

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 7, ENDING 20 FEBRUARY 2021

Published 24 February 2021

SUMMARY FOR THE WEEK ENDING 20 FEBRUARY 2021

- There were no locally acquired cases reported in the week ending 20 February.
- Testing rates slightly increased compared to the previous week (up 9%), likely driven by the increased testing rates in school-age children aged 5–17 years.
- The NSW Sewage Surveillance Program reported five detections – taken from the Bondi, Malabar (2 detections), Glenfield treatment plants, and the sewage network at Auburn (which is within the North Head catchment). All detections were associated with known locally acquired cases and/or returned travellers.
- There were no COVID-19 Variants of Concern (VoC) cases detected in the week ending 20 February. There have been 39 returned travellers with a VoC since 30 November 2020.

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SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

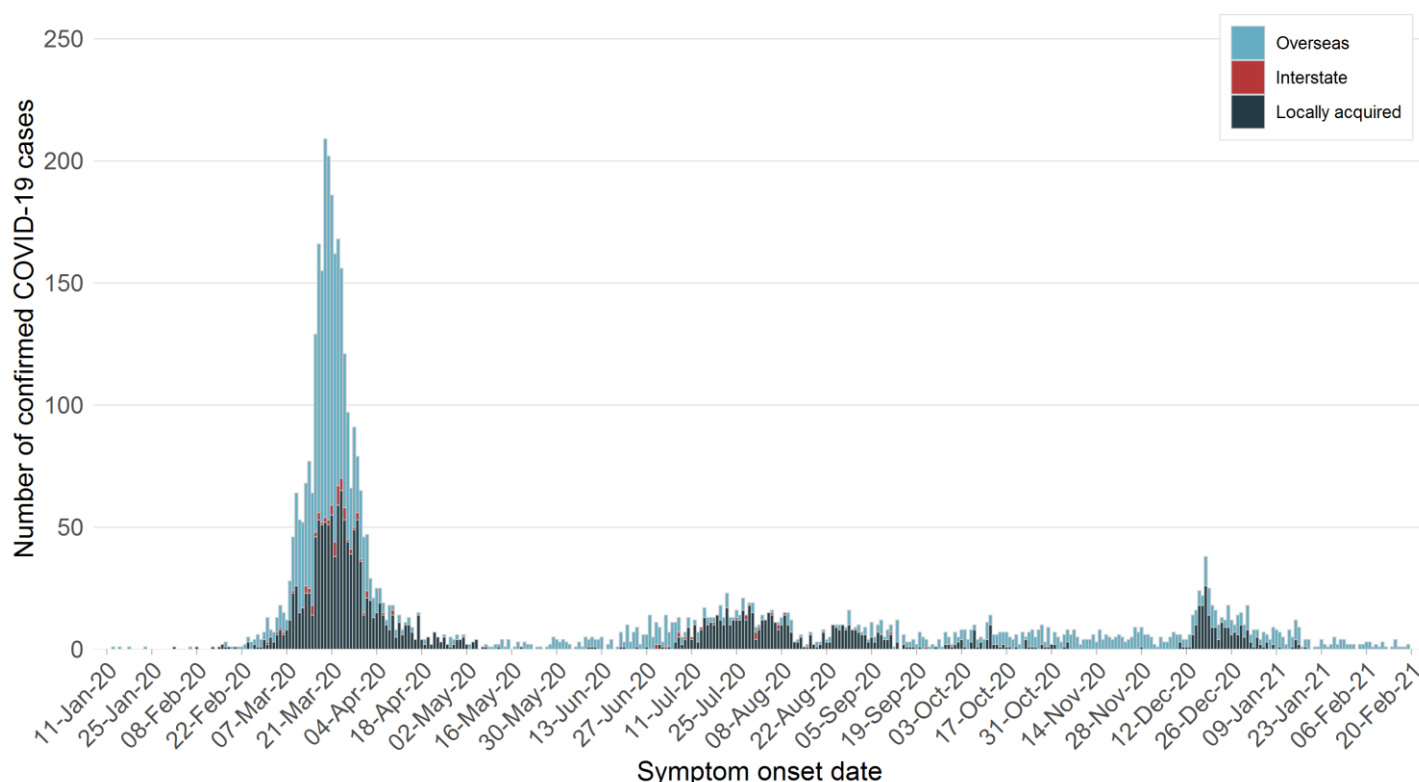
Table 1. COVID-19 cases and tests reported in NSW, up to 20 February 2021

	Week ending 20 Feb	Week ending 13 Feb	% change	Pandemic total
Number of cases	12	18	↓ 33%	4961
Overseas acquired	12	18	↓ 33%	2784
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	114,222	104,662	↑9%	4,928,534

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 20 February



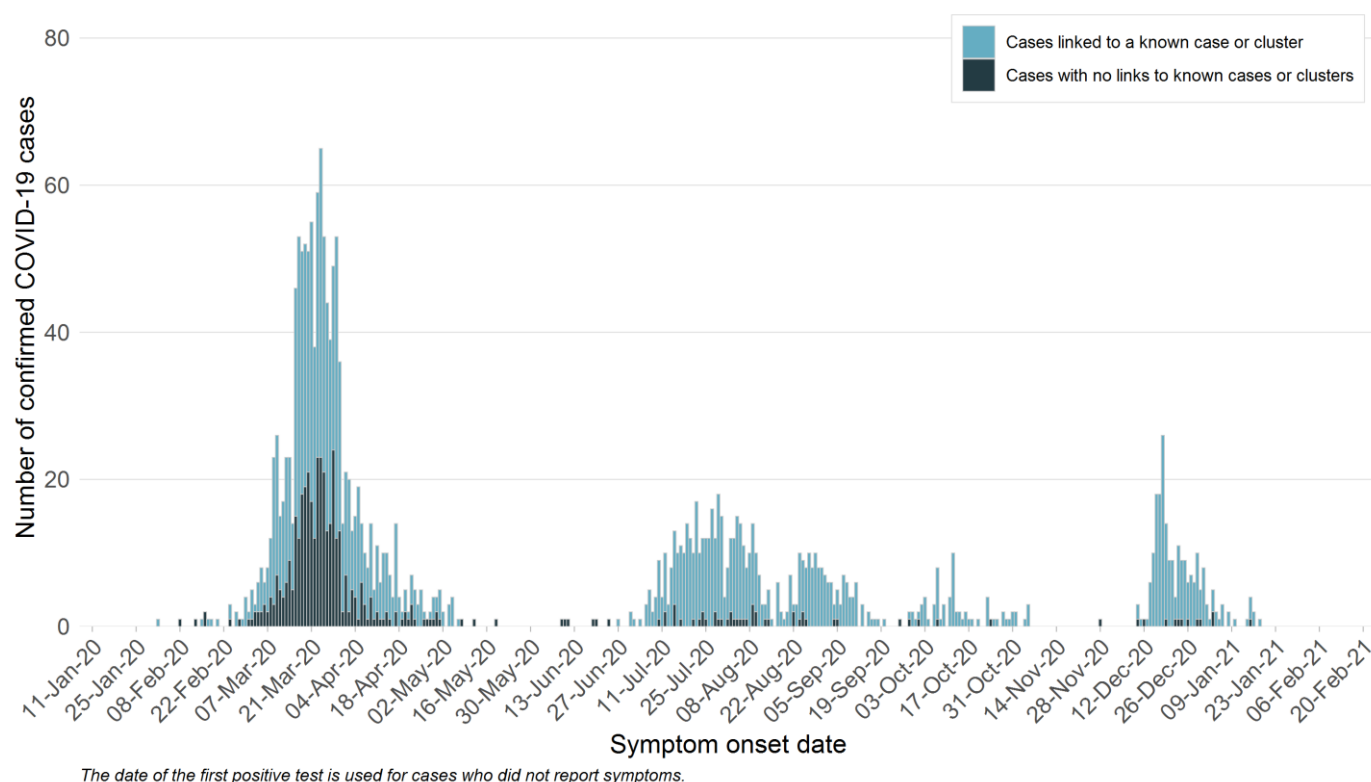
The date of the first positive test is used for cases who did not report symptoms.

