

NSW Respiratory Surveillance Report - fortnight ending 06 January 2024

COVID-19 activity is at high levels. Influenza and respiratory syncytial virus (RSV) activity are at low levels.

Summary

COVID-19 activity remained at high levels across all indicators in the past fortnight. COVID-19 polymerase chain reaction (PCR) test positivity was 17.9%. Indicators suggest COVID-19 activity in the past fortnight is higher than the 2023 winter peak, and across greater Sydney is approaching levels observed in December 2022.

Influenza and RSV notifications declined and other indicators such as emergency department presentations for influenza-like illness and bronchiolitis were stable. Influenza and RSV PCR test positivity was stable at 3.6% and 1.6% respectively.

Data for the fortnight ending 7 January 2024, particularly notifications and emergency department presentations, should be interpreted cautiously given the likely impact of the holiday period on healthcare seeking behaviour and the availability of community-based healthcare services.

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. Registration of positive COVID-19 rapid antigen tests (RAT) in NSW ceased on 30 September 2023 and notifications now only reflect cases referred by a doctor for PCR. NSW Health also monitors COVID-19 [outbreaks in residential aged-care facilities](#) which are published by the Australian Government and COVID-19 antiviral prescriptions dispensed in NSW.

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: ED presentations for COVID-19 remain high although there was a decrease in the week ending 7 January 2024. The peak in late December potentially reflects changes in access to health services during the holiday season. The proportion of presentations requiring admission has been declining suggesting no increase in the severity of disease. Presentations for influenza-like illness and bronchiolitis were stable.

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

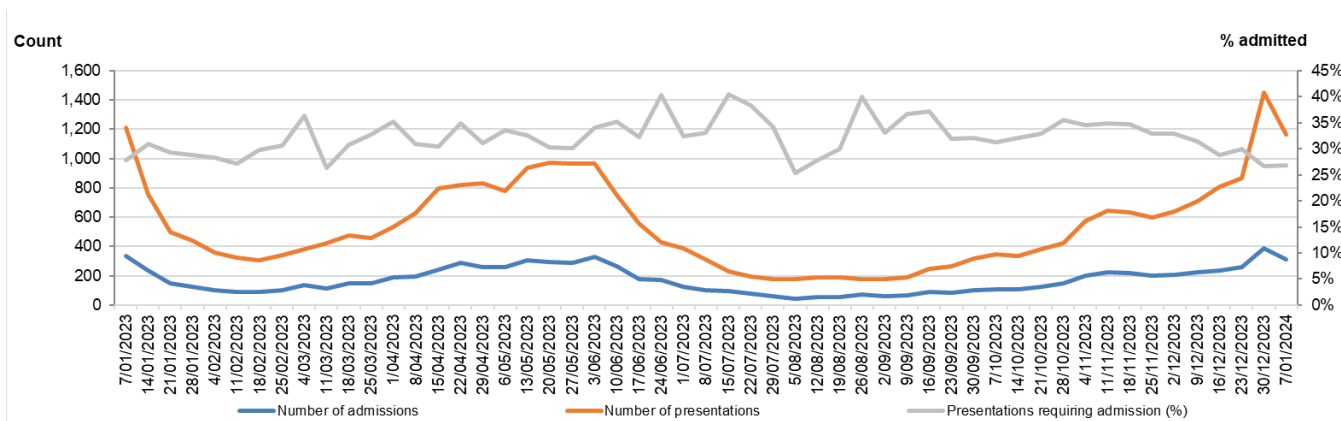


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

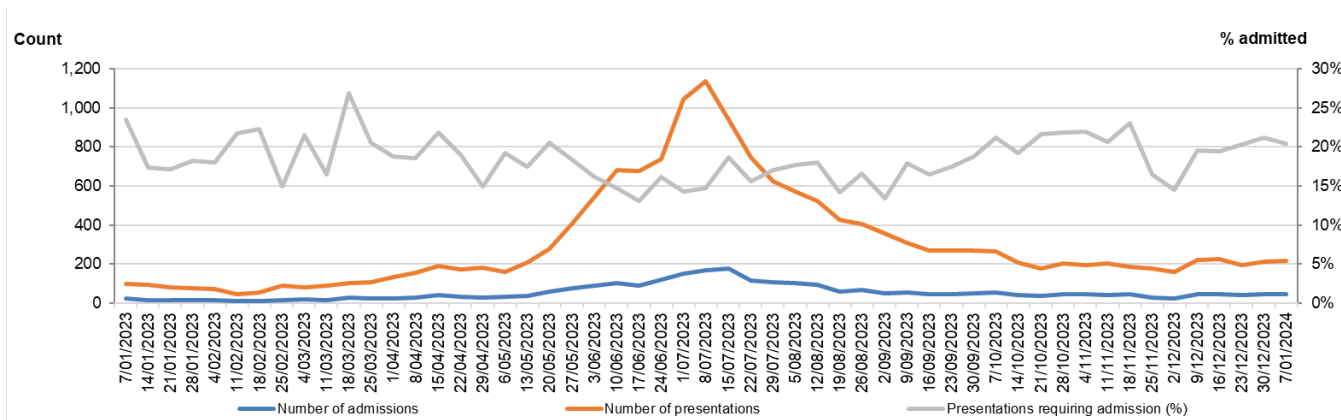
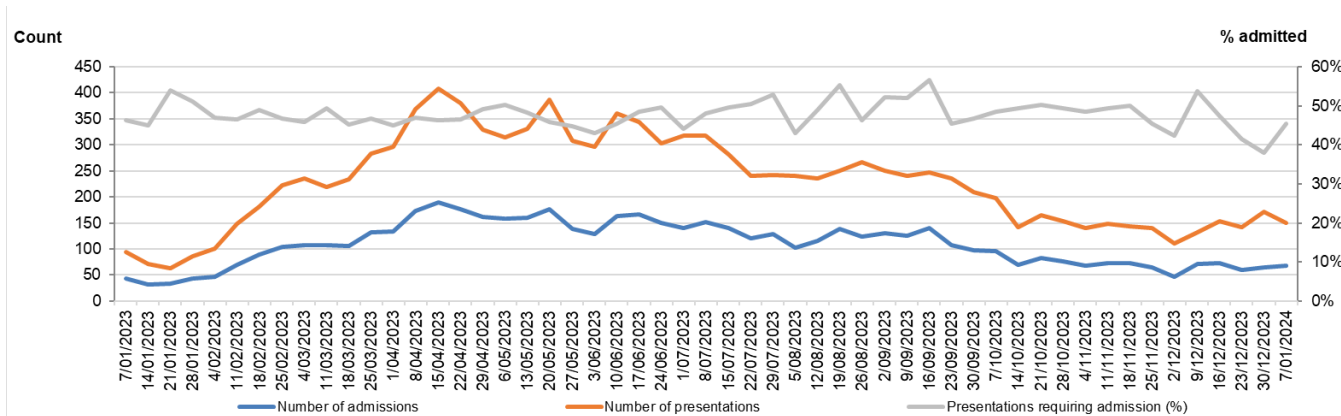


