

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 3, ENDING 23 JANUARY 2021

Published 28 January 2021

SUMMARY FOR THE WEEK ENDING 23 January 2021

- There were no locally acquired cases reported in NSW this week.
- The majority of locally-acquired cases reported in the two weeks were residents of Western Sydney LHD (71%, 10/14).
- Testing numbers decreased across all LHDs and most age groups this week with overall testing rates down 17% when compared to the previous week.
- The NSW Sewage Surveillance Program reported seven detections – these samples were taken from the Glenfield, Warriewood, North Head and Malabar 1 treatment plants and were associated with recent cases. The detection in Liverpool may be associated with four cases that were reported in late December that reside in that catchment area.
- There have been 27 returned travellers that have tested positive to COVID-19 Variants of Concern (VoC) since 30 November. There have been no VoC cases detected in the community.

Indicators of effective prevention measure for COVID-19 in NSW for the week ending 23 January 2021

Locally acquired cases in isolation during their infectious period

	Week of reporting			
	Week ending 23-Jan		Week ending 16-Jan	
	Count	%	Count	%
Locally acquired cases	0		14	
Cases with symptoms at diagnosis	0	-	10	71%
Number in isolation at least 48 hours before symptoms	0	-	1	10%
Cases reporting no symptoms at diagnosis	0	-	4	29%
Number in isolation at least 48 hours before test	0	-	0	0%

Interpretation: In the week ending 23 January there were no new locally-acquired cases. Despite low case numbers, it is important to remain vigilant for symptoms, however mild.

TABLE OF CONTENTS

Section 1: How is the outbreak tracking in NSW?.....	4
Section 2: COVID-19 testing in NSW	6
Section 3: COVID-19 transmission in NSW in the last four weeks	11
Section 4: Current COVID-19 clusters in NSW	13
Section 5: COVID-19 in specific populations	14
Section 6: Deaths	15
Section 7: NSW Sewage Surveillance Program	16
Section 8: COVID-19 in returned travellers.....	19
Section 9: Other respiratory infections in NSW.....	24
Appendix A: COVID-19 PCR tests in NSW by Local Government Area.....	27
Appendix B: Table – Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 17 January 2021	31
Appendix C: Figures – Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 17 January 2021	32
Glossary	33

SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

Table 1. COVID-19 cases and tests reported in NSW, up to 23 January 2021

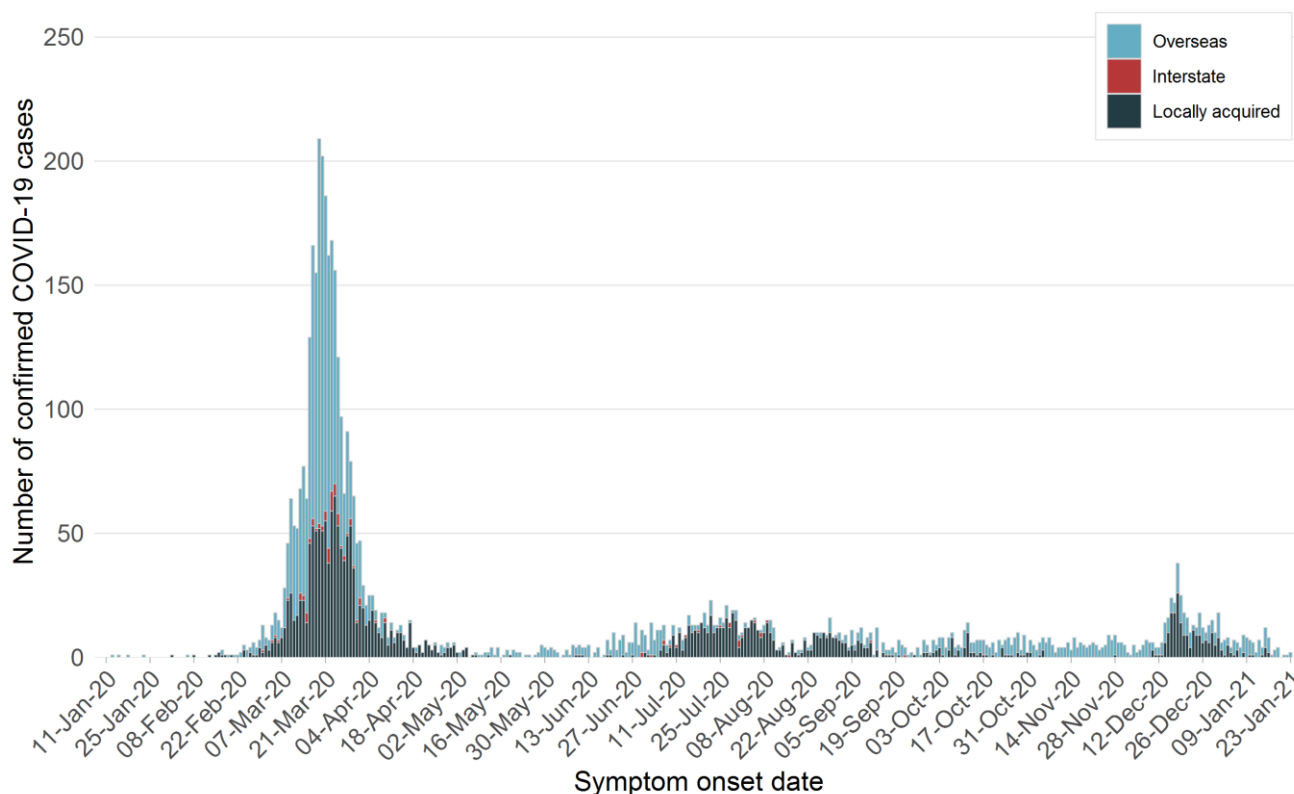
	Week ending 23 Jan	Week ending 16 Jan	% change	Pandemic total
Number of cases	18	60	↓70%	4,900
Overseas acquired	18	46	↓61%	2,722
Interstate acquired	0	0	-	90
Locally acquired	0	14	↓100%	2,087
No epidemiological links to other cases or clusters	0	3	↓100%	445*
Number of deaths	0	0	-	56
Number of tests	86,725	104,451	↓17%	4,575,948

Note: The case numbers reported for previous weeks is based on the most up to date information from public health investigations.

*Three previously confirmed locally acquired cases reported in December 2020 have been excluded following expert panel review. The panel concluded there were false positive results.

To understand how the outbreak is tracking we look at how many new cases are reported each day and the number of people being tested. Each bar in the graph below represents the number of new cases based on the **date of symptom onset**.

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, week ending 23 January



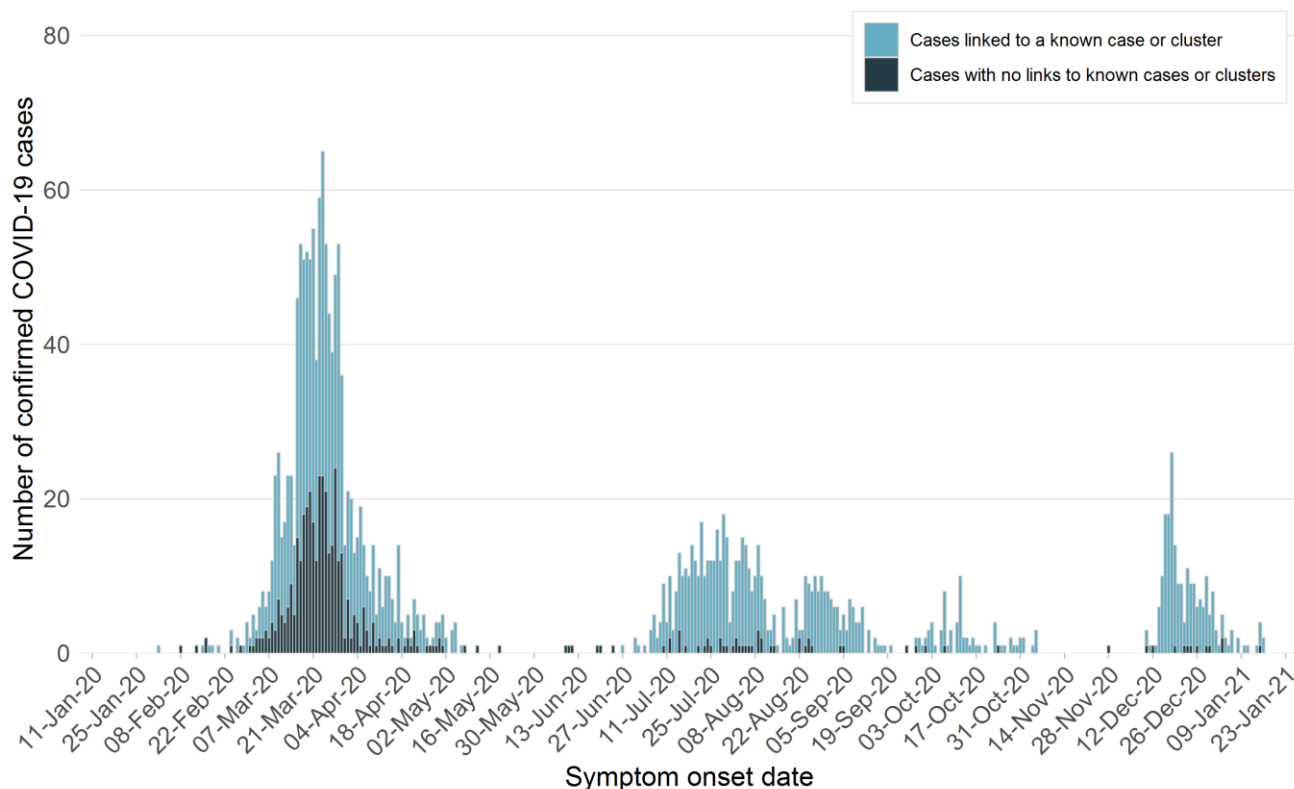
The date of the first positive test is used for cases who did not report symptoms.

Interpretation: Two-thirds (66%) of COVID-19 infections diagnosed in the last four weeks in NSW have been overseas acquired.

How much local transmission is occurring in NSW?

Public health efforts are focused on contact tracing to limit further spread in the community and identifying the source of infection for every case. To understand the extent of community transmission, locally-acquired cases who have had contact with a case or who are part of a known cluster are considered separately to those with an unidentified source of infection. Cases with no links to other cases or clusters suggest that there are people infected with COVID-19 in the community who have not been diagnosed.

Figure 2. COVID-19 cases by likely infection source and illness onset, NSW, week ending 23 January



The date of the first positive test is used for cases who did not report symptoms.