Interpretation: All COVID-19 cases 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 20 February



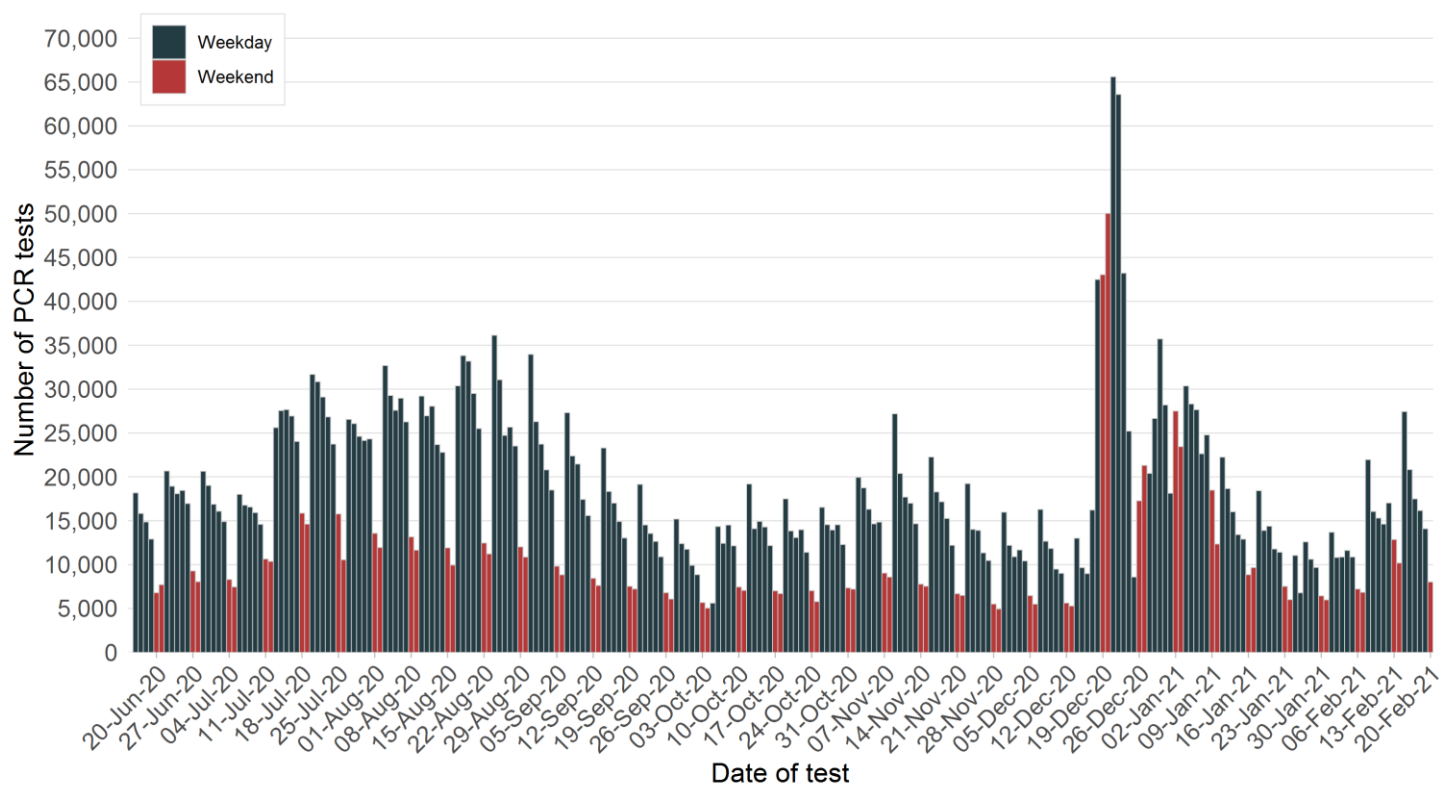
Interpretation: As at 20 February, 35 days have passed since the last locally acquired case recorded onset of symptoms in NSW. The last locally acquired case was notified on 16 January 2021.

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.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, 20 February



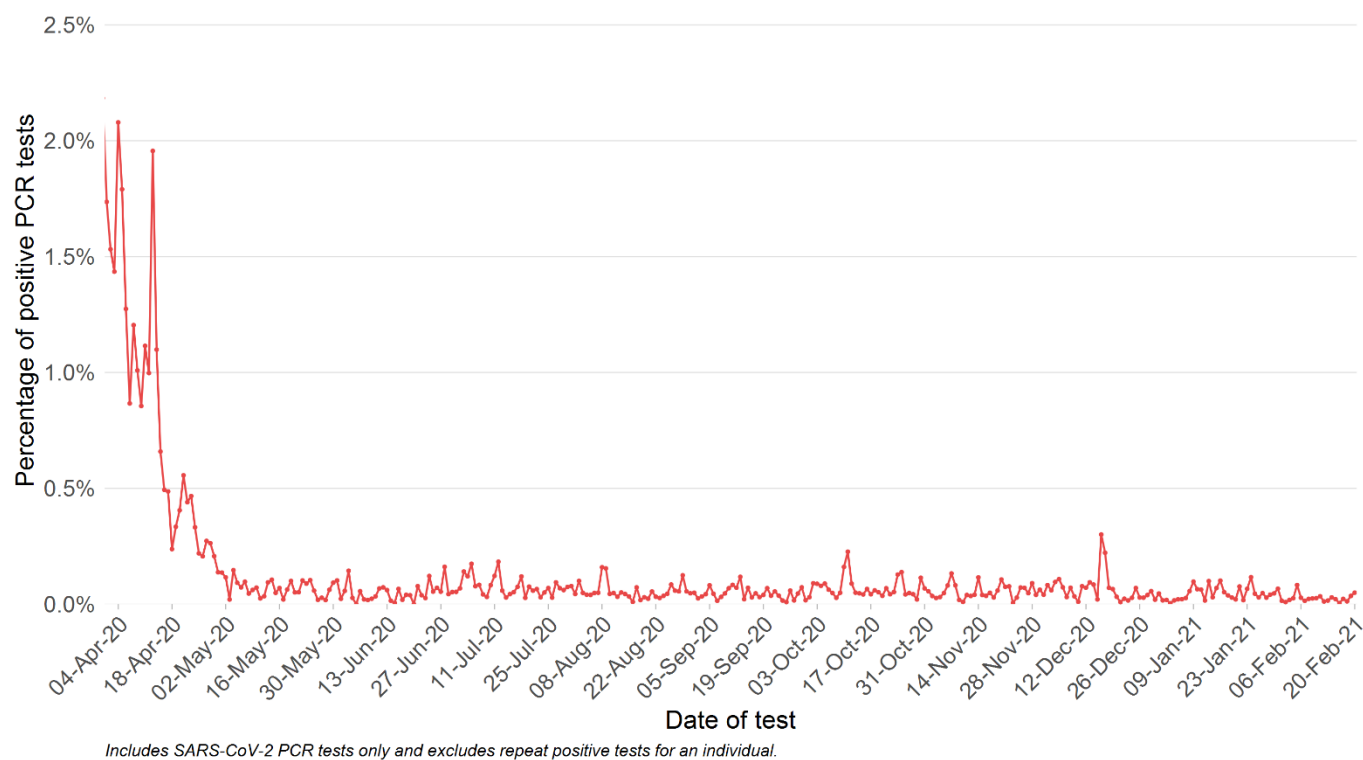
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers increased in the week ending 20 February (up 9%) compared to the previous week. The average daily testing rate of 2 per 1,000 people in NSW each day has increased compared to the previous week of 1.9 per 1,000 people.

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?

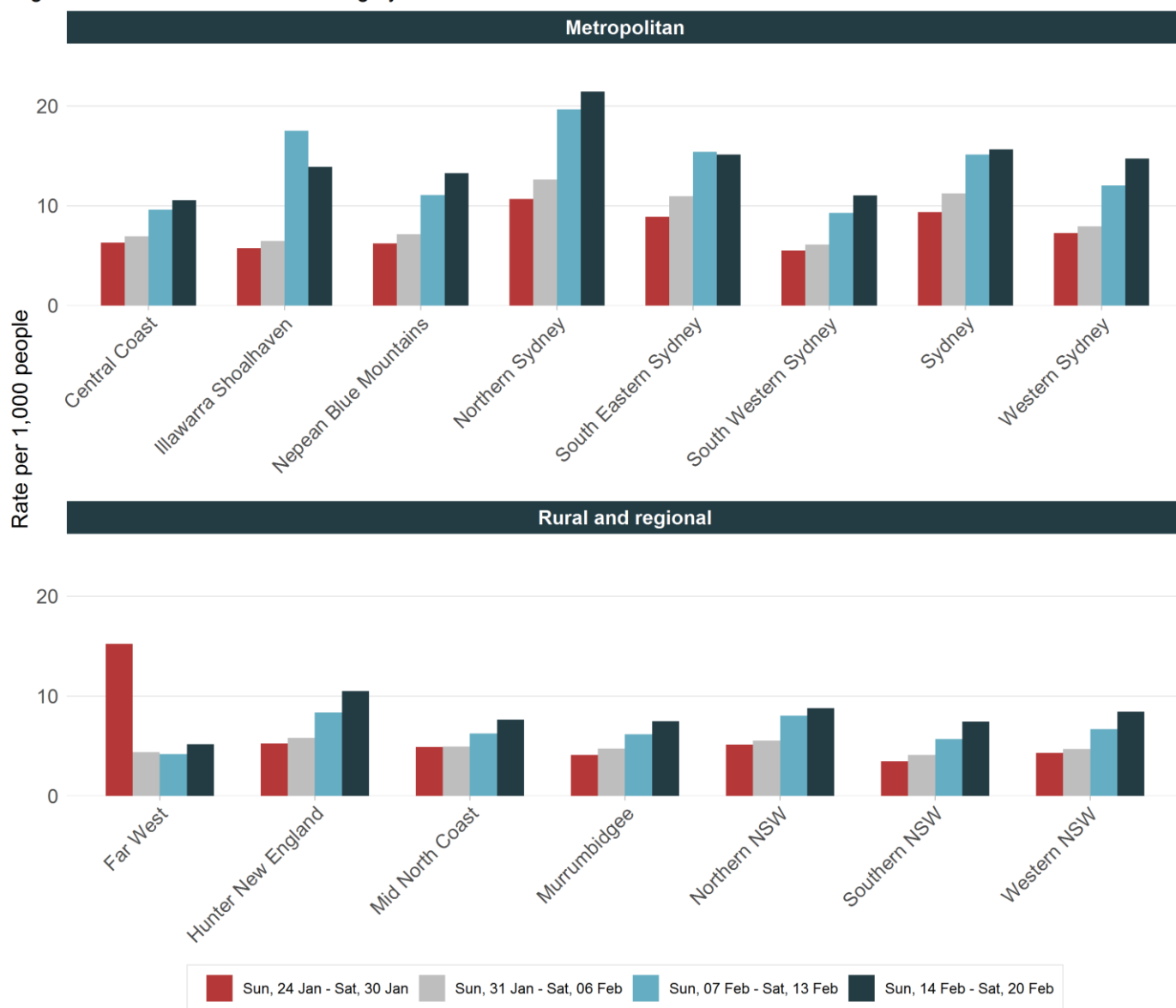
Figure 4. Proportion of positive PCR tests per day, NSW, 20 February



