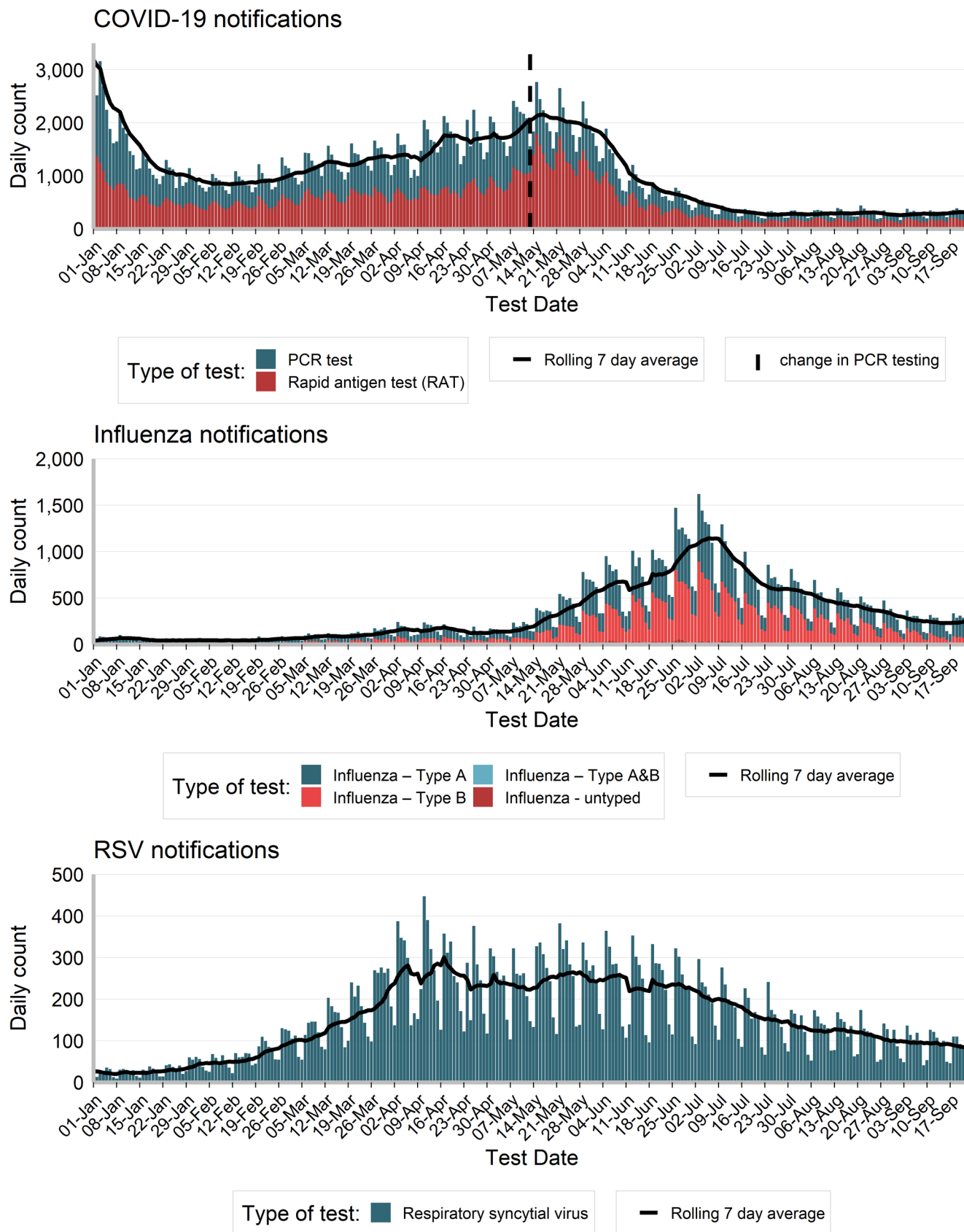
Interpretation: COVID-19 was the most common of the notifiable respiratory viruses in the past week. Increases in notifications occurred for children aged 0 – 4 years and adults aged 30 – 89 years and across most LHDs. The distribution of COVID-19, influenza and RSV across age-groups and Local Health Districts remains unchanged.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 23 September 2023.

