

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 8, ENDING 27 FEBRUARY 2021

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### SUMMARY FOR THE WEEK ENDING 27 FEBRUARY 2021

- There were no locally acquired cases reported in the week ending 27 February.
- Testing rates decreased compared to the previous week (down 17%). Testing rates decreased across all LHDs and in all age groups.
- The NSW Sewage Surveillance Program reported five detections – taken from the Bondi and Malabar treatment plants, and the sewage network at Auburn (within the North Head catchment), Paddington (within the Bondi catchment) and Botany (within the Malabar catchment). All detections were associated with known locally acquired cases and/or returned travellers.
- There were five COVID-19 Variants of Concern (VoC) cases detected in the week ending 27 February. There have been 44 returned travellers with a VoC since 30 November 2020.

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## SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

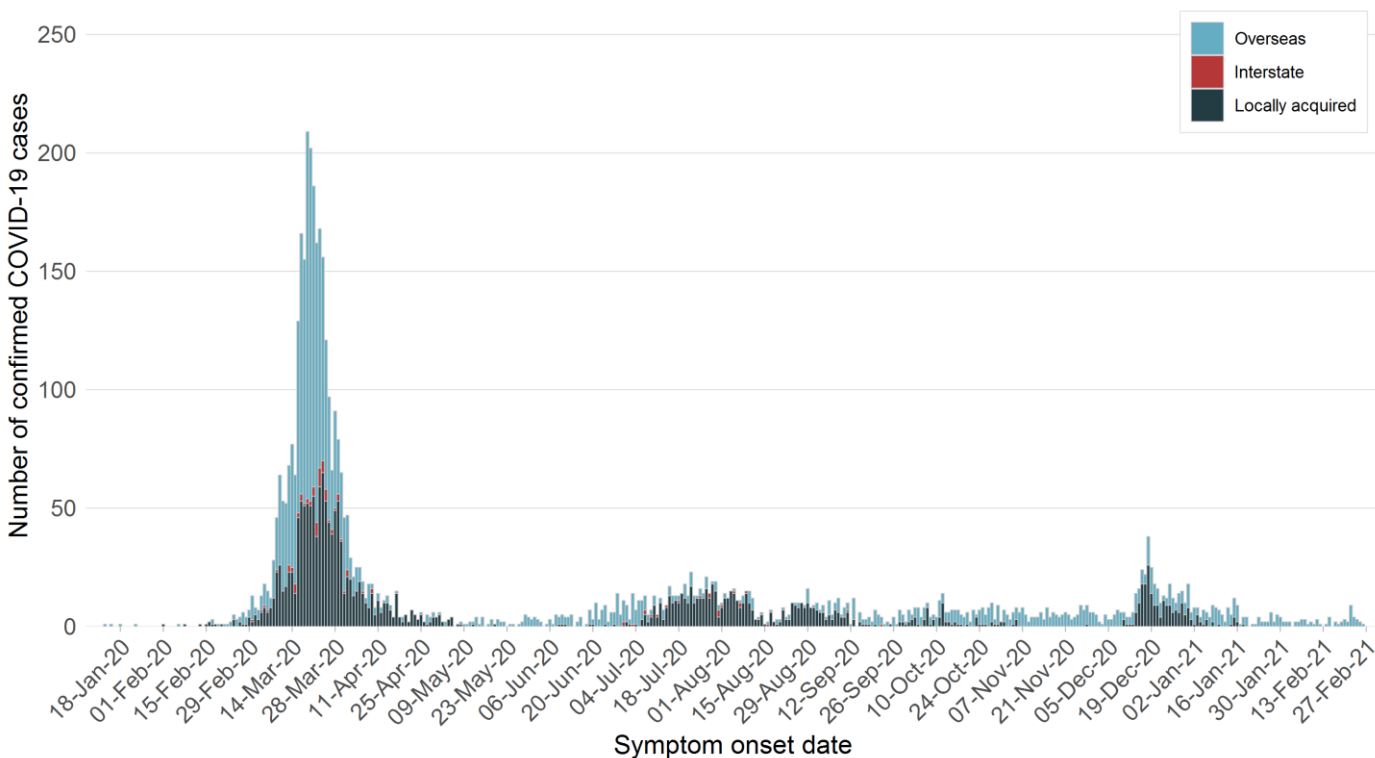
Table 1. COVID-19 cases and tests reported in NSW, up to 27 February 2021

	Week ending 27 Feb	Week ending 20 Feb	% change	Pandemic total
Number of cases	27	12	↑ 125%	4988
Overseas acquired	27	12	↑ 125%	2811
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	94,634	114,505	↓ 17%	5,023,894

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 & illness onset, NSW, week ending 27 February