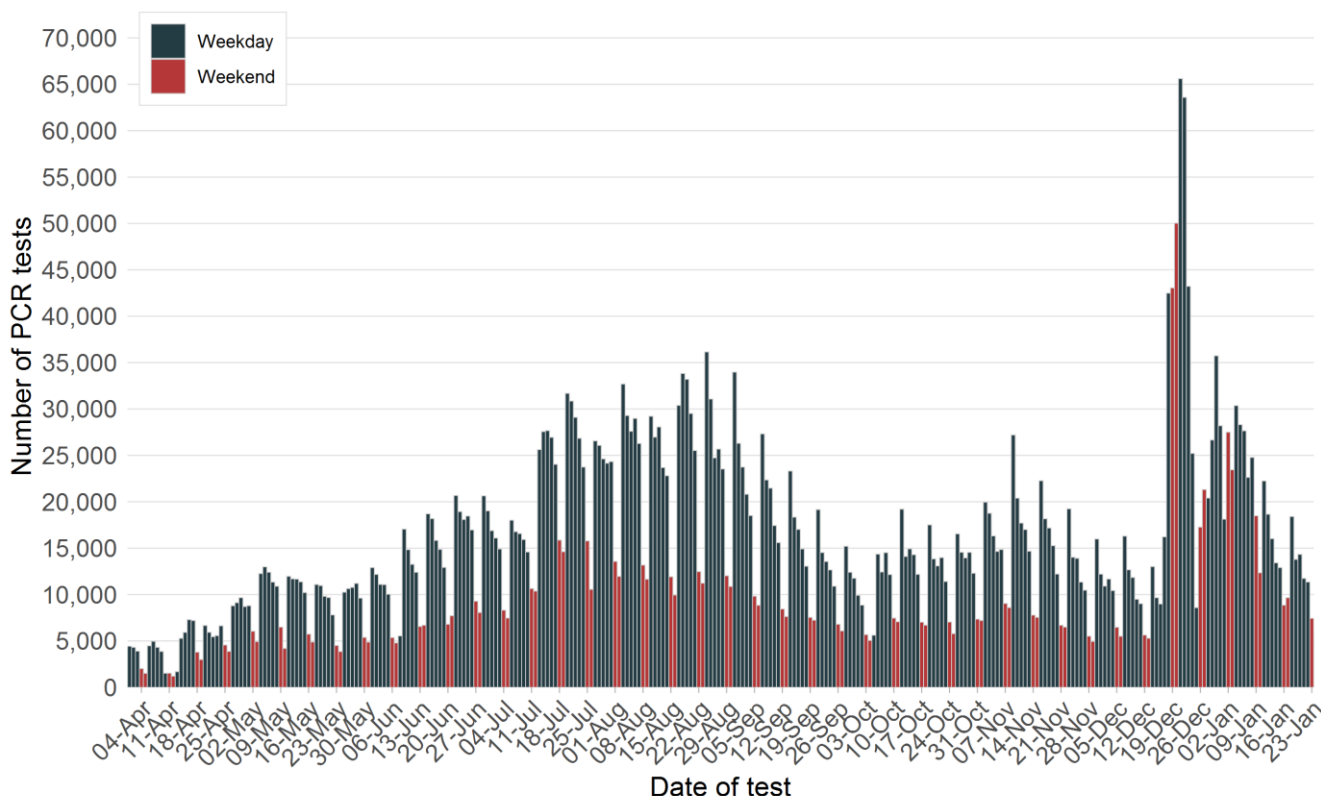
Interpretation: Of the 62 locally-acquired cases with an onset in the last four weeks, 57 (92%) were linked to known cases or clusters. As at 23 January, it has been seven days since the last locally-acquired case recorded onset of symptoms in NSW, and eight days since the last unlinked locally-acquired case recorded onset of symptoms in NSW.

SECTION 2: COVID-19 TESTING IN NSW

How much testing is happening?

The bars on the graph below show the number of tests by the date a person presented for the test.¹ While public health facilities are generally open seven days a week, less testing occurs through GPs and private collection centres on weekends and public holidays. This explains the lower number of tests on weekends.

Figure 3. Number of PCR tests per day, NSW, 2020



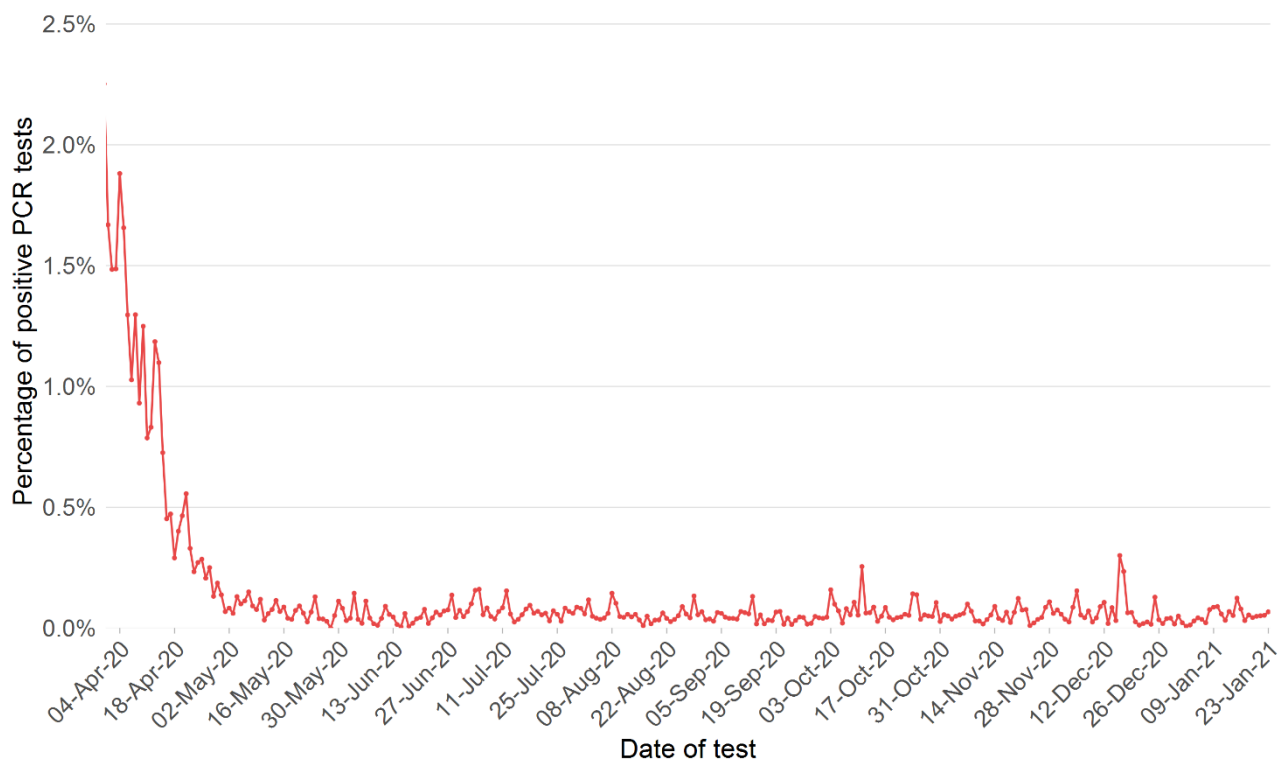
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers continue to decrease in the week ending 23 January (down 17%) compared to the previous week. An average of 1.5 tests were conducted per 1,000 people in NSW each day compared to 1.8 per 1,000 people the previous week and 4.8 per 1,000 people in December in response to the outbreak in the Northern Beaches.

¹ The number of tests per day displayed below is different to the 24 hour increase in tests reported each day as there are delays in some laboratories providing negative results to NSW Health.

What proportion of tests are positive?

Figure 4. Proportion of positive PCR tests per day, NSW, 23 January

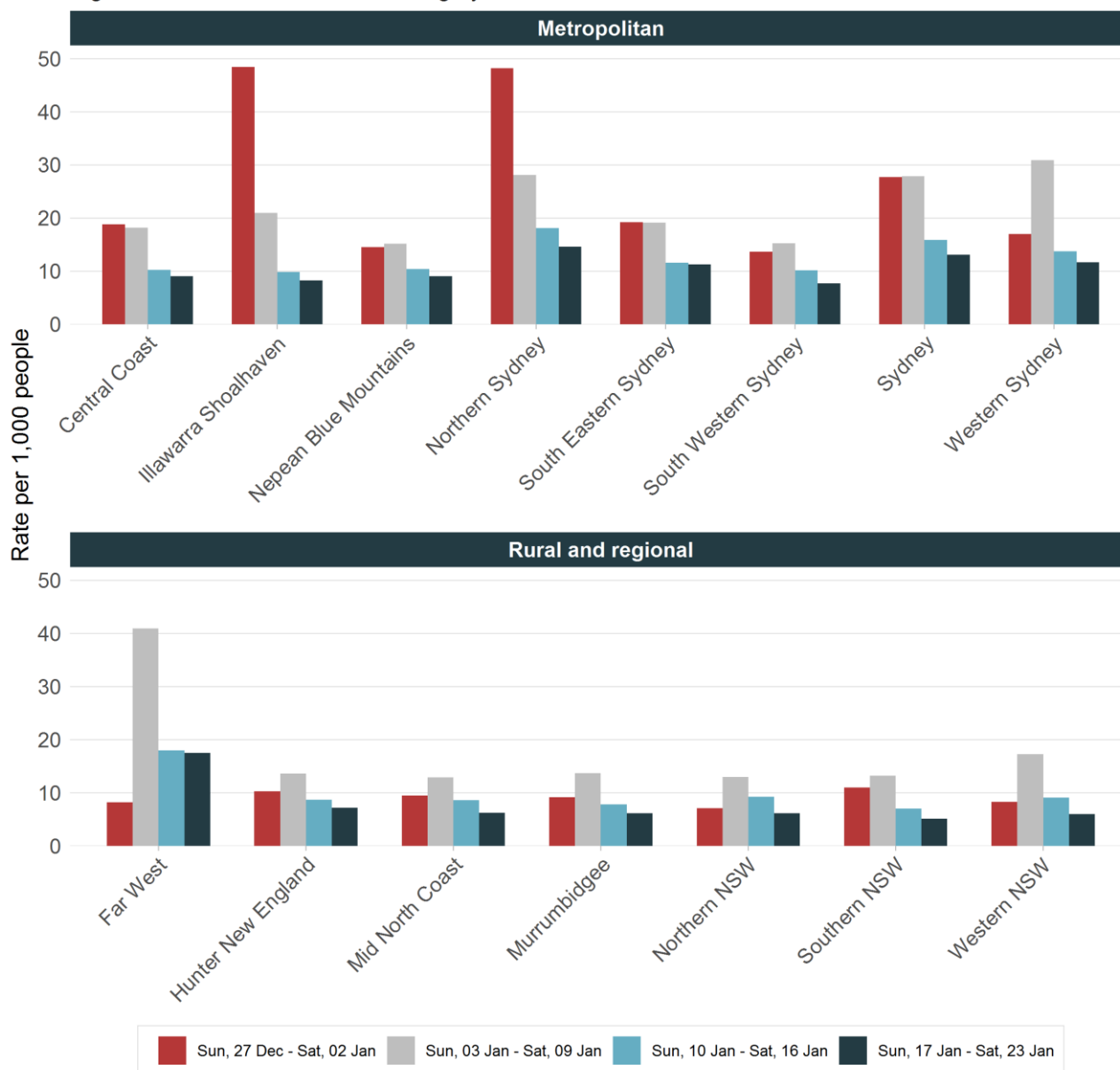


Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: The proportion of tests positive for COVID-19 in NSW declined in mid-March to early May 2020, and then stabilised at very low levels. Despite high rates of testing, the overall proportion of tests found to be positive indicate low levels of transmission in the community.

