

NSW Respiratory Surveillance Report - week ending 20 May 2023

Summary

Community transmission of COVID-19 remains at high levels, influenza activity is increasing rapidly off a moderate base, RSV is stable at a moderate level.

NSW is continuing to experience elevated levels of transmission of respiratory viral infections, including COVID-19, influenza and respiratory syncytial virus (RSV) associated with the beginning of winter. Indicators which are not influenced by the amount of testing for COVID-19, including sewage and healthcare worker furloughing, continue to show moderate to high levels of COVID-19 transmission in the community.

Influenza notifications are rapidly increasing; 2,131 people were reported this week, an increase of 66% since the previous week. The increases were most notable in children (0-4 and 5-16 age groups). While RSV notifications increased by 20% since the previous week, though the rolling 7-day average number of notifications has remained relatively stable since late April 2023.

While COVID-19 remains the most commonly notified respiratory virus (13,684 notifications this week) there was only a small increase (1%) on the previous week. Notification rates continue to be highest for people aged 90 years and older and an increase has been observed in those aged 5 – 16 years since the beginning of May. This may be related to an increase in testing for respiratory viruses given the rise in influenza noted above.

We continue to monitor COVID-19 variants to understand changes in transmissibility and ability to cause significant illness. The evolving Omicron sublineages continue to drive community transmission by evading immunity.

Data sources and methods

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

Interpretation: Emergency department presentations for coronavirus have stabilised over the past week and the proportion resulting in admission to hospital has slightly declined. Consistent with the increasing notifications of laboratory-confirmed influenza, emergency department presentations for influenza-like illness also increased. However, there has not been a corresponding increase in the proportion of these presentations requiring hospital admission. There has been little change in RSV presentations and admissions.

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

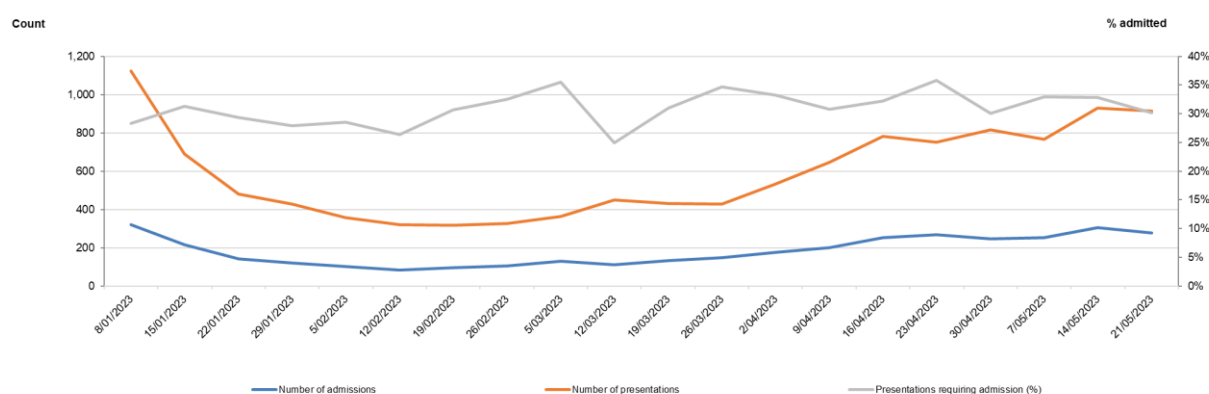


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

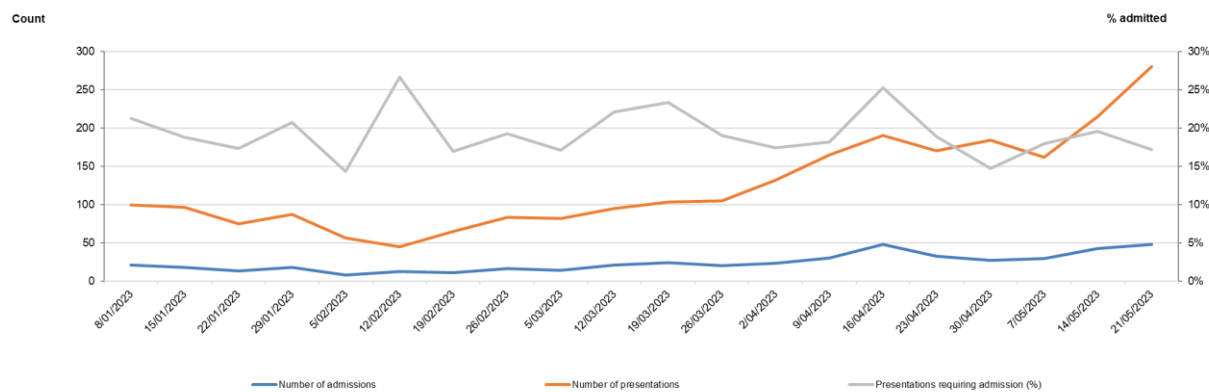
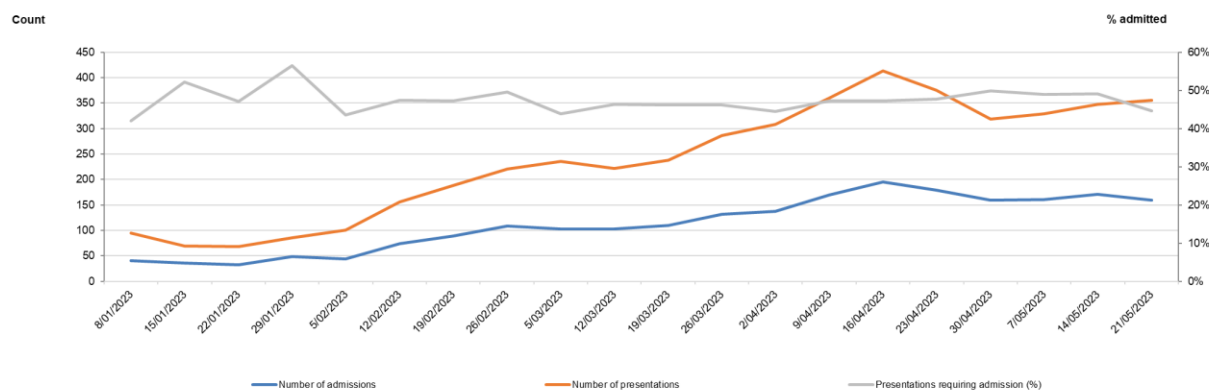


