NSW Respiratory Surveillance Report - fortnight ending 02 December 2023

COVID-19 activity is at moderate to high levels and stable. Influenza and respiratory syncytial virus activity are at low levels.

Summary

COVID-19 activity was stable in the past fortnight except for gene detections in sewage which continue to increase; COVID-19 polymerase chain reaction (PCR) test positivity was 10.8%. Overall, influenza and RSV activity was stable with small declines in notifications (6.6% and 7.3% respectively). Influenza transmission is however persisting in the community for a longer time period in 2023 than in previous years and influenza PCR test positivity increased from 4.5% to 5.1% in the previous week.

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 COVID19 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: COVID-19 and influenza-like illness presentations to EDs were stable and bronchiolitis presentations continue to decline slowly. The proportion of influenza presentations requiring admission to hospital is declining suggesting less severe disease.

Figure 1. 'COVID-19' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.
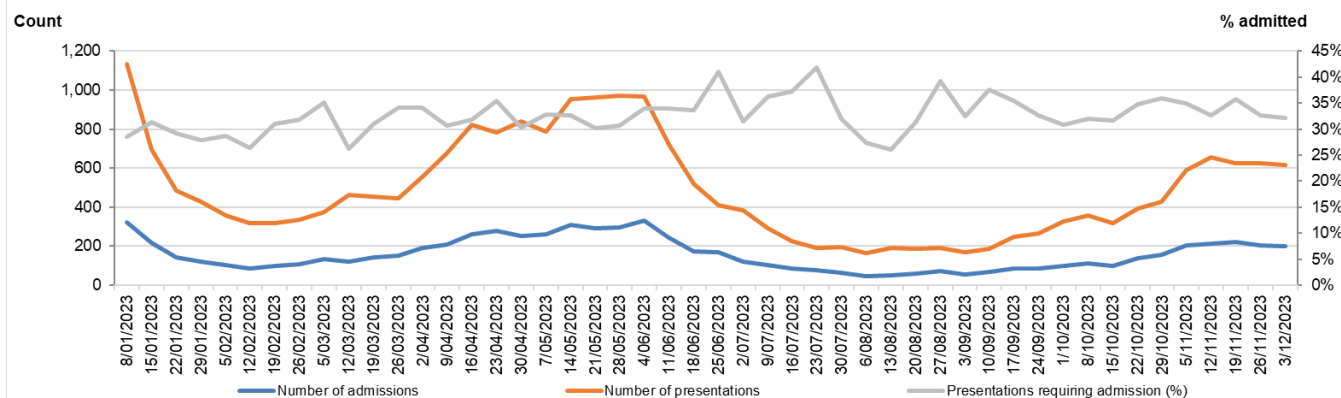
Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.
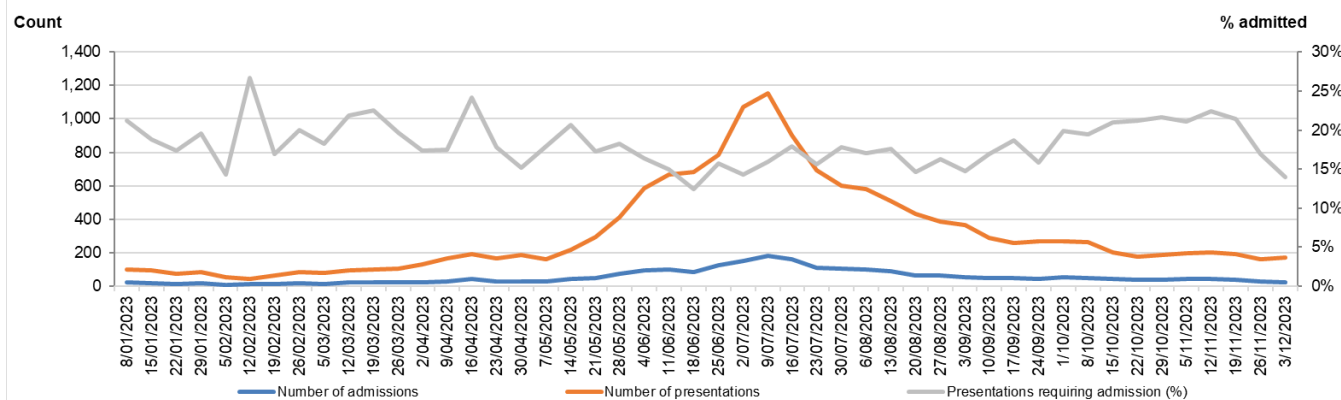
Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.
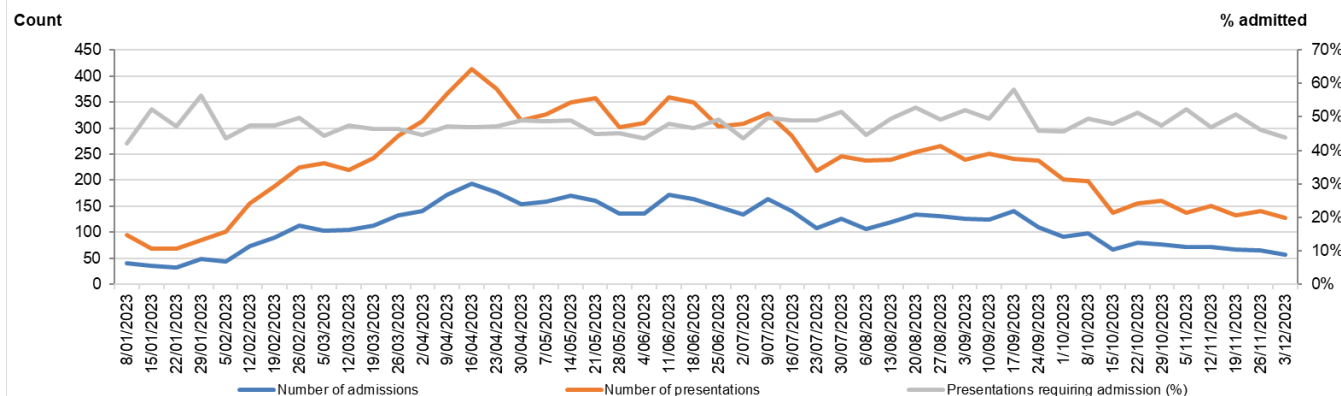
Death surveillance
All-cause mortality