Testing by Local Health District

Figure 5. Rates of COVID-19 testing by LHD of residence and week

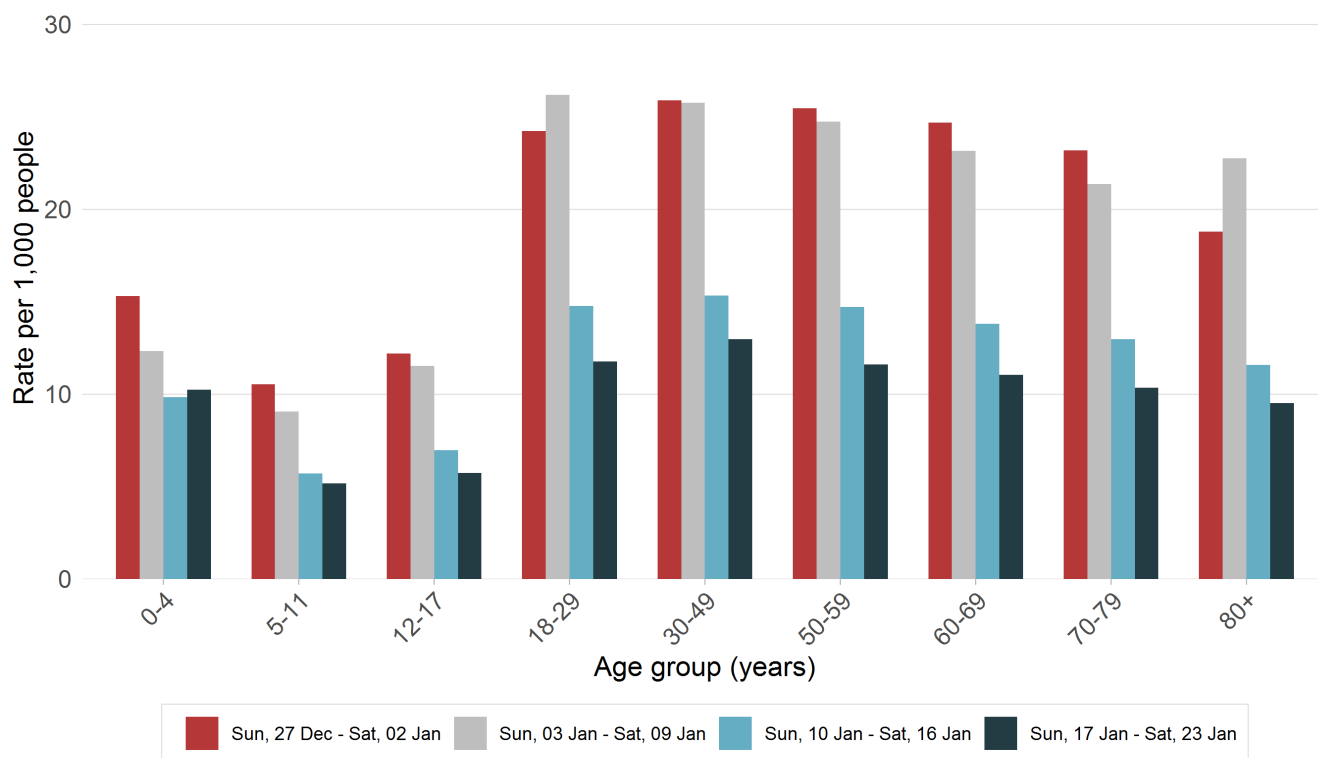


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide testing rates in the week ending 23 January decreased for the second week in a row (11 per 1,000 vs 13 per 1,000 people). This corresponds to a reduction in testing for other respiratory viruses at sentinel laboratories across the state. This may suggest an overall decrease in respiratory virus activity in NSW (see Section 6).

Testing by age group

Figure 6. Rates of COVID-19 testing by age group and week

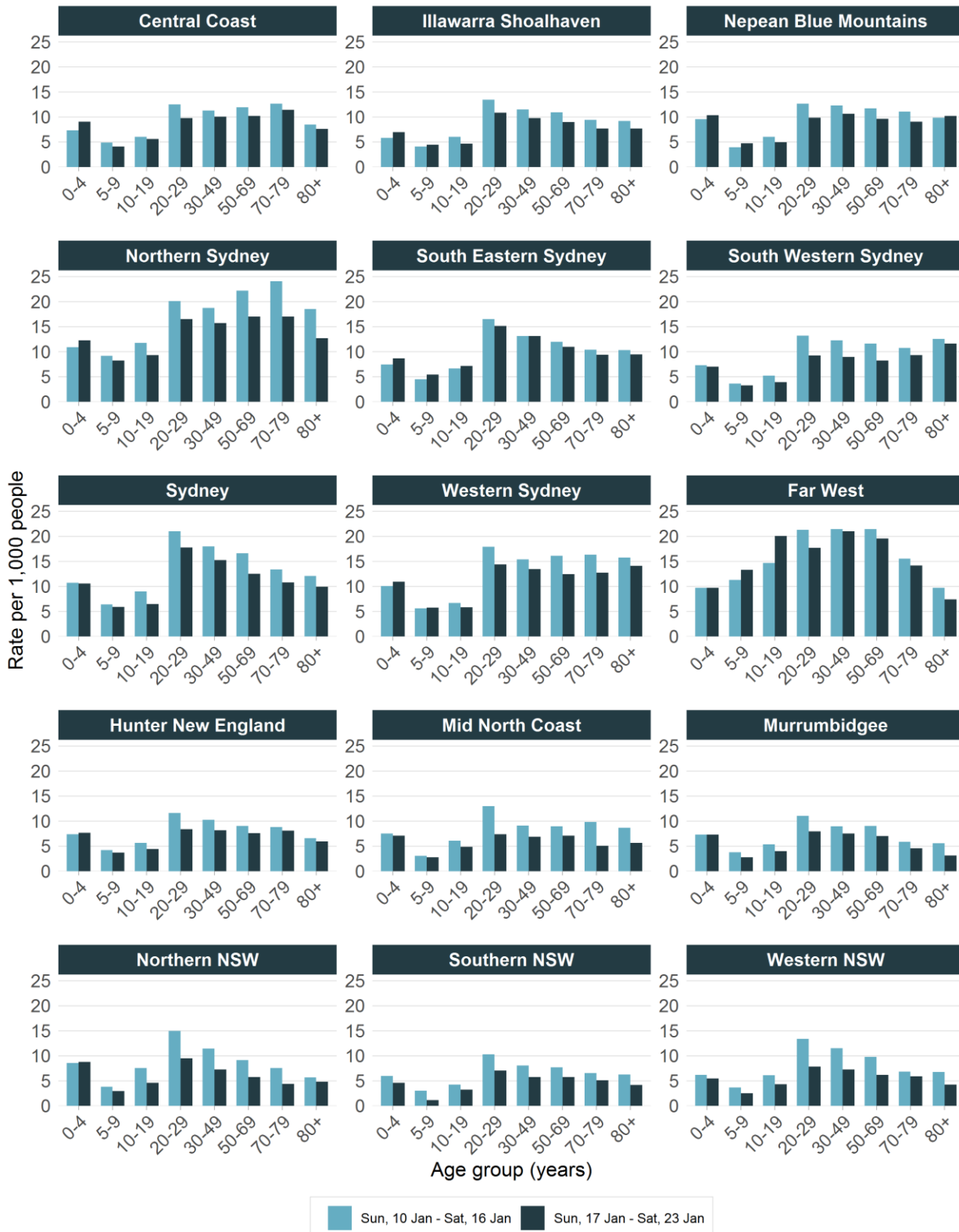


Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: Testing rates decreased in adults and school aged children in the week ending 23 January. Testing rates in children aged 0-4 years increased slightly which corresponds to an increase in emergency department presentations for bronchiolitis, a common disease of infants often caused by respiratory syncytial virus.

Testing by LHD and age group

Figure 7. Rates of COVID-19 testing by age group, LHD of residence and week



Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide testing rates decreased or remained stable across all LHDs and most age groups in the week ending 23 January. Testing rates in children aged 0-4 years of age increased slightly in some LHDs.

SECTION 3: COVID-19 TRANSMISSION IN NSW IN THE LAST FOUR WEEKS

Information from cases who were diagnosed in the last four weeks is used to understand where COVID-19 is spreading in the community. This takes into account the **incubation period** and the time it takes for people to seek testing and for the laboratory to perform the test. This section summarises cases based on the date the case was reported to NSW Health.

Table 2. Locally-acquired COVID-19 cases in NSW, by notification week and source of infection, 02January to 23 January 2021

Locally-acquired cases	Week ending				Total
	23 Jan	16 Jan	09 Jan	02 Jan	
Cases who are linked to a known case or cluster	0	11	16	48	75
Cases with no epidemiological links to other cases or clusters	0	3	2	3	8
Total	0	14	18	51	83

Interpretation: There were no new cases reported in the week ending 23 January. The majority of cases in the last four weeks (90%, 75/83) were epidemiologically linked to a known case or cluster.

Table 3. Locally-acquired COVID-19 cases by LHD of residence and week reported, 02January to 23 January 2021

Local Health District	Week ending				Total	Days since last case reported
	23 Jan	16 Jan	09 Jan	02 Jan		
Central Coast	0	0	0	2	2	27
Illawarra Shoalhaven	0	0	0	3	3	25
Nepean Blue Mountains	0	0	0	0	0	130
Northern Sydney	0	2	3	15	20	13
South Eastern Sydney	0	0	0	4	4	23
South Western Sydney	0	0	1	9	10	20
Sydney	0	2	6	8	16	15
Western Sydney	0	10	8	10	28	7
Far West	0	0	0	0	0	308
Hunter New England	0	0	0	0	0	171
Mid North Coast	0	0	0	0	0	296
Murrumbidgee	0	0	0	0	0	140
Northern NSW	0	0	0	0	0	180
Southern NSW	0	0	0	0	0	103
Western NSW	0	0	0	0	0	171
Total	0	14	18	51	83	198

Interpretation: There were no locally-acquired cases reported in the week ending 23 January. The majority of locally-acquired cases reported in the four weeks up to 23 January were residents of Western Sydney LHD (34%; 28/83), Northern Sydney (24%, 20/83) and Sydney LHD (19%, 16/83).

Table 4. Locally acquired COVID-19 cases with no identified links to known cases or cluster by LHD of residence and week reported, 02January to 23 January

Local Health District	Week ending				Total
	23 Jan	16 Jan	09 Jan	02 Jan	
Central Coast	0	0	0	0	0
Illawarra Shoalhaven	0	0	0	1	1
Nepean Blue Mountains	0	0	0	0	0
Northern Sydney	0	1	1	0	2
South Eastern Sydney	0	0	0	0	0
South Western Sydney	0	0	0	0	0
Sydney	0	0	0	2	2
Western Sydney	0	2	1	0	3
Far West	0	0	0	0	0
Hunter New England	0	0	0	0	0
Mid North Coast	0	0	0	0	0
Murrumbidgee	0	0	0	0	0
Northern NSW	0	0	0	0	0
Southern NSW	0	0	0	0	0
Western NSW	0	0	0	0	0
Total	0	3	2	3	8

Interpretation: There have been eight locally-acquired COVID-19 cases reported in the last four weeks with no epidemiological links to a known case or cluster. Whole genome sequencing has subsequently linked five of the eight cases to the Avalon cluster, three to the Berala cluster. The latest symptom onset date for an unlinked case in NSW was 15 January 2021.

SECTION 4: CURRENT COVID-19 CLUSTERS IN NSW

Public health staff interview all new cases at the time of diagnosis to identify the likely source of their infection. Cases are also asked to report all the locations visited and people with whom they have been in contact within their infectious period (generally two days prior to symptom onset until the time of isolation and three days in high risk settings). Close contacts are quarantined to limit the spread of infection to others and encouraged to seek testing.