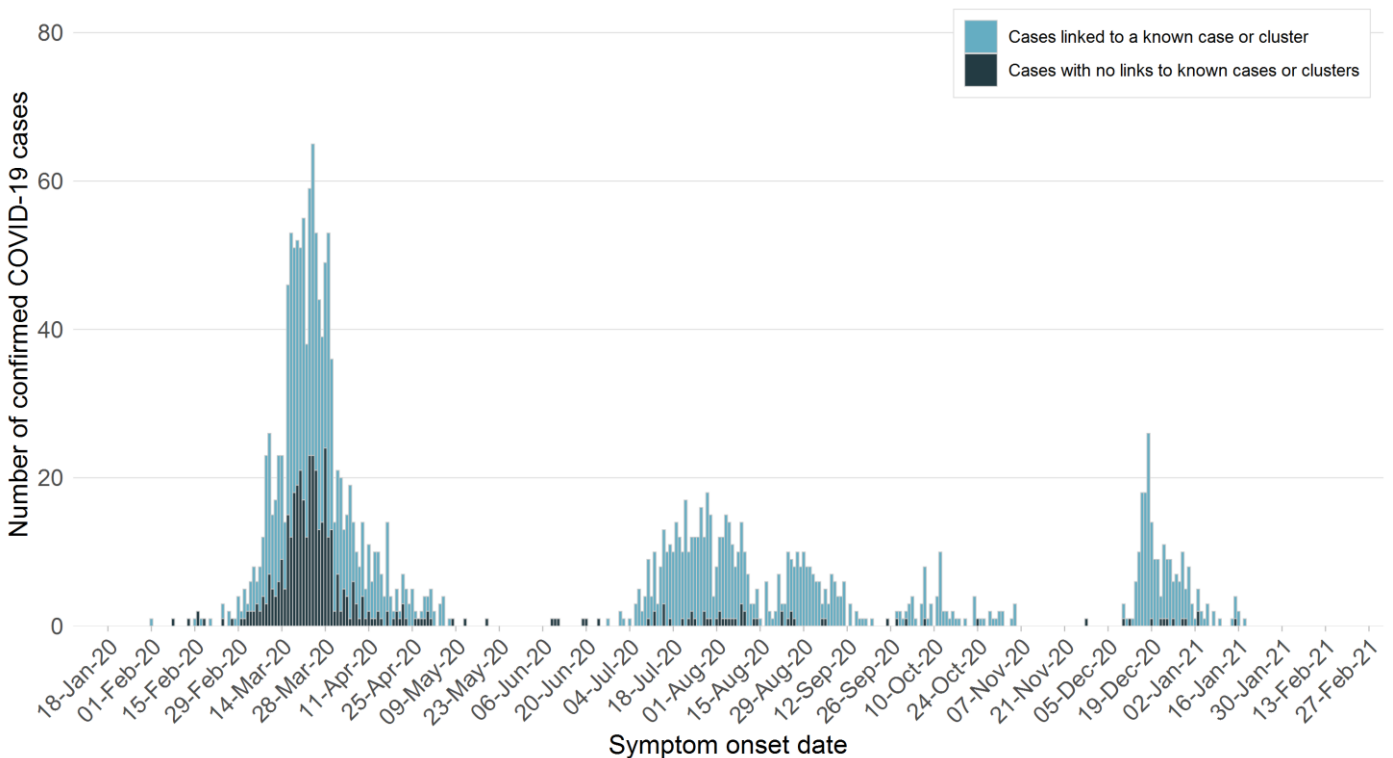


**Interpretation:** All COVID-19 cases diagnosed in the last four weeks in NSW were overseas acquired.

## 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 27 February



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

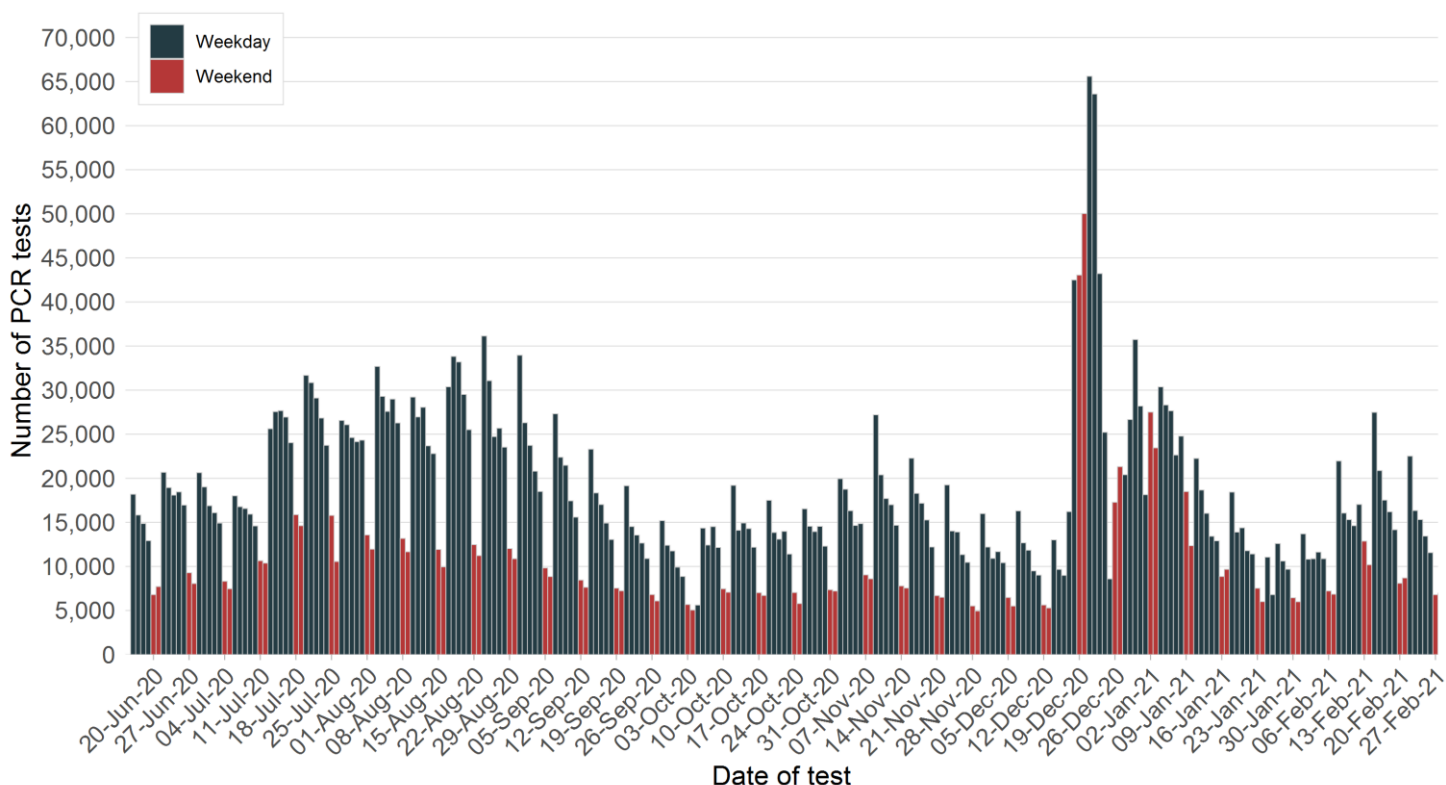
**Interpretation:** As at 27 February, 42 days have passed since the last locally acquired case recorded onset of symptoms in NSW. The last locally acquired case was notified on 16 January 2021.

## 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.<sup>1</sup> 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, 27 February



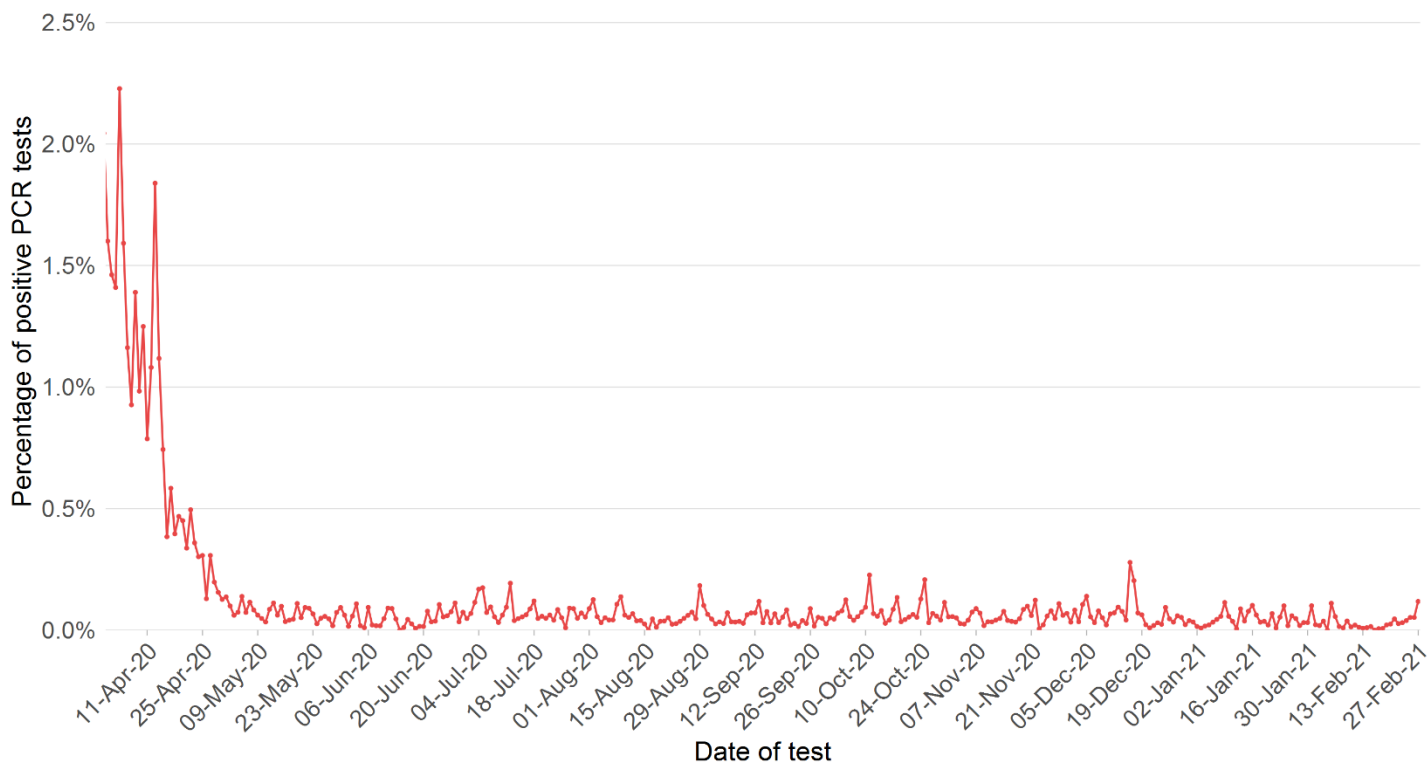
*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.*

**Interpretation:** Testing numbers decreased in the week ending 27 February (down 17%) compared to the previous week. The average daily testing rate of 1.7 per 1,000 people in NSW each day has decreased compared to the previous week of 2.0 per 1,000 people.

