

NSW Respiratory Surveillance Report - week ending 11 May 2024

COVID-19 has increased to moderate levels. The 2024 influenza season has started. It is expected that influenza activity will increase rapidly over the next 6 to 8 weeks. RSV remains at high levels.

Summary

COVID-19 activity is increasing, with increases in most measures, including emergency department (ED) presentations, notifications and COVID-19 test positivity. There has been a particularly large increase in the notification rate of COVID-19 cases in those 90 years of age and older.

NSW Health confirms that the 2024 influenza season has commenced. Influenza notifications and ED presentations for influenza-like illness have increased in the last week and it is likely they will rapidly increase over the next 6 to 8 weeks and influenza activity will quickly reach high levels.

Measures of RSV continue to show a high level of activity although there has been some decline in the youngest children.

This winter, it is anticipated that there will be a large number of people infected with COVID-19, influenza and/or RSV, as all three viruses will be circulating at the same time. Everyone can help reduce the spread of respiratory pathogens through simple measures such as, staying home if unwell and wearing a mask if you need to go out, staying up to date with recommended vaccinations and practicing good hygiene, including regular handwashing.

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](#) that 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 the impact on the health system.

Interpretation: The presentations to EDs for COVID-19 continued to increase this week. Influenza-like illness (ILI) ED presentations are increasing. Presentations and admissions for bronchiolitis in young children remain at a high level.

Figure 1. ‘COVID-19’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages.

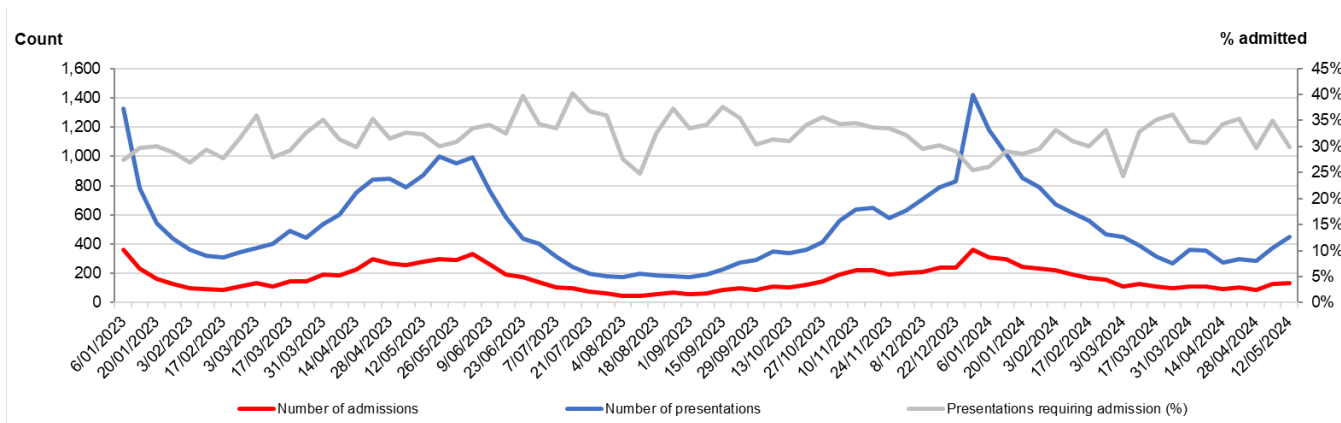


Figure 2. ‘Influenza-like illness’ weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages.

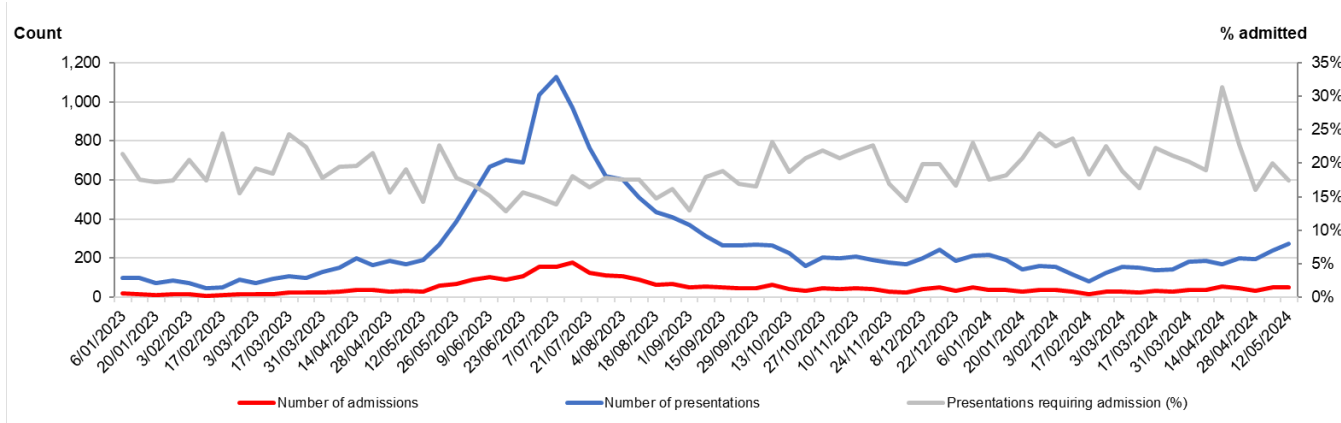
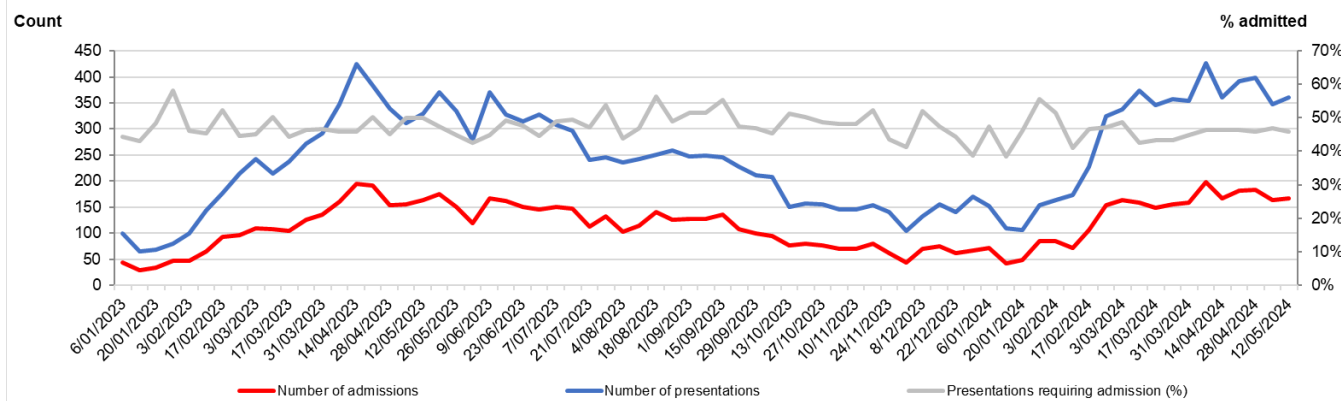


Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, children aged 0-4 years.



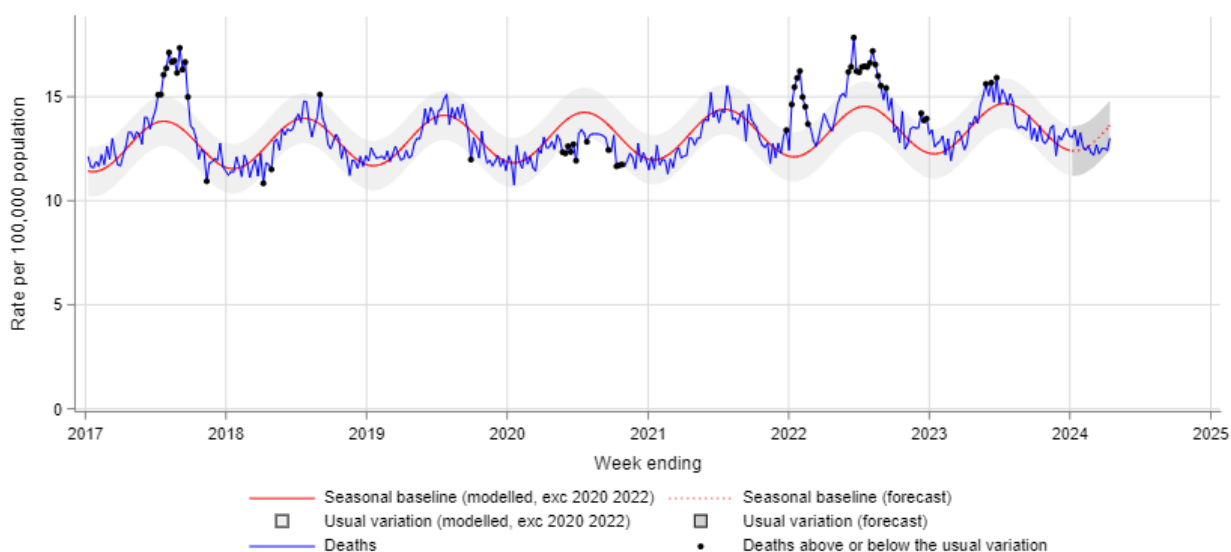
Death surveillance

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 model outputs for the current year should not be directly compared to previous years' outputs, due to a change in the baseline of the model. The NSW model supports surveillance of the impact of circulating viruses such as COVID-19 and influenza on all-cause mortality. 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 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 14 April 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 10 March 2024 to 14 April 2024. For additional information see [COVID-19 surveillance report data sources and methodology](#) for details.

