NSW Respiratory Surveillance Report - fortnight ending 03 February 2024

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

Summary

COVID-19 activity has decreased for some indicators, such as laboratory notifications and emergency department presentations, but sewage surveillance indicates community transmission remains high. COVID-19 polymerase chain reaction (PCR) test positivity at sentinel laboratories was 14.3%. Influenza activity is low with PCR test positivity at 4.0%. RSV activity increased in the past fortnight and PCR test positivity was 3.3%.

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 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 the number of people admitted to hospital, are useful for monitoring the severity of illness and impact on the health system.

Interpretation: Presentations to EDs for COVID-19 have declined however the number of admissions is stable. Influenza-like illness presentations declined slightly and the number of admissions was unchanged. Presentations 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.
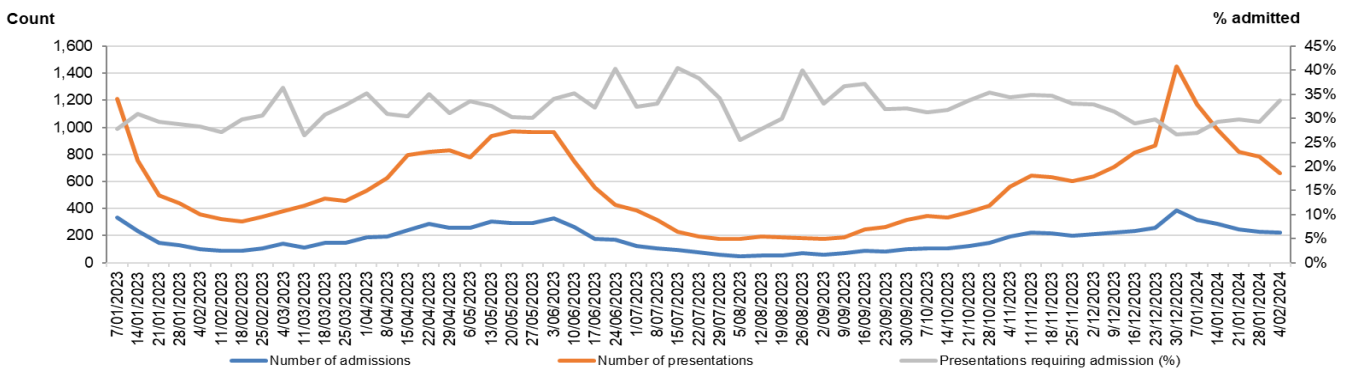

Figure 2. 'Influenza-like illness' weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, persons of all ages.
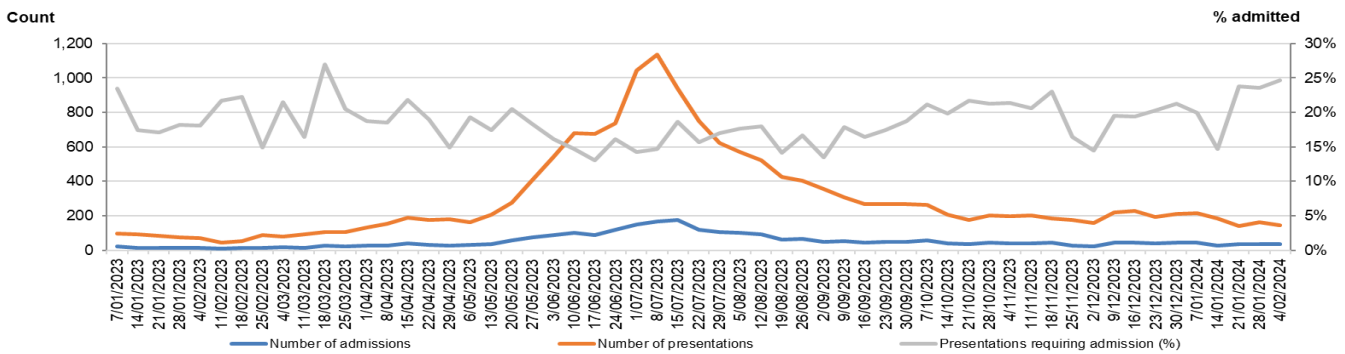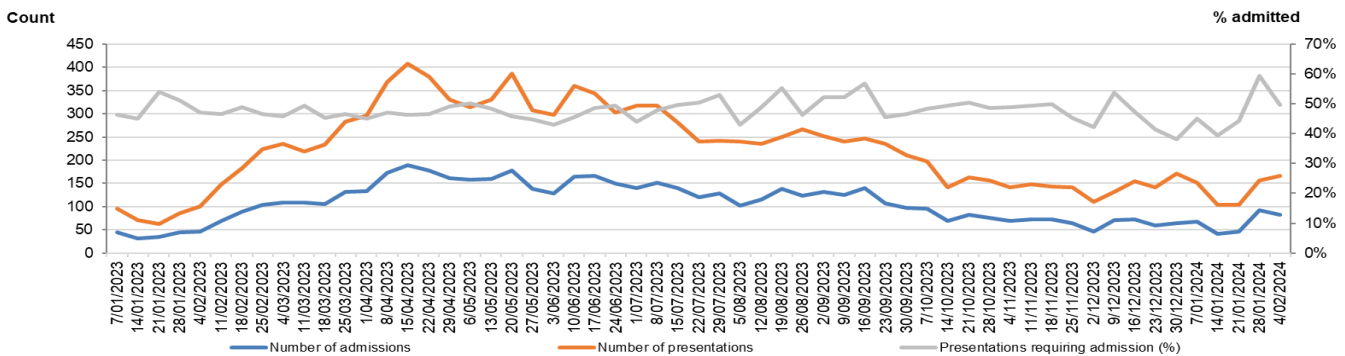

Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023, children aged 0-4 years.

Death surveillance

All-cause mortality

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 registered by 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 was above the usual variation for late December.