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
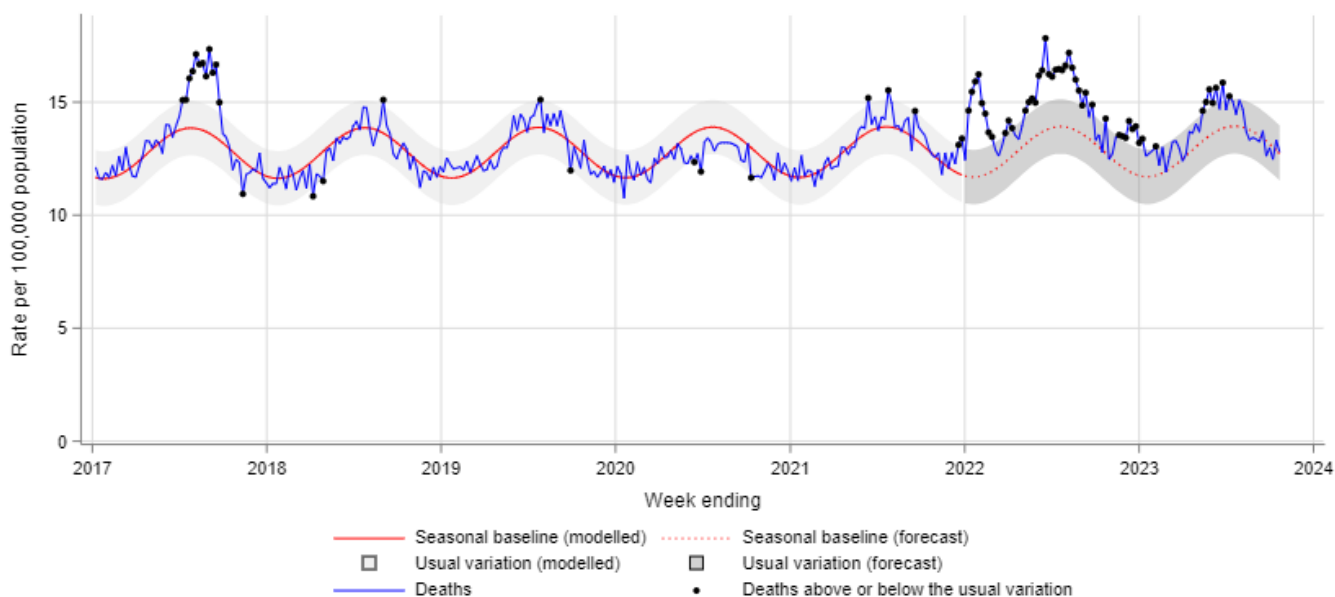
Notes:

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.
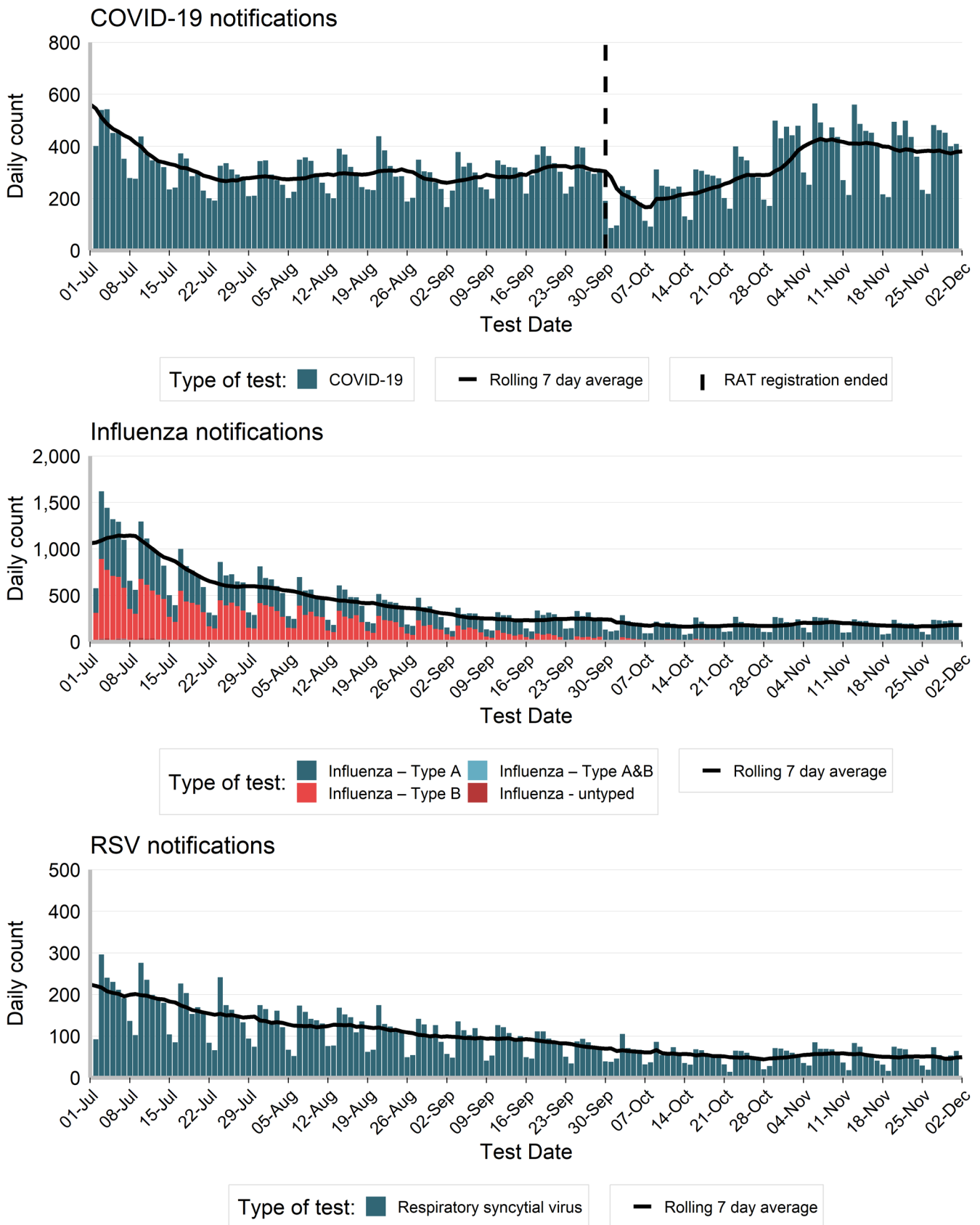
Interpretation: There were small declines in notifications for COVID-19 (6.7% decline), influenza (6.6% decline) and RSV (7.3%) in the past fortnight compared to the previous reporting period. The overall distribution of notifications year to date by age group, LHD and Aboriginality remain largely unchanged.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 02 December 2023.