	COVID		Influenza		RSV	
	Week ending 23 September 2023	Year to Date	Week ending 23 September 2023	Year to Date	Week ending 23 September 2023	Year to Date
Gender						
Female	1,282	157,239(58%)	873	43,816(51%)	305	21,156(52%)
Male	887	114,357(42%)	815	42,838(49%)	259	19,543(48%)
Age group (years)						
0-4	127	9,428(3%)	202	11,917(14%)	264	21,744(53%)
5-9	46	8,418(3%)	260	18,349(21%)	46	2,263(6%)
10-19	118	22,129(8%)	304	17,096(20%)	37	1,900(5%)
20-29	204	30,492(11%)	211	6,969(8%)	17	1,485(4%)
30-39	309	40,688(15%)	232	11,174(13%)	28	1,916(5%)
40-49	309	39,779(15%)	162	8,946(10%)	18	1,485(4%)
50-59	307	37,371(14%)	114	4,709(5%)	32	2,043(5%)
60-69	294	34,116(13%)	94	3,426(4%)	34	2,424(6%)
70-79	239	25,888(10%)	55	2,397(3%)	43	2,462(6%)
80-89	148	16,582(6%)	39	1,320(2%)	32	2,084(5%)
90+	77	6,991(3%)	12	360(0%)	13	897(2%)
Local Health District of residence						
Central Coast	100	12,855(5%)	22	2,751(3%)	33	1,921(5%)
Far West	20	784(0%)	7	168(0%)	0	207(1%)
Hunter New England	221	34,871(13%)	98	6,570(8%)	40	3,626(9%)
Illawarra Shoalhaven	132	17,083(6%)	107	4,238(5%)	33	2,032(5%)
Mid North Coast	50	6,140(2%)	9	1,998(2%)	12	730(2%)
Murrumbidgee	67	8,479(3%)	87	2,847(3%)	21	1,931(5%)
Nepean Blue Mountains	134	13,442(5%)	98	5,325(6%)	25	2,376(6%)
Northern NSW	38	7,786(3%)	28	3,081(4%)	19	881(2%)
Northern Sydney	253	33,209(12%)	217	10,801(12%)	76	5,385(13%)
South Eastern Sydney	270	28,955(11%)	148	7,481(9%)	79	3,875(10%)
South Western Sydney	277	28,590(11%)	285	13,524(16%)	59	5,709(14%)
Southern NSW	39	7,226(3%)	45	1,505(2%)	10	832(2%)
Sydney	184	22,690(8%)	126	5,501(6%)	51	2,611(6%)
Western NSW	92	10,804(4%)	37	2,214(3%)	12	1,713(4%)
Western Sydney	291	35,768(13%)	364	18,296(21%)	94	6,727(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	51	8,763(3%)	65	3,027(3%)	16	1,438(4%)
Not Aboriginal or Torres Strait Islander	1,673	200,002(74%)	927	45,518(52%)	271	19,636(48%)
Not Stated / Unknown	447	63,155(23%)	696	38,169(44%)	277	19,657(48%)
Total	2,171	271,920(100%)	1,688	86,714(100%)	564	40,731(100%)

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

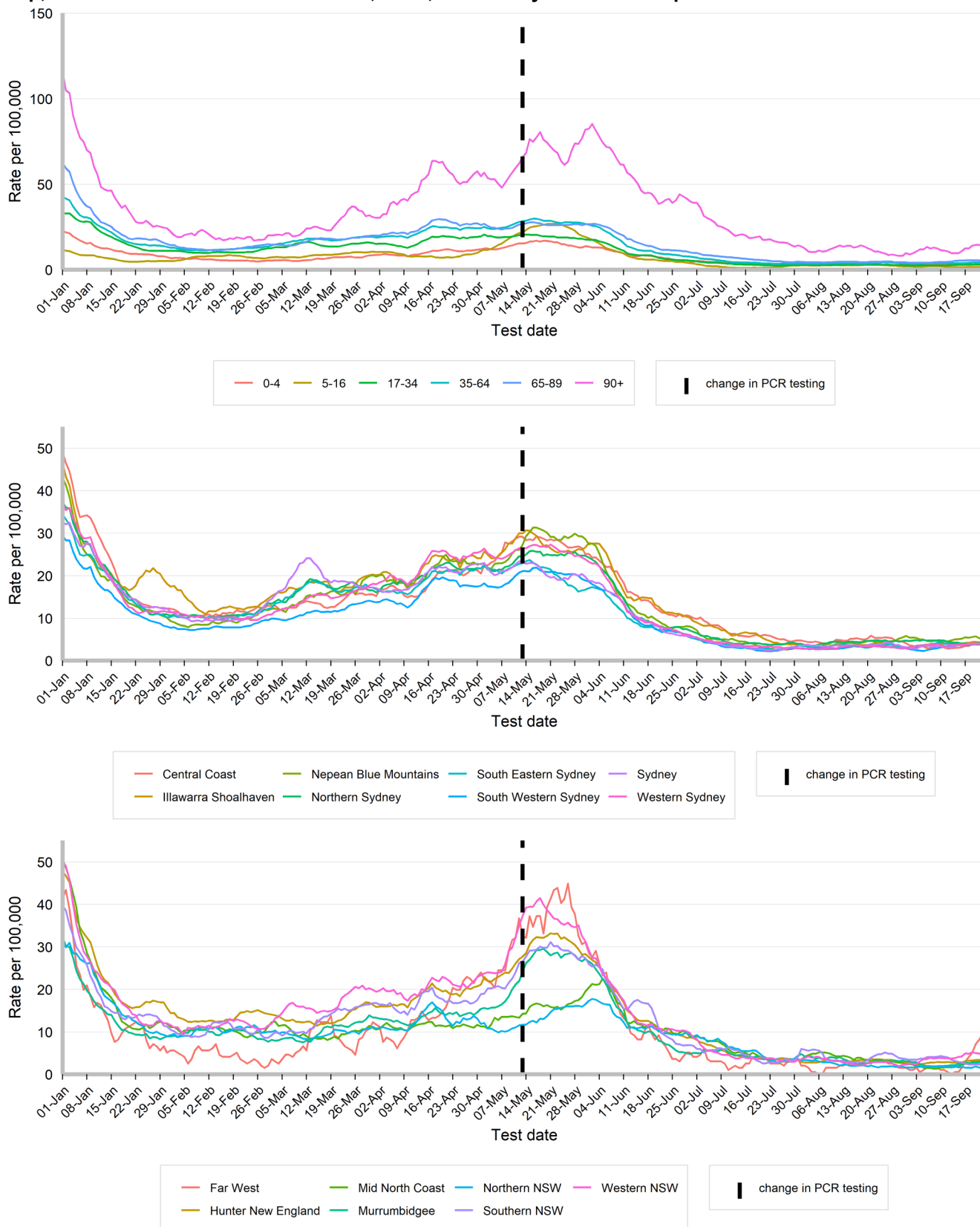
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 January 2023 to 23 September 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates are gradually increasing in people in children aged 0-4 years and adults aged 35 years and older. The increase in rates in the Far West LHD in the past week reflects a change from 3 notifications for the week ending 16 September to 20 for the week ending 23 September.