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

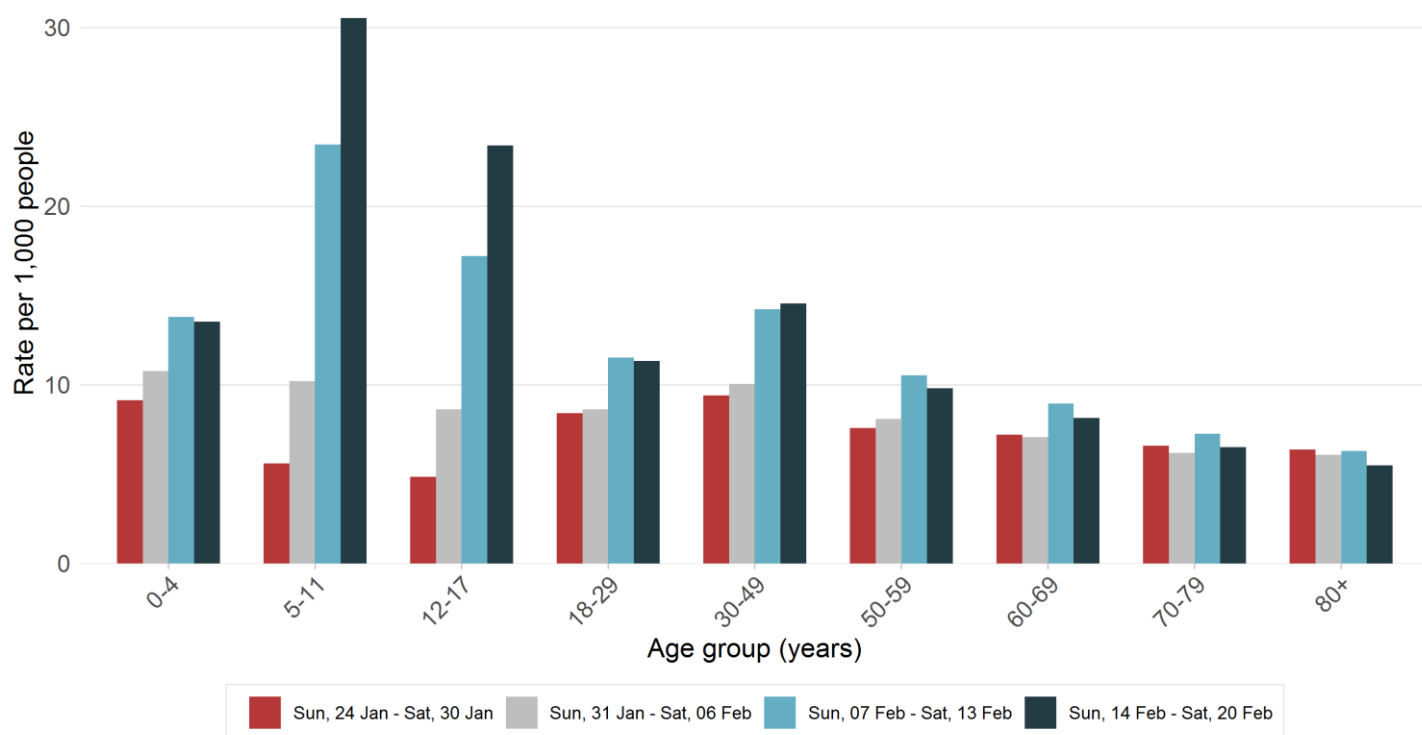


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide testing rates in the week ending 20 February were higher compared to the previous week (14 per 1,000 people compared to 13 per 1,000 people). A decrease in the testing rate was seen in Illawarra Shoalhaven LHD, after a surge in testing in the previous week. The surge was following reports of a returned overseas traveller who tested positive to COVID-19 on day 16 after being released from hotel quarantine.

Testing by age group

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



Interpretation: In the week ending 20 February, testing rates have decreased in most age groups except for those aged 5–17 and 30–49 years. Testing rates in school-age children aged 5–17 years were significantly higher compared to the previous weeks. This rise is likely driven by the advice from NSW Health that students with even mild symptoms of COVID-19 will need to be tested before being permitted to return to school.

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, 24 January to 20 February 2021

Locally acquired cases	Week ending				Total
	20 Feb	13 Feb	6 Feb	30 Jan	
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
Total	0	0	0	0	0

Interpretation: There were no new locally acquired cases reported in the week ending 20 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, 24 January to 20 February 2021

Local Health District	Week ending				Total	Days since last case reported
	20 Feb	13 Feb	6 Feb	30 Jan		
Central Coast	0	0	0	0	0	53
Illawarra Shoalhaven	0	0	0	0	0	49
Nepean Blue Mountains	0	0	0	0	0	158
Northern Sydney	0	0	0	0	0	40
South Eastern Sydney	0	0	0	0	0	49
South Western Sydney	0	0	0	0	0	43
Sydney	0	0	0	0	0	40
Western Sydney	0	0	0	0	0	35
Far West	0	0	0	0	0	324
Hunter New England	0	0	0	0	0	198
Mid North Coast	0	0	0	0	0	305
Murrumbidgee	0	0	0	0	0	166
Northern NSW	0	0	0	0	0	210
Southern NSW	0	0	0	0	0	124
Western NSW	0	0	0	0	0	205
NSW	0	0	0	0	0	35

Interpretation: There were no locally acquired cases reported in the week ending 20 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 20 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 20 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

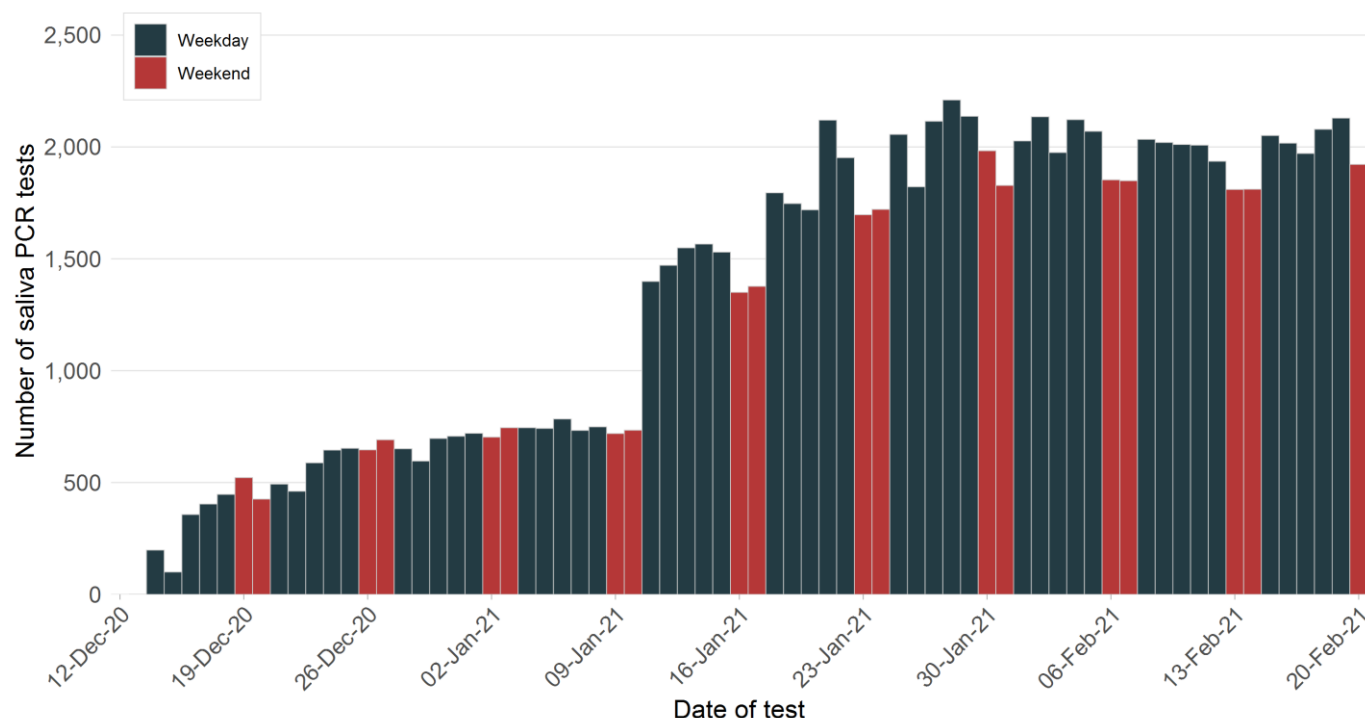
There was one overseas acquired case of COVID-19 reported in an Aboriginal person reported in the week ending 20 February.