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



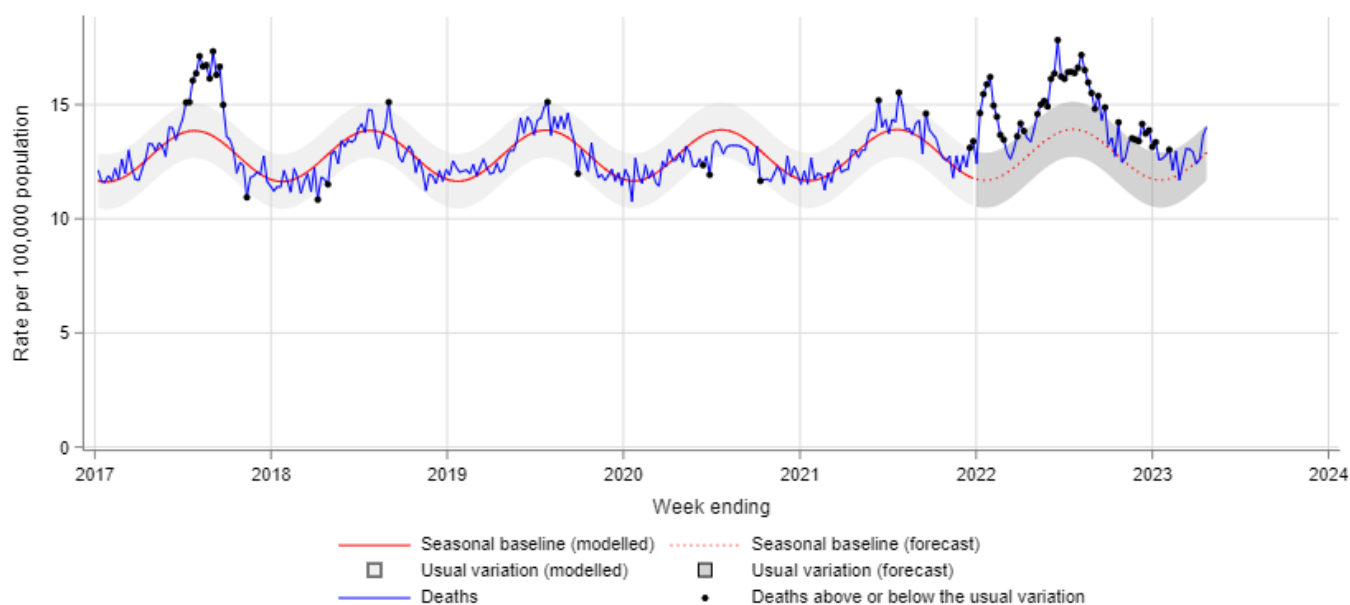
Death surveillance

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 23 April 2023.



Notes:

The model used to estimate the seasonal baseline has been modified since the last report.

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 19 March 2023 to 23 April 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. It is impacted by changes in testing behavior and access and is therefore not comparable to historic reporting periods that had high levels of case ascertainment. From 13 May 2023, PCR testing for COVID-19 is available only by referral from a doctor only (indicated by-- in Figures).

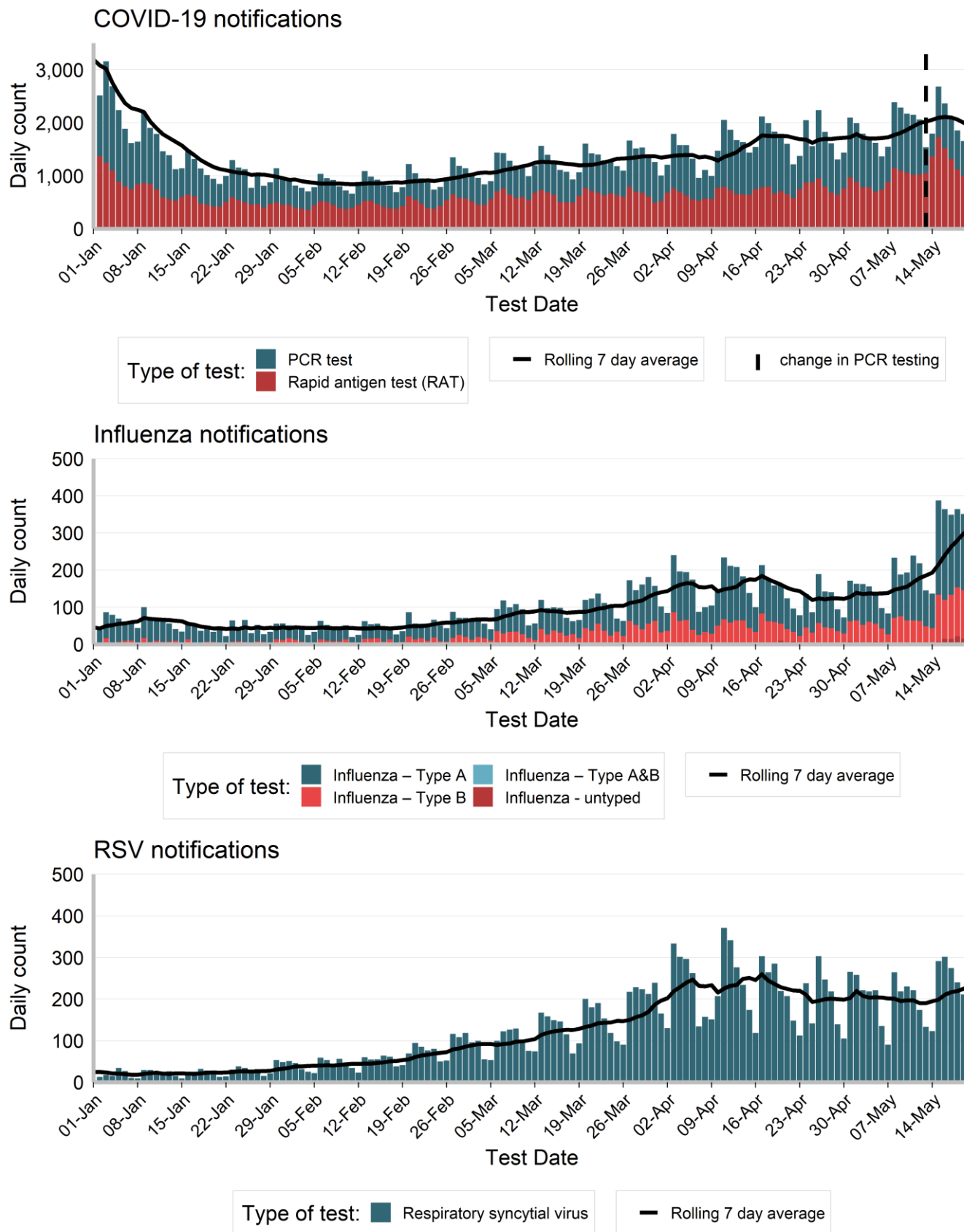
Interpretation: Most COVID-19 notifications continue to be for those aged 20 – 69 years however notification rates in this age group remain stable. Influenza is dominated by children and young people and is increasing rapidly in those populations (Figure 7). RSV notifications continue to be predominately associated with young children (1-4 years) and remain stable (Figure 8).