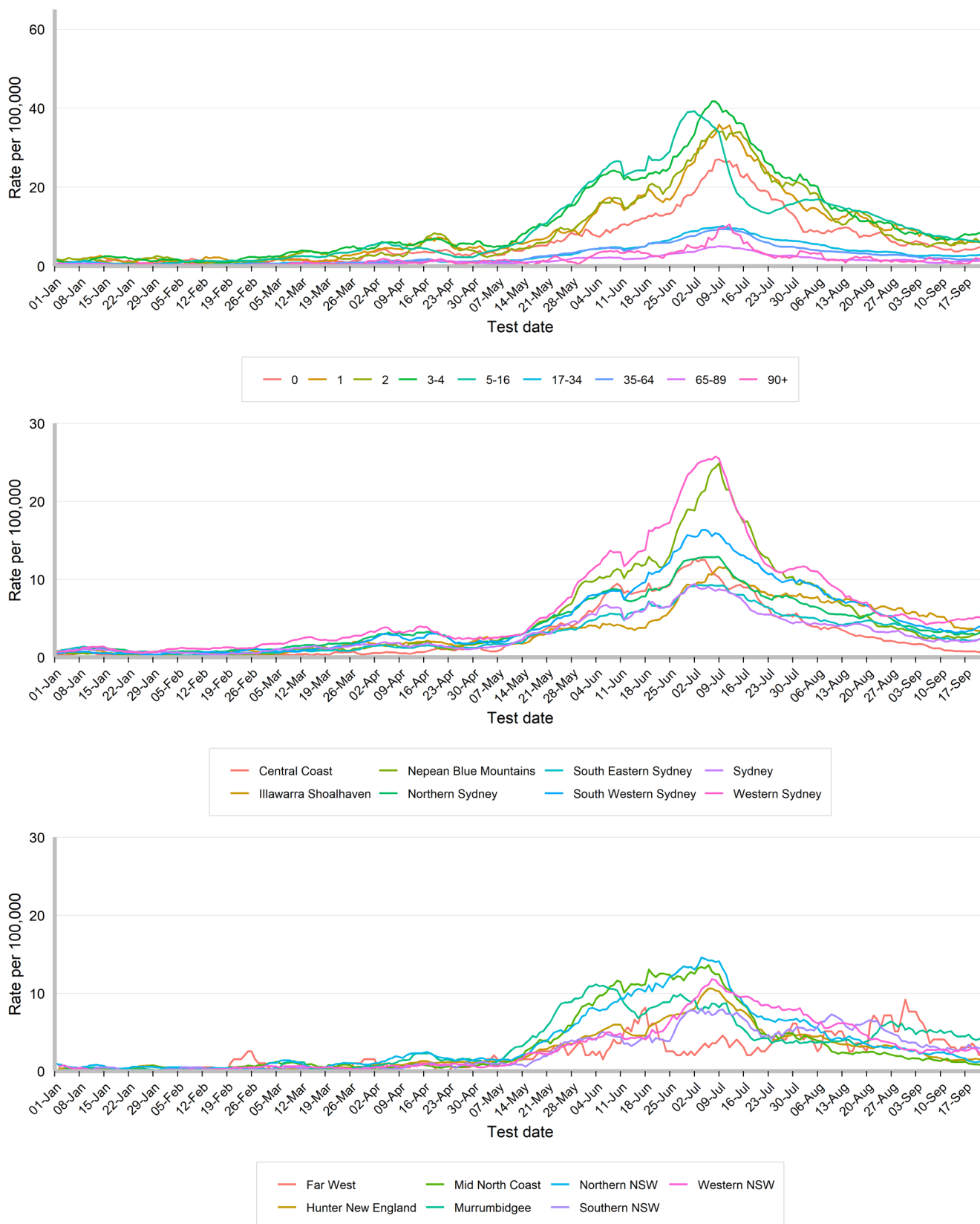
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 23 September 2023.



