NSW Respiratory Surveillance Report - fortnight ending 18 November 2023

> **COVID-19 activity is at moderate to high levels and continues to increase. Influenza activity is slowly declining and is close to inter-seasonal levels. Respiratory syncytial virus activity is at low levels.**

Summary

COVID-19 activity increased across all indicators in the past fortnight. The proportion of ED presentations for COVID-19 requiring admission was stable suggesting no increase in disease severity. COVID-19 polymerase chain reaction (PCR) test positivity at sentinel laboratories was 12.0%. Most indicators of influenza activity are persisting in the community although PCR test positivity (4.7%) suggests it may be reaching the start of the inter-seasonal period. There was a 9.4% increase in RSV notifications, all in adults and potentially reflecting increased testing in the context of COVID-19 increases. However, overall RSV activity continues to gradually decline.

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 the 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 (EDs) 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: Total ED presentations for COVID-19 for the fortnight ending 19 November were higher than for the fortnight ending 5 November, although there was a small decline in the last week. The number of admissions and proportion requiring admission remained stable suggesting no increase in severity. Influenza-like illness presentations were stable and bronchiolitis presentations in young children are continuing to decrease slowly.

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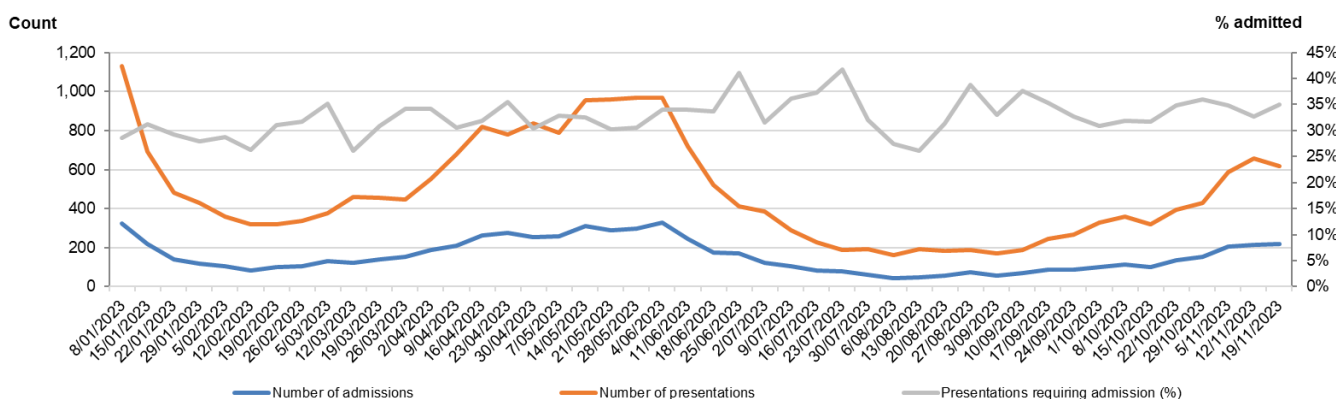

Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.
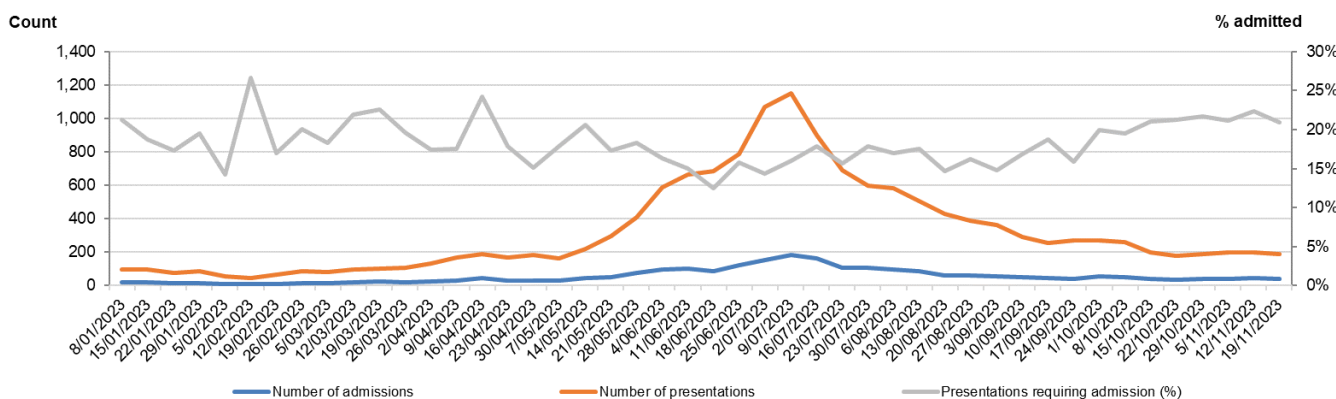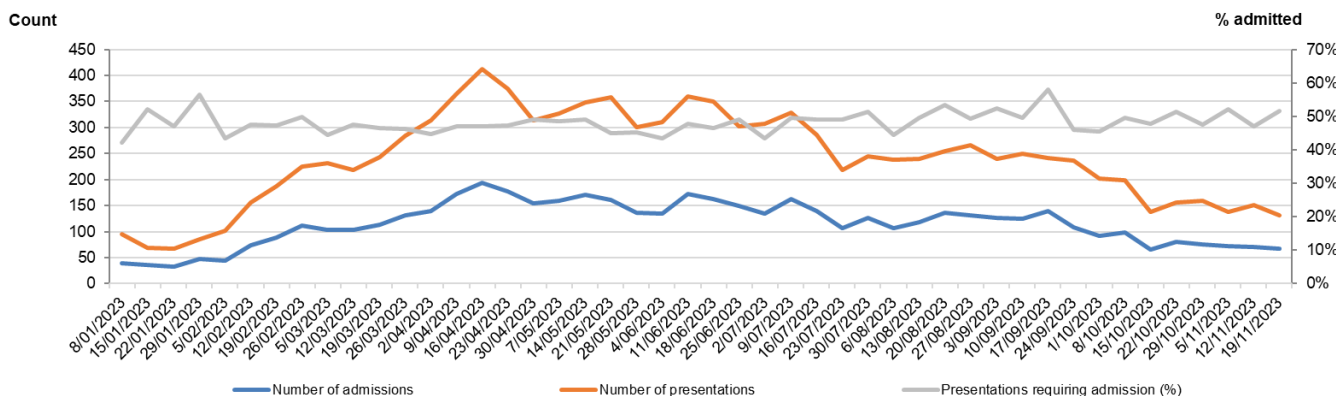

Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.

