NSW Respiratory Surveillance Report - week ending 06 May 2023

Summary

NSW is continuing to experience elevated levels of transmission of respiratory viral infections, including COVID-19, influenza and respiratory syncytial virus (RSV) infection, 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.

Most respiratory notifications are for COVID-19 with 11,474 cases diagnosed. Compared to the previous week, notifications of influenza have increased by 9.9% to 950 and RSV notifications are stable. Emergency department admissions for coronavirus and influenza-like illness have stayed stable over the last few weeks. Similarly, presentations and admissions for children with bronchiolitis are stable.

People aged 90 years and over continue to experience the highest rate of COVID-19 COVID-19 notifications with the rate in all other age groups relatively stable. Rates of influenza have been stable across all ages except those aged 0 to 4 and 5 to 16 years. This may be explained by high levels of social mixing associated with schools and childcare and higher rates of testing in this age group. Rates of RSV have been stable across all ages except those aged 0 to 4 years and people aged 90 years and over which have had a stable but elevated rate.

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 decreased over the last week and the number admitted has stayed stable. A similar trend is seen with presentations and admissions for influenza-like illness. Presentations and admissions for bronchiolitis in children are stable.

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

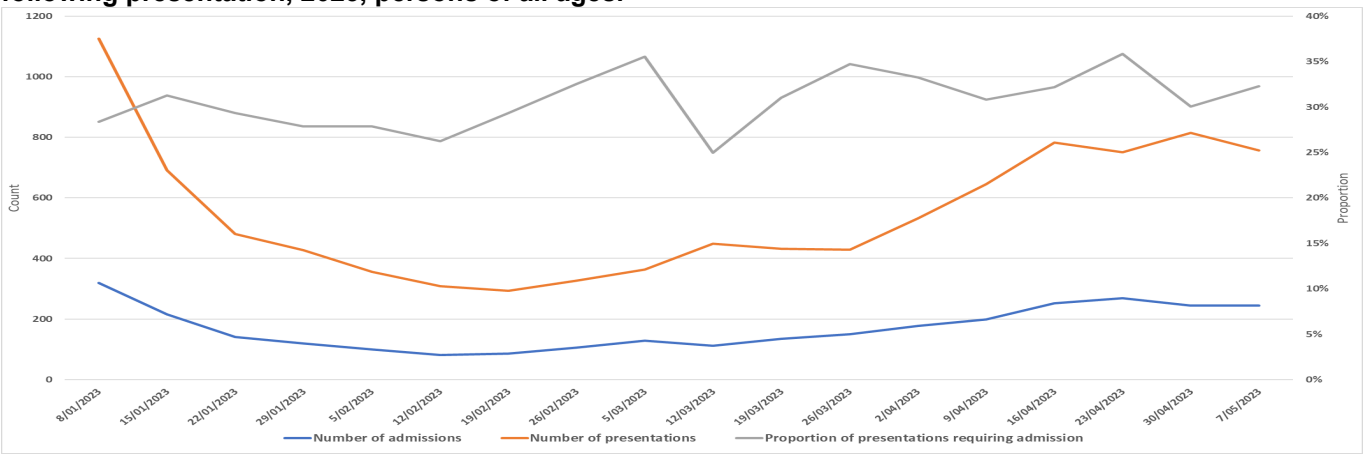


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

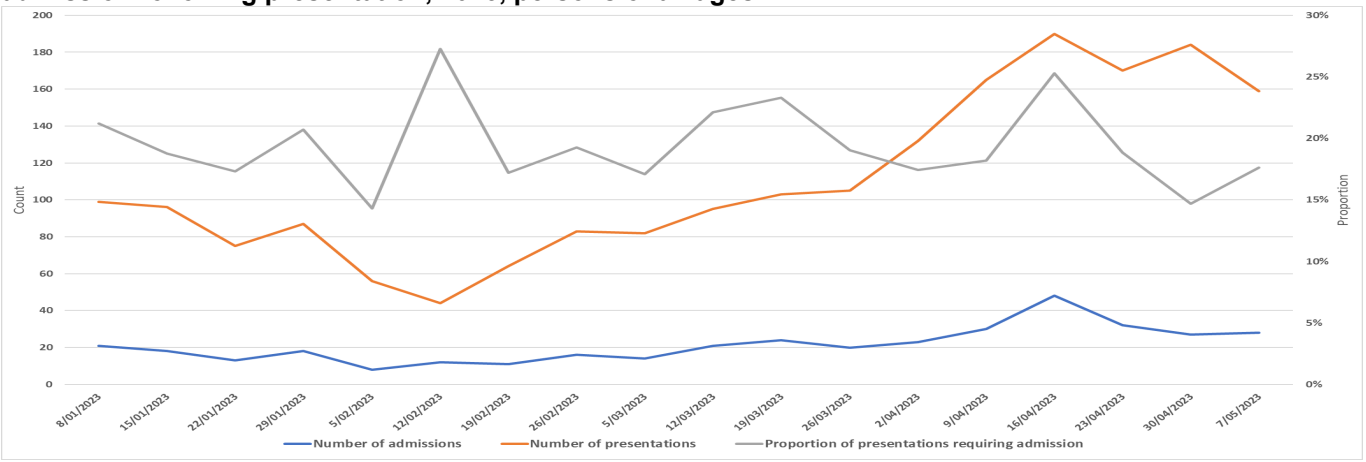
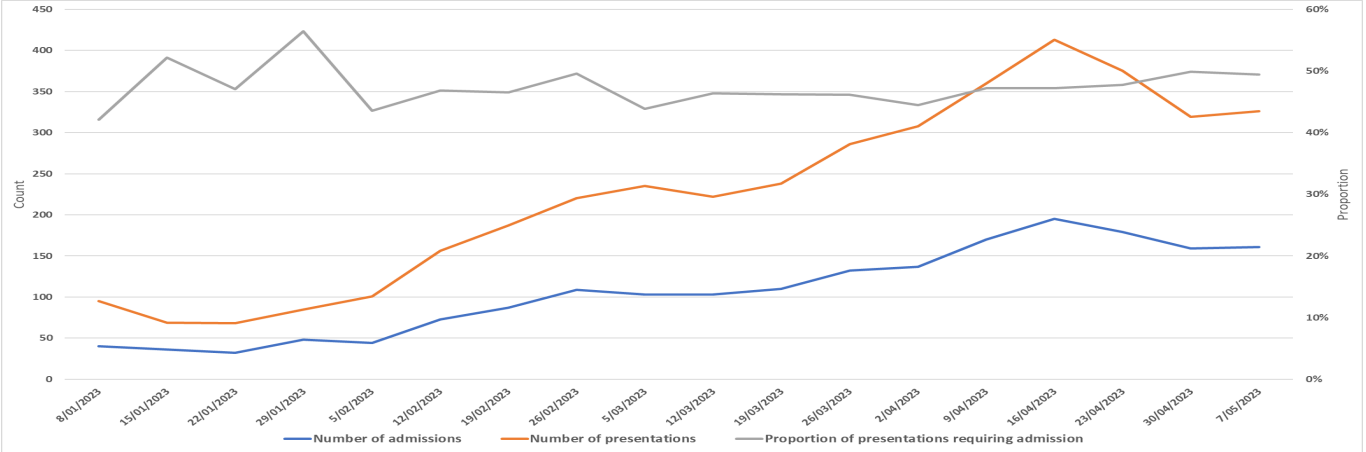