Rates of influenza notifications per 100,000 population

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

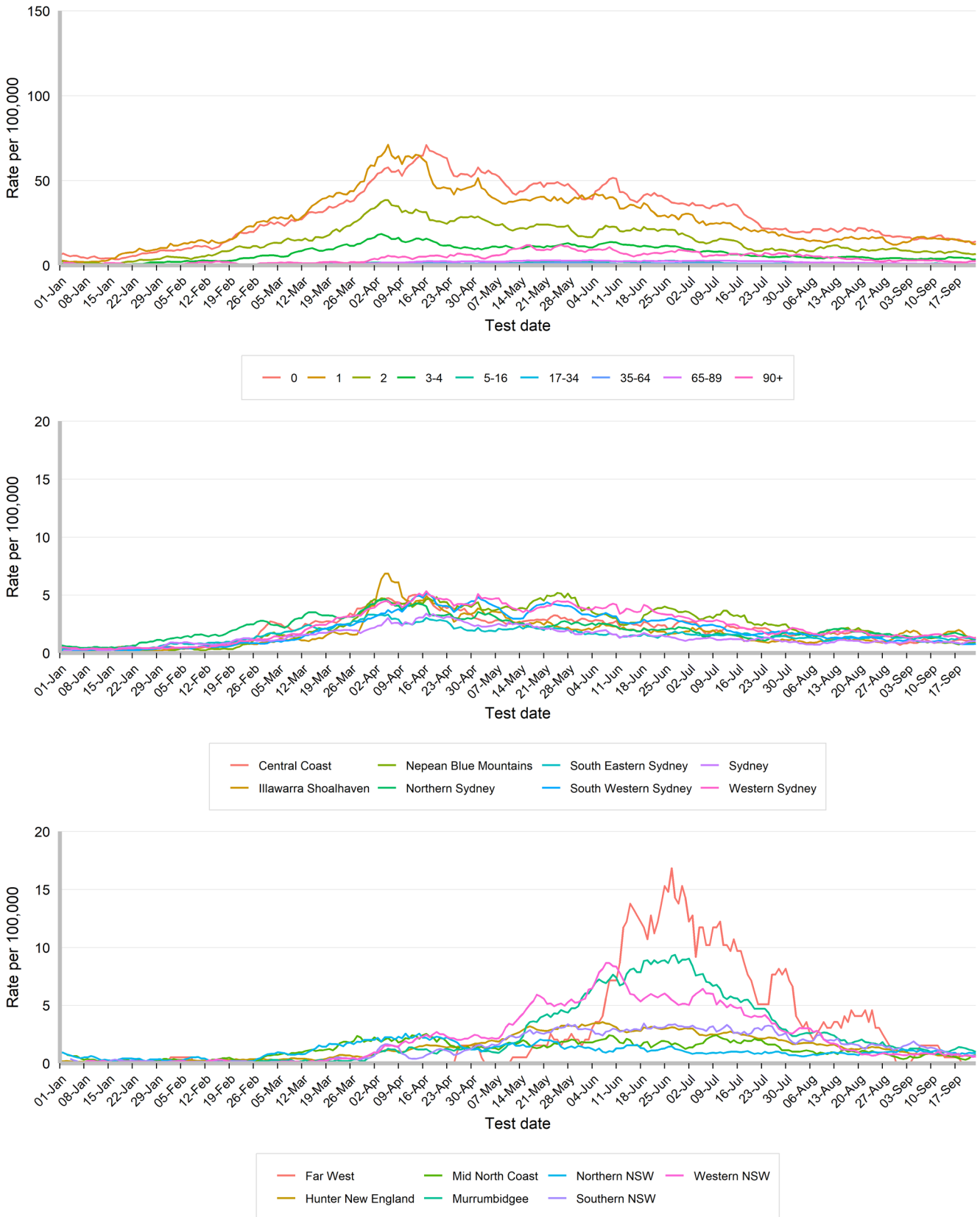
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 23 September 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates are stable or declining 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 23 September 2023.