<sup>1</sup> 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, 27 February

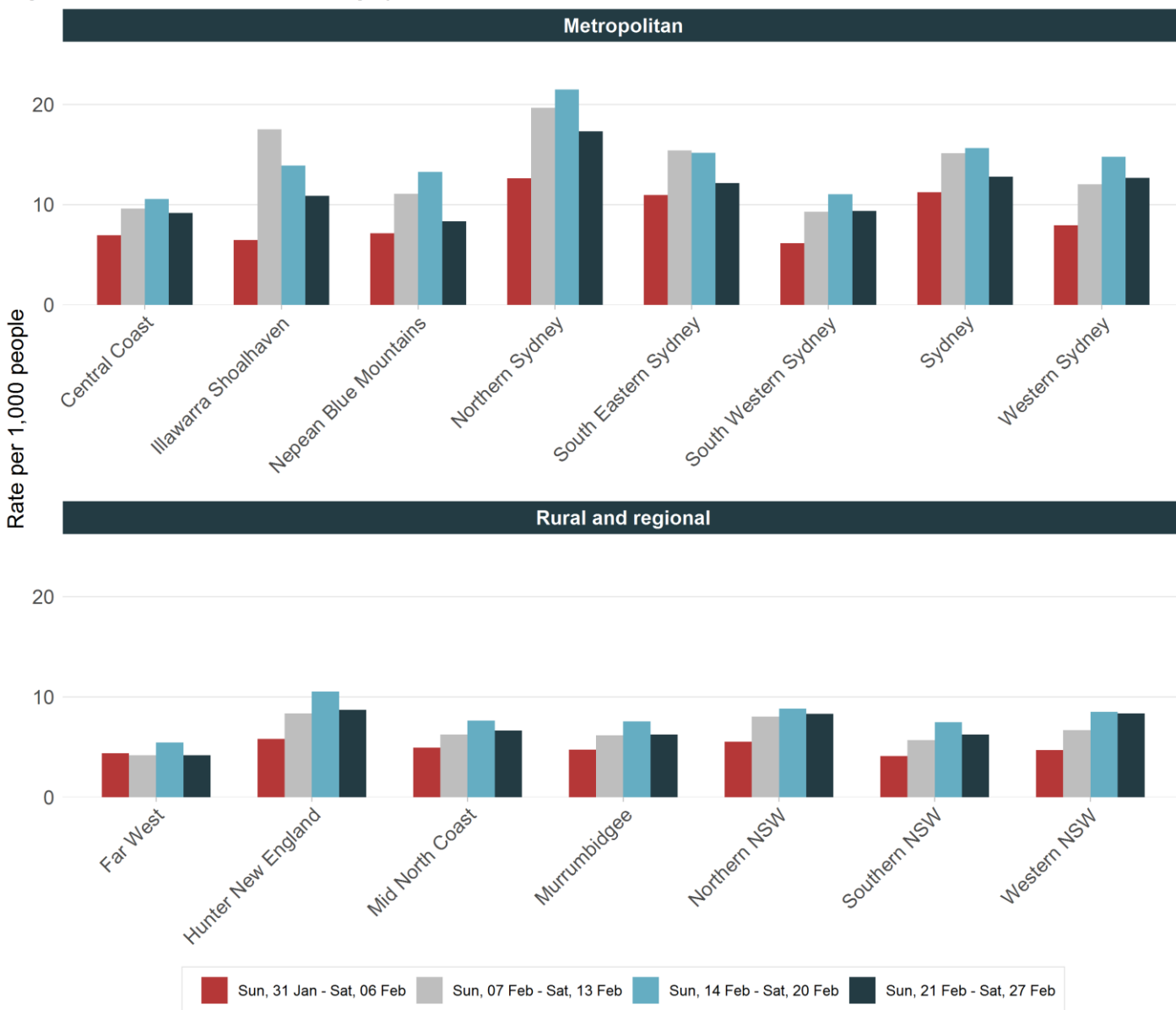


*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.*

**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.

## Testing by Local Health District

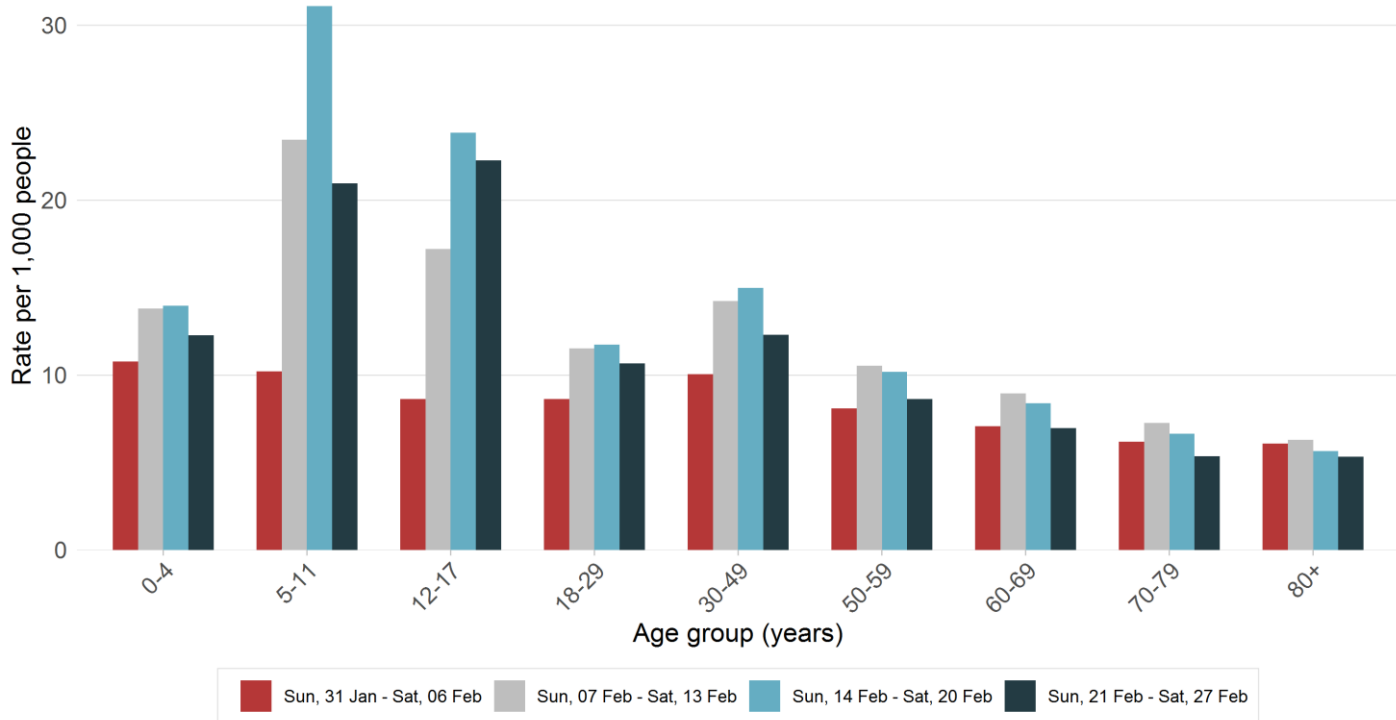
Figure 5. Rates of COVID-19 testing by LHD of residence and week



**Interpretation:** State-wide testing rates in the week ending 27 February were lower compared to the previous week (12 per 1,000 people compared to 14 per 1,000 people). The decrease in testing rates was seen across all LHDs.

## Testing by age group

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



**Interpretation:** In the week ending 27 February, testing rates have decreased in all age groups. Testing rates decreased significantly in children aged 5–11 years, after a surge in testing in the previous two weeks.



## 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, 31 January to 27 February 2021

Locally acquired cases	Week ending				Total
	27 Feb	20 Feb	13 Feb	6 Feb	
Cases who are linked to a known case or cluster	0	0	0	0	0
Cases with no epidemiological links to other cases or clusters	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Interpretation:** There were no new locally acquired cases reported in the week ending 27 February. No locally acquired cases have been reported in the last four weeks.

Table 3. Locally acquired COVID-19 cases by LHD of residence and week reported, 31 January to 27 February 2021

Local Health District	Week ending				Total	Days since last case reported
	27 Feb	20 Feb	13 Feb	6 Feb		
Central Coast	0	0	0	0	0	60
Illawarra Shoalhaven	0	0	0	0	0	56
Nepean Blue Mountains	0	0	0	0	0	165
Northern Sydney	0	0	0	0	0	47
South Eastern Sydney	0	0	0	0	0	56
South Western Sydney	0	0	0	0	0	50
Sydney	0	0	0	0	0	47
Western Sydney	0	0	0	0	0	42
Far West	0	0	0	0	0	331
Hunter New England	0	0	0	0	0	205
Mid North Coast	0	0	0	0	0	312
Murrumbidgee	0	0	0	0	0	173
Northern NSW	0	0	0	0	0	217
Southern NSW	0	0	0	0	0	131
Western NSW	0	0	0	0	0	212
<b>NSW</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>42</b>

**Interpretation:** There were no locally acquired cases reported in the week ending 27 February.

## 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.

## 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 COVID-19 cases in healthcare workers to identify ongoing risks in healthcare settings.

There were no locally acquired cases of COVID-19 reported in HCWs in the week ending the 27 February.

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](#)).

### Pregnant women

There were no cases of COVID-19 reported in pregnant women in the week ending 27 February.

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.

### Aboriginal people

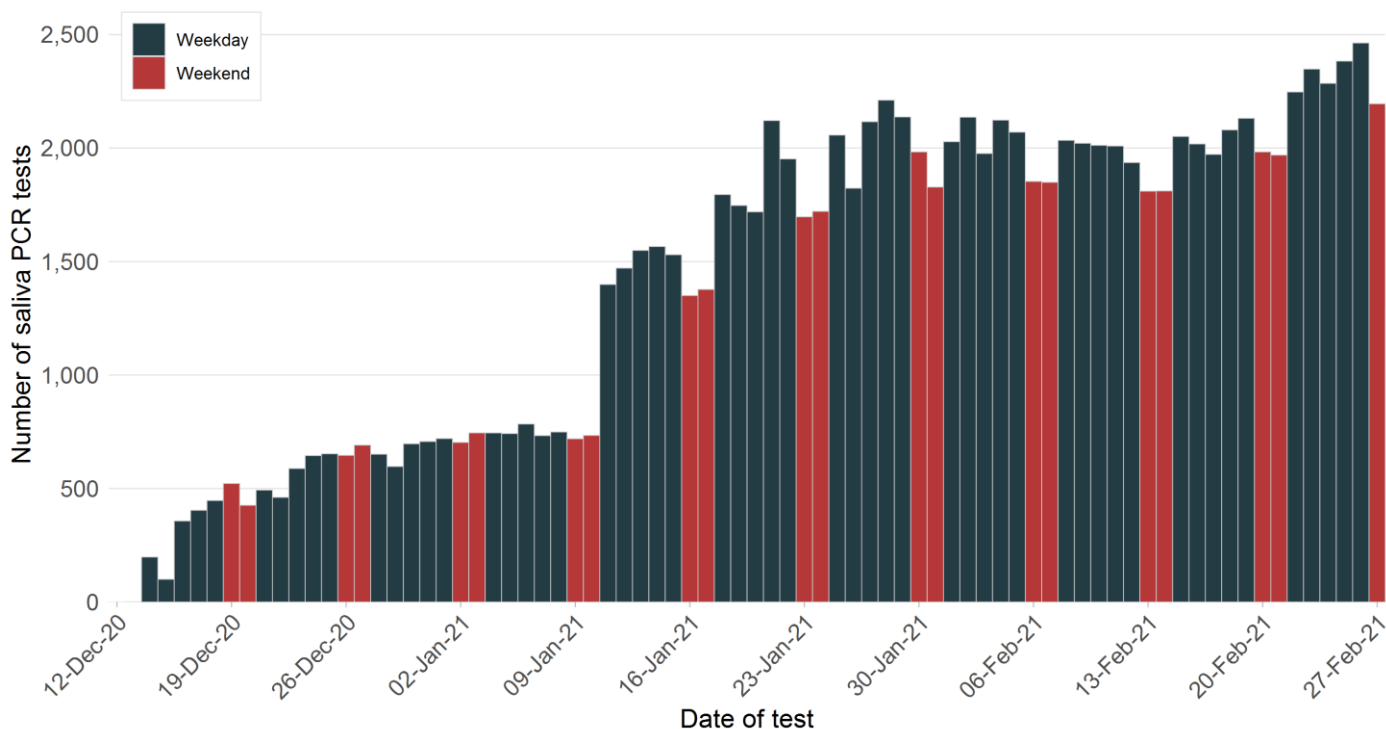
There were no cases of COVID-19 reported in an Aboriginal person in the week ending 27 February.

In total, 47 Aboriginal people have been diagnosed with COVID-19, representing 1% of all cases in NSW. 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.

## Quarantine workers – Screening Program

As the number of COVID-19 cases rise across the world and more people return to Australia from overseas, increased number of COVID-19 cases are seen in quarantine facilities. Routine screening of quarantine workers is implemented out of care and caution for staff members who work in NSW quarantine facilities. Screening involves a daily COVID-19 saliva PCR testing, which is painless and quick (see [NSW hotel quarantine worker surveillance and testing program](#)).

