

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 11, ENDING 20 MARCH 2021

Published 24 March 2021

### Summary for the week ending 20 March 2021

- There was one locally acquired case of COVID-19 reported in the week ending 20 March. The case is an overseas returned traveller who likely acquired their infection while in hotel quarantine. This case was identified as part of the investigation into transmission of COVID-19 from another returned traveller to a security guard on the same floor of a quarantine hotel (reported in week ending 13 March).
- The number of cases reported in overseas returned travellers decreased this week (down 13%) compared to the previous week.
- There were four cases reported in the week ending 20 March found to have a SARS-CoV-2 variants of concern (VoCs). Three cases were reported in returned travellers who acquired their infection overseas and one was reported in the locally acquired case who acquired their infection in hotel quarantine (see above).
- Of all 469 returned travellers diagnosed with COVID-19 since 29 November 2020, 82 (17%) have been diagnosed with a VoC.
- Testing rates decreased across most Local Health Districts compared to the previous week (down 3%).
- The NSW Sewage Surveillance Program reported five detections – taken from the Bondi and Malabar treatment plants, and the sewage network at Paddington (within the Bondi catchment), Homebush (within the Malabar catchment) and Botany (within the Malabar catchment). All detections were associated with known cases.

## Table of Contents

Section 1: How is the outbreak tracking in NSW?	3
Section 2: Variants of concern (VoC)	4
Section 3: Locally acquired COVID-19 transmission in NSW in the last four weeks	5
Section 4: Current COVID-19 clusters in NSW	6
Section 5: COVID-19 in returned travellers	7
Section 6: COVID-19 in specific populations	10
Section 7: COVID-19 deaths	122
Section 8: COVID-19 testing in NSW	14
Section 9: NSW Sewage Surveillance Program	17
Section 10: Other respiratory infections in NSW	18
Appendix A: COVID-19 PCR tests in NSW by Local Government Area <sup>4</sup>	21
Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 14 March 2021	25
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 14 March 2021	26
Appendix D: SARS-CoV-2 testing in sewage samples collected in the previous 10 weeks, week ending 20 March 2021	27
Glossary	32

## Section 1: How is the outbreak tracking in NSW?

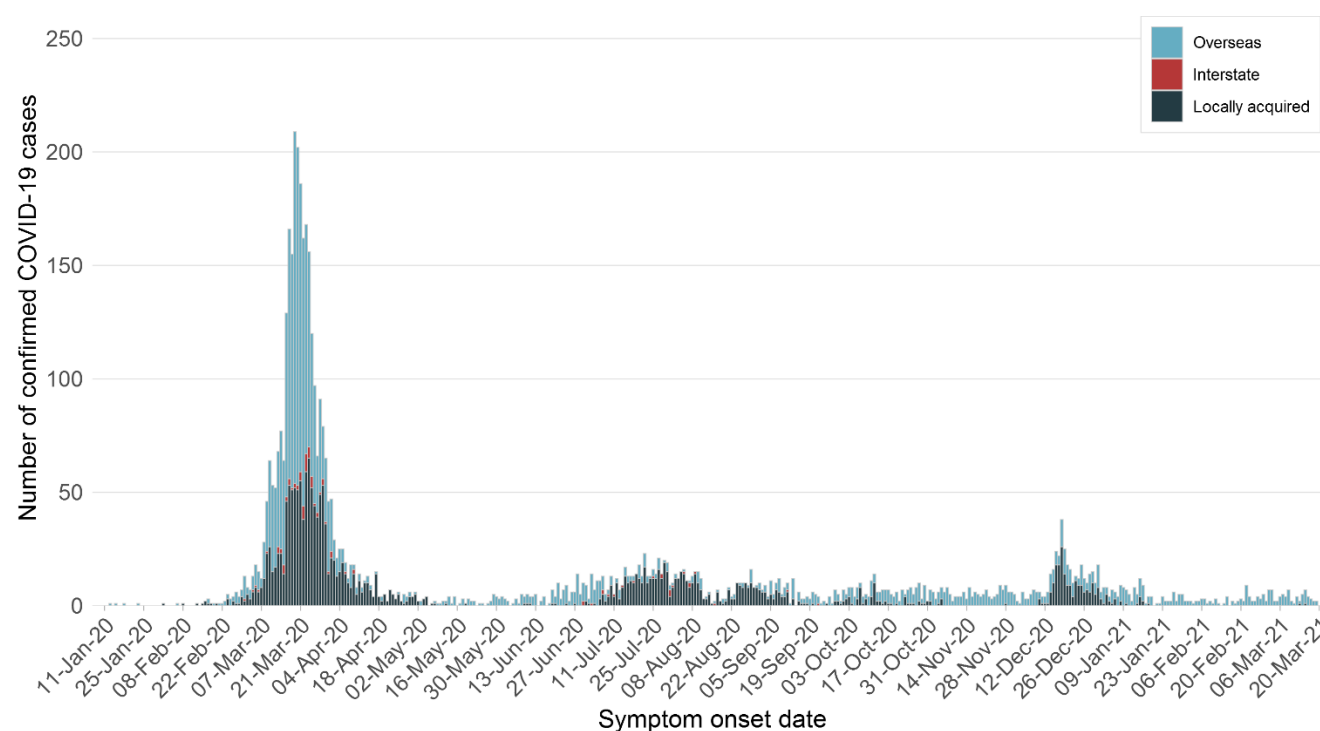
Table 1. COVID-19 cases and tests reported, NSW, from 25 January 2020 to 20 March 2021