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



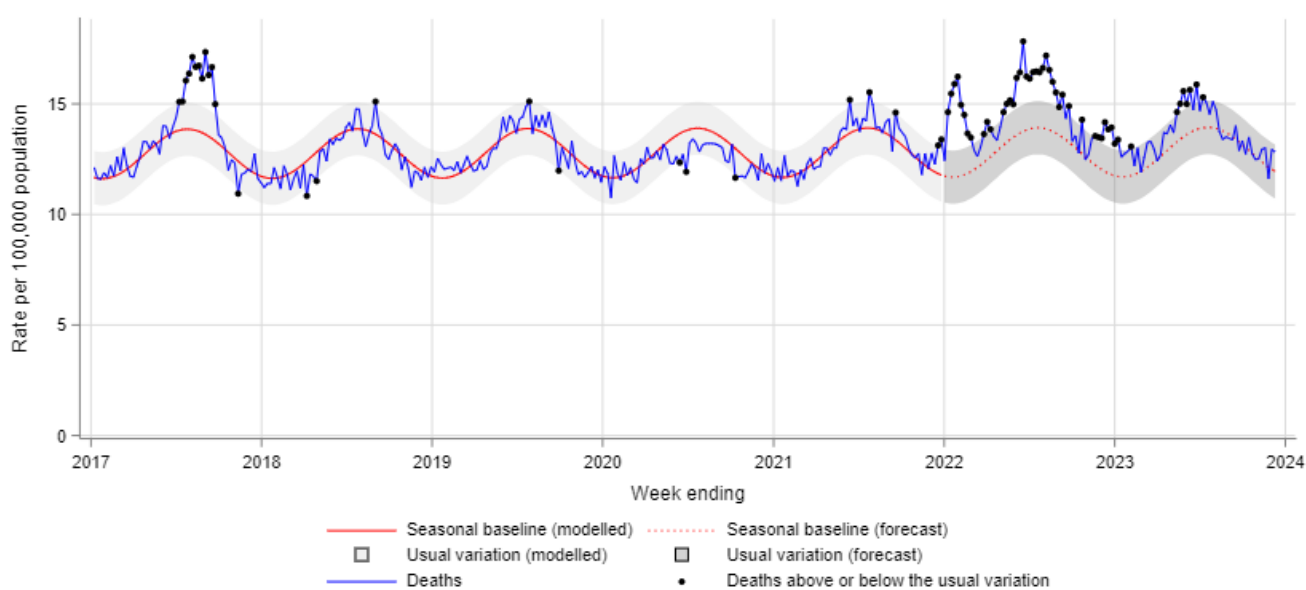
Death surveillance

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 10 December 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 5 November 2023 to 10 December 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 weeks 52 & 01, ending 6 January 2024

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.

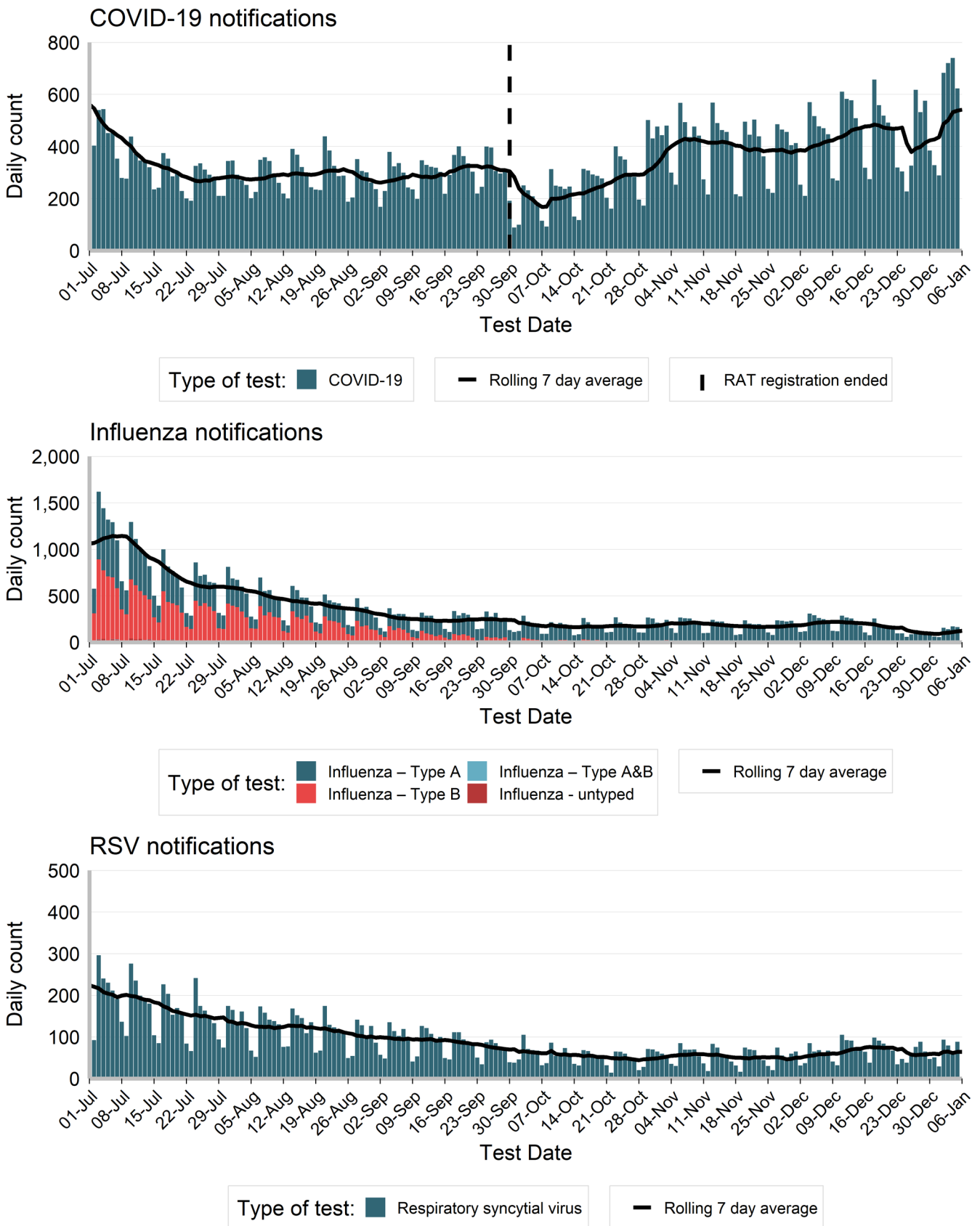
Interpretation: COVID-19 notifications increased by 2% in the past fortnight since the previous fortnight although the rolling 7-day average (Figure 5) indicated this was largely influenced by a decline in the week ending 30 December 2023 before rising again in the week ending 6 January 2024. Influenza notifications declined by 39% and RSV notifications by 15% since the previous fortnight. Notification data should be interpreted cautiously given the holiday period. This table will be reset to commence reporting year-to-date 2024 in the next report.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 06 January 2024.

