

NSW Respiratory Surveillance Report - week ending 03 June 2023

Influenza activity continues to increase rapidly, particularly in children. COVID-19 and RSV activity remain at moderate to high levels, with relatively stable notification rates.

Summary

Influenza notifications, emergency department (ED) presentations and test positivity (10.6%) have all significantly increased this week. Notification rates are highest in children aged 3-16 years and rates in 1–2-year-olds have increased this week (Figure 7).

COVID-19 and RSV activity in NSW persists at elevated levels however both have stabilised in recent weeks. 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. Healthcare worker furloughing is showing signs of a gradual decline over the past two weeks.

While COVID-19 continues to dominate respiratory virus notifications (12,164 people diagnosed this week), there was a small decline of 5.4% since the previous week. There were 1,617 people diagnosed with RSV this week and while presentations to EDs remain high, particularly in young children, the proportion requiring admission is stable. Influenza diagnoses increased by 38.5% since the previous week (4,024 notifications).

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 (ED) presentations and subsequent hospital admissions for coronavirus are stable (Figure 1) as are those for bronchiolitis (Figure 3). ED presentations and subsequent admissions for influenza-like illness are continuing to increase, however the proportion of ED episodes requiring admission are stable suggesting disease severity has not increased.

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

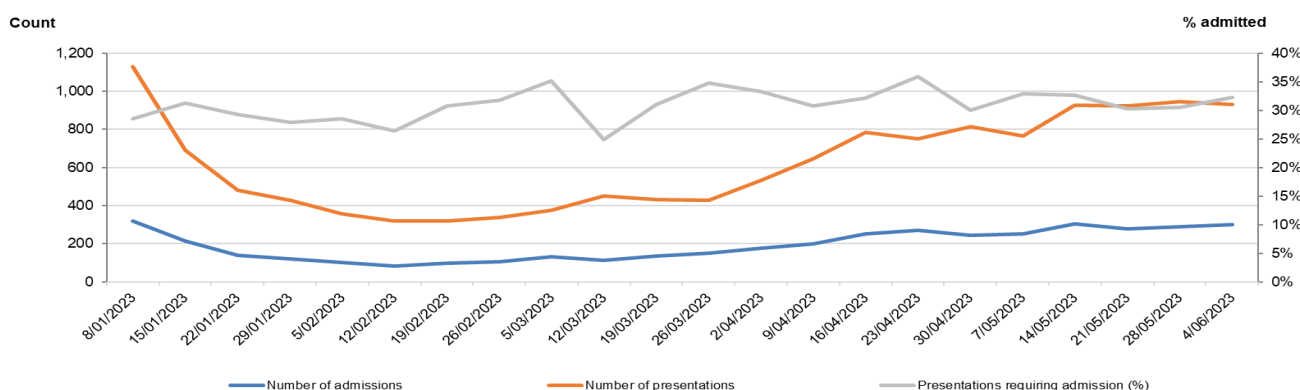


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

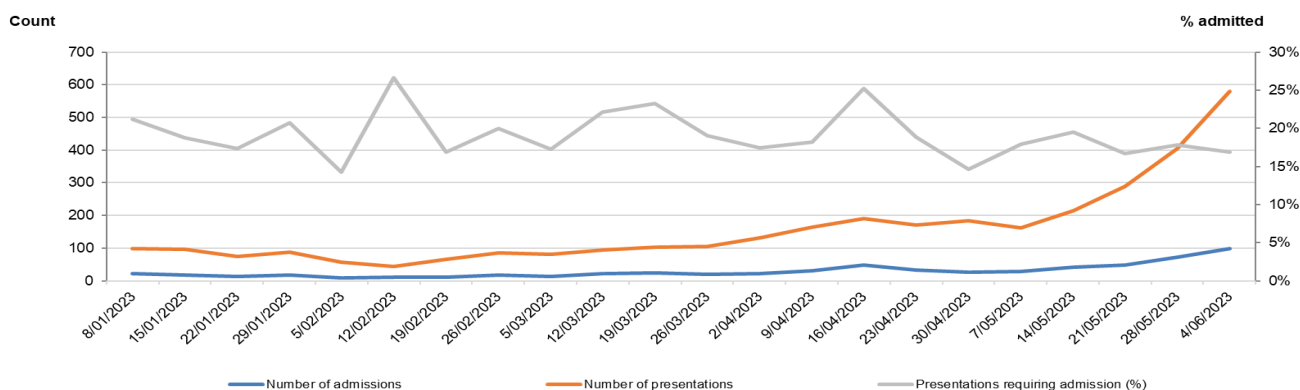
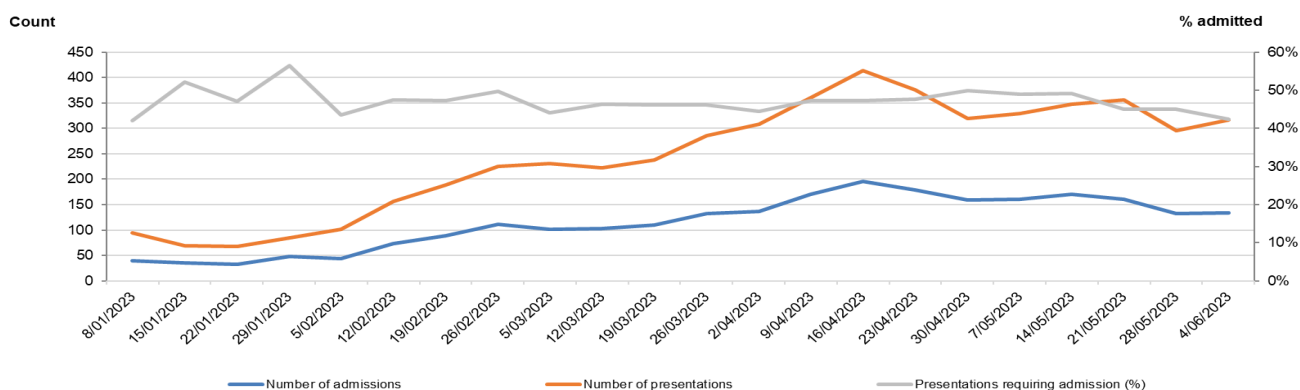