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



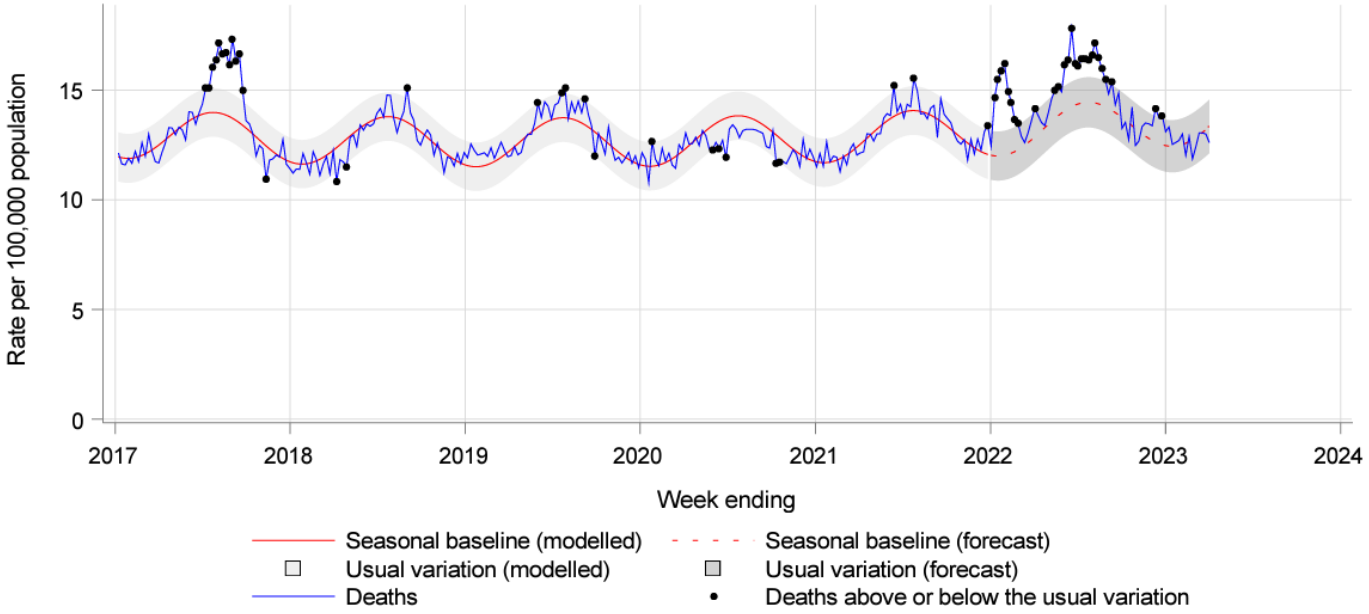
Death surveillance

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 2 April 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 26 February 2023 to 2 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.