Notifications of COVID-19, influenza and RSV

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

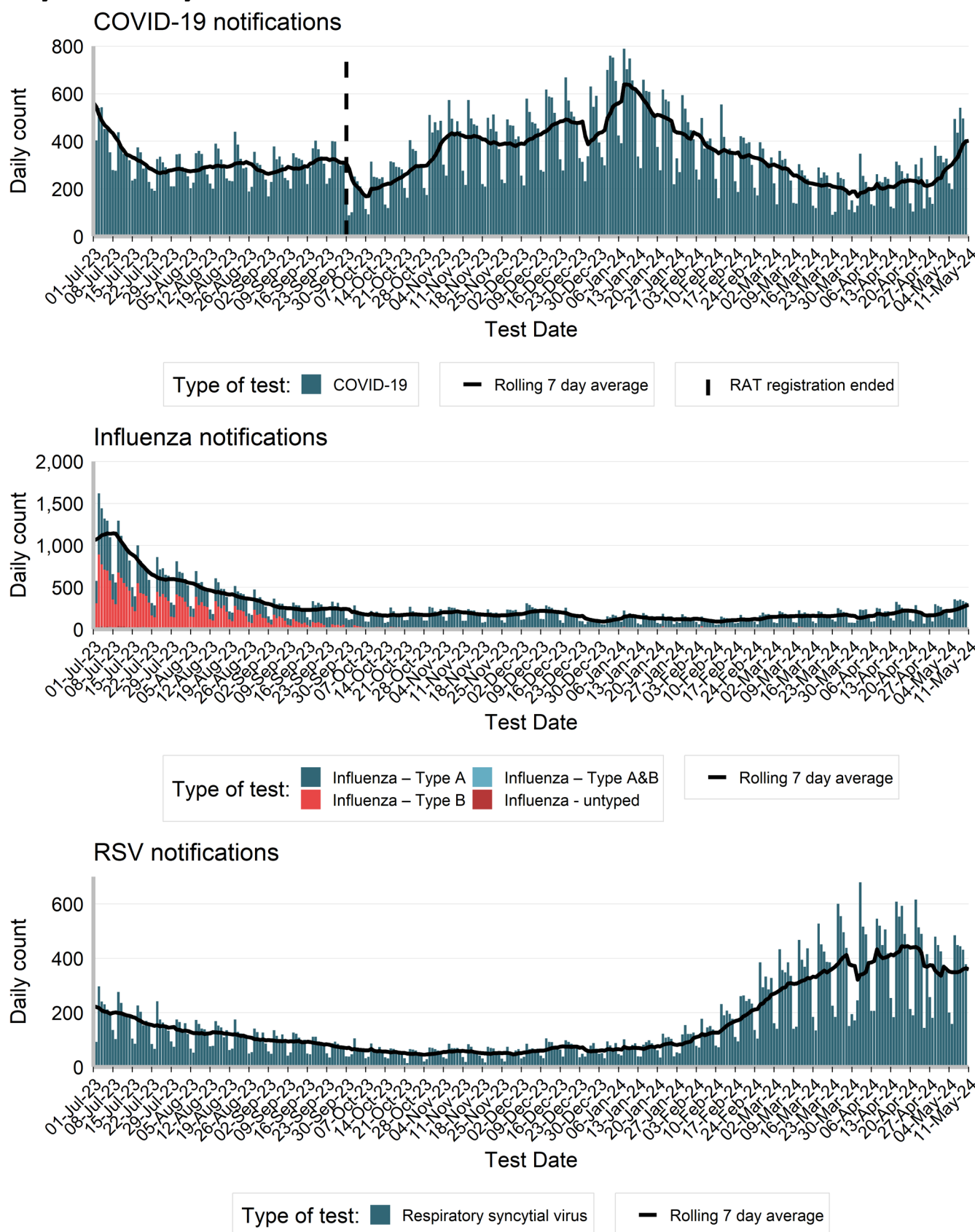
Interpretation: In the past week there was an increase of 40% in COVID notifications, an increase of 32% in influenza notifications, and an increase of 3% in RSV notifications.

Table 1: Notifications of COVID-19, influenza and RSV, NSW, tested in the week ending 11 May 2024.

| | COVID | | Influenza | | RSV | |
|--|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|
| | week ending 11 May 2024 | Year to Date | week ending 11 May 2024 | Year to Date | week ending 11 May 2024 | Year to Date |
| Gender | | | | | | |
| Female | 1,610 | 24,257(55%) | 1,006 | 10,827(52%) | 1,274 | 17,470(51%) |
| Male | 1,203 | 19,591(45%) | 1,009 | 10,038(48%) | 1,236 | 16,564(49%) |
| Age group (years) | | | | | | |
| 0-4 | 211 | 4,316(10%) | 316 | 2,853(14%) | 1,362 | 21,450(63%) |
| 5-9 | 83 | 886(2%) | 321 | 2,614(13%) | 196 | 2,439(7%) |
| 10-19 | 149 | 2,010(5%) | 309 | 2,729(13%) | 120 | 1,294(4%) |
| 20-29 | 235 | 3,487(8%) | 179 | 2,176(10%) | 96 | 990(3%) |
| 30-39 | 283 | 4,736(11%) | 213 | 2,547(12%) | 129 | 1,509(4%) |
| 40-49 | 271 | 4,426(10%) | 233 | 2,359(11%) | 102 | 1,010(3%) |
| 50-59 | 281 | 4,361(10%) | 177 | 1,902(9%) | 112 | 1,191(3%) |
| 60-69 | 317 | 4,864(11%) | 113 | 1,506(7%) | 127 | 1,394(4%) |
| 70-79 | 337 | 5,929(14%) | 87 | 1,306(6%) | 140 | 1,388(4%) |
| 80-89 | 440 | 5,963(14%) | 48 | 662(3%) | 80 | 998(3%) |
| 90+ | 217 | 2,877(7%) | 20 | 228(1%) | 46 | 391(1%) |
| Local Health District of residence | | | | | | |
| Central Coast | 72 | 1,535(3%) | 73 | 705(3%) | 51 | 1,638(5%) |
| Far West | 10 | 174(0%) | 5 | 23(0%) | 2 | 31(0%) |
| Hunter New England | 290 | 3,603(8%) | 75 | 1,072(5%) | 245 | 2,537(7%) |
| Illawarra Shoalhaven | 114 | 1,995(5%) | 68 | 943(5%) | 180 | 1,893(6%) |
| Mid North Coast | 74 | 1,232(3%) | 9 | 231(1%) | 67 | 571(2%) |
| Murrumbidgee | 98 | 1,286(3%) | 131 | 595(3%) | 68 | 357(1%) |
| Nepean Blue Mountains | 145 | 2,014(5%) | 127 | 996(5%) | 188 | 2,132(6%) |
| Northern NSW | 97 | 1,535(3%) | 31 | 392(2%) | 52 | 608(2%) |
| Northern Sydney | 429 | 5,386(12%) | 312 | 3,648(17%) | 375 | 5,033(15%) |
| South Eastern Sydney | 301 | 4,723(11%) | 243 | 2,521(12%) | 234 | 3,530(10%) |
| South Western Sydney | 316 | 6,200(14%) | 314 | 3,230(15%) | 316 | 6,053(18%) |
| Southern NSW | 57 | 756(2%) | 35 | 231(1%) | 66 | 361(1%) |
| Sydney | 188 | 3,474(8%) | 146 | 1,656(8%) | 146 | 2,176(6%) |
| Western NSW | 101 | 1,035(2%) | 32 | 286(1%) | 94 | 590(2%) |
| Western Sydney | 527 | 8,503(19%) | 404 | 4,264(20%) | 421 | 6,475(19%) |
| Aboriginal status | | | | | | |
| Aboriginal and/or Torres Strait Islander | 47 | 937(2%) | 55 | 472(2%) | 91 | 940(3%) |
| Not Aboriginal or Torres Strait Islander | 1,465 | 24,761(56%) | 1,106 | 11,530(55%) | 1,176 | 14,899(44%) |
| Not Stated / Unknown | 1,308 | 18,196(41%) | 855 | 8,884(43%) | 1,243 | 18,222(53%) |
| Total | 2,820 | 43,894(100%) | 2,016 | 20,886(100%) | 2,510 | 34,061(100%) |