	COVID		Influenza		RSV	
	Fortnight ending 02 December 2023	**Year to Date**	**Fortnight ending 02 December 2023**	**Year to Date**	**Fortnight ending 02 December 2023**	**Year to Date**
Gender						
Female	3,049	170,155(58%)	1,275	50,553(51%)	367	23,188(52%)
Male	2,278	124,009(42%)	1,161	49,076(49%)	331	21,356(48%)
Age group (years)						
0-4	420	11,268(4%)	267	13,504(14%)	315	23,575(53%)
5-9	78	8,839(3%)	324	19,947(20%)	32	2,437(5%)
10-19	292	23,359(8%)	406	19,026(19%)	45	2,105(5%)
20-29	484	32,371(11%)	296	8,612(9%)	26	1,638(4%)
30-39	535	43,123(15%)	308	12,916(13%)	50	2,137(5%)
40-49	530	42,017(14%)	229	10,228(10%)	39	1,665(4%)
50-59	583	39,733(13%)	172	5,659(6%)	44	2,249(5%)
60-69	609	36,578(12%)	192	4,307(4%)	51	2,702(6%)
70-79	731	28,940(10%)	150	3,125(3%)	38	2,735(6%)
80-89	744	19,700(7%)	74	1,800(2%)	39	2,304(5%)
90+	333	8,539(3%)	18	521(1%)	19	1,002(2%)
Local Health District of residence						
Central Coast	207	13,715(5%)	65	3,081(3%)	25	2,059(5%)
Far West	16	855(0%)	16	263(0%)	0	213(0%)
Hunter New England	367	36,523(12%)	84	7,083(7%)	55	3,914(9%)
Illawarra Shoalhaven	290	18,322(6%)	57	4,722(5%)	36	2,258(5%)
Mid North Coast	109	6,583(2%)	28	2,100(2%)	30	843(2%)
Murrumbidgee	140	9,299(3%)	37	3,183(3%)	8	2,036(5%)
Nepean Blue Mountains	287	14,713(5%)	93	5,954(6%)	29	2,540(6%)
Northern NSW	216	8,514(3%)	90	3,461(3%)	30	1,029(2%)
Northern Sydney	593	35,852(12%)	323	12,508(13%)	114	5,938(13%)
South Eastern Sydney	601	31,577(11%)	259	8,752(9%)	102	4,402(10%)
South Western Sydney	818	31,862(11%)	513	16,214(16%)	77	6,225(14%)
Southern NSW	104	7,622(3%)	39	1,761(2%)	14	896(2%)
Sydney	380	24,474(8%)	220	6,507(7%)	46	2,895(6%)
Western NSW	119	11,399(4%)	40	2,459(2%)	8	1,774(4%)
Western Sydney	1,041	40,095(14%)	568	21,251(21%)	124	7,407(17%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	100	9,259(3%)	53	3,360(3%)	19	1,542(3%)
Not Aboriginal or Torres Strait Islander	3,025	213,436(72%)	1,328	52,931(53%)	335	21,663(49%)
Not Stated / Unknown	2,208	71,819(24%)	1,055	43,404(44%)	344	21,372(48%)
Total	5,333	294,514(100%)	2,436	99,695(100%)	698	44,577(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 02 December 2023.

COVID-19 notifications

Type of test: COVID-19 | Rolling 7 day average | RAT registration ended

Influenza notifications

Type of test: Influenza – Type A | Influenza – Type A&B | Rolling 7 day average | Influenza – Type B | Influenza - untyped

