COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 4, ENDING 30 JANUARY 2021

Published 4 February 2021

SUMMARY FOR THE WEEK ENDING 30 January 2021

- There were no locally acquired cases reported in NSW this week.
- Testing numbers decreased across all LHDs and most age groups this week with overall testing rates down 29% when compared to the previous week.
- The NSW Sewage Surveillance Program reported nine detections - these samples were taken from Warriewood, Liverpool, Bondi, Malabar treatment plants and the sewage network at Minto, a subsection of the Glenfield catchment, and were associated with recent cases.
- There have been 30 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.

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SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

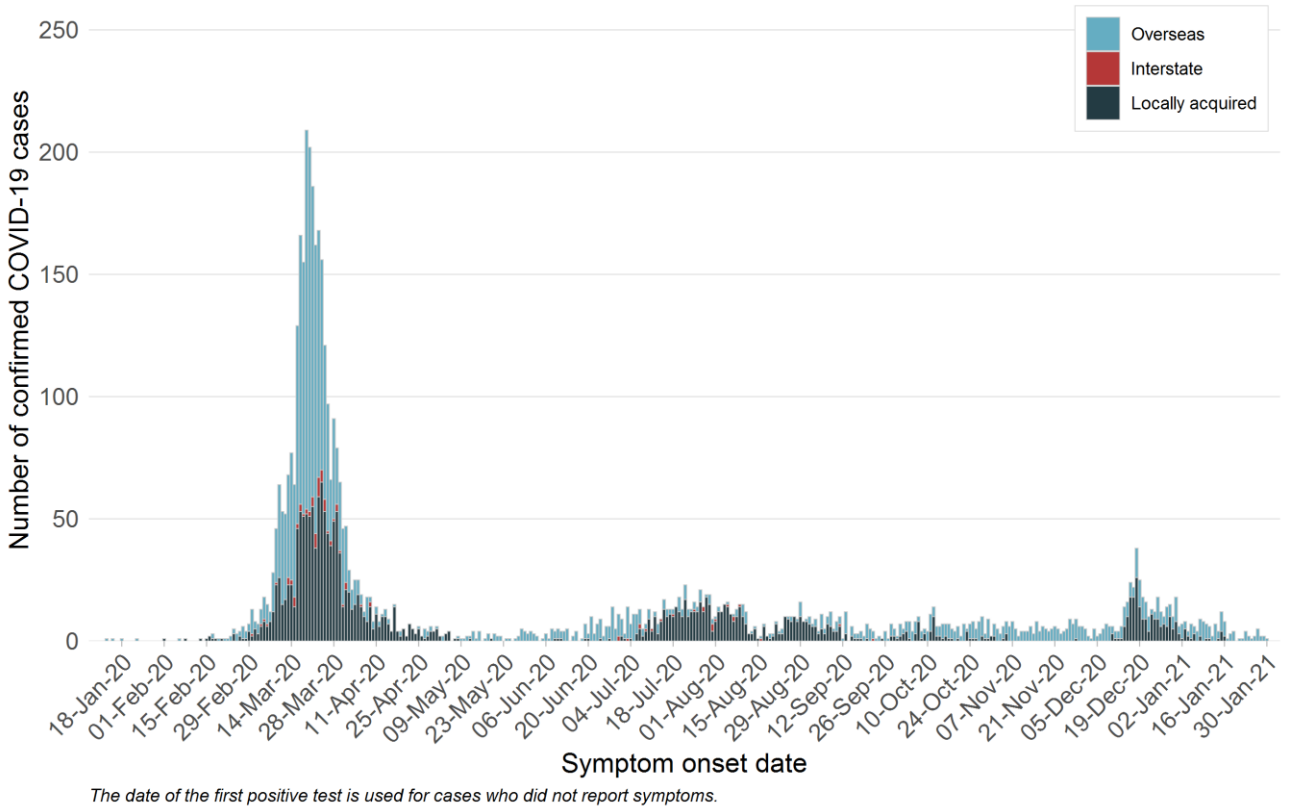
Table 1. COVID-19 cases and tests reported in NSW, up to 30 January 2021

	Week ending 30 Jan	Week ending 23 Jan	% change	Pandemic total
Number of cases	18	18	0%	4,917
Overseas acquired	18	18	0%	2,740
Interstate acquired	0	0	-	90
Locally acquired	0	0	-	2,087
No epidemiological links to other cases or clusters	0	0	-	445
Number of deaths	0	0	-	56
Number of tests	61,921	86,961	↓29%	463,6940

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

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 30 January



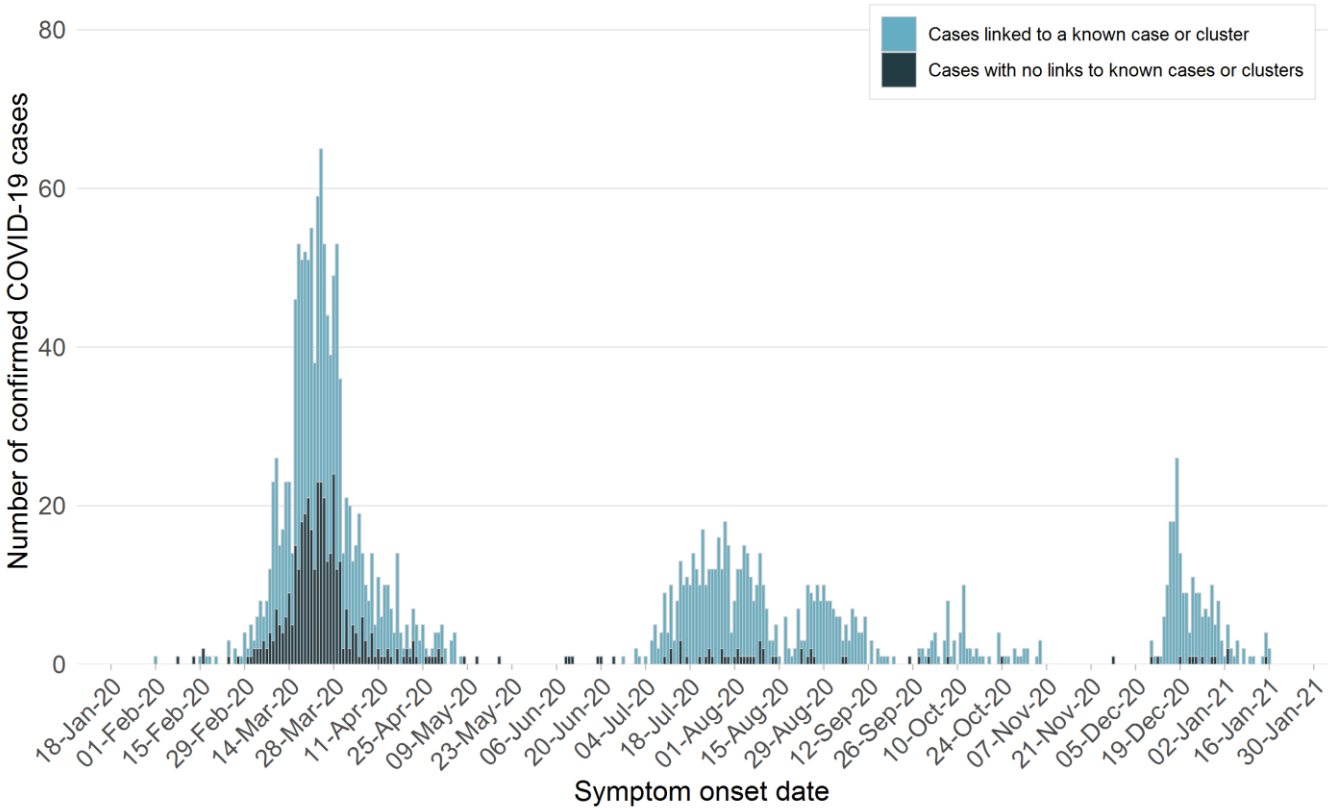
The date of the first positive test is used for cases who did not report symptoms.