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 20 May 2023.

	COVID		Influenza		RSV	
	Week ending 20 May 2023	Year to Date	Week ending 20 May 2023	Year to Date	Week ending 20 May 2023	Year to Date
Gender						
Female	8,120	111,551(57%)	1,083	7,505(51%)	858	8,872(51%)
Male	5,547	82,580(42%)	1,044	7,219(49%)	715	8,445(49%)
Age group (years)						
0-4	538	6,205(3%)	257	2,090(14%)	784	10,803(62%)
5-9	712	5,691(3%)	527	3,076(21%)	79	724(4%)
10-19	1,701	15,265(8%)	439	2,322(16%)	86	562(3%)
20-29	1,234	23,120(12%)	132	1,163(8%)	56	525(3%)
30-39	2,004	29,885(15%)	231	1,812(12%)	72	737(4%)
40-49	2,111	28,468(15%)	226	1,580(11%)	65	508(3%)
50-59	1,718	27,014(14%)	147	985(7%)	73	687(4%)
60-69	1,426	25,095(13%)	80	780(5%)	103	883(5%)
70-79	1,070	18,601(10%)	52	561(4%)	116	831(5%)
80-89	780	10,768(6%)	30	291(2%)	93	728(4%)
90+	399	4,219(2%)	8	72(0%)	47	327(2%)
Local Health District of residence						
Central Coast	649	8,765(5%)	83	347(2%)	64	1,008(6%)
Far West	75	513(0%)	5	25(0%)	3	8(0%)
Hunter New England	2,031	24,737(13%)	185	979(7%)	187	1,097(6%)
Illawarra Shoalhaven	762	12,143(6%)	88	759(5%)	79	1,164(7%)
Mid North Coast	241	4,039(2%)	63	247(2%)	22	330(2%)
Murrumbidgee	574	5,658(3%)	107	428(3%)	83	284(2%)
Nepean Blue Mountains	763	9,380(5%)	125	654(4%)	113	1,035(6%)
Northern NSW	259	5,242(3%)	81	496(3%)	44	485(3%)
Northern Sydney	1,573	23,661(12%)	302	2,380(16%)	134	2,797(16%)
South Eastern Sydney	1,347	21,807(11%)	207	1,428(10%)	128	1,915(11%)
South Western Sydney	1,451	20,143(10%)	285	2,199(15%)	248	2,434(14%)
Southern NSW	424	4,883(3%)	28	149(1%)	38	200(1%)
Sydney	900	16,977(9%)	149	1,170(8%)	79	1,260(7%)
Western NSW	735	7,695(4%)	44	230(2%)	113	446(3%)
Western Sydney	1,876	26,237(13%)	375	3,170(22%)	234	2,807(16%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	497	6,183(3%)	74	394(3%)	57	566(3%)
Not Aboriginal or Torres Strait Islander	9,995	141,856(73%)	1,084	7,875(53%)	812	8,540(49%)
Not Stated / Unknown	3,194	46,312(24%)	973	6,473(44%)	706	8,218(47%)
Total	13,686	194,351(100%)	2,131	14,742(100%)	1,575	17,324(100%)

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

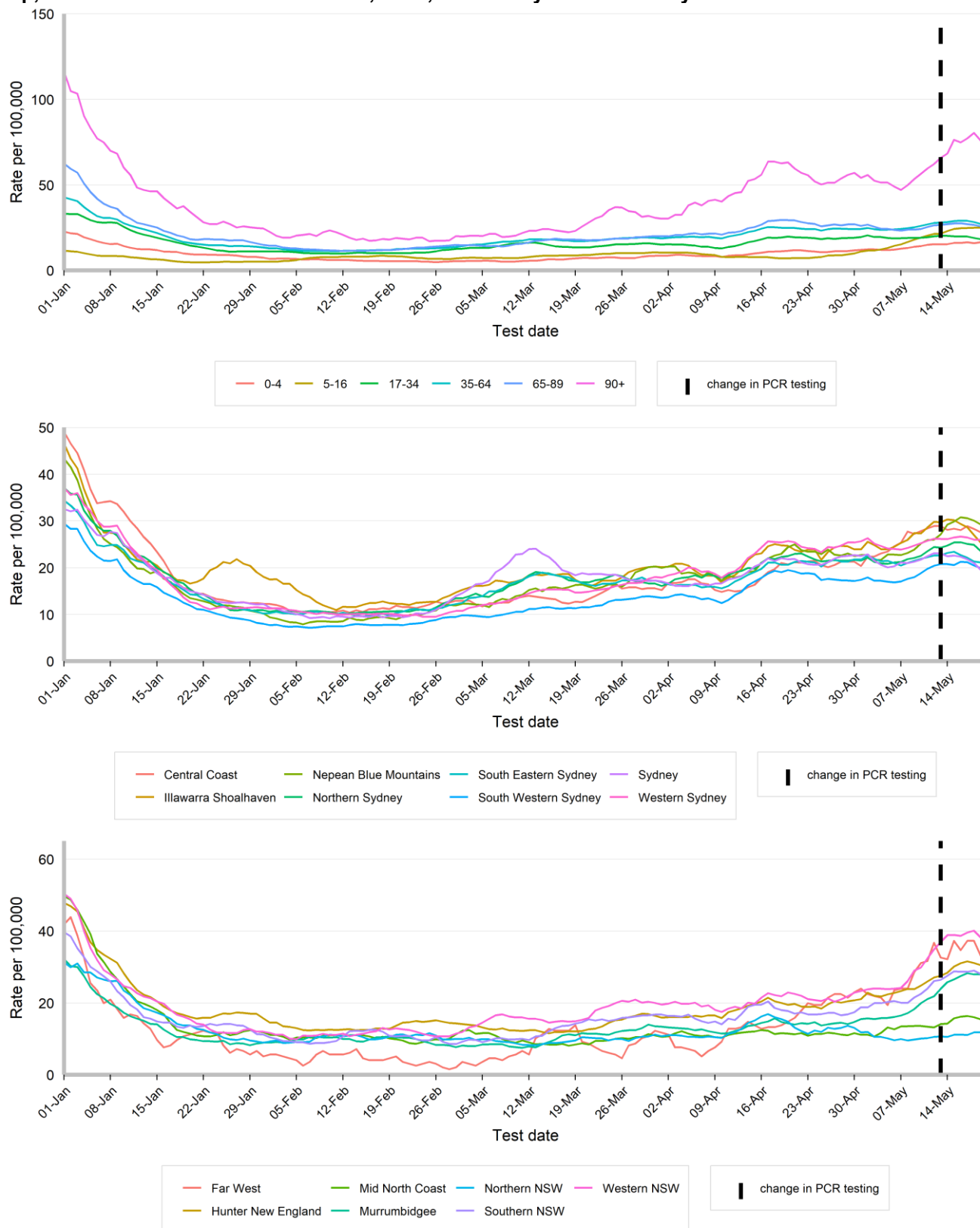
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 January 2023 to 20 May 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: Those aged 90 and over continue to experience the highest notification rate. While a small decline was observed in the past few days it is too early to suggest the progressive increase in notifications since mid-March is beginning to slow. The increase in notification rates for young people aged 5 – 16 observed since the beginning of May follows the trend for influenza notification rates (Figure 7) and is most likely due to testing patterns.