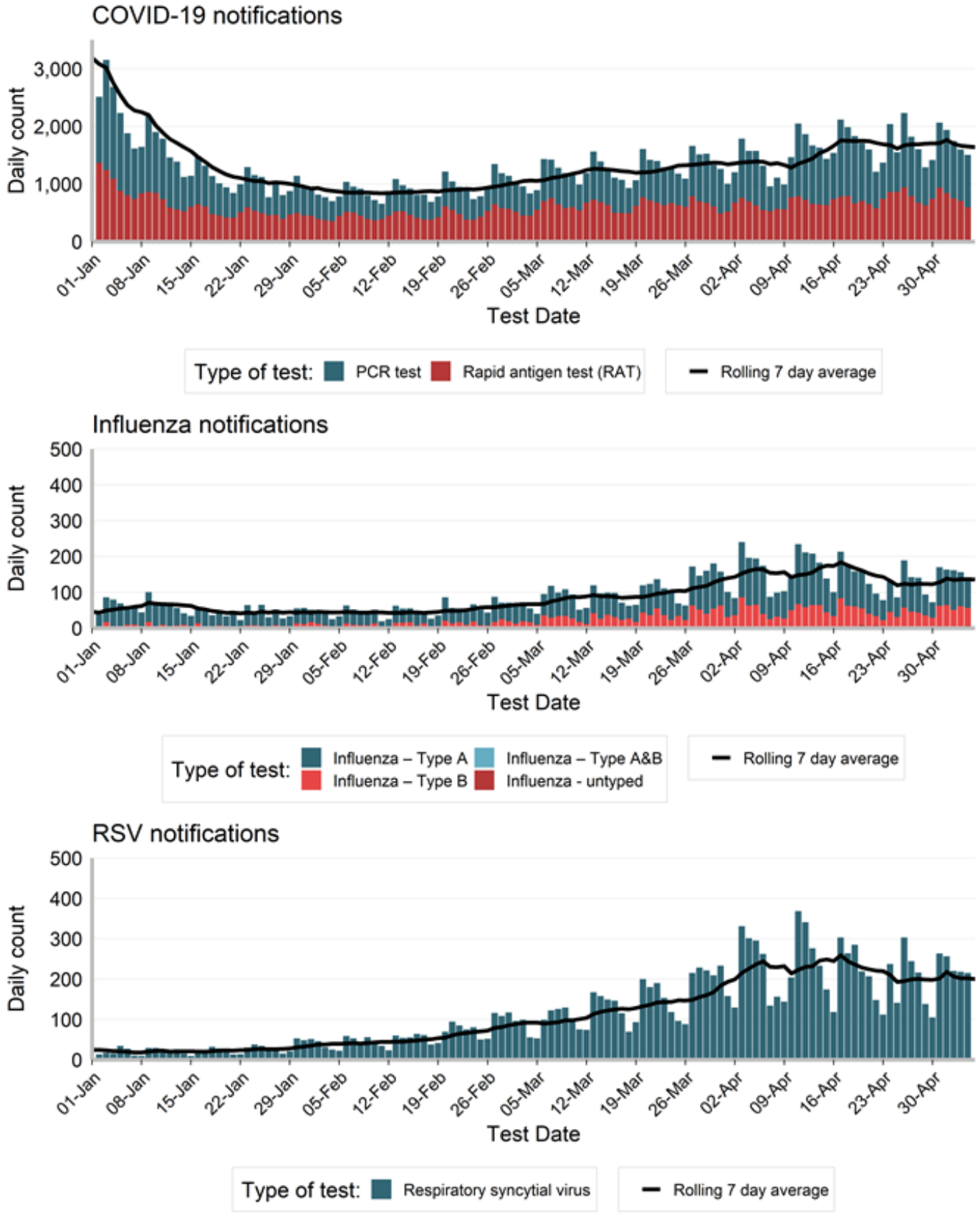
Interpretation: The number of notifications for COVID-19, influenza and RSV have all plateaued over the last two weeks (Table 2, Figure 5). This may be a result of changes in testing behaviour during the school holiday period. The majority of RSV cases occurred in children under 5 years and the majority of influenza cases occurred in those under 20 years (Table 2). The highest rates of COVID-19 occurred in those over 90 years of age (Figure 6).

Table 2. Notifications of COVID-19 and influenza, NSW, tested in the week ending 06 May 2023.

	COVID		Influenza		RSV	
	Week ending 06 May 2023	Year to Date	Week ending 06 May 2023	Year to Date	Week ending 06 May 2023	Year to Date
Gender						
Female	6,509	94,880(57%)	507	5,760(51%)	724	7,289(51%)
Male	4,950	70,850(43%)	444	5,525(49%)	677	7,052(49%)
Age group (years)						
0-4	395	5,154(3%)	126	1,639(14%)	784	9,273(65%)
5-9	431	4,308(3%)	173	2,261(20%)	45	579(4%)
10-19	982	11,990(7%)	202	1,629(14%)	51	432(3%)
20-29	1,301	20,396(12%)	89	936(8%)	57	415(3%)
30-39	1,748	25,653(15%)	115	1,447(13%)	73	597(4%)
40-49	1,764	24,025(14%)	97	1,208(11%)	59	410(3%)
50-59	1,604	23,342(14%)	58	760(7%)	79	538(4%)
60-69	1,306	22,000(13%)	44	656(6%)	71	706(5%)
70-79	1,034	16,358(10%)	34	462(4%)	87	626(4%)
80-89	653	9,207(6%)	14	242(2%)	69	534(4%)
90+	265	3,466(2%)	7	58(1%)	27	228(2%)
Local Health District of residence						
Central Coast	587	7,381(4%)	18	214(2%)	57	887(6%)
Far West	44	372(0%)	5	17(0%)	0	4(0%)
Hunter New England	1,464	20,758(13%)	85	700(6%)	131	743(5%)
Illawarra Shoalhaven	724	10,441(6%)	65	616(5%)	109	1,004(7%)
Mid North Coast	192	3,557(2%)	13	157(1%)	20	281(2%)
Murrumbidgee	328	4,560(3%)	22	254(2%)	20	166(1%)
Nepean Blue Mountains	594	7,860(5%)	58	448(4%)	81	839(6%)
Northern NSW	189	4,717(3%)	33	373(3%)	30	408(3%)
Northern Sydney	1,350	20,373(12%)	126	1,889(17%)	182	2,516(18%)
South Eastern Sydney	1,320	18,933(11%)	112	1,103(10%)	105	1,665(12%)
South Western Sydney	1,219	17,110(10%)	147	1,704(15%)	233	1,986(14%)
Southern NSW	281	4,016(2%)	15	108(1%)	23	126(1%)
Sydney	950	14,911(9%)	64	917(8%)	91	1,064(7%)
Western NSW	459	6,204(4%)	13	156(1%)	45	260(2%)
Western Sydney	1,726	22,374(13%)	183	2,582(23%)	275	2,353(16%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	360	5,210(3%)	35	279(2%)	60	460(3%)
Not Aboriginal or Torres Strait Islander	8,087	121,022(73%)	502	6,093(54%)	701	7,046(49%)
Not Stated / Unknown	3,029	39,685(24%)	415	4,926(44%)	641	6,840(48%)
Total	11,476	165,917(100%)	952	11,298(100%)	1,402	14,346(100%)

Note: Total includes all cases including those with missing gender, age, LHD; or who were 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 06 May 2023.