	COVID		Influenza		RSV	
	Fortnight ending 06 January 2024	01 January 2023 to 06 January 2024	Fortnight ending 06 January 2024	01 January 2023 to 06 January 2024	Fortnight ending 06 January 2024	01 January 2023 to 06 January 2024
Gender						
Female	3,746	179,354(58%)	811	53,492(51%)	438	24,371(52%)
Male	2,997	131,333(42%)	709	51,725(49%)	425	22,486(48%)
Age group (years)						
0-4	669	12,798(4%)	155	14,127(13%)	499	24,903(53%)
5-9	86	9,075(3%)	99	20,517(19%)	29	2,535(5%)
10-19	174	23,977(8%)	147	19,843(19%)	16	2,172(5%)
20-29	514	33,713(11%)	248	9,378(9%)	32	1,706(4%)
30-39	691	44,899(14%)	198	13,605(13%)	40	2,242(5%)
40-49	590	43,600(14%)	153	10,766(10%)	24	1,753(4%)
50-59	648	41,439(13%)	148	6,145(6%)	45	2,366(5%)
60-69	796	38,521(12%)	134	4,755(5%)	60	2,865(6%)
70-79	1,018	31,333(10%)	128	3,496(3%)	55	2,866(6%)
80-89	1,091	22,038(7%)	72	2,000(2%)	49	2,410(5%)
90+	484	9,604(3%)	37	599(1%)	13	1,045(2%)
Local Health District of residence						
Central Coast	264	14,300(5%)	57	3,281(3%)	42	2,166(5%)
Far West	12	894(0%)	5	285(0%)	0	213(0%)
Hunter New England	442	37,636(12%)	98	7,401(7%)	52	4,065(9%)
Illawarra Shoalhaven	274	19,094(6%)	95	4,976(5%)	36	2,356(5%)
Mid North Coast	185	6,970(2%)	30	2,173(2%)	27	897(2%)
Murrumbidgee	132	9,673(3%)	37	3,321(3%)	10	2,063(4%)
Nepean Blue Mountains	316	15,492(5%)	55	6,170(6%)	44	2,665(6%)
Northern NSW	244	9,255(3%)	42	3,671(3%)	24	1,105(2%)
Northern Sydney	817	37,872(12%)	226	13,330(13%)	184	6,399(14%)
South Eastern Sydney	793	33,496(11%)	206	9,446(9%)	107	4,724(10%)
South Western Sydney	1,003	34,277(11%)	191	16,989(16%)	101	6,457(14%)
Southern NSW	93	7,915(3%)	30	1,875(2%)	15	923(2%)
Sydney	521	25,707(8%)	101	6,960(7%)	70	3,075(7%)
Western NSW	159	11,752(4%)	22	2,535(2%)	13	1,799(4%)
Western Sydney	1,441	43,481(14%)	306	22,445(21%)	134	7,826(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	136	9,611(3%)	40	3,504(3%)	17	1,596(3%)
Not Aboriginal or Torres Strait Islander	3,917	222,822(72%)	855	56,127(53%)	437	22,854(49%)
Not Stated / Unknown	2,704	78,615(25%)	625	45,651(43%)	409	22,442(48%)
Total	6,757	311,048(100%)	1,520	105,282(100%)	863	46,892(100%)

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

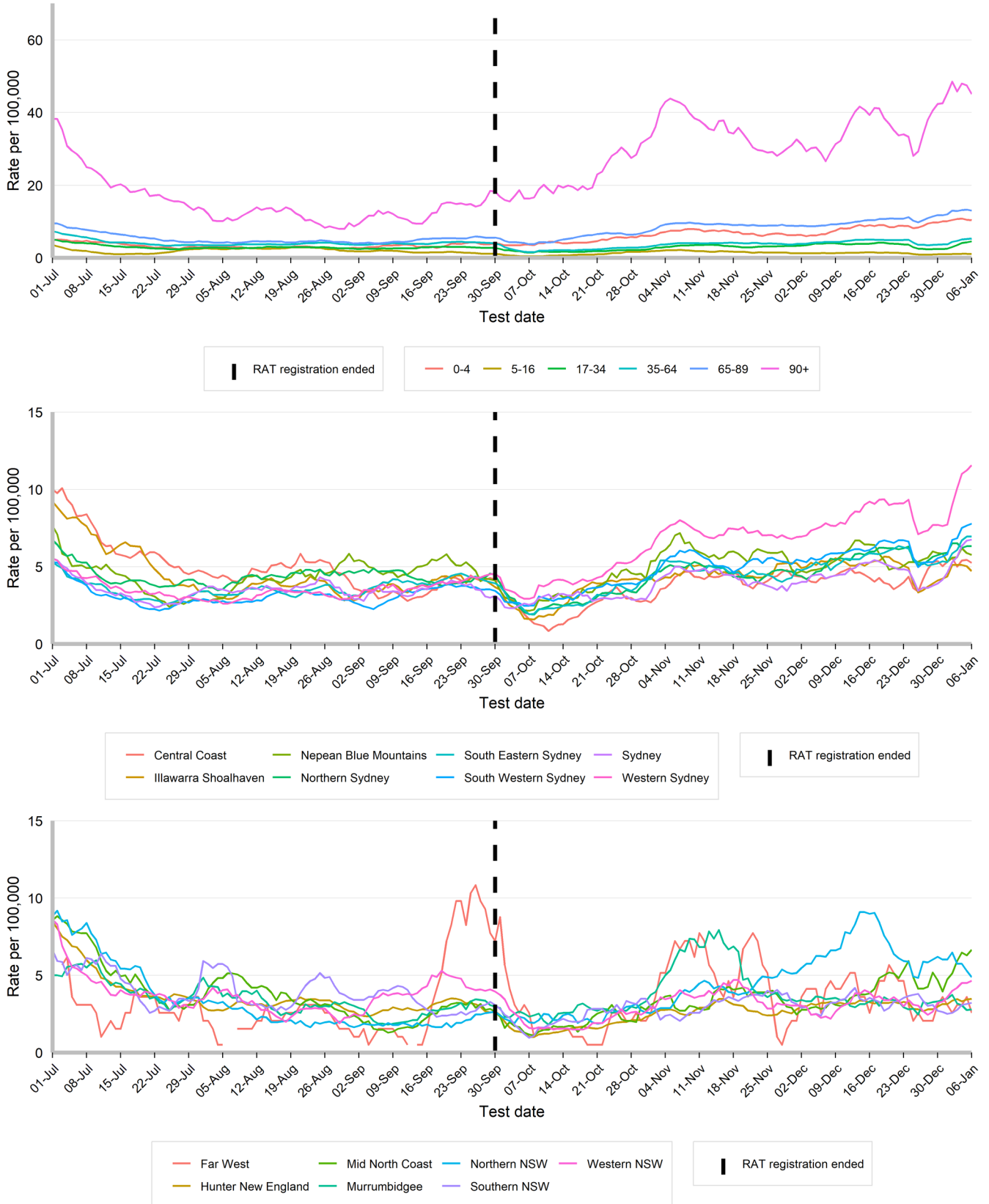
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 06 January 2024.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates remain highest in those aged 90 years and over, 65 – 89 years and 0 – 4 years. This likely reflects healthcare seeking behaviour in at risk-age groups. Rates varied across Local Health Districts.

