NSW Respiratory Surveillance Report - fortnight ending 17 February 2024

COVID-19 activity is at moderate to high levels. Influenza activity is low. Respiratory syncytial virus activity is low but is increasing.

Summary

COVID-19 activity has decreased across most indicators, such as laboratory notifications and emergency department (ED) presentations. Sewage surveillance indicates community transmission is no longer increasing. Influenza activity is low with PCR test positivity at 2.7%. RSV presentations to ED and notifications increased in the past fortnight.

Data sources and methods

NSW Health continually reviews the methods used to monitor respiratory virus activity in New South Wales. This is due to 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 sources for this report update 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: Presentations and admission to EDs for COVID-19 have declined. Influenza-like illness presentations declined slightly and the number of admissions were unchanged. Presentations and admissions for bronchiolitis in young children increased.

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

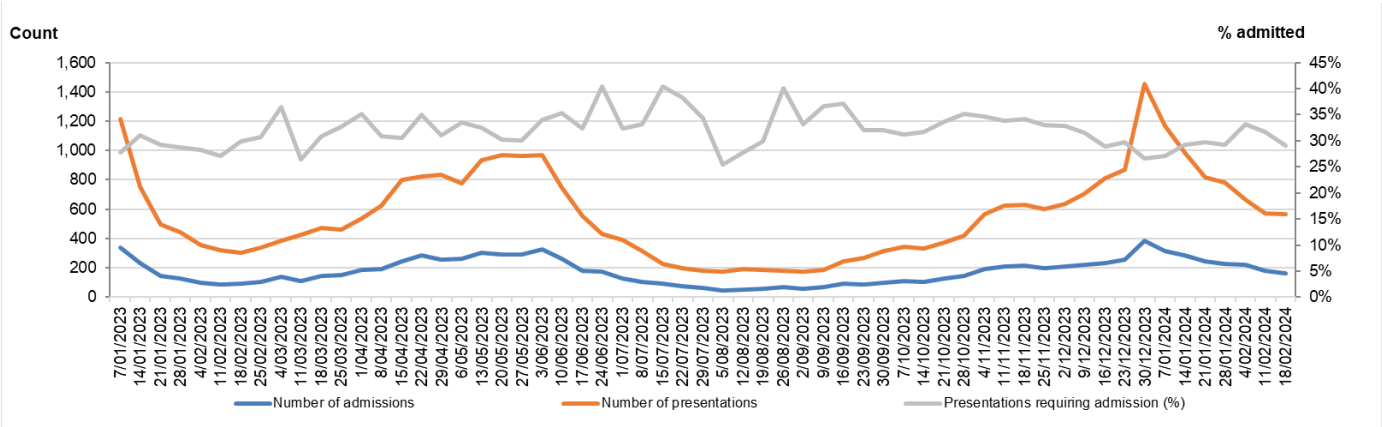


Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.

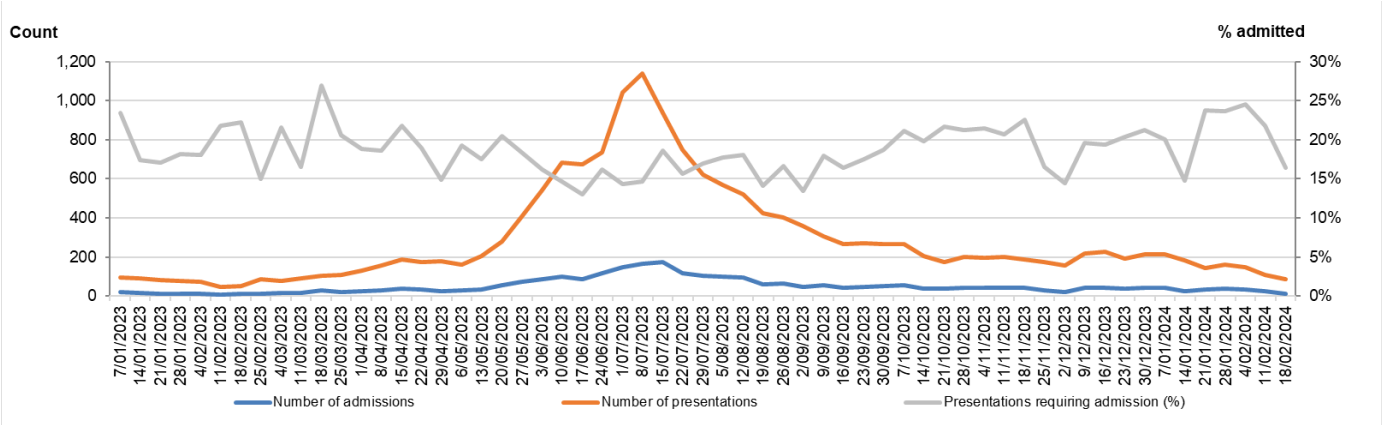
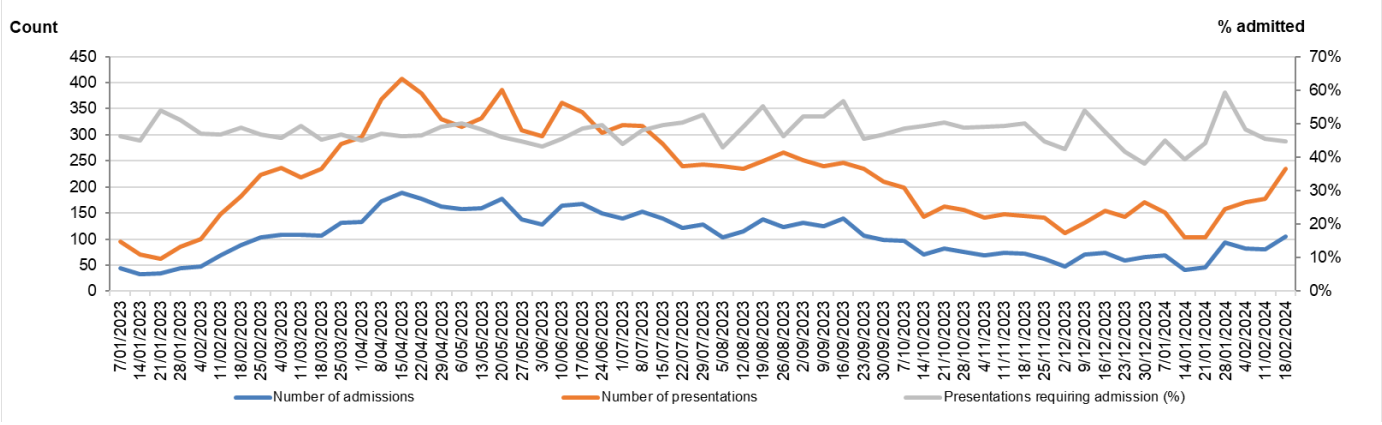


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.