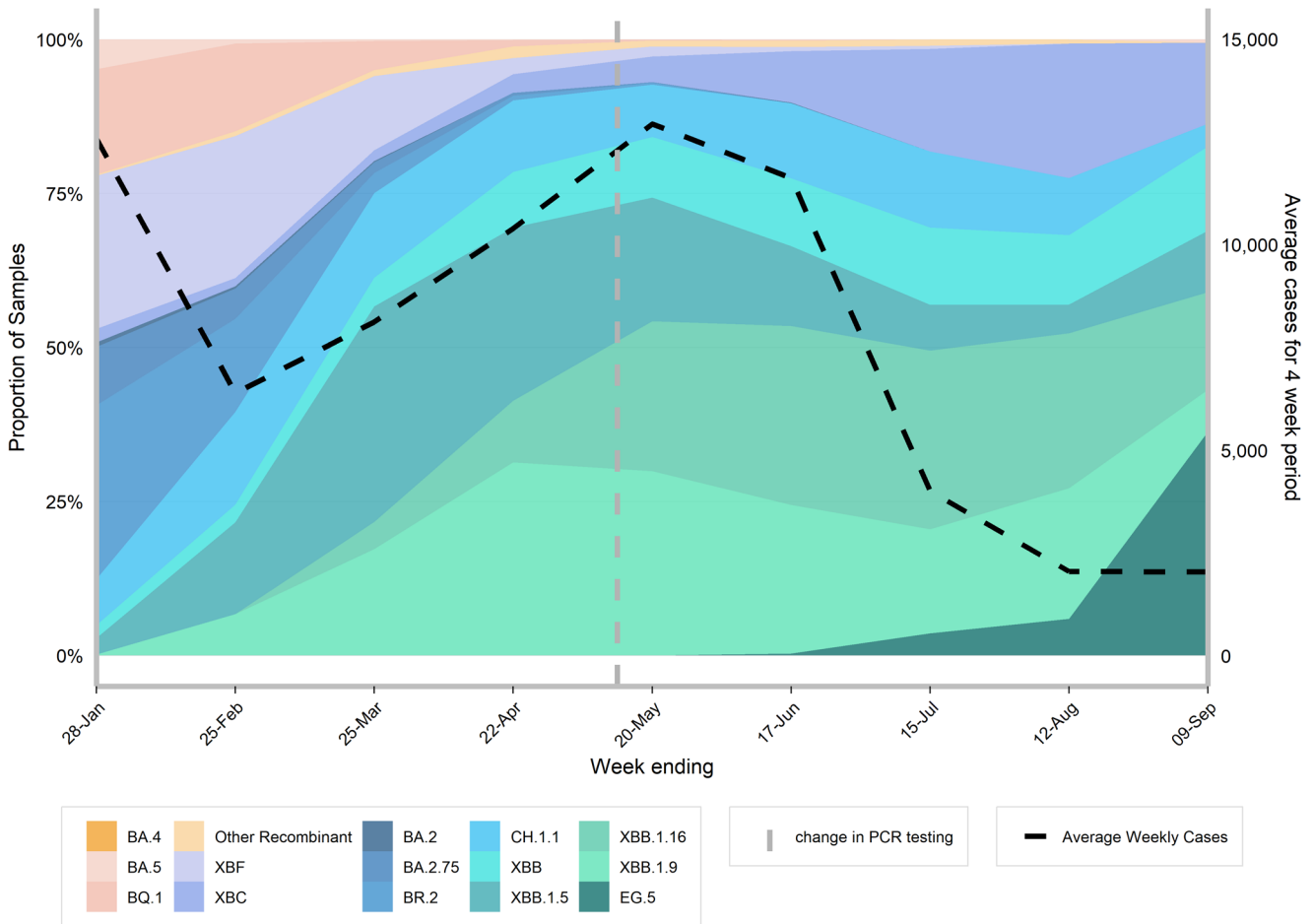


COVID-19 Whole Genome Sequencing

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 with the first Australian case identified in Western Australia in mid-September 2023. It has not been detected in NSW samples received to date.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 01 January 2023 to 09 September 2023.