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 94,848 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 19 and 20 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 20 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	116	0%
12–17	0	160	0%
18–29	0	1,116	0%
30–49	0	1,595	0%
50–59	1	681	0.1%
60–69	4	636	0.6%
70–79	15	384	3.9%
80+	36	163	22.1%
Total	56	4,961	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.

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, 20 February 2021

		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Pop.	Location	51	52	53	1	2	3	4	5	6	7
Sydney Sites											
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool								n		
161,200	Glenfield										
1,341,986	North Head										n
163,374	Quakers Hill										
55,000	Wollongong										
Sydney Network Sites											
North Head	Auburn Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Regional Sites											
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

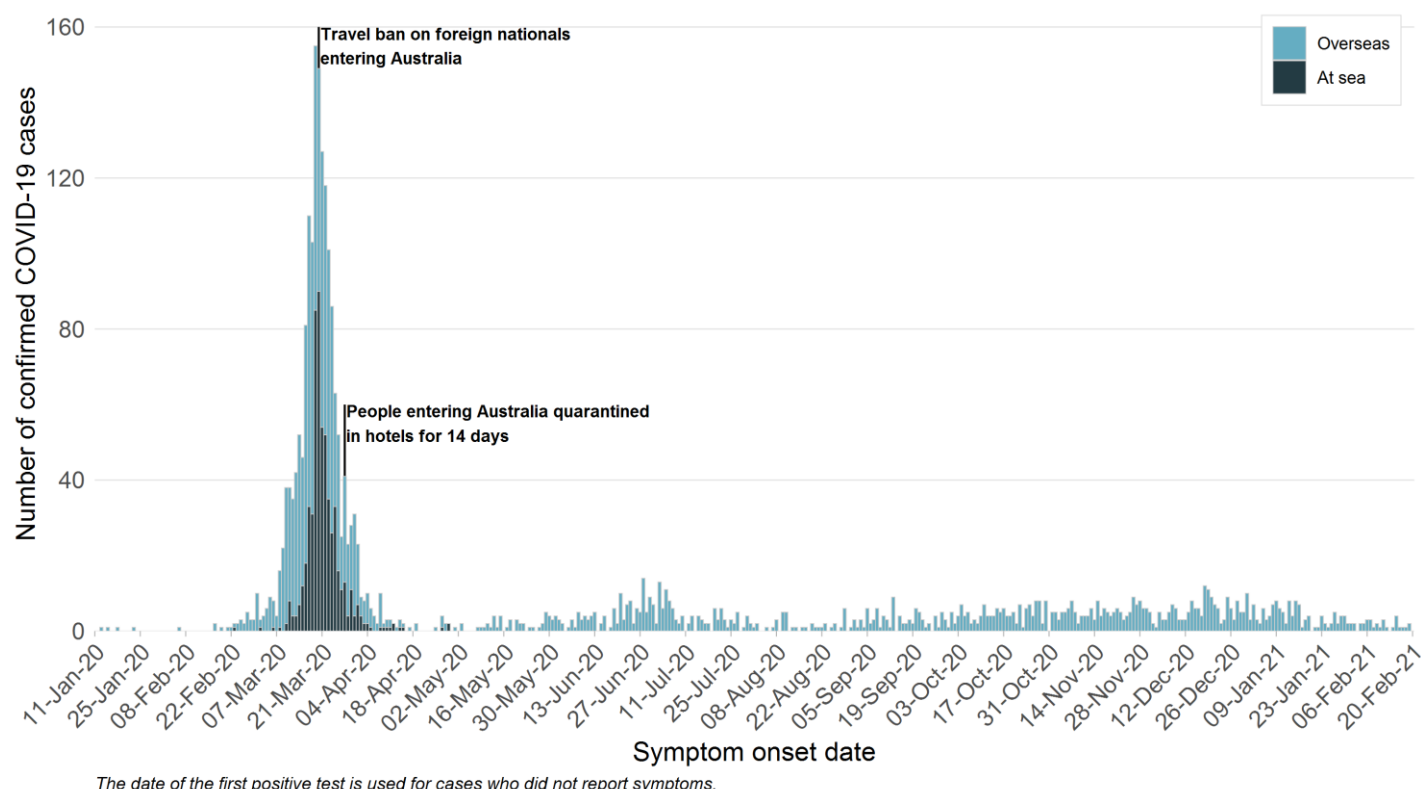
Interpretation: In the week ending 20 February, 119 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were five detections – taken from the Bondi, Malabar (2 detections), Glenfield treatment plant, and the sewage network at Auburn (which is within the North Head catchment). All 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, 20 February

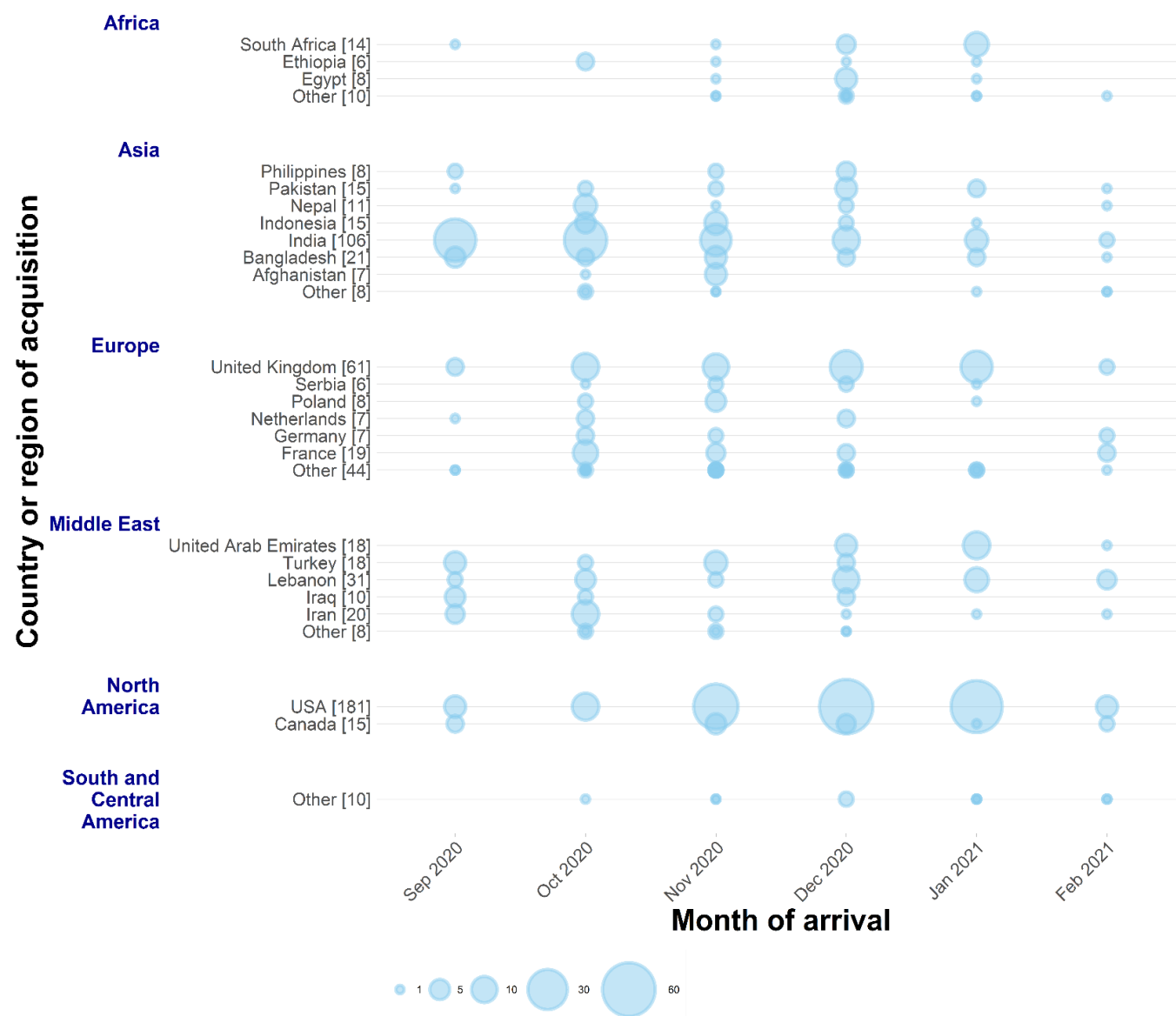


Interpretation: The number of new cases in returned travellers has decreased markedly and remained low since March 2020 in line with travel restrictions. There were 12 overseas acquired cases reported in the week ending 20 February (down 33% compared to the previous week).