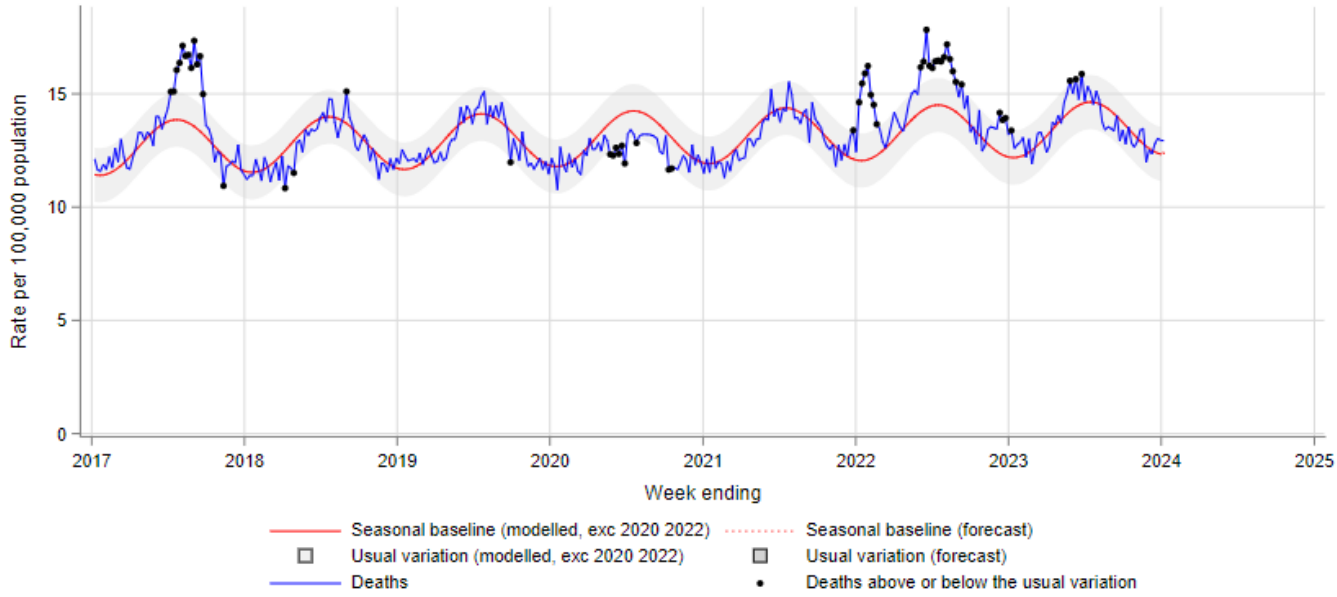
Death surveillance

All-cause mortality

The model for rapid surveillance of excess all-cause mortality in NSW is updated annually and has a focus on surveillance for increased mortality in recent months. The outputs of the model for the current year should not be directly compared to outputs from previous years, as the model baseline has been updated. The NSW model supports surveillance of the impact of viruses such as COVID-19 and influenza on all-cause mortality rates. This is not the same approach as that used by the ABS or by the Actuaries Institute to examine excess mortality associated with COVID-19 during the pandemic period. These other approaches modelled excess mortality in the absence of COVID-19.

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 January 2024



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 3 December 2023 to 7 January 2024. For additional details see data sources and methods.

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. This indicator provides information about community infection.

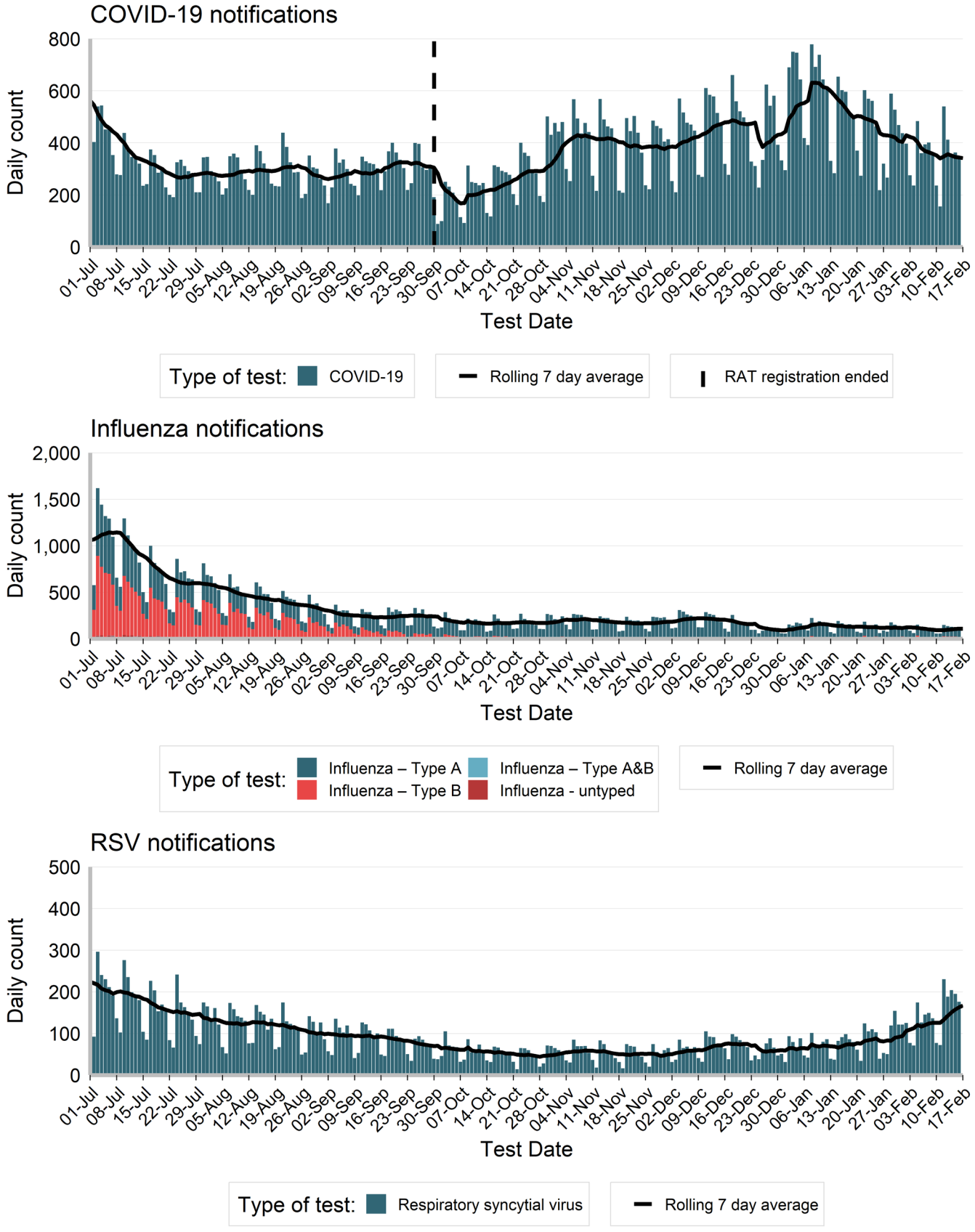
Interpretation: In the past fortnight there was decrease of 17.8% in COVID notifications, a decrease of 15.1% in influenza notifications, and an increase of 58.1% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 17 February 2024.