Rates of COVID-19 notifications per 100,000 population

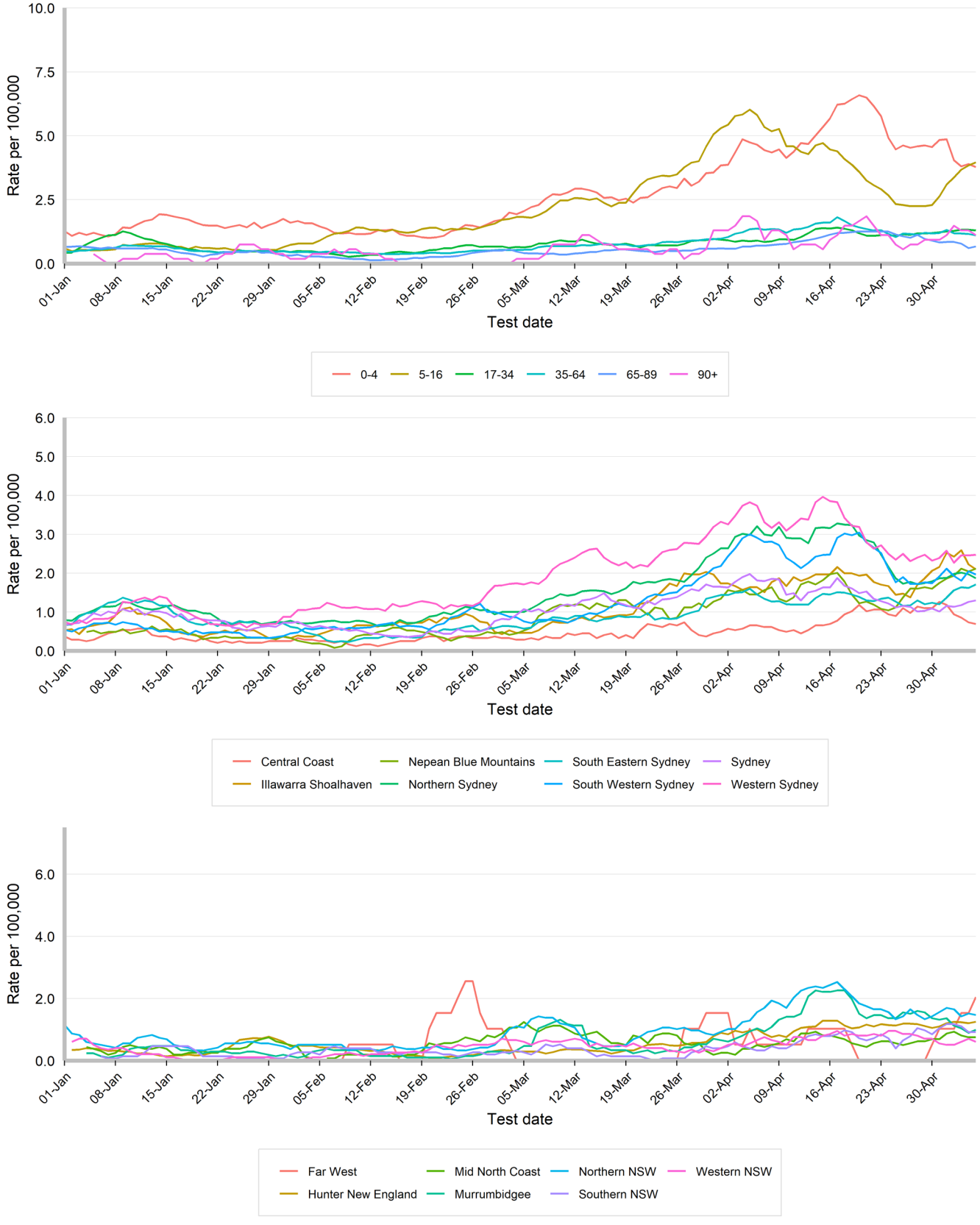
Interpretation: Rates of COVID-19 notifications are stable across all ages. Those aged 90 and over continue to experience the highest rate of notification.

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 06 May 2023.

Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications have been stable across all ages except those aged 0 to 4 and 5 to 16. This may be explained by greater levels of social mixing associated with schools and childcare and higher rates of testing in this age group and/or lower rates of vaccine uptake and/or increased likelihood of being tested for influenza if unwell.