Interpretation: The majority (82%) 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 30 January



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

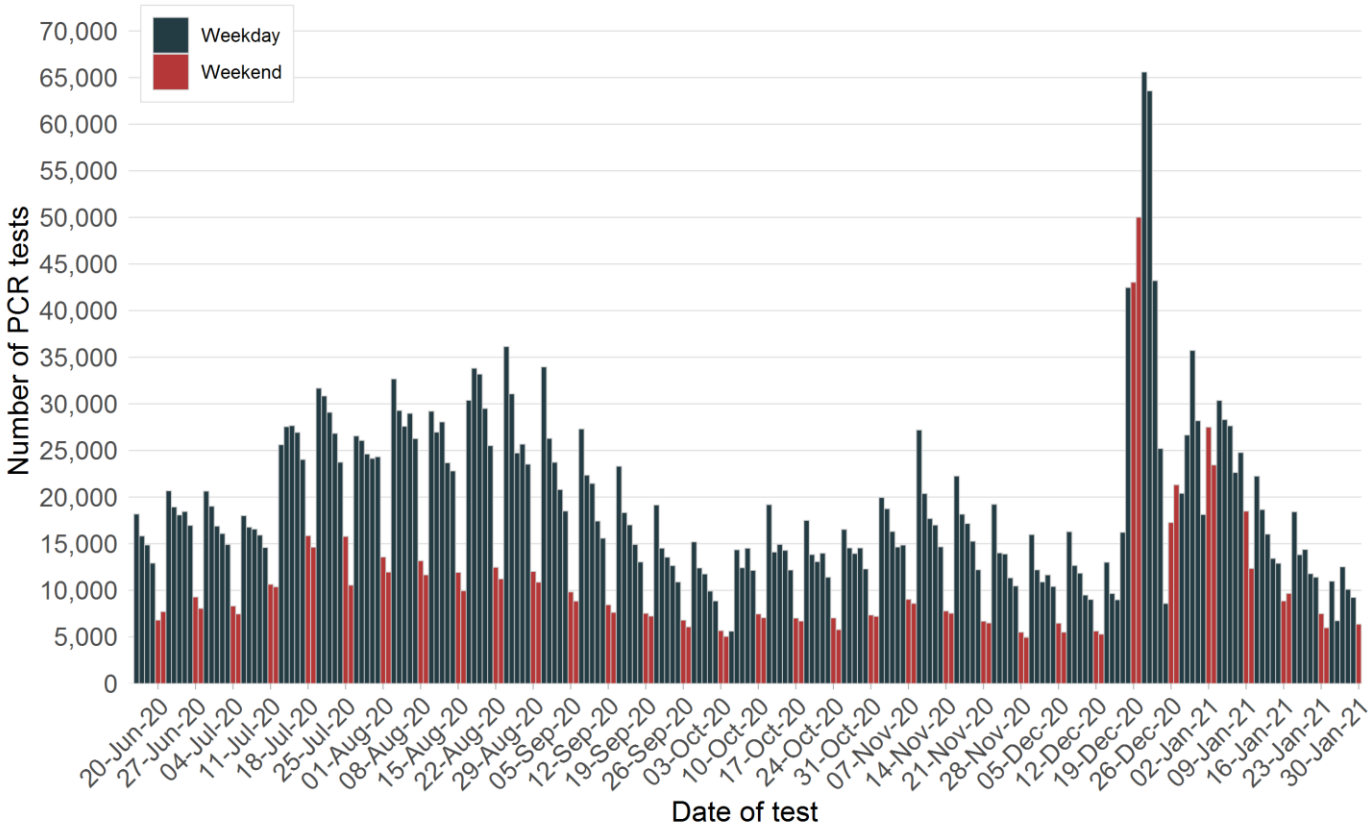
Interpretation: Of the 22 locally-acquired cases with an onset in the last four weeks, 19 (86%) were linked to known cases or clusters. As at 30 January, it has been fourteen days since the last locally-acquired case recorded onset of symptoms in NSW, and fifteen days since the last unlinked locally-acquired 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, 30 January



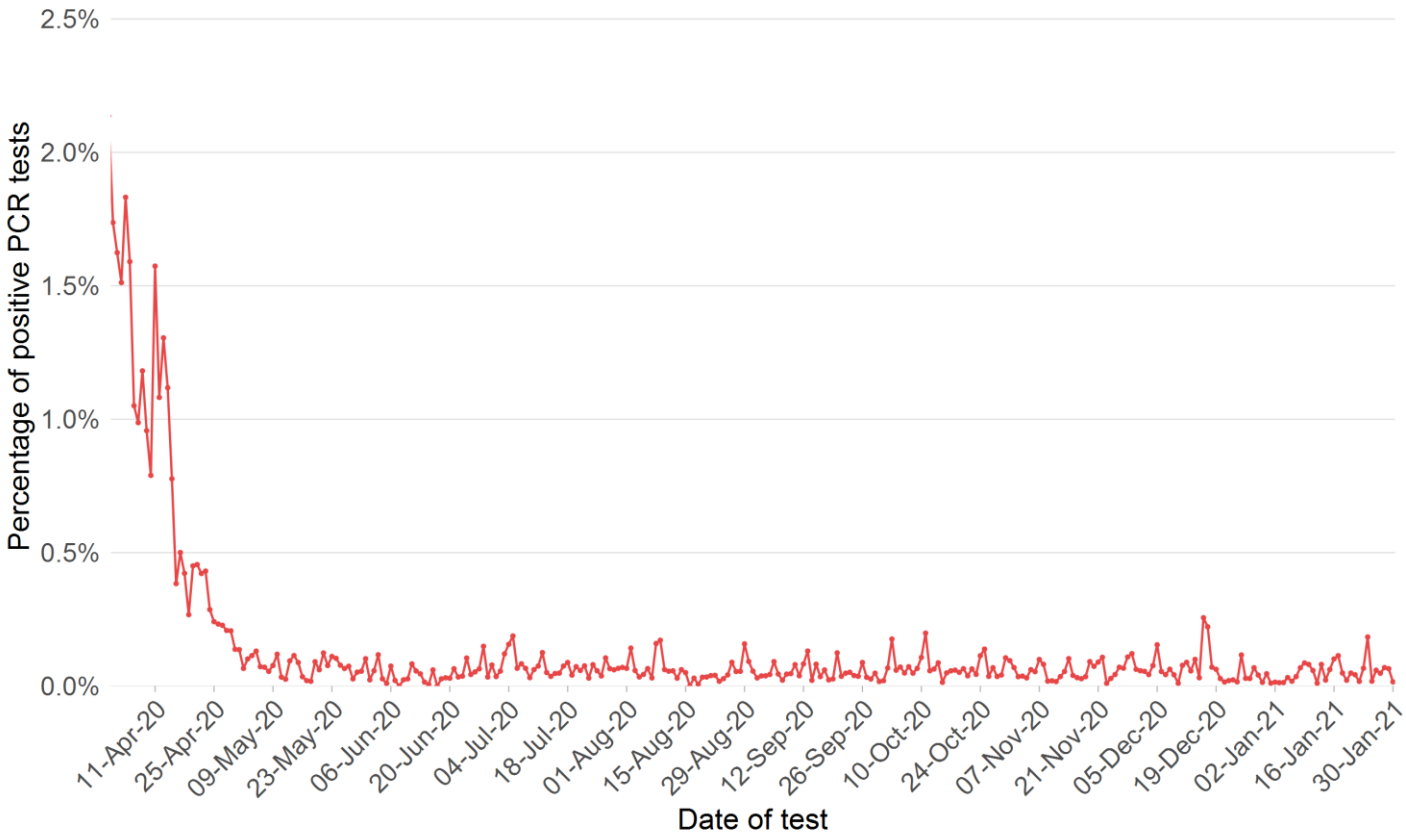
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers continue to decrease in the week ending 30 January (down 29%) compared to the previous week and are at their lowest rate since May 2020. An average daily testing rate of 1.1 per 1,000 people in NSW each day compared to 1.5 per 1,000 people the previous week. A high testing rate in the NSW population is essential to provide confidence that cases will be detected.