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



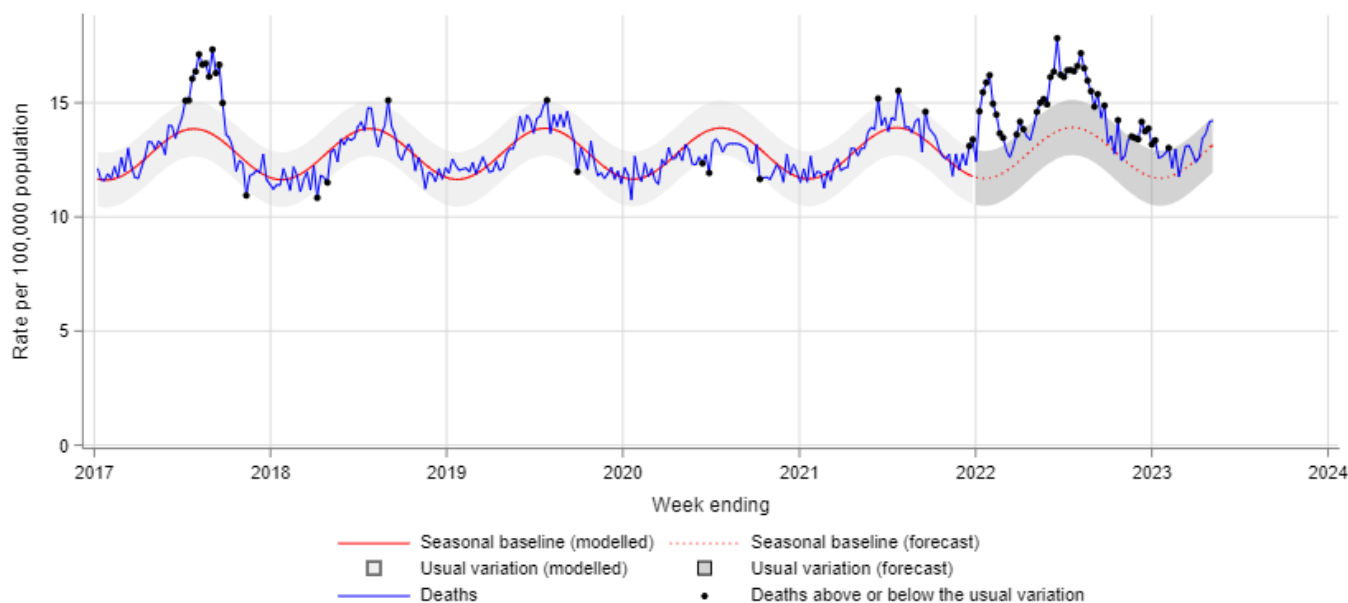
Death surveillance

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 7 May 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 2 April 2023 to 7 May 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 22, ending 03 June 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.

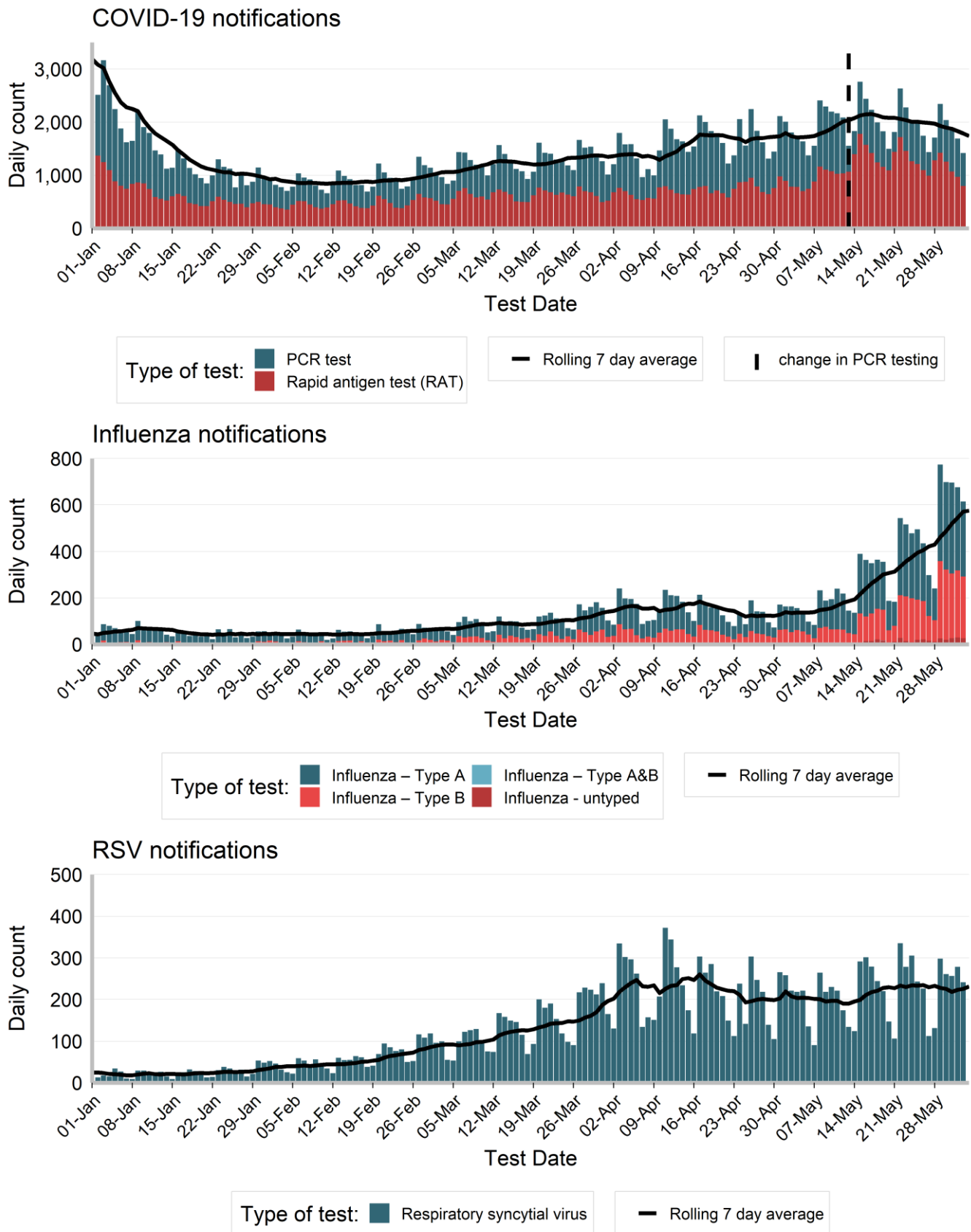
Interpretation: Adults aged 20 – 69 years account for most COVID-19 notifications and total notifications are stable (Figure 5). Most influenza notifications are for children and young people aged less than 20 years and young children continue to dominate RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 03 June 2023.