	Week ending 20 Mar	Week ending 13 Mar	% change	Pandemic total
Number of cases	26	30	↓ 13%	5,075
Overseas acquired	25	29	↓ 14%	2,896
Interstate acquired	0	0	-	90
Locally acquired	1	1	-	2,089
No epidemiological links to other cases or clusters	0	0	-	447
Number of deaths	0	0	-	56
Number of tests	75,261	76,220	↓ 1%	5,263,549

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

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

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, week ending 2 March



**Interpretation:** All but two COVID-19 cases diagnosed in the last four weeks in NSW were overseas acquired (98%). The two locally-acquired cases were detected following transmission from an overseas returned traveller, while in hotel quarantine.

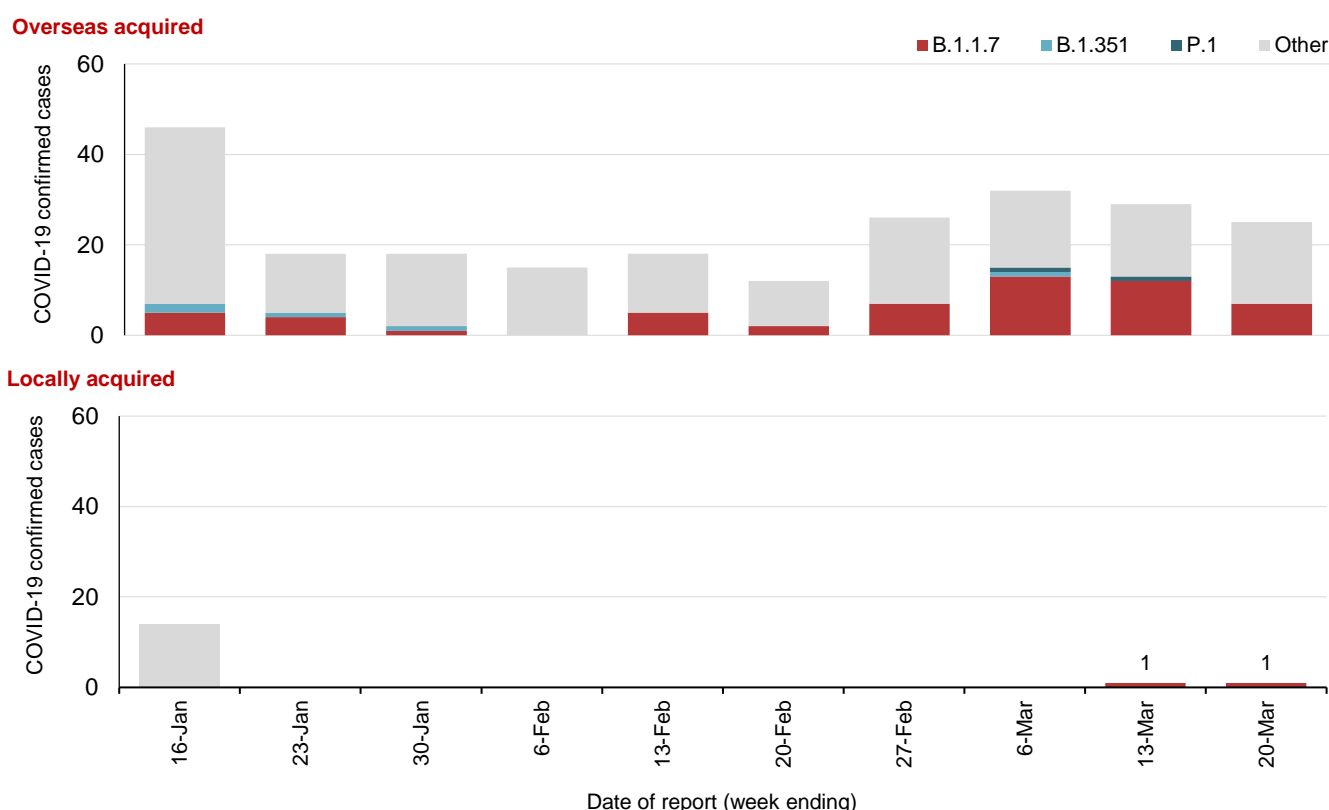
## Section 2: Variants of concern (VoC)