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

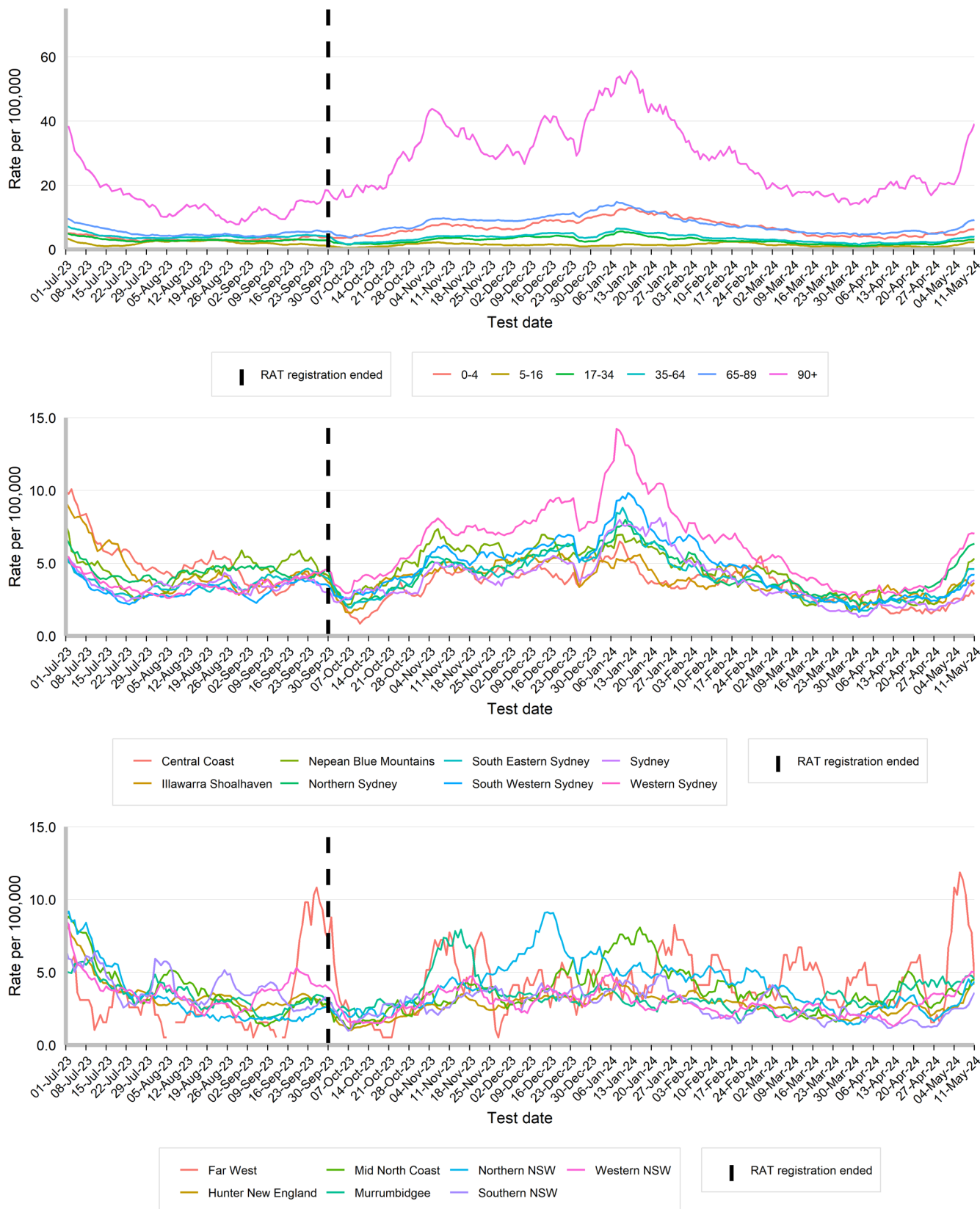
Figure 5. People notified with COVID-19, Influenza and RSV, by date of test and type of test performed, NSW, 01 July 2023 to 11 May 2024.



Rates of COVID-19 notifications per 100,000 population

Interpretation: Rates of COVID-19 notifications are increasing across all ages. In the last week, there was a very large increase in COVID-19 notification rates in those aged 90 and over. LHDs with smaller populations, such as Far West LHD, will experience greater variability in notification rates.

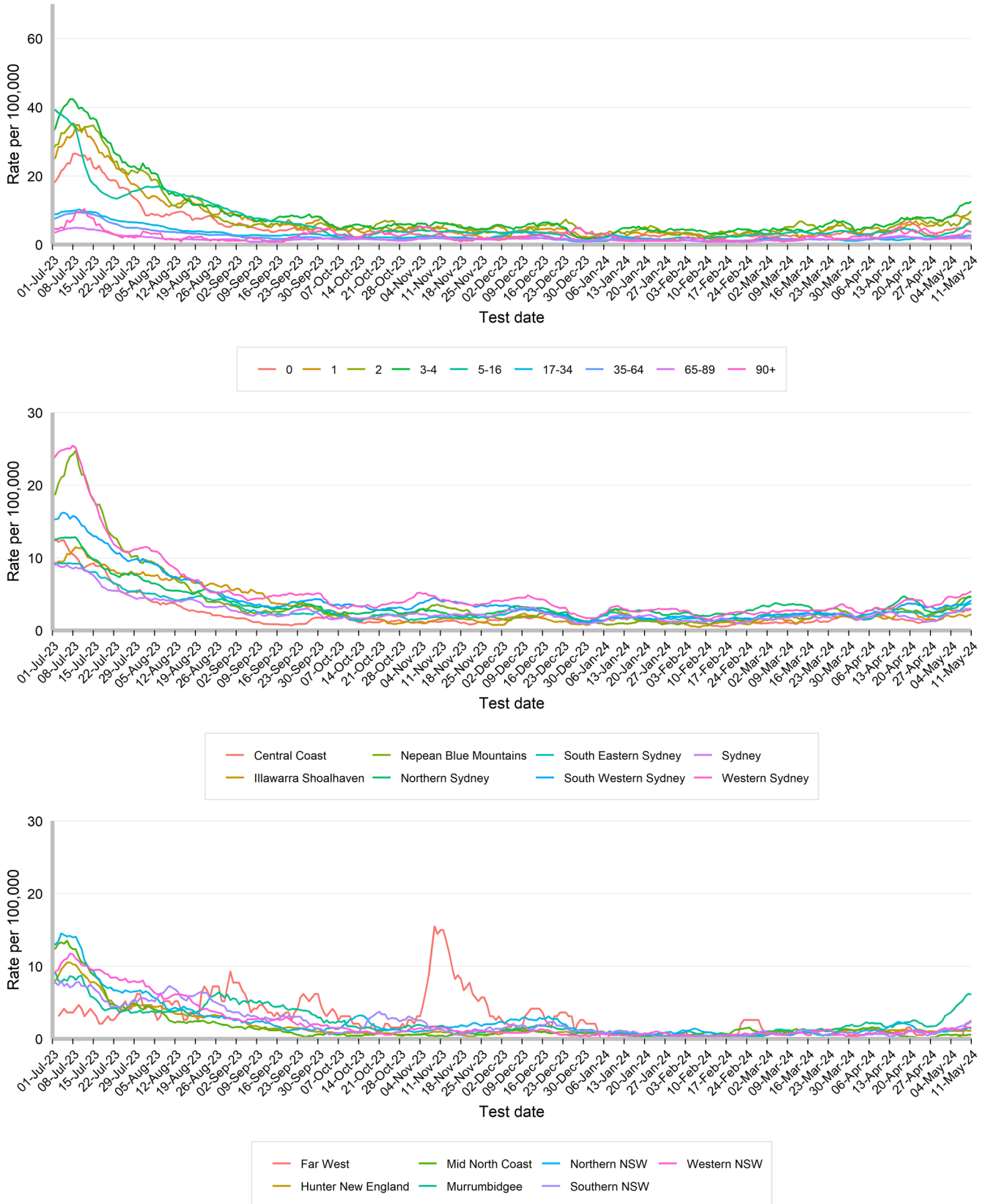
Figure 6. Daily seven-day rolling average rate of COVID-19 notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 11 May 2024.