Figure 7. Daily numbers of saliva PCR test results reported for workers in quarantine facilities in NSW, 2020-21



**Interpretation:** Since screening of quarantine workers began in December 2020, a total of 111,070 saliva PCR tests have been conducted. The number of saliva PCR tests increased significantly on 11 January 2021, which corresponds to the expansion of the NSW quarantine hotel worker surveillance and testing program. To date, there have been no confirmed cases of COVID-19 reported through saliva PCR testing.

The daily number of saliva PCR tests are not included in the total PCR testing numbers reported. The number of saliva PCR tests on 27 February 2021 is incomplete due to delays in reporting negative results.

## 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 27 February.

Table 4. Deaths as a result of COVID-19, by age group, NSW, 2020 and 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0–4	0	110	0%
5–11	0	117	0%
12–17	0	160	0%
18–29	0	1,124	0%
30–49	0	1,612	0%
50–59	1	682	0.1%
60–69	4	636	0.6%
70–79	15	384	3.9%
80+	36	163	22.1%
<b>Total</b>	<b>56</b>	<b>4,988</b>	<b>1.1%</b>

**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.

The table below shows results for the last 10 weeks for sites that have had detections. Full result from all sites across NSW are available in Appendix D.

Table 5. Locations with positive SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 27 February 2021

		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Pop.	Location	52	53	1	2	3	4	5	6	7	8
<b>Sydney Sites</b>											
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										n
1,857,740	Malabar 1										n
	Malabar 2										
181,005	Liverpool							n			
161,200	Glenfield										
1,341,986	North Head									n	n
163,374	Quakers Hill										
55,000	Wollongong										
<b>Sydney Network Sites</b>											
Bondi	Paddington Sewage Network										
Malabar	Botany Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
<b>Regional Sites</b>											
32,000	Ulladulla										
139,500	Gosford-Kincumber										

Sampling commenced week ending 18 July 2020

	not sampled or analysed
	SARS-CoV-2 not detected
	SARS-CoV-2 detected
	site moved to composite or ceased
c	composite of the separate influent samples
n	result from network sites

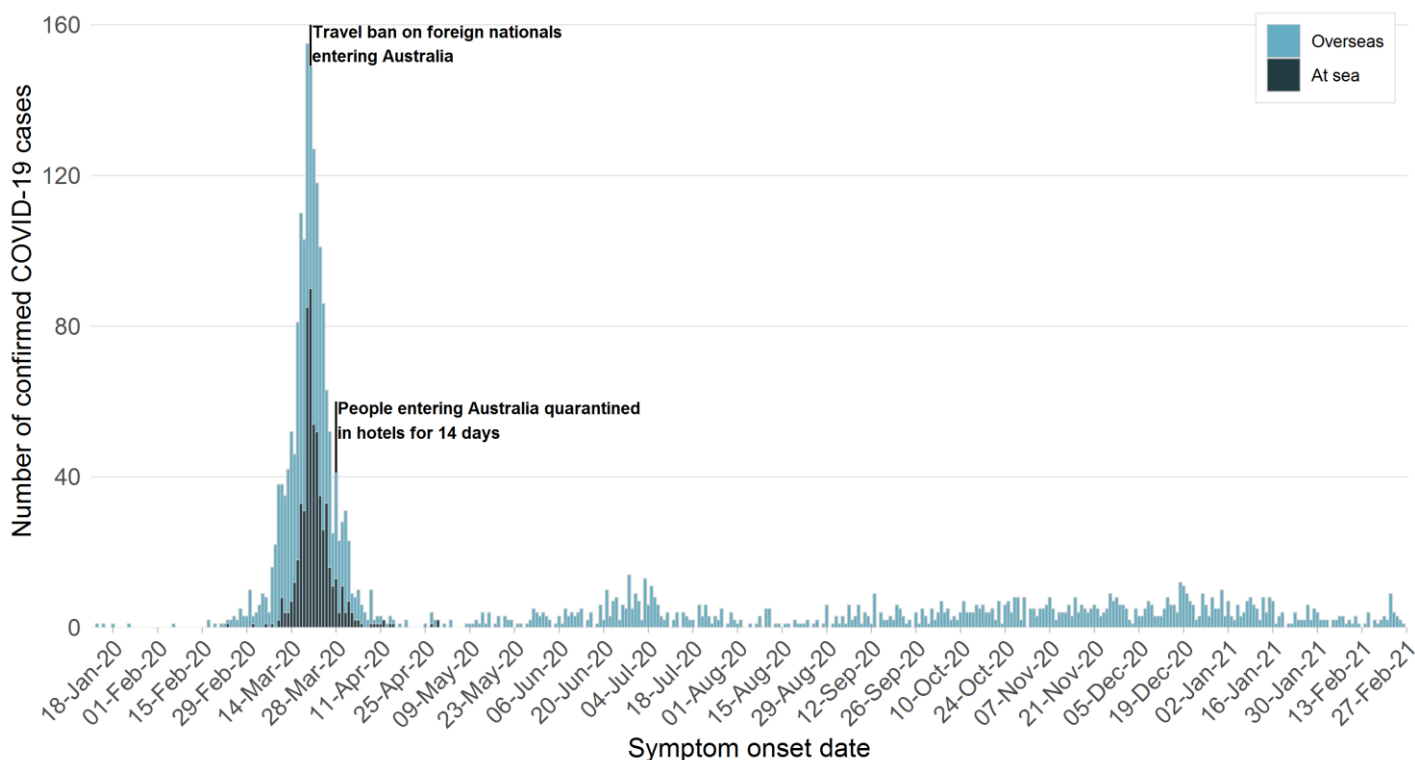
**Interpretation:** In the week ending 27 February, 131 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were five detections – taken from the Bondi and Malabar treatment plants, and the sewage network at Auburn (within the North Head catchment), Paddington (within the Bondi catchment) and Botany (within the Malabar catchment). All detections were associated with known locally acquired cases and/or returned travellers. There were no regional detections.

## 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, 27 February



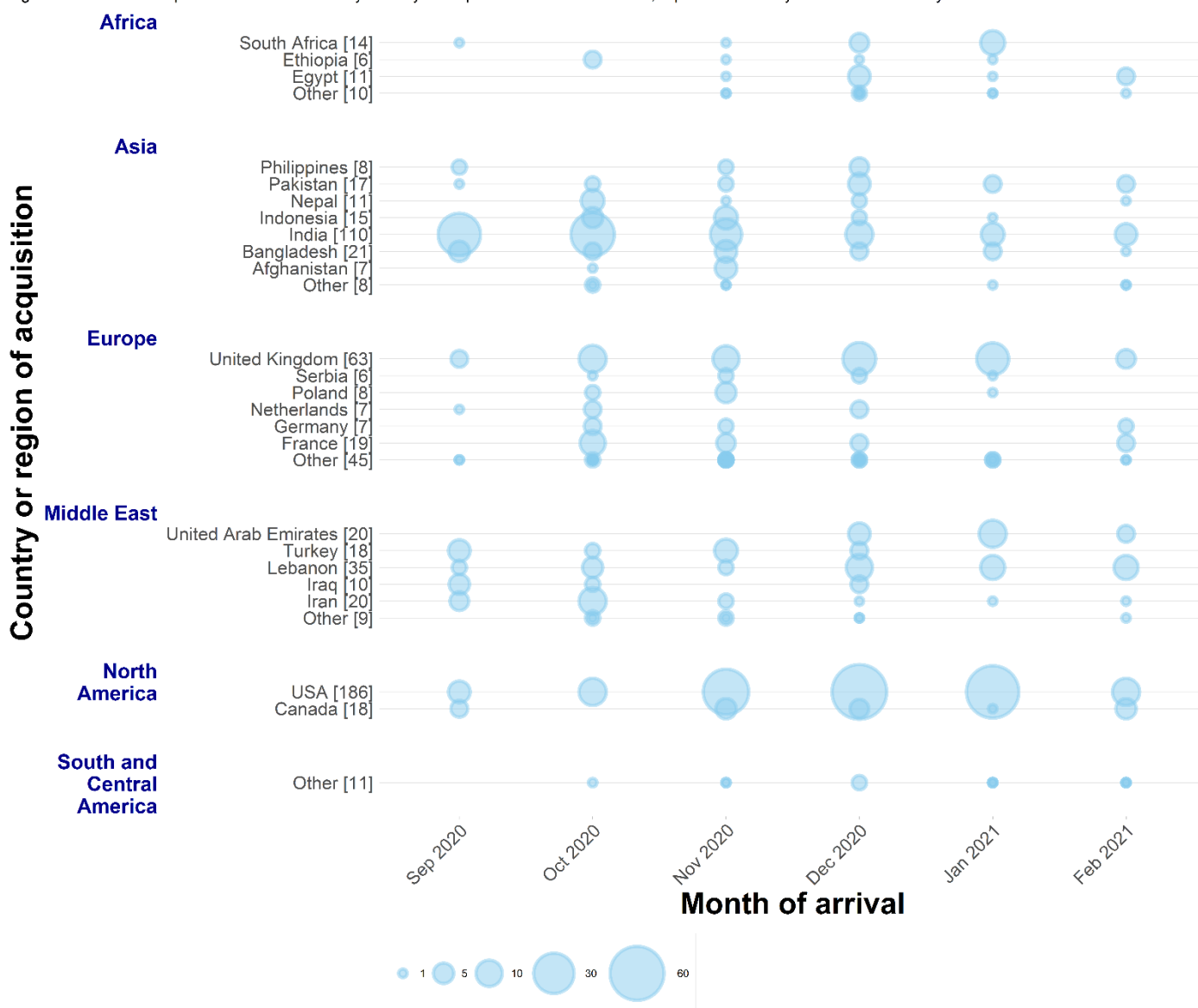
The date of the first positive test is used for cases who did not report symptoms.

**Interpretation:** The number of new cases in returned travellers has decreased markedly and remained low since March 2020 in line with travel restrictions. There were 27 overseas acquired cases reported in the week ending 27 February (up 125% compared to the previous week).