	COVID		Influenza		RSV	
	Week ending 03 June 2023	Year to Date	Week ending 03 June 2023	Year to Date	Week ending 03 June 2023	Year to Date
Gender						
Female	7,176	127,813(58%)	1,970	10,999(51%)	885	10,616(52%)
Male	4,974	93,844(42%)	2,052	10,707(49%)	724	9,955(48%)
Age group (years)						
0-4	425	7,133(3%)	494	2,956(14%)	722	12,327(60%)
5-9	479	6,871(3%)	996	4,785(22%)	105	923(4%)
10-19	1,166	18,350(8%)	959	3,979(18%)	91	740(4%)
20-29	1,145	25,660(12%)	235	1,555(7%)	70	656(3%)
30-39	1,631	33,714(15%)	458	2,578(12%)	80	883(4%)
40-49	1,885	32,793(15%)	377	2,252(10%)	57	642(3%)
50-59	1,697	30,823(14%)	210	1,362(6%)	96	886(4%)
60-69	1,402	28,143(13%)	153	1,060(5%)	100	1,083(5%)
70-79	1,045	20,812(9%)	83	728(3%)	125	1,066(5%)
80-89	870	12,543(6%)	45	369(2%)	112	929(5%)
90+	428	5,039(2%)	14	92(0%)	48	433(2%)
Local Health District of residence						
Central Coast	565	10,038(5%)	144	597(3%)	66	1,138(6%)
Far West	56	648(0%)	4	33(0%)	4	16(0%)
Hunter New England	1,700	28,701(13%)	308	1,529(7%)	224	1,534(7%)
Illawarra Shoalhaven	808	13,802(6%)	123	994(5%)	63	1,288(6%)
Mid North Coast	332	4,663(2%)	135	476(2%)	29	388(2%)
Murrumbidgee	499	6,804(3%)	231	851(4%)	125	504(2%)
Nepean Blue Mountains	698	10,935(5%)	263	1,095(5%)	102	1,258(6%)
Northern NSW	346	5,983(3%)	176	787(4%)	30	544(3%)
Northern Sydney	1,489	26,978(12%)	503	3,272(15%)	156	3,111(15%)
South Eastern Sydney	1,048	24,090(11%)	306	1,967(9%)	98	2,133(10%)
South Western Sydney	1,254	23,216(10%)	588	3,185(15%)	216	2,896(14%)
Southern NSW	377	5,731(3%)	64	271(1%)	43	292(1%)
Sydney	853	18,917(9%)	267	1,643(8%)	79	1,416(7%)
Western NSW	500	8,921(4%)	80	379(2%)	119	666(3%)
Western Sydney	1,619	29,901(13%)	829	4,558(21%)	251	3,333(16%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	381	7,143(3%)	145	651(3%)	70	702(3%)
Not Aboriginal or Torres Strait Islander	9,004	162,327(73%)	2,010	11,437(53%)	787	10,148(49%)
Not Stated / Unknown	2,781	52,434(24%)	1,869	9,641(44%)	760	9,738(47%)
Total	12,166	221,904(100%)	4,024	21,729(100%)	1,617	20,588(100%)

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

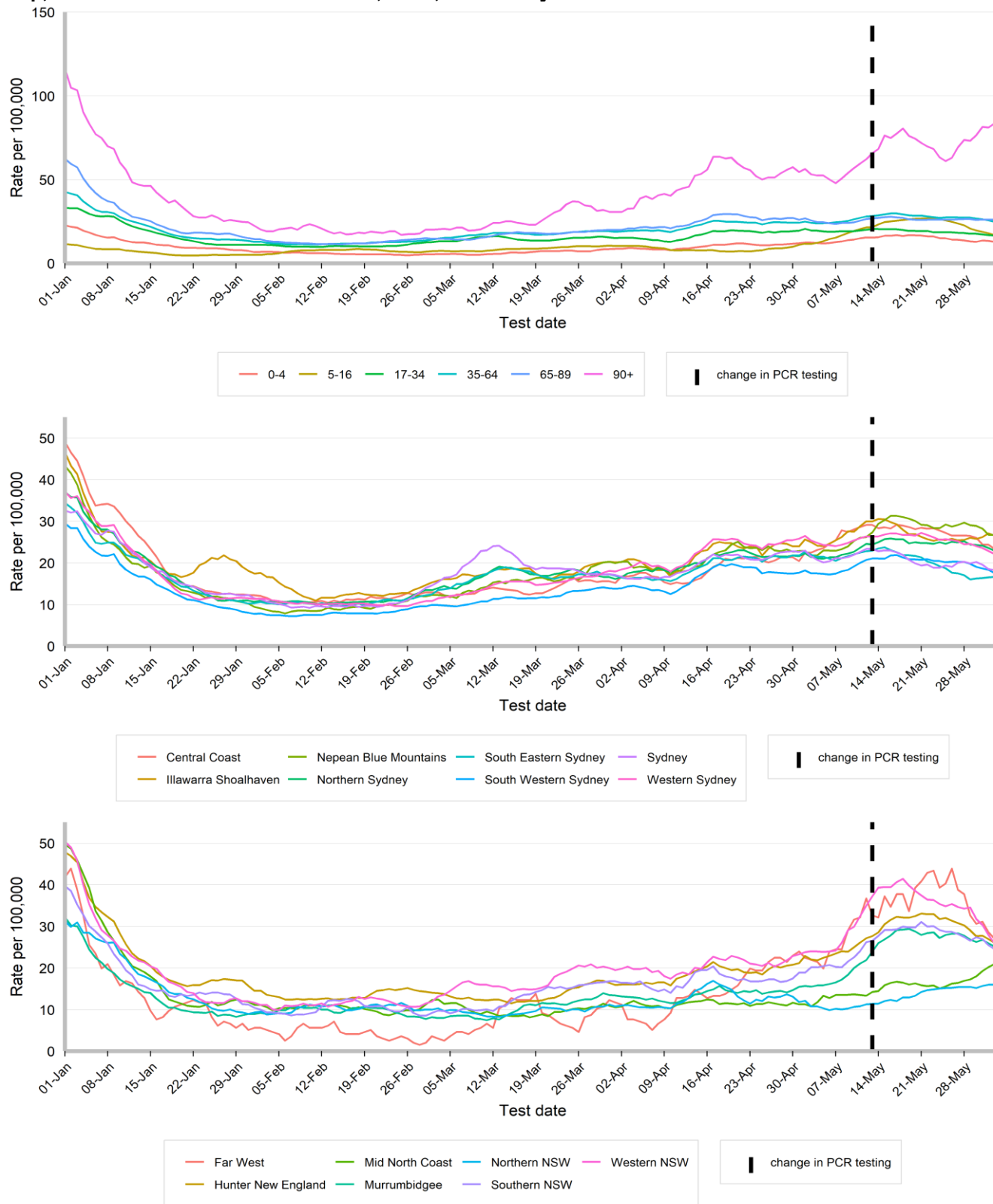
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 January 2023 to 03 June 2023.



Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are stable across most age-groups. A decline in children aged 5 – 16 years and an increase in those aged 90 years and older were observed over the past two weeks.

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 03 June 2023.

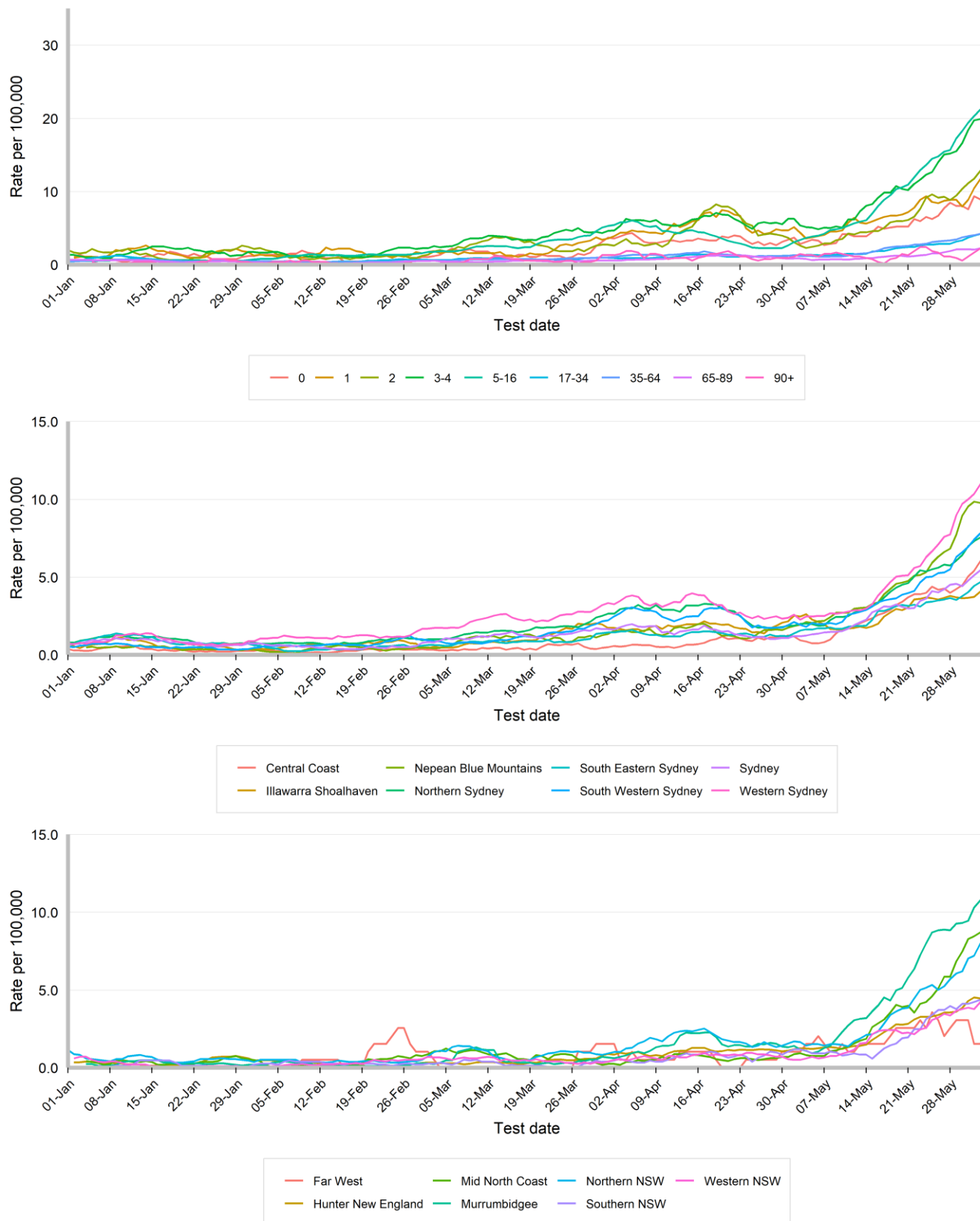


COVID-19 testing recommendations changed on 13 May 2023 to PCRs being available by referral only. Rapid antigen tests are now recommended for the general population other than those in high-risk groups.

Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications are increasing across all groups however continue to be highest in those aged 3 – 16 years. Notable increases occurred in young children aged 1 – 2 years in the previous week and this may reflect an increased likelihood of being tested if unwell and/or increasing transmission in childcare settings.