Clusters are defined as a group of cases that are infected with the same virus (with the identical genetic sequence) that are linked epidemiologically to each other. This means that a direct source of infection can be identified for each case in the cluster, through contact with a known case where transmission likely occurred.

A case that shares the same virus (with an identical genetic sequence) is not counted as part of the cluster if an epidemiological link to another case in the cluster has not been found. Although the case must have been infected through contact with an infectious person in the cluster, that contact or that infectious person has not been found.

Cases in community settings

There were no cases reported in the last week who were linked to recent clusters.

Previously reported active clusters with no new cases identified this week

Berala cluster

The latest symptom onset date associated with this cluster was on 8 January in a case that likely acquired their infection when they attended a bottle shop in Berala. Epidemiological investigations supported by whole genome sequencing has revealed that this cluster is linked to a patient transport worker who acquired their infection transporting positive COVID-19 travellers from Sydney airport to a quarantine hotel. Excluding the source, there are 28 cases linked to this cluster. The last case reported in this cluster was notified on 11 January.

There are nine additional cases that have been identified with whole genome sequencing that match the Berala cluster but to which epidemiological links to other cases in this cluster have not been identified. The latest symptom onset date for a genomically linked case associated with this cluster was on 3 January.

Avalon cluster

The latest symptom onset date associated with this cluster was on 30 December in two cases; a close contact of a previously reported case that attended a shopping centre in Mona Vale, and a household contact of a previously reported case that attended a hair salon in Paddington. In total, there are 151 cases associated with this cluster. Whole genome sequencing of the virus suggests that this is an overseas strain most similar to strains circulating in the United States. The last case reported in this cluster was notified on 8 January.

There are 12 additional cases that have been identified with whole genome sequencing that match the Avalon cluster but to which epidemiological links to other cases in the cluster have not been identified. The latest symptom onset date for a genomically linked case associated with this cluster was on 3 January.

Inner West cluster

The latest symptom onset date associated with this cluster was on 1 January in a case that likely acquired their infection in a residential setting. Excluding the source, who is not linked to any known case or cluster, there are ten cases associated with this cluster. Whole genome sequencing indicate that this cluster is linked to the Avalon cluster, but epidemiological links are still under investigation. The last case reported in this cluster was notified on 7 January.

SECTION 5: COVID-19 IN SPECIFIC POPULATIONS

COVID-19 in healthcare workers

The following describes infections of COVID-19 in healthcare workers (HCWs). HCWs in this section includes roles such as doctor, nurse, orderly, paramedic, laboratory technician, pharmacist, administrative staff, cleaners, and other support staff. Public health units routinely undertake investigations of cases of COVID-19 infections in healthcare to identify ongoing risks in healthcare settings.

There were no locally-acquired cases of COVID-19 reported in HCWs in the week ending the 23 January. In total, there have been 48 cases of COVID-19 in health care workers since 1 August 2020. Of these, 25 HCWs were potentially infected in healthcare settings. A further nine cases were social or household contacts of a known case, eight were exposed in community settings, and for six cases the source of infection is unknown. Prior to August 2020, there were 206 cases identified in HCWs who had worked in a health facility in the 14 days prior to symptom onset or date of testing (see [COVID-19 in healthcare workers in NSW](#)).

Aboriginal people

Aboriginal and Torres Strait Islander communities are recognised as a priority group due to key drivers of increased risk of transmission and severity of COVID-19 which include mobility, remoteness, barriers to access including institutional racism and mistrust of mainstream health services, crowded and inadequate housing, and burden of disease. There were no locally-acquired cases of COVID-19 reported in an Aboriginal person reported in the week ending 23 January.

In total, 46 Aboriginal people have been diagnosed with COVID-19, representing 0.9% of all cases in NSW. While Aboriginal status is collected by public health staff on interview with the case at the time of diagnosis, those who test negative are not interviewed. Aboriginal status for those tested can be ascertained through linkage with other health information systems but there is a delay in getting this information.

Pregnant women

There were no locally-acquired cases of COVID-19 reported in pregnant women in the week ending 23 January. In total, 39 pregnant women have been diagnosed with COVID-19 in NSW. As those who test negative are not interviewed, testing rates among pregnant women are not available.

SECTION 6: DEATHS

How many people have died as a result of COVID-19?

Since the start of the pandemic, 1.1% of cases (56 people) have died as a result of COVID-19, most of whom were 70 years of age or older, including 28 residents of aged care facilities with known COVID-19 outbreaks. Approximately 21% (12/56) of the deaths were in overseas-acquired cases.

There were no deaths reported in the week ending 23 January.

Table 7. Deaths as a result of COVID-19, by age group, NSW, 2020 and 2021

Age group	Number of deaths	Number of cases	Case fatality rate
0-4 years	0	109	0%
5-11 years	0	115	0%
12-17 years	0	153	0%
18-29 years	0	1,102	0%
30-49 years	0	1,566	0%
50-59 years	1	674	0.1%
60-69 years	4	635	0.6%
70-79 years	15	382	3.9%
80+ years	36	163	22.1%
Total	56	4,899	1.1%

Interpretation: Cases older than 80 years of age had both the highest number of deaths and the highest case fatality rate. No cases under 50 years of age have died as a result of COVID-19 in NSW.

SECTION 7: NSW SEWAGE SURVEILLANCE PROGRAM

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support NSW Health’s response to COVID-19.

An infected person can shed virus in their faeces even if they do not have symptoms, and shedding can continue for several weeks after they are no longer infectious. The NSW sewage surveillance for SARS-CoV-2 is in the preliminary stages of analysis and work is progressing to assess the significance of the results. For example, it is not currently known the minimum number of cases that can be detected in a catchment. A small number of cases in a large sewage catchment may not be detected by sewage surveillance due to factors such as dilution, inhibition, reduction in shedding over the infection period or movement of cases.

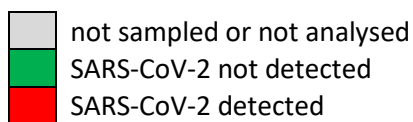
In the week ending 23 January, 114 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were seven detections – these samples were taken from the Glenfield (two samples detected), Warriewood (two samples detected), Liverpool, North Head and Malabar 1 treatment plants. The table below shows results for previous weeks from various sites across NSW

Table 8. Locations with positive SARS-CoV-2 detections in sewage samples since November 2020 for the week ending 23 January 2021

Pop.	Location	21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan
		47	48	49	50	51	52	53	1	2	3
60,514	Blue Mountains (Winmalee)										
4,681	North Richmond										
13,052	Richmond										
110,114	Penrith										
12,000	Lithgow										
19,000	South Windsor										
8,000	McGraths Hill										
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool		n								
98,743	West Camden										
6,882	Wallacia										
14,600	Picton										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
163,374	Quakers Hill										
119,309	Rouse Hill										
37,061	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Pop.	Regional sites Location	Week ending									
		21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan
		47	48	49	50	51	52	53	1	2	3
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,068	Bombo										
7,200	Gerrington/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
16,000	St Georges Basin										
11,000	Cullburra Beach										
139,500	Gosford-Kincumber										
59,060	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
51,750	Albury composite		c	c			c			c	c
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	c		c		c	c		c		
2,050	Bourke										
40,000	Orange										
36,603	Bathurst										
19,000	Broken Hill										
500	Dareton										
11,600	Parkes										
37,000	Dubbo										
24,000	Armidale										
45,000	Tamworth										
	Tenterfield										
	Urbenville										
10,000	Moree										
26,394	Taree										
12,000	Forster										
7,582	Hallidays Point										
5,180	Harrington										

Pop.	Regional sites Location	Week ending									
		21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan
		47	48	49	50	51	52	53	1	2	3
10,715	Hawks Nest										
225,834	Hunter - Burwood Beach										
60,000	Hunter - Shortland										
15,000	Hunter - Belmont										
60,000	Hunter - Morpeth										
58,300	Hunter - Boulder Bay										
35,000	Hunter - Raymond Terrace										
32,000	Hunter - Dora Creek										
42,000	Hunter - Toronto										
70,000	Hunter - Edgeworth										
2,500	Hunter - Karuah										
17,000	East Lismore										
15,500	South Lismore										
18,958 (both)	Byron Bay - Ocean Shores										
	Byron Bay										
31,104	Ballina										
16,000	Tweed - Murwillumbah										
75,000	Tweed - Banora Point										
25,000	Tweed - Kingscliff										
18,000	Tweed - Hastings Point										
12,250	North Grafton										
6,300	South Grafton										
6,500	Yamba										
8,730	Nambucca Heads										
54,370	Port Macquarie										
7,010	Bonny Hills										
8,540	Dunbogan										
12,105	South West Rocks										
4,052	Crescent Head										
12,000	Urunga										
50,000	Coffs Harbour										



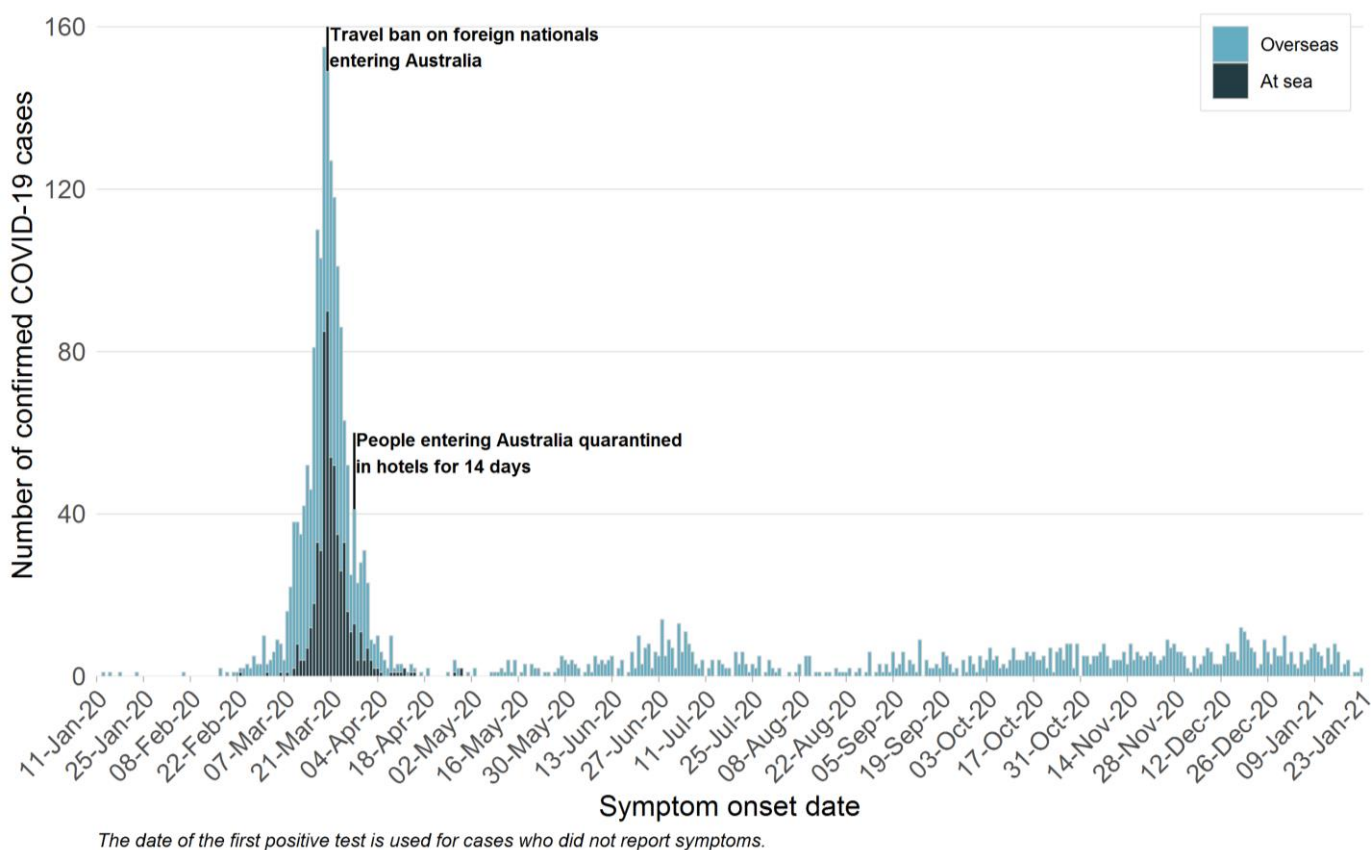
Interpretation: In the last week, there were seven detections of SARS-CoV-2. The Malabar and North Head treatment plants serve over 3 million people, including quarantine hotels and known cases. The Liverpool treatment plant is not associated with any recent locally-acquired cases, however four cases were reported in late December that reside in the catchment area. Viral shedding from these cases may have contributed to the positive result in this catchment area. NSW Health has urged people who live in this catchment to monitor for symptoms and get tested and isolate immediately if they appear. All other positive detections this week are associated with recent locally-acquired cases including cases in hotel quarantine.