Figure 4. All-cause death rate per 100,000 population, all ages, 2017 to 24 December 2023
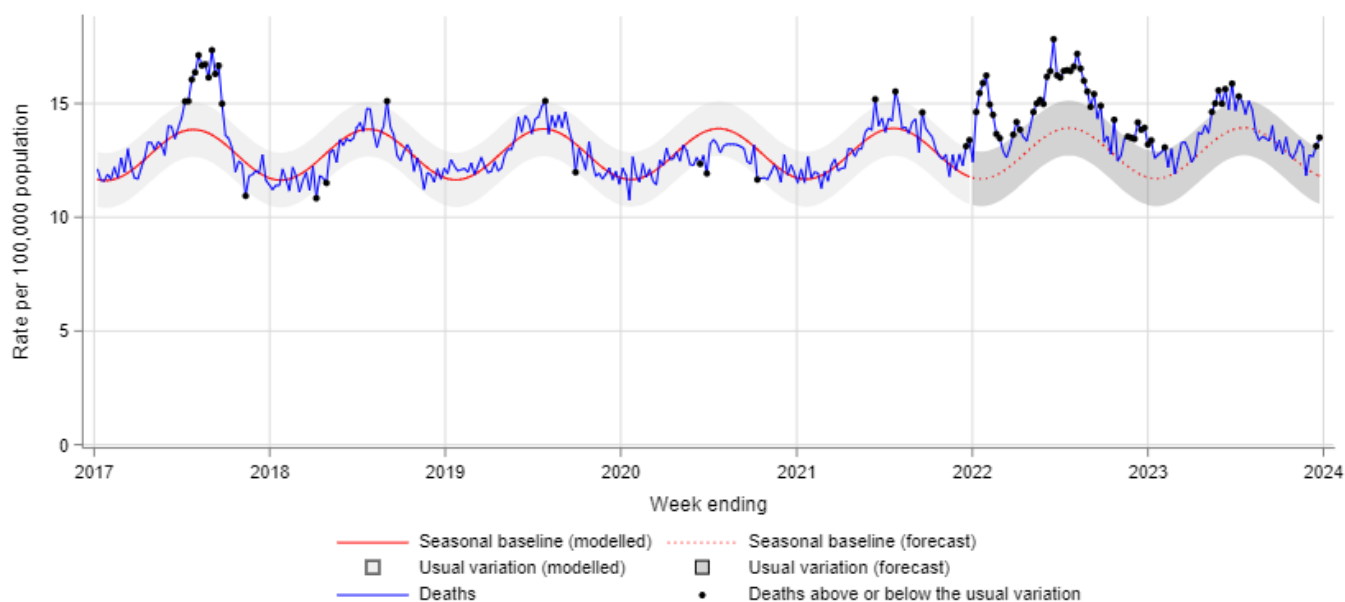
Notes:

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 19 November 2023 to 24 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.

Notifications of COVID-19, influenza and RSV

Notification data is obtained from laboratory tests for infections. This indicator provides information about community infection.

Interpretation: Since the previous fortnight, there has been a 22.9% decrease in COVID-notifications, 14.1% decrease in influenza notifications and a 27.5% increase in RSV notifications. The distribution of notifications by age, gender, Aboriginality and Local Health District of residence was similar to the previous report.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the fortnight ending 03 February 2024.