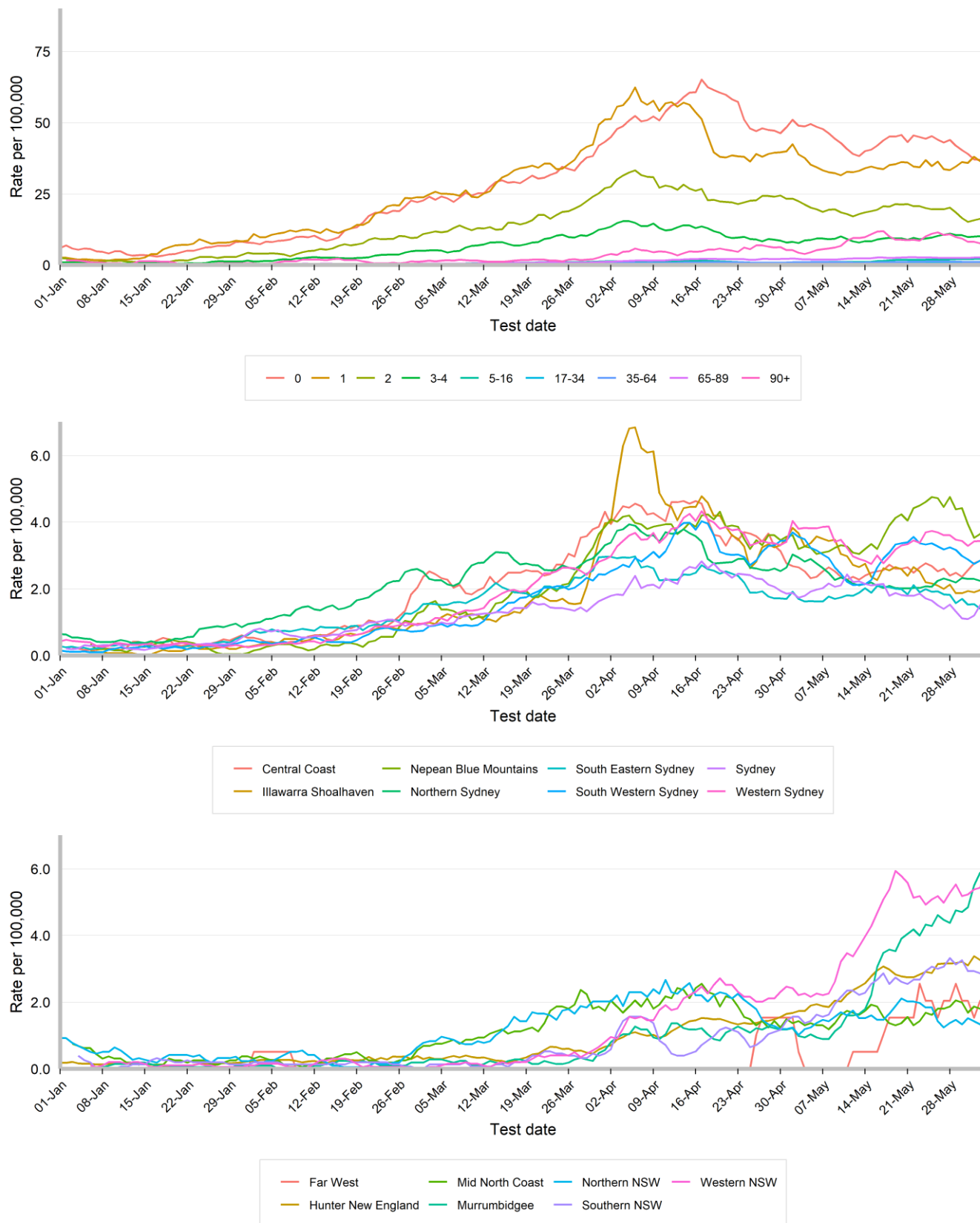
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 03 June 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: Rates of RSV notifications have been stable across all age groups however they continue to fluctuate across 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 03 June 2023.

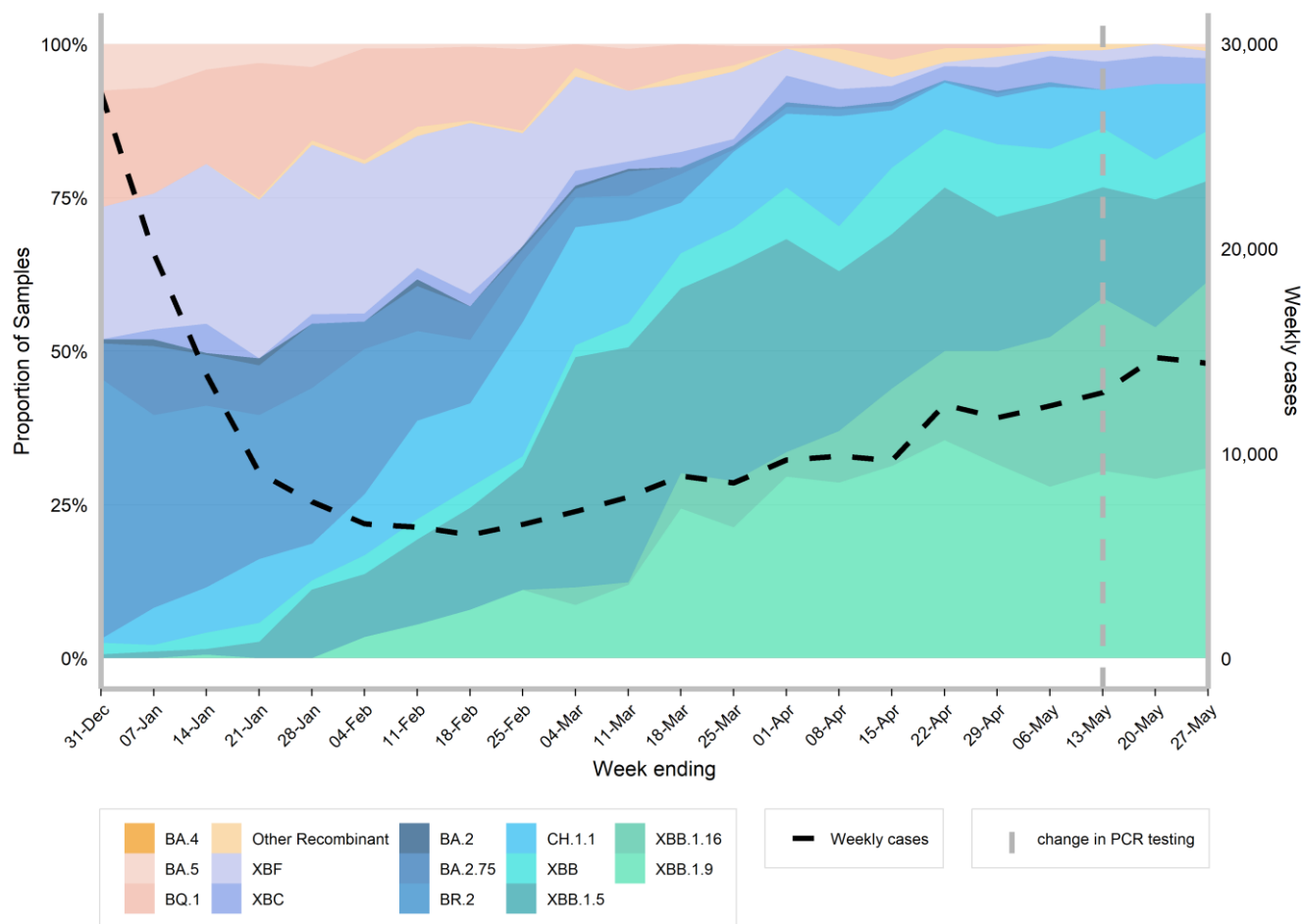


COVID-19 Whole Genome Sequencing

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. S genes were detected in 99.2% of SARS-CoV-2 positive specimens.