[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, 30 January

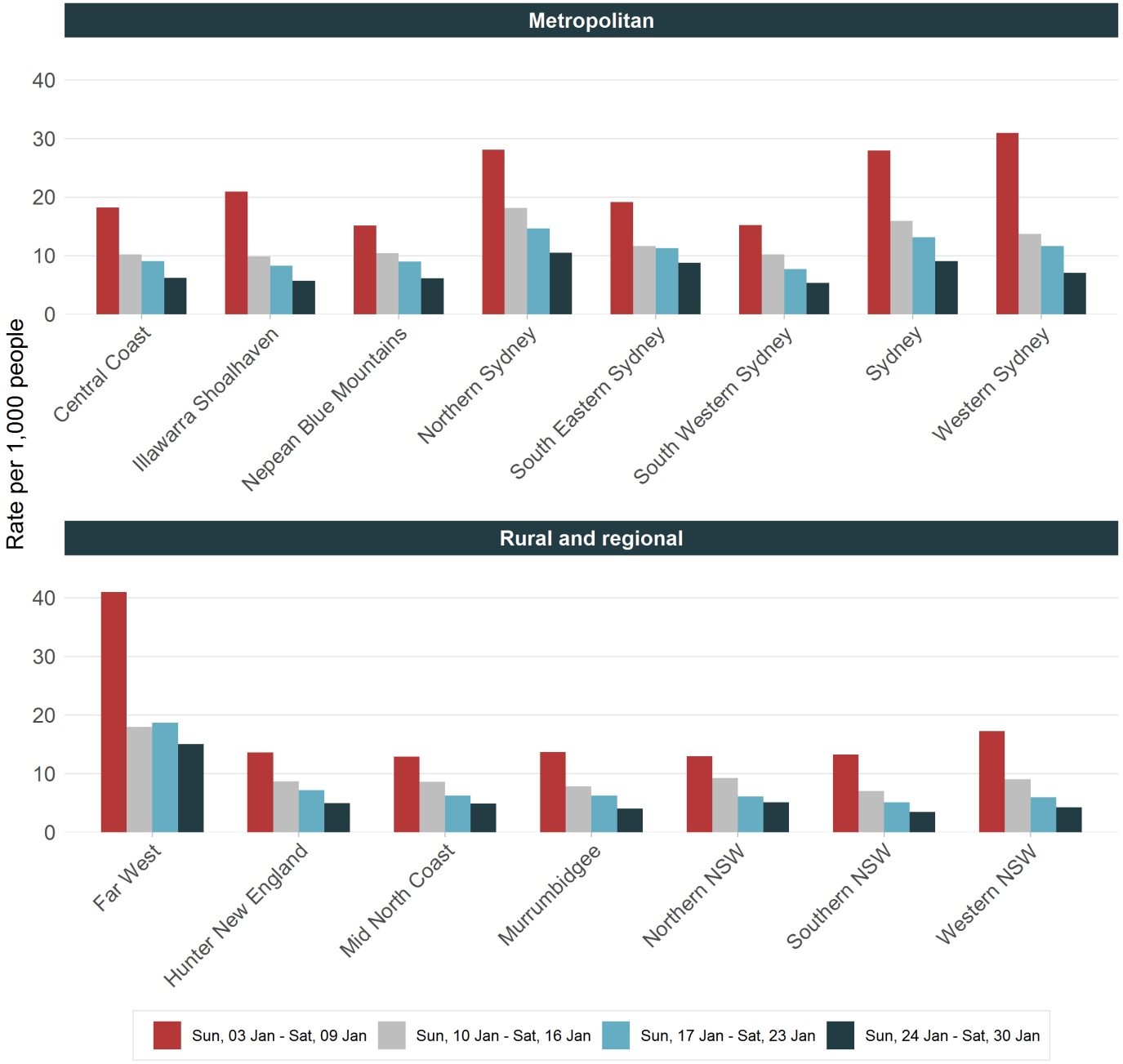


Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

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. This includes PCR testing of returned travellers in hotel quarantine and excludes saliva testing for people working in hotel quarantine. 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

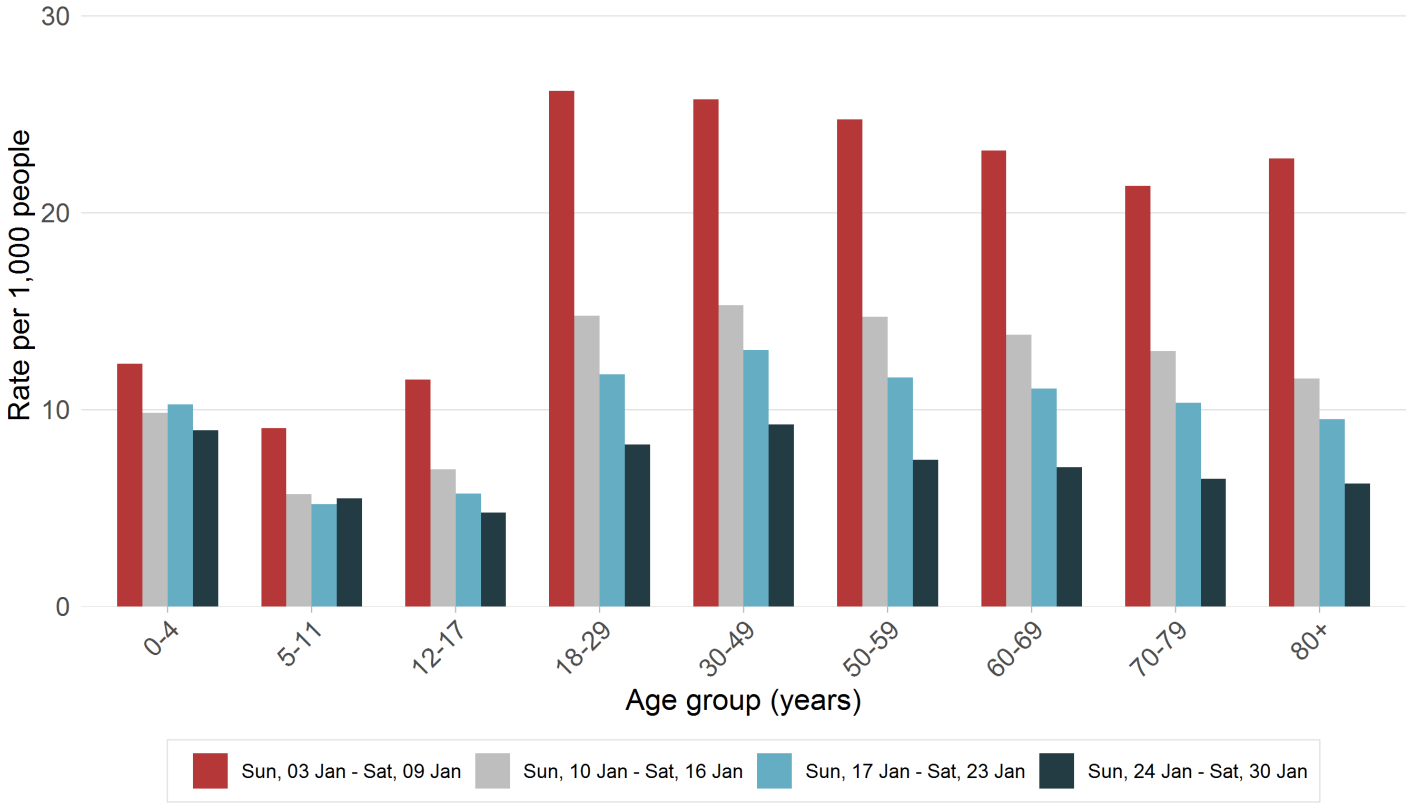


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide testing rates in the week ending 30 January decreased for the third week in a row (8 per 1,000 vs 11 per 1,000 people). This corresponds to a reduction in testing for other respiratory viruses at sentinel laboratories across the state.

Testing by age group

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

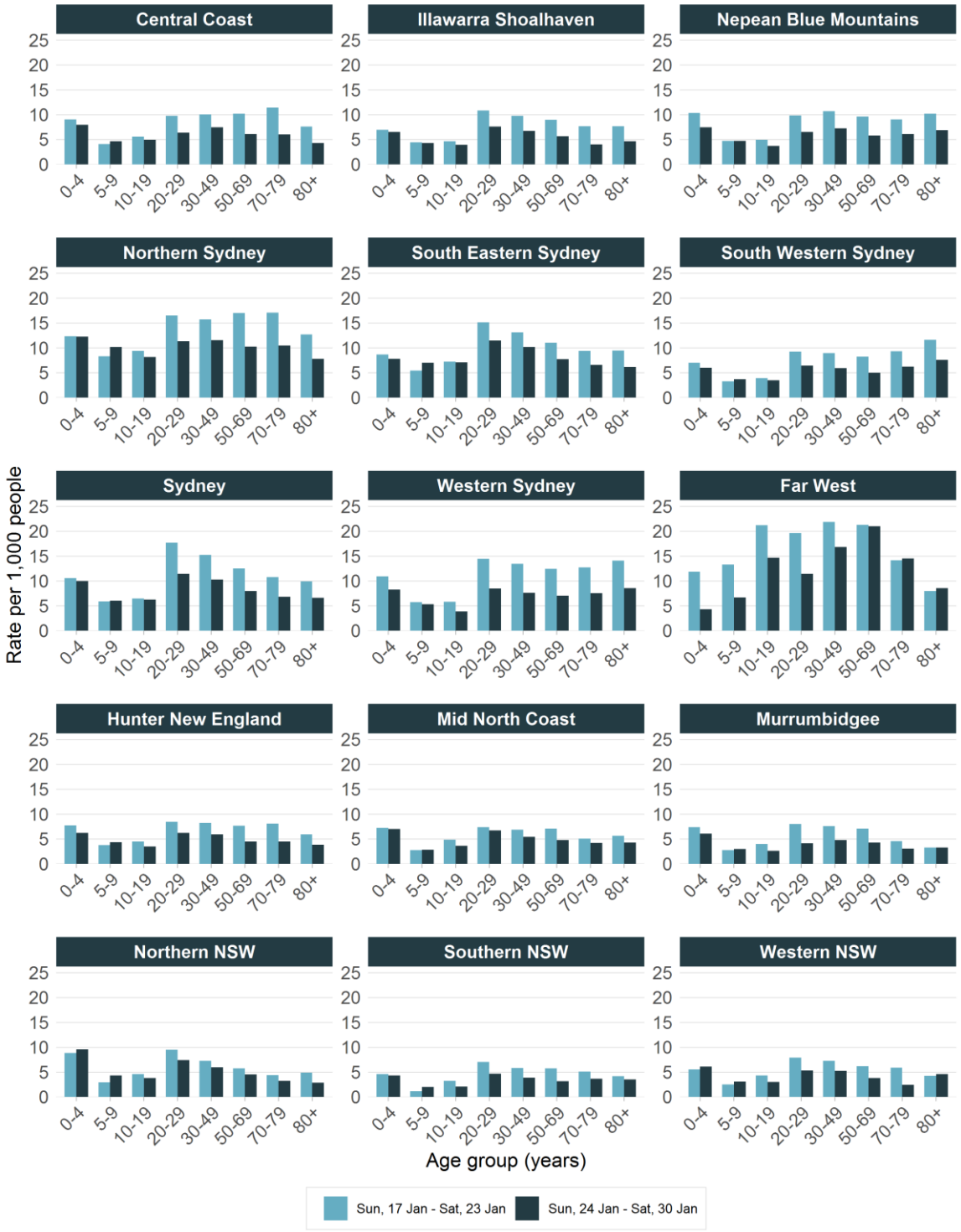


Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: Testing rates in adults decreased significantly in the week ending 30 January. Testing rates in children aged 0-4 and 12-17 years decreased to a lesser extent, while testing rates in children aged 5-11 years increased slightly.