RSV notifications

Type of test: Respiratory syncytial virus | Rolling 7 day average

Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 notification rates are stable across all ages. Those aged 90 years and older and the Western Sydney LHD continue to have the highest rates.
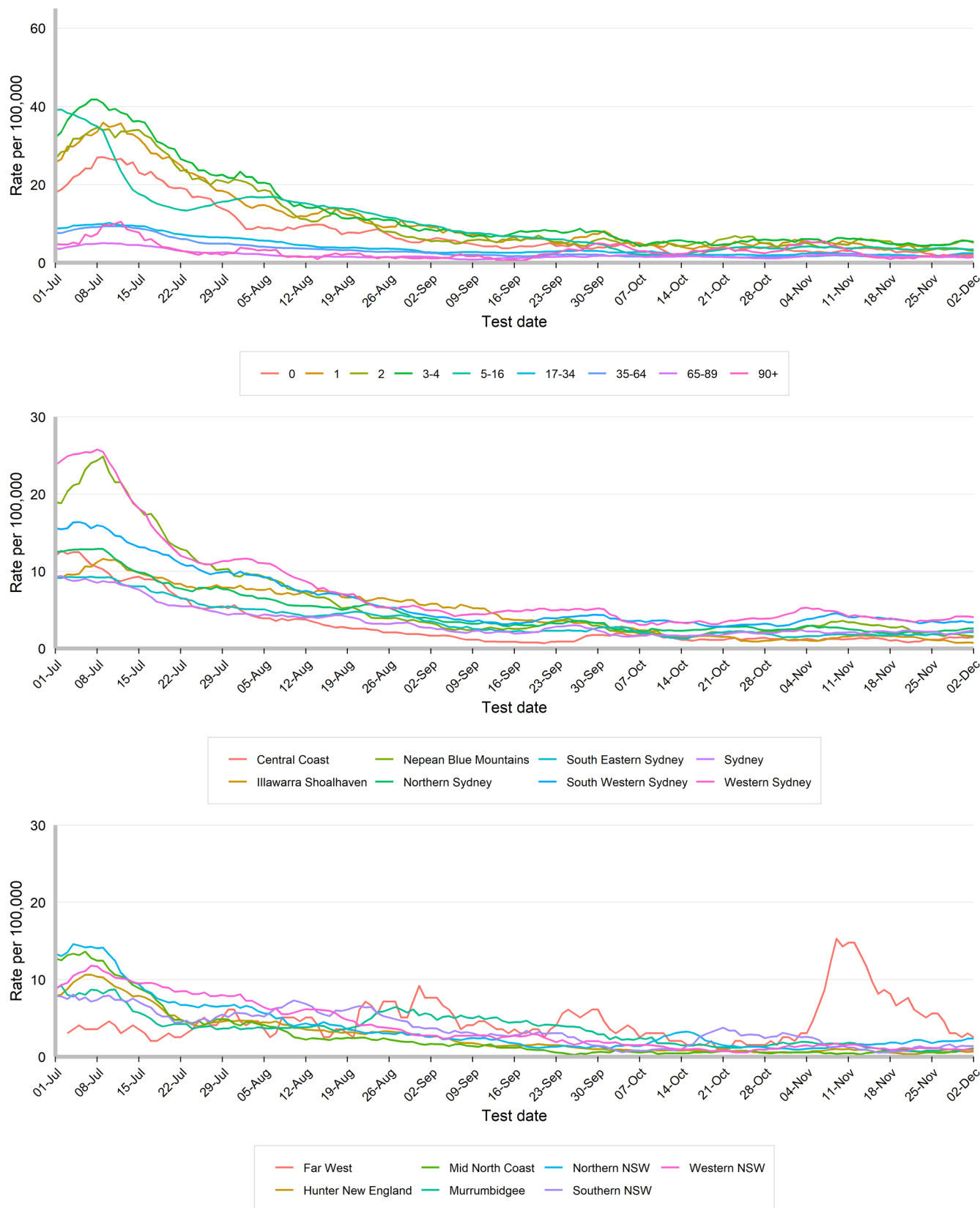
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 02 December 2023.
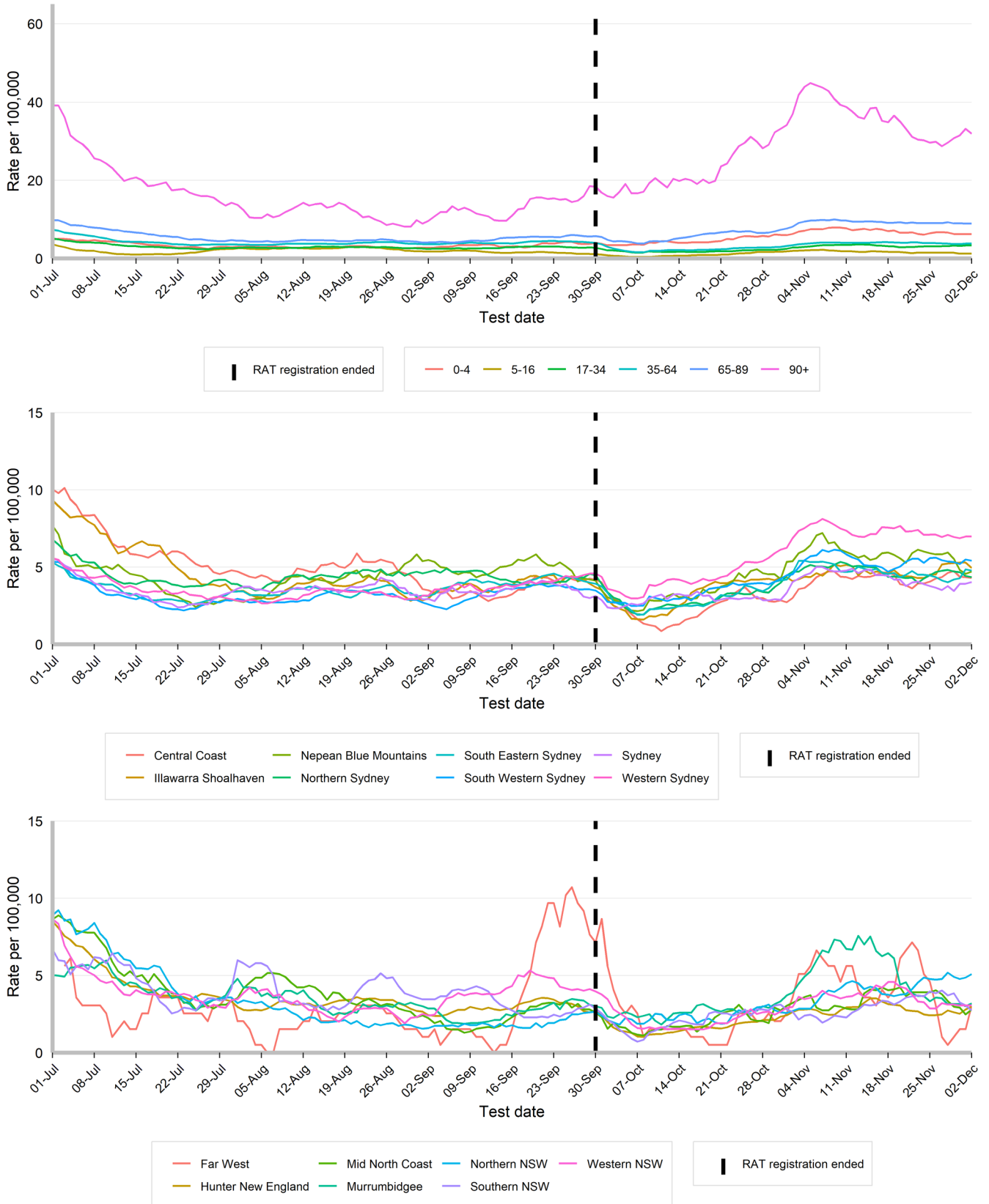
Rates of influenza notifications per 100,000 population

Interpretation: Influenza notification rates were stable across most age groups and LHDs. Rates for the Far West LHD have been steadily declining since the increase in early November.