SECTION 8: COVID-19 IN RETURNED TRAVELLERS

To limit the spread of COVID-19 into NSW, travel restrictions were introduced for all non-Australian citizens and permanent residents. In addition, since 29 March returned travellers have been quarantined in hotels for a 14-day period and travellers who develop symptoms are isolated until no longer infectious.

The graph below shows the number of cases in returned travellers by the date of symptom onset. Cases acquired at sea refers to those cruise ship passengers who acquired their infection prior to disembarking in NSW.

Figure 8: Overseas acquired COVID-19 cases by infection source and illness onset, NSW, 2020



Interpretation: The number of new cases in returned travellers has decreased markedly since March in line with travel restrictions. There were 18 overseas acquired cases reported in the week ending 23 January, 61% less than the previous week.

Country of acquisition of COVID-19 for overseas travellers

The following figure displays the countries and regions with the greatest numbers of international travellers diagnosed with COVID-19 in NSW.

Figure 9. Overseas-acquired COVID-19 cases by country of acquisition and arrival month, reported from May 2020 to 23 January, NSW, 2021



Interpretation: Since May, the majority of international travellers diagnosed in NSW were likely infected in Asia or North America. Over the last few weeks there has been a steady increase in the number of positive return travellers from the United Kingdom. The pattern seen in COVID-positive travellers over time reflects the evolving nature of the pandemic in those areas.

In the last four weeks, there have been 144 COVID-positive travellers who have arrived in NSW. The table below lists the top 10 countries of acquisition for these travellers.

Table 9. Top 10 countries of acquisition for overseas travellers that have tested positive in the last four weeks, 02 January to 23 January 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
USA	50 (35%)
United Kingdom	20 (14%)
South Africa	11 (8%)
Lebanon	9 (6%)
United Arab Emirates	9 (6%)
India	7 (5%)
Egypt	4 (3%)
Bangladesh	3 (2%)
Netherlands	3 (2%)
Pakistan	3 (2%)
Sweden	3 (2%)
Other	23 (16%)
Total	144 (100%)

Interpretation: In the last four weeks, travellers returning from the United States accounted for the largest number of overseas acquired cases (50, 35%), followed by travellers returning from the United Kingdom (20, 14%), and South Africa (11, 8%).

COVID-19 Variants of Concern (VoC) in returned travellers

Mutations of the COVID-19 virus are the basis for new genetic variants and the changing prevalence of variant viruses over time. New variants of COVID-19 may be of concern if they demonstrate to be more infectious than other strains. In the last few weeks NSW Health Pathology has identified two Variants of Concern (B.1.1.7 and B.1.351) in returned travellers in hotel quarantine. VoC B.1.1.7 originated in the United Kingdom and VoC B.1.351 has origins in South Africa. Both strains can now be found in other parts of the world and are defined by multiple mutations, including a shared mutation in the spike protein that binds to the human ACE2 receptor.

NSW Health has strict protocols in place for managing the health of returned travellers and staff which have been further strengthened to address the additional risk associated with the new variants. Since 30 November, 27 returned travellers have tested positive with the two Variants of Concern.

Table 10. Overseas travellers that have tested positive by VoC and week reported, 30 November 2020 to 23 January 2021

	Previous four weeks (week ending)				4-week Total	Total since 30 November
	23-Jan	16-Jan	9-Jan	2-Jan		
Overseas acquired cases	18	46	36	44	144	295
Cases with VoC	3	7	8	3	21	27
B.1.1.7	2	5	4	3	14	20
B.1.351	1	2	4	0	7	7
% of overseas cases with VoC	17%	15%	22%	7%	15%	9%

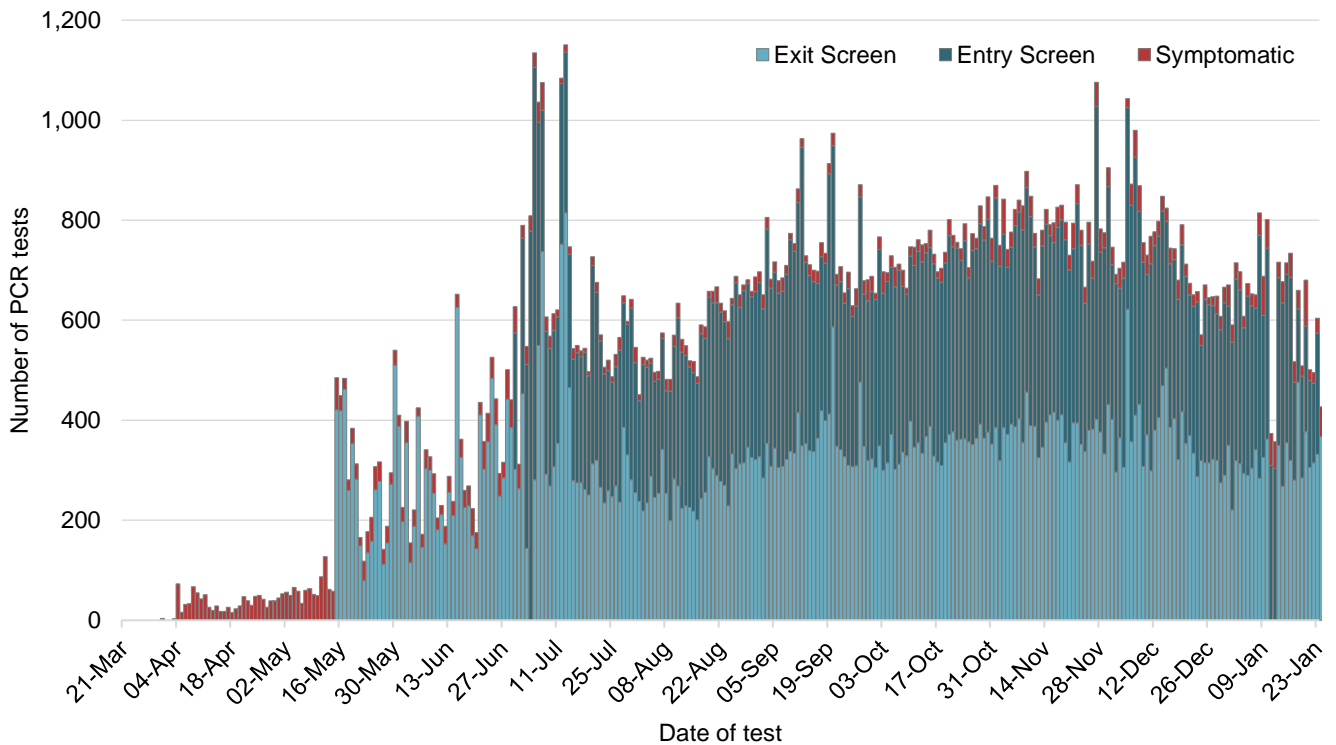
Interpretation: In the week ending 23 January, 17% of return travellers in hotel quarantine have been identified as having COVID-19 Variants of Concern (B.1.1.7 and B.1.351). Since 30 November, most return travellers acquired their VoC from United Kingdom (12) followed by South Africa (7) and Lebanon (4) and one case in India, Nigeria, United Arab Emirates. One case had acquired their infection from an unknown country of origin.

Hotel quarantine

The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved from day 10 to day 12 of quarantine. Testing is also carried out on individuals that became symptomatic in addition to the two mandatory tests.

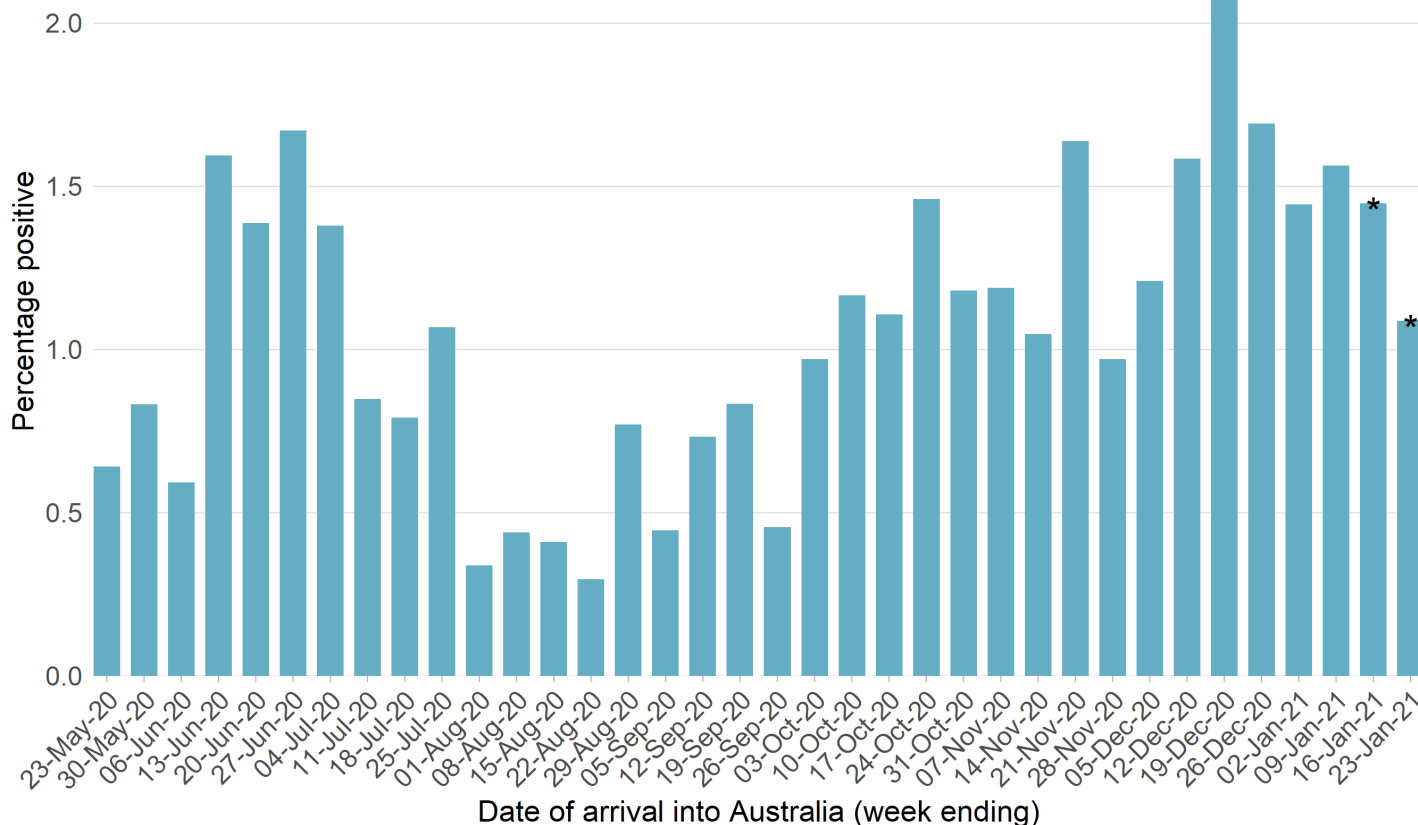
Since hotel quarantine began on 29 March, a total of 162,758 PCR tests have been conducted with 828 overseas acquired cases and 4 interstate acquired COVID-19 cases detected while in hotel quarantine. In the last four weeks, 8,334 returned travellers received an entry swab on day two in hotel quarantine; of these 2.3% reported symptoms at the time of screening. In the same time period, 8,275 returned travellers received an exit swab, and 1.1% reported symptoms at the time of screening.