## Country of acquisition of COVID-19 for overseas travelers

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 27 February 2021



**Interpretation:** Since September 2020, the majority of international travellers diagnosed in NSW were likely infected in Asia or North America. In recent months, most detections of COVID-19 were in travellers from the United States of America, with travellers from Lebanon, Canada, India and the United Kingdom also having moderate numbers of cases detected. The pattern seen in COVID-positive travellers over time reflects the evolving nature of the pandemic in those areas and the country of origin of returned travellers.



In the last four weeks, there have been 72 COVID-positive travellers who have arrived in NSW. The table below lists the top 10 countries of acquisition for these travellers.

Table 6. Top 10 countries of acquisition for overseas travellers that have tested positive in the four weeks ending 6 February to 27 February 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
USA	14 (19%)
Lebanon	8 (11%)
Canada	5 (7%)
India	5 (7%)
United Kingdom	4 (6%)
Egypt	3 (4%)
France	3 (4%)
Pakistan	3 (4%)
United Arab Emirates	4 (6%)
Other	24 (33%)
Total	72 (100%)

**Interpretation:** In the last four weeks, travellers returning from the United States of America accounted for the largest number of overseas acquired cases (14, 19%), followed by travellers returning from Lebanon (8, 11%), and Canada (5, 7%).

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

Table 7. Overseas travellers that have tested positive by VoC and week of COVID-19 diagnosis, 30 November 2020 to 27 February 2021

	Previous four weeks (week ending)				30 Nov – 24 Jan	Total since 30 November
	27 Feb	20 Feb	13 Feb	6 Feb		
<b>Overseas acquired cases</b>	27	12	18	15	312	384
Cases with VoC	5	2	5	0	32	44
B.1.1.7	5	2	5	0	24	36
B.1.351	0	0	0	0	8	8
% of overseas cases with VoC	19%	17%	28%	0%	10%	11%

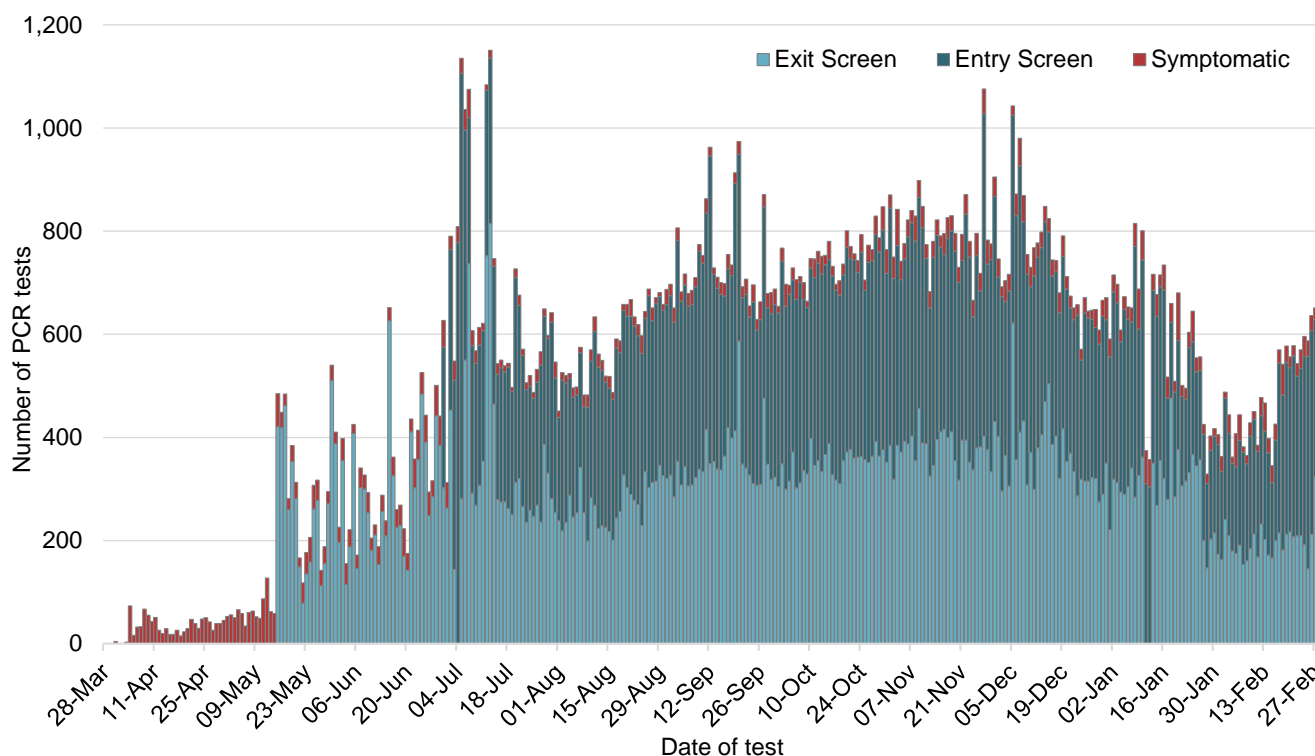
**Interpretation:** In the week ending 27 February, five returned travellers in hotel quarantine were identified as having a COVID-19 Variant of Concern (B.1.1.7). Since 30 November 2020, travellers with a VoC likely acquired their infection in the United Kingdom (13), South Africa (7), Lebanon (7), the United Arab Emirates (5), Germany (2), India (2), and one case in each Finland, France, Pakistan and Nigeria. There are four cases where the likely country of acquisition was unable to be determined.

### 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.

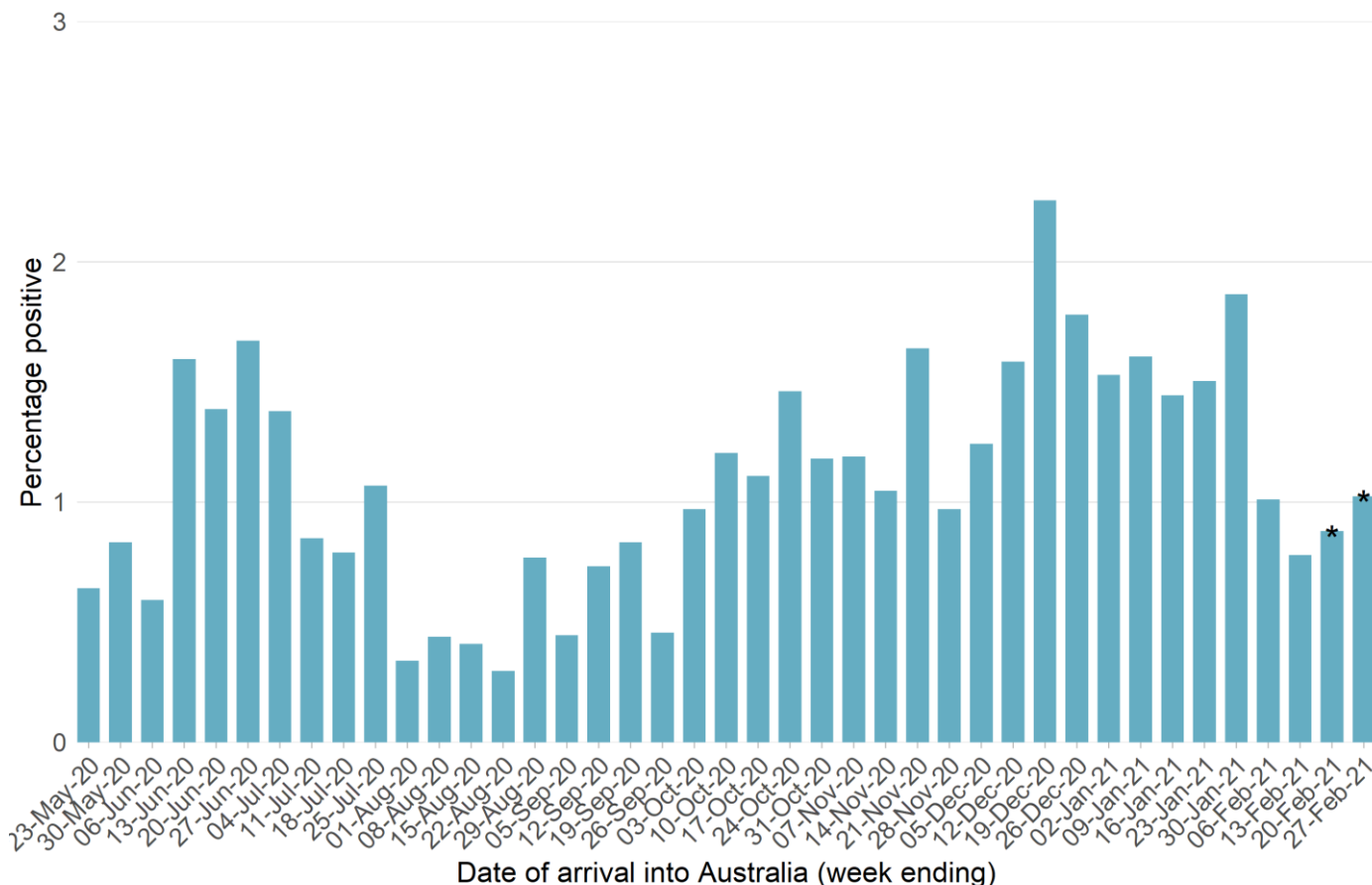
Since hotel quarantine began on 29 March 2020, a total of 179,529 PCR tests have been conducted with 898 overseas acquired cases and 4 interstate acquired COVID-19 cases detected while in hotel quarantine. In the last four weeks, 7,109 returned travellers received an entry swab on day two in hotel quarantine and 5,510 returned travellers received an exit swab.