	COVID		Influenza		RSV	
	Fortnight ending 03 February 2024	Year to Date	Fortnight ending 03 February 2024	Year to Date	Fortnight ending 03 February 2024	Year to Date
Gender						
Female	3,215	9,400(55%)	795	2,213(50%)	623	1,360(50%)
Male	2,691	7,740(45%)	858	2,171(49%)	669	1,352(50%)
Age group (years)						
0-4	663	1,768(10%)	231	558(13%)	865	1,543(57%)
5-9	96	240(1%)	144	337(8%)	33	90(3%)
10-19	221	583(3%)	208	483(11%)	32	71(3%)
20-29	474	1,436(8%)	190	650(15%)	40	94(3%)
30-39	649	1,967(11%)	210	618(14%)	60	140(5%)
40-49	636	1,699(10%)	194	525(12%)	39	116(4%)
50-59	629	1,725(10%)	174	450(10%)	58	146(5%)
60-69	629	1,943(11%)	135	328(7%)	55	154(6%)
70-79	754	2,301(13%)	108	274(6%)	56	173(6%)
80-89	775	2,319(14%)	44	118(3%)	38	144(5%)
90+	389	1,172(7%)	17	47(1%)	18	44(2%)
Local Health District of residence						
Central Coast	177	520(3%)	60	165(4%)	53	123(5%)
Far West	25	47(0%)	2	5(0%)	1	1(0%)
Hunter New England	449	1,148(7%)	49	164(4%)	94	173(6%)
Illawarra Shoalhaven	225	662(4%)	59	235(5%)	46	112(4%)
Mid North Coast	150	480(3%)	11	38(1%)	22	59(2%)
Murrumbidgee	140	325(2%)	24	69(2%)	12	29(1%)
Nepean Blue Mountains	248	713(4%)	51	133(3%)	52	115(4%)
Northern NSW	208	523(3%)	42	90(2%)	26	60(2%)
Northern Sydney	734	2,039(12%)	306	813(19%)	256	511(19%)
South Eastern Sydney	619	1,950(11%)	214	570(13%)	167	341(13%)
South Western Sydney	954	2,738(16%)	268	621(14%)	178	362(13%)
Southern NSW	95	271(2%)	10	49(1%)	8	27(1%)
Sydney	526	1,579(9%)	117	354(8%)	97	209(8%)
Western NSW	119	310(2%)	27	60(1%)	14	36(1%)
Western Sydney	1,202	3,703(22%)	407	995(23%)	266	552(20%)
Aboriginal status						
Aboriginal and/or Torres Strait Islander	116	326(2%)	21	80(2%)	39	61(2%)
Not Aboriginal or Torres Strait Islander	3,298	9,585(56%)	932	2,484(57%)	564	1,291(48%)
Not Stated / Unknown	2,494	7,239(42%)	702	1,824(42%)	691	1,364(50%)
Total	5,908	17,150(100%)	1,655	4,388(100%)	1,294	2,716(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 03 February 2024.
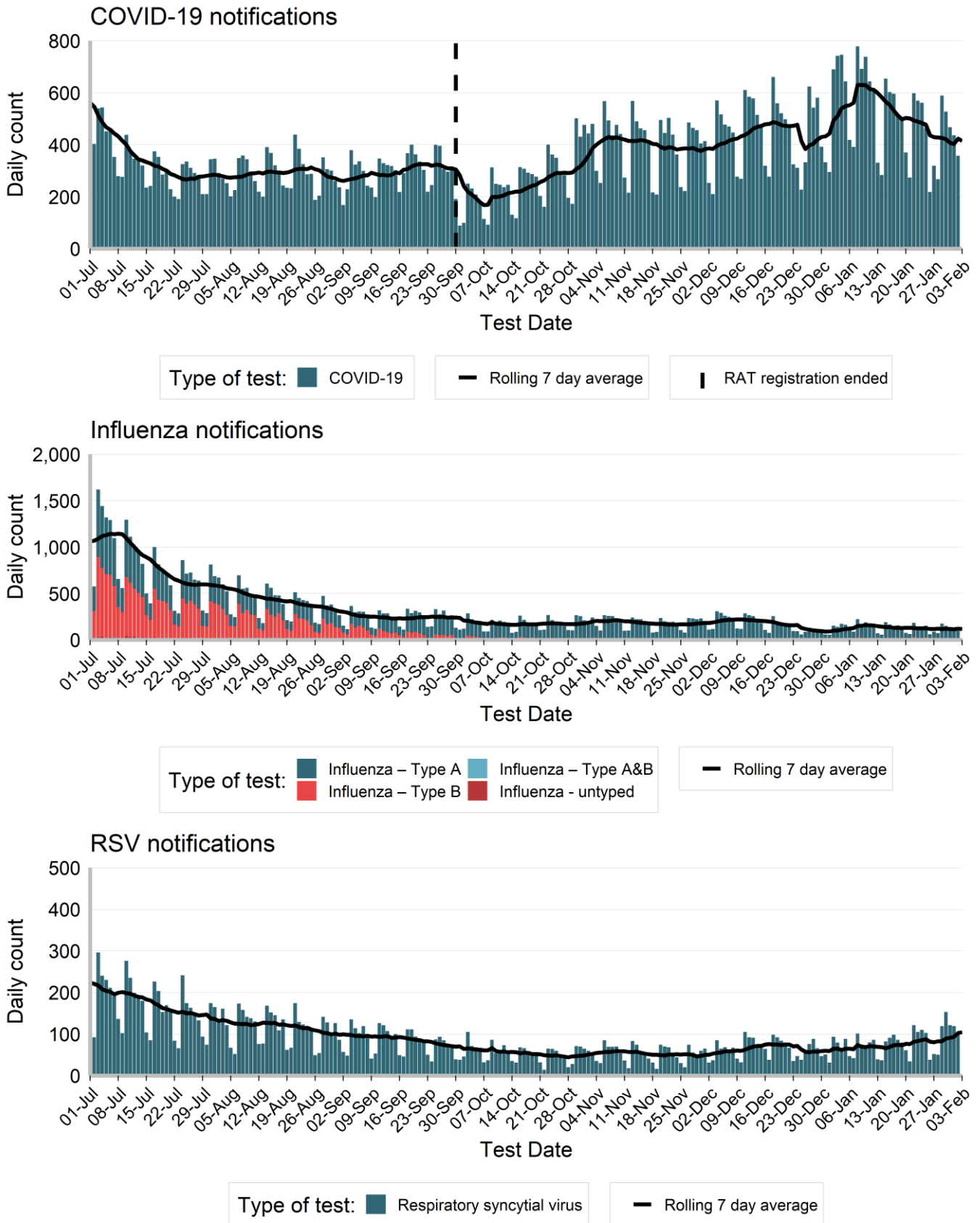
Rates of COVID-19 notifications per 100,000 population