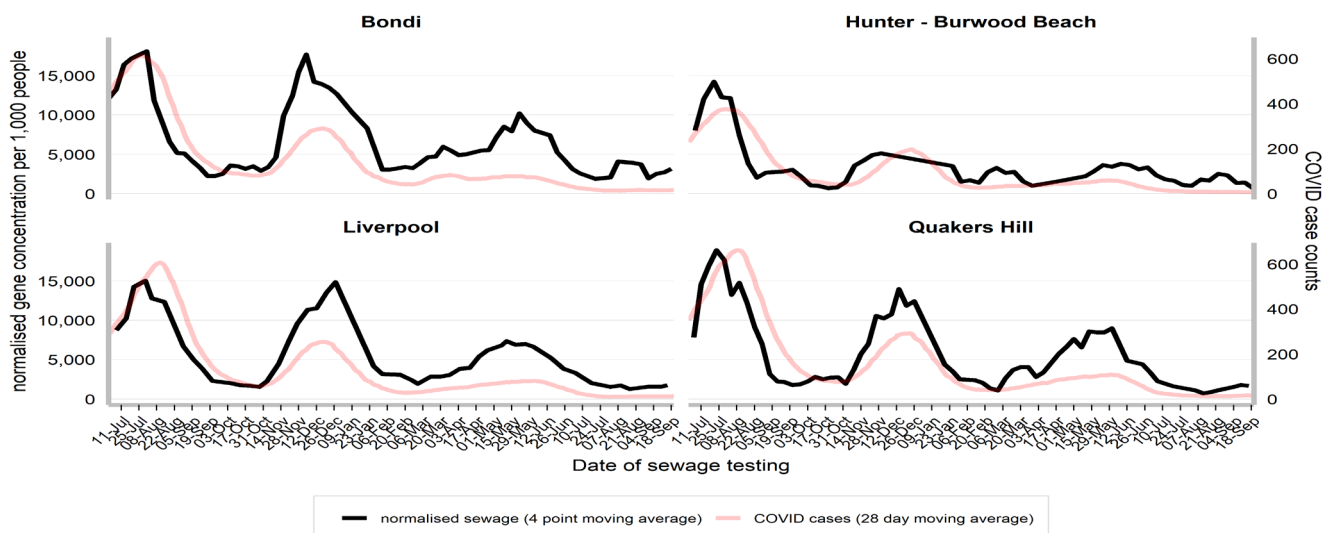
Other surveillance indicators

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 20 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 20 September 2023.

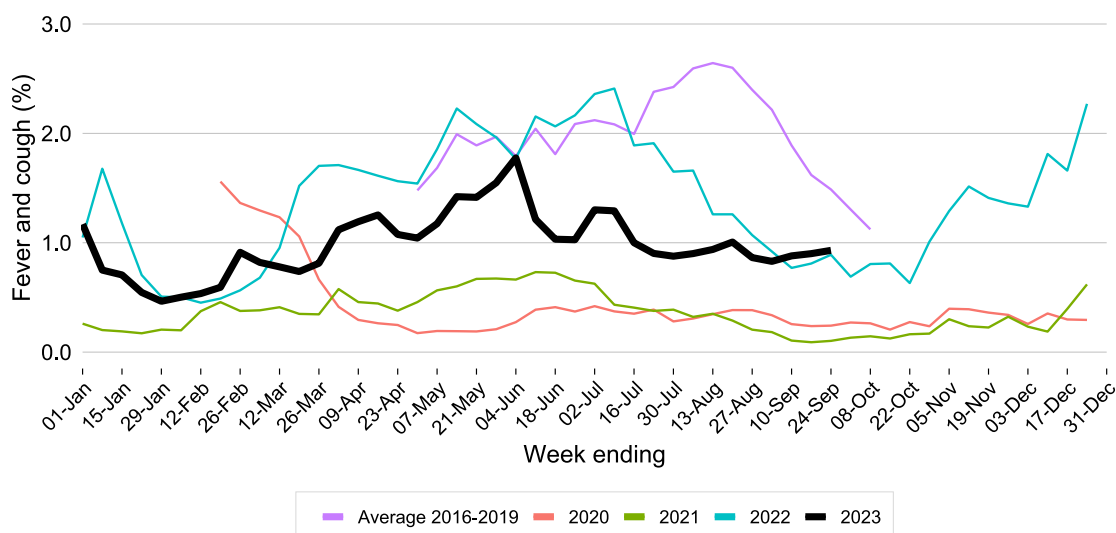


FluTracking and NSW sentinel laboratory network

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 comparable to the same time 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 24 September 2023.



Epidemiological week 38, ending 23 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 5.5% in the past week, comparable to levels in early July 2023. Influenza test positivity increased slightly to 5.8% and RSV test positivity continues to decline. Rhinovirus continues to dominate respiratory virus detections and human metapneumovirus (HMPV) test positivity has increased further to 4.7%.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 24 September 2023.