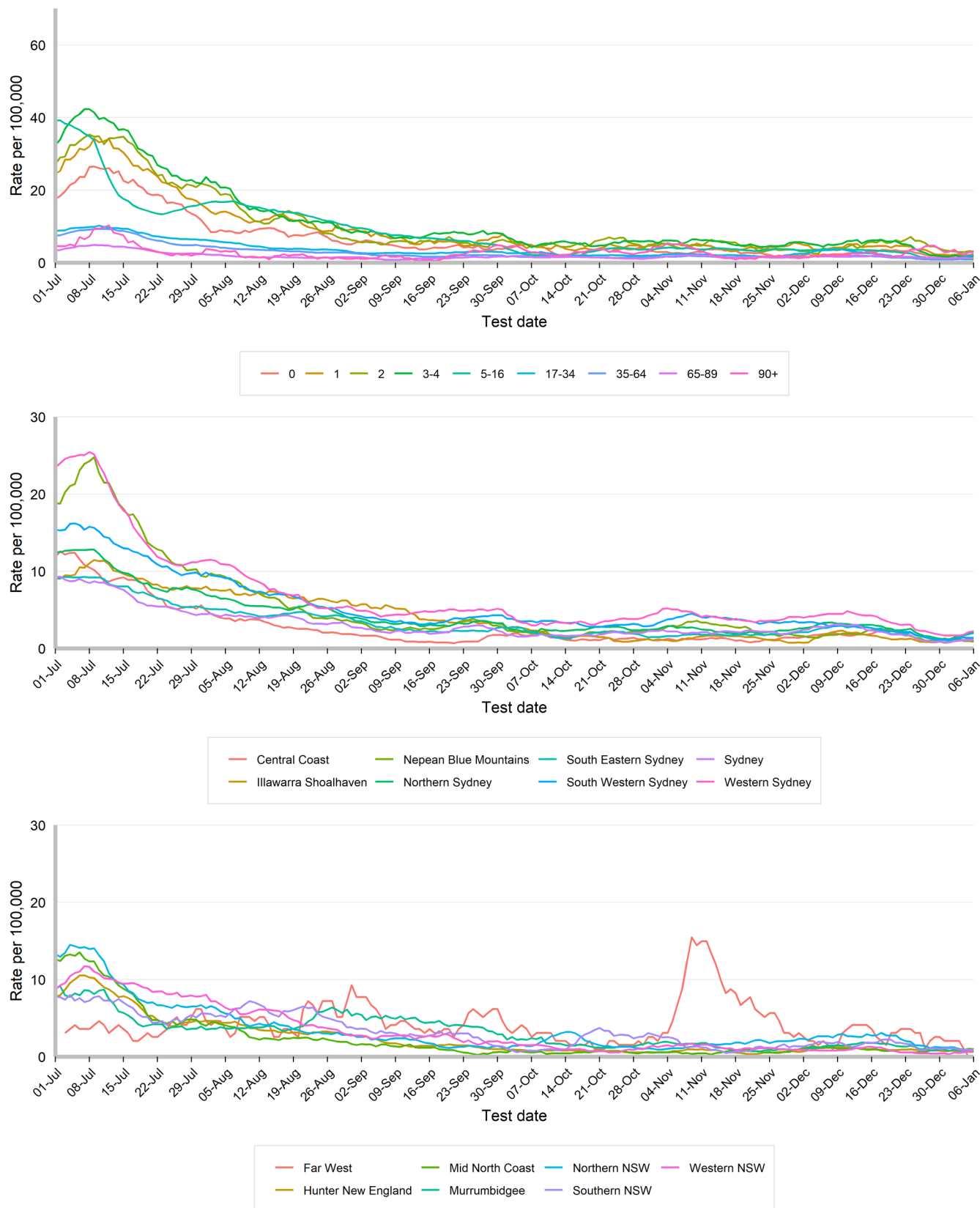
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 06 January 2024.



Rates of influenza notifications per 100,000 population

Interpretation: Influenza notification rates declined or were stable across age-groups and most Local Health Districts