Rates of influenza notifications per 100,000 population

Interpretation: Rates of influenza notifications have started to increase across all age groups, particularly among children aged 3 to 4 years.

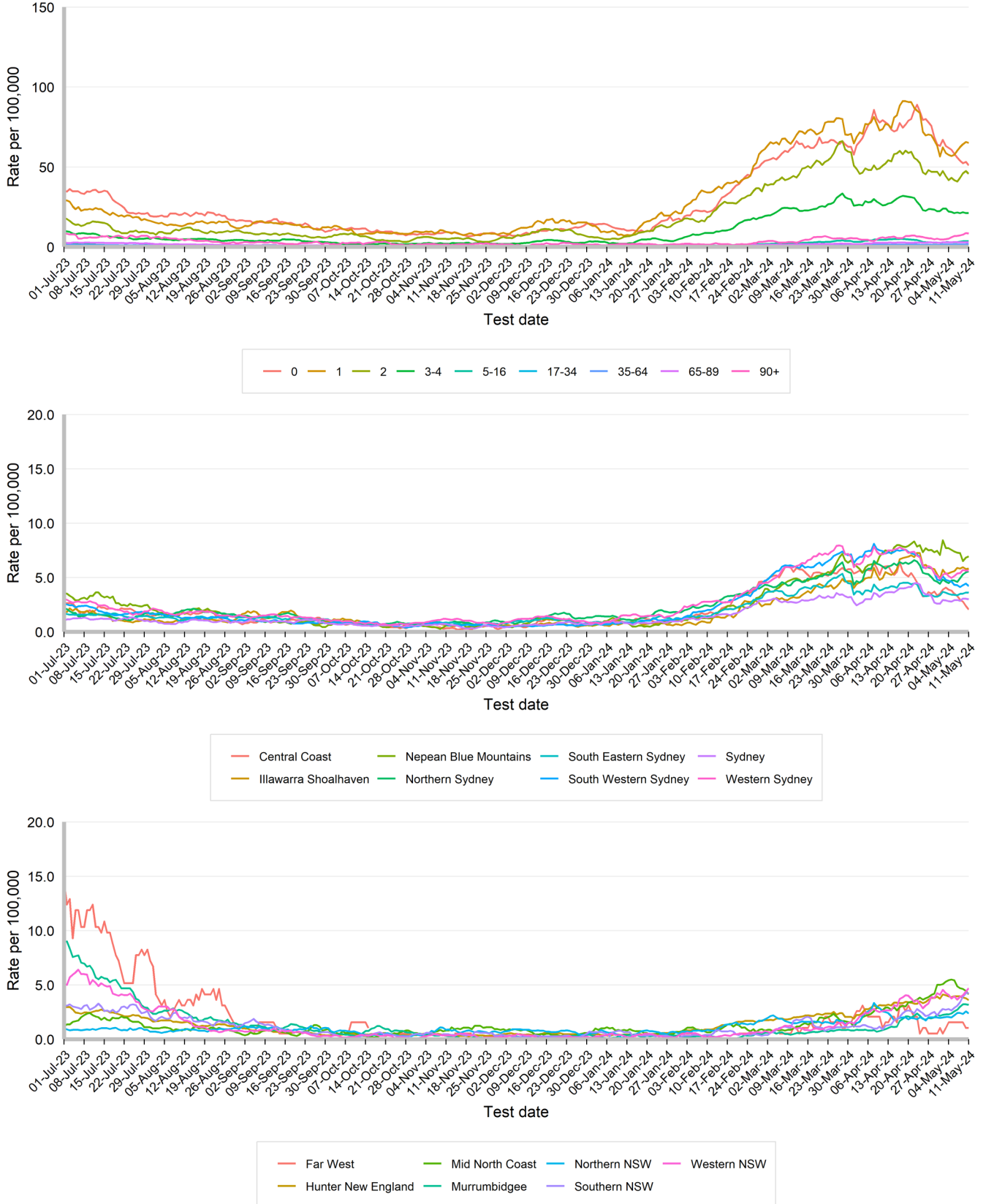
Figure 7. Daily seven-day rolling average rate of influenza notifications per 100,000 population, by age group, Local Health District and test date, NSW, 01 July 2023 to 11 May 2024.



Rates of respiratory syncytial virus notifications per 100,000 population

Interpretation: Rates of RSV notifications are decreasing in children under 2 years old. Rates continue to be high for children 2-4 years of age.

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 11 May 2024.

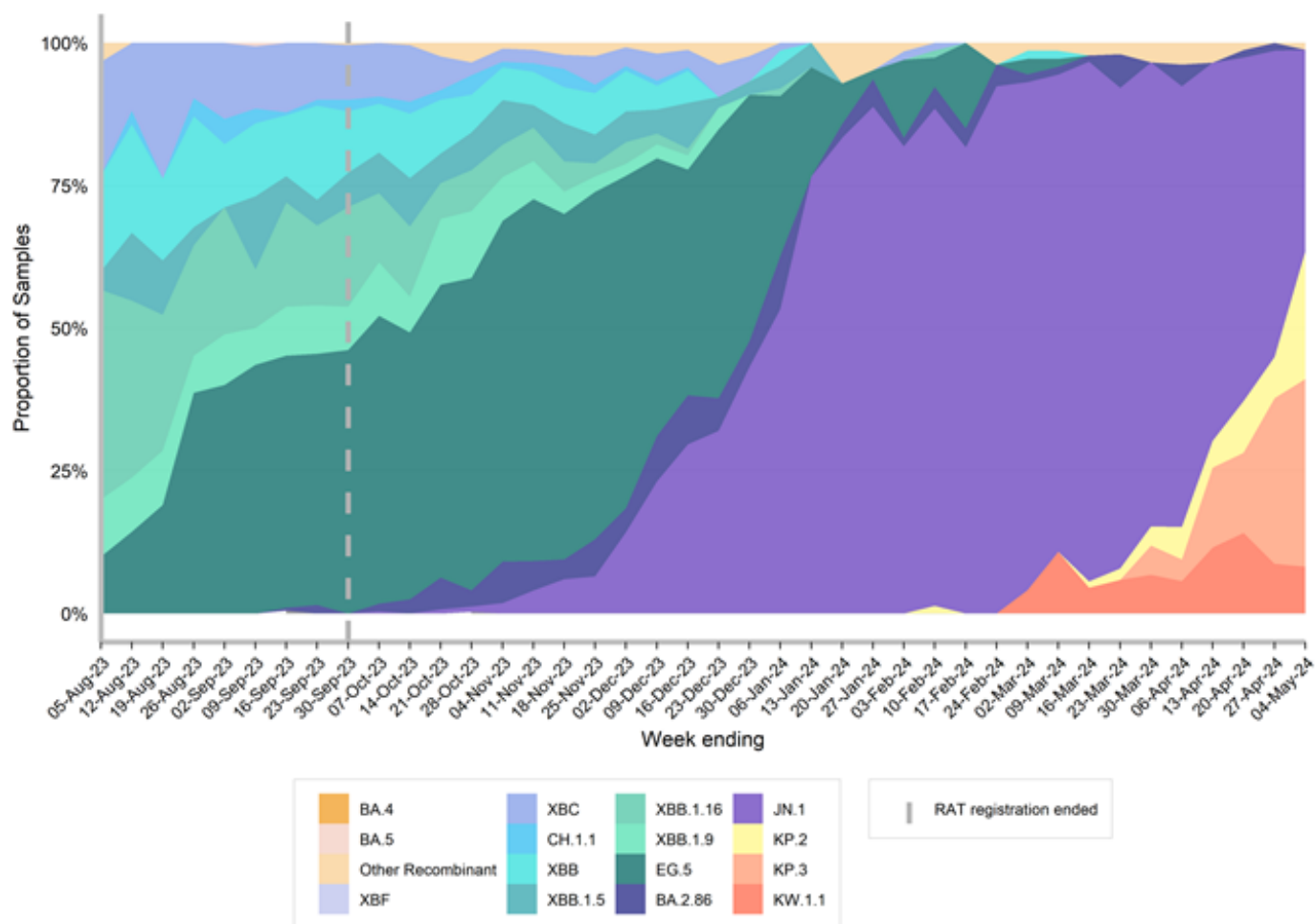


COVID-19 Whole Genome Sequencing

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: KP.2, KP.3 and KW.1.1 are sub-lineages of JN.1. We have reported on these sub-lineages separately from the JN.1 because of their increasing prevalence. The proportion of tested samples that are KP.2 and KP.3 continued to increase this week. The emergence of COVID-19 variants has been associated with new waves of COVID-19 infections, so we continue to closely monitor these trends.