Like other viruses, the SARS-CoV-2 virus that causes COVID-19 acquires mutations over time. Some of these mutations occur in regions that are critical to virus function, such as the spike protein. The spike protein allows the virus to enter human cells, which is why it is the target of many COVID-19 vaccines and part of our own immune response to the virus. Global surveillance is done to monitor the prevalence of mutations in the SARS-CoV-2 virus, with particular focus on those occurring in the spike protein that may reduce vaccine effectiveness or enable re-infection.

Currently, there are five internationally recognised variants of concern (VoCs), B.1.1.7, B.1.351, B.1.427, B.1.429 and P.1, that were first identified in the United Kingdom, South Africa, United States of America (B.1.427 and B.1.429) and Brazil, respectively. All five VoCs have since spread beyond their initial country of origin with B.1.1.7 the most widely distributed worldwide. NSW Health Pathology has identified three of the VoCs in NSW.

NSW Health has strict protocols in place for managing the health of those identified to have a VoC to address the additional risk associated with the new variants. Since 29 November 2020, 81 (17%) COVID-19 overseas acquired cases, and two locally acquired cases, have been diagnosed with a VoC. There has been no ongoing transmission from the locally acquired cases of VoCs in the community.

**Figure 2. Confirmed COVID-19 cases reported date in the last 10 weeks, by place of acquisition and VoC, NSW, 7 January to 20 March 2021**



**Interpretation:** In the week ending 20 March, eight returned travellers and one locally acquired case (which was transmitted from an overseas traveller in hotel quarantine) were reported as having a COVID-19 VoC, which is 31% (8/26) of all cases reported this week.

Since 29 November 2020, of the 81 returned travellers with a VoC, majority likely acquired their infection in Lebanon (25). The remaining cases likely acquired their infection in the United Kingdom (14), India (10), South Africa (7), the United Arab Emirates (5), USA (5), Germany (3), and one case each in Finland, France, Jordan, Netherlands, Nigeria, Pakistan, Spain and Zambia. There are four cases where the likely country of acquisition was unable to be determined.

## Section 3: Locally acquired 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 by LHD of residence and week reported, NSW, 21 February to 20 March 2021**

Local Health District	Week ending				Total	Days since last case reported
	20 March	13 Mar	6 Mar	27 Feb		
Central Coast	0	0	0	0	0	81
Illawarra Shoalhaven	0	0	0	0	0	77
Nepean Blue Mountains	0	0	0	0	0	186
Northern Sydney	0	0	0	0	0	68
South Eastern Sydney	0	1	0	0	1	7
South Western Sydney	0	0	0	0	0	71
Sydney	0	0	0	0	0	68
Western Sydney	0	0	0	0	0	63
Far West	0	0	0	0	0	352
Hunter New England	0	0	0	0	0	226
Mid North Coast	0	0	0	0	0	333
Murrumbidgee	0	0	0	0	0	194
Northern NSW	0	0	0	0	0	238
Southern NSW	0	0	0	0	0	152
Western NSW	0	0	0	0	0	233
<b>NSW*</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>7</b>

\*Includes people with a usual place of residence outside of NSW

**Interpretation:** In the week ending 20 March, there was one locally acquired case in a returned traveller (with a usual residence outside of NSW). Whole genome sequencing results support the epidemiological investigation that indicates that there was transmission within the quarantine hotel. The cases had the identical B.1.1.7 lineage (also known as the UK variant) as the previously reported locally acquired case in a security guard who worked in the quarantine hotel.