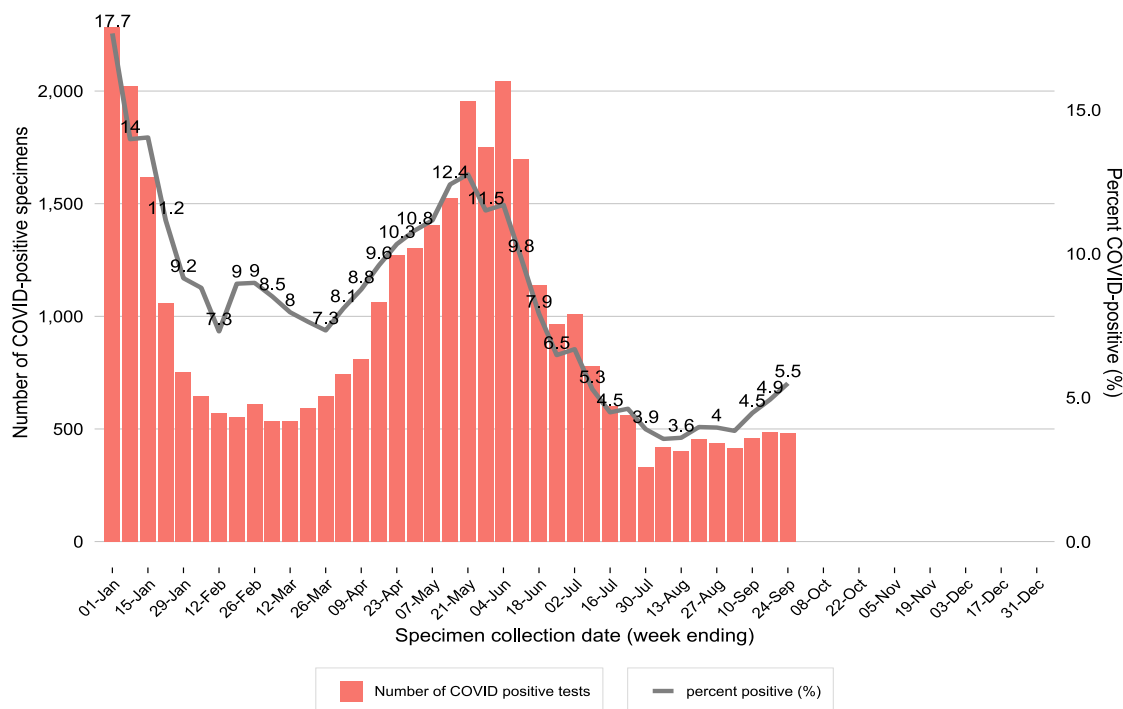


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 24 September 2023.

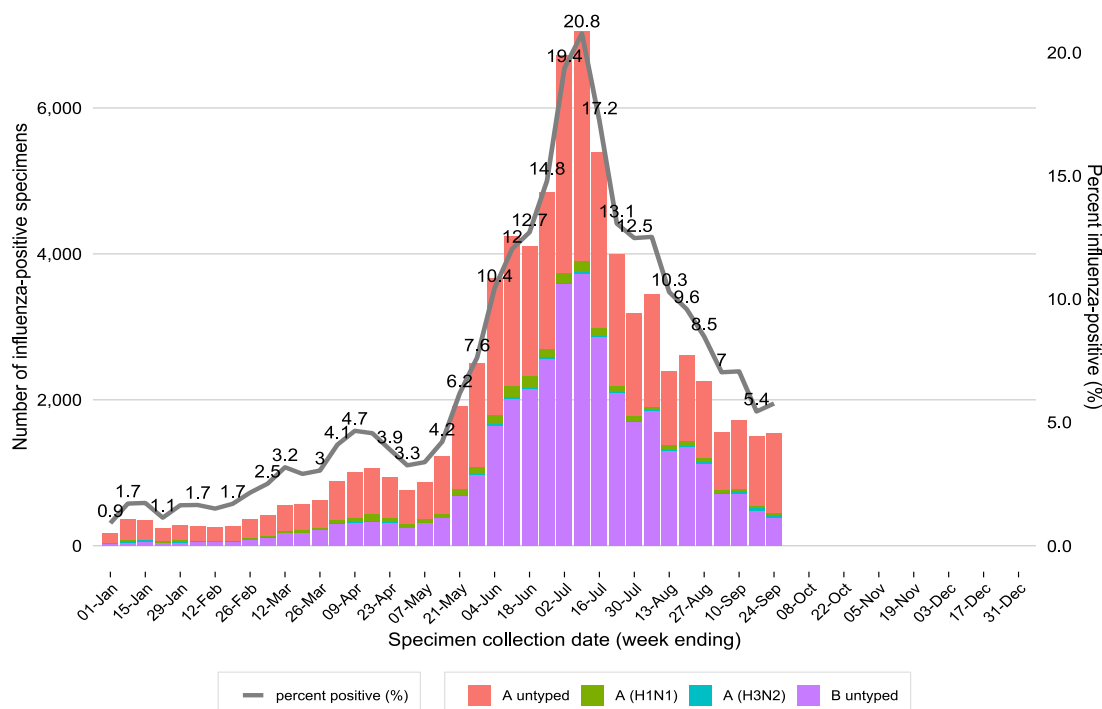


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 24 September 2023.