Interpretation: COVID-19 rates are declining or are stable across most age-groups and Local Health Districts.
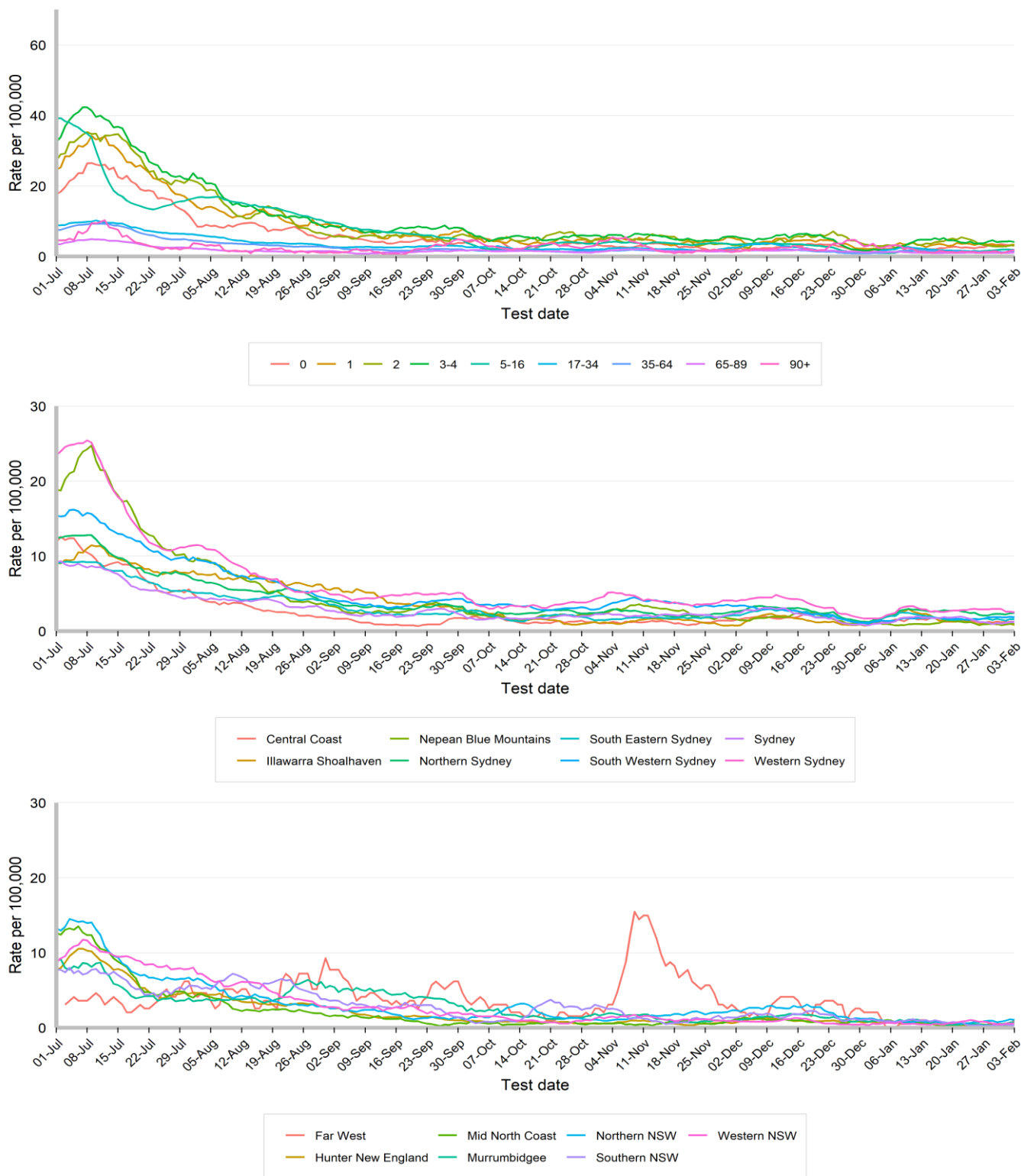
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 03 February 2024.
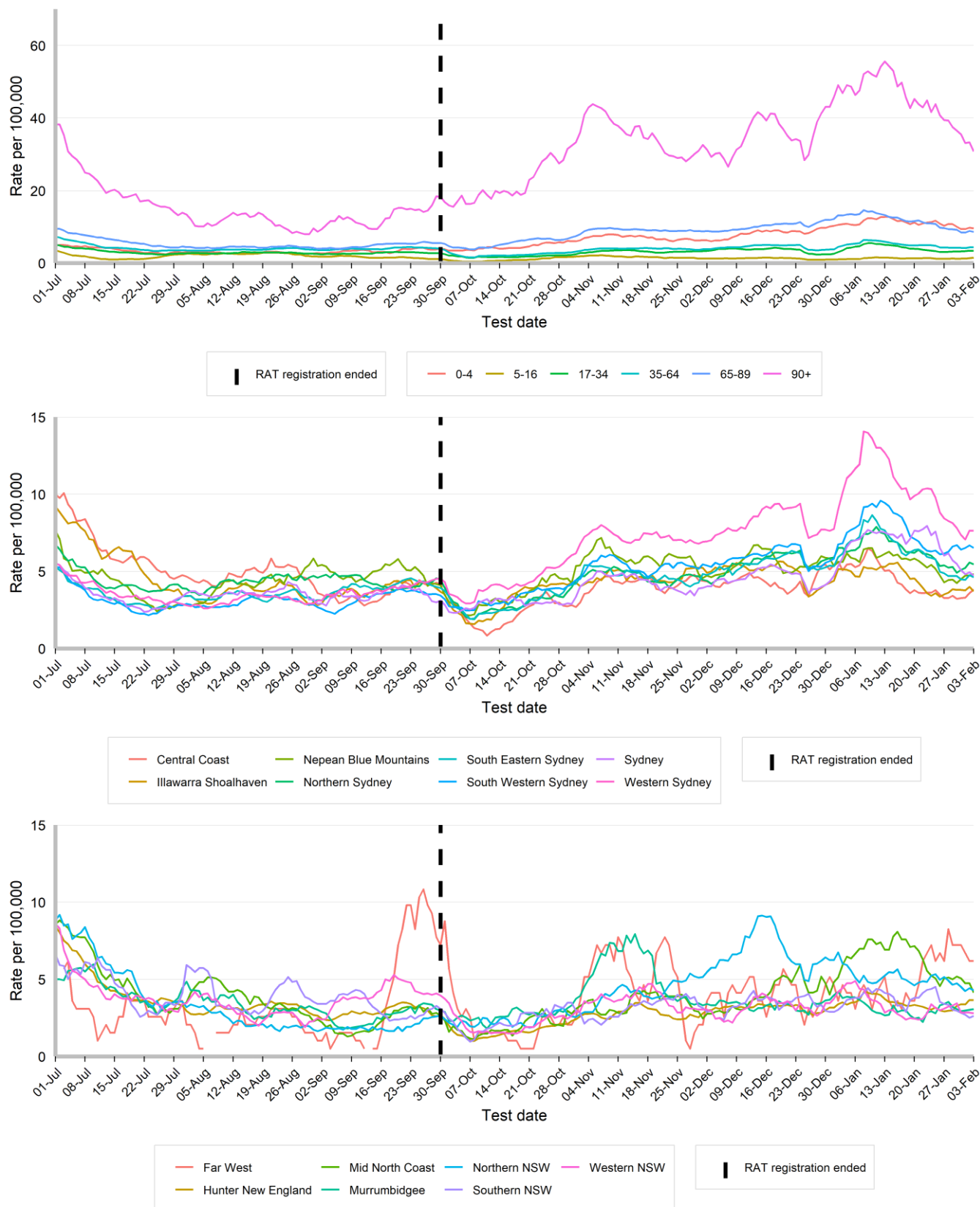
Rates of influenza notifications per 100,000 population

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 03 February 2024.

Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: RSV notification rates are increasing in children aged less than 5 years.