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 September to 20 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, there has been a steady increase in the number of positive return travellers from the United States of America and the United Kingdom. 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 63 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 last four weeks, 24 January to 20 February 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
USA	17 (27%)
Lebanon	5 (13%)
United Arab Emirates	4 (6%)
France	3 (5%)
India	3 (5%)
United Kingdom	3 (5%)
Canada	2 (3%)
Germany	2 (3%)
Spain	2 (3%)
Other	22 (34%)
Total	63 (100%)

Interpretation: In the last four weeks, travellers returning from the United States of America accounted for the largest number of overseas acquired cases (17, 27%), followed by travellers returning from Lebanon (5, 13%), and the United Arab Emirates (4, 6%).

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, 39 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 20 February 2021

	Previous four weeks (week ending)				30 Nov – 24 Jan	Total since 30 November
	20 Feb	13 Feb	6 Feb	30 Jan		
Overseas acquired cases	12	18	15	18	294	357
Cases with VoC	2	5	0	2	30	39
B.1.1.7	2	5	0	1	23	31
B.1.351	0	0	0	1	7	8
% of overseas cases with VoC	17%	28%	0%	11%	10%	11%

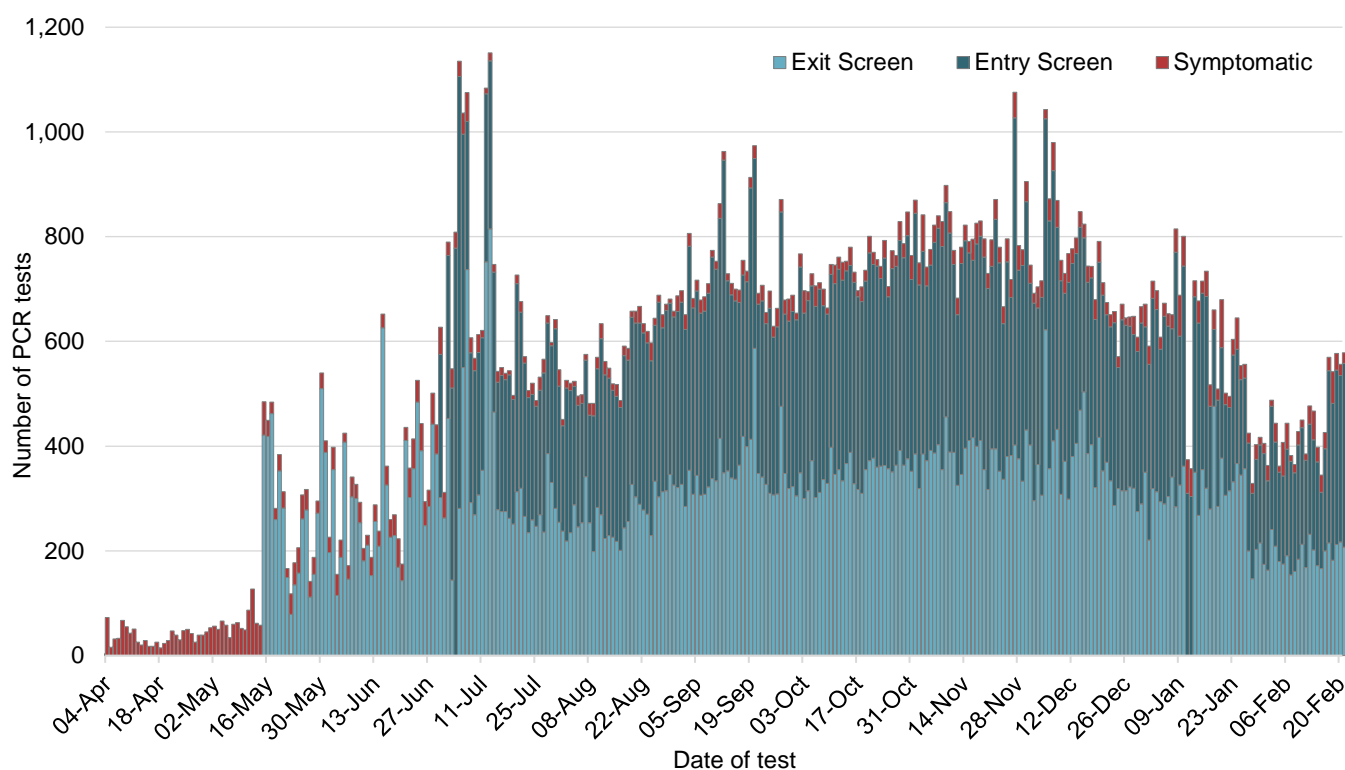
Interpretation: In the week ending 20 February, no returned travellers in hotel quarantine have been identified as having a COVID-19 Variant of Concern (B.1.1.7 or B.1.351). Since 30 November 2020, travellers with a VoC likely acquired their infection in the United Kingdom (13), South Africa (7), Lebanon (5), the United Arab Emirates (4), Germany (2), and one case in each Finland, France, India and Nigeria. For four cases 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.

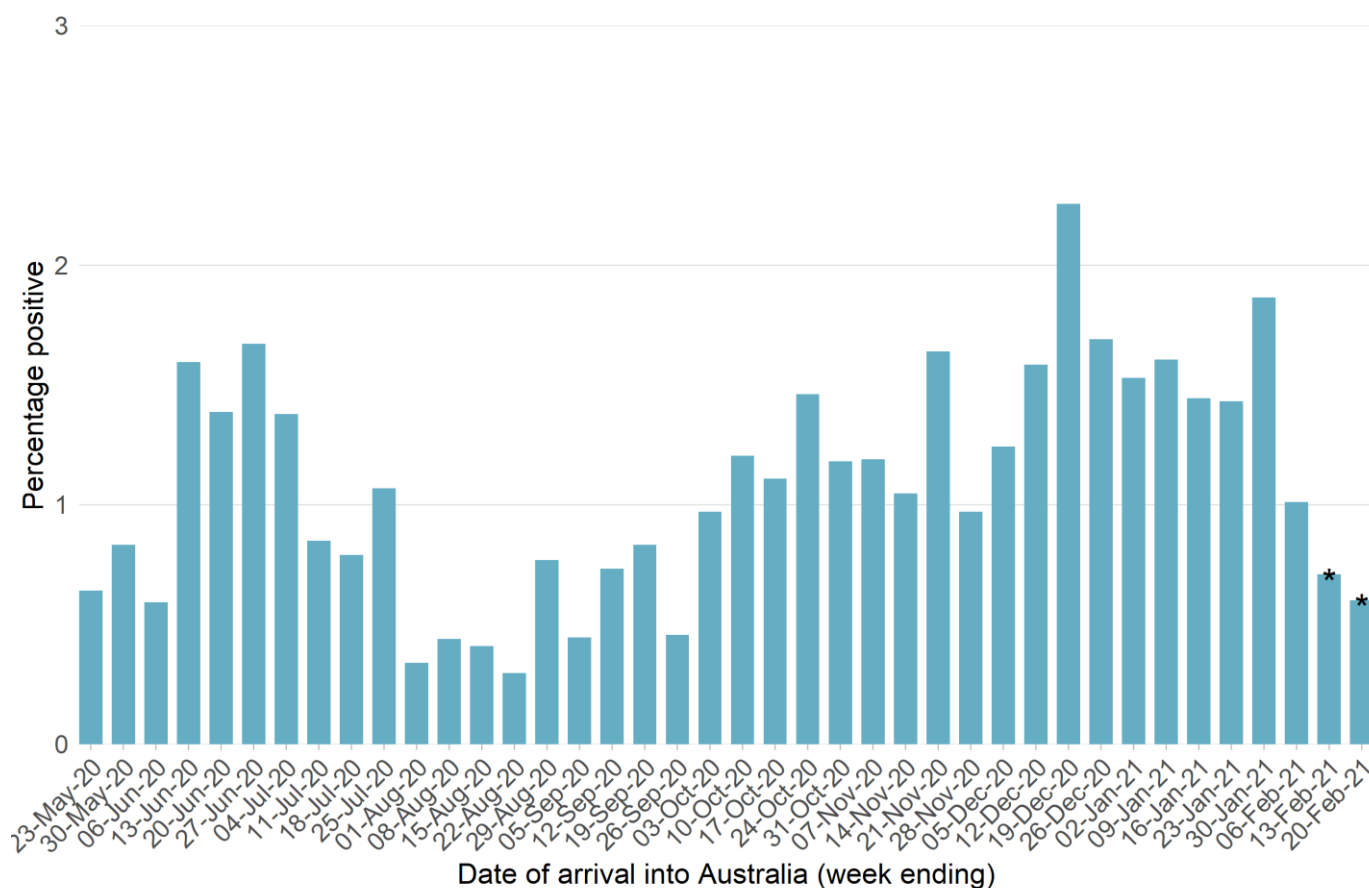
Since hotel quarantine began on 29 March 2020, a total of 175,368 PCR tests have been conducted with 873 overseas acquired cases and 4 interstate acquired COVID-19 cases detected while in hotel quarantine. In the last four weeks, 5,948 returned travellers received an entry swab on day two in hotel quarantine and 5,845 returned travellers received an exit swab.