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 22 October 2023
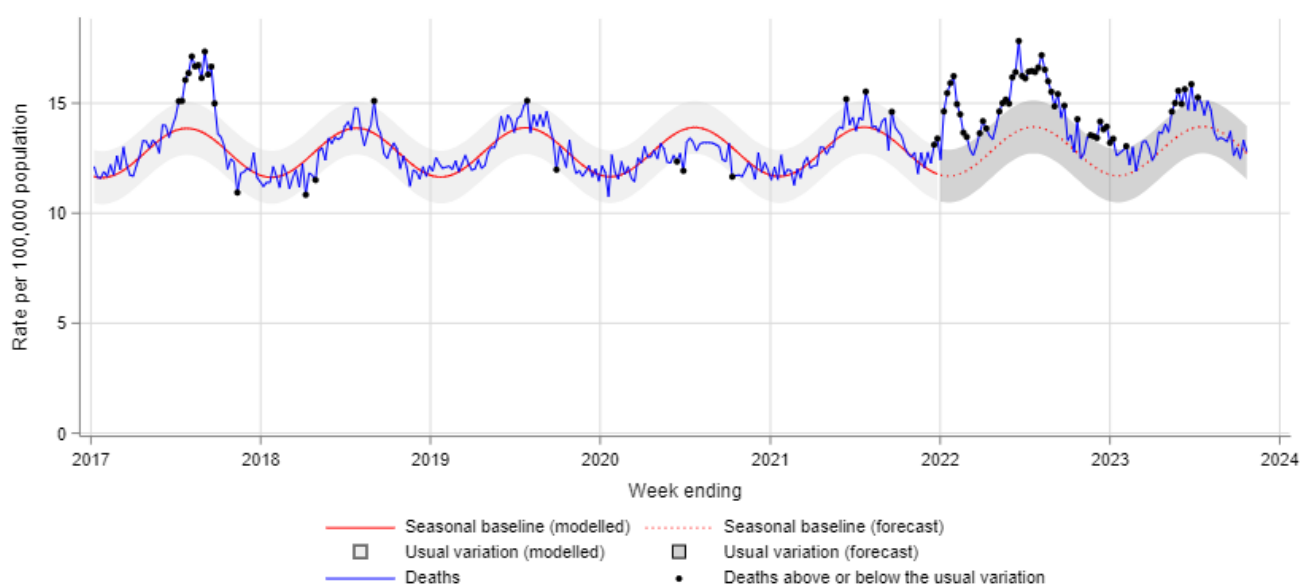
Notes:

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 17 September 2023 to 22 October 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: In the past fortnight, there was a 20.6% increase in COVID-19 notifications and no change in influenza notifications. RSV notifications increased by 9.4% with these increases occurring in those aged 20 – 67 years. This may reflect increased testing in the context of increasing COVID-19 in the community.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 18 November 2023.

	COVID		Influenza		RSV	
	Fortnight ending 18 November 2023	Year to Date	Fortnight ending 18 November 2023	Year to Date	Fortnight ending 18 November 2023	Year to Date
Gender						
Female	3,224	167,105(58%)	1,346	49,271(51%)	416	22,814(52%)
Male	2,491	121,731(42%)	1,261	47,899(49%)	337	21,014(48%)
Age group (years)						
0-4	489	10,849(4%)	312	13,237(14%)	350	23,252(53%)
5-9	118	8,762(3%)	345	19,620(20%)	36	2,404(5%)
10-19	303	23,068(8%)	376	18,620(19%)	35	2,059(5%)
20-29	473	31,887(11%)	288	8,313(9%)	37	1,612(4%)
30-39	639	42,584(15%)	366	12,605(13%)	52	2,087(5%)
40-49	585	41,489(14%)	258	9,997(10%)	34	1,626(4%)
50-59	549	39,151(14%)	198	5,480(6%)	43	2,204(5%)
60-69	623	35,969(12%)	175	4,113(4%)	58	2,650(6%)
70-79	752	28,210(10%)	179	2,975(3%)	56	2,693(6%)
80-89	795	18,958(7%)	90	1,724(2%)	35	2,262(5%)
90+	400	8,209(3%)	22	502(1%)	17	983(2%)
Local Health District of residence						
Central Coast	223	13,509(5%)	54	3,015(3%)	15	2,034(5%)
Far West	19	840(0%)	45	247(0%)	1	213(0%)
Hunter New England	412	36,157(13%)	105	6,998(7%)	49	3,859(9%)
Illawarra Shoalhaven	298	18,033(6%)	97	4,665(5%)	41	2,222(5%)
Mid North Coast	112	6,475(2%)	18	2,070(2%)	30	813(2%)
Murrumbidgee	281	9,160(3%)	55	3,146(3%)	9	2,028(5%)
Nepean Blue Mountains	322	14,427(5%)	165	5,861(6%)	27	2,511(6%)
Northern NSW	181	8,299(3%)	74	3,370(3%)	34	997(2%)
Northern Sydney	646	35,261(12%)	299	12,185(13%)	112	5,824(13%)
South Eastern Sydney	601	30,979(11%)	226	8,492(9%)	100	4,300(10%)
South Western Sydney	782	31,044(11%)	588	15,701(16%)	96	6,144(14%)
Southern NSW	87	7,519(3%)	29	1,722(2%)	12	882(2%)
Sydney	449	24,095(8%)	202	6,272(6%)	44	2,836(6%)
Western NSW	164	11,281(4%)	49	2,419(2%)	17	1,766(4%)
Western Sydney	1,100	39,054(14%)	593	20,681(21%)	164	7,283(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	132	9,156(3%)	87	3,308(3%)	21	1,521(3%)
Not Aboriginal or Torres Strait Islander	3,245	210,354(73%)	1,431	51,560(53%)	402	21,302(49%)
Not Stated / Unknown	2,341	69,671(24%)	1,091	42,368(44%)	330	21,037(48%)
Total	5,718	289,181(100%)	2,609	97,236(100%)	753	43,860(100%)