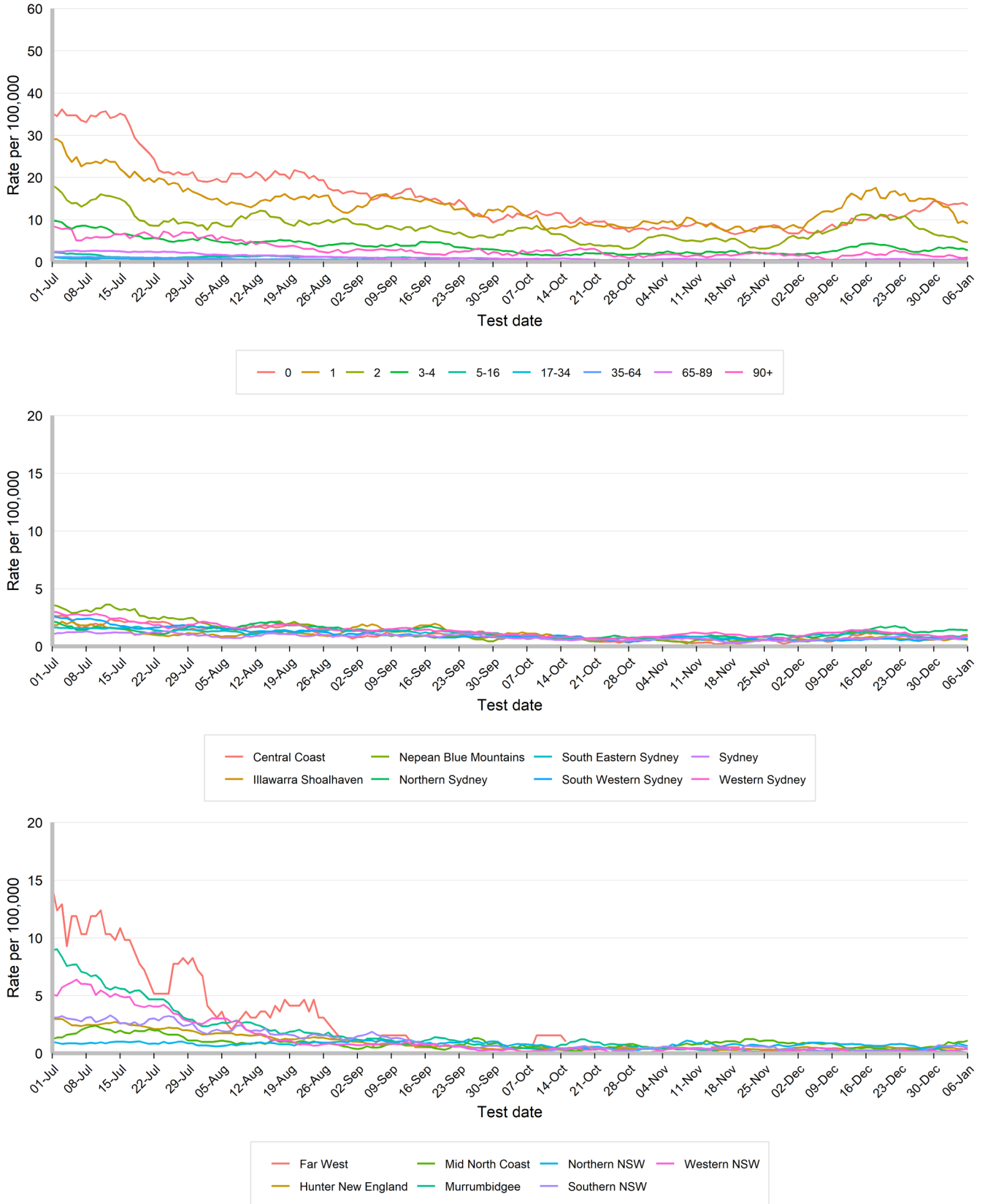
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 06 January 2024.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates declined in 1- and 2-year-olds but were stable in the past week in infants less than 12-months of age following prior increases in December 2023.

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 July 2023 to 06 January 2024.

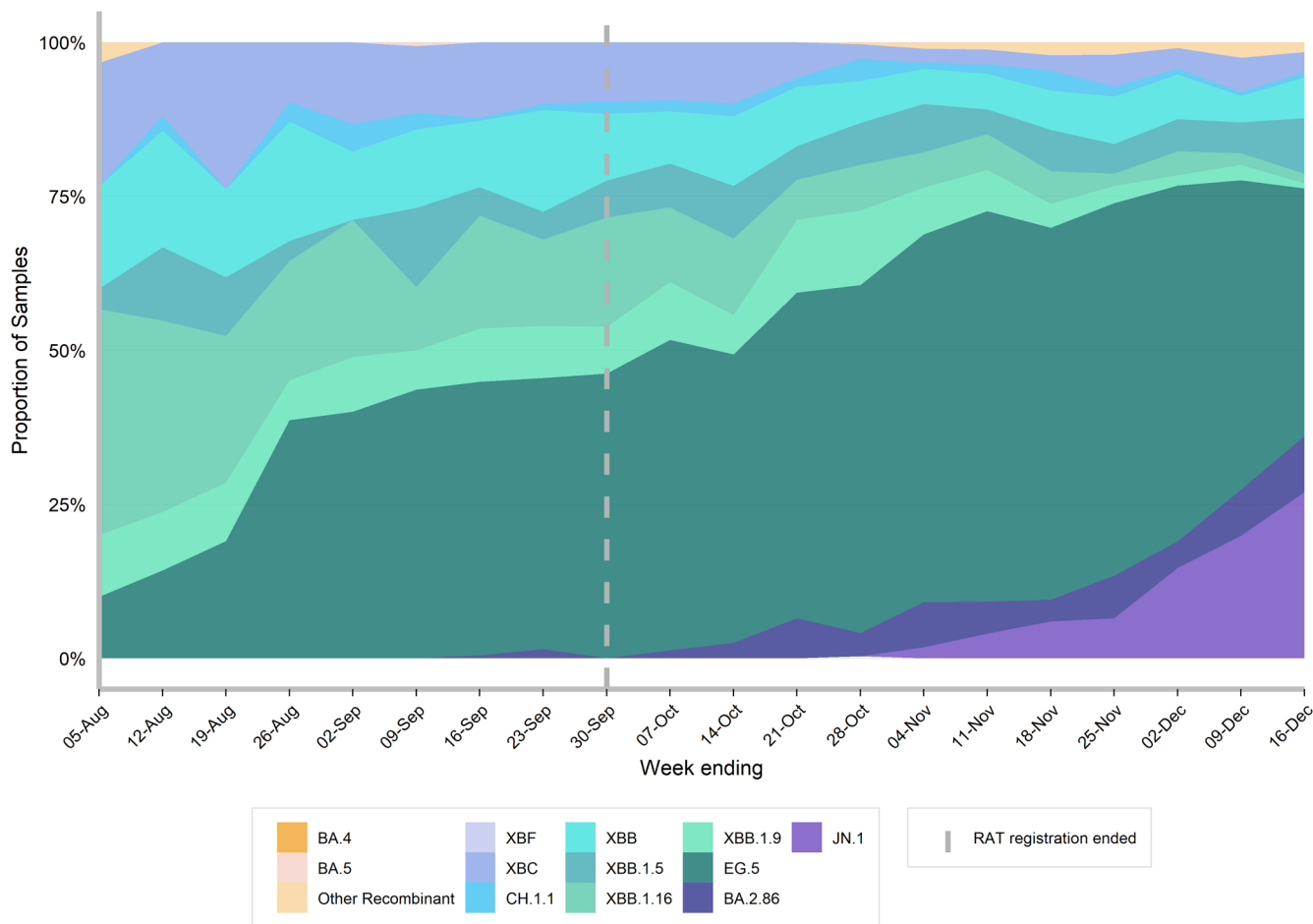


COVID-19 Whole Genome Sequencing

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.

Interpretation: EG.5 continues to dominate circulating sub-lineages and the proportion sequenced as JN.1 is increasing. Insufficient samples were sequenced to update the graph beyond 16 December 2023.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 16 December 2023.