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 03 February 2024.
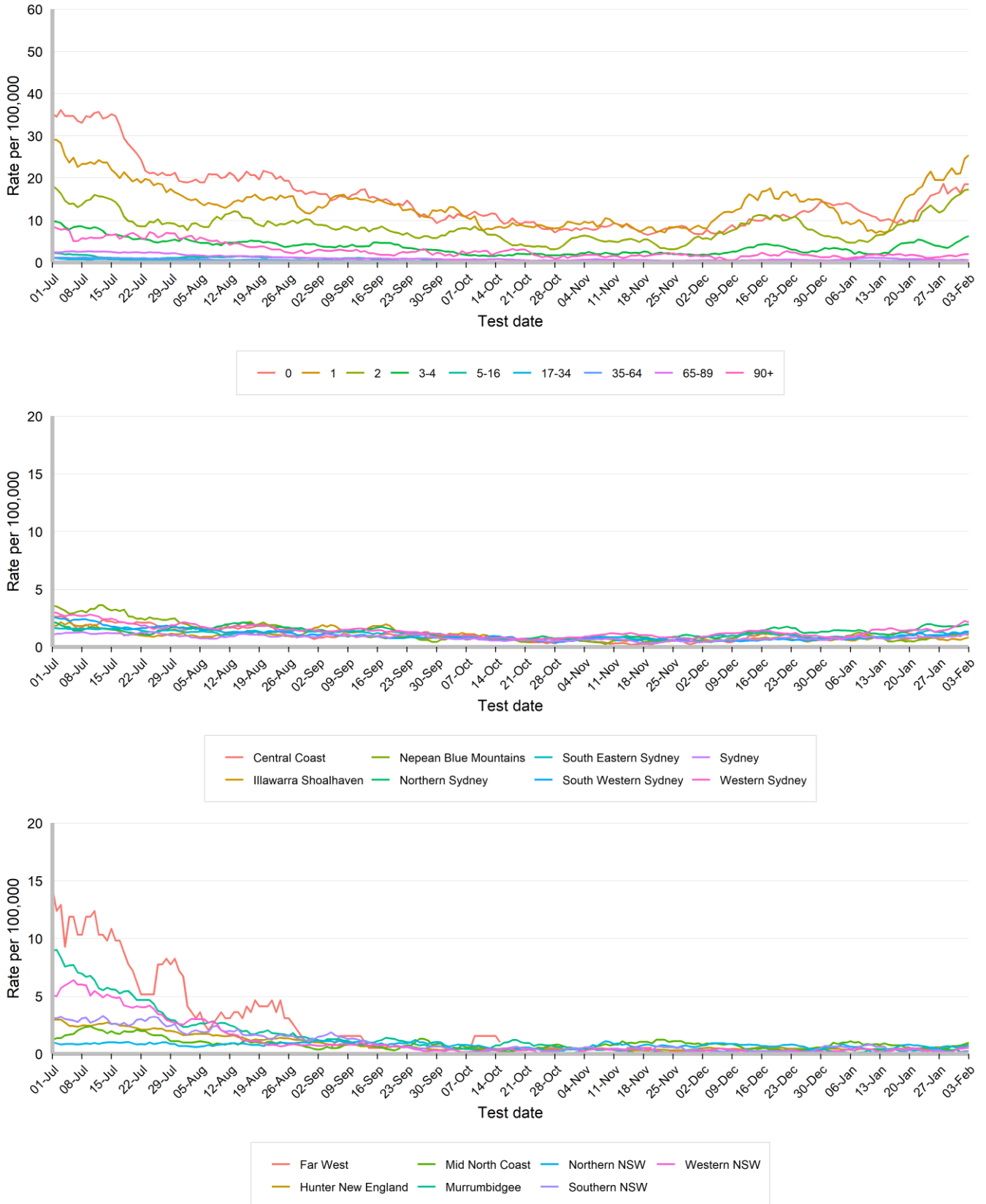
COVID-19 Whole Genome Sequencing

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 13 January 2024.
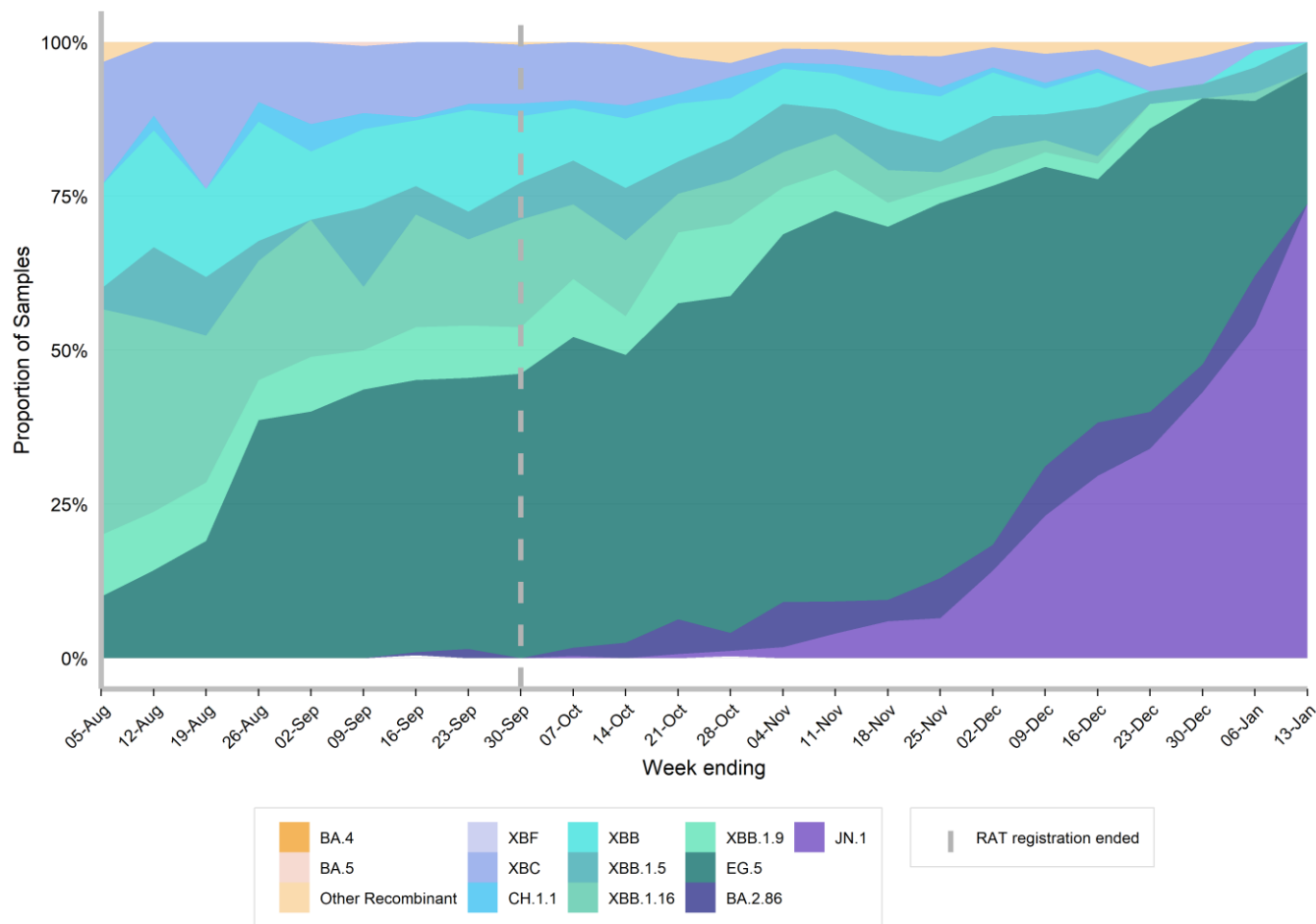
Other surveillance indicators
COVID-19 Sewage surveillance program