Note: Total includes all cases including those with missing gender, age, LHD; or who interstate or oversees 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 18 November 2023.
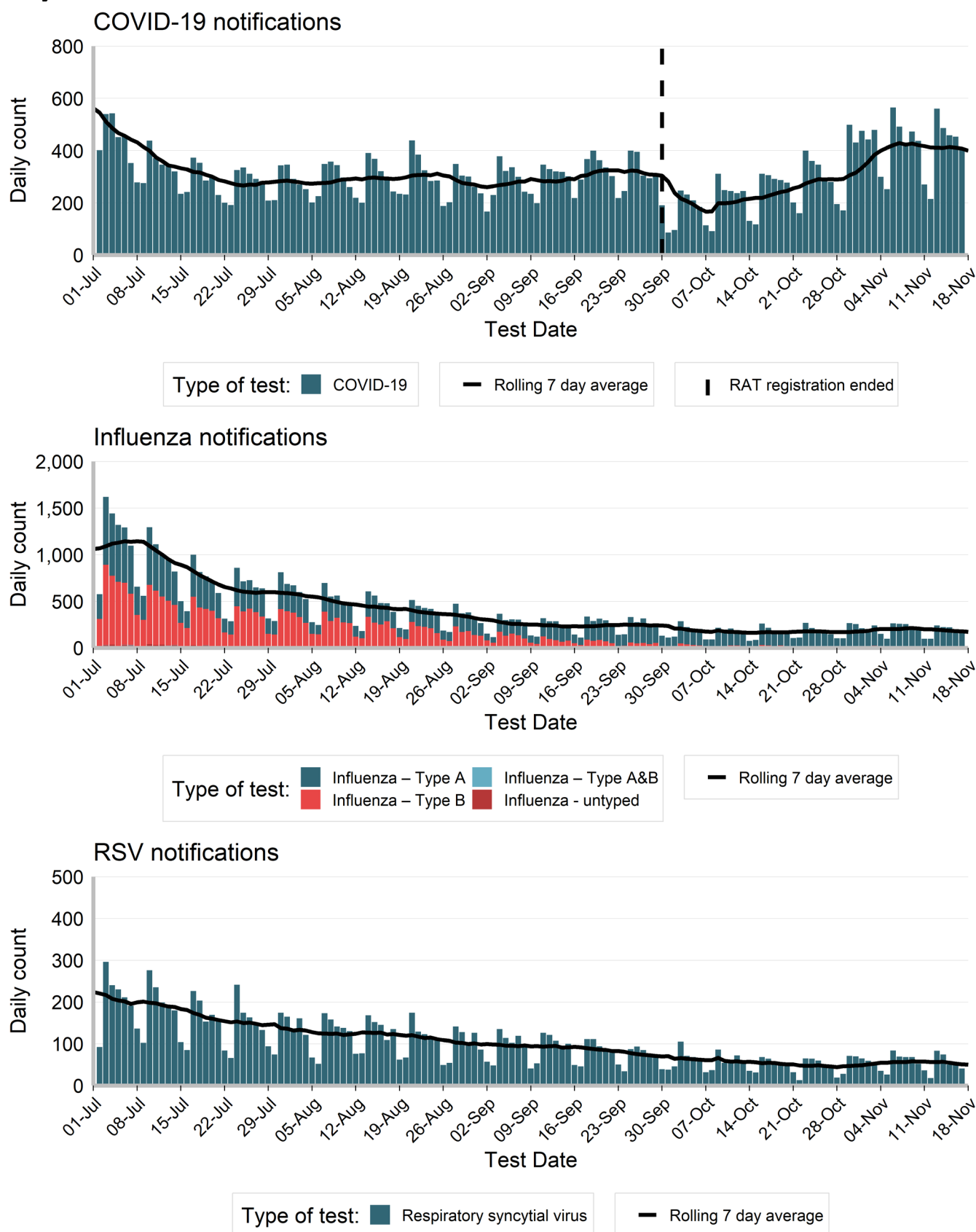
Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates continue to be highest in young