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 02 December 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 02 December 2023.
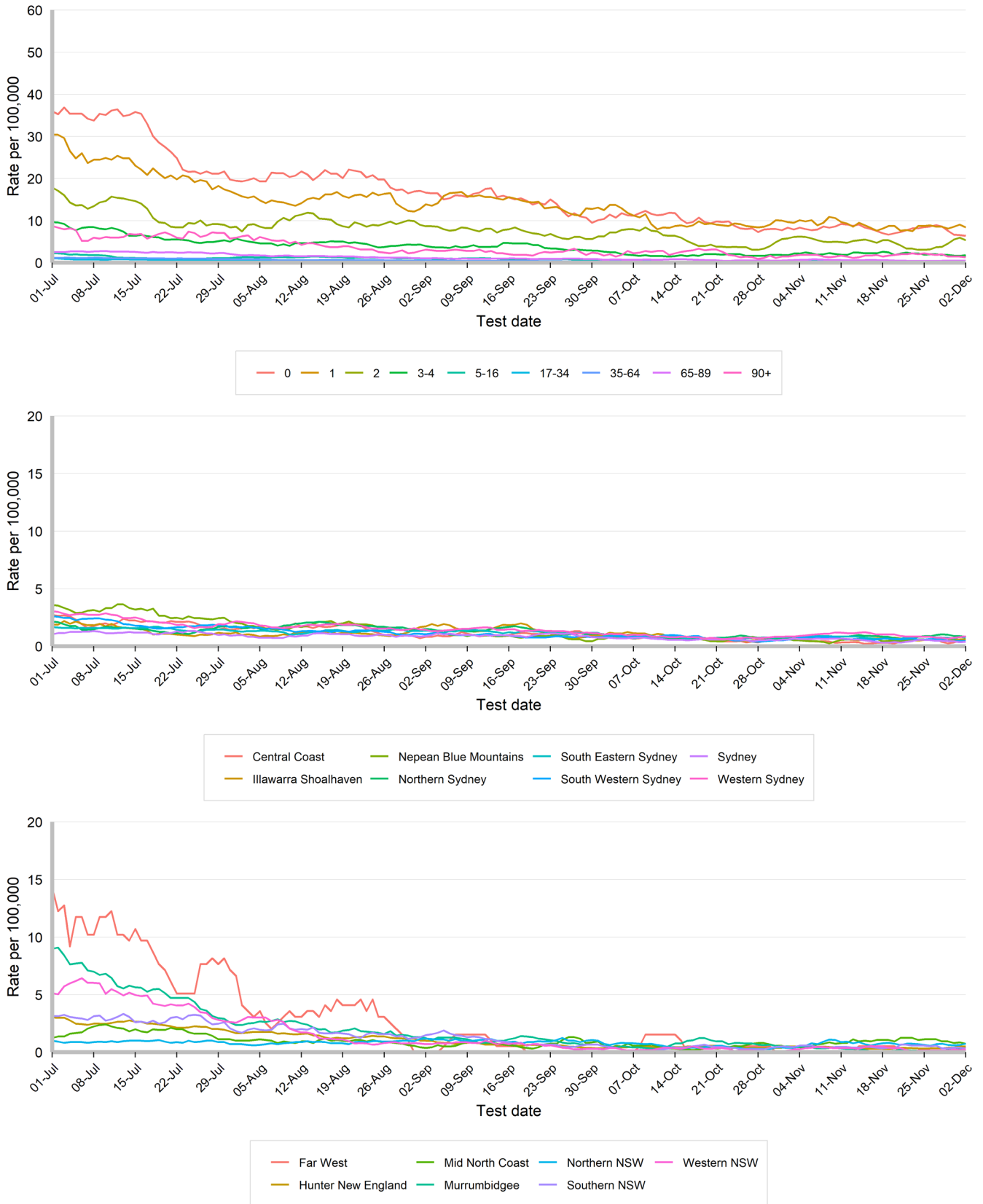
COVID-19 Whole Genome Sequencing

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 the majority of cases. The proportion of samples in which BA.2.86 has been detected has stabilised.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 18 November 2023.
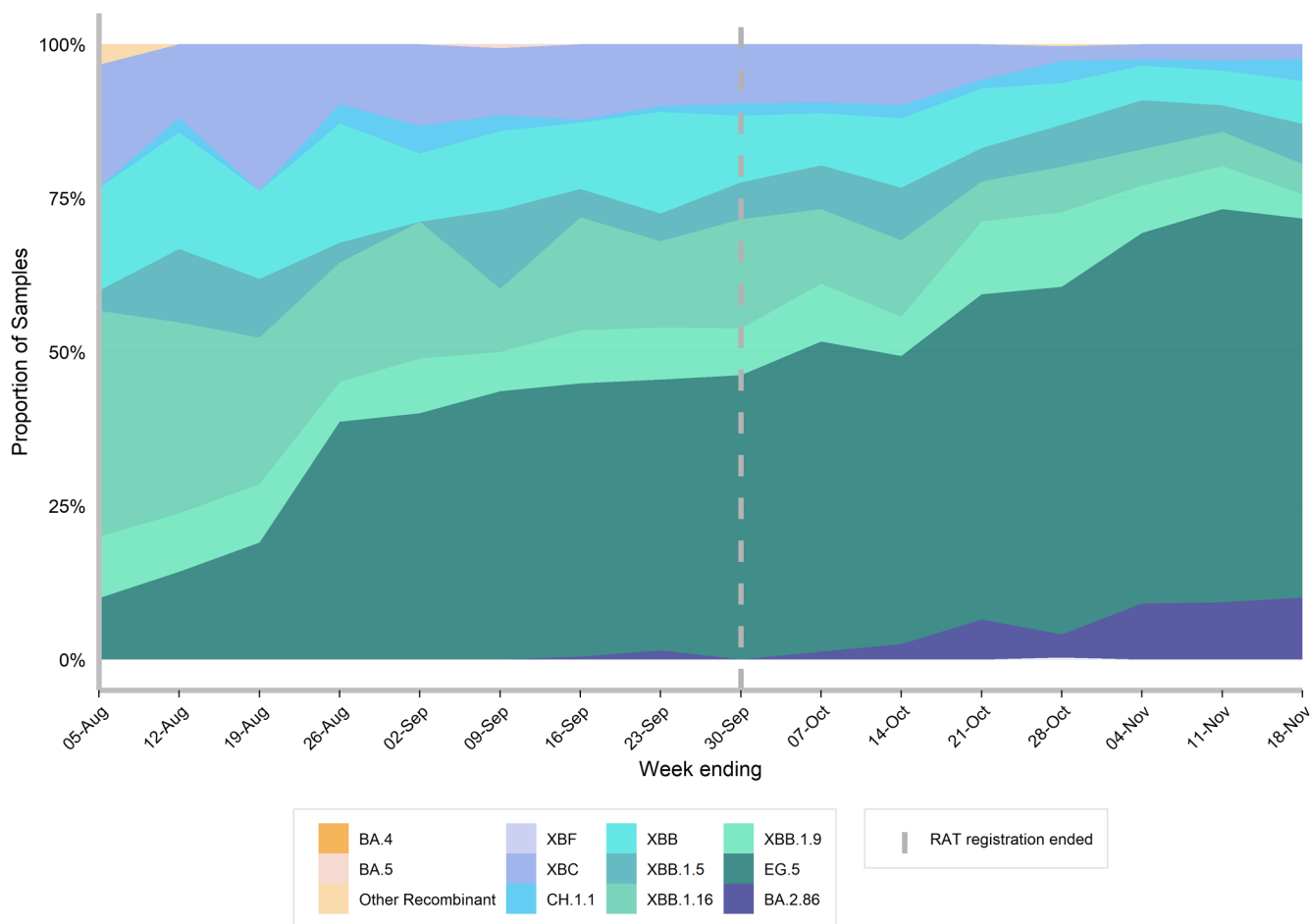
Other surveillance indicators
NSW Health Nursing Staff sick leave

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 and less likely to be affected by working from home arrangements. The data represent the proportion of full-time equivalent (FTE) nursing staff on sick leave for any reason.