Figure 9. Estimated distribution of COVID-19 sub-lineages in the community, 05 August 2023 to 04 May 2024.



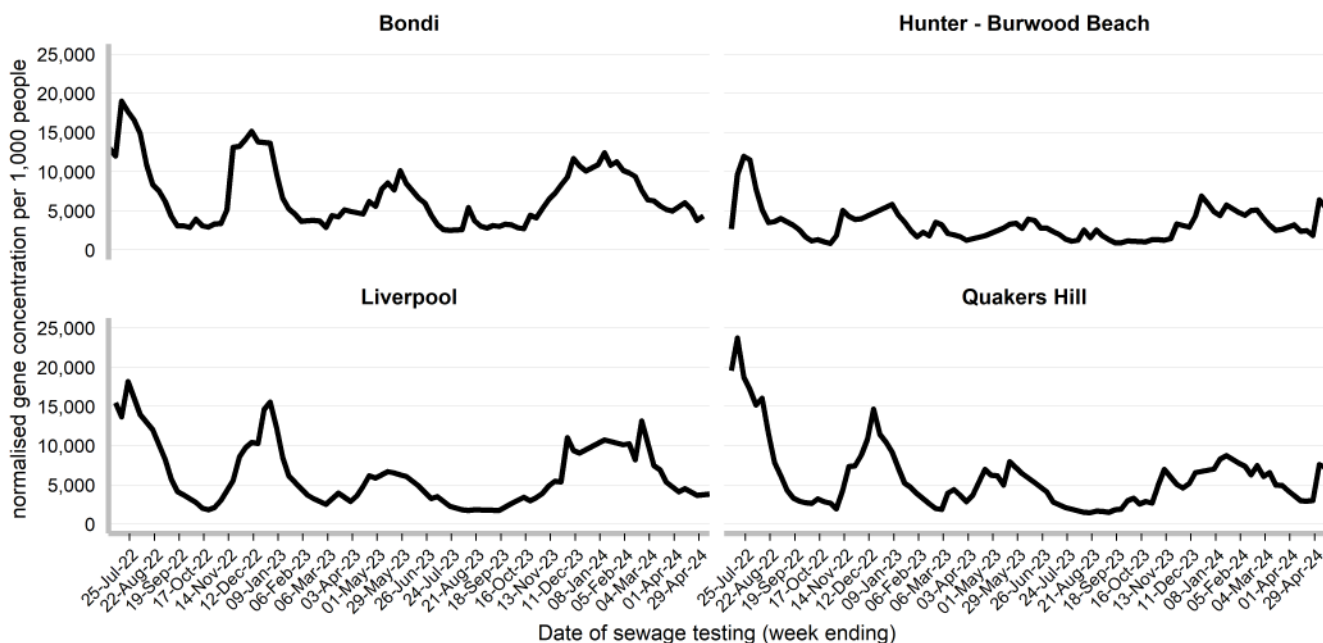
Other surveillance indicators

COVID-19 Sewage surveillance program

Trends are presented for Bondi, Quakers Hill, Liverpool and Hunter Burwood Beach sewage catchments from 5 February 2022 to the week ending 11 May 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 are stable in the Bondi and Liverpool catchment areas. In the Burwood Beach and Quakers Hill catchment areas, recent high rainfall has caused very high flow rates that are likely to have contributed to the large increase in the calculated gene concentrations over the last two weeks.

Figure 10. Gene concentration, per 1,000 people in each sewage catchment, 11 November 2022 to 11 May 2024.

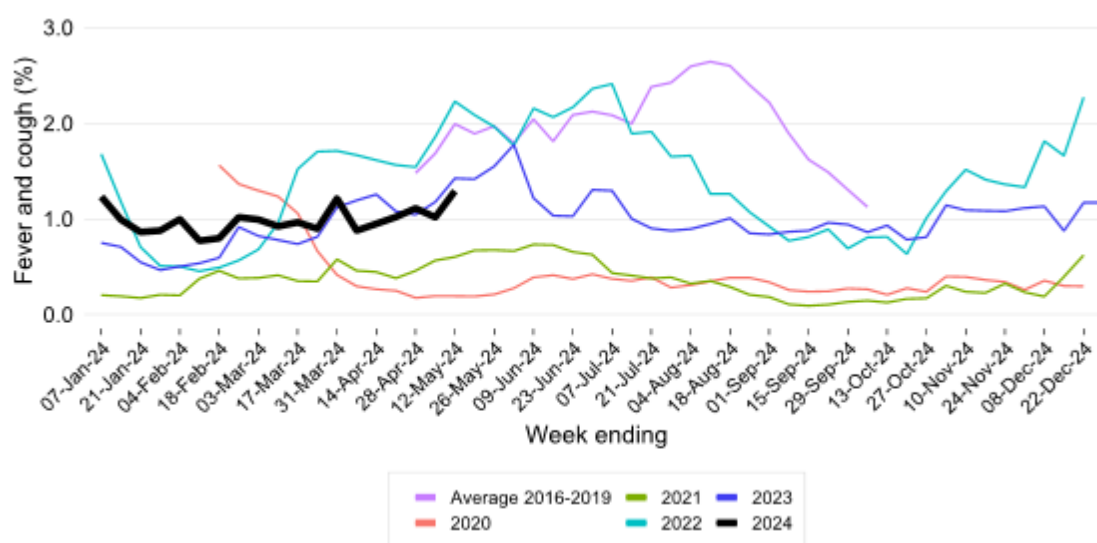


FluTracking and NSW sentinel laboratory network

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 week.

Figure 11. Proportion of FluTracking participants reporting influenza-like illness, NSW, 1 January to 12 May 2024.



Epidemiological week 19, ending 11 May 2024

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 and influenza test positivity has increased.

Figure 12. Number and proportion of tests positive for COVID-19 at sentinel NSW laboratories, 1 January 2023 to 12 May 2024.

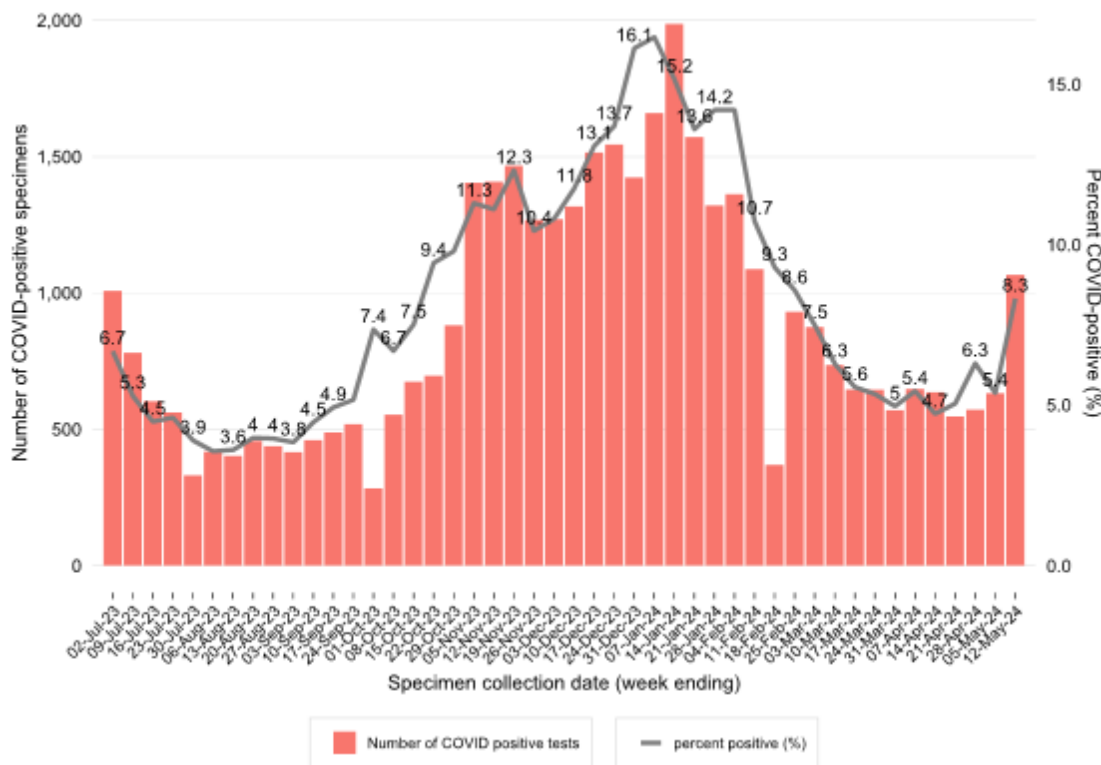


Figure 13. Number and proportion of tests positive for influenza at sentinel NSW laboratories, 1 January 2023 to 12 May 2024.