children (0-4) and persons aged 65 years and older. Trends vary across Local Health Districts.
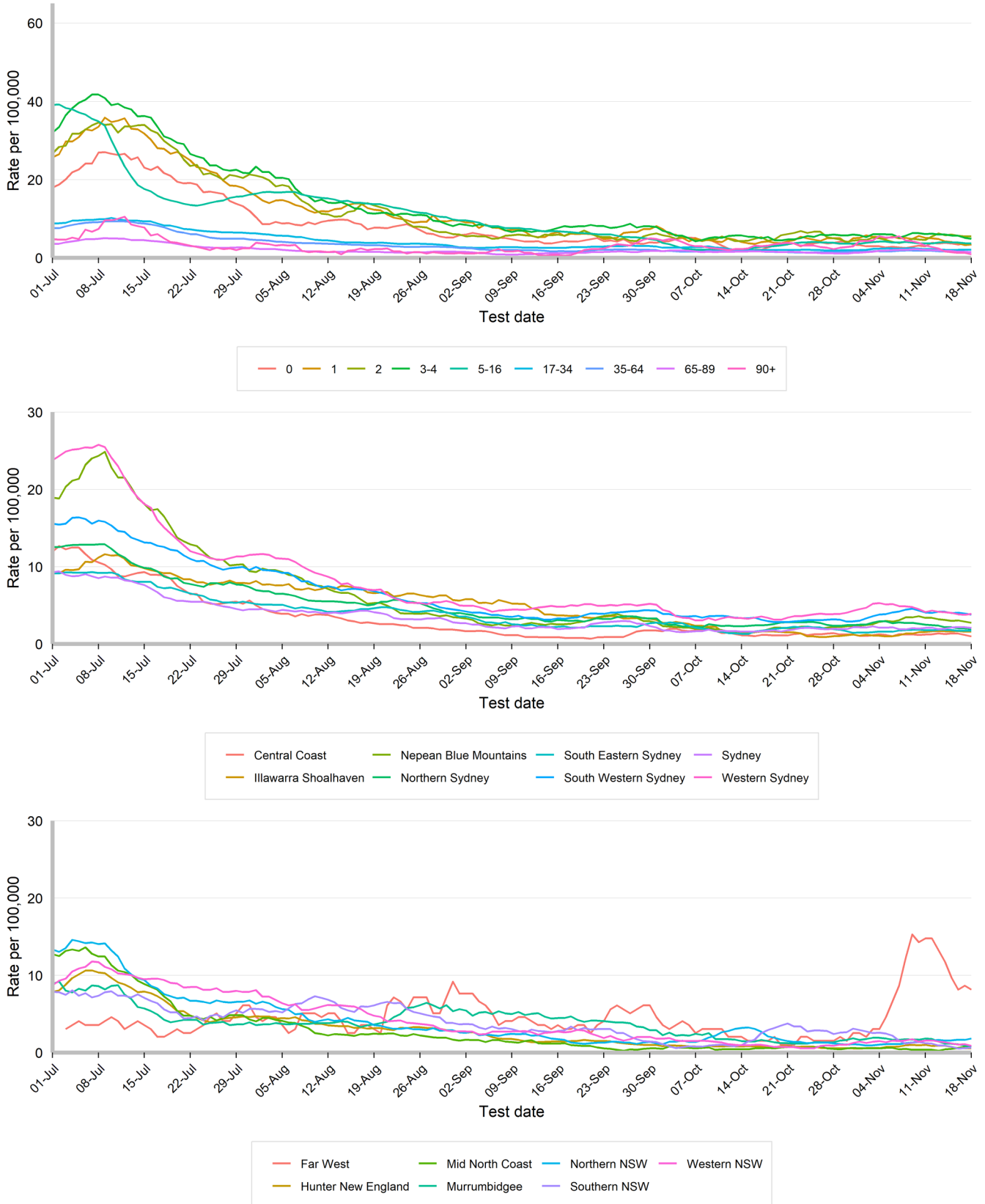
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 18 November 2023.
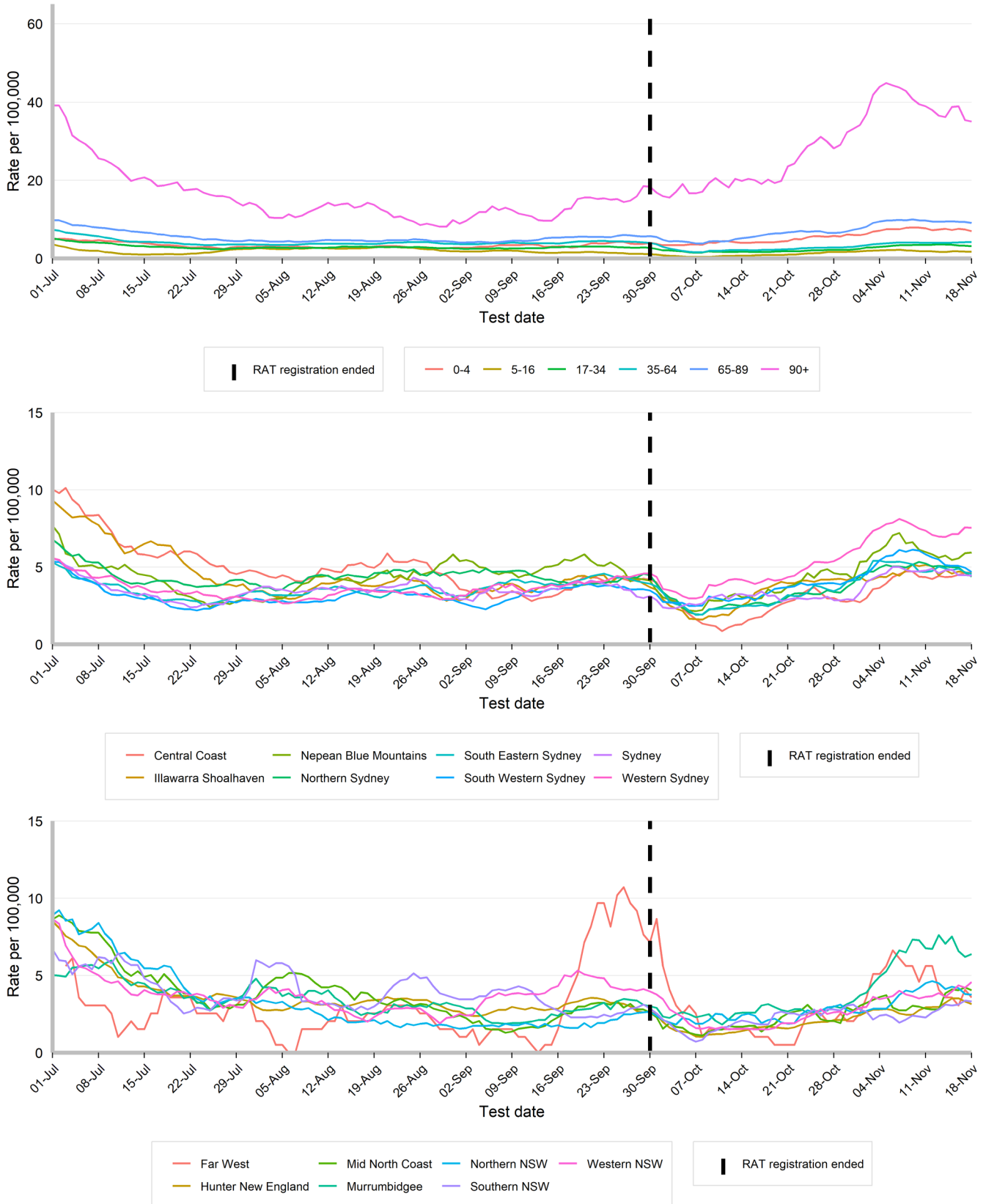
Rates of influenza notifications per 100,000 population