Interpretation: XBB sublineages currently account for almost all samples sequenced from the community.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 01 January 2023 to 27 May 2023.



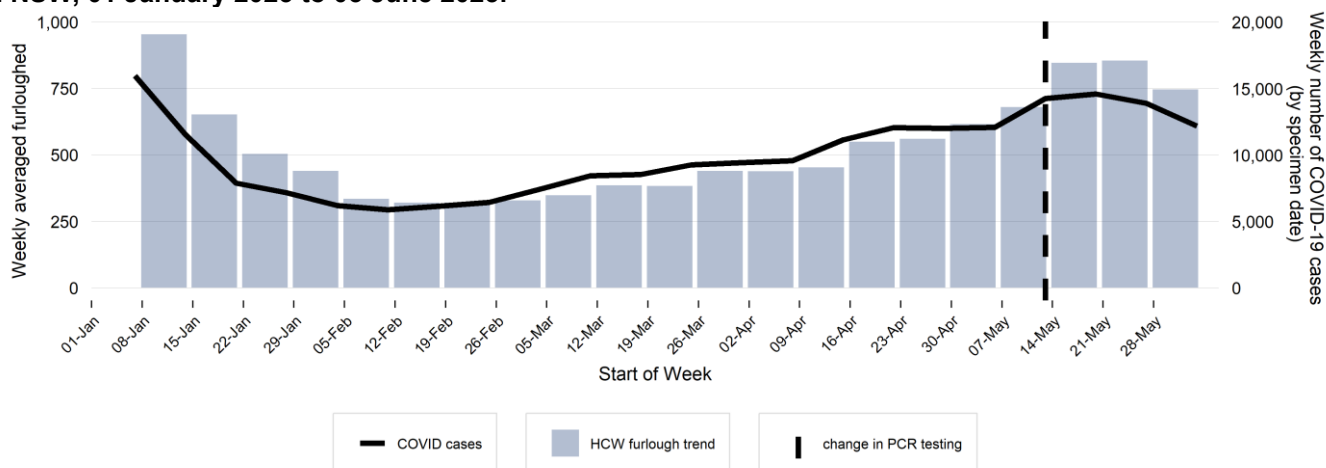
Other surveillance indicators

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 number of healthcare workers furloughed is showing signs of declining, however remain at moderate to high levels.

Figure 10. Average number of healthcare worker furloughing and number of COVID-19 notifications by week in NSW, 01 January 2023 to 03 June 2023.

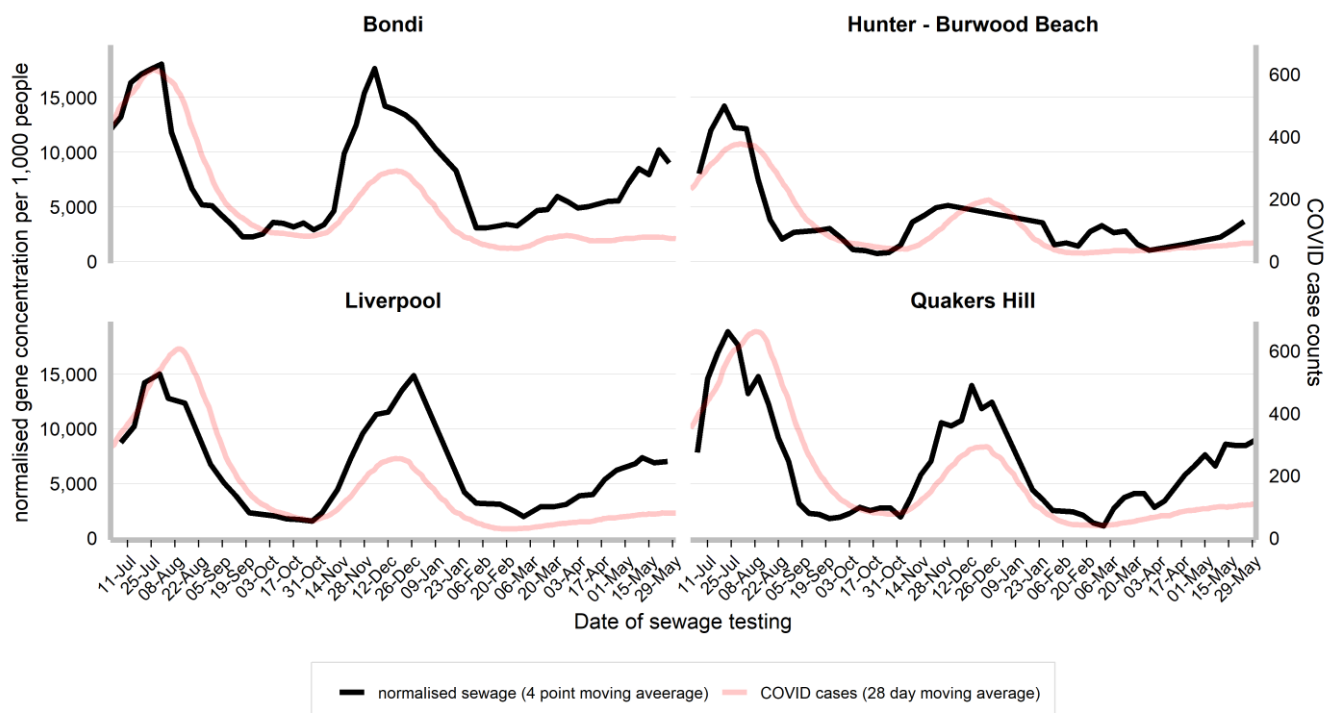


COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 27 June 2022 to the week ending 31 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, 27 June 2022 to 31 May 2023.