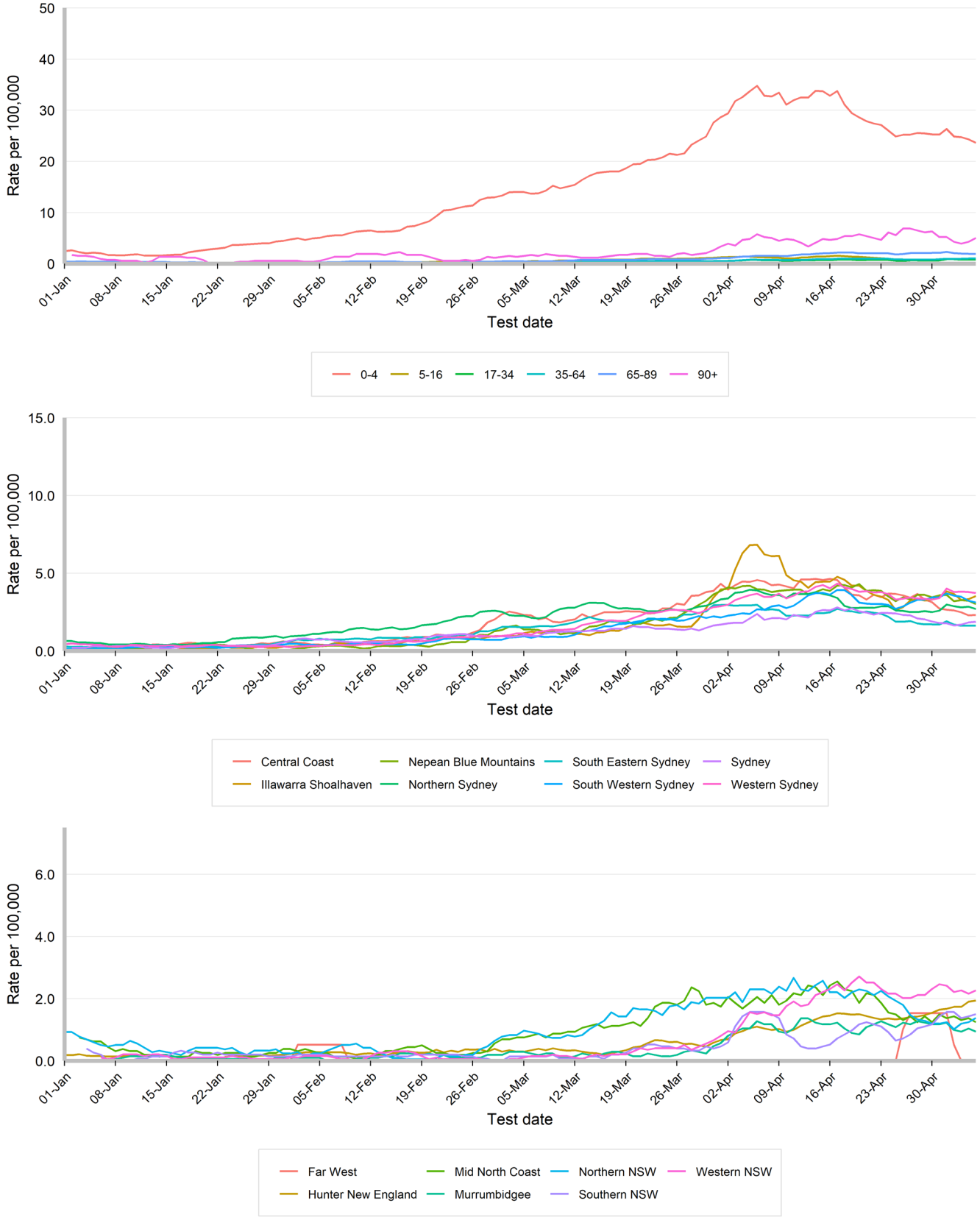
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 January 2023 to 06 May 2023.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: Rates of RSV notifications have been stable across all ages except those aged 0 to 4.

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 06 May 2023.

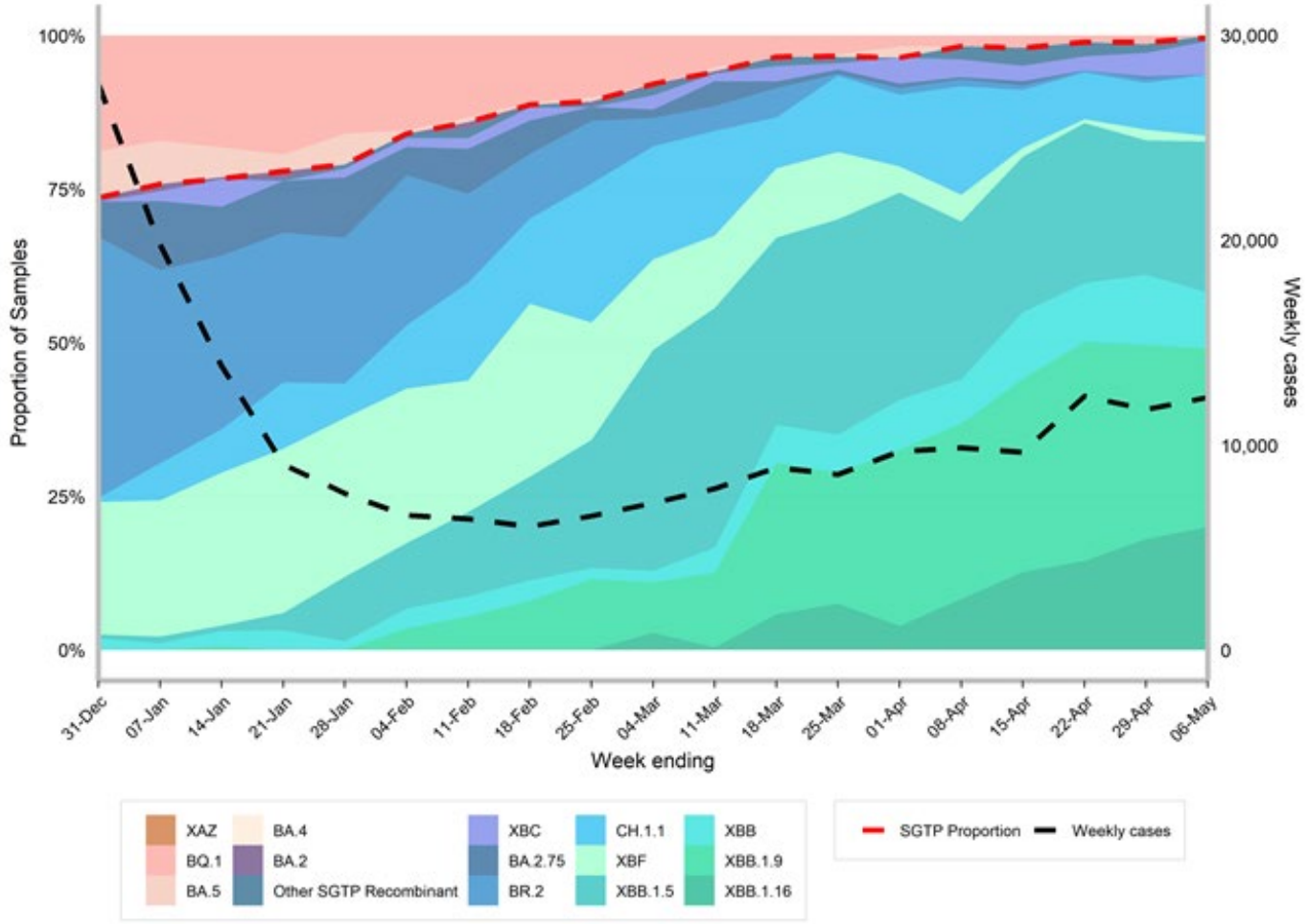


COVID-19 Whole Genome Sequencing (WGS)

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% of SARS-CoV-2 positive specimens currently have an S gene detected (Figure 9).