Interpretation: Influenza notification rates were stable or declining across most age-groups and Local Health Districts. The trend in the Far West LHD reflects an increase from 9 notifications in the previous fortnight to 45 in the current reporting period.

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 18 November 2023.

Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates were stable across most age groups and LHDs.

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 18 November 2023.
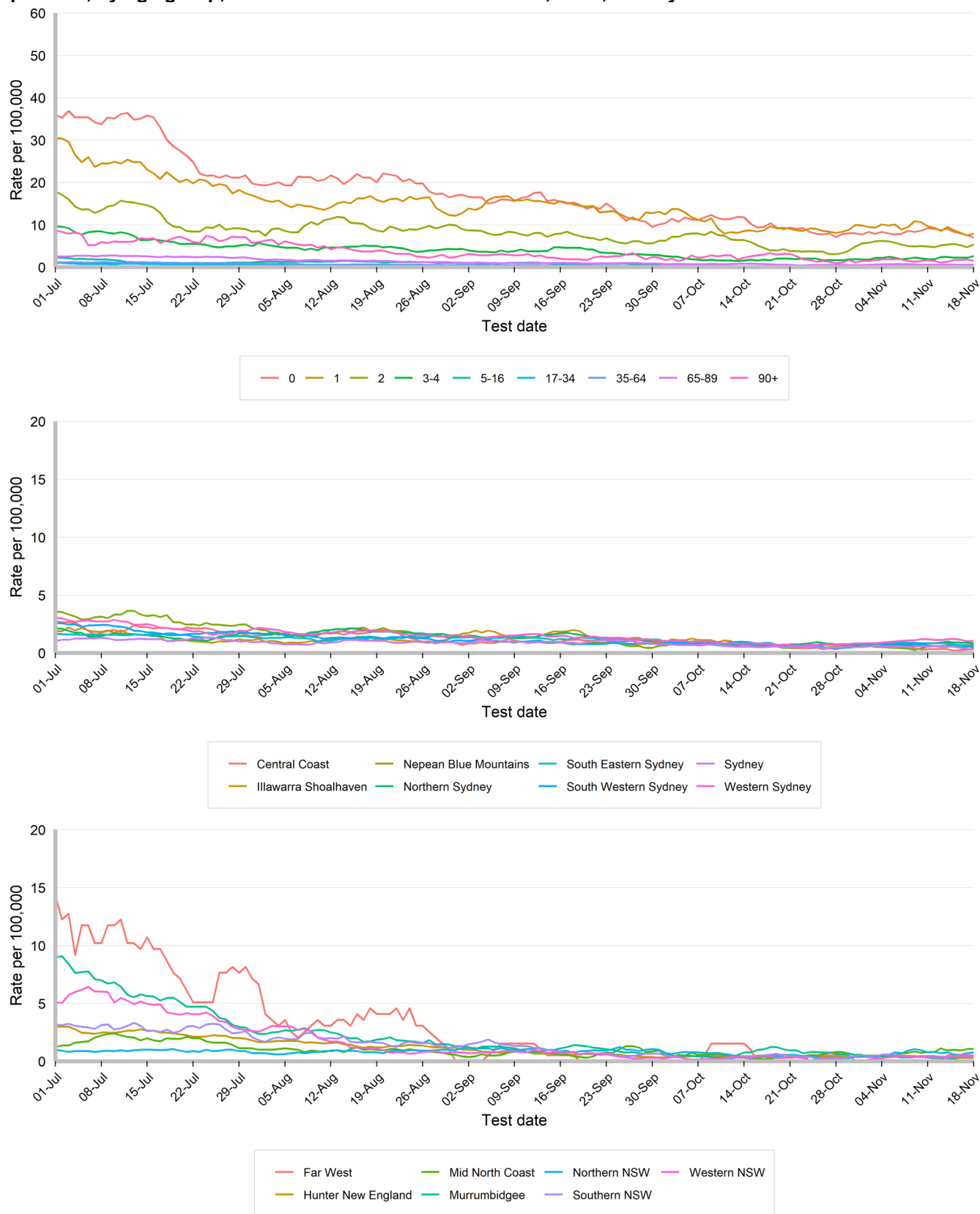
COVID-19 Whole Genome Sequencing

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.

Interpretation: EG.5 now accounts for over half of all isolates. The proportion of samples in which BA.2.86 has been detected is increasing.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 04 November 2023.
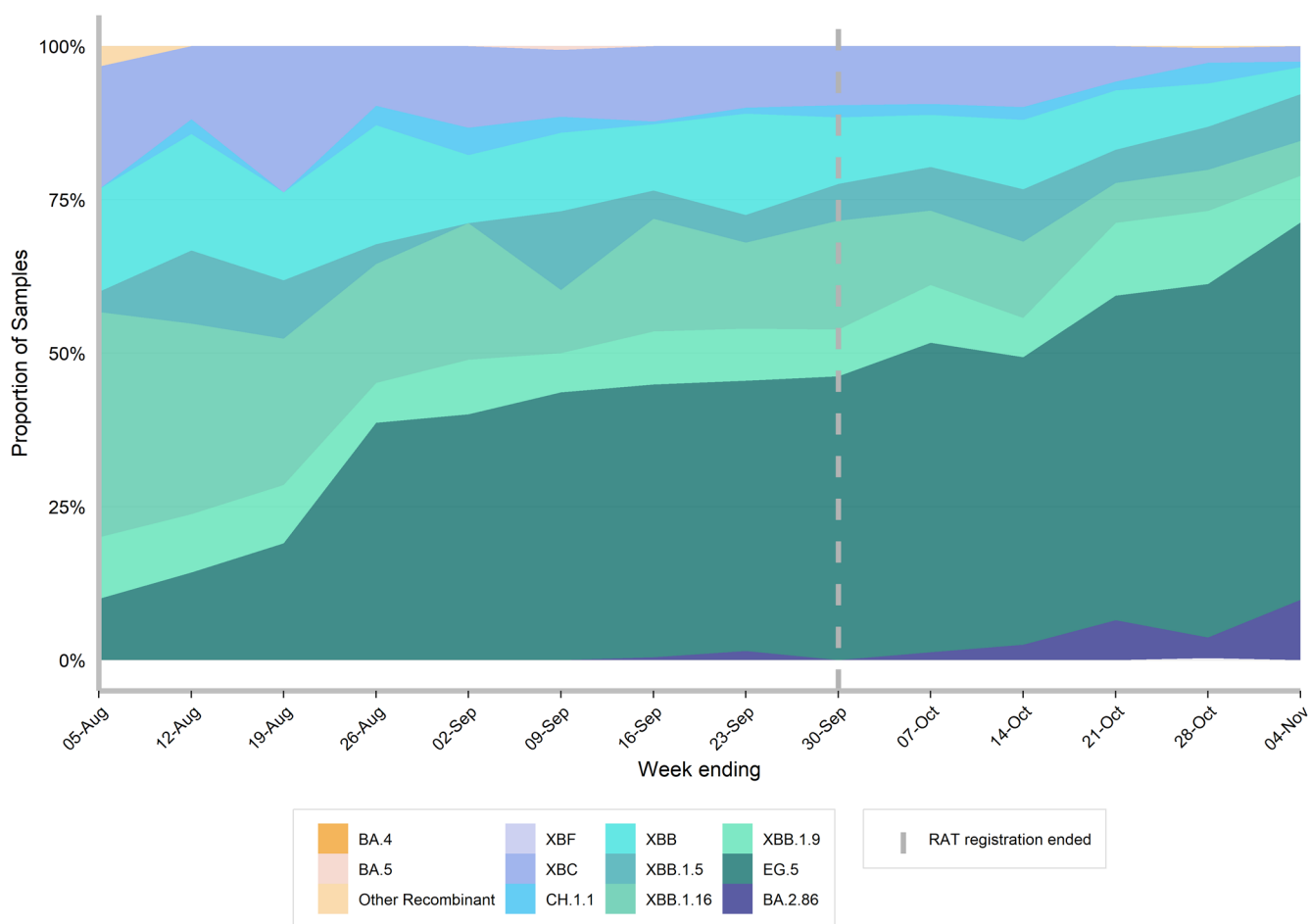
Other surveillance indicators
NSW Health Nursing Staff sick leave