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 steady across all LHDs and most age groups in the week ending 30 January. Testing rates in children aged 5-9 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, 09 January to 30 January 2021

Locally-acquired cases	Week ending				Total
	30 Jan	23 Jan	16 Jan	09 Jan	
Cases who are linked to a known case or cluster	0	0	11	16	27
Cases with no epidemiological links to other cases or clusters	0	0	3	2	5
Total	**0**	**0**	**14**	**18**	**32**

Interpretation: There were no new cases reported in the week ending 30 January. The majority of cases in the last four weeks (84%, 27/32) were epidemiologically linked to a known case or cluster.

Table 3. Locally-acquired COVID-19 cases by LHD of residence and week reported, 09 January to 30 January 2021

Local Health District	Week ending				Total	Days since last case reported
	30 Jan	23 Jan	16 Jan	09 Jan		
Central Coast	0	0	0	0	0	34
Illawarra Shoalhaven	0	0	0	0	0	32
Nepean Blue Mountains	0	0	0	0	0	137
Northern Sydney	0	0	2	3	5	20
South Eastern Sydney	0	0	0	0	0	30
South Western Sydney	0	0	0	1	1	27
Sydney	0	0	2	6	8	22
Western Sydney	0	0	10	8	18	14
Far West	0	0	0	0	0	315
Hunter New England	0	0	0	0	0	178
Mid North Coast	0	0	0	0	0	303
Murrumbidgee	0	0	0	0	0	147
Northern NSW	0	0	0	0	0	187
Southern NSW	0	0	0	0	0	110
Western NSW	0	0	0	0	0	178
Total	**0**	**0**	**14**	**18**	**32**	**205**

Interpretation: There were no locally-acquired cases reported in the week ending 30 January. The majority of locally-acquired cases reported in the four weeks up to 30 January were residents of Western Sydney LHD (56%; 18/32), Sydney (25%, 8/32) and Northern Sydney LHD (16%, 5/32).

Table 4. Locally acquired COVID-19 cases with no identified links to known cases or cluster by LHD of residence and week reported, 09January to 30 January

Local Health District	Week ending				Total
	30 Jan	23 Jan	16 Jan	09 Jan	
Central Coast	0	0	0	0	0
Illawarra Shoalhaven	0	0	0	0	0
Nepean Blue Mountains	0	0	0	0	0
Northern Sydney	0	0	1	1	2
South Eastern Sydney	0	0	0	0	0
South Western Sydney	0	0	0	0	0
Sydney	0	0	0	0	0
Western Sydney	0	0	2	1	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	0	**3**	**2**	**5**

Interpretation: There have been five 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 linked three of the five cases to the Avalon cluster and two 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 of a case linked to the Berala cluster was on 8 January in a person who 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 associated with 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 an unlinked case with the Berala sequence was on 16 January and was also notified on the same day.

Avalon cluster

The latest symptom onset date of a case linked to the Avalon cluster was on 30 December in two people; 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 of an unlinked case with the Avalon sequence was 3 January and was notified on 7 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 home 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 30 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 30 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 30 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 30 January.

Table 5. 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	157	0%
18-29 years	0	1,108	0%
30-49 years	0	1,574	0%
50-59 years	1	673	0.1%
60-69 years	4	636	0.6%
70-79 years	15	382	3.9%
80+ years	36	163	22.1%
Total	**56**	**4,917**	**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 30 January, 115 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 9 detections – these samples were taken from the Warriewood (two samples detected), Liverpool (3 samples detected), Bondi and Malabar (two samples detected) treatment plants and the sewage network at Minto. There were no regional detections.

The table below shows results for previous weeks from various sites across NSW.

Table 6. Locations with positive SARS-CoV-2 detections in sewage samples since November 2020 for the week ending 30 January 2021

		28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan
Pop.	**Location**	48	49	50	51	52	53	1	2	3	4
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										

		28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan
Pop.	**Location**	48	49	50	51	52	53	1	2	3	4
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,068	Bombo										
7,200	Gerringong/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	c
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										
10,715	Hawks Nest										
225,834	Hunter – Burwood Beach										
60,000	Hunter – Shortland										
115,000	Hunter – Belmont										
60,000	Hunter – Morpeth										
58,300	Hunter – Boulder Bay										
35,000	Hunter – Raymond Terrace										
32,000	Hunter – Dora Creek										

		28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan
Pop.	**Location**	48	49	50	51	52	53	1	2	3	4
42,000	Hunter – Toronto										
70,000	Hunter – Edgeworth										
2,500	Hunter – Karuah										
15,500	South Lismore										
18,958	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										

not sampled or not analysed
SARS-CoV-2 not detected
SARS-CoV-2 detected

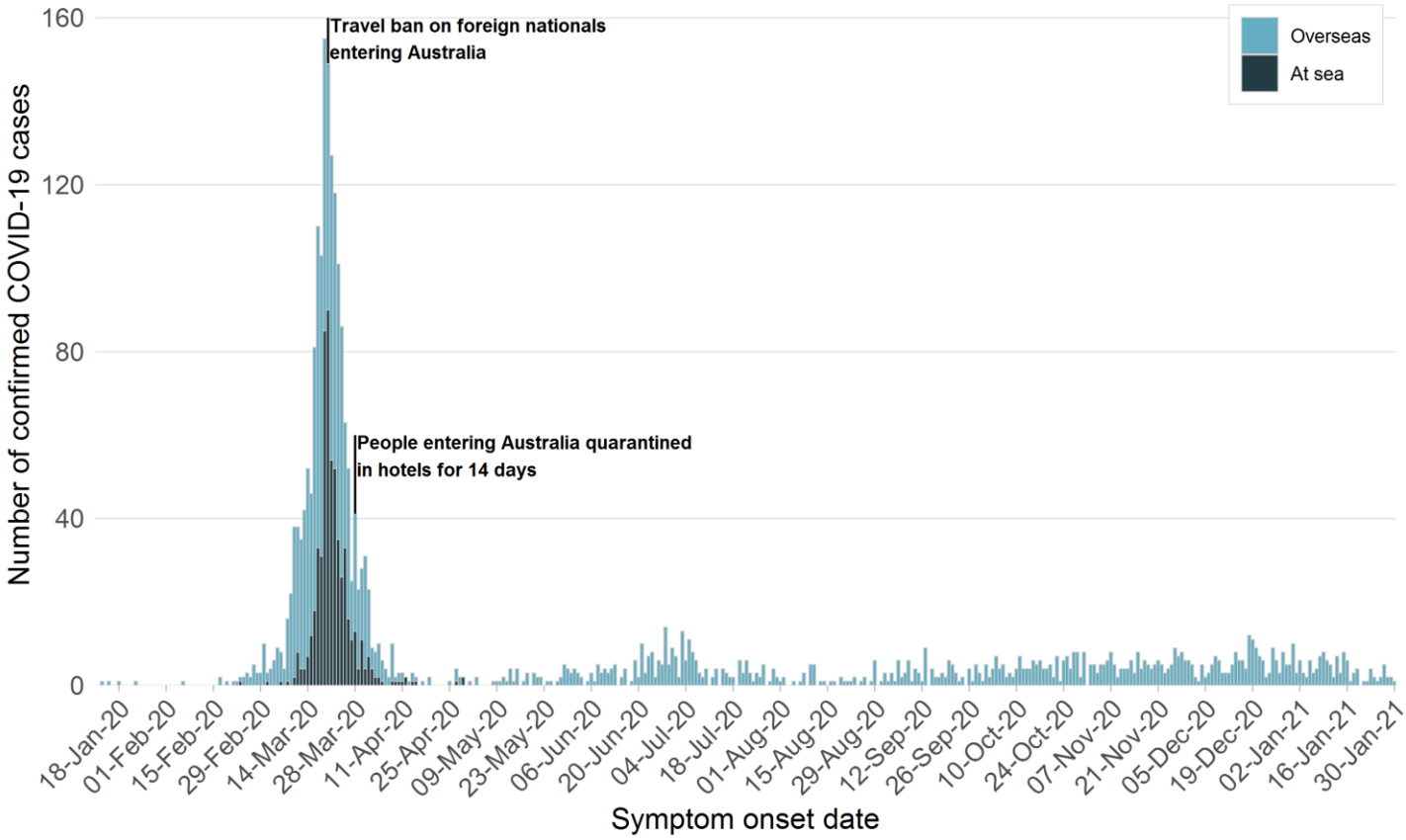
Interpretation: In the last week, there were nine detections of SARS-CoV-2. The Malabar and Bondi treatment plants serve over two million people, including quarantine hotels and known cases. All detections were associated with known locally-acquired cases and returned travellers.