Interpretation: The proportion of samples that do not have an S gene detected continues to decrease to less than 1%. This indicates that BA2 lineages continue to increase in the community. XBB sublineages account for the majority of 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 06 May 2023.



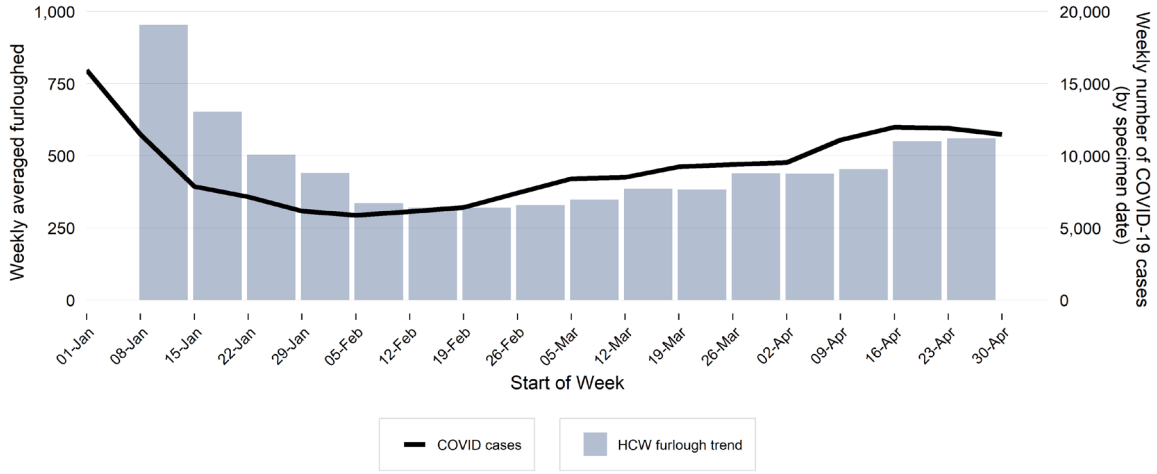
Other surveillance indicators

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 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 has continued to increase indicating that 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 06 May 2023.

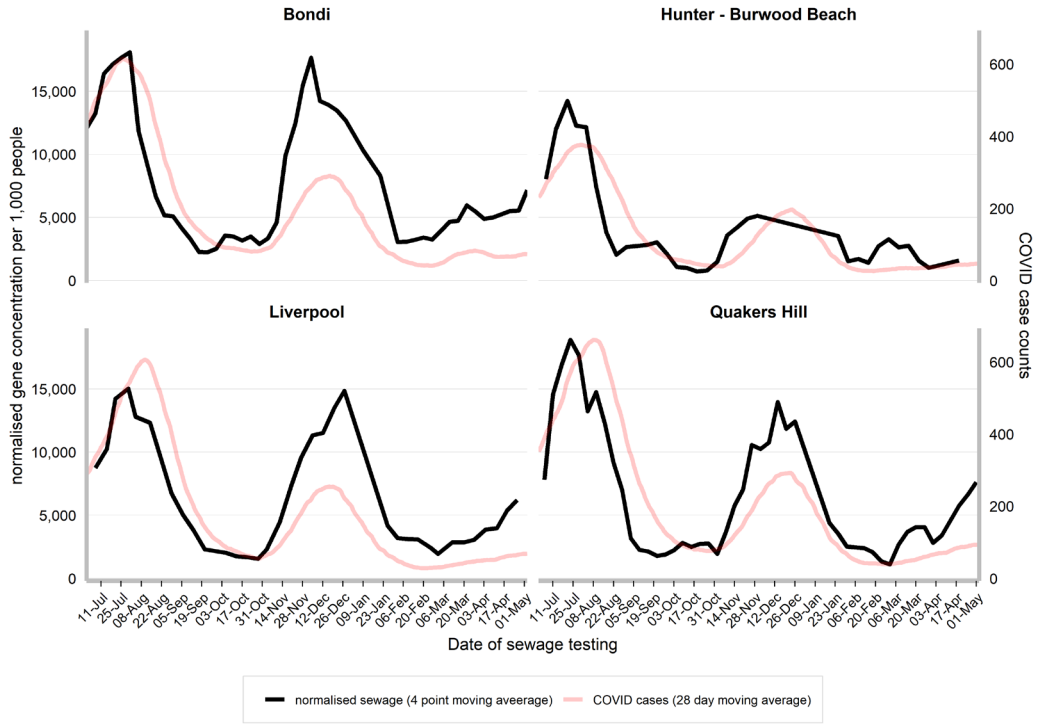


COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 06 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 06 May 2023.