Trends are presented for Sydney Bondi, Quakers Hills, Liverpool and Burwood Beach sewage catchments from 5 February 2022 to the week ending 31 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 remain high in the Sydney catchment areas.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 1 July 2022 to 31 January 2024.
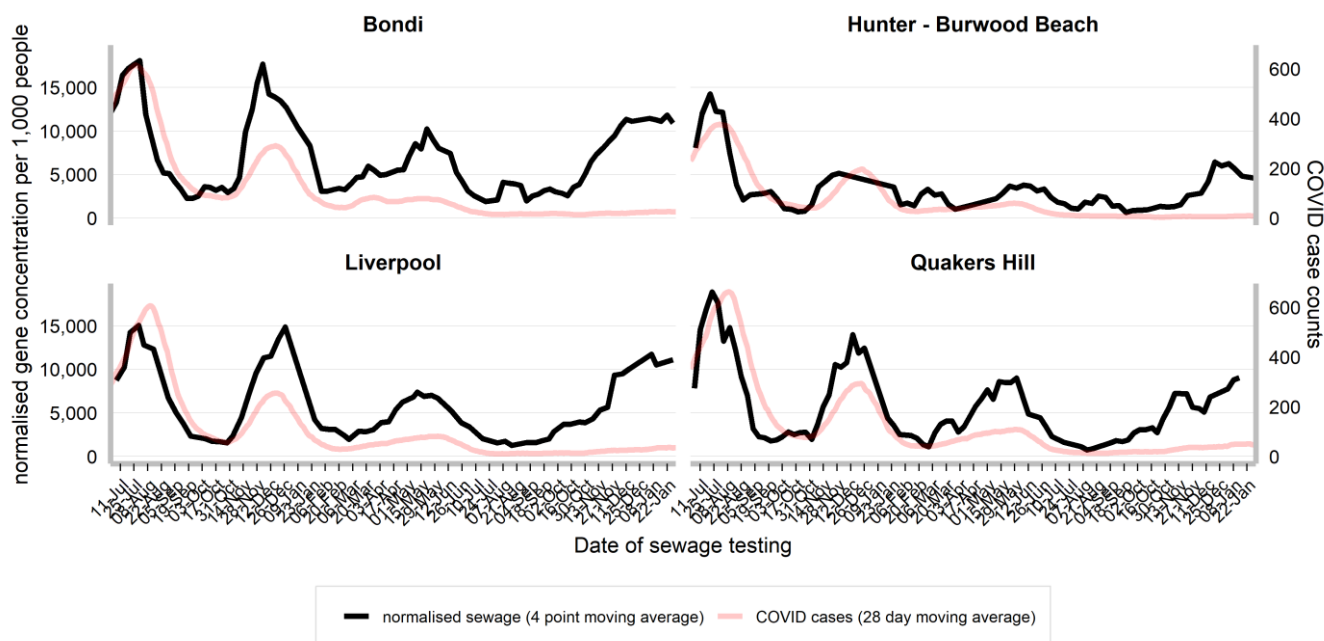
FluTracking and NSW sentinel laboratory network

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/

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 test positivity increased slightly, influenza test positivity was stable and RSV test positivity is increasing. Adenovirus and rhinovirus test positivity increased.

Figure 11. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 04 February 2024.
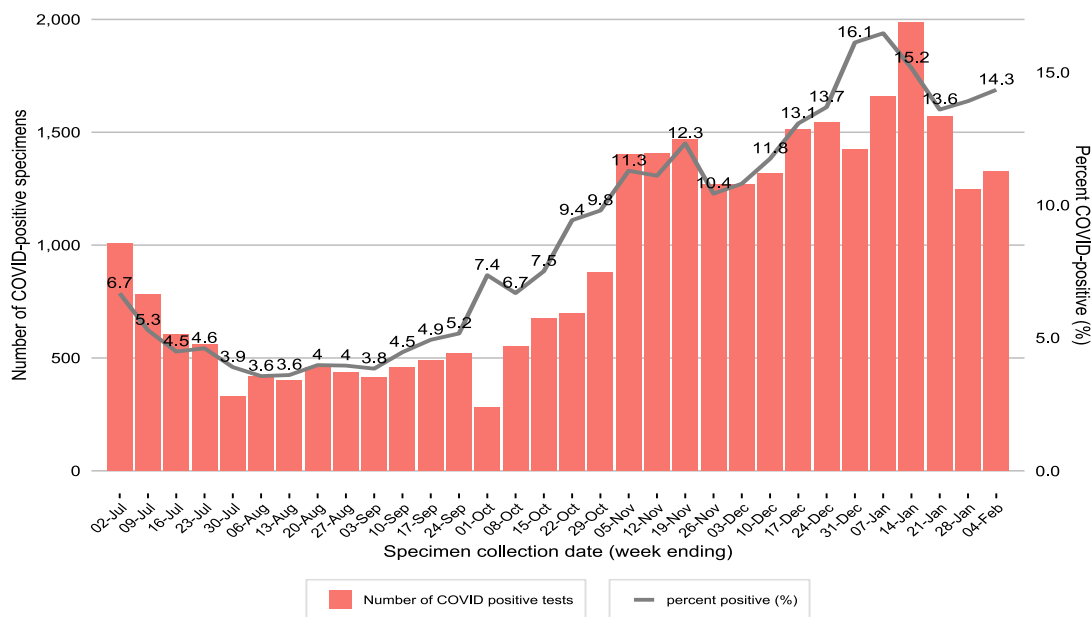