	COVID		Influenza		RSV	
	Fortnight ending 17 February 2024	Year to Date	Fortnight ending 17 February 2024	Year to Date	Fortnight ending 17 February 2024	Year to Date
Gender						
Female	2,683	12,123(55%)	724	2,952(51%)	1,063	2,442(51%)
Male	2,170	9,935(45%)	681	2,871(49%)	982	2,353(49%)
Age group (years)						
0-4	543	2,318(10%)	194	757(13%)	1,403	2,969(62%)
5-9	151	391(2%)	173	514(9%)	93	183(4%)
10-19	284	868(4%)	215	702(12%)	69	141(3%)
20-29	374	1,814(8%)	149	803(14%)	70	167(3%)
30-39	534	2,509(11%)	169	790(14%)	102	246(5%)
40-49	512	2,216(10%)	162	690(12%)	49	166(3%)
50-59	454	2,180(10%)	106	559(10%)	58	206(4%)
60-69	483	2,438(11%)	106	437(7%)	68	223(5%)
70-79	602	2,910(13%)	73	349(6%)	79	256(5%)
80-89	603	2,928(13%)	46	167(3%)	39	185(4%)
90+	325	1,505(7%)	13	60(1%)	16	60(1%)
Local Health District of residence						
Central Coast	207	728(3%)	38	205(4%)	100	225(5%)
Far West	17	63(0%)	0	5(0%)	0	1(0%)
Hunter New England	399	1,550(7%)	39	203(3%)	154	328(7%)
Illawarra Shoalhaven	257	920(4%)	56	291(5%)	72	184(4%)
Mid North Coast	122	605(3%)	25	63(1%)	32	92(2%)
Murrumbidgee	109	435(2%)	15	88(2%)	8	37(1%)
Nepean Blue Mountains	207	921(4%)	61	194(3%)	97	212(4%)
Northern NSW	202	727(3%)	33	124(2%)	49	109(2%)
Northern Sydney	497	2,545(12%)	283	1,099(19%)	380	897(19%)
South Eastern Sydney	510	2,465(11%)	189	762(13%)	226	570(12%)
South Western Sydney	723	3,471(16%)	215	841(14%)	346	718(15%)
Southern NSW	57	327(1%)	14	63(1%)	17	46(1%)
Sydney	405	1,997(9%)	135	491(8%)	141	353(7%)
Western NSW	86	396(2%)	12	72(1%)	11	48(1%)
Western Sydney	995	4,701(21%)	283	1,292(22%)	408	968(20%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	94	421(2%)	29	109(2%)	48	109(2%)
Not Aboriginal or Torres Strait Islander	2,569	12,213(55%)	714	3,217(55%)	818	2,131(44%)
Not Stated / Unknown	2,195	9,441(43%)	663	2,502(43%)	1,180	2,563(53%)
Total	4,858	22,075(100%)	1,406	5,828(100%)	2,046	4,803(100%)

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

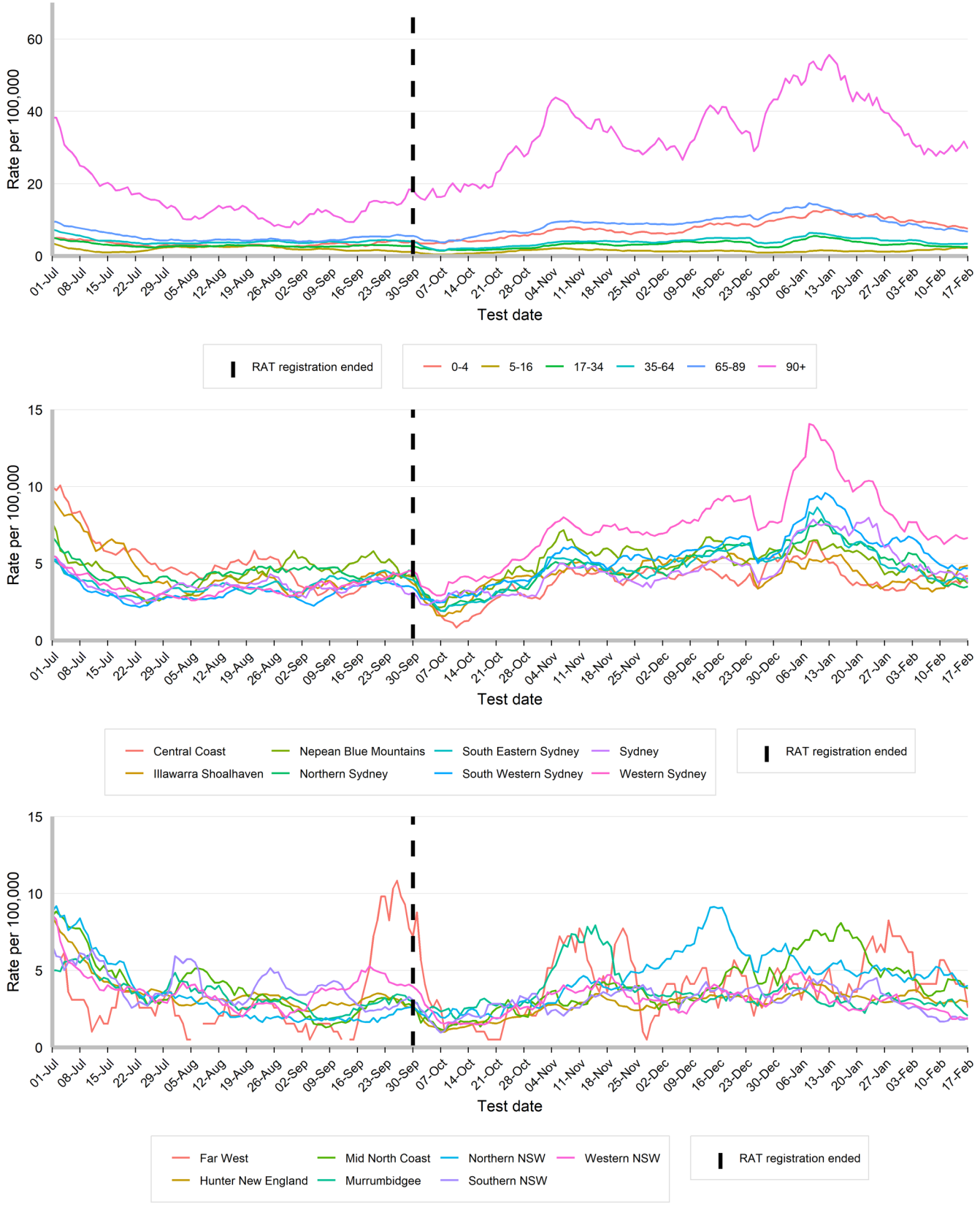
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 17 February 2024.



Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 rates are declining or are stable across most age-groups and Local Health Districts.

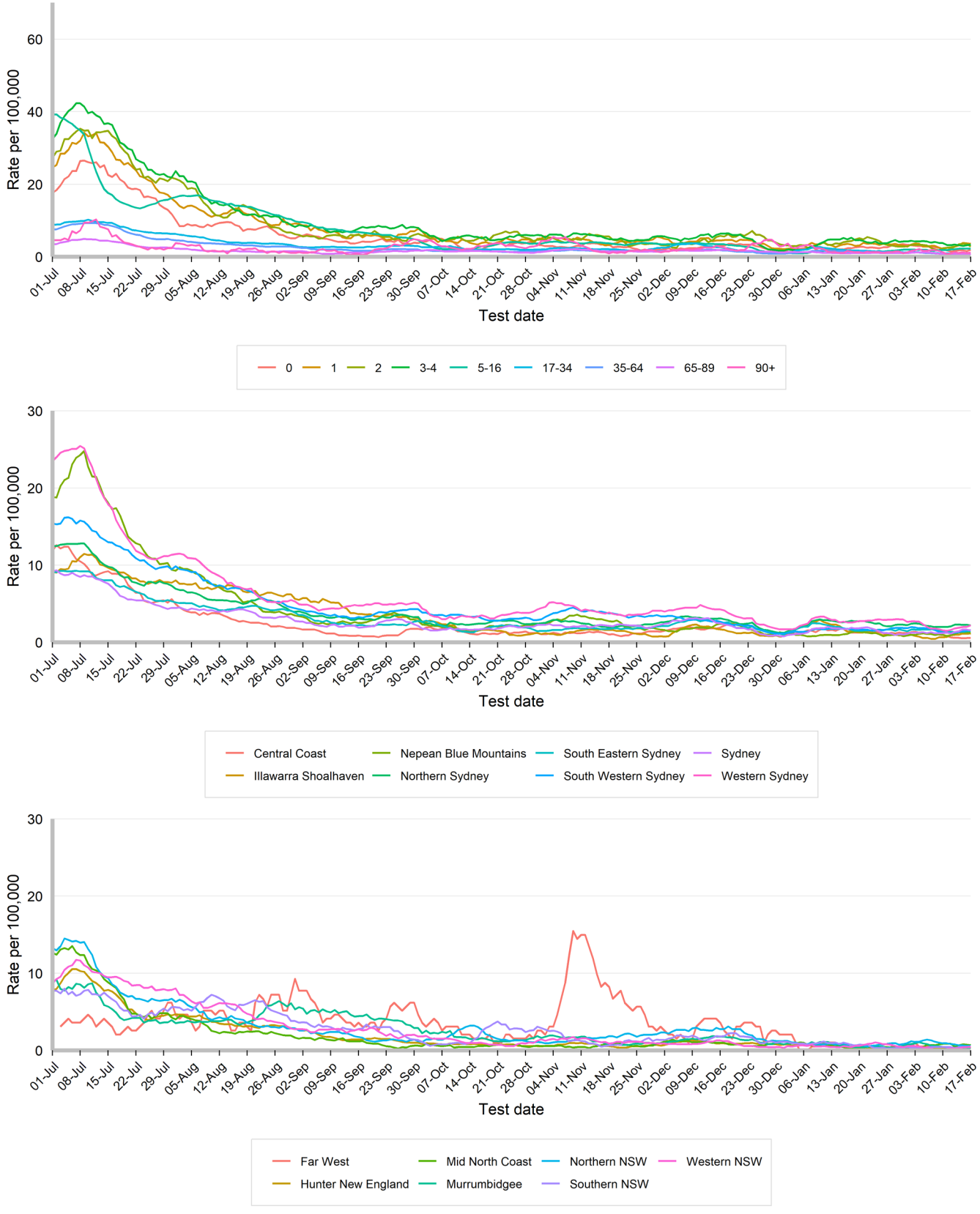
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 17 February 2024.