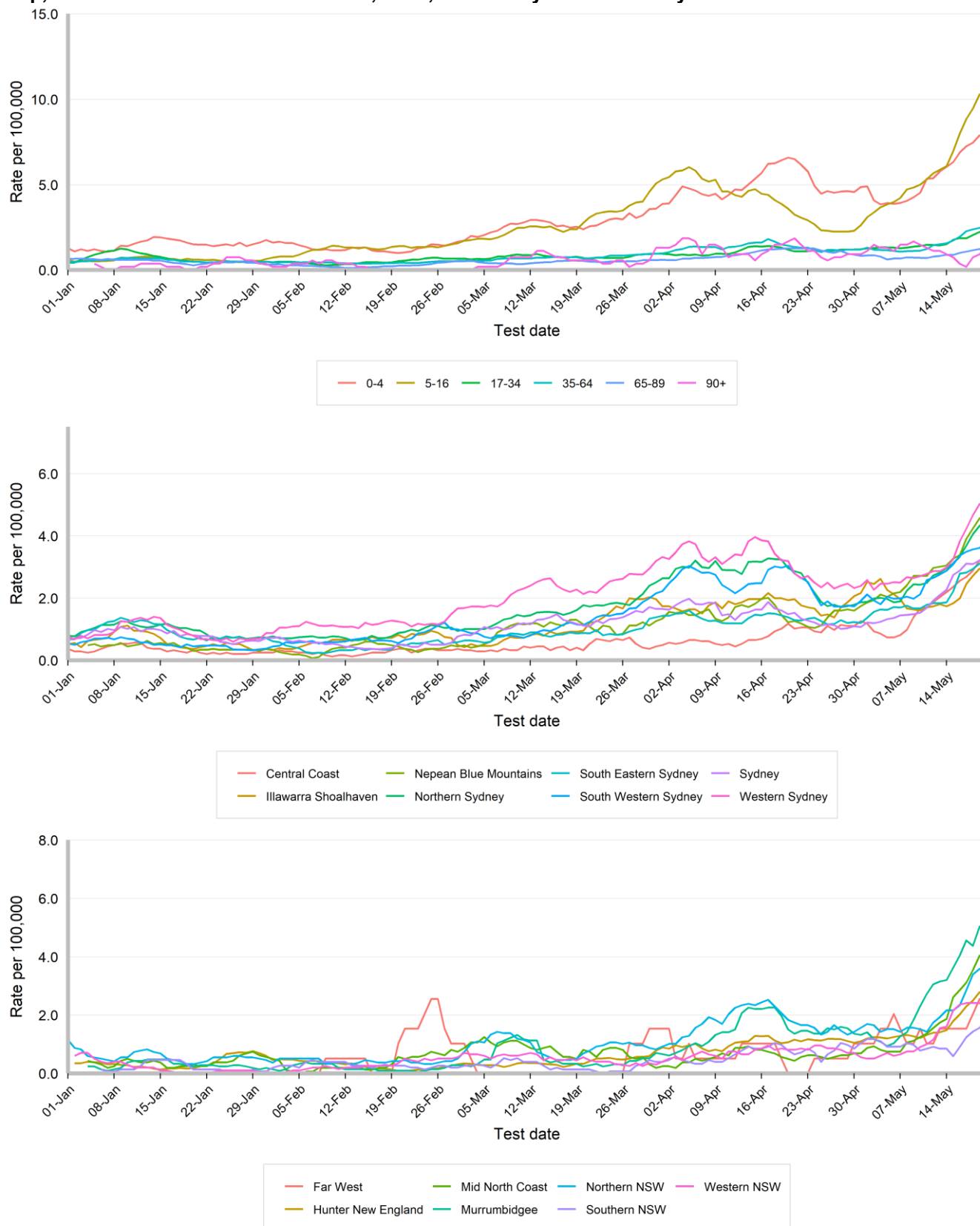
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 20 May 2023.



Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications have begun to increase in all age groups and Local Health Districts as winter approaches, with steep rises observed in children and young people aged less than 17 years. This may be explained by greater levels of social mixing associated with schools and childcare and/or higher rates of testing in this age group and/or lower rates of vaccine uptake.