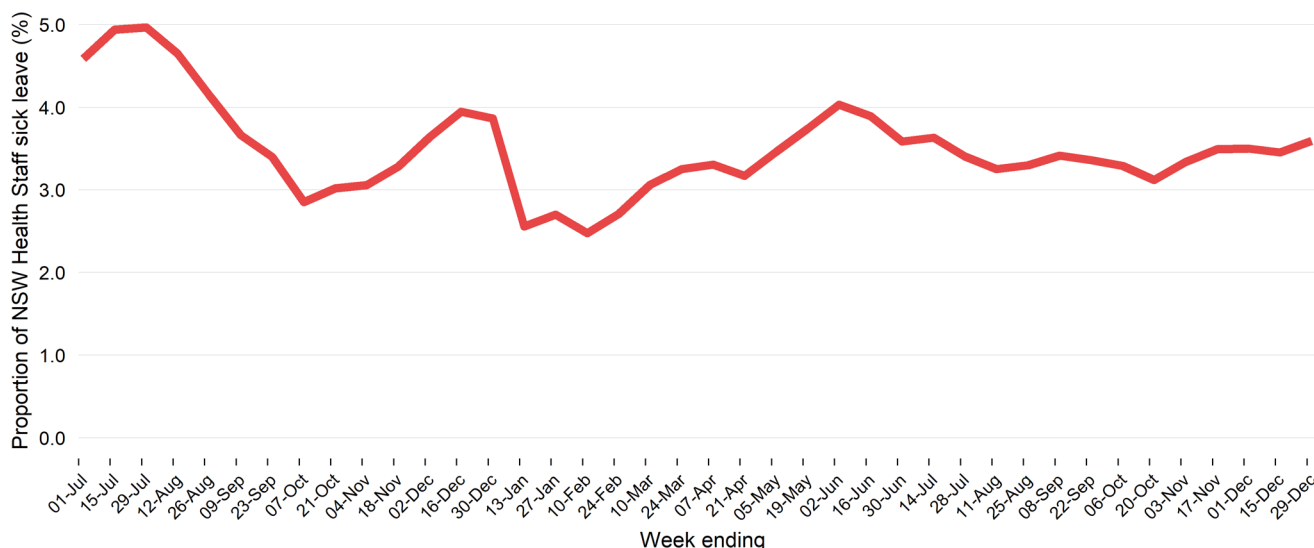
Other surveillance indicators

NSW Health Nursing Staff sick leave

NSW Health nursing staff absenteeism is a proxy indicator of illness patterns in the community and the impact of these on healthcare services. Nursing staff leave is used given it is a timelier representation of leave in each week. The data represent the proportion of full-time equivalent staff on sick leave for any reason.

Interpretation: A small increase in nursing staff sick leave was observed in the last two weeks of December 2023.

Figure 10. Proportion of NSW Health full-time equivalent nursing staff on sick leave, 1 July 2022 to 31 December 2023.

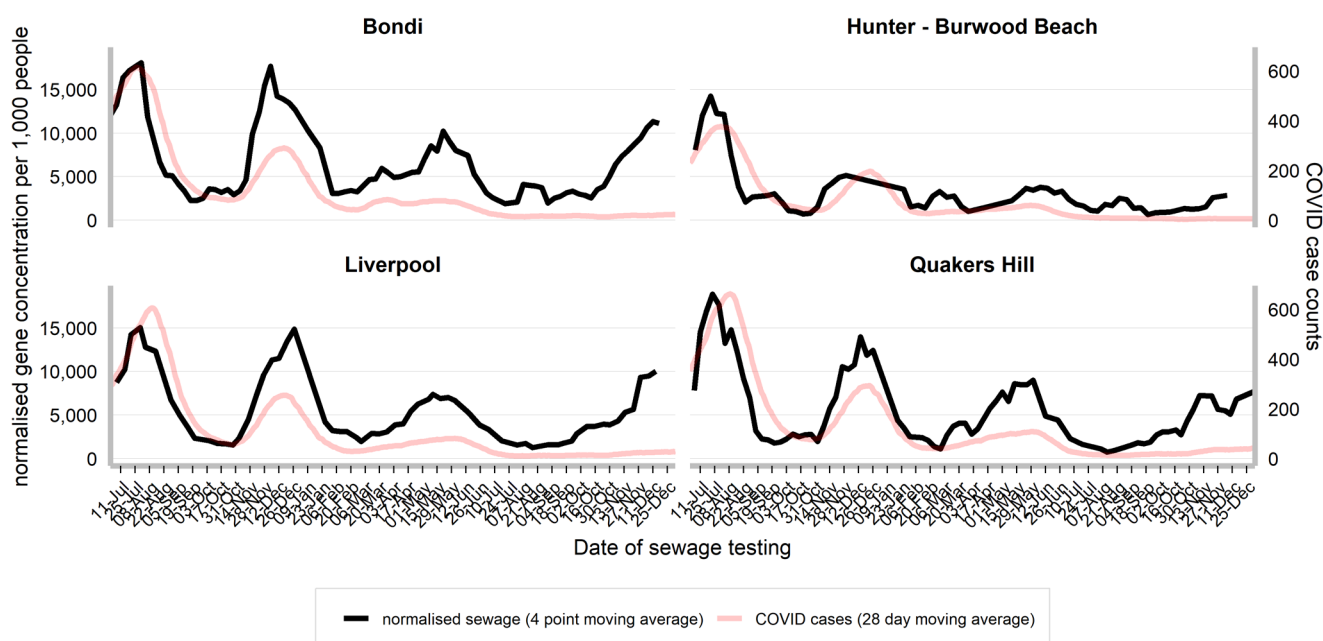


COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 02 January 2024. 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. This indicates high levels of community transmission. COVID-19 BA.2.86 sublineages, which include JN.1, dominated detections in the last week of December. Data were not available for Hunter-Burwood Beach for the week ending 02 January 2024

Figure 11. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 02 January 2024.