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: The proportion of FTE nursing staff on sick leave has been gradually increasing since late October 2023

Figure 10. Proportion of NSW Health full-time equivalent nursing staff on sick leave, 1 July 2022 to 18 November 2023.
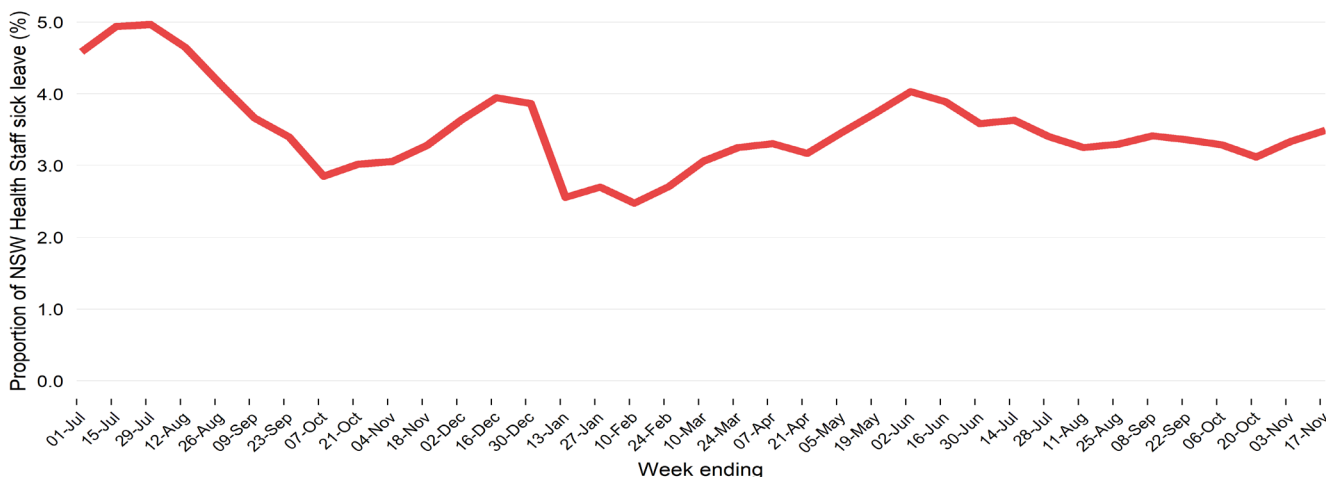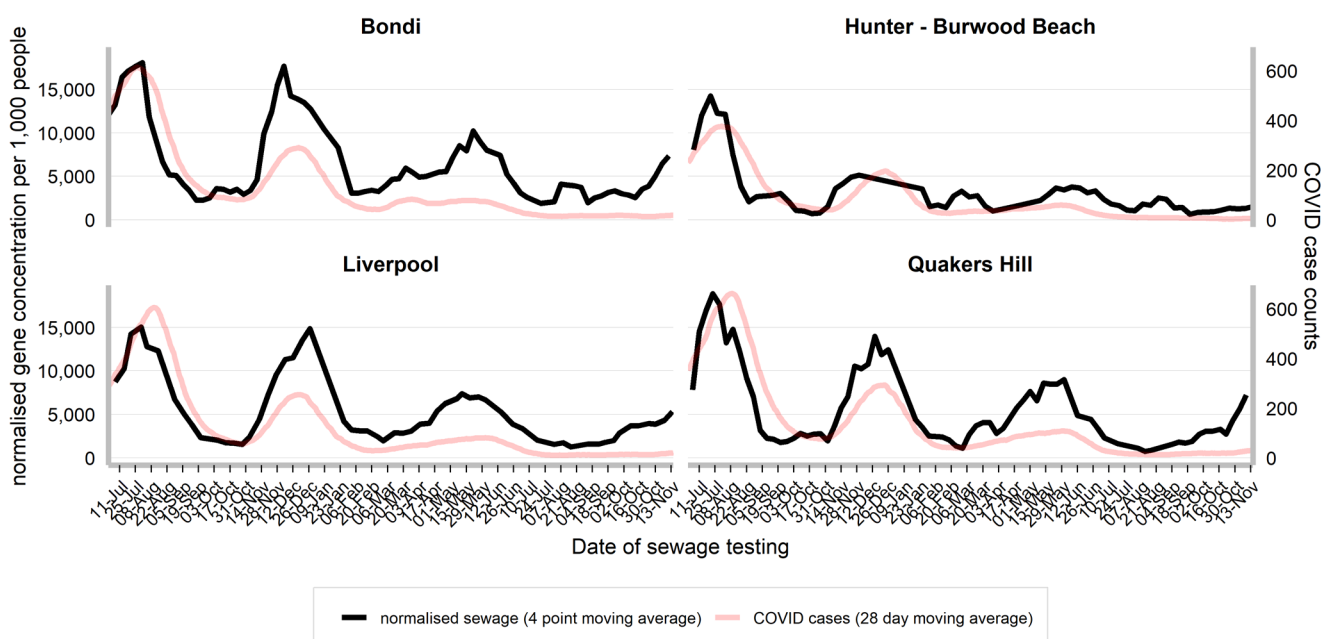

COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 15 November 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, particularly in Bondi, Liverpool and Quakers Hill.