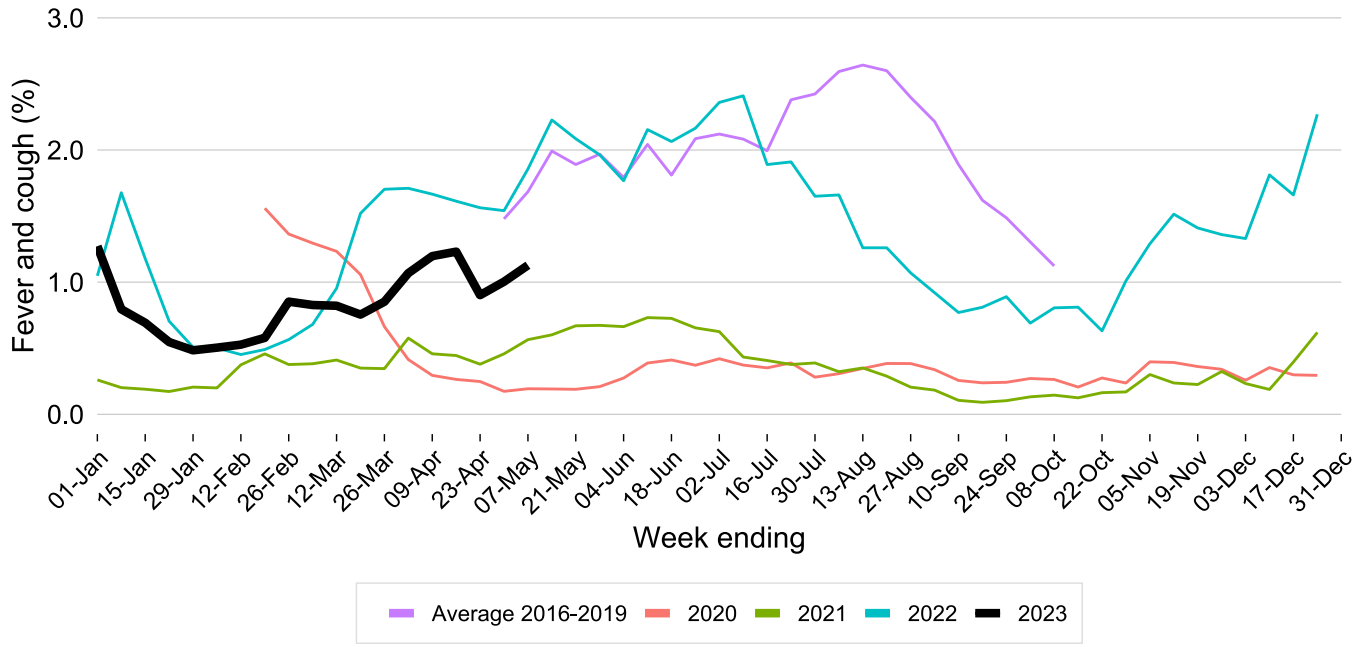


FluTracking and NSW sentinel laboratory network

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.

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 07 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; the proportion of these tests which are positive for influenza (Figure 13) or COVID-19 (Figure 14) has remained stable. This week's data was received from 6 of 13 laboratories for influenza PCR tests.

Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2022 to 07 May 2023.

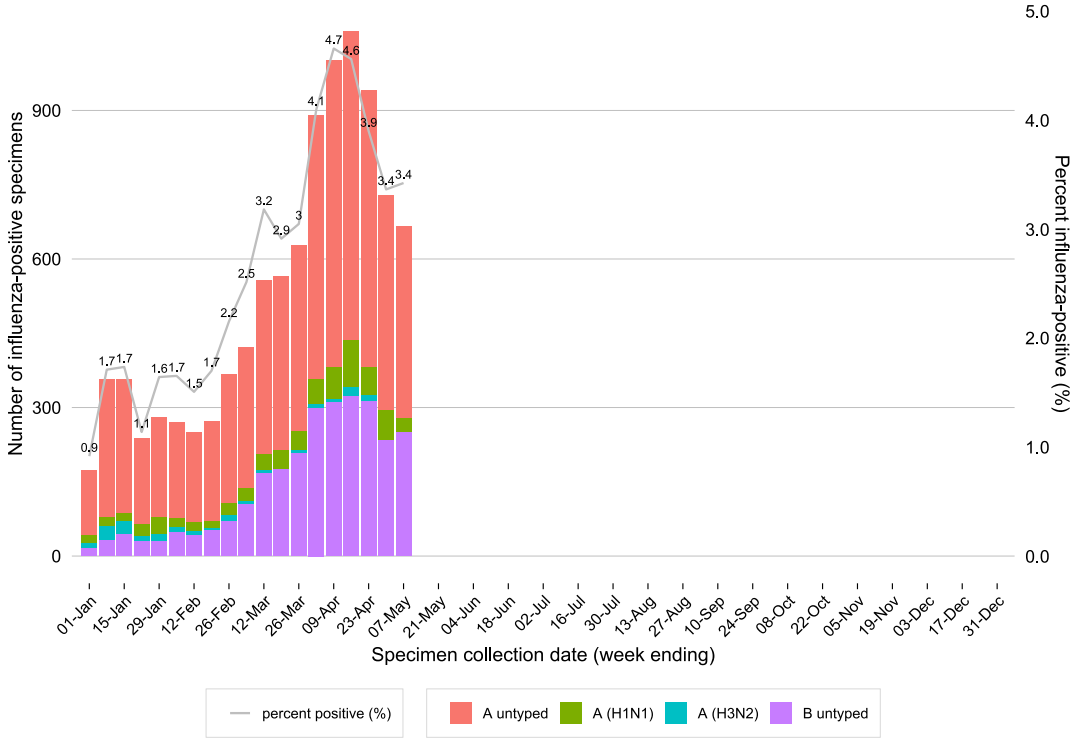


Figure 14. Number and proportion of tests positive for COVID at sentinel NSW laboratories, 1 January 2022 to 07 May 2023.