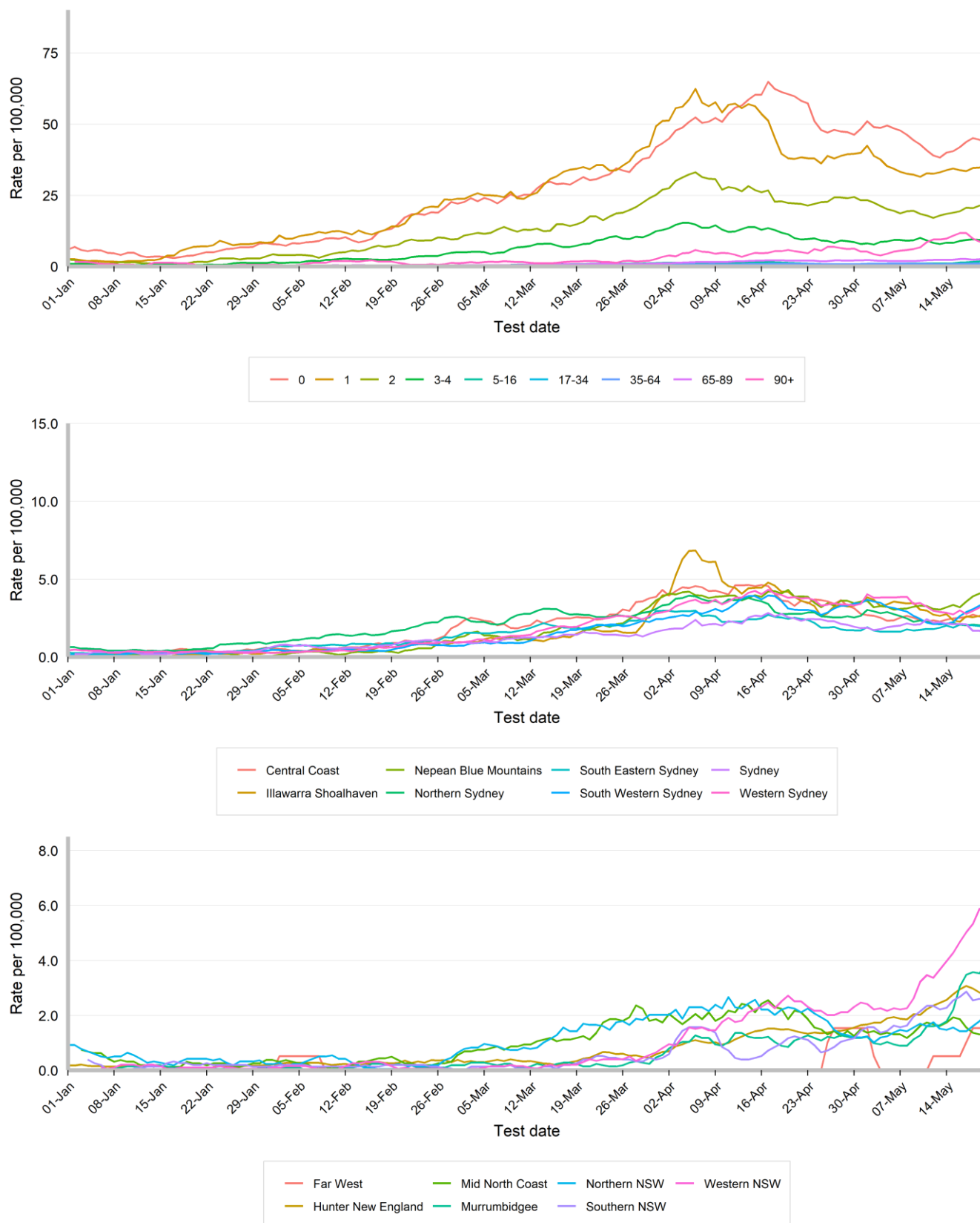
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 20 May 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates continue to be highest in infants and toddlers less than 3 years of age however these appear to be stable in the 1- and 2-year-olds. Rates in persons aged 90 years and over continued to increase and this may reflect either an actual increase in RSV or a result of respiratory illness testing given increases observed in COVID-19 in this age group over recent weeks.

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 20 May 2023.