Rates of influenza notifications per 100,000 population

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

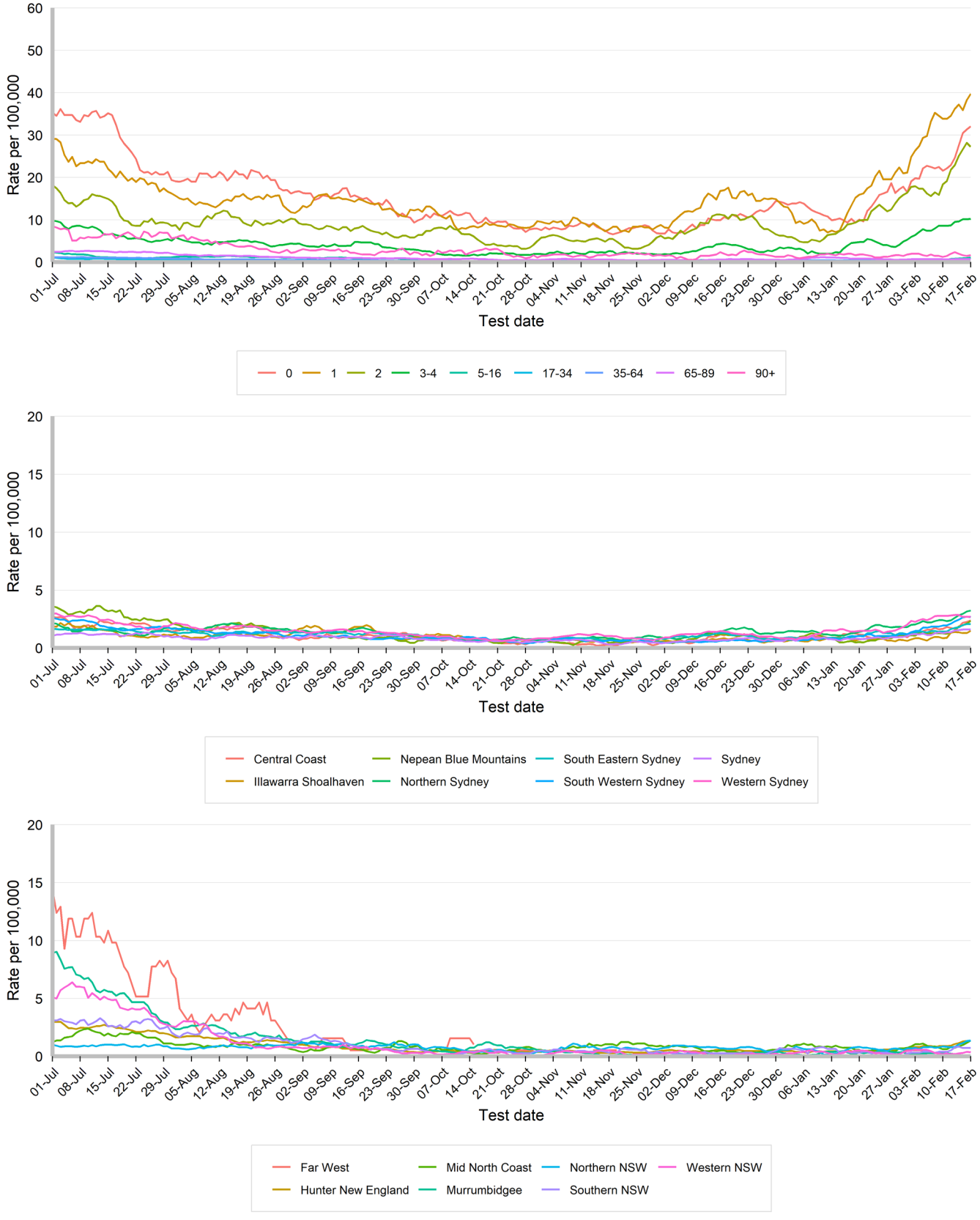
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 17 February 2024.



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 July 2023 to 17 February 2024.