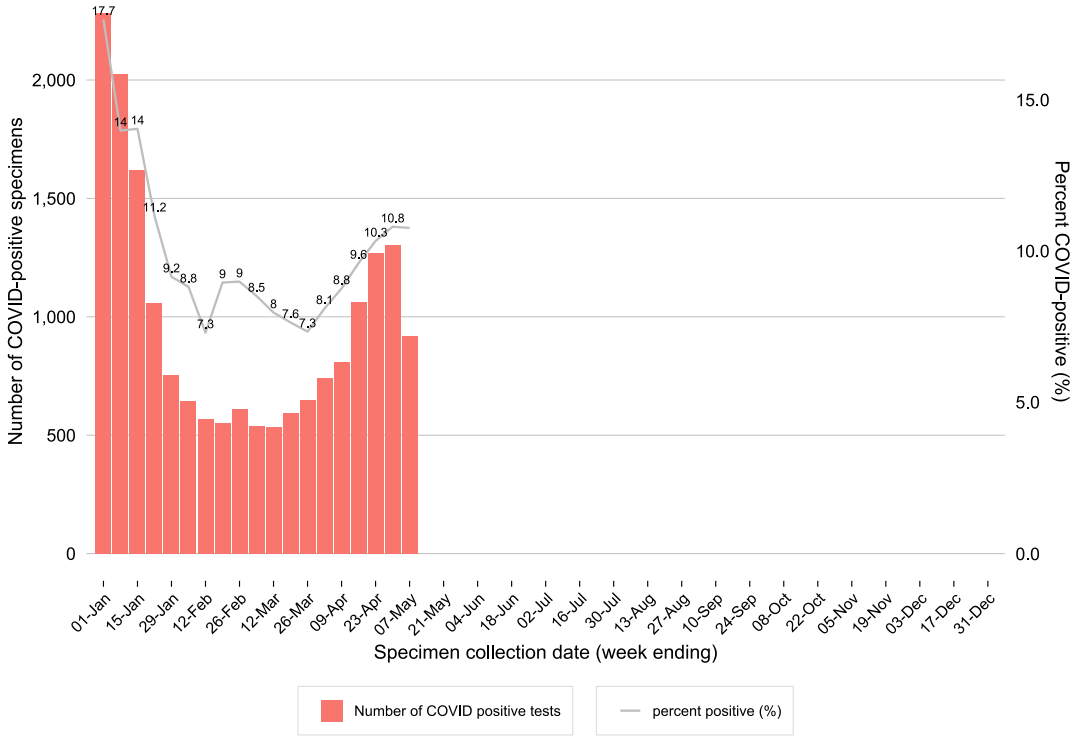


Figure 15. Number of positive PCR test results for other respiratory viruses at sentinel NSW laboratories, 1 January 2022 to 07 May 2023.

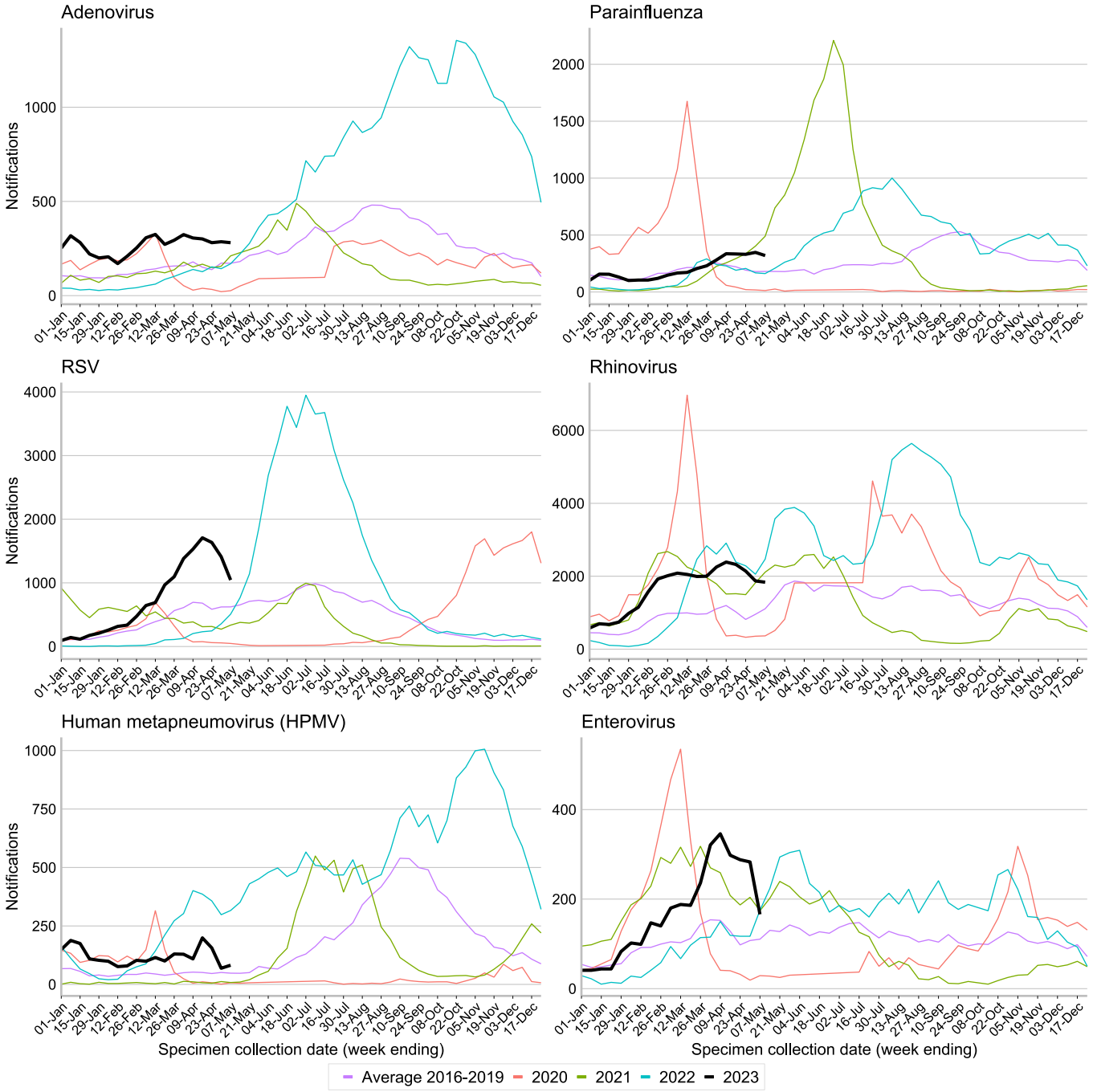


Table 3. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 07 May 2023.

	Week ending				Year to date
	16 April	23 April	30 April	07 May*	
Adenovirus	301	281	286	281	5,088
Respiratory syncytial virus (RSV)	1,708	1,635	1,411	1,045	14,227
Rhinovirus	2,323	2,142	1,871	1,836	31,269
Human metapneumovirus (HMPV)	199	156	69	82	2,269
Enterovirus	298	288	283	166	3,233
Number of PCR tests conducted	23,208	24,094	21,657	19,447	370,231

*Recent data are subject to change. For the week ending 07 May 2023, 6 out of 13 sentinel laboratories had provided testing data at the time of reporting.