## **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**

#### **Hotel quarantine cluster**

A non-negative saliva result was notified on 14 March 2021 through the quarantine worker screening program. The result was subsequently confirmed as a positive COVID-19 detection in a security guard working across two quarantine hotels. Whole genome sequencing results indicated a match to a previously reported returned traveller, who was in the same quarantine hotel and on the same floor where the case worked. The returned traveller and security guard both have the B.1.1.7 lineage (also known as the UK variant).

In the week ending 20 March, an additional case in a returned traveller on the same floor of the quarantine hotel was notified. This case was identified as part of the investigation into the previous transmission and had an identical B.1.1.7 lineage as both the security guard and the source case. This case was quarantining in their hotel room during the time transmission occurred from the source case to the security guard.

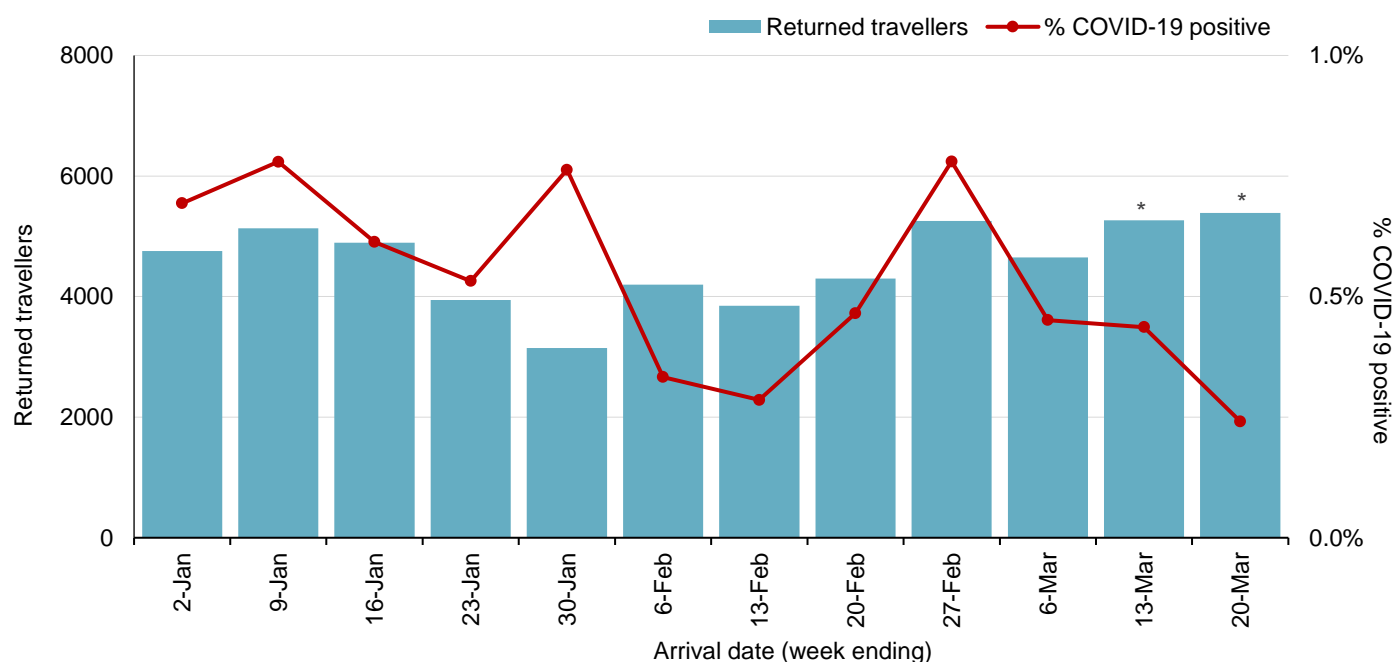
## Section 5: COVID-19 in returned travellers

To limit the spread of COVID-19 into NSW, travel restrictions were introduced for all non-Australian citizens and permanent residents in mid-March 2020. In addition:

- From 29 March 2020 returned travellers have been quarantined in hotels for a 14-day period and travellers who develop symptoms are isolated until no longer infectious. Returned travellers are screened on entry and exit from quarantine and following release from quarantine.
- From 22 January 2021 (local time at departure point) all people travelling to Australia on flights must provide proof of a negative COVID-19 PCR test result at the time of check-in.