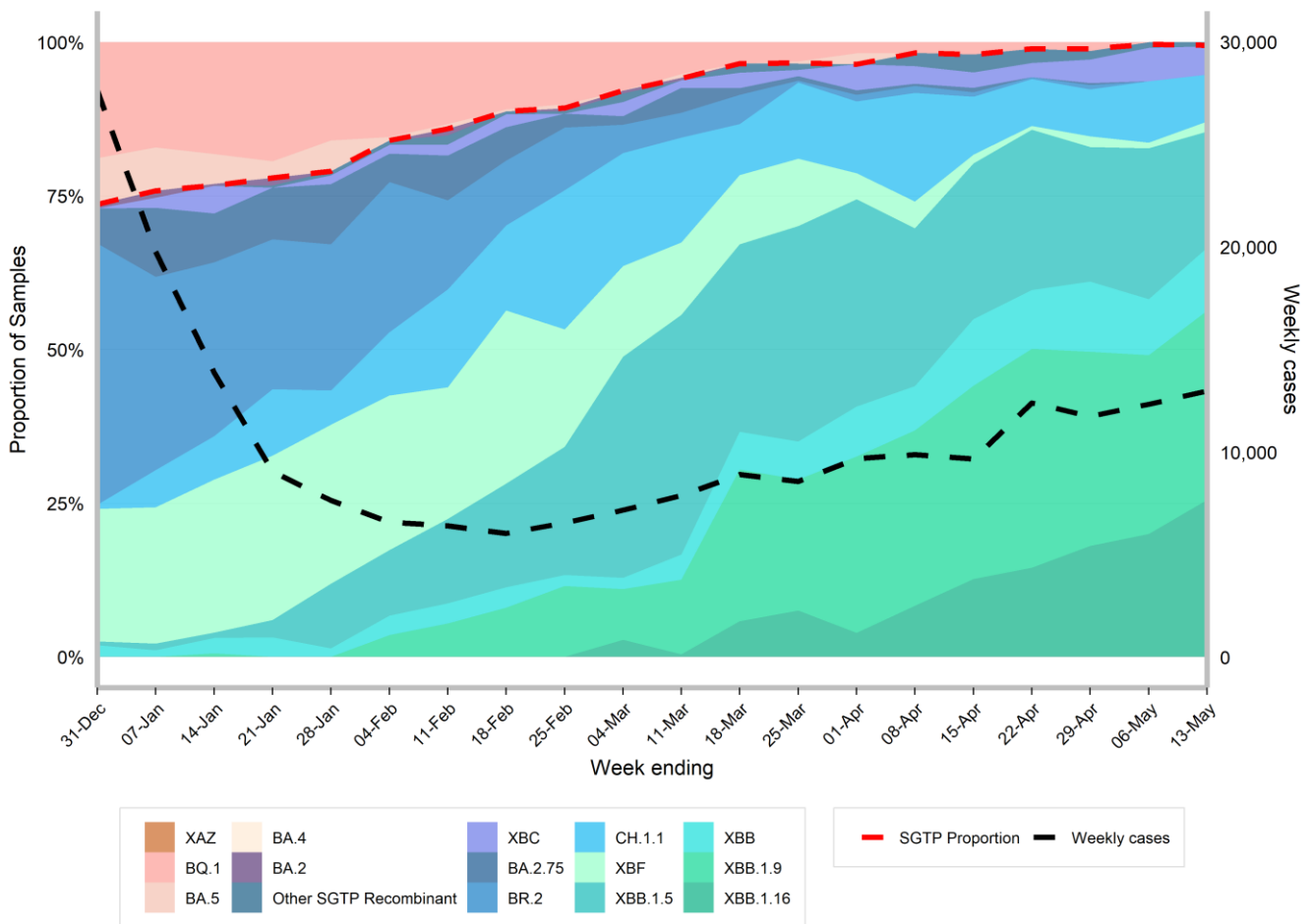


COVID-19 Whole Genome Sequencing

Specimens from people with COVID-19 who are admitted to hospital or an ICU are prioritised to identify and understand lineages with increased disease severity. Specimens from overseas arrivals are also prioritised to monitor for the introduction of new variants into the community. This is not a random sample, therefore the proportion of sequences identified is not necessarily reflective of their distribution in the community. There is a lag between the date a PCR test is taken and the date that the results of WGS are reported, therefore the count of sequences for recent dates will increase over time. A PCR testing platform used by a large private pathology provider in NSW can routinely report on detection of the S gene in a specimen positive for SARS-CoV-2. Around 99.5% of SARS-CoV-2 positive specimens currently have an S gene detected (Figure 9).

Interpretation: XBB sublineages account for most samples sequenced from the community. XBB.1.16 continues to increase as a proportion of all samples tested.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 01 January 2023 to 20 May 2023.



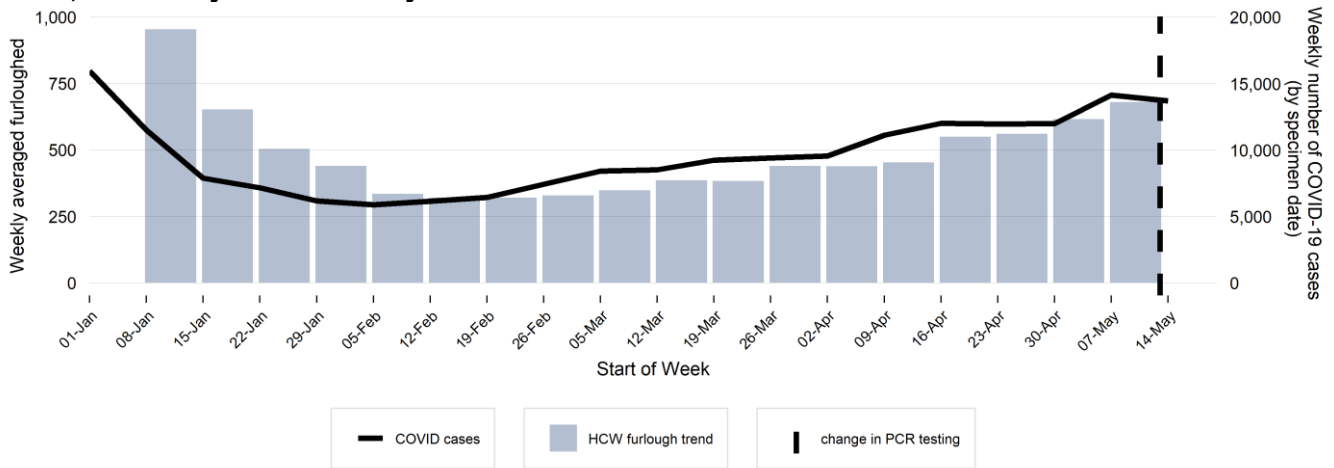
Other surveillance indicators

NSW Healthcare worker furloughing

Healthcare workers are included in these statistics if they are in isolation and unable to work due to testing positive to COVID-19, exposure to COVID-19, and/or whilst waiting for a negative test result. This indicator is helpful to assess the level of COVID-19 circulating in the community when community testing decreases.

Interpretation: The increase in the number of healthcare workers furloughed over recent months slowed in the previous week, however exposure and transmission is still occurring at high levels.

Figure 10. Average number of healthcare worker furloughing and number of COVID-19 notifications by week in NSW, 01 January 2023 to 20 May 2023.