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 & illness onset, NSW,30 January



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

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 30 January, as 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 30 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 118 COVID-positive travellers who have arrived in NSW. The table below lists the top 10 countries of acquisition for these travellers.

Table 7. Top 10 countries of acquisition for overseas travellers that have tested positive in the last four weeks, 09 January to 30 January 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
USA	44 (37%)
United Kingdom	16 (14%)
United Arab Emirates	11 (9%)
Lebanon	8 (7%)
South Africa	8 (7%)
India	5 (4%)
Bangladesh	3 (3%)
Pakistan	2 (2%)
Russian Federation	2 (2%)
Sweden	2 (2%)
Other	17 (14%)
Total	118 (100%)

Interpretation: In the last four weeks, travellers returning from the United States accounted for the largest number of overseas acquired cases (44, 37%), followed by travellers returning from the United Kingdom (16, 14%), and United Arab Emirates (11, 9%).

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, 30 returned travellers have tested positive with the two Variants of Concern.

Table 8. Overseas travellers that have tested positive by VoC and week of COVID-19 diagnosis, 30 November 2020 to 30 January 2021

	Previous four weeks (week ending)				4-week Total	Total since 30 November
	30-Jan	23-Jan	16-Jan	9-Jan		
Overseas acquired cases	18	18	46	36	118	317
Cases with VoC	2	3	7	8	12	29
B.1.1.7	1	2	5	4	8	21
B.1.351	1	1	2	4	20	8
% of overseas cases with VoC	11%	17%	15%	22%	17%	9.1%

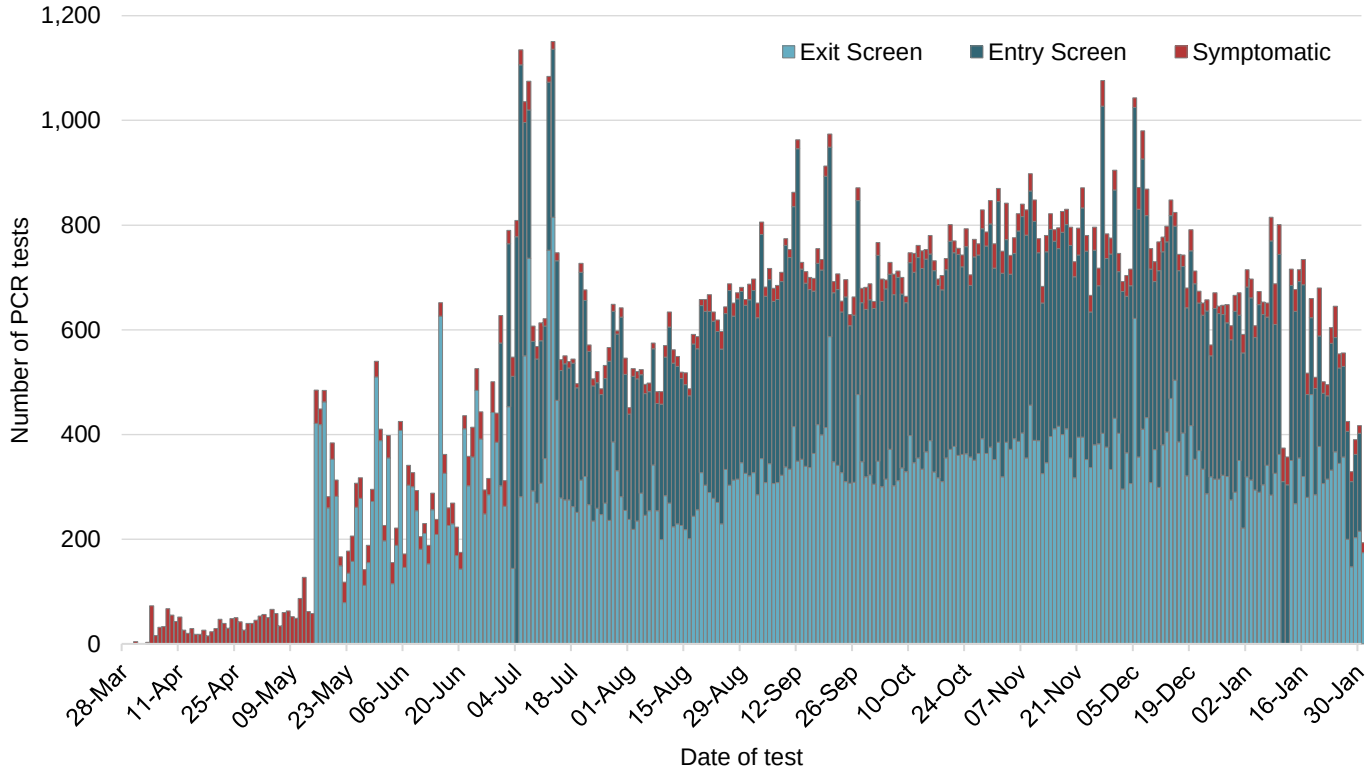
Interpretation: In the week ending 30 January, 11% of returned travellers in hotel quarantine have been identified as having COVID-19 Variants of Concern (B.1.1.7 and B.1.351). Since 30 November, most returned travellers acquired their VoC from United Kingdom (12) followed by South Africa (7), Lebanon (4), United Arab Emirates (3) and one case in each India and Nigeria. 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 additional to the two mandatory tests.

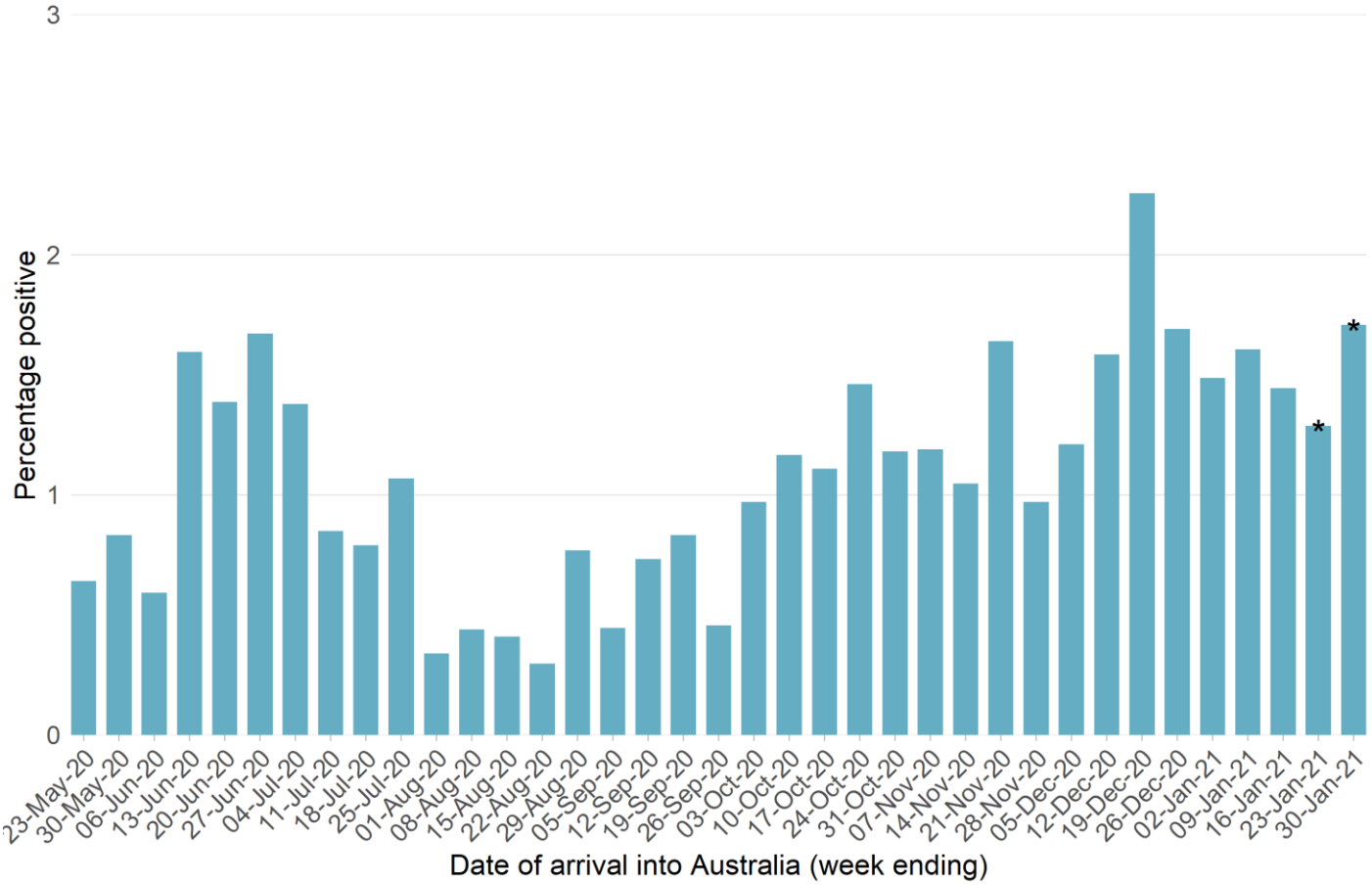
Since hotel quarantine began on 29 March, a total of 166,492 PCR tests have been conducted with 845 overseas acquired cases and 4 interstate acquired COVID-19 cases detected while in hotel quarantine. In the last four weeks, 7,408 returned travellers received an entry swab on day two in hotel quarantine and 8,186 returned travellers received an exit swab.