Figure 11. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 15 November 2023.
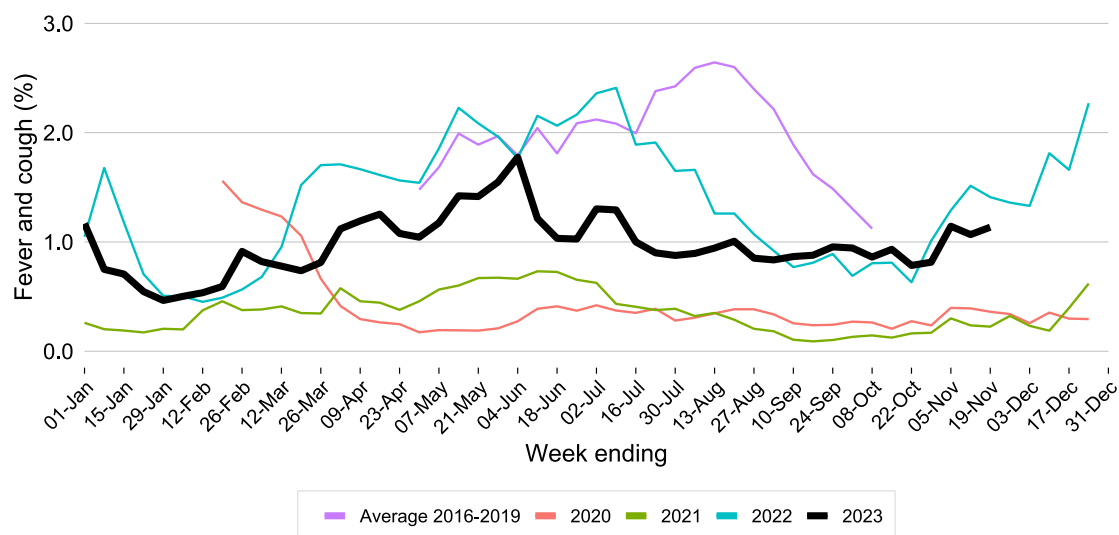
FluTracking and NSW sentinel laboratory network

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/. As the influenza-like illness symptoms of cough and fever are also common in COVID-19 and other viral respiratory infections, trends will be influenced by other circulating viruses in the community, particularly when other indicators of influenza activity are low.

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 increased in the past fortnight, potentially reflecting increasing COVID-19 transmission in the community.

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 19 November 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: COVID-19 test positivity was 12.0% consistent with increases in COVID-19 activity. Influenza test positivity was 4.7%, consistent with the slow decline observed since 5 November.

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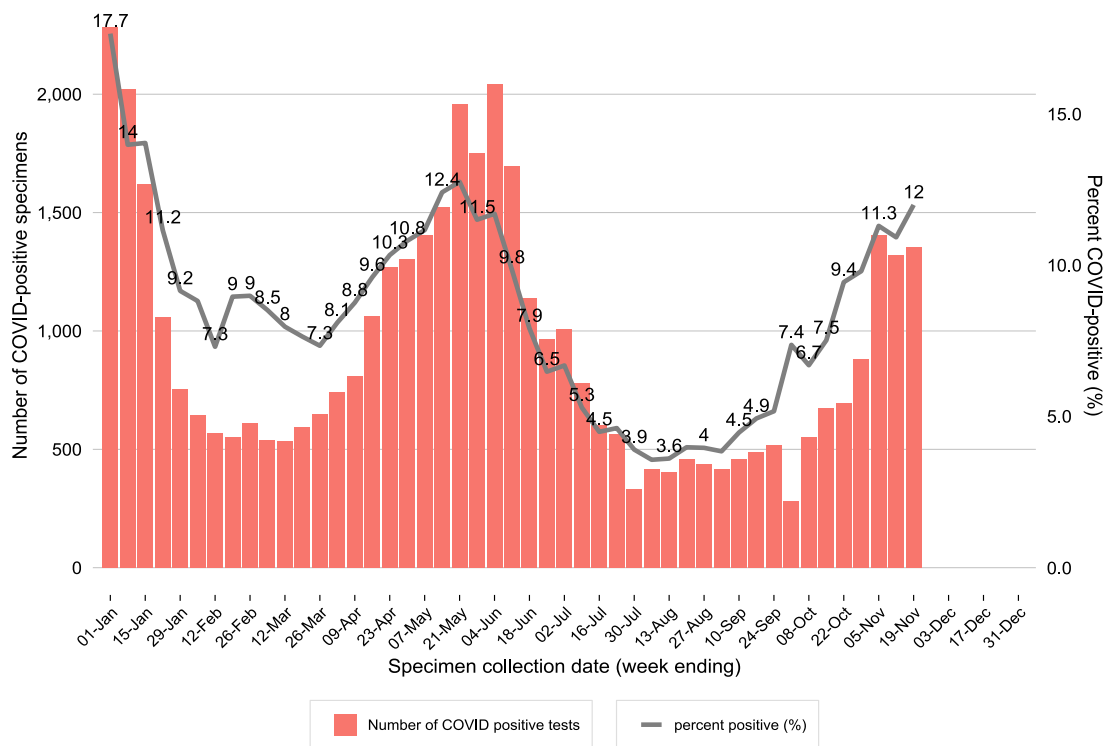