The figure below shows the number of returned travellers screened at Sydney International Airport since 2021. Returned travellers include international flight crew who are required to be tested before leaving the airport.

**Figure 3. Returned travellers screened at Sydney International Airport by week of arrival and percent positive, NSW, 27 December 2020 to 20 March 2021**



\*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

**Interpretation:** Since 27 December 2020, there has been on average 650 people screened on arrival through Sydney International Airport daily. In the last four weeks, 112 returned travellers have subsequently tested positive for COVID-19 while completing quarantine. The proportion of returned travellers who test positive for COVID-19 has remained very low, at less than 1%.

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

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

**Figure 4. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 September 2020 to 20 March 2021**



**Interpretation:** In February and March, there has been an increase in detections of COVID-19 in travellers from Lebanon and India. 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, travellers returning from Lebanon accounted for the largest number of overseas acquired cases (24, 21%), followed by travellers returning from India (21, 19%) and the United States of America (14, 13%).



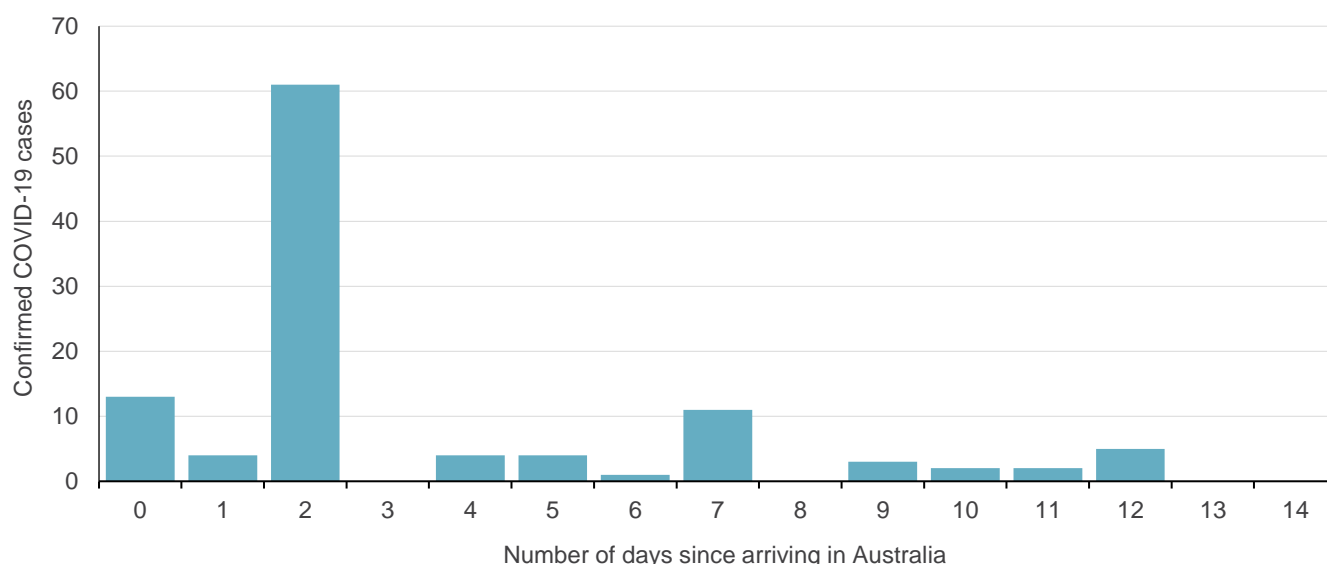
## Hotel quarantine

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 these two tests, including those that are symptomatic on arrival.

Overseas returned travellers complete their quarantine in several facilities with majority of people in police-managed hotels or hotels managed by NSW Health (known as Special Health Accommodation). Since September 2020 international flight crew are also required to quarantine in police-managed hotels.

The figure below shows the number of overseas returned travellers within the quarantine program that have tested positive for COVID-19, by the number of days since they arrived in Australia.

**Figure 5. Number of overseas-acquired cases in returned travellers who test positive for SARS-CoV-2 by days since arrival in NSW, 21 February to 20 March 2021**



**Interpretation:** In the four weeks ending 20 March 2021, 70% of overseas acquired COVID-19 cases have tested positive within 2 days of arriving to Australia, with most people testing positive on day 2 screening.