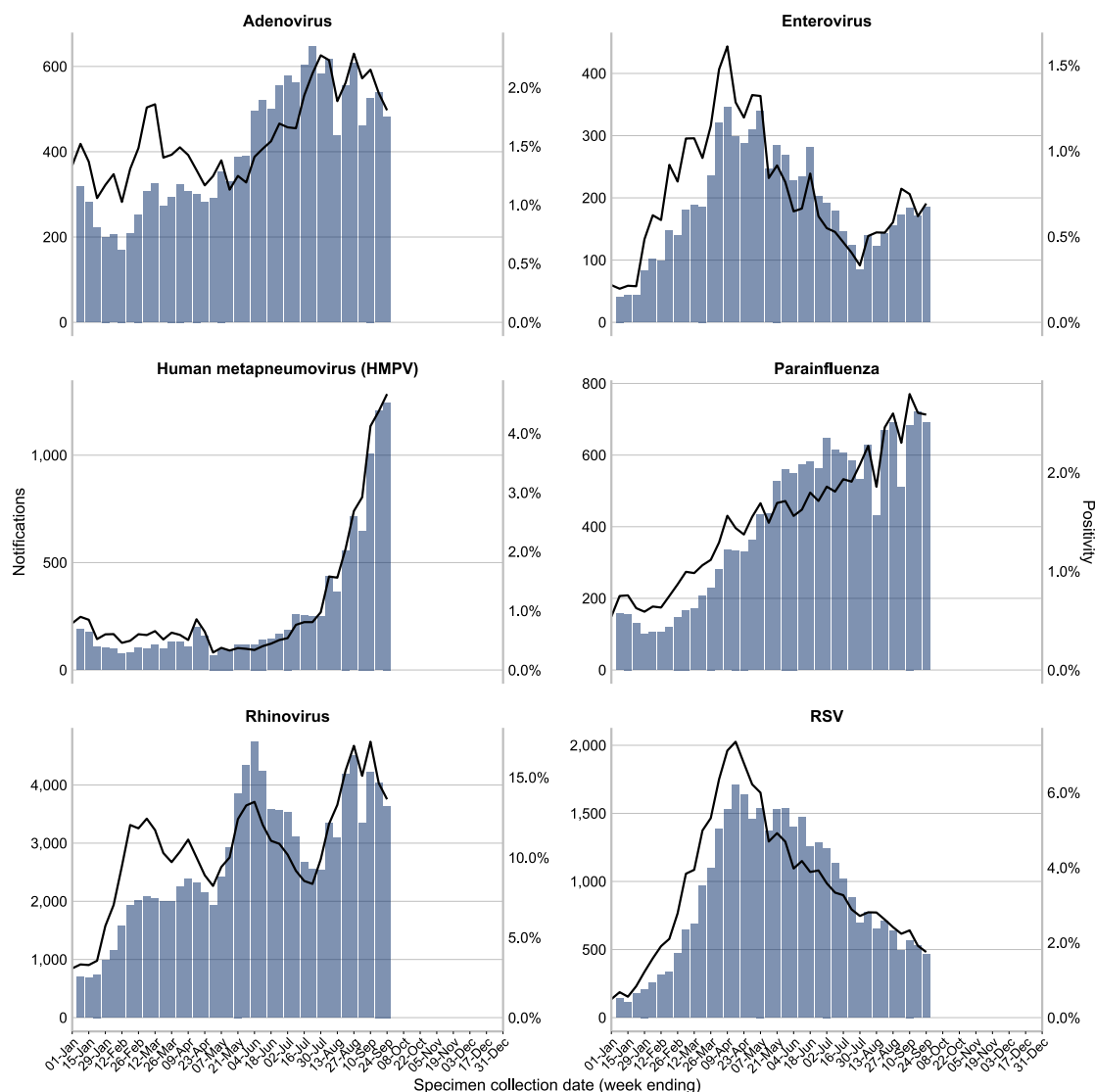


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW, in the four weeks to 24 September 2023.

	Week ending				Year to date
	03 September	10 September	17 September	24 September	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,560 (7.0%)	1,728 (7.1%)	1,503 (5.4%)	1,539 (5.8%)	76,157
Adenovirus	461 (2.1%)	526 (2.2%)	539 (2.0%)	482 (1.8%)	15,539
Parainfluenza	511 (2.3%)	684 (2.8%)	720 (2.6%)	691 (2.6%)	15,774
Respiratory syncytial virus (RSV)	496 (2.2%)	569 (2.3%)	529 (1.9%)	467 (1.8%)	34,432
Rhinovirus	3,349 (15.1%)	4,212 (17.2%)	4,042 (14.6%)	3,639 (13.6%)	103,901
Human metapneumovirus (HMPV)	648 (2.9%)	1,008 (4.1%)	1,208 (4.4%)	1,245 (4.7%)	10,556
Enterovirus	173 (0.8%)	183 (0.7%)	171 (0.6%)	185 (0.7%)	7,173
Number of PCR tests conducted	22,181	24,444	27,612	26,683	968,326
SARS-CoV-2	416 (3.8%)	460 (4.5%)	488 (4.9%)	483 (5.5%)	36,944
Number of COVID PCR tests	10,813	10,296	9,890	8,787	436,697

Recent data is subject to change. For the week ending 24 September 2023, 10 out of 13 sentinel laboratories provided PCR testing data related to influenza and 3 out of 4 sentinel laboratories provided PCR data related to COVID.