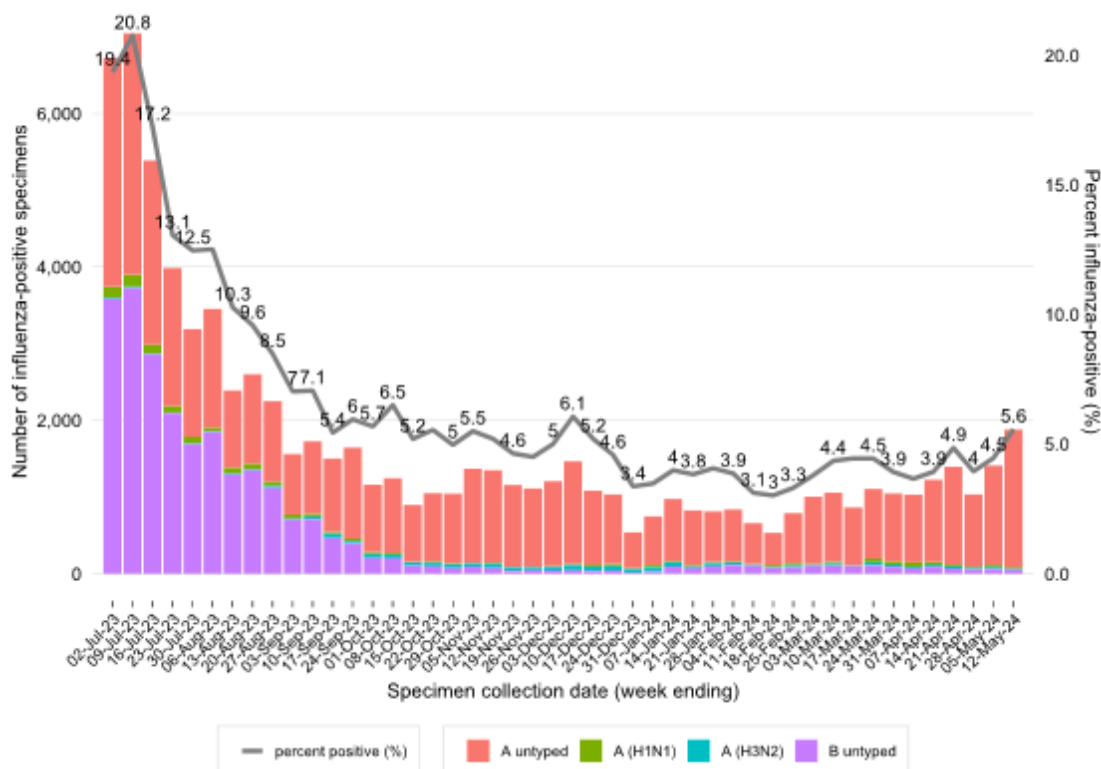


Figure 14. Number of positive PCR test results and proportion of tests positive for other respiratory viruses at sentinel NSW laboratories, 1 January 2023 to 12 May 2024.

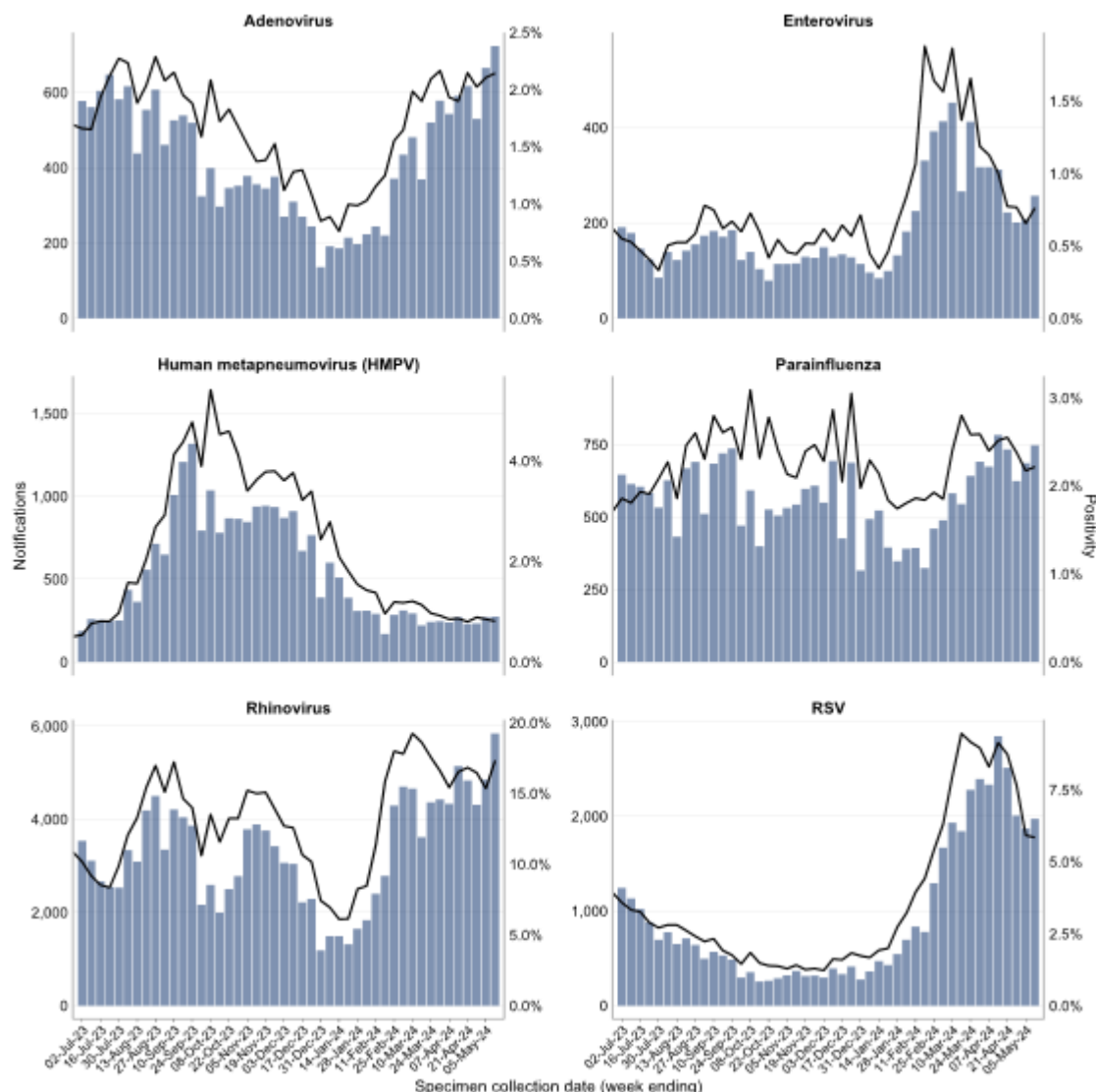


Table 2. Total number of respiratory disease notifications from sentinel laboratories, NSW in the four weeks to 12 May 2024.

| | Week ending | | | | Year to date n |
|--|----------------------|----------------------|--------------------|--------------------|-------------------|
| | 21 April n(% pos) | 28 April n(% pos) | 05 May n(% pos) | 12 May n(% pos) | |
| Influenza | 1,396 (4.9%) | 1,036 (4.0%) | 1,411 (4.5%) | 1,881 (5.6%) | 19,245 |
| Adenovirus | 617 (2.1%) | 530 (2.0%) | 665 (2.1%) | 723 (2.1%) | 7,898 |
| Parainfluenza | 733 (2.6%) | 624 (2.4%) | 686 (2.2%) | 748 (2.2%) | 10,524 |
| Respiratory syncytial virus (RSV) | 2,512 (8.7%) | 2,009 (7.7%) | 1,871 (5.9%) | 1,974 (5.9%) | 29,066 |
| Rhinovirus | 4,835 (16.8%) | 4,313 (16.5%) | 4,848 (15.4%) | 5,844 (17.3%) | 68,355 |
| Human metapneumovirus (HMPV) | 230 (0.8%) | 233 (0.9%) | 269 (0.9%) | 274 (0.8%) | 5,685 |
| Enterovirus | 222 (0.8%) | 201 (0.8%) | 207 (0.7%) | 257 (0.8%) | 4,917 |
| Number of PCR tests conducted | 28,726 | 26,194 | 31,566 | 33,719 | 472,568 |
| SARS-CoV-2 | 547 (5.1%) | 572 (6.3%) | 632 (5.4%) | 1,066 (8.3%) | 17,862 |
| Number of COVID PCR tests | 10,828 | 9,067 | 11,743 | 12,798 | 206,848 |
| Number of laboratories reporting | 11 | 11 | 10 | 10 | - |
| Number of laboratories reporting COVID | 3 | 3 | 2 | 2 | - |

Recent data is subject to change.