## Section 6: COVID-19 in specific populations

### 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 March.

In total, there have been 48 cases of COVID-19 in health care workers since 1 August 2020. Of these, 25 HCWs were potentially infected in healthcare settings. A further nine cases were social or household contacts of a known case, eight were exposed in community settings, and for six cases the source of infection is unknown. Prior to August 2020, there were 206 cases identified in HCWs who had worked in a health facility in the 14 days prior to symptom onset or date of testing (see [COVID-19 in healthcare workers in NSW](#)).

### Aboriginal people

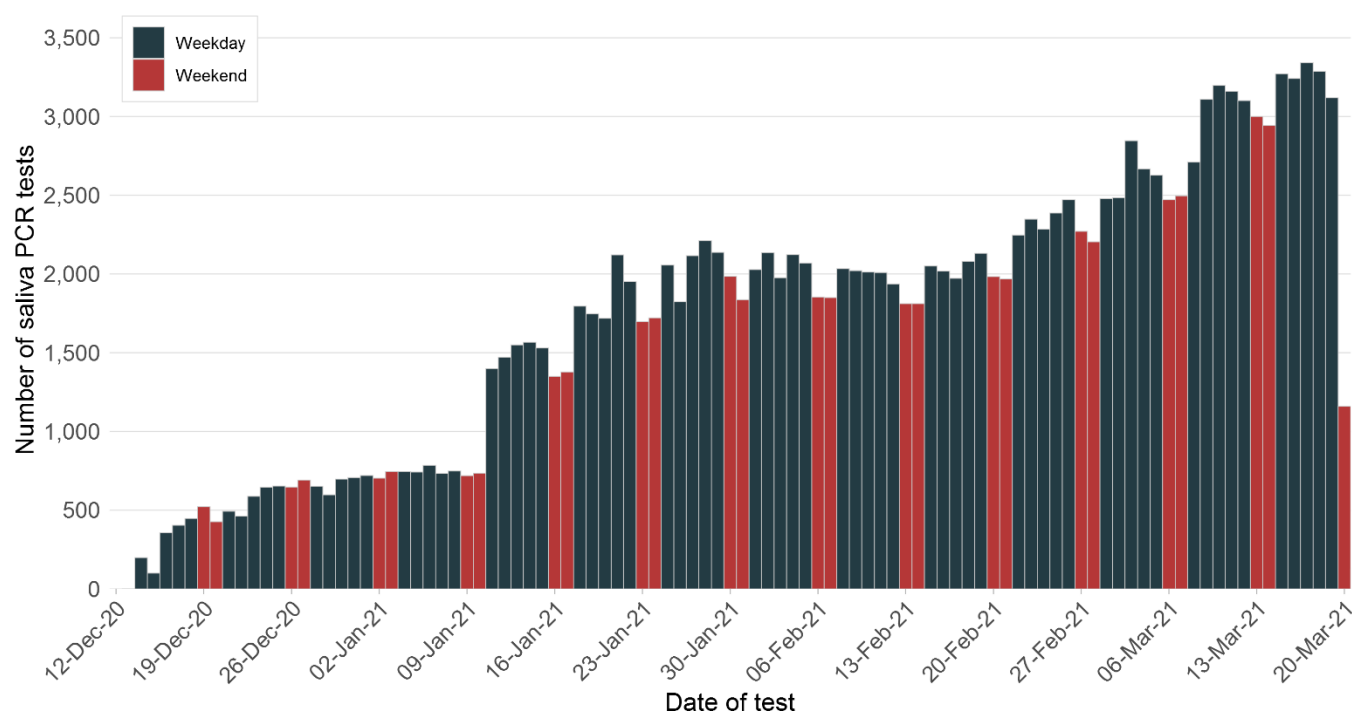
There were no cases of COVID-19 reported in Aboriginal people in the week 20 March.

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 numbers of COVID-19 cases are seen in returned overseas travellers 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 6. Daily numbers of saliva PCR test results reported for workers in quarantine facilities, NSW, 12 December 2020 to 20 March 2021**