Figure 12. COVID-19 testing in returned travellers in hotel quarantine, reported from 21 March to 23 January, NSW, 2021



Interpretation: In the week ending 23 January, there were 3,966 tests of travellers conducted through the hotel quarantine screening programs.

Figure 13. COVID-19 percentage positive in returned travellers in hotel quarantine by week of arrival in Australia, reported from week ending 23 May 2020 to week ending 23 January, NSW, 2021



*Returned travellers in the past 14 days are still in hotel quarantine and may return a positive result

Interpretation: In the most recent weeks, around 1.5% of returned travellers have tested positive during their stay in hotel quarantine. This increase suggests that more returned travellers are testing positive on arrival into NSW, which is consistent with the current high numbers of COVID-19 cases being reported worldwide. Data is likely incomplete for returned travellers who have arrived within the last two weeks as they are still in hotel quarantine.

SECTION 9: OTHER RESPIRATORY INFECTIONS IN NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 17 January 2021

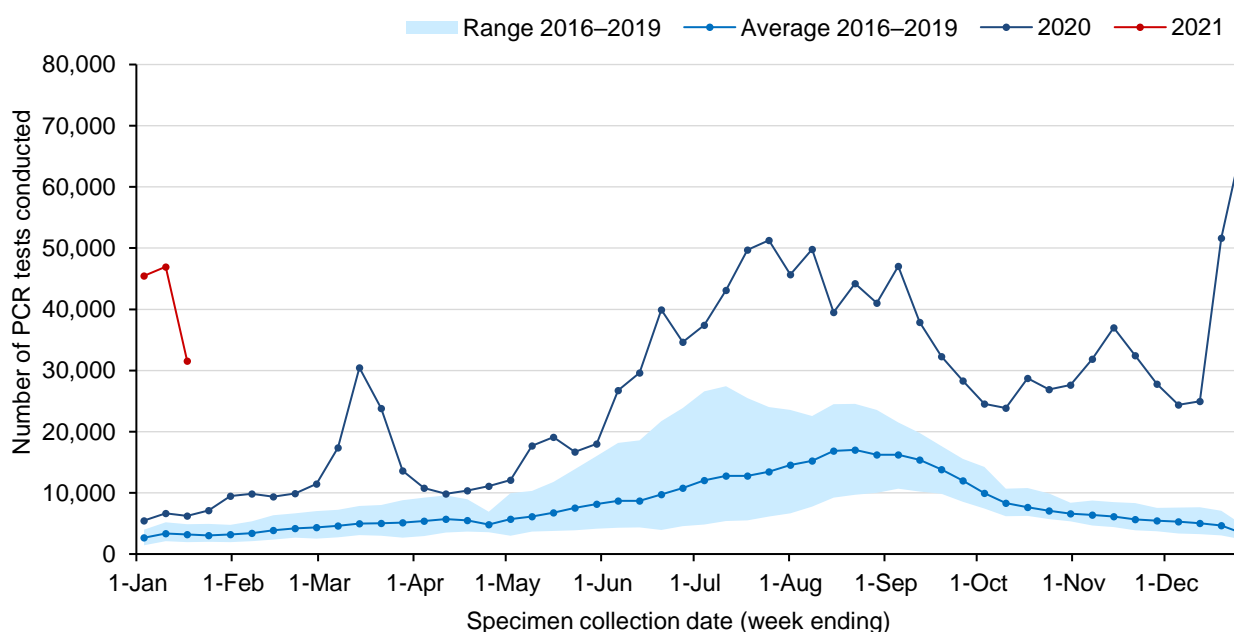
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted; not all samples are tested for all respiratory viruses.

The most recent data available is for testing carried out to 17 January 2021. A total of 92,404 influenza tests have been performed at participating laboratories in the two weeks from 28 December 2020 to 17 January 2021. Refer to Appendix B for PCR testing results for a range of respiratory viruses.

How much influenza testing is happening?

The red line in the figure below shows the number of PCR tests for influenza carried out each week in 2021 and the black line shows the testing numbers for 2020. The blue line shows the average number of tests carried out for the same week in the previous four years (2016–2019) and the shaded area shows the range of counts reported in the same time period.

Figure 14. Testing for influenza by week, to 17 January 2021

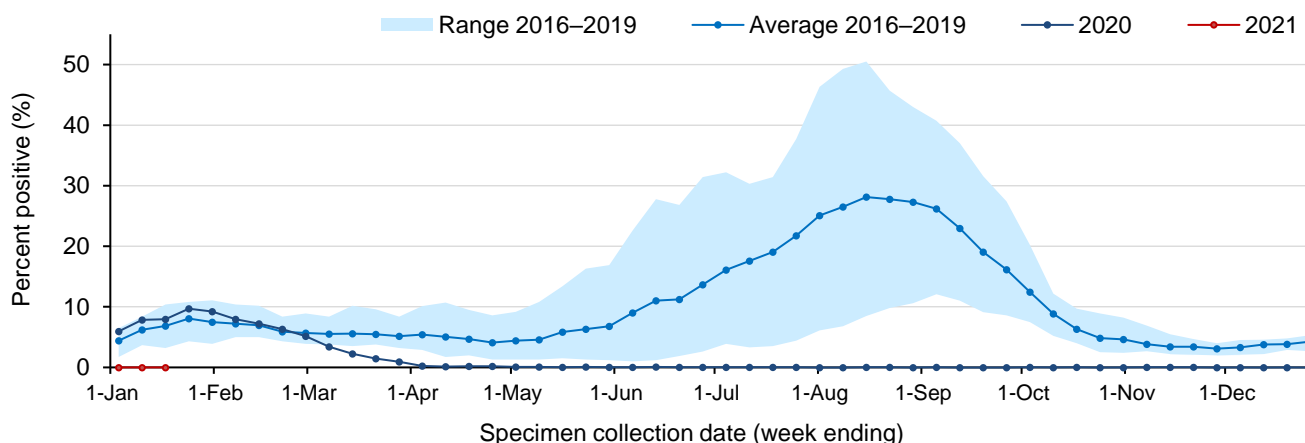


Interpretation: In the week ending 17 January, the number of influenza tests performed decreased significantly but continues to exceed the average for this time of year.

How much influenza is circulating?

The graph below shows the proportion of tests found to be positive for influenza with the red line showing weekly counts for 2021, the black line showing counts for 2020, the blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 15. Proportion of tests positive for influenza, to 17 January 2021

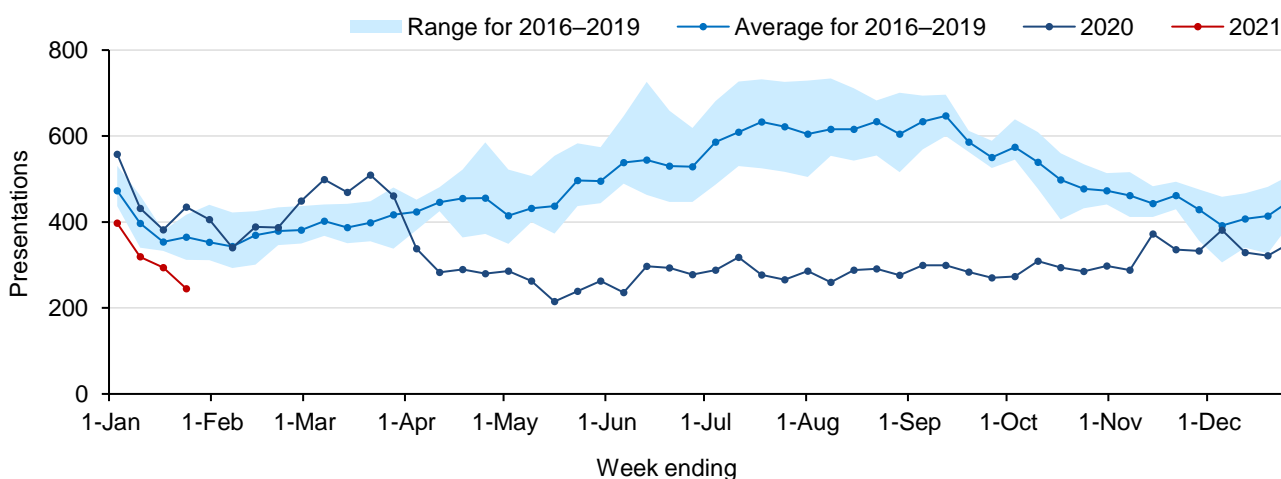


Interpretation: In the week ending 17 January, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year.

How are emergency department presentations for respiratory infections tracking?