Figure 10. COVID-19 testing in returned travellers in hotel quarantine, reported from 4 April 2020 to 20 February 2021, NSW



Interpretation: In the week ending 20 February, there were 3,414 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 20 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 14 February 2021

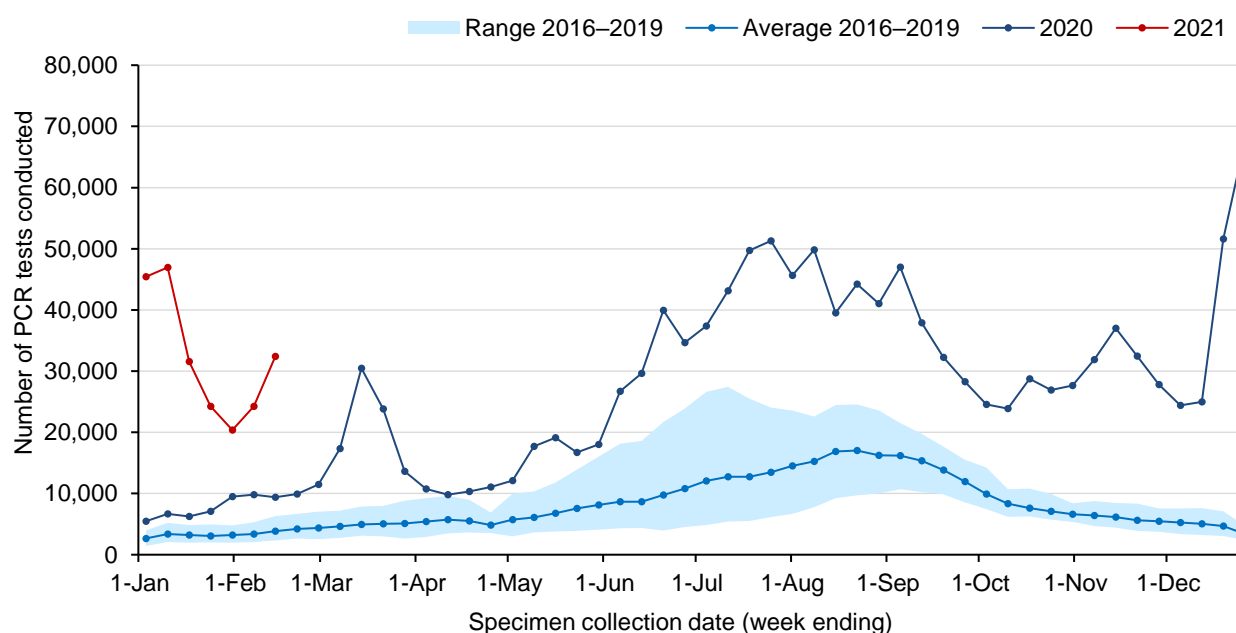
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 14 February 2021. A total of 225,268 influenza tests have been performed at participating laboratories from 4 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 14 February 2021

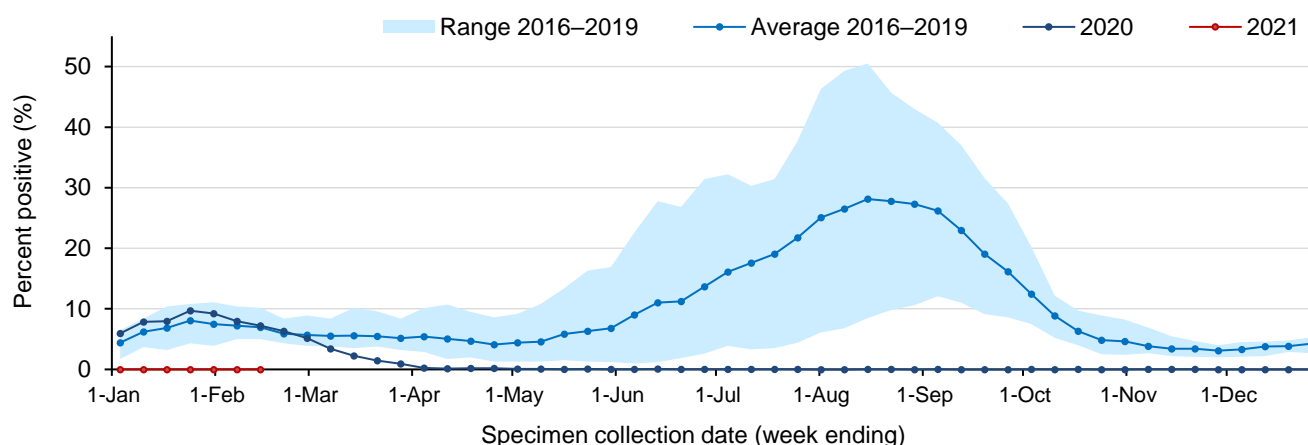


Interpretation: In the week ending 14 February, there were 32,416 influenza tests performed across the participating laboratories. There has been a significant increase in testing over the last two weeks. The testing numbers continue to exceed the four-year average for this time of year.

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 14 February 2021

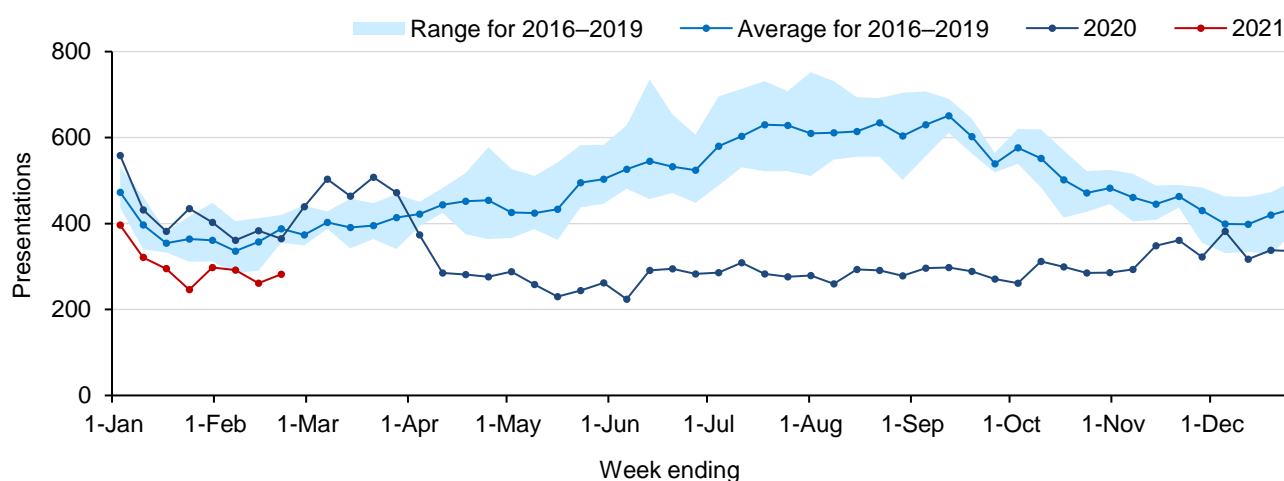


Interpretation: In the week ending 14 February, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year.

How are emergency department presentations for respiratory infections tracking?

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

Figure 14. Emergency Department pneumonia presentations in NSW by week, to 21 February 2021



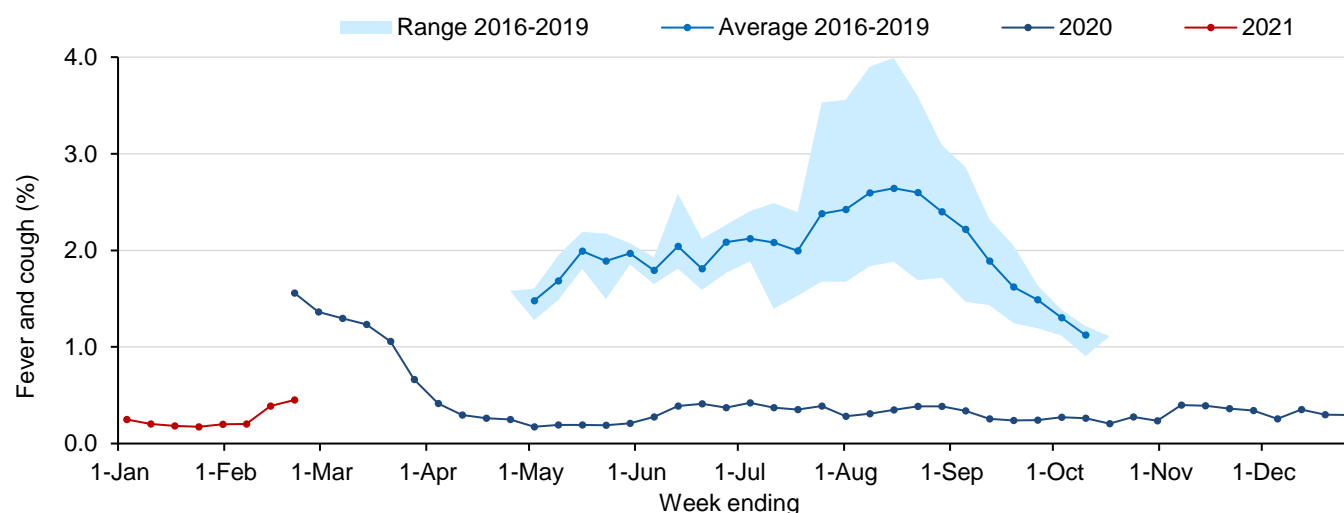
Interpretation: Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 21 February, pneumonia presentations increased slightly but remain 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 21 February 2021