## Section 7: COVID-19 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 March.

**Table 3. Deaths as a result of COVID-19, by age group, NSW, 2020 and 2021**

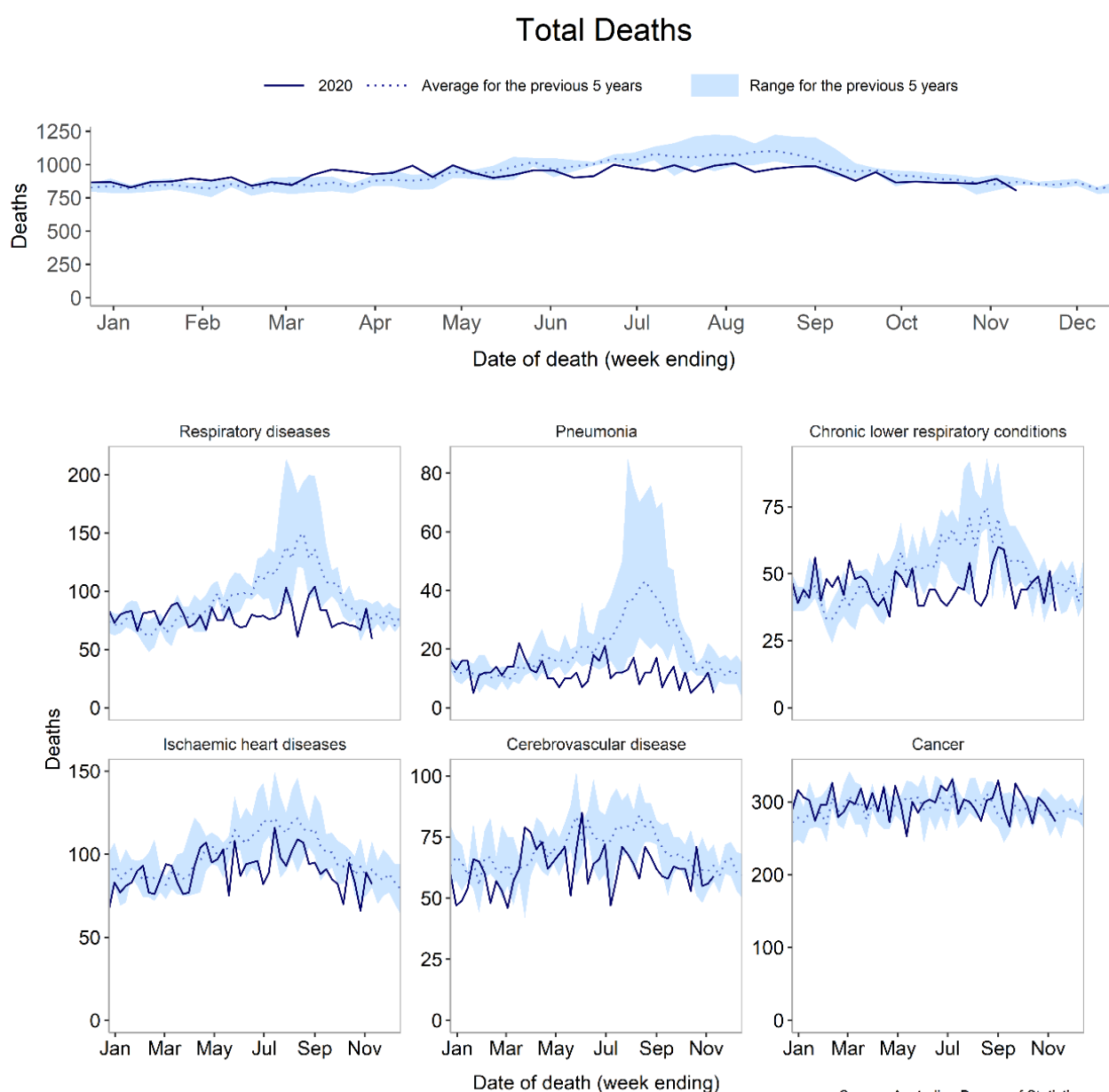
Age group (years)	Number of deaths	Number of cases	Case fatality rate
0–4	0	118	0%
5–11	0	120	0%
12–17	0	163	0%
18–29	0	1,141	0%
30–49	0	1,651	0%
50–59	1	692	0.1%
60–69	4	639	0.6%
70–79	15	387	3.9%
80+	36	164	22.0%
<b>Total</b>	<b>56</b>	<b>5,075</b>	<b>1.1%</b>

**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.

## How many people have died in NSW from any cause of death?

The Australian Bureau of Statistics (ABS) has published Provisional Mortality Statistics for all of Australia for January to November 2020 (<https://www.abs.gov.au/statistics/health/causes-death/provisional-mortality-statistics/latest-release>) and provides monthly data for NSW-registered deaths to NSW Health around three months after the close of the month. The reported counts are doctor-certified deaths and excludes those referred to a coroner, such as suicides, accidents and assaults. In Australia, approximately 86–89% of deaths are certified by a doctor. Deaths from any cause are seasonal, increasing in winter and decreasing in summer.