In Focus

Pertussis

Pertussis (commonly known as whooping cough) is caused by the bacteria *Bordetella pertussis*. Pertussis can cause serious illness in all ages but can be particularly dangerous in babies. Pertussis can cause pneumonia and can be life threatening. Anyone with pertussis can spread it to others. The bacteria spread from one person to another mainly when someone with the infection coughs and fine droplets that contain the bacteria spread into the surrounding air. Vaccination reduces the risk of infection and severe disease. There is seasonal variation in pertussis activity, with greater activity typically in the spring and summer months. Outbreaks of pertussis usually occur every few years as population immunity wanes. Public health interventions in place during 2020 and 2021 to reduce the transmission of COVID-19, also reduced other respiratory infections, including pertussis. In 2020 there was dramatic reduction in the rate of notifications to almost half of the low in 2013, with further reductions in 2021 and 2022 (Figure 15). Notifications of people with pertussis in NSW started to increase in 2023 and are expected to continue to increase. The highest rates of pertussis notifications are observed in children 5-14 years (Figure 16). The number of notifications in this age group was stable this week (Figure 17). Additional notification data can be found on the [NSW Health pertussis data](#) page.

Figure 15. Pertussis notifications and rates per 100,000 by year, 2009 to 2024 year to date (YTD).

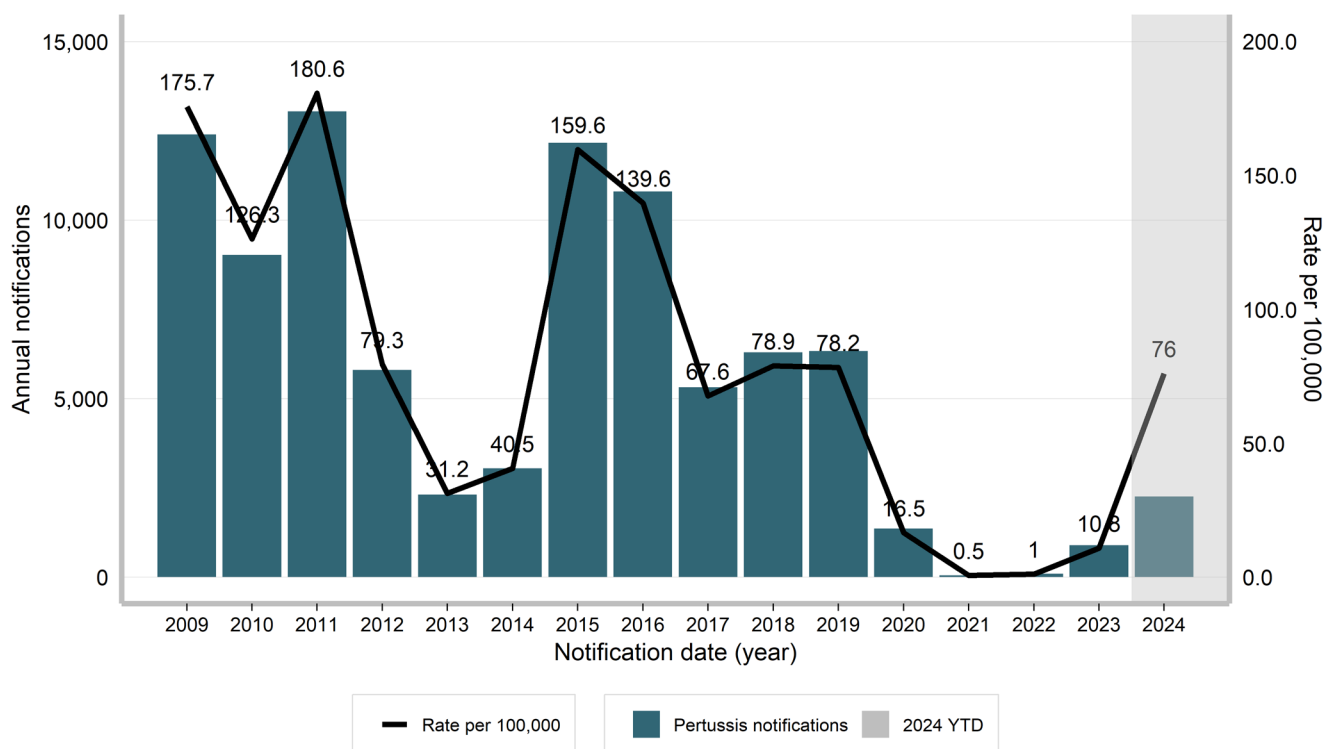


Figure 16. Monthly pertussis notification rates per 100,000 by age group, 1st September 2022 to 30 April 2024.

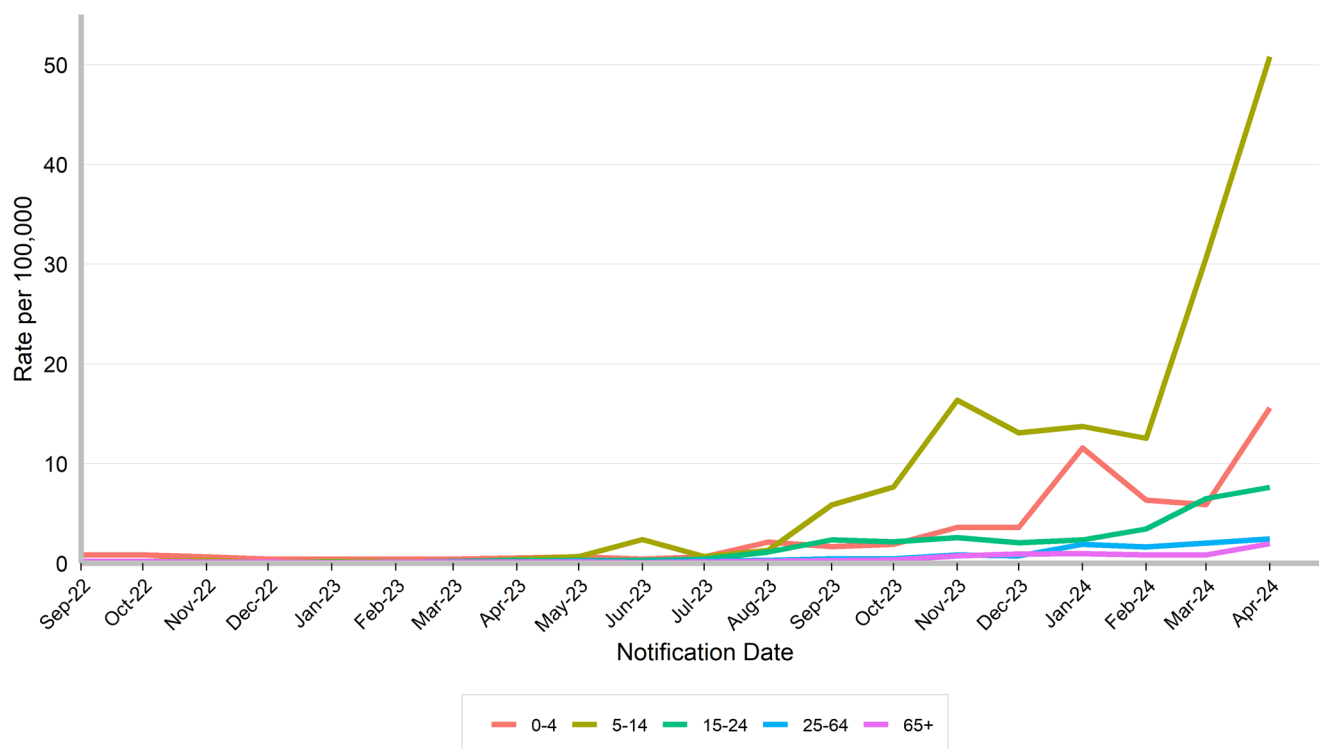
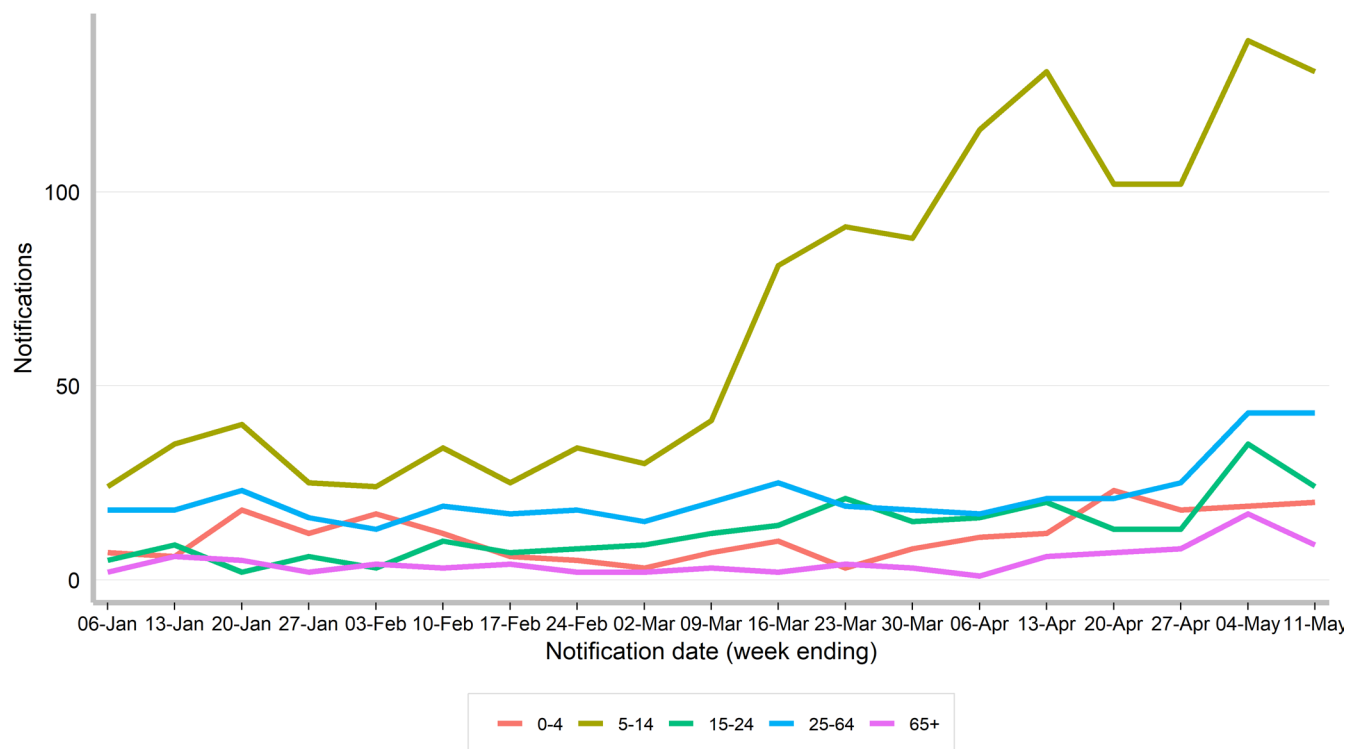