The figure below shows weekly pneumonia presentations to Emergency Departments in NSW, using PHREDSS². The red line shows the weekly counts for 2021, the black line showing counts for 2020, the blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 16. Emergency Department pneumonia presentations in NSW by week, to 24 January 2021



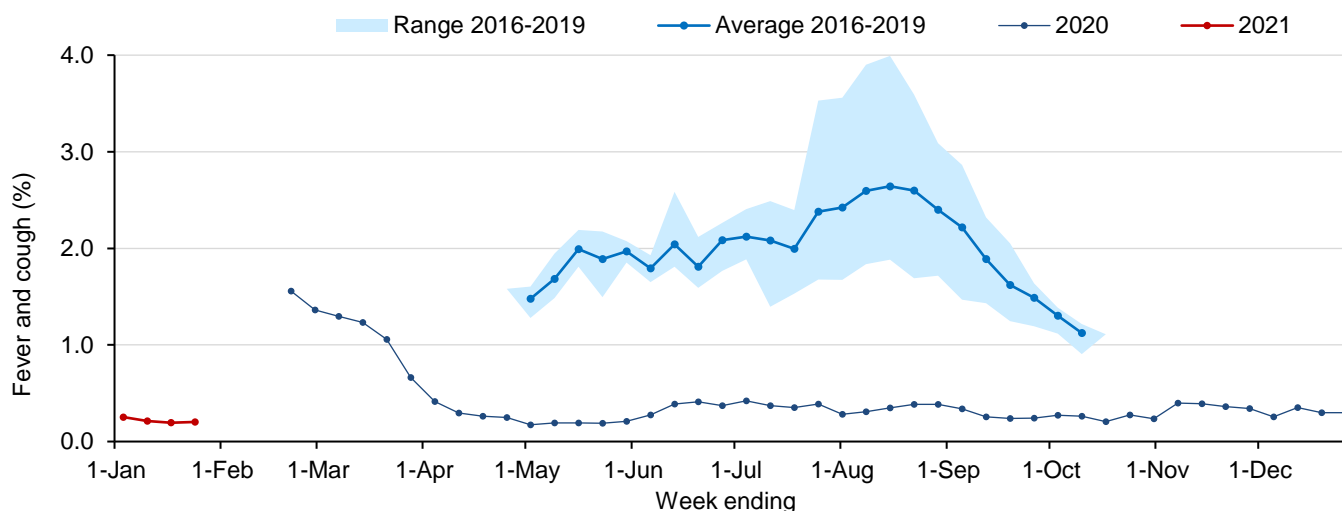
Interpretation: Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 24 January, pneumonia presentations decreased for the third consecutive week and were below the seasonal range for this time of year.

² NSW Health Public Health Rapid, Emergency Disease and Syndromic Surveillance (PHREDSS) system, CEE, NSW Ministry of Health. Comparisons are made with data for the preceding 5 years. Includes unplanned presentations to 67 NSW emergency departments (accounts for 87% of total public ED activity).

How many people have flu-like symptoms in the community?

FluTracking is an online survey that asks participants to report flu-like symptoms, such as fever or cough, in the last week. Across NSW approximately 25,000-30,000 people participate each week. The survey usually commences at the beginning of May in line with the flu season but commenced at the end of February this year given the COVID-19 outbreak.

Figure 18. Proportion of FluTracker participants in NSW reporting influenza-like illness, to 24 January 2021



Interpretation: In NSW in the week ending 24 January of the 9,908 people surveyed, 20 people (0.20%) reported flu-like symptoms. In the last four weeks, 74% (88/119) of new cases of flu-like illness also reported having a COVID-19 test.

APPENDIX A: COVID-19 PCR TESTS IN NSW BY LOCAL GOVERNMENT AREA

Local Health District	Local Government Area	Week ending				Total since January 2020	
		23-January		16- January		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Central Coast	Central Coast / LHD Total ²	3202	9.07	3619	10.26	170165	482.24
	Balranald	30	12.83	13	5.56	590	252.35
	Broken Hill	416	23.8	403	23.06	7511	429.72
Far West	Central Darling	6	3.26	26	14.14	485	263.73
	Wentworth	77	10.92	101	14.32	2864	406.07
	LHD Total ²	529	17.55	543	18.01	11450	379.84
	Armidale Regional	219	7.12	299	9.71	11563	375.68
	Cessnock	273	4.55	329	5.48	18197	303.36
	Dungog	56	5.94	41	4.35	2845	301.92
	Glen Innes Severn	33	3.72	89	10.03	2144	241.69
	Gunnedah	47	3.71	89	7.02	3789	298.79
	Gwydir	15	2.8	24	4.48	809	151.13
	Inverell	80	4.74	155	9.18	4809	284.72
	Lake Macquarie	1681	8.16	1982	9.63	103308	501.74
	Liverpool Plains	33	4.18	51	6.45	2449	309.88
	Maitland	861	10.11	927	10.88	46163	542.04
Hunter New England	Mid-Coast	508	5.41	580	6.18	28813	307.06
	Moree Plains	61	4.6	93	7.01	3472	261.82
	Muswellbrook	69	4.21	107	6.53	5288	322.89
	Narrabri	38	2.89	67	5.1	3073	233.96
	Newcastle	1607	9.71	1835	11.08	101538	613.26
	Port Stephens	495	6.74	576	7.84	33533	456.35
	Singleton	184	7.84	224	9.55	10977	467.88
	Tamworth Regional	465	7.44	639	10.22	25952	414.96
	Tenterfield	13	1.97	42	6.37	1246	188.96
	Upper Hunter Shire	85	5.99	83	5.85	4752	335.12
	Uralla	12	2	38	6.32	1433	238.36
	Walcha	9	2.87	14	4.47	1044	333.12
	LHD Total ²	6842	7.18	8276	8.69	416881	437.73
	Kiama	219	9.36	269	11.5	12051	515.31
Illawarra Shoalhaven	Shellharbour	581	7.93	671	9.16	36807	502.6
	Shoalhaven	728	6.89	1036	9.81	40829	386.46
	Wollongong	1957	8.97	2163	9.92	112538	515.96
	LHD Total ²	3485	8.31	4139	9.86	202225	481.93
	Bellingen	82	6.31	107	8.23	4395	338.18
	Coffs Harbour	485	6.28	663	8.58	23985	310.38
Mid North Coast	Kempsey	191	6.42	245	8.24	10423	350.41
	Nambucca	120	6.06	150	7.57	5797	292.7
	Port Macquarie-Hastings	527	6.23	788	9.32	30891	365.47
	LHD Total ²	1405	6.23	1953	8.65	75491	334.53

Local Health District	Local Government Area	Week ending				Total since January 2020	
		23-January		16- January		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Murrumbidgee	Albury	400	7.36	498	9.16	20487	376.92
	Berrigan	27	3.09	29	3.31	2151	245.83
	Bland	22	3.68	26	4.35	1693	283.49
	Carrathool	7	2.5	8	2.86	392	140.05
	Coolamon	32	7.37	45	10.37	1469	338.4
	Cootamundra-Gundagai Regional	55	4.9	75	6.68	3453	307.34
	Edward River	33	3.63	50	5.5	2870	315.94
	Federation	61	4.9	79	6.35	3316	266.62
	Greater Hume Shire	43	3.99	64	5.95	3562	330.92
	Griffith	231	8.55	244	9.03	10459	386.95
	Hay	11	3.73	15	5.09	609	206.51
	Hilltops	112	5.99	126	6.74	6037	322.77
	Junee	25	3.74	44	6.58	1461	218.61
	Lachlan ¹	16	2.63	32	5.27	1094	180.08
	Leeton	55	4.81	86	7.51	3101	270.95
	Lockhart	14	4.26	20	6.09	892	271.54
	Murray River	17	1.4	27	2.23	969	79.96
	Murrumbidgee	18	4.6	13	3.32	914	233.34
	Narrandera	13	2.2	37	6.27	1276	216.31
	Snowy Valleys	64	4.42	73	5.04	4844	334.55
Temora	32	5.07	37	5.87	1439	228.16	
Wagga Wagga	563	8.63	731	11.2	29484	451.81	
<i>LHD Total²</i>	1842	6.18	2343	7.86	101245	339.62	
Nepean Blue Mountains	Blue Mountains	812	10.26	877	11.08	51552	651.58
	Hawkesbury	578	8.59	617	9.17	35794	531.89
	Lithgow	98	4.54	144	6.67	7506	347.42
	Penrith	2069	9.71	2487	11.68	125740	590.39
	<i>LHD Total²</i>	3535	9.04	4091	10.46	218835	559.7
Northern NSW	Ballina	262	5.87	440	9.86	16259	364.32
	Byron	299	8.52	424	12.09	15893	453.04
	Clarence Valley	234	4.53	365	7.07	13277	257
	Kyogle	44	5	65	7.39	2099	238.63
	Lismore	285	6.52	493	11.28	16828	385.15
	Richmond Valley	168	7.16	240	10.23	7725	329.21
	Tenterfield	13	1.97	42	6.37	1246	188.96
	Tweed	606	6.25	850	8.76	28437	293.16
<i>LHD Total²</i>	1899	6.12	2883	9.29	100809	324.81	
Northern Sydney	Hornsby	1567	10.31	1845	12.13	79612	523.56
	Hunters Hill	308	20.56	338	22.56	17890	1194.26
	Ku-ring-gai	1960	15.41	2108	16.58	103686	815.44
	Lane Cove	894	22.26	1024	25.5	51258	1276.5
	Mosman	437	14.11	445	14.36	21615	697.69
	North Sydney	844	11.25	872	11.62	39750	529.85

Local Health District	Local Government Area	Week ending				Total since January 2020	
		23-January		16- January		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Northern Beaches	5273	19.28	7816	28.58	285760	1044.83
	Parramatta ¹	2540	9.88	2743	10.66	117097	455.28
	Ryde	1416	10.79	1495	11.39	72444	551.87
	Willoughby	805	9.92	896	11.04	39941	491.95
	<i>LHD Total²</i>	13969	14.61	17360	18.16	735135	769.04
South Eastern Sydney	Bayside	1577	8.84	1694	9.5	77610	435.04
	Georges River	1204	7.55	1467	9.2	65859	412.98
	Randwick	2073	13.32	2184	14.03	106454	683.94
	Sutherland Shire	2369	10.27	2371	10.28	140104	607.53
	Sydney ¹	3826	15.53	4085	16.58	172821	701.55
	Waverley	1237	16.65	1111	14.95	60949	820.36
	Woollahra	1024	17.24	927	15.61	51263	863.2
	<i>LHD Total²</i>	10837	11.3	11175	11.65	565243	589.35
South Western Sydney	Camden	1129	11.13	1147	11.31	75289	742.22
	Campbelltown	1629	9.53	1868	10.93	101185	591.92
	Canterbury-Bankstown ¹	3208	8.49	5893	15.59	174562	461.91
	Fairfield	1099	5.19	1432	6.76	79990	377.85
	Liverpool	1739	7.64	2310	10.15	124878	548.71
	Wingecarribee	509	9.95	517	10.11	31811	622.11
	Wollondilly	332	6.25	324	6.1	21712	408.51
	<i>LHD Total²</i>	8007	7.71	10604	10.21	521124	501.79
Southern NSW	Bega Valley	176	5.11	270	7.83	11528	334.38
	Eurobodalla	230	5.98	334	8.68	17582	457
	Goulburn Mulwaree	187	6.01	230	7.39	11958	384.11
	Queanbeyan-Palerang Regional	278	4.55	390	6.38	16549	270.85
	Snowy Monaro Regional	107	5.15	174	8.37	7328	352.39
	Upper Lachlan Shire	59	7.32	36	4.47	2590	321.38
	Yass Valley	75	4.39	100	5.85	4047	236.85
	<i>LHD Total²</i>	1112	5.12	1534	7.07	71612	329.9
Sydney	Burwood	383	9.43	529	13.03	16190	398.65
	Canada Bay	1269	13.21	1296	13.49	61341	638.48
	Canterbury-Bankstown ¹	3208	8.49	5893	15.59	174562	461.91
	Inner West	2947	14.68	3243	16.15	143500	714.6
	Strathfield	538	11.46	679	14.47	28058	597.92
	Sydney ¹	3826	15.53	4085	16.58	172821	701.55
	<i>LHD Total²</i>	9168	13.16	11104	15.94	443739	636.85
Western NSW	Bathurst Regional	309	7.08	377	8.64	20273	464.79
	Blayney	55	7.45	91	12.33	3343	453.04
	Bogan	10	3.88	48	18.6	930	360.47
	Bourke	7	2.7	15	5.79	553	213.51
	Brewarrina	2	1.24	5	3.1	332	206.08
	Cabonne	64	4.69	74	5.43	3301	242.12
	Cobar	16	3.43	33	7.08	1128	242.16