Figure 10. COVID-19 testing in returned travellers in hotel quarantine, reported from 21 March to 30 January, NSW, 2021



Interpretation: In the week ending 30 January, there were 3,329 tests of travellers conducted through the hotel quarantine screening programs.

Figure 11. 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 30 January, NSW, 2021



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

Interpretation: In the week ending 30 January, around 1.7% 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 24 January 2021

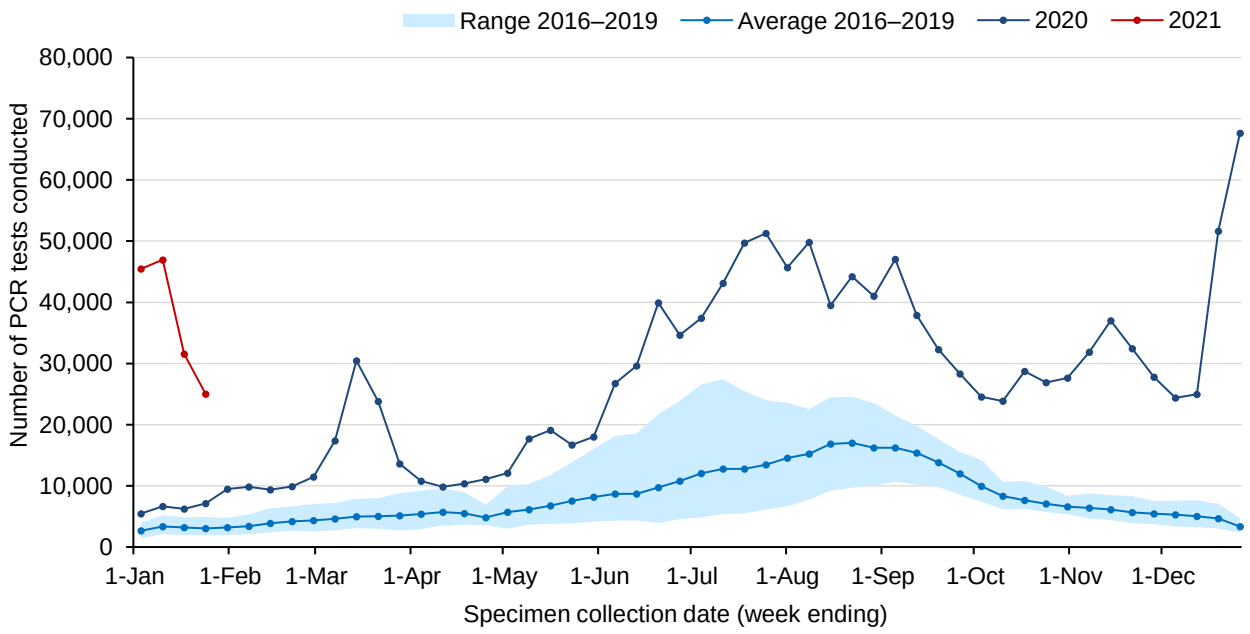
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 24 January 2021. A total of 148,979 influenza tests have been performed at participating laboratories in the four weeks from 28 December 2020 to 24 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 12. Testing for influenza by week, to 24 January 2021

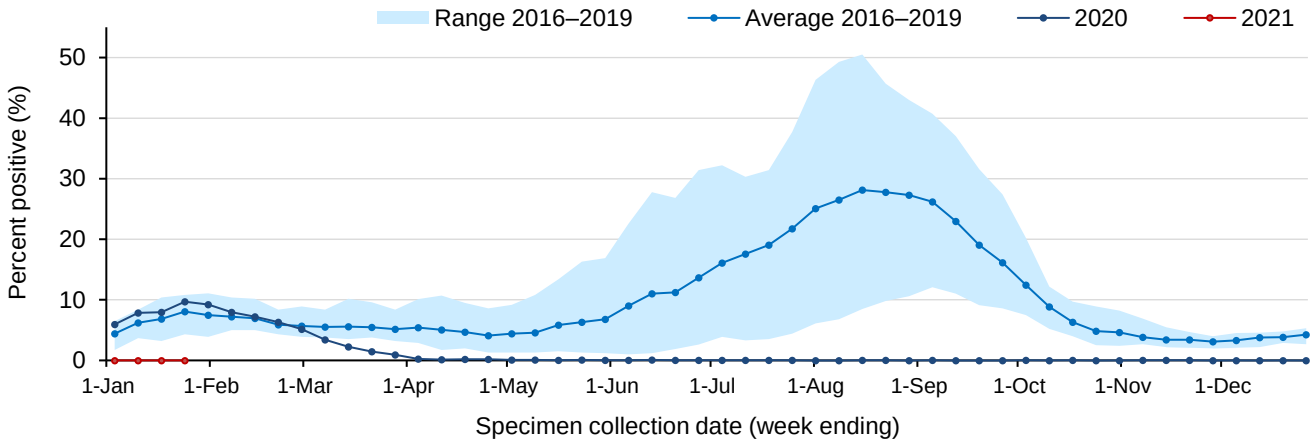


Interpretation: In the week ending 24 January, the number of influenza tests performed decreased significantly but continues to exceed the average for this time of year.

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 13. Proportion of tests positive for influenza, to 24 January 2021

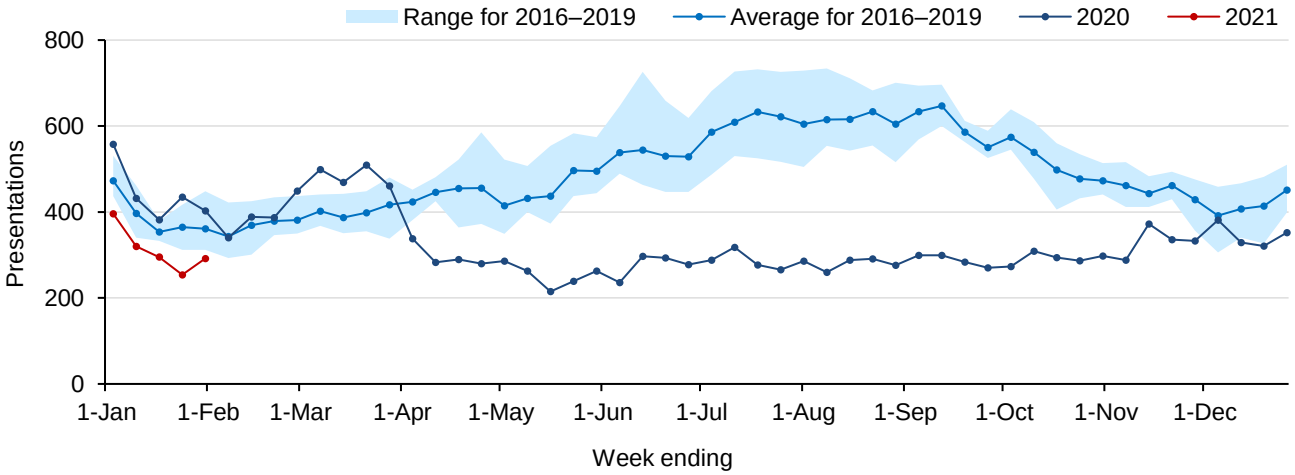


Interpretation: In the week ending 24 January, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year.

How are emergency department presentations for respiratory infections tracking?