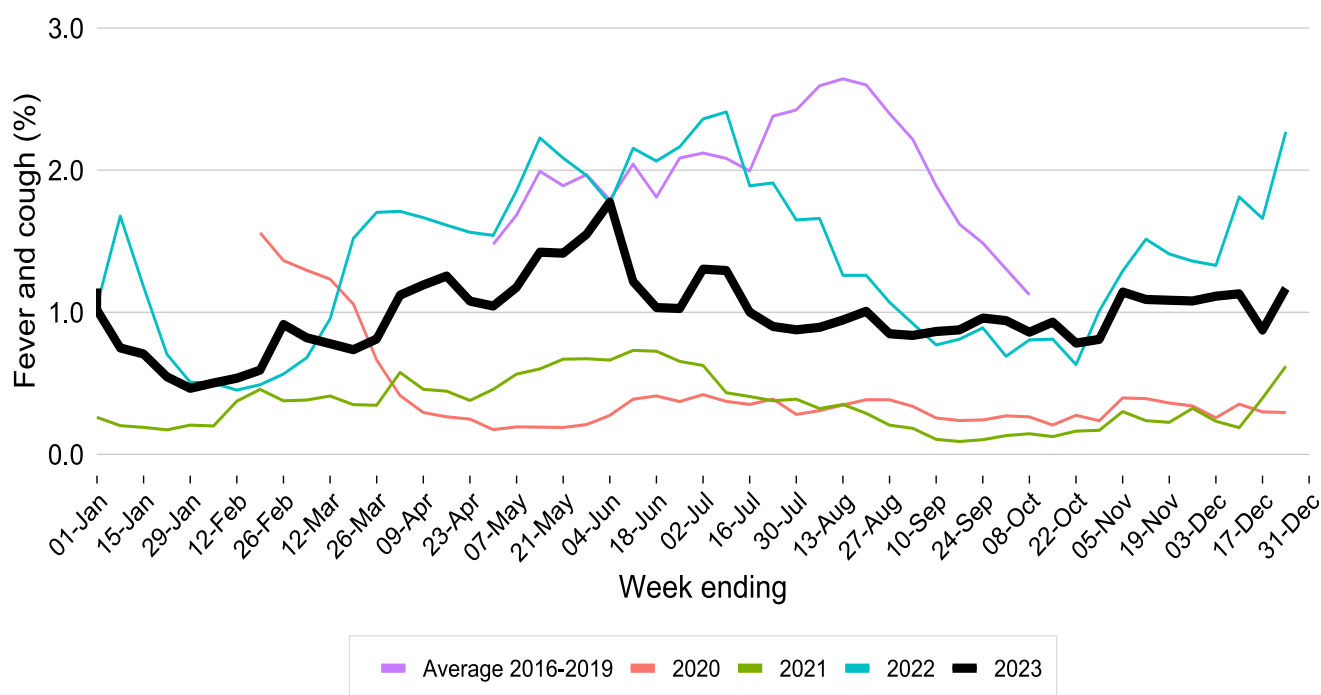
FluTracking and NSW sentinel laboratory network

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/>

Please note over the summer period there will be a reduced sample size for FluTracking, as participants have been given the option to opt-out until April 2024.

Interpretation: The proportion of FluTracking participants reporting fever and cough is persisting above 2020 and 2021 levels however is below the trend observed for the same period in 2022. The FluTracking data will reset to commence from 1 January 2024 in the next reporting period.

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January 2023 to 31 December 2024.



Epidemiological weeks 52 & 01, ending 6 January 2024

The NSW sentinel laboratory network comprises of 13 public and private laboratories throughout NSW who provide additional data on positive and negative polymerase chain reaction (PCR) test results. This helps us to understand which respiratory viruses are circulating as well as how much.

Interpretation: COVID-19 PCR test positivity continued to increase and was 17.9% in the week ending 7 January 2024. Test positivity for influenza (3.6%) and RSV (1.6%) was stable.

Figure 13. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 July 2023 to 07 January 2024.

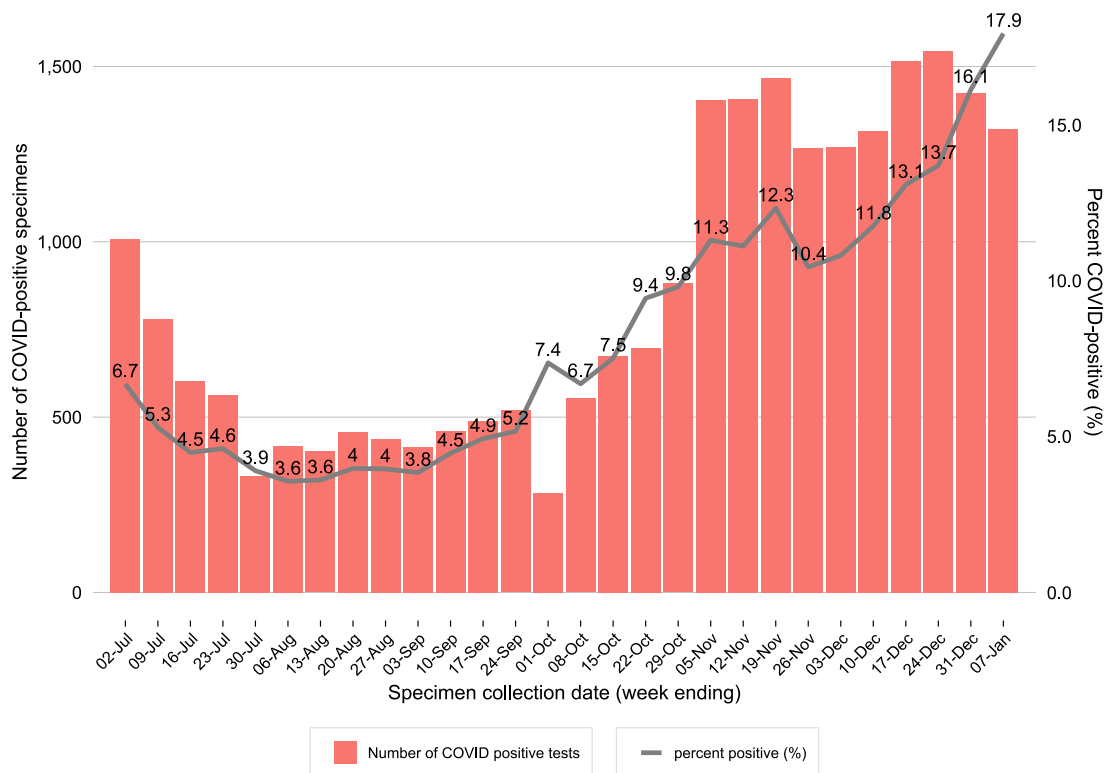


Figure 14. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 July 2023 to 07 January 2024.