Figure 10. COVID-19 testing in returned travellers in hotel quarantine, reported from 28 March 2020 to 27 February 2021, NSW



**Interpretation:** In the week ending 27 February, there were 4,161 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 27 February, NSW, 2020 and 2021



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

**Interpretation:** The increase in returned travellers testing positive during their quarantine period since September 2020 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 21 February 2021

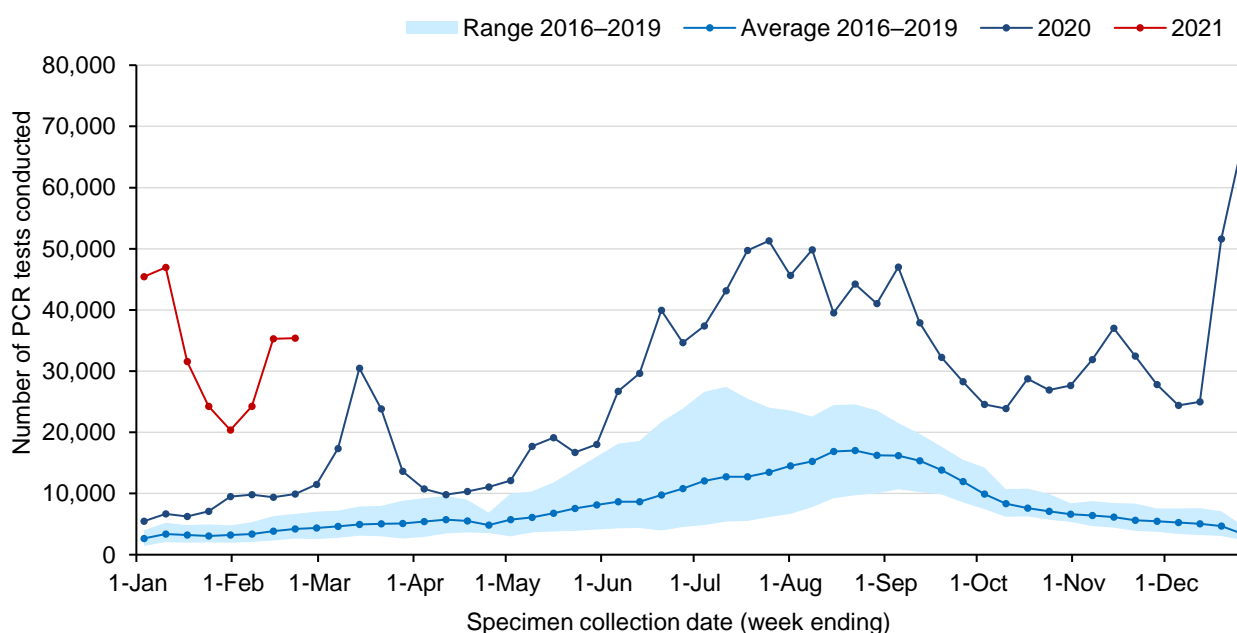
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 21 February 2021. A total of 263,565 influenza tests have been performed at participating laboratories from 28 December 2020. 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 21 February 2021

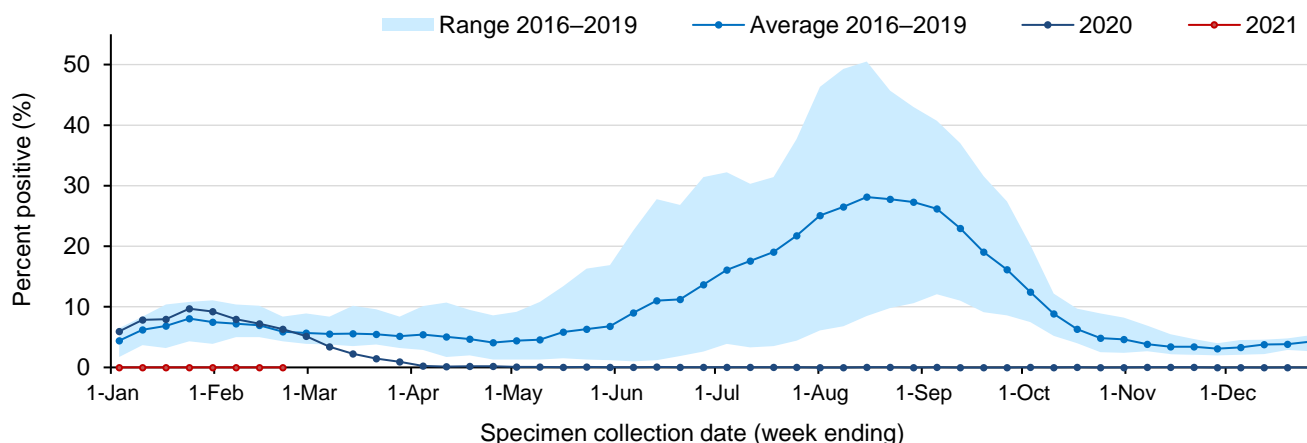


**Interpretation:** In the week ending 21 February, there were 35,409 influenza tests performed across the participating laboratories. The testing numbers continue to exceed the four-year average for this time of year.

## 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 21 February 2021

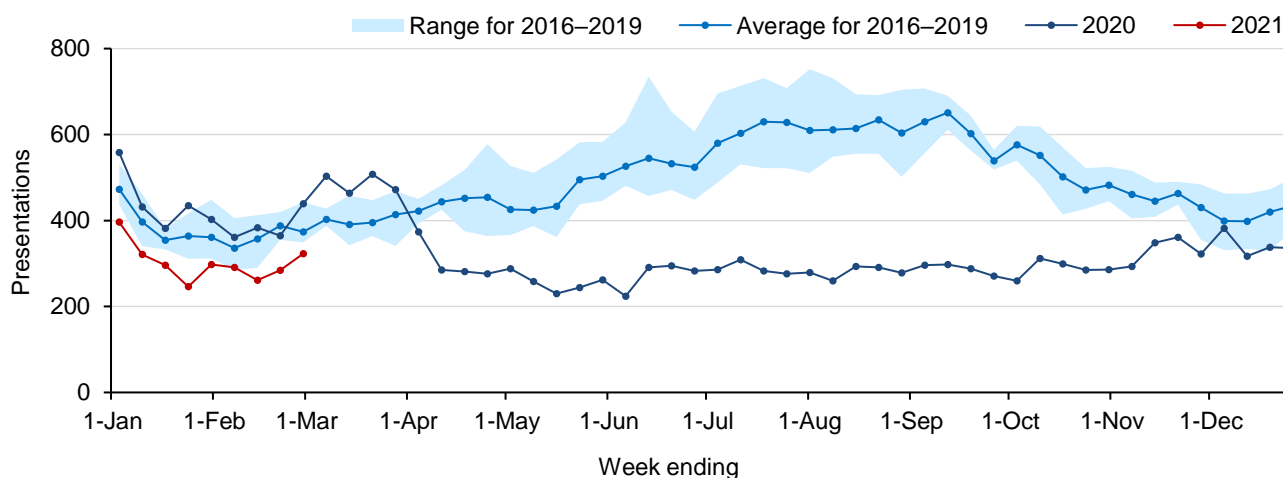


**Interpretation:** In the week ending 21 February, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year.

## How are emergency department presentations for respiratory infections tracking?

The figure below shows weekly pneumonia presentations to Emergency Departments in NSW, using PHREDSS<sup>2</sup>. 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 28 February 2021



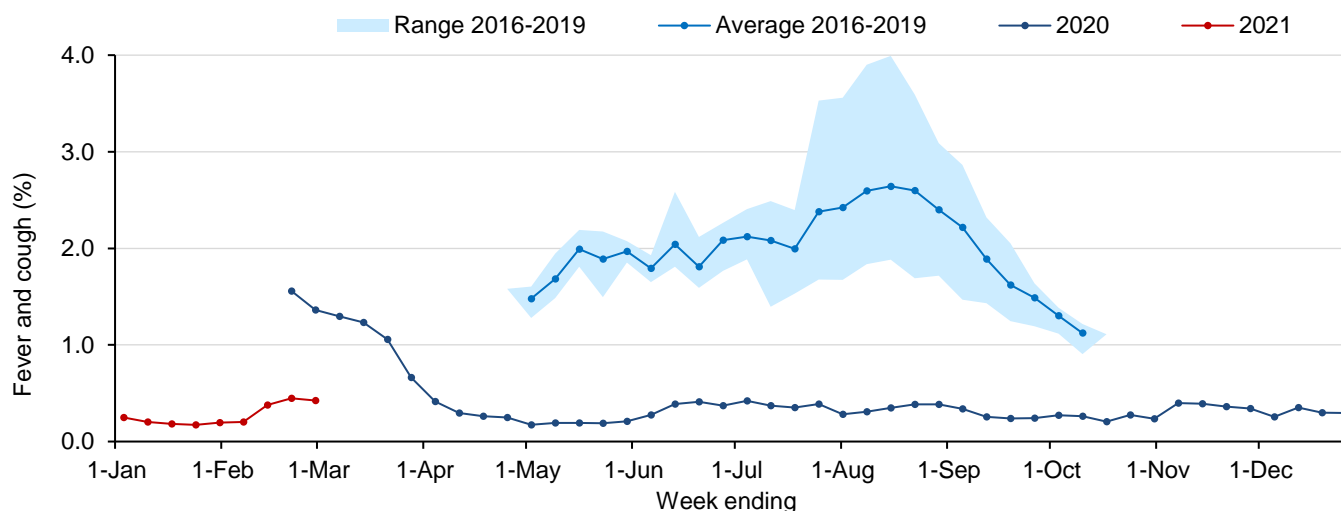
**Interpretation:** Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 28 February, pneumonia presentations continued to increase but remain below the seasonal range for this time of year.