Figure 17. Weekly pertussis notifications by age group, 31st December 2023 to 11 May 2024.



Pneumonia

There have been unseasonably high presentations to emergency departments (ED) in NSW for children and young adults with pneumonia, particularly children aged 5 – 16 years (Figures 18, 19 and 20). These trends in ED presentations appear to be stabilising for children aged 0 – 16 years, but continue to increase for young adults aged 17 – 34 years. 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.

There is some indication, from a number of different data sources, that increases in pneumonia are likely contributed to by infection with *Mycoplasma pneumoniae*. *M. pneumoniae* is a common cause of pneumonia in school aged children and epidemics occur every 3-5 years. The last epidemic in NSW was before the COVID-19 pandemic. Both *M. pneumoniae* and *B. pertussis* cause persistent cough, sometimes wheezing and can cause pneumonia.

Everyone can help reduce the spread of these pathogens through simple measures such as, staying home if unwell and wearing a mask if you need to go out, staying up to date with recommended vaccinations and practicing good hygiene, including regular handwashing.

Figure 18. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 12 May 2024 and comparison with the previous 5 years, persons aged 0 – 4 years.

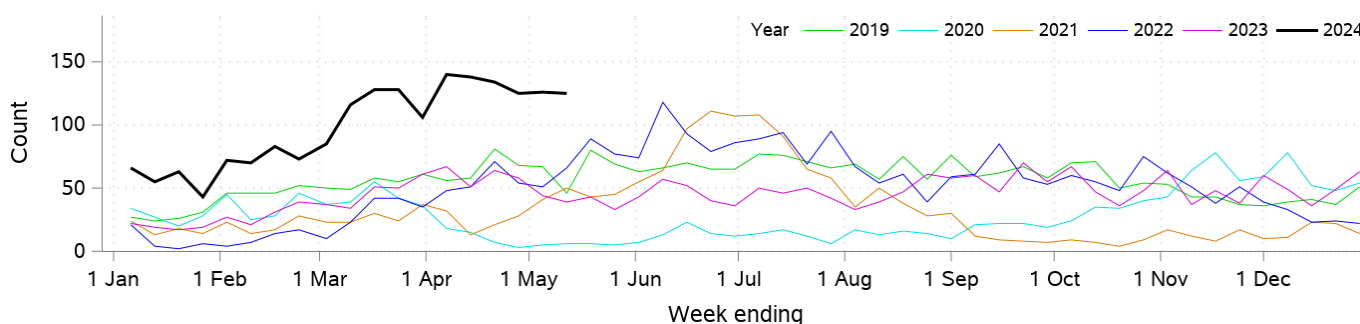


Figure 19. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 12 May 2024 and comparison with the previous 5 years, persons aged 5 – 16 years.

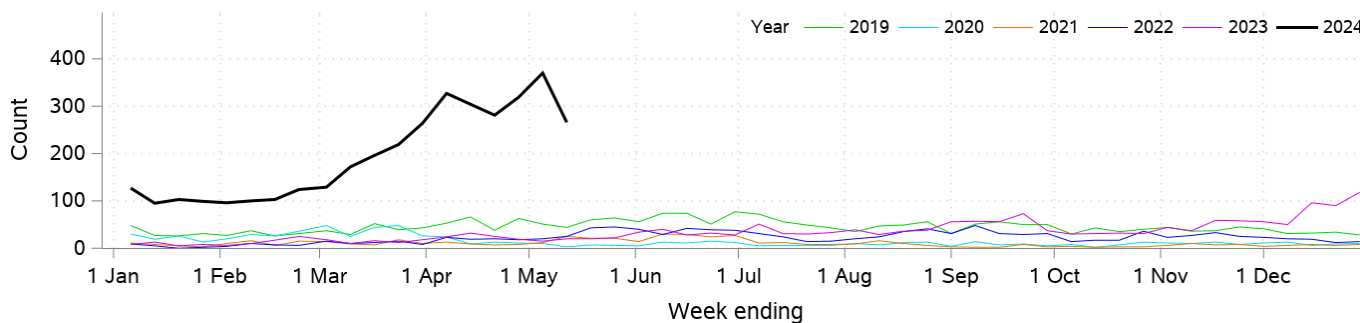


Figure 20. Unplanned emergency department (ED) presentations with a diagnosis of pneumonia, 1 January to 12 May 2024 and comparison with the previous 5 years, persons aged 17 – 34 years.

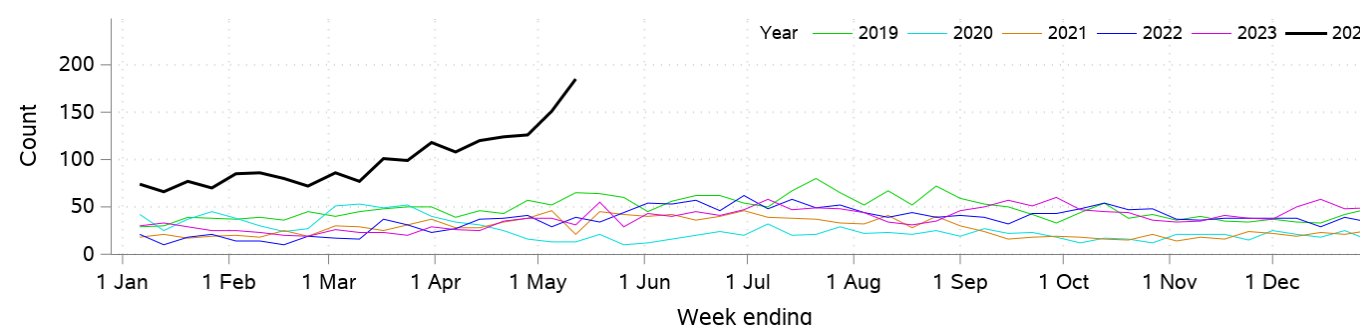


Figure 21. Pneumonia weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 2023-2024, persons of all ages.