Interpretation: The proportion of FTE nursing staff on sick leave stabilised in the past fortnight.

Figure 10. Proportion of NSW Health full-time equivalent nursing staff on sick leave, 1 July 2022 to 03 December 2023.
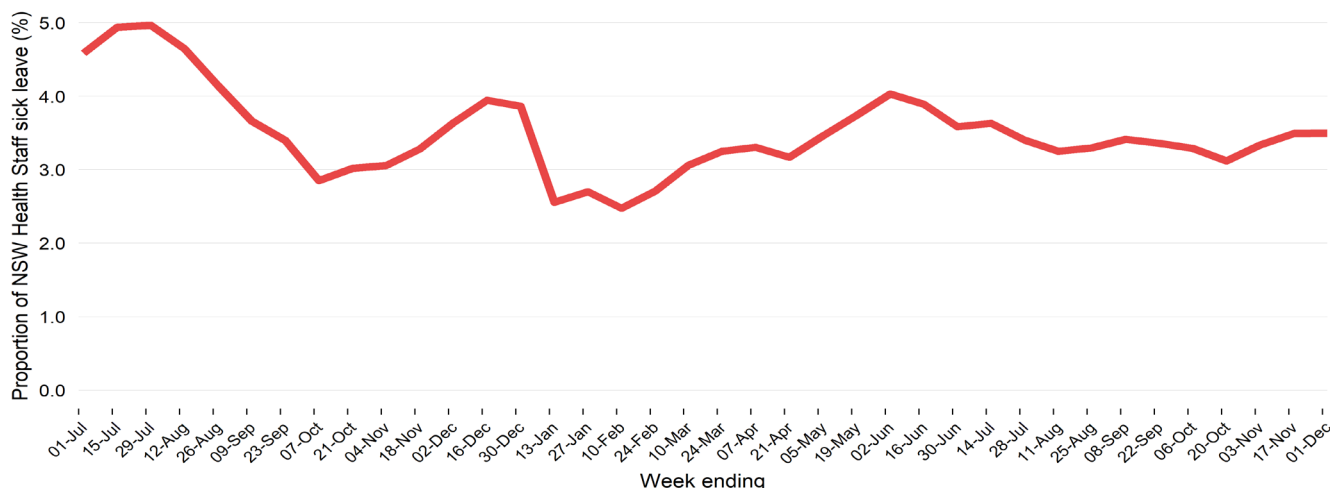

COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 23 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 over the previous weeks. This indicates that transmission continues to occur in the community.

Figure 11. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 23 November 2023.
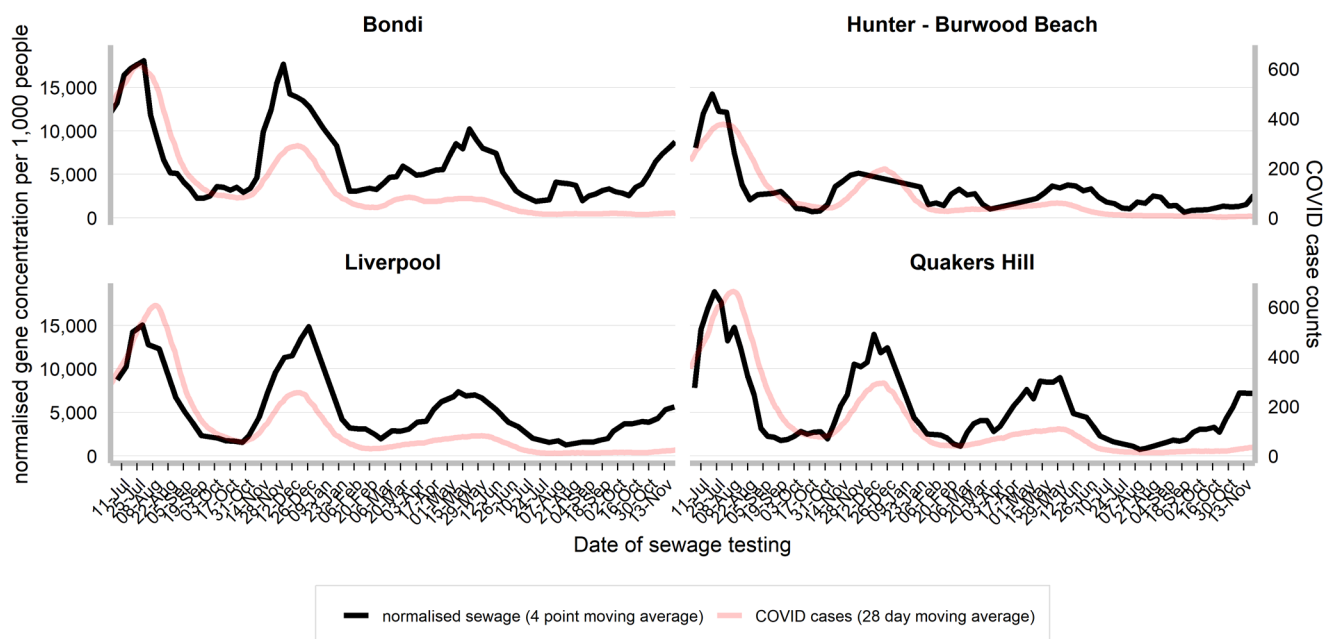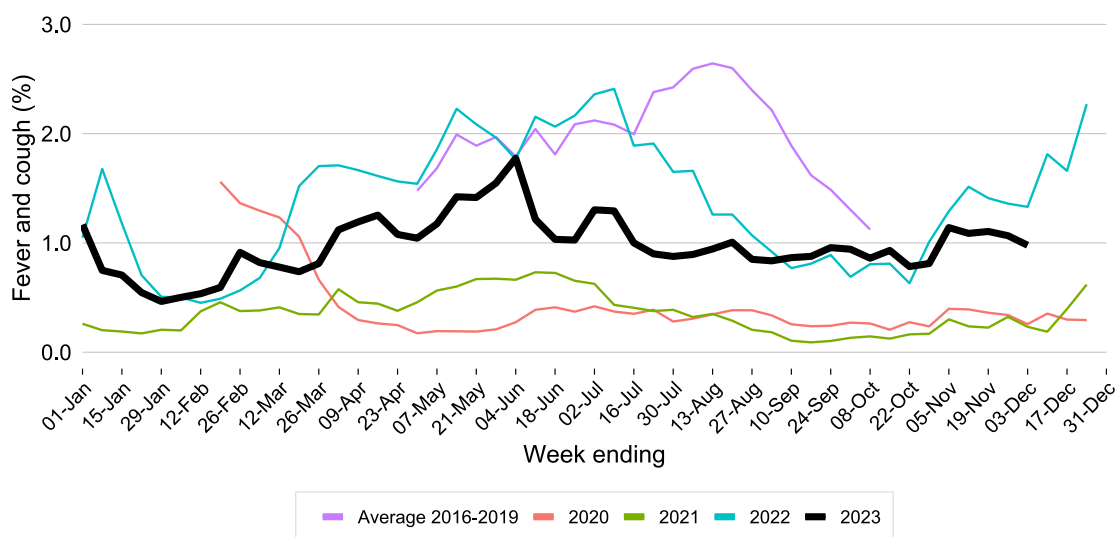
FluTracking and NSW sentinel laboratory network