Local Health District	Local Government Area	Week ending				Total since January 2020	
		23-January		16- January		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Coonamble	13	3.28	20	5.05	986	249.12
	Cowra	62	4.87	72	5.65	3641	285.73
	Dubbo Regional	347	6.46	539	10.03	19548	363.89
	Forbes	38	3.84	47	4.74	2323	234.5
	Gilgandra	24	5.66	22	5.19	1008	237.79
	Lachlan ¹	16	2.63	32	5.27	1094	180.08
	Mid-Western Regional	153	6.06	219	8.67	8916	353.09
	Narromine	20	3.07	53	8.13	1840	282.34
	Oberon	23	4.25	29	5.36	1795	331.73
	Orange	383	9.02	686	16.16	22709	534.95
	Parkes	56	3.77	102	6.87	4367	294.33
	Walgett	24	4.03	34	5.71	1661	279.02
	Warren	22	8.16	34	12.61	1373	509.08
	Warrumbungle Shire	54	5.82	51	5.5	2803	302.11
	Weddin	10	2.77	15	4.15	839	232.22
	<i>LHD Total²</i>	1702	5.97	2585	9.07	104442	366.45
Western Sydney	Blacktown	4187	11.18	5289	14.12	200656	535.87
	Cumberland	3317	13.73	4161	17.23	130659	540.98
	Parramatta ¹	2540	9.88	2743	10.66	117097	455.28
	The Hills Shire	2617	14.7	2584	14.52	128063	719.58
	<i>LHD Total²</i>	12300	11.68	14487	13.75	558620	530.28
NSW Total³		86,725	10.72	104,451	12.91	4,575,948	565.64

¹Local Government Area (LGA) spans multiple Local Health Districts.

²Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.

³NSW Total counts and rates include tests where residential information is incomplete.

See <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/counting-tests.aspx> for detail on how tests are counted.

APPENDIX B: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 17 January 2021

The reported testing numbers reflect the number of influenza PCR tests conducted. Not all samples are tested for all of the other respiratory viruses. Therefore, data presented may tend to under-represent current respiratory virus activity in NSW.

Testing numbers in NSW from 28 December 2020 – 17 January 2021

Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Enterovirus
		No.	%Pos.	No.	%Pos.						
Total	123,969	2	0.00%	0	0.00%	256	64	2,236	2,027	13	299
Week ending											
3 January	45,456	1	0.00%	0	0.00%	66	25	919	664	1	95
10 January	46,948	0	0.00%	0	0.00%	108	25	744	729	9	98
17 January	31,565	1	0.00%	0	0.00%	82	14	573	634	3	106

Testing numbers in NSW from January – 27 December 2020

Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Enterovirus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,036	599	335
1-March	40,575	2,363	5.82%	315	0.78%	798	2,435	1,118	8,245	437	1,007
29-March	85,238	1,549	1.82%	200	0.23%	898	4,117	1,977	18,088	664	1,502
3-May *	54,128	70	0.13%	13	0.02%	175	273	410	2,250	48	210
31-May	71,525	35	0.05%	6	0.01%	237	62	115	3,511	27	112
28-June	130,922	42	0.03%	11	0.01%	629	83	178	28,321	112	246
2-August *	227,152	34	0.01%	2	0.00%	1,251	89	209	31,589	79	427
30-August	174,594	9	0.01%	2	0.00%	1,137	37	299	13,926	14	235
27-September	145,489	6	0.00%	1	0.00%	938	35	866	8,416	61	259
1 November *	131,686	7	0.01%	1	0.00%	894	56	3,508	5,632	51	662
29-November	129,164	6	0.00%	3	0.00%	752	42	6,255	8,252	192	884
27-December	167,756	2	0	0	0	584	64	6,317	5,471	151	555

Notes: Preliminary laboratory data is provided by participating sentinel laboratories on a weekly basis and are subject to change. Serological diagnoses are not included.

HMPV – Human metapneumovirus

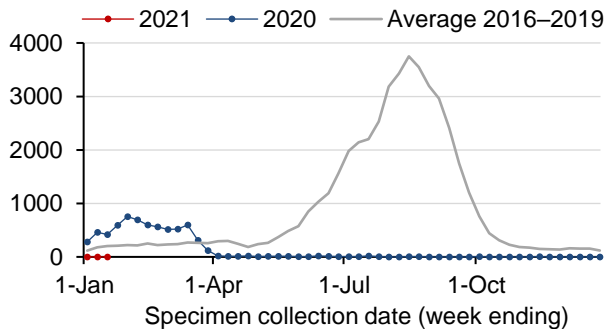
RSV - Respiratory syncytial virus

*Five-week period

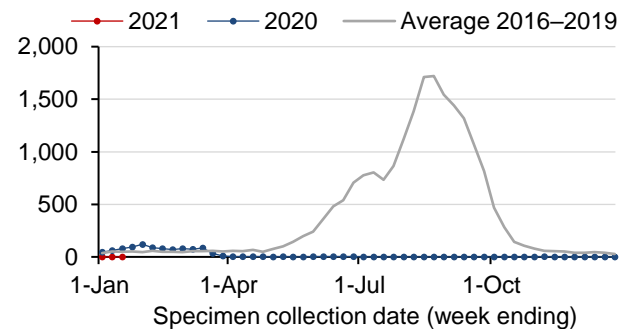
APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 17 January 2021

Not all samples are tested for all of the other respiratory viruses. Therefore, data presented may tend to under-represent current respiratory virus activity in NSW.

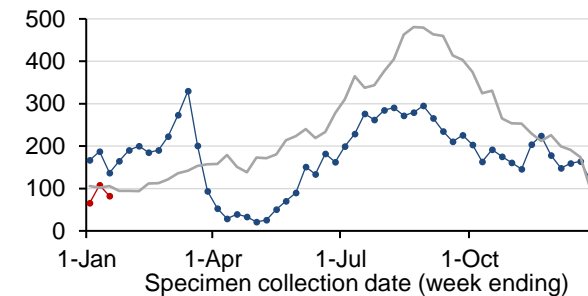
Influenza A



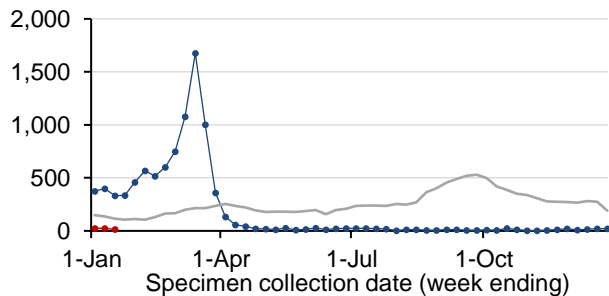
Influenza B



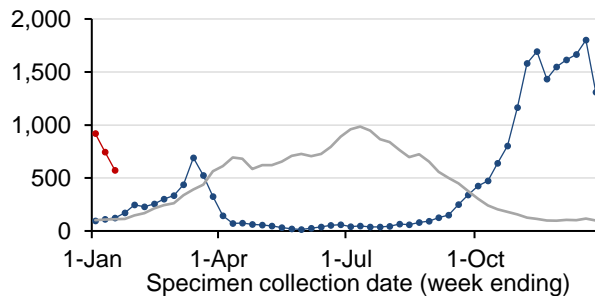
Adenovirus



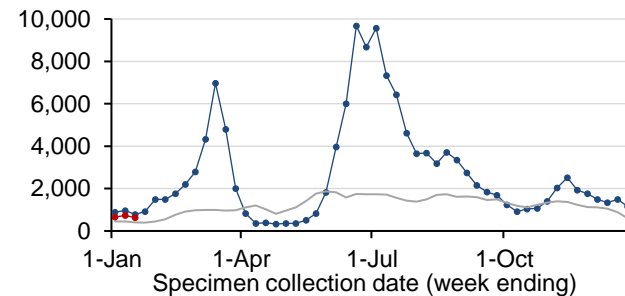
Parainfluenza



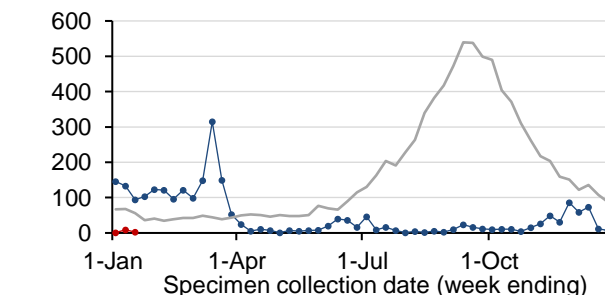
Respiratory syncytial virus (RSV)



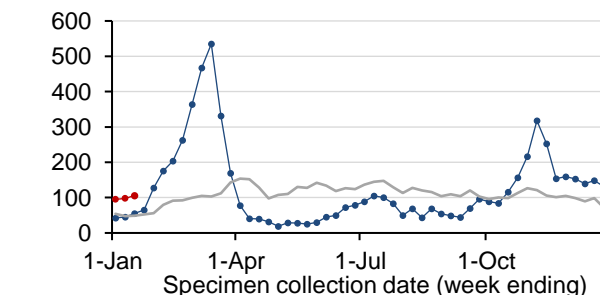
Rhinovirus



Human metapneumovirus (HMPV)



Enterovirus



Note: Preliminary laboratory data is provided by participating sentinel laboratories on a weekly basis and are subject to change. Serological diagnoses are not included

GLOSSARY

Term	Description
Case	A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases). Case counts include: - NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and - interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis
Health care workers	Individuals who work within a hospital or other healthcare settings, including staff in direct or indirect contact with patients or infectious materials.
Incubation period	The time in which the case was infected. The incubation period for COVID-19 is between 1 and 14 days prior to symptom onset.
Overseas acquired case	Case who travelled overseas during their incubation period. While testing rates in NSW are high and case counts are low, cases who have travelled overseas in their incubation period are considered to have acquired their infection overseas.
Interstate acquired case	Case who travelled interstate during their infection and the public health investigation concludes the infection was likely acquired interstate.
Cluster	Group of cases sharing a common source of infection or are linked to each other in some way.

Dates used in COVID-19 reporting

Event	Date name	Source
Person first starts to feel unwell	Date of symptom onset	Public health staff interview all cases at the time of diagnosis. This is the date provided to NSW Health by the case.
Person has a swab taken	Date of test	This date is provided to NSW Health by the laboratory when the test result (positive or negative) is notified.
Laboratory notifies NSW Health of result	Date of notification	This date is provided to NSW Health by the laboratory. Laboratories prioritise notification of positive results to allow prompt public health action. Positive cases: The date of notification is collected by NSW Health on the day of notification. Cases are informed of their diagnosis by their doctor or public health staff as soon as the result is available. The date of notification to NSW Health is usually the same day as the date the case finds out about the result. Negative cases: Some laboratories notify NSW Health of negative results in batches at regular intervals. For these laboratories the date of notification to NSW Health does not reflect the date the negative result was available at the laboratory. NSW Health does not collect information on the date the person was informed of the result.