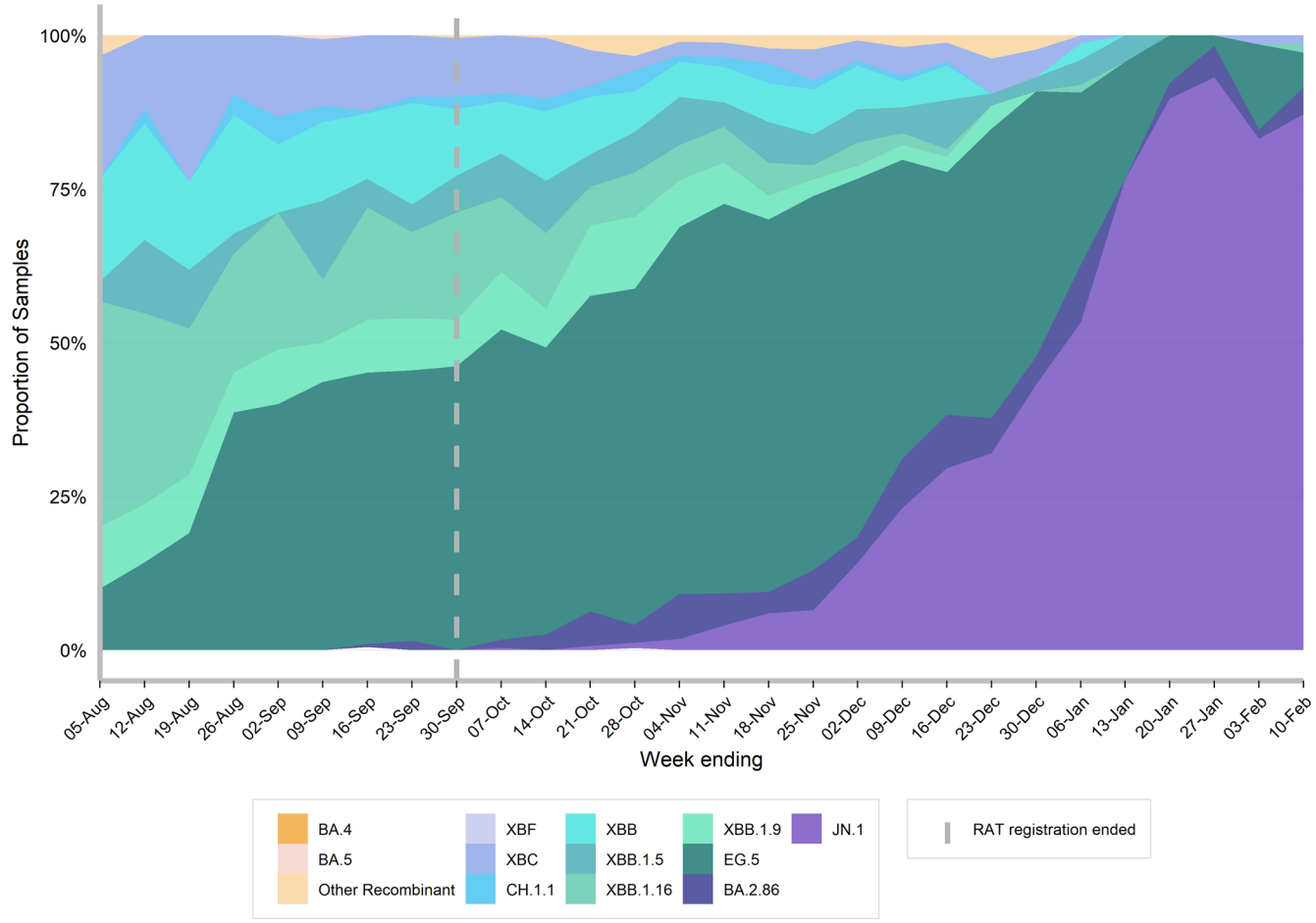


COVID-19 Whole Genome Sequencing

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: JN.1 now dominates sub-lineages circulating in the community.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 10 February 2024.



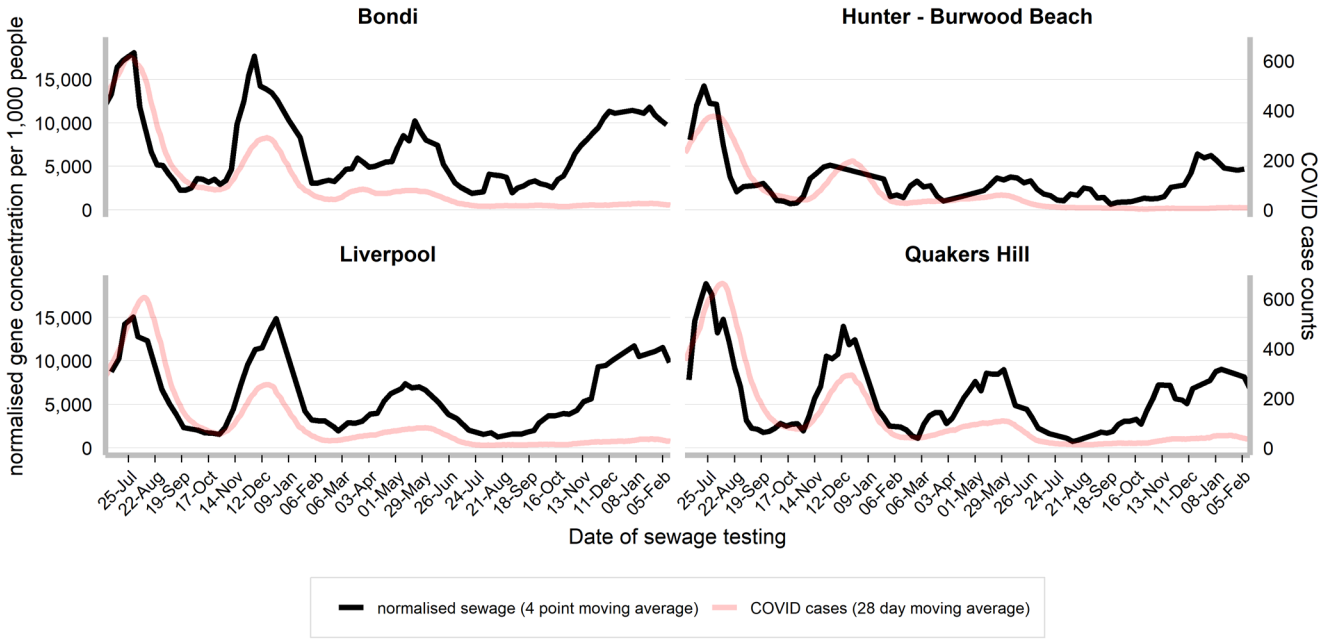
Other surveillance indicators

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 13 February 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 remain high in the Sydney catchment areas. Levels in all catchments appear to have stabilised.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 13 February 2024.



FluTracking and NSW sentinel laboratory network

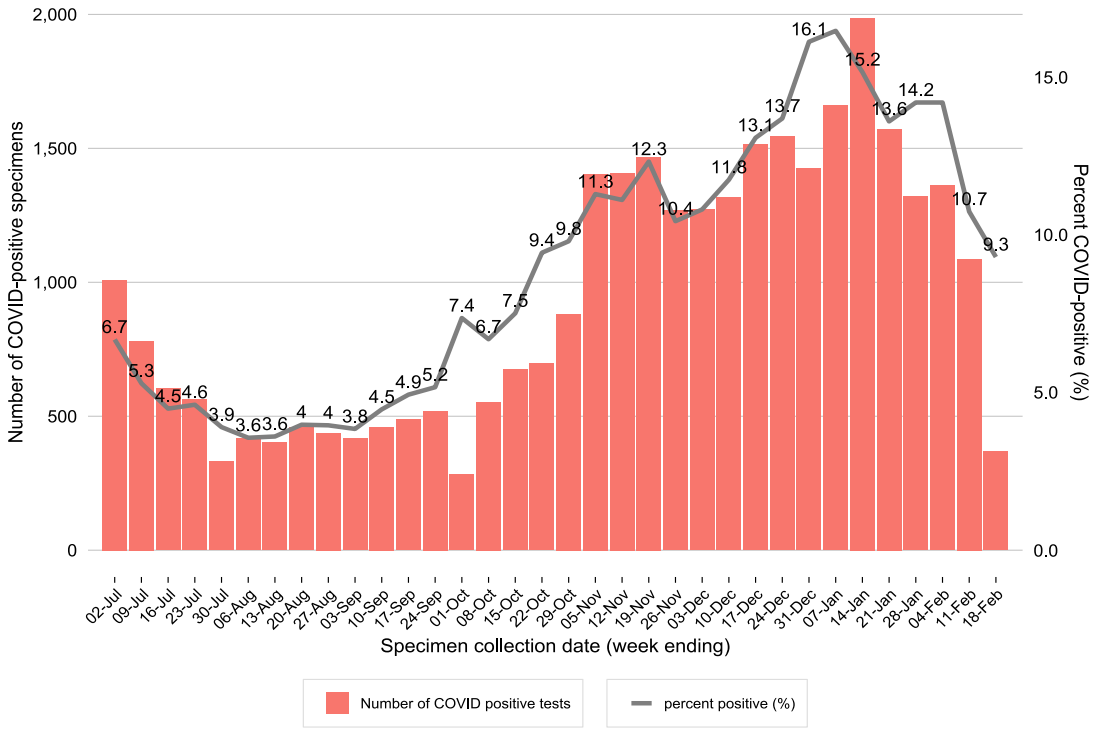
FluTracking is an online health surveillance system used to detect epidemics of influenza across Australia and New Zealand. Participants complete an online survey each week to provide community level influenza-like illness surveillance, consistent surveillance of influenza activity across all jurisdictions 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/

Over the summer period there is a small sample size for FluTracking, as participants have been given the option to opt-out until April 2024. Reporting of FluTracker data for NSW participants has been suspended until an adequate number of participants are reporting each fortnight.