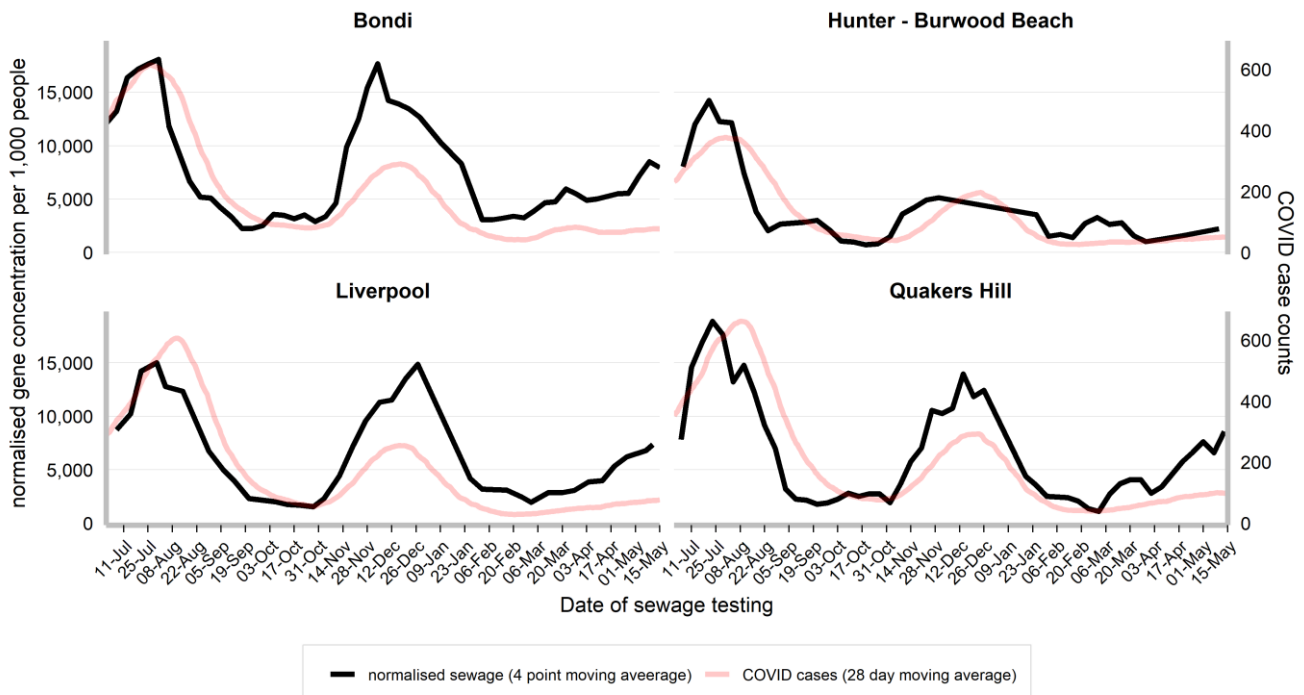


COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 20 May 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 particularly in Bondi, Liverpool and Quakers Hill. This indicates that transmission continues to occur in the community despite decreases in case notifications.

Figure 11. Gene concentration, per 1,000 people in each sewage catchment, 1 January 2023 to 20 May 2023.

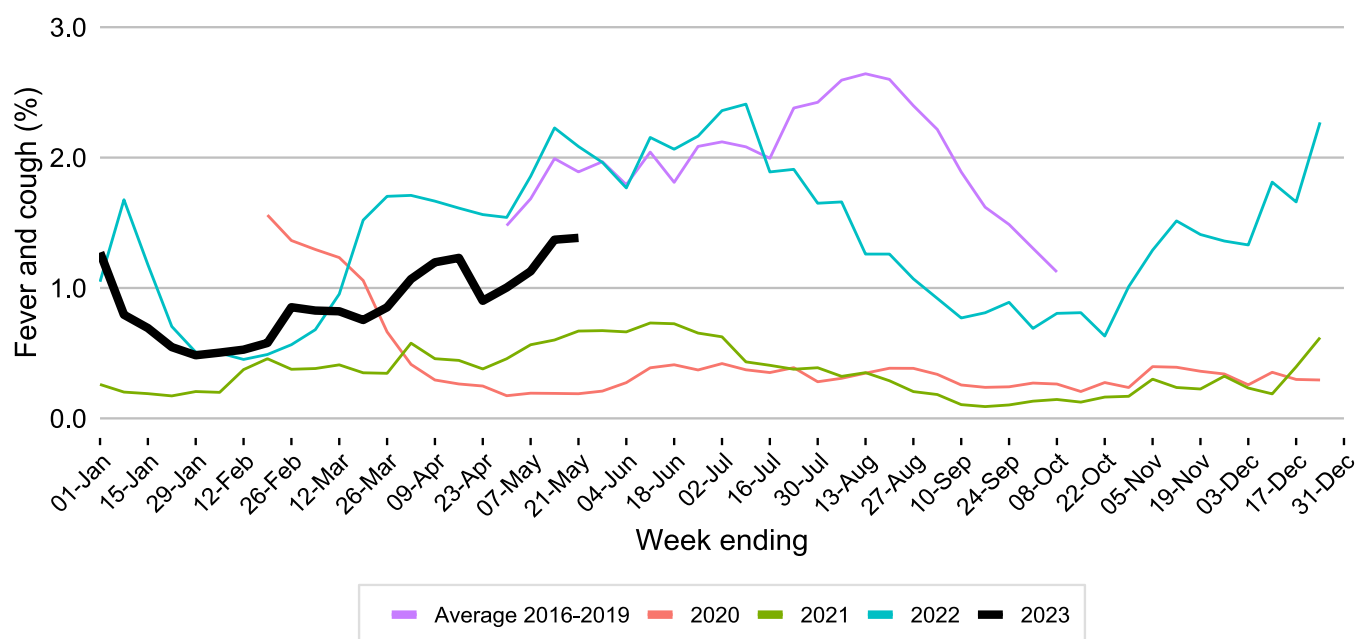


FluTracking and NSW sentinel laboratory network

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 has been increasing since February. This indicates that symptomatic respiratory illness is continuing to increase in the community. Reports of cough and fever in 2023 are currently lower than the five-year average for May to October 2016-2019, that is, the pre-COVID-19 period.

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 21 May 2023.



Epidemiological week 20, ending 20 May 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: There has been a decrease in the number of people having PCR tests over the last few weeks, however, the proportion testing positive for influenza or COVID-19 has increased. For the week ending 21 May 2023, 5 out of 13 sentinel laboratories provided PCR testing data related to influenza and 1 out of 4 sentinel laboratories provided PCR data related to COVID.

Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2022 to 21 May 2023.