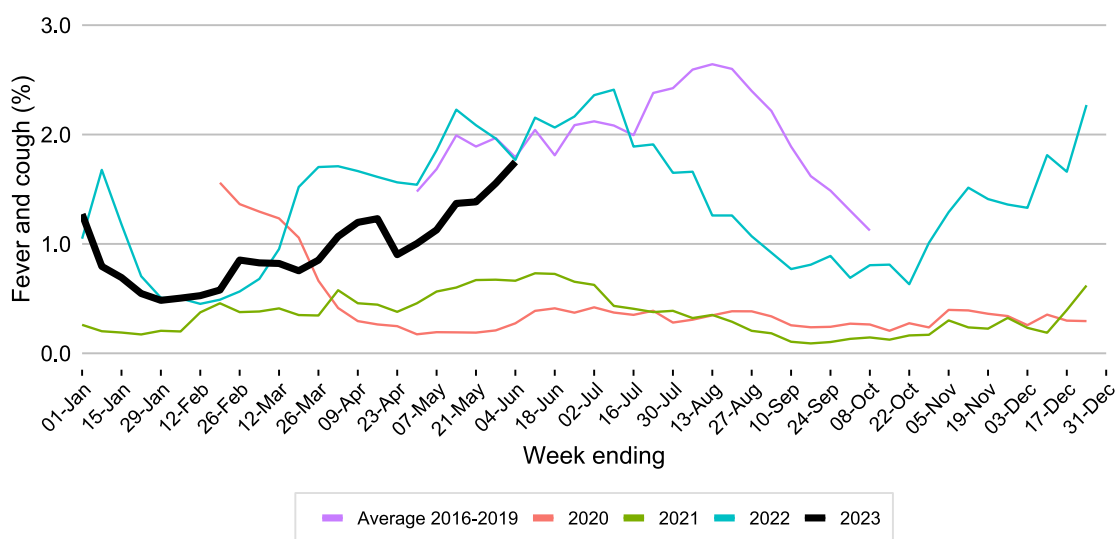


FluTracking and NSW sentinel laboratory network

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 continued to rise rapidly (Figure 12), consistent with the trends observed for influenza notifications and presentations to emergency departments for influenza-like illness

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 04 June 2023.



Epidemiological week 22, ending 03 June 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: The number of tests, and proportion of tests positive for influenza continue to increase (Figure 13) while the proportion positive for COVID-19 (Figure 14) declined in the past week. For other respiratory viruses (Figure 15 and Table 2) the proportion of tests positive for rhinovirus are rapidly increasing, consistent with the winter months, enterovirus and RSV positivity are rapidly declining.

Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 04 June 2023.

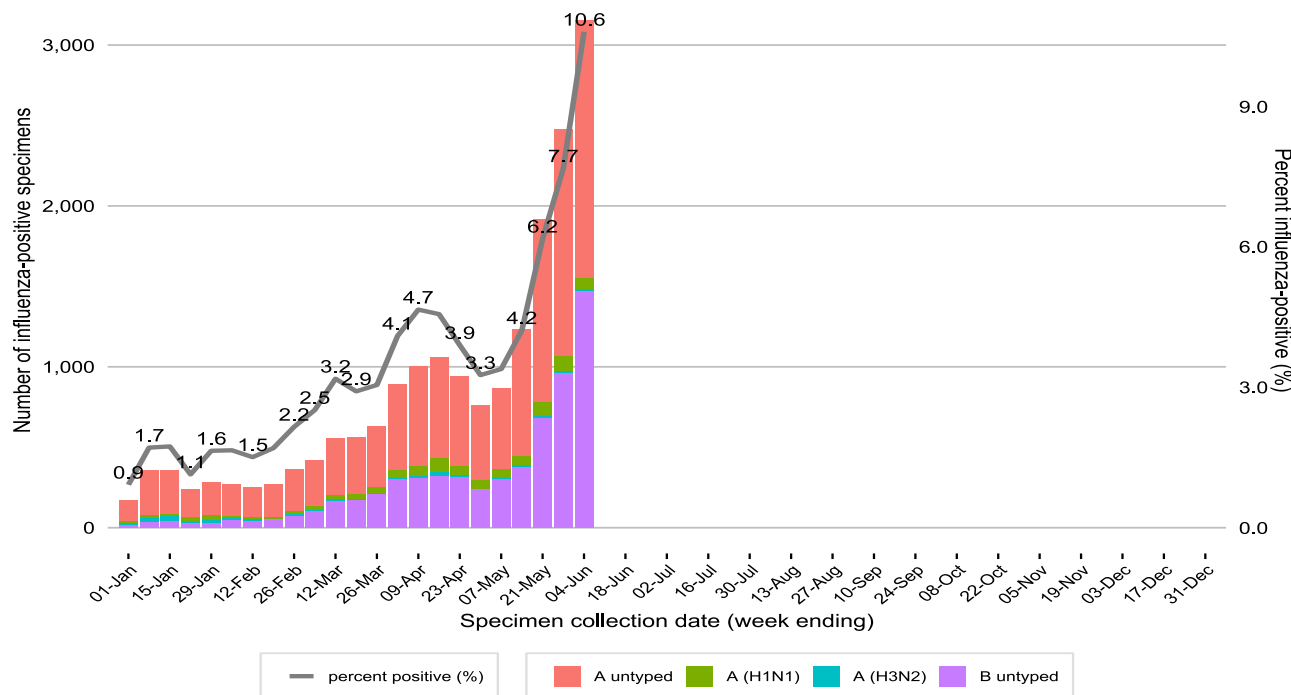


Figure 14. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 04 June 2023.