The figure below shows weekly pneumonia presentations to Emergency Departments in NSW, using PHREDSS[2].
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 14. Emergency Department pneumonia presentations in NSW by week, to 31 January 2021



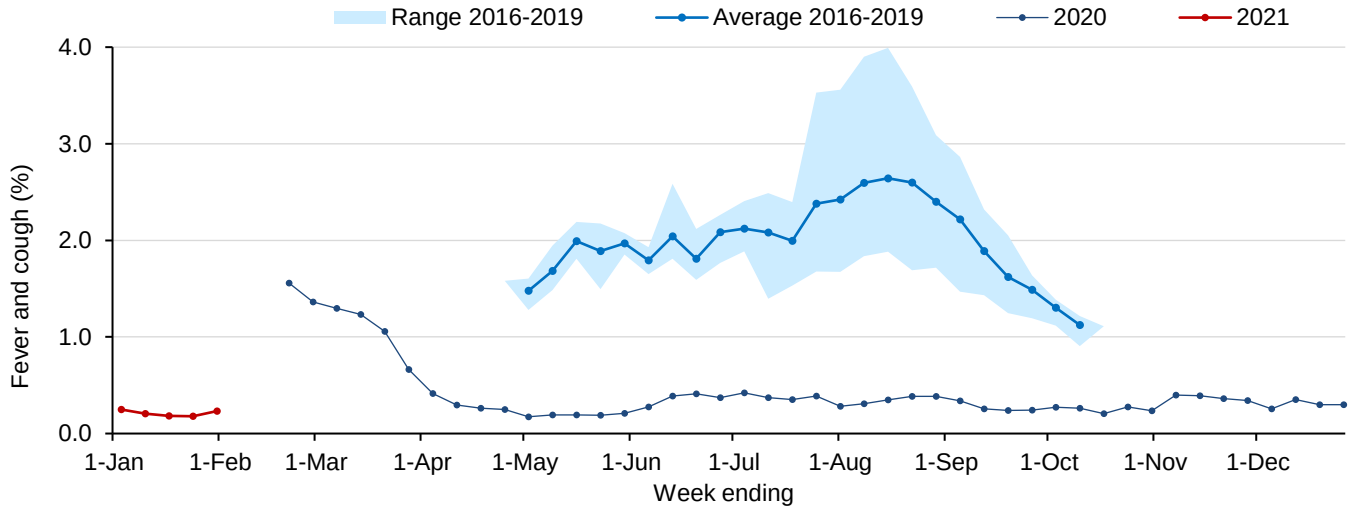
Interpretation: Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 31 January, pneumonia presentations increased while remaining 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 15. Proportion of FluTracker participants in NSW reporting influenza-like illness, to 31 January 2021



Interpretation: In NSW in the week ending 31 January of the 15,555 people surveyed, 36 people (0.23%) reported flu-like symptoms. In the last four weeks, 80% (98/122) 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	
		30-January		23-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]	2081	5.9	3208	9.09	172358	488.46
Far West	Balranald	5	2.14	30	12.83	595	254.49
	Broken Hill	267	15.28	416	23.8	7906	452.31
	Central Darling	3	1.63	8	4.35	496	269.71
	Wentworth	71	10.07	78	11.06	2942	417.13
	LHD Total[2]	346	11.48	532	17.65	11939	396.07
Hunter New England	Armidale Regional	131	4.26	219	7.12	11696	380
	Cessnock	199	3.32	273	4.55	18414	306.98
	Dungog	23	2.44	56	5.94	2870	304.57
	Glen Innes Severn	26	2.93	33	3.72	2170	244.62
	Gunnedah	44	3.47	47	3.71	3831	302.11
	Gwydir	9	1.68	14	2.62	818	152.81
	Inverell	60	3.55	78	4.62	4869	288.28
	Lake Macquarie	1047	5.08	1681	8.16	104491	507.48
	Liverpool Plains	24	3.04	33	4.18	2477	313.43
	Maitland	461	5.41	861	10.11	46680	548.11
	Mid-Coast	312	3.32	511	5.45	29147	310.62
	Moree Plains	23	1.73	61	4.6	3511	264.76
	Muswellbrook	69	4.21	70	4.27	5362	327.41
	Narrabri	29	2.21	38	2.89	3103	236.24
	Newcastle	1141	6.89	1609	9.72	102743	620.54
	Port Stephens	307	4.18	496	6.75	33851	460.68
	Singleton	117	4.99	184	7.84	11104	473.3
	Tamworth Regional	273	4.37	466	7.45	26245	419.64
	Tenterfield	12	1.82	14	2.12	1260	191.08
	Upper Hunter Shire	52	3.67	85	5.99	4808	339.07
	Uralla	17	2.83	12	2	1451	241.35
	Walcha	7	2.23	9	2.87	1051	335.35
	LHD Total[2]	4381	4.6	6848	7.19	421634	442.72
Illawarra Shoalhaven	Kiama	116	4.96	219	9.36	12182	520.91
	Shellharbour	363	4.96	581	7.93	37192	507.86
	Shoalhaven	454	4.3	731	6.92	41313	391.04
	Wollongong	1367	6.27	1958	8.98	113917	522.28
	LHD Total[2]	2300	5.48	3489	8.31	204604	487.6
Mid North Coast	Bellingen	58	4.46	82	6.31	4455	342.8
	Coffs Harbour	335	4.34	486	6.29	24350	315.1
	Kempsey	153	5.14	191	6.42	10585	355.86
	Nambucca	84	4.24	120	6.06	5888	297.3
	Port Macquarie-Hastings	402	4.76	527	6.23	31305	370.36
	LHD Total[2]	1032	4.57	1406	6.23	76583	339.37

Local Health District	Local Government Area	Week ending				Total since January 2020	
		30-January		23-January			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Murrumbidgee	Albury	209	3.85	401	7.38	20716	381.14
	Berrigan	16	1.83	27	3.09	2168	247.77
	Bland	13	2.18	22	3.68	1707	285.83
	Carrathool	1	0.36	7	2.5	393	140.41
	Coolamon	16	3.69	33	7.6	1487	342.55
	Cootamundra-Gundagai Regional	36	3.2	55	4.9	3491	310.73
	Edward River	34	3.74	35	3.85	2906	319.9
	Federation	46	3.7	61	4.9	3368	270.8
	Greater Hume Shire	37	3.44	43	3.99	3603	334.73
	Griffith	111	4.11	232	8.58	10575	391.25
	Hay	4	1.36	11	3.73	613	207.87
	Hilltops	56	2.99	112	5.99	6095	325.87
	Junee	27	4.04	26	3.89	1489	222.8
	Lachlan[1]	8	1.32	16	2.63	1103	181.56
	Leeton	28	2.45	57	4.98	3137	274.09
	Lockhart	13	3.96	14	4.26	902	274.58
	Murray River	3	0.25	17	1.4	973	80.29
	Murrumbidgee	8	2.04	18	4.6	923	235.64
	Narrandera	7	1.19	14	2.37	1287	218.17
	Snowy Valleys	46	3.18	64	4.42	4889	337.66
	Temora	16	2.54	32	5.07	1459	231.33
	Wagga Wagga	413	6.33	569	8.72	29904	458.24
	LHD Total[2]	1143	3.83	1857	6.23	102456	343.69
Nepean Blue Mountains	Blue Mountains	584	7.38	812	10.26	52156	659.22
	Hawkesbury	373	5.54	578	8.59	36190	537.77
	Lithgow	54	2.5	98	4.54	7561	349.97
	Penrith	1275	5.99	2070	9.72	127062	596.6
	LHD Total[2]	2270	5.81	3536	9.04	221195	565.73
Northern NSW	Ballina	244	5.47	262	5.87	16512	369.99
	Byron	230	6.56	299	8.52	16100	458.94
	Clarence Valley	180	3.48	234	4.53	13468	260.69
	Kyogle	27	3.07	44	5	2114	240.34
	Lismore	229	5.24	285	6.52	17070	390.69
	Richmond Valley	110	4.69	168	7.16	7839	334.07
	Tenterfield	12	1.82	14	2.12	1260	191.08
	Tweed	481	4.96	608	6.27	28948	298.43
	LHD Total[2]	1503	4.84	1901	6.13	102344	329.76
Northern Sydney	Hornsby	1039	6.83	1570	10.32	80749	531.04
	Hunters Hill	234	15.62	308	20.56	18162	1212.42
	Ku-ring-gai	1481	11.65	1964	15.45	105236	827.63
	Lane Cove	672	16.74	897	22.34	51954	1293.84
	Mosman	269	8.68	437	14.11	21892	706.63
	North Sydney	568	7.57	845	11.26	40329	537.57