<sup>2</sup> 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 28 February 2021



**Interpretation:** In NSW in the week ending 28 February of the 15,978 people surveyed, 68 people (0.43%) reported flu-like symptoms. In the last four weeks, two-thirds (174/260) of new cases of flu-like illness 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	
		27-February		20-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
<b>Central Coast</b>	Central Coast / LHD Total <sup>2</sup>	3244	9.19	3737	10.59	185240	524.96
<b>Far West</b>	Balranald	9	3.85	10	4.28	635	271.6
	Broken Hill	90	5.15	92	5.26	8251	472.05
	Central Darling	0	0	4	2.18	509	276.78
	Wentworth	27	3.83	59	8.37	3099	439.39
	LHD Total <sup>2</sup>	126	4.18	165	5.47	12494	414.48
<b>Hunter New England</b>	Armidale Regional	252	8.19	390	12.67	12737	413.82
	Cessnock	275	4.58	323	5.38	19549	325.9
	Dungog	79	8.38	83	8.81	3121	331.21
	Glen Innes Severn	33	3.72	39	4.4	2280	257.02
	Gunnedah	74	5.84	84	6.62	4083	321.98
	Gwydir	17	3.18	14	2.62	867	161.97
	Inverell	90	5.33	94	5.57	5203	308.05
	Lake Macquarie	2188	10.63	2782	13.51	113100	549.29
	Liverpool Plains	49	6.2	49	6.2	2647	334.94
	Maitland	1105	12.97	1266	14.87	50874	597.35
	Mid-Coast	509	5.42	628	6.69	31108	331.51
	Moree Plains	58	4.37	52	3.92	3702	279.16
	Muswellbrook	104	6.35	131	8	5746	350.86
	Narrabri	26	1.98	32	2.44	3206	244.08
	Newcastle	1921	11.6	2286	13.81	110425	666.93
	Port Stephens	587	7.99	768	10.45	36142	491.86
	Singleton	216	9.21	209	8.91	11858	505.43
	Tamworth Regional	517	8.27	599	9.58	28207	451.02
	Tenterfield	33	5	24	3.64	1359	206.1
	Upper Hunter Shire	90	6.35	127	8.96	5213	367.63
Uralla	33	5.49	36	5.99	1555	258.65	
Walcha	40	12.76	21	6.7	1129	360.24	
LHD Total <sup>2</sup>	8283	8.7	10030	10.53	453763	476.45	
<b>Illawarra Shoalhaven</b>	Kiama	276	11.8	325	13.9	13190	564.01
	Shellharbour	778	10.62	968	13.22	40240	549.48
	Shoalhaven	878	8.31	1047	9.91	44638	422.52
	Wollongong	2633	12.07	3496	16.03	127091	582.68
	LHD Total <sup>2</sup>	4565	10.88	5836	13.91	225159	536.59
<b>Mid North Coast</b>	Bellingen	110	8.46	125	9.62	4891	376.35
	Coffs Harbour	481	6.22	472	6.11	26112	337.9
	Kempsey	173	5.82	315	10.59	11497	386.52
	Nambucca	91	4.59	116	5.86	6272	316.69
	Port Macquarie-Hastings	646	7.64	697	8.25	33593	397.43
LHD Total <sup>2</sup>	1501	6.65	1725	7.64	82365	364.99	



Local Health District	Local Government Area	Week ending				Total since January 2020	
		27-February		20-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Murrumbidgee	Albury	388	7.14	516	9.49	22270	409.73
	Berrigan	23	2.63	23	2.63	2256	257.83
	Bland	22	3.68	38	6.36	1823	305.26
	Carrathool	7	2.5	8	2.86	415	148.27
	Coolamon	47	10.83	28	6.45	1616	372.26
	Cootamundra-Gundagai Regional	46	4.09	69	6.14	3689	328.35
	Edward River	45	4.95	65	7.16	3112	342.58
	Federation	103	8.28	78	6.27	3677	295.65
	Greater Hume Shire	67	6.22	68	6.32	3855	358.14
	Griffith	161	5.96	186	6.88	11225	415.29
	Hay	8	2.71	14	4.75	647	219.4
	Hilltops	109	5.83	126	6.74	6481	346.5
	Junee	19	2.84	64	9.58	1670	249.89
	Lachlan <sup>1</sup>	16	2.63	15	2.47	1163	191.44
	Leeton	56	4.89	54	4.72	3323	290.35
	Lockhart	29	8.83	18	5.48	962	292.85
	Murray River	9	0.74	10	0.83	1011	83.43
	Murrumbidgee	12	3.06	15	3.83	981	250.45
	Narrandera	11	1.86	25	4.24	1343	227.67
	Snowy Valleys	66	4.56	65	4.49	5115	353.27
Temora	23	3.65	36	5.71	1579	250.36	
Wagga Wagga	617	9.45	746	11.43	32428	496.92	
<i>LHD Total<sup>2</sup></i>	1870	6.27	2255	7.56	109863	368.53	
Nepean Blue Mountains	Blue Mountains	687	8.68	1281	16.19	55886	706.36
	Hawkesbury	600	8.92	850	12.63	38828	576.97
	Lithgow	66	3.05	139	6.43	7941	367.55
	Penrith	1947	9.14	2968	13.94	136084	638.96
	<i>LHD Total<sup>2</sup></i>	3268	8.36	5198	13.29	236843	605.76
Northern NSW	Ballina	469	10.51	481	10.78	18201	407.84
	Byron	339	9.66	397	11.32	17514	499.24
	Clarence Valley	294	5.69	304	5.88	14555	281.74
	Kyogle	55	6.25	54	6.14	2320	263.76
	Lismore	498	11.4	477	10.92	18722	428.5
	Richmond Valley	204	8.69	237	10.1	8593	366.2
	Tenterfield	33	5	24	3.64	1359	206.1
	Tweed	711	7.33	781	8.05	31735	327.16
<i>LHD Total<sup>2</sup></i>	2582	8.32	2738	8.82	111961	360.74	
Northern Sydney	Hornsby	2194	14.43	2527	16.62	88986	585.21
	Hunters Hill	449	29.97	522	34.85	20030	1337.12
	Ku-ring-gai	2930	23.04	3790	29.81	117119	921.09
	Lane Cove	1178	29.34	1437	35.79	56917	1417.43
	Mosman	465	15.01	667	21.53	24161	779.87
	North Sydney	773	10.3	966	12.88	43761	583.32

Local Health District	Local Government Area	Week ending				Total since January 2020	
		27-February		20-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Northern Beaches	4785	17.5	6010	21.97	309963	1133.32
	Parramatta <sup>1</sup>	2897	11.26	3422	13.3	129851	504.87
	Ryde	2067	15.75	2478	18.88	81390	620.02
	Willoughby	1060	13.06	1429	17.6	45110	555.62
	<i>LHD Total<sup>2</sup></i>	16571	17.34	20563	21.51	813393	850.9
South Eastern Sydney	Bayside	1711	9.59	2024	11.35	85989	482.01
	Georges River	1512	9.48	1851	11.61	72835	456.73
	Randwick	2078	13.35	2789	17.92	118395	760.65
	Sutherland Shire	2937	12.74	3677	15.94	154123	668.32
	Sydney <sup>1</sup>	3511	14.25	3921	15.92	190553	773.53
	Waverley	1199	16.14	1548	20.84	67758	912.01
	Woollahra	1020	17.18	1394	23.47	57119	961.81
	<i>LHD Total<sup>2</sup></i>	11663	12.16	14541	15.16	625210	651.87
South Western Sydney	Camden	1488	14.67	1700	16.76	81735	805.77
	Campbelltown	2061	12.06	2450	14.33	110070	643.9
	Canterbury-Bankstown <sup>1</sup>	3243	8.58	4000	10.58	190307	503.57
	Fairfield	1310	6.19	1558	7.36	85801	405.3
	Liverpool	2152	9.46	2609	11.46	134666	591.72
	Wingecarribee	800	15.65	797	15.59	34708	678.77
	Wollondilly	436	8.2	458	8.62	23484	441.85
	<i>LHD Total<sup>2</sup></i>	9757	9.39	11489	11.06	564109	543.18
Southern NSW	Bega Valley	234	6.79	285	8.27	12435	360.69
	Eurobodalla	344	8.94	362	9.41	18955	492.68
	Goulburn Mulwaree	238	7.64	304	9.76	13063	419.6
	Queanbeyan-Palerang Regional	311	5.09	352	5.76	17938	293.58
	Snowy Monaro Regional	128	6.16	158	7.6	7869	378.41
	Upper Lachlan Shire	47	5.83	75	9.31	2858	354.63
	Yass Valley	54	3.16	86	5.03	4321	252.88
	<i>LHD Total<sup>2</sup></i>	1356	6.25	1622	7.47	77469	356.88
Sydney	Burwood	301	7.41	378	9.31	17621	433.89
	Canada Bay	1304	13.57	1674	17.42	67742	705.1
	Canterbury-Bankstown <sup>1</sup>	3243	8.58	4000	10.58	190307	503.57
	Inner West	2717	13.53	3495	17.4	157599	784.81
	Strathfield	645	13.75	677	14.43	30908	658.65
	Sydney <sup>1</sup>	3511	14.25	3921	15.92	190553	773.53
	<i>LHD Total<sup>2</sup></i>	8929	12.81	10915	15.67	488373	700.91
Western NSW	Bathurst Regional	440	10.09	465	10.66	22121	507.15
	Blayney	76	10.3	89	12.06	3633	492.34
	Bogan	10	3.88	8	3.1	969	375.58
	Bourke	5	1.93	7	2.7	584	225.48
	Brewarrina	2	1.24	6	3.72	351	217.88
	Cabonne	113	8.29	109	7.99	3654	268.01
	Cobar	42	9.02	34	7.3	1252	268.78