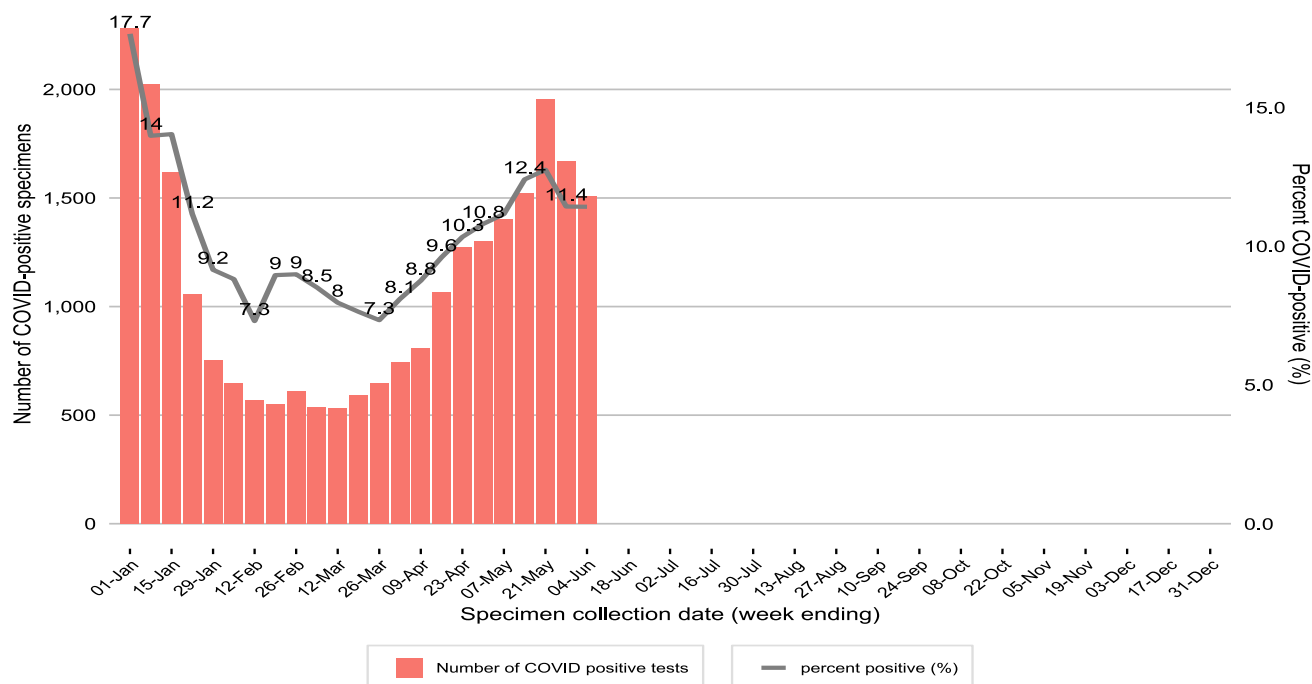


Figure 15. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 04 June 2023.

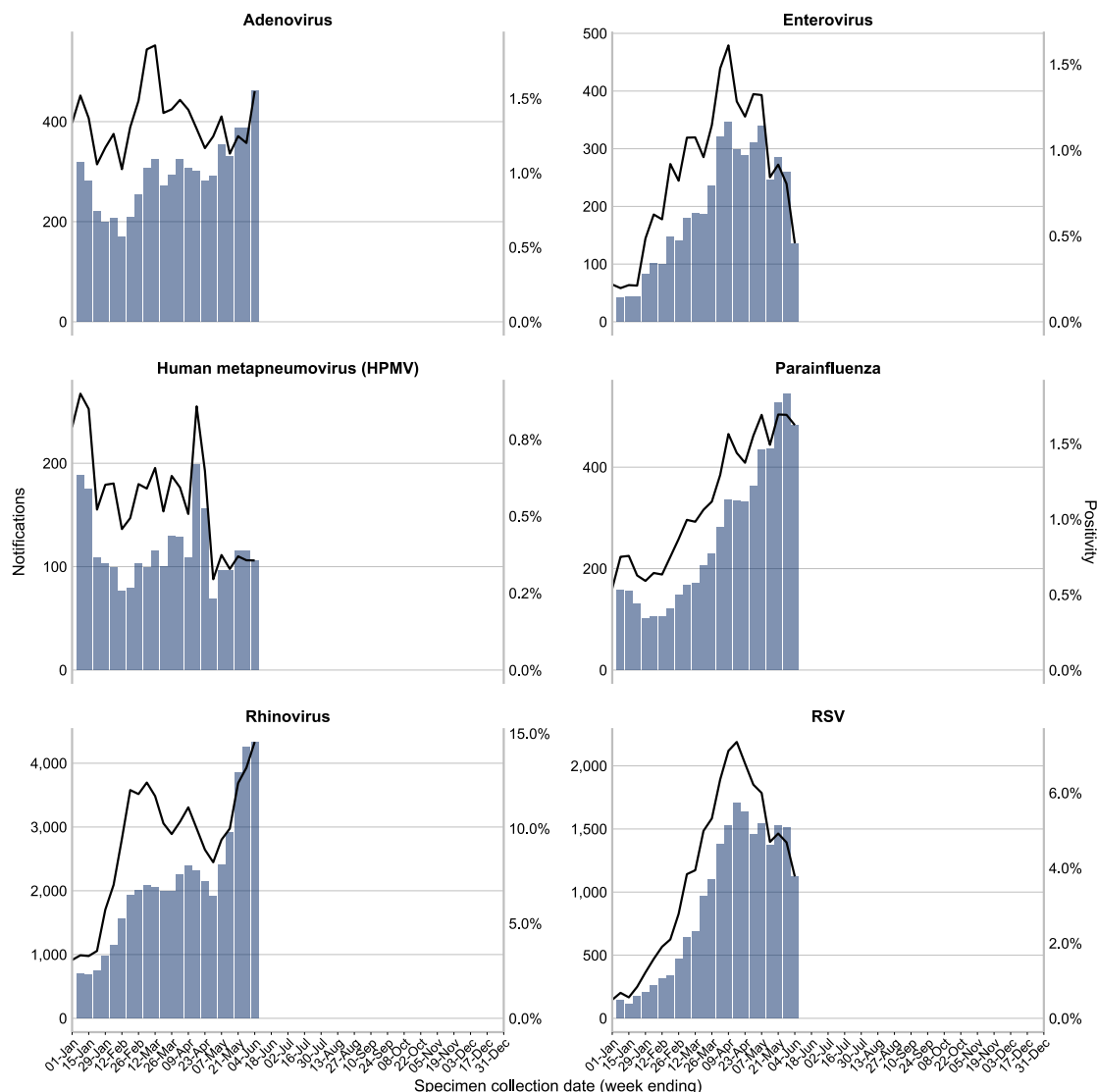


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 04 June 2023.

	Week ending				Year to date
	14 May	21 May	28 May	04 June	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,232 (4.2%)	1,921 (6.2%)	2,474 (7.7%)	3,152 (10.6%)	19,041
Adenovirus	330 (1.1%)	388 (1.2%)	387 (1.2%)	461 (1.5%)	6,732
Respiratory syncytial virus (RSV)	1,372 (4.7%)	1,531 (4.9%)	1,509 (4.7%)	1,124 (3.8%)	20,301
Rhinovirus	2,922 (10.0%)	3,858 (12.4%)	4,256 (13.2%)	4,334 (14.6%)	47,269
Human metapneumovirus (HMPV)	96 (0.3%)	115 (0.4%)	115 (0.4%)	106 (0.4%)	2,715
Enterovirus	246 (0.8%)	285 (0.9%)	259 (0.8%)	136 (0.5%)	4,359
Number of PCR tests conducted	29,210	31,116	32,222	29,751	500,457
SARS-CoV-2	1,524 (12.4%)	1,956 (12.8%)	1,671 (11.4%)	1,508 (11.4%)	25,679
Number of COVID PCR tests	12,281	15,334	14,618	13,202	236,180

Recent data is subject to change. For the week ending 04 June 2023, 9 out of 13 sentinel laboratories provided PCR testing data related to influenza and 2 out of 4 sentinel laboratories provided PCR data related to COVID.