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 PCR and influenza test positivity decreased, and RSV test positivity is increasing. Rhinovirus and enterovirus test positivity increased.

Figure 11. Number* and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 18 February 2024.



*Note data were only available for 3 of 4 COVID-19 sentinel laboratories for the week ending 17 February (see also Table 2)

Figure 12. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 18 February 2024.

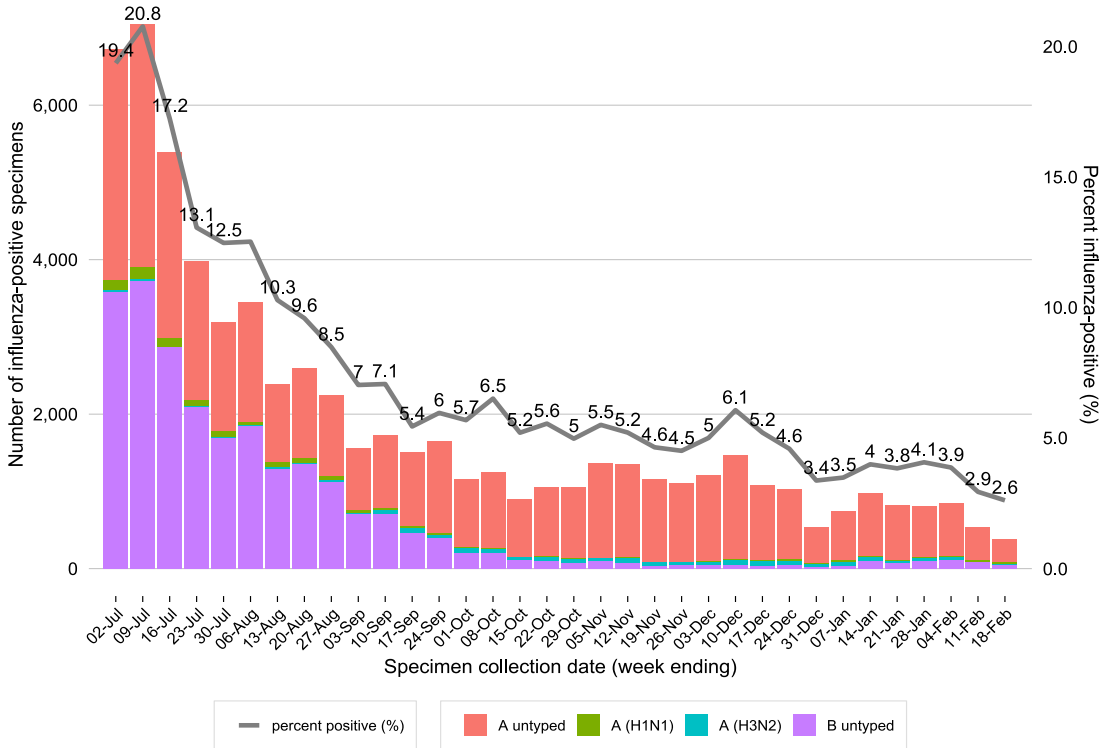


Figure 13. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 18 February 2024.