Figure 14. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 19 November 2023.
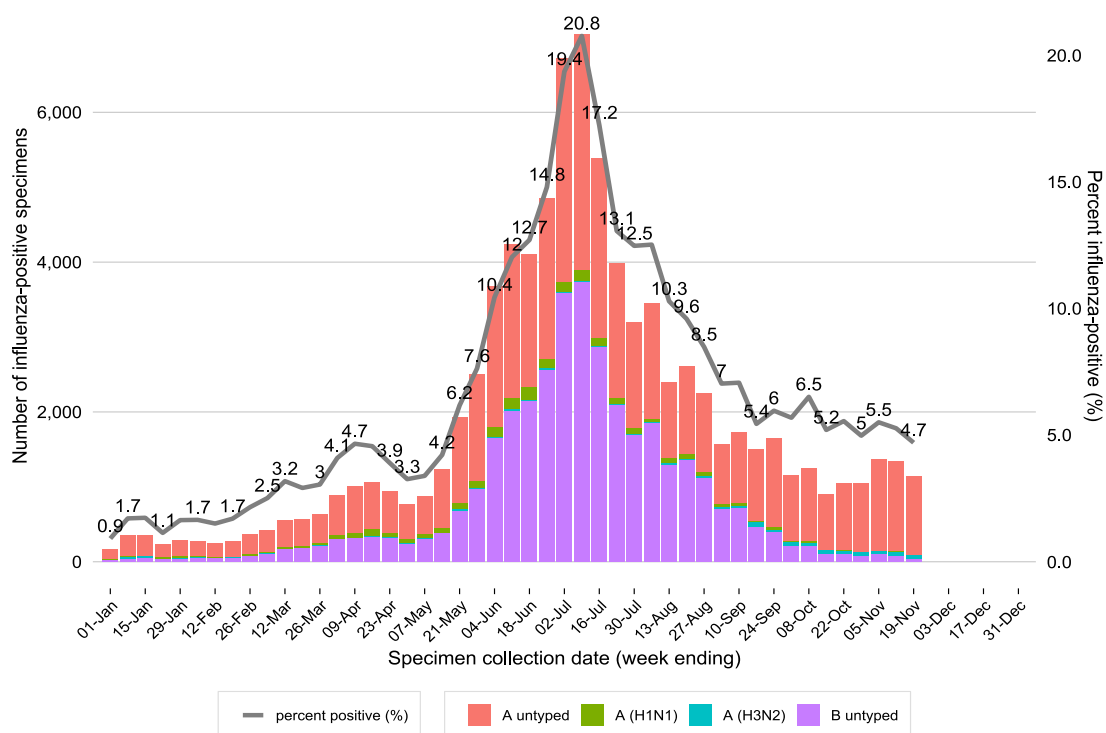
Figure 15. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 19 November 2023.
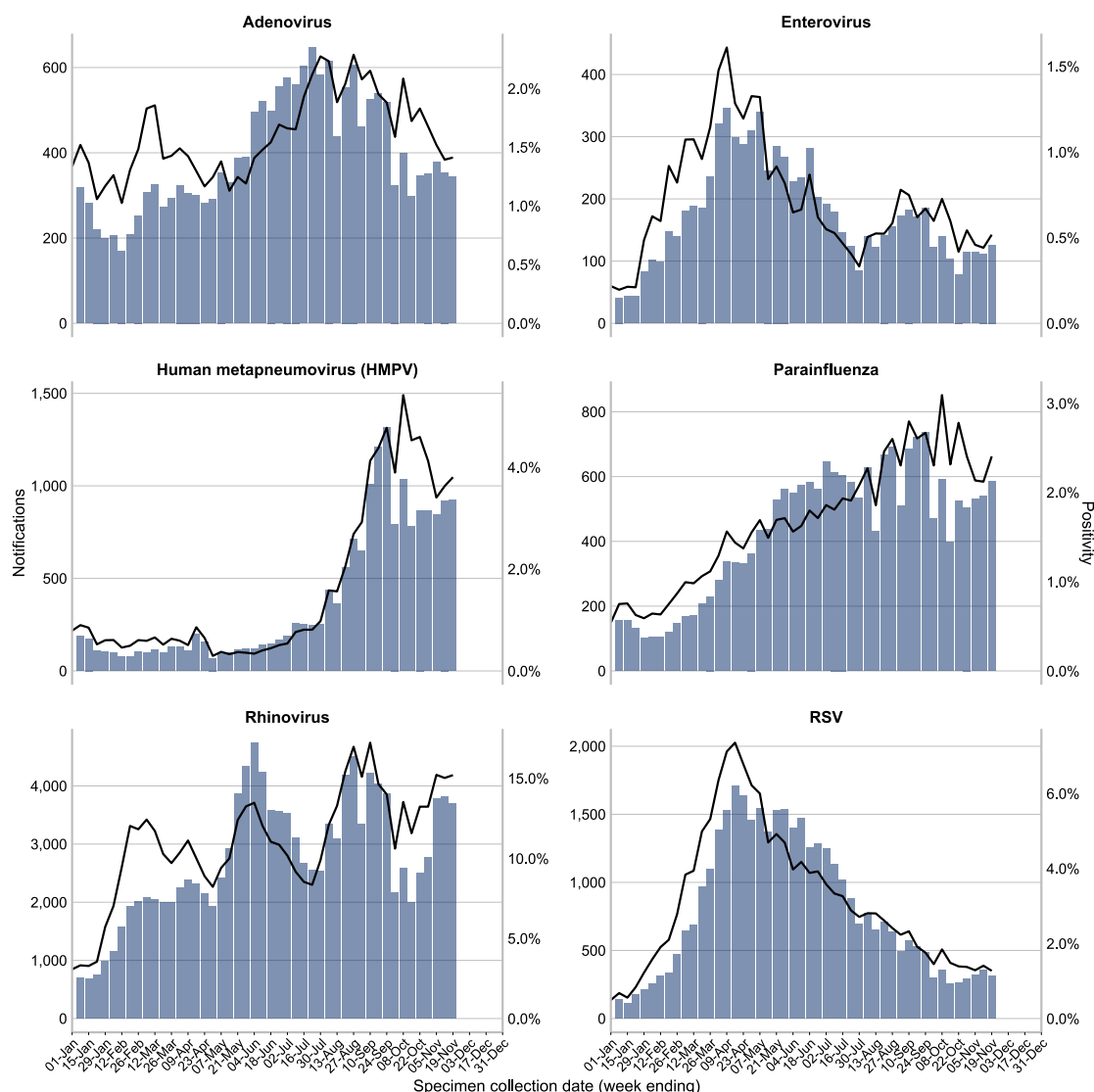

Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 19 November 2023.

	Week ending				Year to date
	29 October	05 November	12 November	19 November	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,045 (5.0%)	1,369 (5.5%)	1,338 (5.3%)	1,145 (4.7%)	85,514
Adenovirus	352 (1.7%)	378 (1.5%)	354 (1.4%)	344 (1.4%)	18,370
Parainfluenza	505 (2.4%)	531 (2.1%)	539 (2.1%)	586 (2.4%)	19,968
Respiratory syncytial virus (RSV)	289 (1.4%)	320 (1.3%)	358 (1.4%)	310 (1.3%)	36,895
Rhinovirus	2,779 (13.2%)	3,785 (15.2%)	3,816 (15.0%)	3,703 (15.2%)	127,461
Human metapneumovirus (HMPV)	865 (4.1%)	846 (3.4%)	921 (3.6%)	926 (3.8%)	17,664
Enterovirus	114 (0.5%)	114 (0.5%)	112 (0.4%)	126 (0.5%)	8,082
Number of PCR tests conducted	21,000	24,865	25,395	24,356	1,140,540
SARS-CoV-2	881 (9.8%)	1,404 (11.3%)	1,318 (10.9%)	1,352 (12.0%)	44,141
Number of COVID PCR tests	8,988	12,426	12,067	11,274	511,145
Number of laboratories reporting	9	11	10	10	-
Number of laboratories reporting COVID	2	4	3	3	-

Recent data is subject to change.