Interpretation: In NSW in the week ending 21 February of the 15,532 people surveyed, 70 people (0.45%) reported flu-like symptoms. In the last four weeks, 70% (151/216) 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	
		20-February		13-February		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	3729	10.57	3391	9.61	181982	515.73
Far West	Balranald	10	4.28	16	6.84	626	267.75
	Broken Hill	83	4.75	75	4.29	8151	466.33
	Central Darling	4	2.18	4	2.18	509	276.78
	Wentworth	59	8.37	31	4.4	3072	435.56
	LHD Total ²	156	5.18	126	4.18	12358	409.97
Hunter New England	Armidale Regional	390	12.67	226	7.34	12486	405.67
	Cessnock	322	5.37	291	4.85	19267	321.2
	Dungog	83	8.81	53	5.62	3043	322.93
	Glen Innes Severn	39	4.4	19	2.14	2247	253.3
	Gunnedah	84	6.62	46	3.63	4009	316.14
	Gwydir	14	2.62	11	2.05	850	158.79
	Inverell	94	5.57	67	3.97	5113	302.72
	Lake Macquarie	2780	13.5	2097	10.18	110883	538.53
	Liverpool Plains	49	6.2	37	4.68	2598	328.74
	Maitland	1264	14.84	1059	12.43	49749	584.14
	Mid-Coast	624	6.65	481	5.13	30617	326.28
	Moree Plains	49	3.7	28	2.11	3635	274.11
	Muswellbrook	130	7.94	84	5.13	5640	344.39
	Narrabri	32	2.44	24	1.83	3181	242.18
	Newcastle	2286	13.81	2090	12.62	108513	655.39
	Port Stephens	768	10.45	535	7.28	35553	483.84
	Singleton	208	8.87	198	8.44	11641	496.19
	Tamworth Regional	598	9.56	457	7.31	27684	442.65
	Tenterfield	19	2.88	25	3.79	1319	200.03
	Upper Hunter Shire	127	8.96	120	8.46	5122	361.21
	Uralla	36	5.99	16	2.66	1521	252.99
	Walcha	21	6.7	15	4.79	1089	347.48
	LHD Total ²	10010	10.51	7974	8.37	445426	467.7
Illawarra Shoalhaven	Kiama	325	13.9	244	10.43	12914	552.21
	Shellharbour	964	13.16	843	11.51	39452	538.72
	Shoalhaven	1047	9.91	834	7.89	43753	414.14
	Wollongong	3492	16.01	5434	24.91	124424	570.45
	LHD Total ²	5828	13.89	7355	17.53	220543	525.59
Mid North Coast	Bellingen	125	9.62	140	10.77	4780	367.81
	Coffs Harbour	472	6.11	442	5.72	25629	331.65
	Kempsey	315	10.59	223	7.5	11323	380.67
	Nambucca	116	5.86	89	4.49	6184	312.24
	Port Macquarie-Hastings	697	8.25	518	6.13	32942	389.73
	LHD Total ²	1725	7.64	1412	6.26	80858	358.31

Local Health District	Local Government Area	Week ending				Total since January 2020	
		20-February		13-February			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Murrumbidgee	Albury	515	9.48	385	7.08	21880	402.55
	Berrigan	23	2.63	29	3.31	2233	255.2
	Bland	38	6.36	29	4.86	1801	301.57
	Carrathool	8	2.86	5	1.79	408	145.77
	Coolamon	28	6.45	26	5.99	1567	360.98
	Cootamundra-Gundagai Regional	69	6.14	59	5.25	3643	324.25
	Edward River	65	7.16	48	5.28	3067	337.63
	Federation	77	6.19	74	5.95	3574	287.37
	Greater Hume Shire	68	6.32	74	6.87	3786	351.73
	Griffith	186	6.88	149	5.51	11065	409.38
	Hay	11	3.73	6	2.03	636	215.67
	Hilltops	126	6.74	79	4.22	6370	340.57
	Junee	48	7.18	48	7.18	1632	244.2
	Lachlan ¹	15	2.47	13	2.14	1147	188.81
	Leeton	53	4.63	35	3.06	3266	285.36
	Lockhart	18	5.48	3	0.91	933	284.02
	Murray River	10	0.83	9	0.74	1002	82.69
	Murrumbidgee	14	3.57	11	2.81	968	247.13
	Narrandera	24	4.07	13	2.2	1332	225.8
	Snowy Valleys	65	4.49	49	3.38	5051	348.85
	Temora	36	5.71	42	6.66	1555	246.55
	Wagga Wagga	745	11.42	663	10.16	31804	487.36
	LHD Total ²	2230	7.48	1839	6.17	107956	362.14
Nepean Blue Mountains	Blue Mountains	1280	16.18	1062	13.42	55192	697.59
	Hawkesbury	849	12.62	719	10.68	38225	568.01
	Lithgow	139	6.43	97	4.49	7874	364.45
	Penrith	2963	13.91	2481	11.65	134137	629.82
	LHD Total ²	5192	13.28	4330	11.07	233566	597.37
Northern NSW	Ballina	479	10.73	451	10.11	17732	397.33
	Byron	397	11.32	419	11.94	17215	490.72
	Clarence Valley	304	5.88	261	5.05	14260	276.02
	Kyogle	54	6.14	47	5.34	2263	257.28
	Lismore	474	10.85	402	9.2	18219	416.99
	Richmond Valley	237	10.1	168	7.16	8389	357.51
	Tenterfield	19	2.88	25	3.79	1319	200.03
	Tweed	781	8.05	751	7.74	31025	319.84
	LHD Total ²	2733	8.81	2503	8.06	109411	352.53
Northern Sydney	Hornsby	2522	16.59	2110	13.88	86773	570.65
	Hunters Hill	520	34.71	552	36.85	19578	1306.94
	Ku-ring-gai	3789	29.8	3220	25.32	114214	898.24
	Lane Cove	1434	35.71	1436	35.76	55707	1387.3
	Mosman	667	21.53	688	22.21	23690	764.66
	North Sydney	963	12.84	994	13.25	42924	572.16

Local Health District	Local Government Area	Week ending				Total since January 2020	
		20-February		13-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Northern Beaches	6007	21.96	5913	21.62	305181	1115.84
	Parramatta ¹	3419	13.29	2835	11.02	126933	493.52
	Ryde	2450	18.66	2061	15.7	79283	603.96
	Willoughby	1422	17.51	1215	14.97	44040	542.44
	<i>LHD Total²</i>	20509	21.45	18793	19.66	796679	833.42
South Eastern Sydney	Bayside	2017	11.31	2066	11.58	84290	472.49
	Georges River	1850	11.6	1592	9.98	71319	447.22
	Randwick	2789	17.92	2970	19.08	116286	747.1
	Sutherland Shire	3677	15.94	3362	14.58	151176	655.55
	Sydney ¹	3920	15.91	4179	16.96	186989	759.06
	Waverley	1548	20.84	1811	24.38	66524	895.4
	Woollahra	1392	23.44	1533	25.81	56092	944.52
	<i>LHD Total²</i>	14532	15.15	14773	15.4	613419	639.58
South Western Sydney	Camden	1699	16.75	1459	14.38	80215	790.79
	Campbelltown	2447	14.31	2014	11.78	108004	631.81
	Canterbury-Bankstown ¹	3993	10.57	3677	9.73	187047	494.94
	Fairfield	1554	7.34	1232	5.82	84484	399.08
	Liverpool	2599	11.42	2246	9.87	132502	582.21
	Wingecarribee	797	15.59	618	12.09	33909	663.14
	Wollondilly	459	8.64	377	7.09	23046	433.61
	<i>LHD Total²</i>	11465	11.04	9645	9.29	554276	533.71
Southern NSW	Bega Valley	285	8.27	191	5.54	12199	353.84
	Eurobodalla	362	9.41	310	8.06	18611	483.74
	Goulburn Mulwaree	304	9.76	244	7.84	12817	411.7
	Queanbeyan-Palerang Regional	351	5.74	302	4.94	17629	288.53
	Snowy Monaro Regional	158	7.6	84	4.04	7740	372.2
	Upper Lachlan Shire	75	9.31	56	6.95	2811	348.8
	Yass Valley	85	4.97	49	2.87	4266	249.66
	<i>LHD Total²</i>	1620	7.46	1236	5.69	76103	350.59
Sydney	Burwood	378	9.31	341	8.4	17329	426.7
	Canada Bay	1672	17.4	1527	15.89	66444	691.59
	Canterbury-Bankstown ¹	3993	10.57	3677	9.73	187047	494.94
	Inner West	3491	17.38	3317	16.52	154859	771.17
	Strathfield	674	14.36	682	14.53	30272	645.1
	Sydney ¹	3920	15.91	4179	16.96	186989	759.06
	<i>LHD Total²</i>	10904	15.65	10537	15.12	479446	688.1
Western NSW	Bathurst Regional	465	10.66	422	9.67	21677	496.97
	Blayney	89	12.06	57	7.72	3555	481.77
	Bogan	8	3.1	7	2.71	959	371.71
	Bourke	7	2.7	9	3.47	579	223.55
	Brewarrina	6	3.72	1	0.62	349	216.64
	Cabonne	109	7.99	66	4.84	3542	259.79
	Cobar	34	7.3	18	3.86	1210	259.77