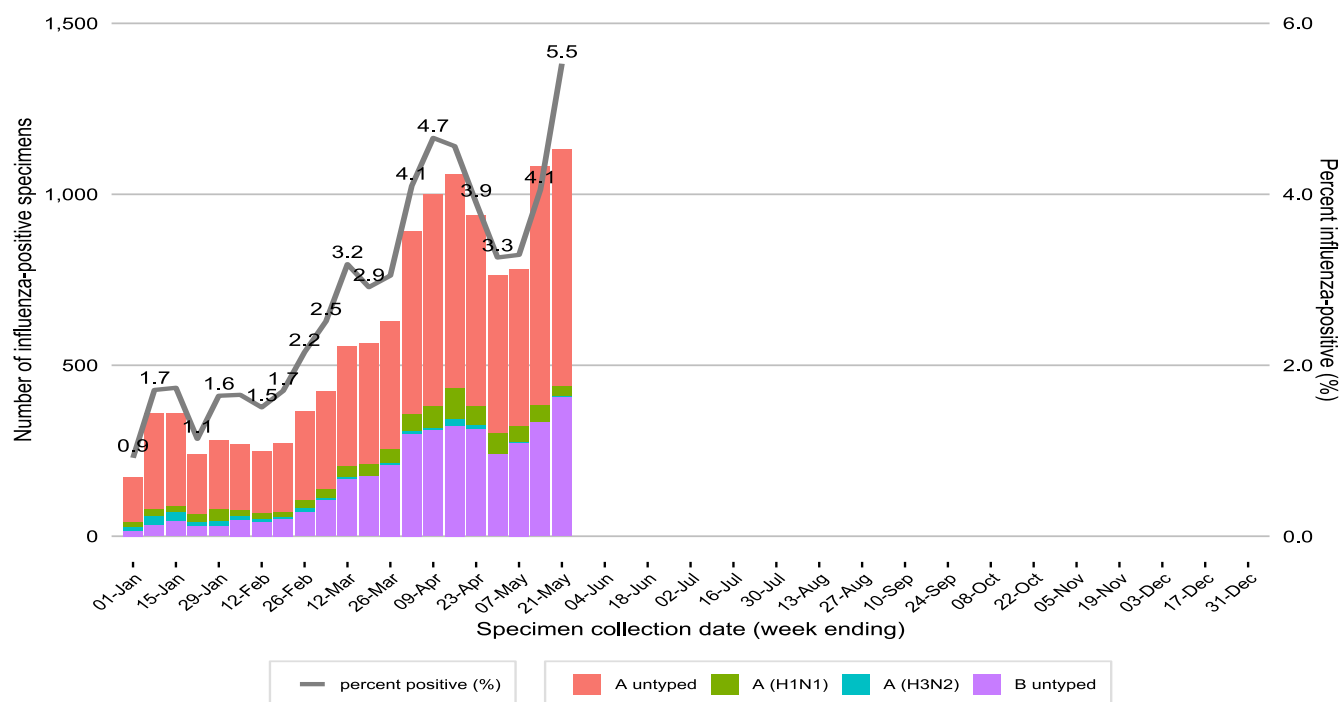


Figure 14. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2022 to 21 May 2023.

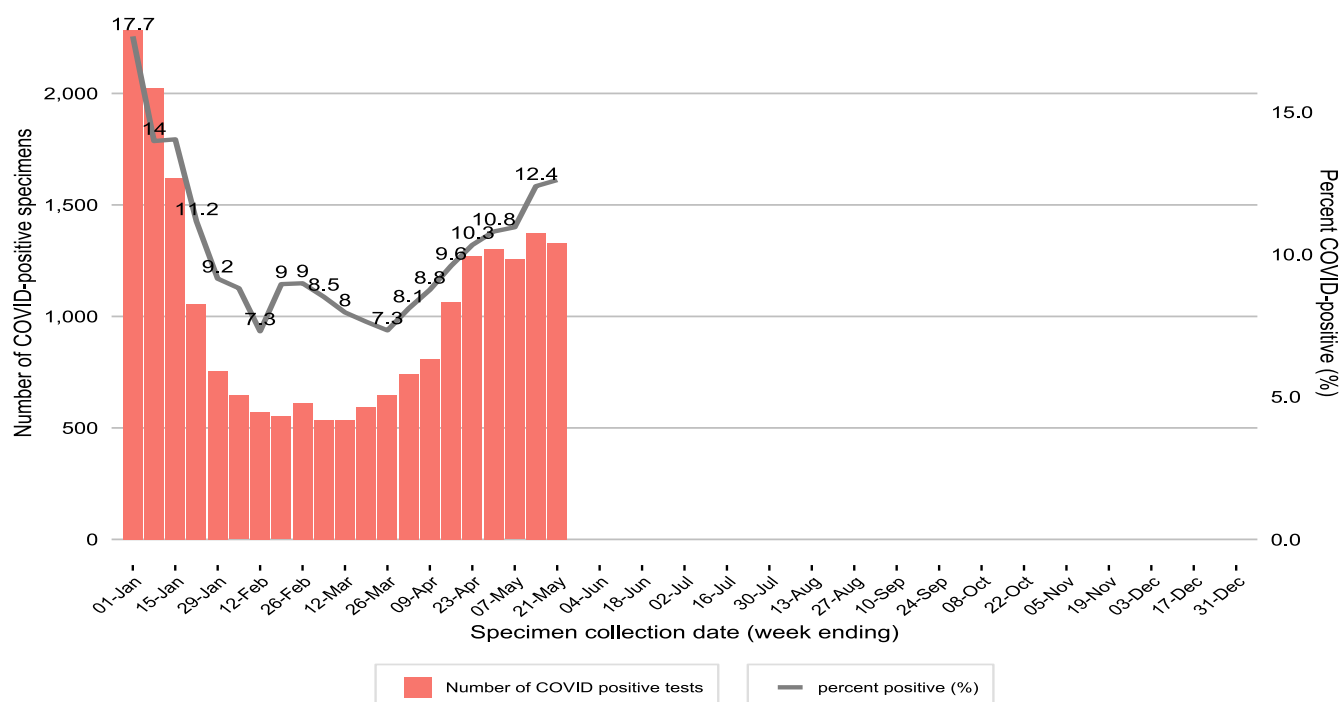


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 21 May 2023.

	Week ending				Year to date
	30 April	07 May	14 May	21 May	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	762 (3.3%)	781 (3.3%)	1,082 (4.1%)	1,132 (5.5%)	12,387
Adenovirus	291 (1.2%)	319 (1.3%)	313 (1.2%)	280 (1.4%)	5,724
Respiratory syncytial virus (RSV)	1,454 (6.2%)	1,310 (5.5%)	1,216 (4.6%)	772 (3.8%)	16,523
Rhinovirus	1,922 (8.2%)	2,136 (9.0%)	2,654 (9.9%)	2,390 (11.7%)	36,664
Human metapneumovirus (HMPV)	69 (0.3%)	86 (0.4%)	92 (0.3%)	76 (0.4%)	2,441
Enterovirus	310 (1.3%)	283 (1.2%)	250 (0.9%)	145 (0.7%)	3,772
Number of PCR tests conducted	23,369	23,727	26,675	20,478	423,376
SARS-CoV-2	1,303 (10.8%)	1,255 (11.0%)	1,373 (12.4%)	1,331 (12.6%)	21,576
Number of COVID PCR tests	12,060	11,455	11,075	10,553	201,256

Recent data is subject to change. For the week ending 21 May 2023, 5 out of 13 sentinel laboratories provided PCR testing data related to influenza and 1 out of 4 sentinel laboratories provided PCR data related to COVID.