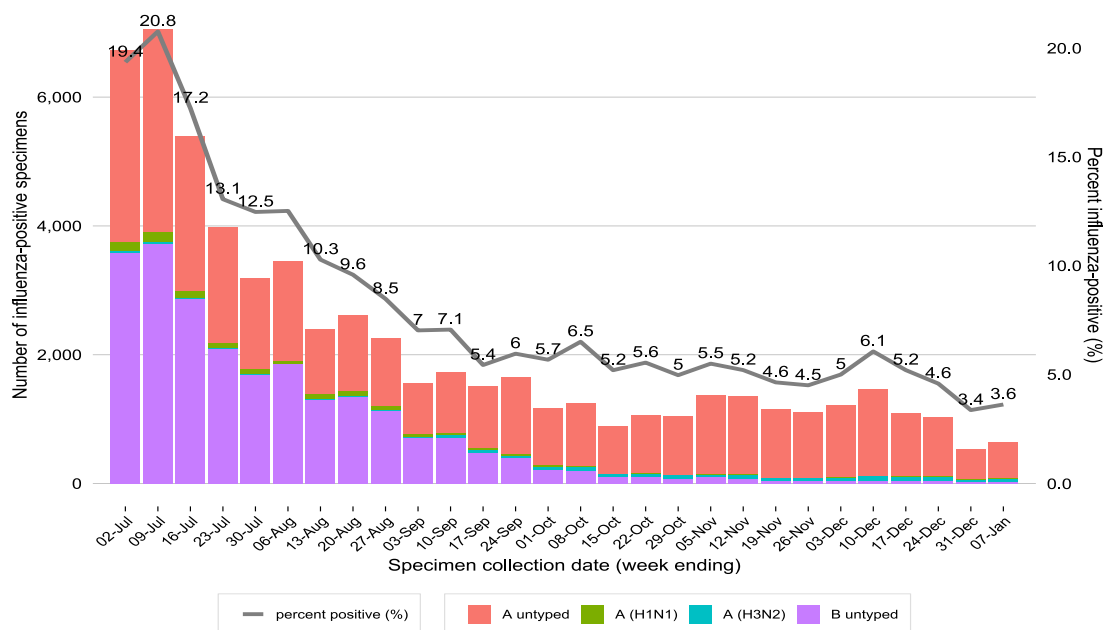


Figure 15. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 July 2023 to 07 January 2024

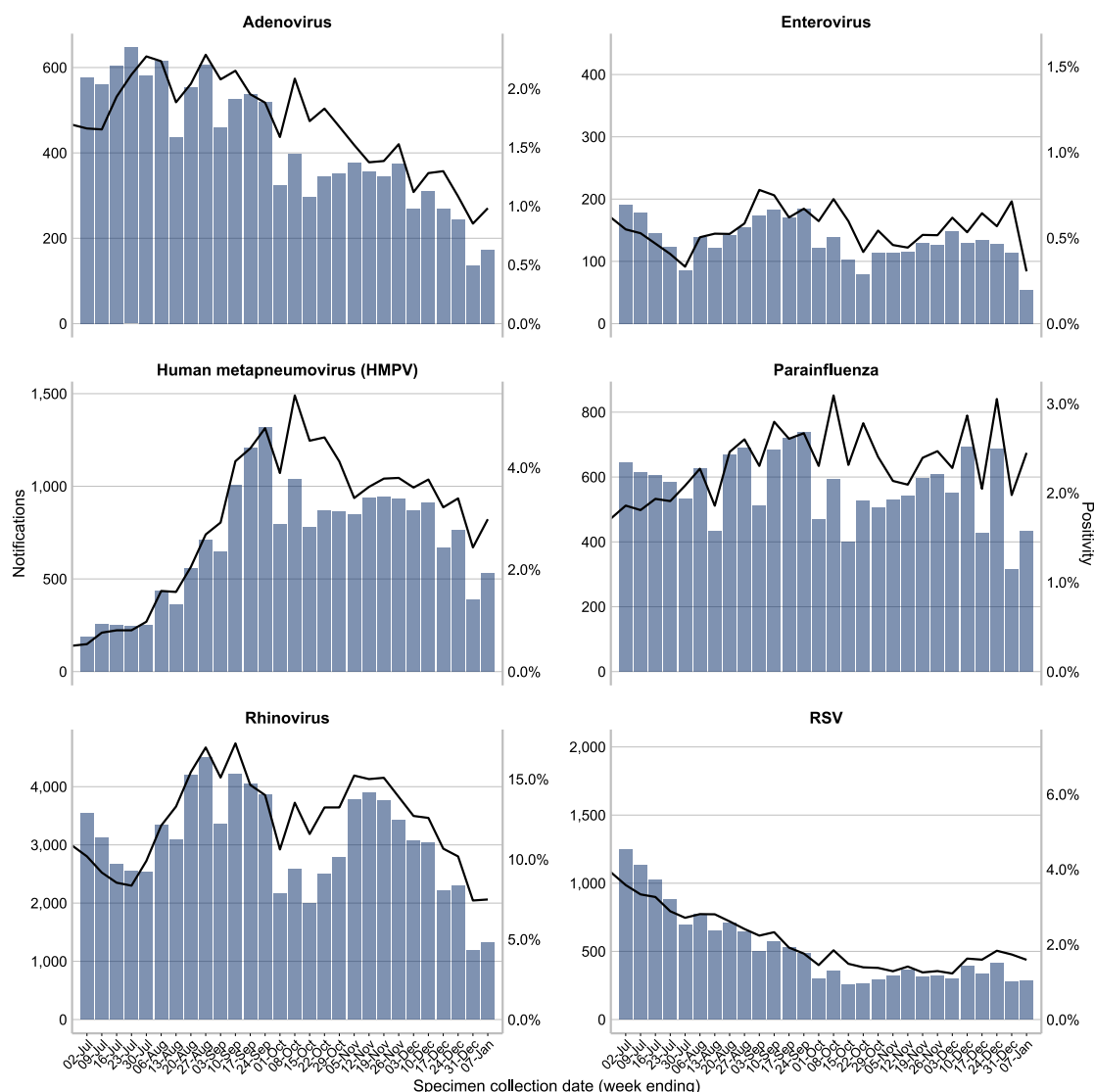


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 07 January 2024.

	Week ending				2024 Year to date n
	17 December n(% pos)	24 December n(% pos)	31 December n(% pos)	07 January n(% pos)	
Influenza	1,084 (5.2%)	1,034 (4.6%)	539 (3.4%)	643 (3.6%)	643
Adenovirus	270 (1.3%)	244 (1.1%)	136 (0.9%)	174 (1.0%)	174
Parainfluenza	426 (2.0%)	688 (3.1%)	316 (2.0%)	434 (2.4%)	434
Respiratory syncytial virus (RSV)	332 (1.6%)	413 (1.8%)	277 (1.7%)	282 (1.6%)	282
Rhinovirus	2,219 (10.7%)	2,293 (10.2%)	1,187 (7.4%)	1,327 (7.5%)	1,327
Human metapneumovirus (HMPV)	670 (3.2%)	765 (3.4%)	389 (2.4%)	529 (3.0%)	529
Enterovirus	134 (0.6%)	128 (0.6%)	114 (0.7%)	54 (0.3%)	54
Number of PCR tests conducted	20,811	22,531	15,980	17,715	17,715
SARS-CoV-2	1,515 (13.1%)	1,545 (13.7%)	1,424 (16.1%)	1,321 (17.9%)	1,321
Number of COVID PCR tests	11,579	11,279	8,828	7,367	7,367
Number of laboratories reporting	10	11	10	9	-
Number of laboratories reporting COVID	4	4	4	3	-

Recent data is subject to change.