Figure 12. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 04 February 2024.
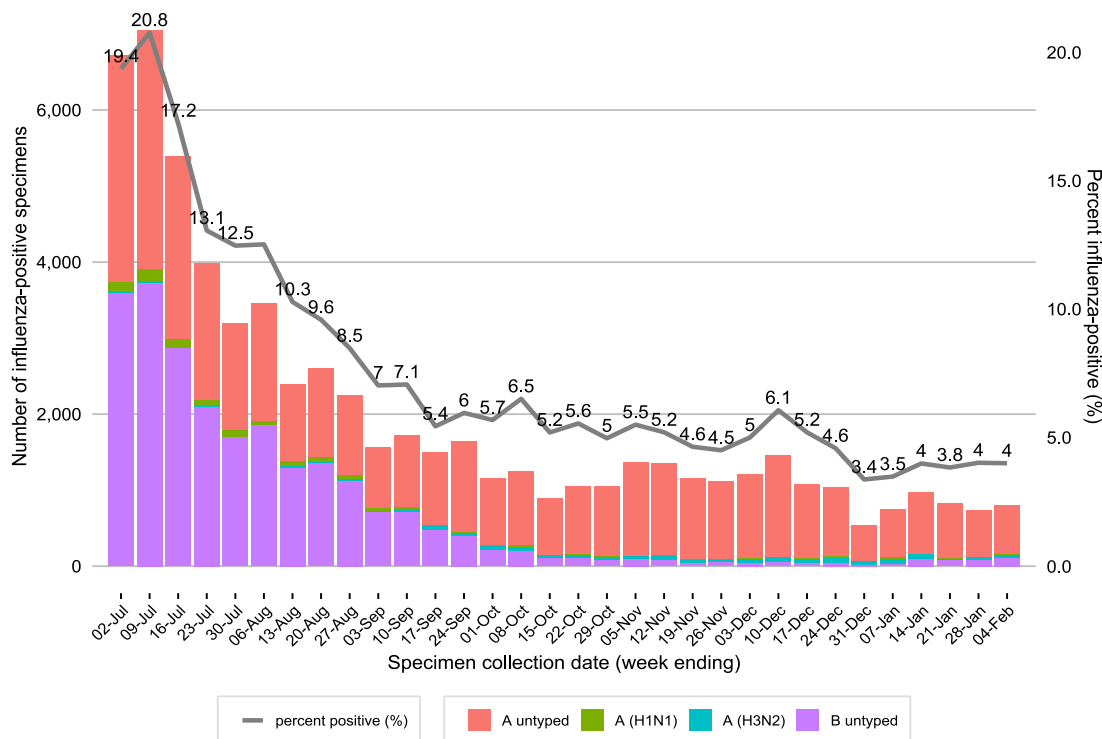
Figure 13. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 04 February 2024.
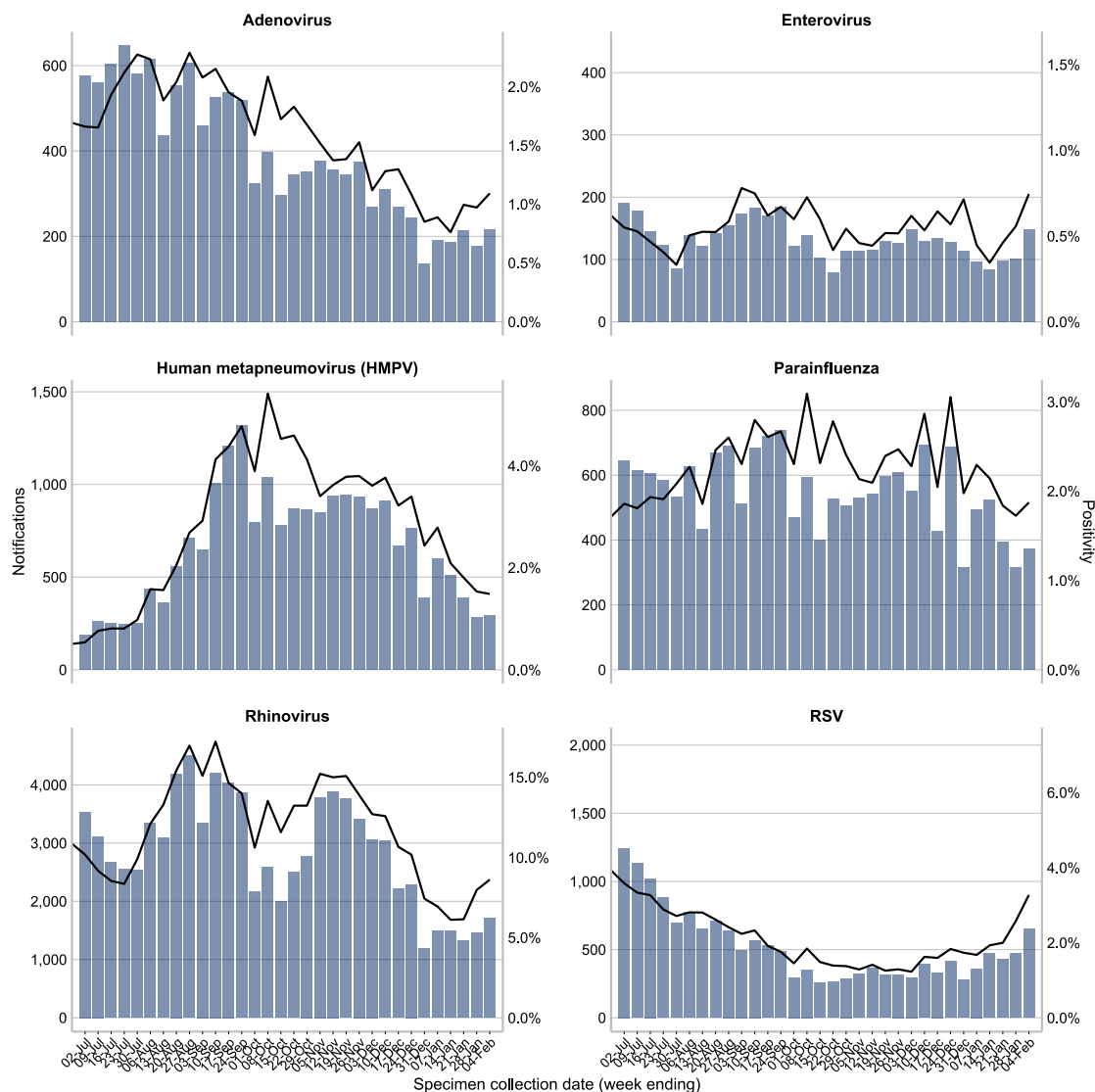

Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 04 February 2024.

	Week ending				Year to date
	14 January	21 January	28 January	04 February	
	n(% pos)	n(% pos)	n(% pos)	n(% pos)	n
Influenza	975 (4.0%)	825 (3.8%)	737 (4.0%)	795 (4.0%)	4,081
Adenovirus	186 (0.8%)	214 (1.0%)	178 (1.0%)	217 (1.1%)	986
Parainfluenza	523 (2.1%)	395 (1.8%)	316 (1.7%)	372 (1.9%)	2,099
Respiratory syncytial virus (RSV)	471 (1.9%)	429 (2.0%)	472 (2.6%)	650 (3.3%)	2,382
Rhinovirus	1,492 (6.1%)	1,320 (6.1%)	1,460 (8.0%)	1,711 (8.6%)	7,475
Human metapneumovirus (HMPV)	510 (2.1%)	388 (1.8%)	281 (1.5%)	295 (1.5%)	2,073
Enterovirus	84 (0.3%)	99 (0.5%)	102 (0.6%)	148 (0.7%)	529
Number of PCR tests conducted	24,405	21,486	18,314	19,855	105,543
SARS-CoV-2	1,987 (15.2%)	1,572 (13.6%)	1,247 (13.9%)	1,326 (14.3%)	7,792
Number of COVID PCR tests	13,099	11,555	8,957	9,241	52,926
Number of laboratories reporting	12	10	8	9	-
Number of laboratories reporting COVID	4	4	3	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. Approximately 5% of these presentations have been reported in the ED as pneumonia due to *Mycoplasma pneumoniae* or atypical pneumonia. 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. For the week ending 4 February 2024, the proportion of ED presentations requiring admission was 39%; this compares to 36% for the week ending 30 December 2023 and 48% for the week ending 02 December 2023.

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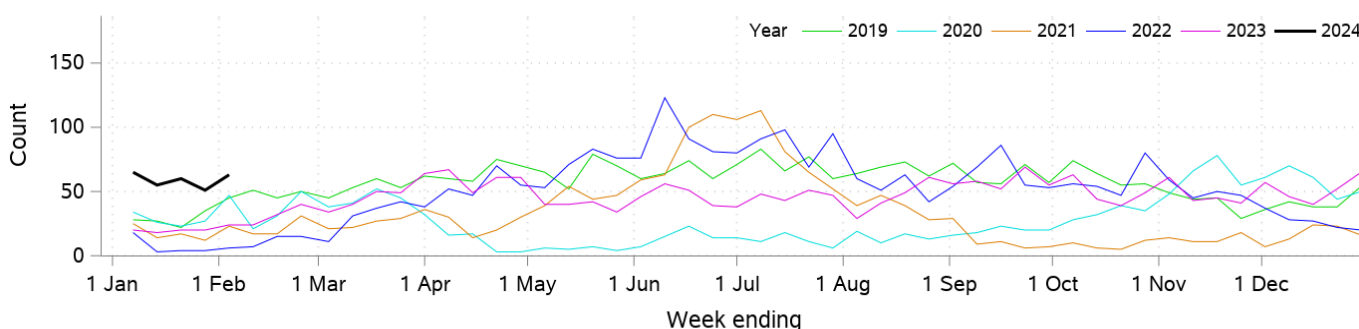

Figure 15. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 4 February 2024 and comparison with the previous 5 years, persons aged 5 - 16 years.
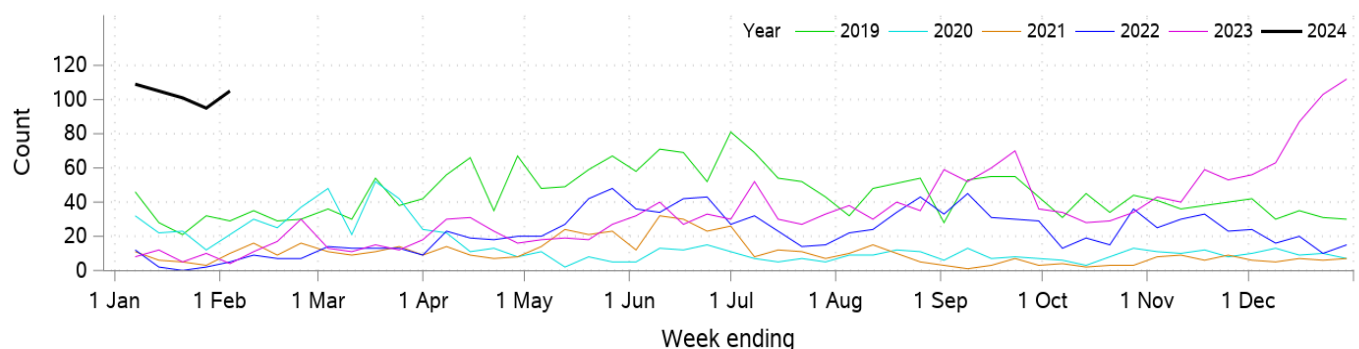

Figure 16. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 4 February 2024 and comparison with the previous 5 years, persons aged 17 - 34 years.