Local Health District	Local Government Area	Week ending				Total since January 2020	
		27-February		20-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Coonamble	19	4.8	13	3.28	1053	266.04
	Cowra	116	9.1	91	7.14	3995	313.51
	Dubbo Regional	412	7.67	401	7.46	21269	395.93
	Forbes	30	3.03	44	4.44	2473	249.65
	Gilgandra	9	2.12	11	2.59	1066	251.47
	Lachlan <sup>1</sup>	16	2.63	15	2.47	1163	191.44
	Mid-Western Regional	186	7.37	198	7.84	9710	384.54
	Narromine	37	5.68	40	6.14	2020	309.96
	Oberon	34	6.28	25	4.62	1896	350.4
	Orange	627	14.77	605	14.25	24929	587.24
	Parkes	82	5.53	74	4.99	4655	313.74
	Walgett	12	2.02	41	6.89	1761	295.82
	Warren	20	7.42	29	10.75	1482	549.5
	Warrumbungle Shire	69	7.44	86	9.27	3093	333.37
	Weddin	25	6.92	39	10.79	942	260.73
	<i>LHD Total<sup>2</sup></i>	2380	8.35	2427	8.52	113733	399.05
<b>Western Sydney</b>	Blacktown	4943	13.2	5720	15.28	221609	591.82
	Cumberland	2523	10.45	2969	12.29	142149	588.56
	Parramatta <sup>1</sup>	2897	11.26	3422	13.3	129851	504.87
	The Hills Shire	3535	19.86	4094	23	142774	802.24
	<i>LHD Total<sup>2</sup></i>	13340	12.66	15569	14.78	616172	584.92
<b>NSW Total<sup>3</sup></b>		94,634	11.7	114,505	14.15	5,023,894	621.01

<sup>1</sup>Local Government Area (LGA) spans multiple Local Health Districts.

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

<sup>3</sup>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 21 February 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 2020–21 February 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	263,565	4	0.00%	0	0.00%	719	144	5,022	9,498	33	1,177
<b>Month ending</b>											
31 January *	168,596	2	0.00%	0	0.00%	416	88	3,275	3,541	23	560
<b>Week ending</b>											
7 February	24,256	1	0.00%	0	0.00%	102	12	614	1,292	4	187
14 February	35,304	1	0.00%	0	0.00%	105	17	583	2,078	4	201
21 February	35,409	0	0.00%	0	0.00%	96	27	550	2,587	2	229

### Testing numbers in NSW from January–27 December 2020

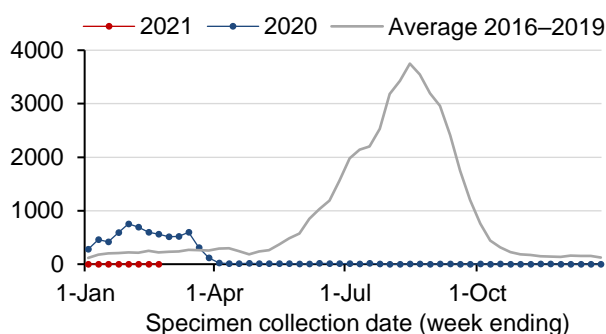
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
<b>Month ending</b>											
3 February *	34,953	2,508	7.18%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

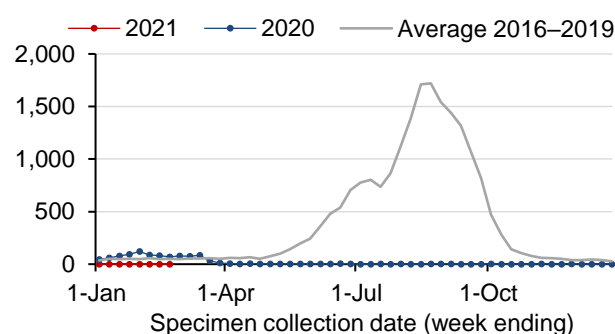
## APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 21 February 2021

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.

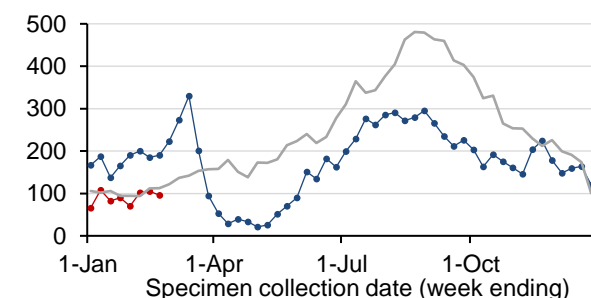
Influenza A



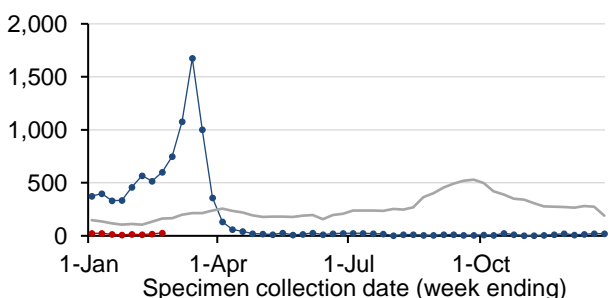
Influenza B



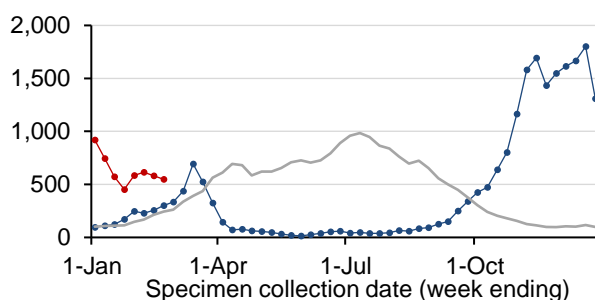
Adenovirus



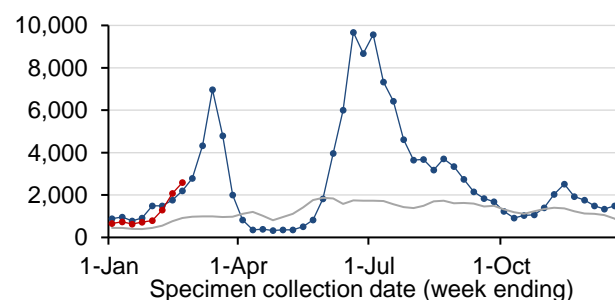
Parainfluenza



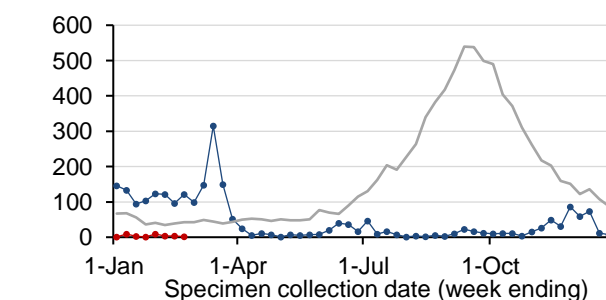
Respiratory syncytial virus (RSV)



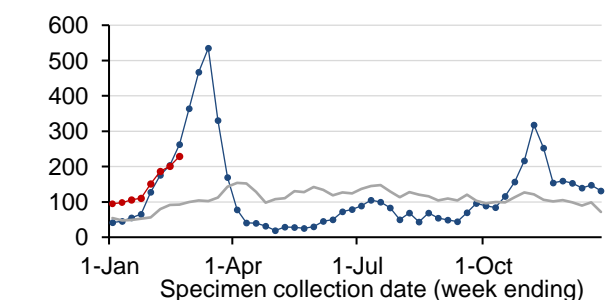
Rhinovirus



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.

## APPENDIX D: SARS-COV-2 TESTING IN SEWAGE SAMPLES COLLECTED IN THE PREVIOUS 10 WEEKS, WEEK ENDING 27 February 2021

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. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Pop.	Location	52	53	1	2	3	4	5	6	7	8
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										n
233,176	Cronulla										
1,857,740	Malabar 1										n
	Malabar 2										
181,005	Liverpool							n			
98,743	West Camden										
6,882	Wallacia										
14,600	Picton										
161,200	Glenfield										
1,341,986	North Head									n	n
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										

Sydney Network Sites		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Network	Location	52	53	1	2	3	4	5	6	7	8
Bondi	Paddington Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield Sewage Pumping Station 1										
Malabar	Fairfield Sewage Pumping Station 2										
Malabar	Homebush Sewage Pumping Station										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia Sewage Pumping Station - North										
North Head	Camellia Sewage Pumping Station - South										
North Head	Auburn Sewage Network										
North Head	Northmead Sewage Pumping Station										
North Head	Northmead Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										





Regional Sites		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Pop.	Location	52	53	1	2	3	4	5	6	7	8
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,068	Bombo										
7,200	Gerrigong/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										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
51,750	Albury composite	c			c	c	c	c	c	c	c
	Albury Kremer St										
	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	c	c
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Koorinal STP										
2,050	Bourke										
40,000	Orange										



Regional Sites (con't)		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Pop.	Location	52	53	1	2	3	4	5	6	7	8
12,000	Mudgee										
36,603	Bathurst										
19,000	Broken Hill										
500	Dareton										
11,600	Parkes										
37,000	Dubbo										
24,000	Armidale										
45,000	Tamworth										
	Narrabri										
	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										
42,000	Hunter - Toronto										
70,000	Hunter - Edgeworth										
2,500	Hunter - Karuah										
32500	Lismore composite								c		c
17,000	East Lismore										
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										
18,550	Grafton composite								c	c	c
12,250	North Grafton										
6,300	South Grafton										
6,500	Yamba										

Regional Sites (con't)		26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb
Pop.	Location	52	53	1	2	3	4	5	6	7	8
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										

Sampling commenced week ending 18 July 2020

-  not sampled or analysed
-  SARS-CoV-2 not detected
-  SARS-CoV-2 detected
-  site moved to composite or ceased

- c composite of the separate influent samples
- n result from network sites

## 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.