Local Health District	Local Government Area	Week ending				Total since January 2020	
		30-January		23-January			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Northern Beaches	3062	11.2	5279	19.3	289138	1057.18
	Parramatta[1]	1439	5.59	2544	9.89	118696	461.5
	Ryde	973	7.41	1430	10.89	73497	559.89
	Willoughby	609	7.5	806	9.93	40567	499.66
	LHD Total[2]	9215	9.64	14002	14.65	745043	779.4
South Eastern Sydney	Bayside	1048	5.87	1578	8.85	78741	441.38
	Georges River	754	4.73	1203	7.54	66689	418.19
	Randwick	1700	10.92	2075	13.33	108199	695.15
	Sutherland Shire	1683	7.3	2372	10.29	141900	615.32
	Sydney[1]	2401	9.75	3831	15.55	175526	712.53
	Waverley	924	12.44	1237	16.65	61929	833.56
	Woollahra	793	13.35	1023	17.23	52076	876.89
	LHD Total[2]	7788	8.12	10843	11.31	573511	597.97
South Western Sydney	Camden	716	7.06	1128	11.12	76084	750.06
	Campbelltown	931	5.45	1631	9.54	102223	597.99
	Canterbury-Bankstown[1]	1843	4.88	3207	8.49	176700	467.56
	Fairfield	726	3.43	1101	5.2	80780	381.59
	Liverpool	1113	4.89	1739	7.64	126143	554.27
	Wingecarribee	290	5.67	510	9.97	32152	628.78
	Wollondilly	223	4.2	332	6.25	21965	413.27
	LHD Total[2]	4891	4.71	8012	7.71	526643	507.1
Southern NSW	Bega Valley	103	2.99	176	5.11	11629	337.31
	Eurobodalla	148	3.85	230	5.98	17742	461.15
	Goulburn Mulwaree	130	4.18	188	6.04	12091	388.38
	Queanbeyan-Palerang Regional	192	3.14	280	4.58	16745	274.06
	Snowy Monaro Regional	75	3.61	107	5.15	7413	356.48
	Upper Lachlan Shire	33	4.09	59	7.32	2623	325.47
	Yass Valley	38	2.22	75	4.39	4085	239.07
	LHD Total[2]	719	3.31	1115	5.14	72358	333.34
Sydney	Burwood	169	4.16	383	9.43	16386	403.48
	Canada Bay	693	7.21	1268	13.2	62129	646.68
	Canterbury-Bankstown[1]	1843	4.88	3207	8.49	176700	467.56
	Inner West	1677	8.35	2947	14.68	145442	724.27
	Strathfield	323	6.88	539	11.49	28441	606.08
	Sydney[1]	2401	9.75	3831	15.55	175526	712.53
	LHD Total[2]	5293	7.6	9169	13.16	449843	645.61
Western NSW	Bathurst Regional	242	5.55	309	7.08	20520	470.45
	Blayney	24	3.25	55	7.45	3369	456.57
	Bogan	7	2.71	10	3.88	937	363.18
	Bourke	5	1.93	7	2.7	558	215.44
	Brewarrina	5	3.1	2	1.24	338	209.81
	Cabonne	32	2.35	65	4.77	3333	244.46
	Cobar	12	2.58	16	3.43	1142	245.17

Local Health District	Local Government Area	Week ending				Total since January 2020	
		30-January		23-January			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Coonamble	13	3.28	13	3.28	1001	252.91
	Cowra	27	2.12	62	4.87	3667	287.77
	Dubbo Regional	248	4.62	348	6.48	19795	368.49
	Forbes	28	2.83	38	3.84	2351	237.33
	Gilgandra	13	3.07	25	5.9	1022	241.09
	Lachlan[1]	8	1.32	16	2.63	1103	181.56
	Mid-Western Regional	110	4.36	153	6.06	9030	357.61
	Narromine	27	4.14	20	3.07	1868	286.63
	Oberon	10	1.85	23	4.25	1805	333.58
	Orange	265	6.24	386	9.09	22992	541.61
	Parkes	31	2.09	56	3.77	4400	296.56
	Walgett	7	1.18	24	4.03	1671	280.7
	Warren	16	5.93	22	8.16	1391	515.76
	Warrumbungle Shire	31	3.34	54	5.82	2837	305.78
	Weddin	8	2.21	10	2.77	850	235.26
	LHD Total[2]	1167	4.09	1708	5.99	105656	370.71
Western Sydney	Blacktown	2413	6.44	4190	11.19	203305	542.94
	Cumberland	1508	6.24	3319	13.74	132308	547.81
	Parramatta[1]	1439	5.59	2544	9.89	118696	461.5
	The Hills Shire	1525	8.57	2619	14.72	129746	729.04
	LHD Total[2]	6628	6.29	12310	11.69	565915	537.21
NSW Total[3]		61921	7.65	86961	10.75	4636940	573.18

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

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

[3]NSW 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 24 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 – 24 January 2021

Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	148,979	2	0.00%	0	0.00%	346	73	2,689	2,740	14	409
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
24 January	25,010	0	0.00%	0	0.00%	90	9	453	713	1	110

Testing numbers in NSW from January – 27 December 2020

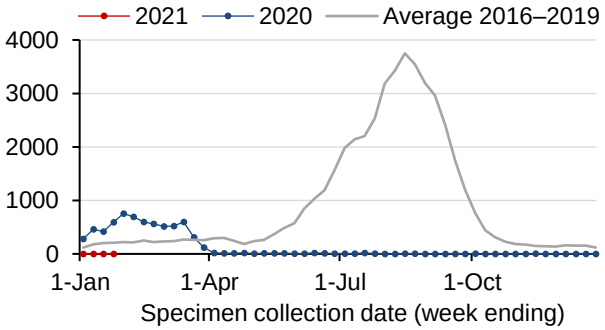
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-	Para-influenza	RSV	Rhino-	HMPV **	Entero-
		No.	%Pos.	No.	%Pos.	virus			virus		virus
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	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

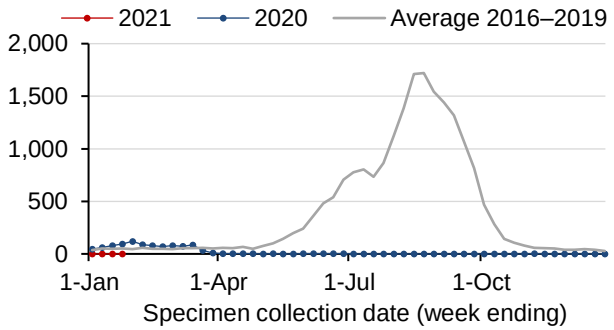
APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 24 January 2021

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.

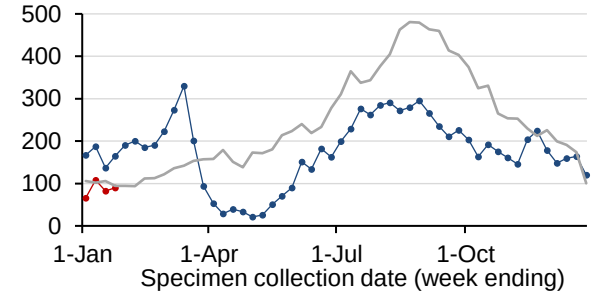
Influenza A



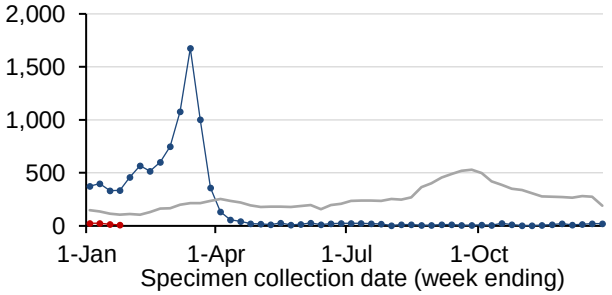
Influenza B



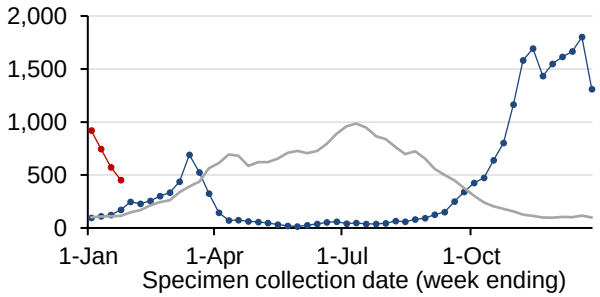
Adenovirus



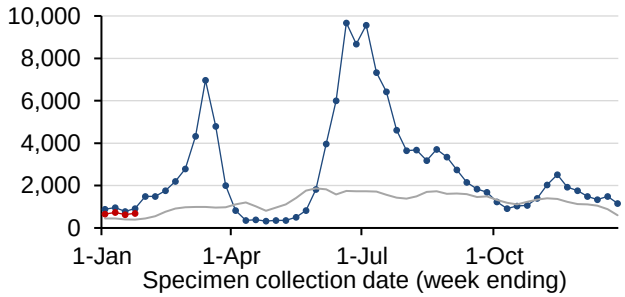
Parainfluenza



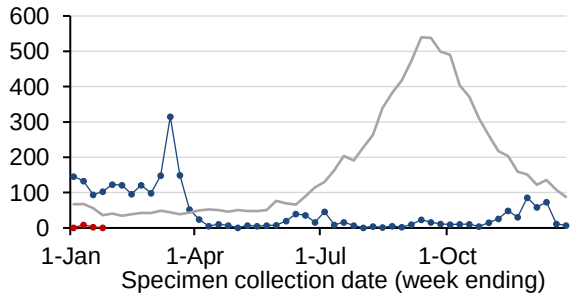
Respiratory syncytial virus (RSV)



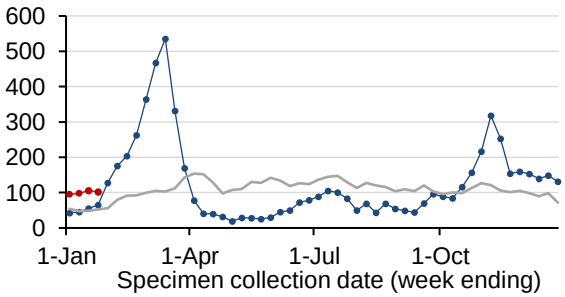
Rhinovirus



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.