Local Health District	Local Government Area	Week ending				Total since January 2020	
		20-February		13-February		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Coonamble	13	3.28	12	3.03	1033	260.99
	Cowra	90	7.06	63	4.94	3876	304.17
	Dubbo Regional	403	7.5	381	7.09	20862	388.35
	Forbes	44	4.44	28	2.83	2443	246.62
	Gilgandra	11	2.59	8	1.89	1057	249.35
	Lachlan ¹	15	2.47	13	2.14	1147	188.81
	Mid-Western Regional	198	7.84	167	6.61	9523	377.13
	Narromine	40	6.14	42	6.44	1983	304.28
	Oberon	25	4.62	24	4.44	1861	343.93
	Orange	598	14.09	428	10.08	24281	571.98
	Parkes	74	4.99	60	4.04	4574	308.28
	Walgett	23	3.86	11	1.85	1730	290.61
	Warren	29	10.75	21	7.79	1462	542.08
	Warrumbungle Shire	86	9.27	57	6.14	3024	325.93
	Weddin	39	10.79	13	3.6	917	253.81
	<i>LHD Total²</i>	2403	8.43	1905	6.68	111308	390.54
Western Sydney	Blacktown	5706	15.24	4678	12.49	216636	578.54
	Cumberland	2968	12.29	2438	10.09	139628	578.12
	Parramatta ¹	3419	13.29	2835	11.02	126933	493.52
	The Hills Shire	4092	22.99	3246	18.24	139199	782.15
	<i>LHD Total²</i>	15550	14.76	12687	12.04	602739	572.17
NSW Total³		114222	14.12	104662	12.94	4928534	609.23

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

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

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

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

APPENDIX B: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 14 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 2020–14 February 2021

Specimen collection date	PCR tests conducted	Influenza A No.	%Pos.	Influenza B No.	%Pos.	Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
Total	225,268	4	0.00%	0	0.00%	623	117	4,465	6,892	31	938
Month ending											
31 January	168,596	2	0.00%	0	0.00%	416	88	3,275	3,541	23	560
Week ending											
7 February	24,256	1	0.00%	0	0.00%	102	12	614	1,292	4	187
14 February	32,416	1	0.00%	0	0.00%	105	17	576	2,059	4	191

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
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

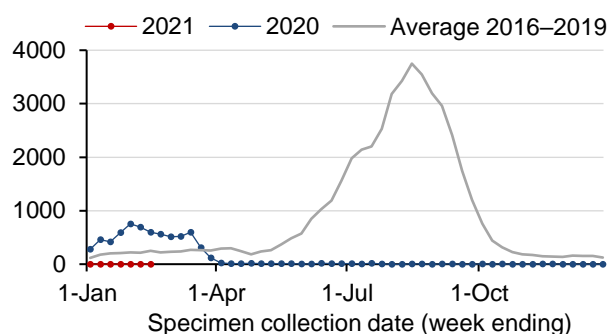
RSV - Respiratory syncytial virus

*Five-week period

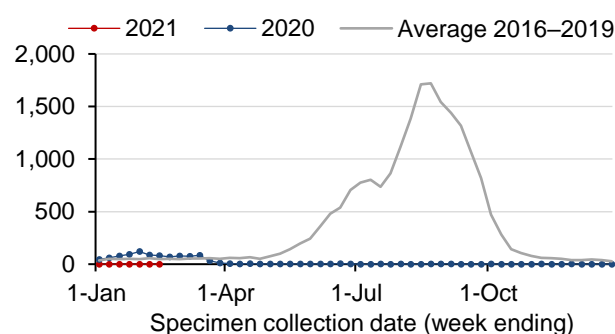
APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, January 2020 to 14 February 2021

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.

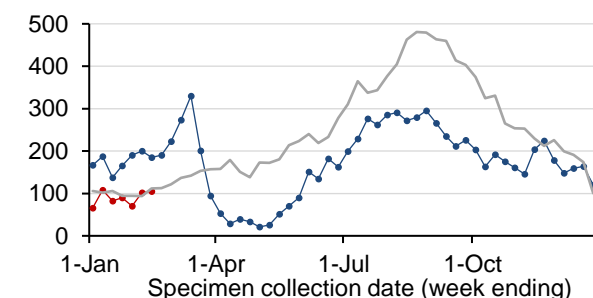
Influenza A



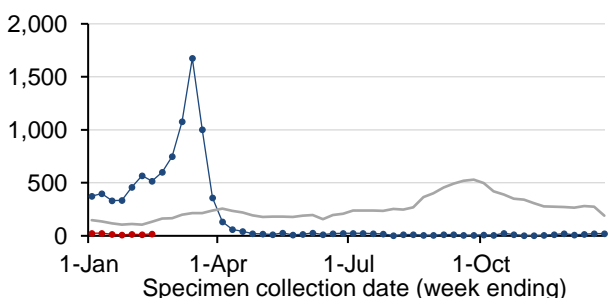
Influenza B



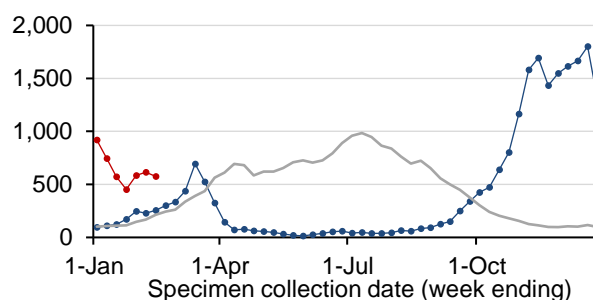
Adenovirus



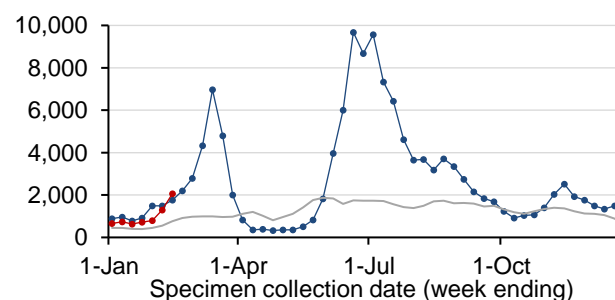
Parainfluenza



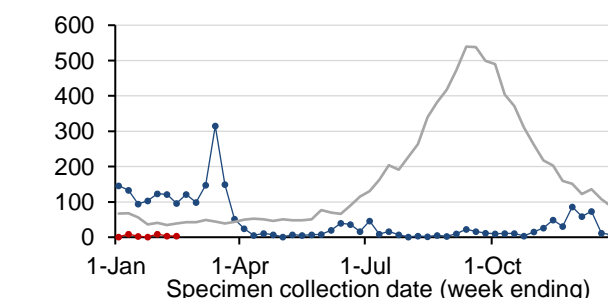
Respiratory syncytial virus (RSV)



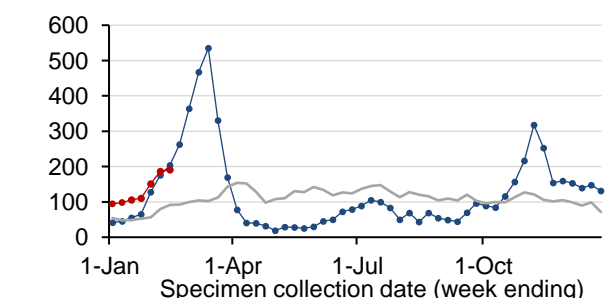
Rhinovirus



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 20 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		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Pop.	Location	51	52	53	1	2	3	4	5	6	7
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										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		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Network	Location	51	52	53	1	2	3	4	5	6	7
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
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										
North Head	Auburn Sewage Network										
North Head	Camellia Sewage Pumping Station - North										
North Head	Camellia Sewage Pumping Station - South										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										

Regional Sites		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Pop.	Location	51	52	53	1	2	3	4	5	6	7
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										

Regional Sites (cont.)		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Pop.	Location	51	52	53	1	2	3	4	5	6	7
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
	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 -Koorringal STP										
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										
	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										

Regional Sites (con't)		19-Dec	26-Dec	2-Jan	9-Jan	16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb
Pop.	Location	51	52	53	1	2	3	4	5	6	7
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	
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
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										

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	<p>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).</p> <p>Case counts include:</p> <ul style="list-style-type: none"> - 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	<p>This date is provided to NSW Health by the laboratory. Laboratories prioritise notification of positive results to allow prompt public health action.</p> <p>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.</p> <p>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.</p>