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/

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: There was a small decline in the proportion of FluTracking participants reporting fever and cough in the past fortnight and is below reports for the same period in 2022

Figure 12. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 03 December 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 10.8% with all 4 reporting laboratories providing data. Influenza test positivity rose from 4.5% to 5.1% from the previous week. RSV test positivity continues to decline slowly and declines were observed in most other respiratory viruses (Figure 15).

Figure 13. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 03 December 2023.
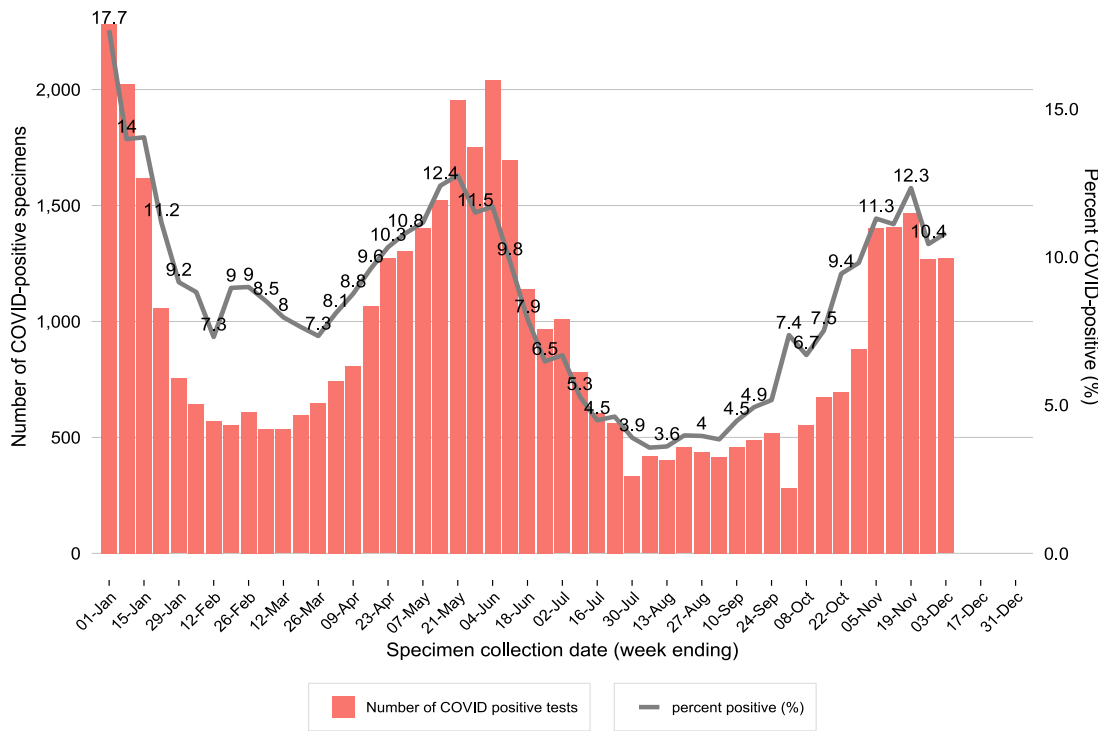
Figure 14. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 03 December 2023.
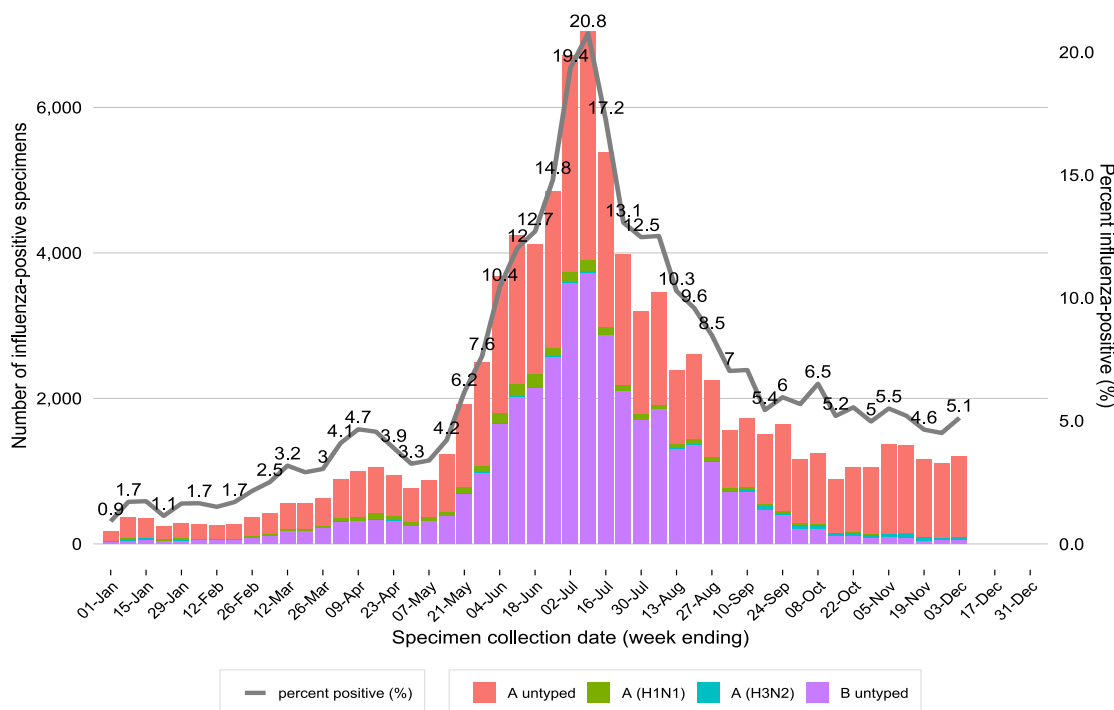
Figure 15. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 03 December 2023.
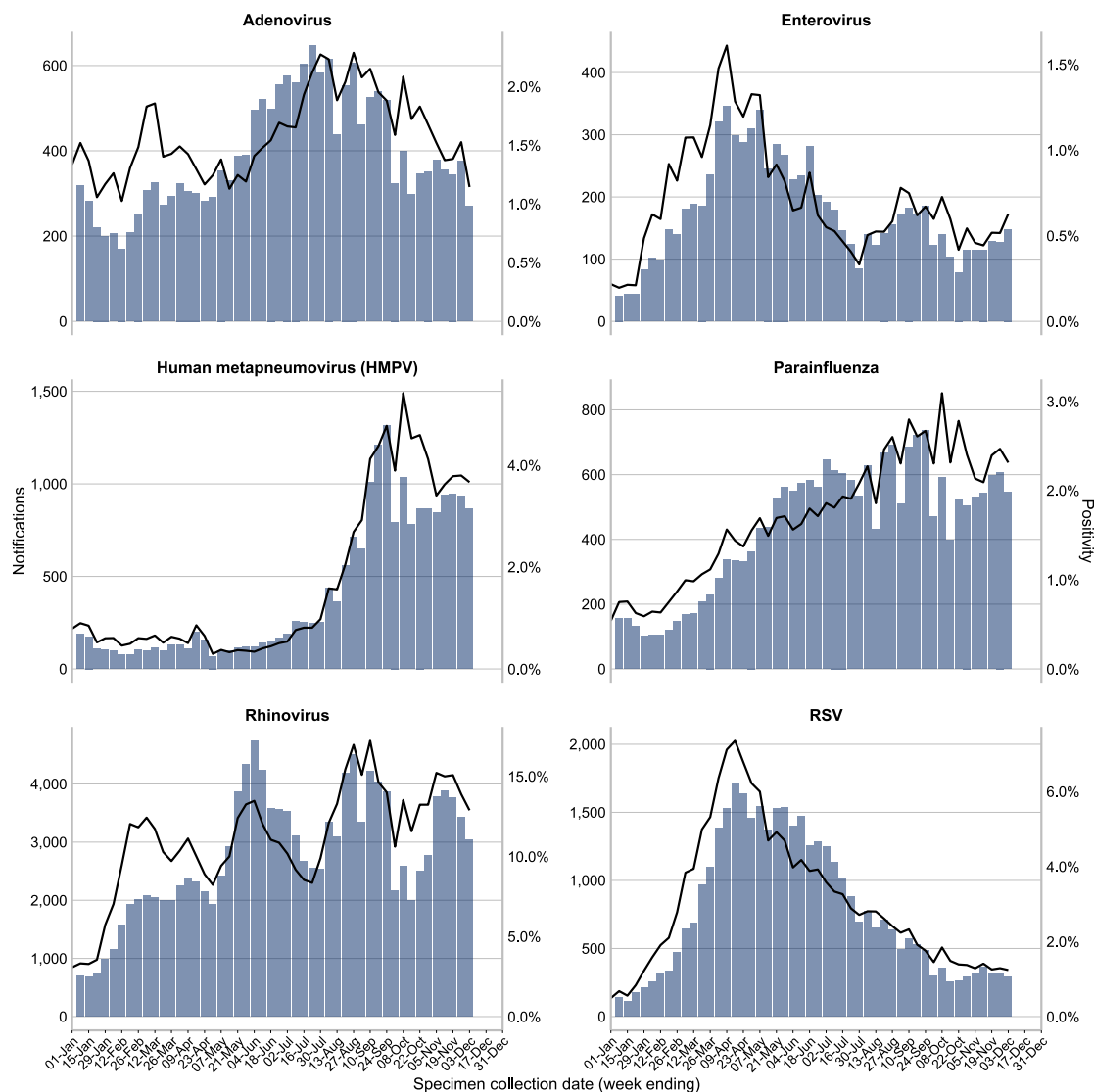

Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 03 December 2023.

	Week ending				Year to date
	12 November	19 November	26 November	03 December	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	1,351 (5.2%)	1,158 (4.6%)	1,111 (4.5%)	1,209 (5.1%)	87,860
Adenovirus	356 (1.4%)	345 (1.4%)	376 (1.5%)	270 (1.1%)	19,019
Parainfluenza	543 (2.1%)	597 (2.4%)	608 (2.5%)	546 (2.3%)	21,137
Respiratory syncytial virus (RSV)	366 (1.4%)	313 (1.3%)	318 (1.3%)	293 (1.2%)	37,517
Rhinovirus	3,890 (15.0%)	3,760 (15.1%)	3,421 (13.9%)	3,040 (12.9%)	134,053
Human metapneumovirus (HMPV)	939 (3.6%)	943 (3.8%)	935 (3.8%)	865 (3.7%)	19,499
Enterovirus	115 (0.4%)	129 (0.5%)	127 (0.5%)	148 (0.6%)	8,363
Number of PCR tests conducted	25,930	24,928	24,626	23,593	1,189,866
SARS-CoV-2	1,408 (11.1%)	1,467 (12.3%)	1,268 (10.4%)	1,271 (10.8%)	46,885
Number of COVID PCR tests	12,671	11,899	12,147	11,757	536,278
Number of laboratories reporting	11	11	11	10	-
Number of laboratories reporting COVID	4	4	4	4	-

Recent data is subject to change.