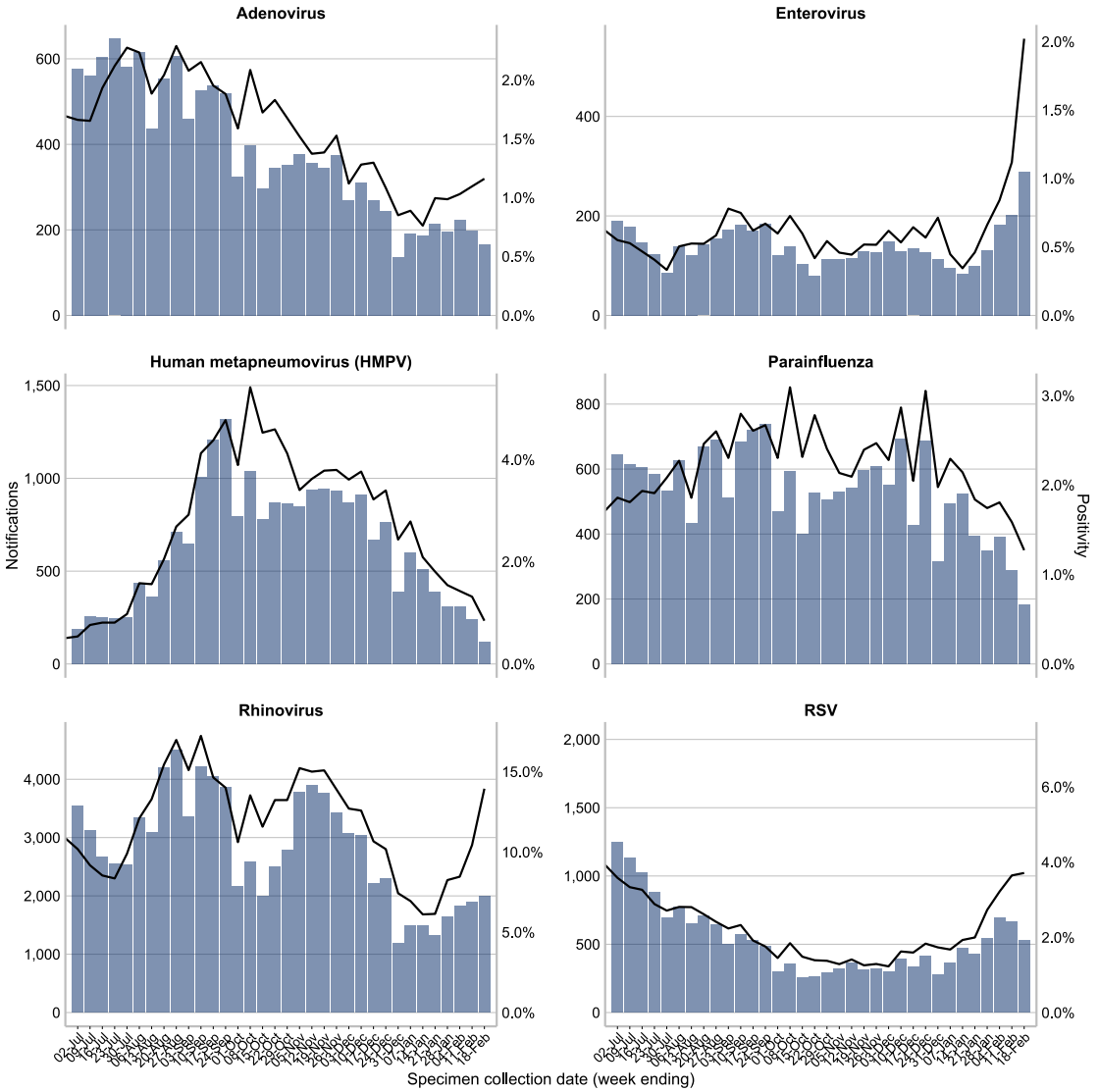


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 18 February 2024.

	Week ending				Year to date
	28 January	04 February	11 February	18 February	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	813 (4.1%)	838 (3.9%)	534 (2.9%)	374 (2.6%)	5,108
Adenovirus	197 (1.0%)	223 (1.0%)	199 (1.1%)	166 (1.2%)	1,376
Parainfluenza	348 (1.7%)	391 (1.8%)	288 (1.6%)	182 (1.3%)	2,620
Respiratory syncytial virus (RSV)	545 (2.7%)	696 (3.2%)	662 (3.6%)	531 (3.7%)	3,694
Rhinovirus	1,647 (8.2%)	1,831 (8.5%)	1,894 (10.4%)	1,994 (13.9%)	11,670
Human metapneumovirus (HMPV)	308 (1.5%)	309 (1.4%)	239 (1.3%)	121 (0.8%)	2,474
Enterovirus	132 (0.7%)	182 (0.8%)	203 (1.1%)	289 (2.0%)	1,085
Number of PCR tests conducted	19,966	21,643	18,155	14,304	141,442
SARS-CoV-2	1,321 (14.2%)	1,362 (14.2%)	1,087 (10.7%)	369 (9.3%)	9,358
Number of COVID PCR tests	9,300	9,589	10,119	3,967	67,703
Number of laboratories reporting	12	13	11	10	-
Number of laboratories reporting COVID	4	4	4	3	-

Recent data is subject to change.

Pneumonia in children and young adults in NSW

There have been unseasonably high presentations to emergency departments (ED) in NSW for children and young adults with pneumonia, particularly in those aged 5 – 16 years over late spring and summer. Within the ED, most pneumonia presentations are classified as unspecified pneumonia, that is, a specific cause of the pneumonia has not yet been identified. This information may become available later in the admission or following discharge from hospital.

Figure 14. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 18 February 2024 and comparison with the previous 5 years, persons aged 0 – 4 years.

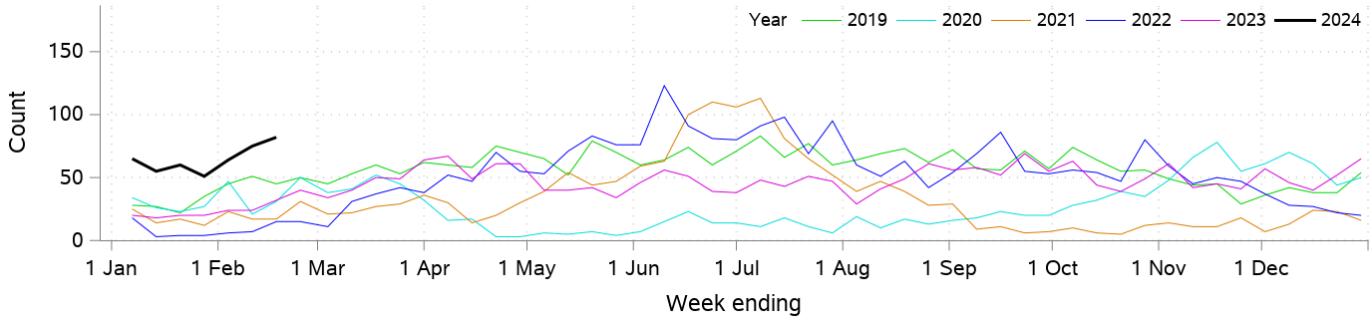


Figure 15. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 18 February 2024 and comparison with the previous 5 years, persons aged 5 - 16 years.

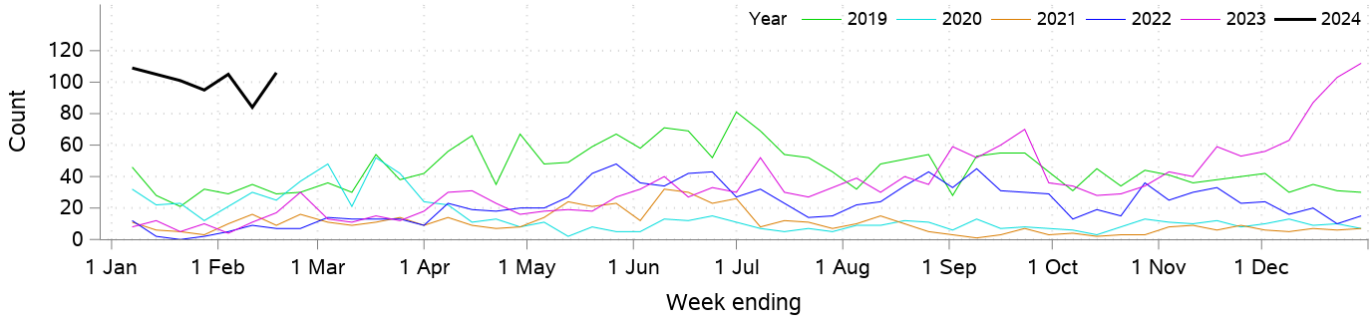


Figure 16. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 18 February 2024 and comparison with the previous 5 years, persons aged 17 - 34 years.