Figure 7. Deaths from any cause in NSW from January to 24 November 2020



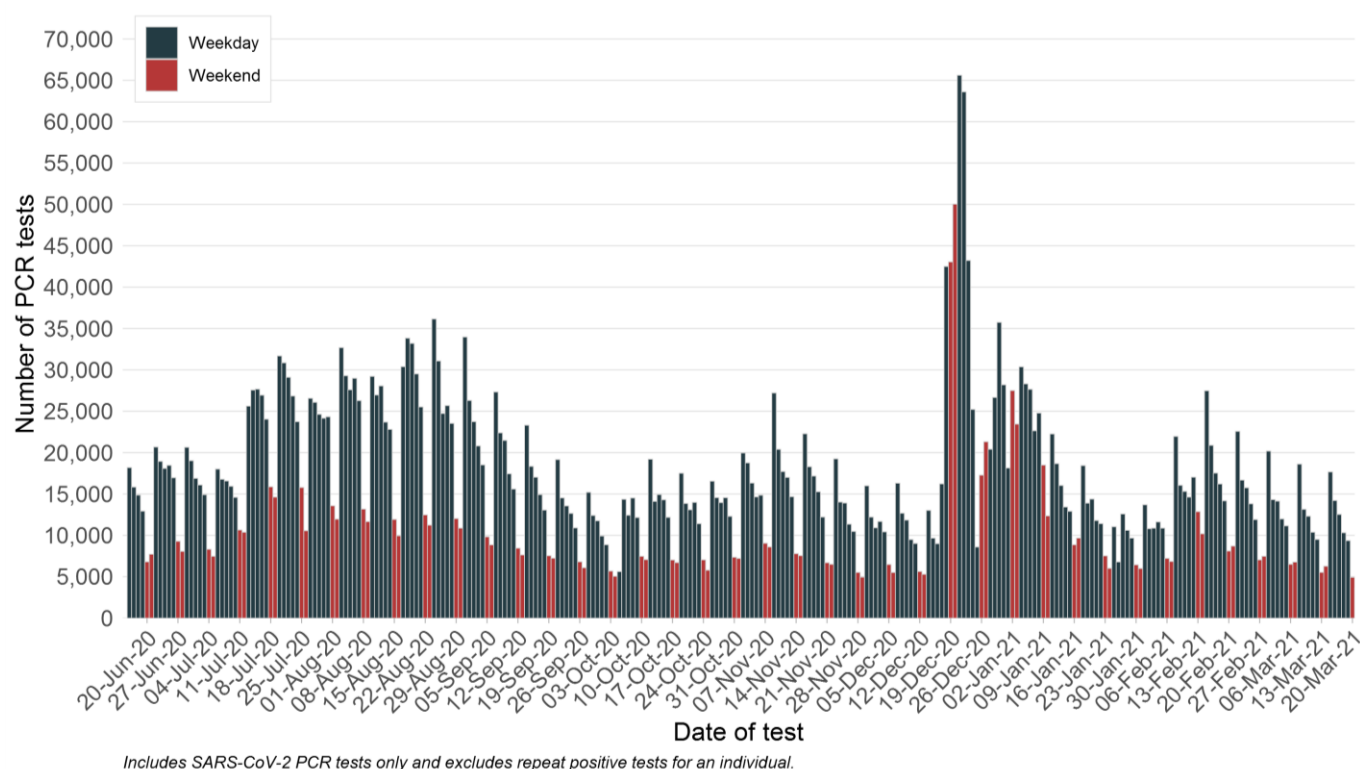
**Interpretation:** While the total number of deaths registered in NSW in 2020 have remained similar to previous years, there have been fewer deaths in the past year due to respiratory diseases, particularly pneumonia. This is likely partly attributable to international travel restrictions, physical distancing, use of face masks, and hand hygiene measures that have been put in place to help control the pandemic. These measures have reduced transmission of many infectious diseases that are transmitted person-to-person. The patterns of deaths from heart attack and stroke are also below the usual range. Deaths from cancer, however, remain similar to previous years.

## Section 8: 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, there may be less demand and availability for testing through GPs and private collection centres on weekends and public holidays. This likely explains lower testing numbers on weekends.

Figure 8. Number of PCR tests per day, NSW, 20 June 2020 to 20 March 2021

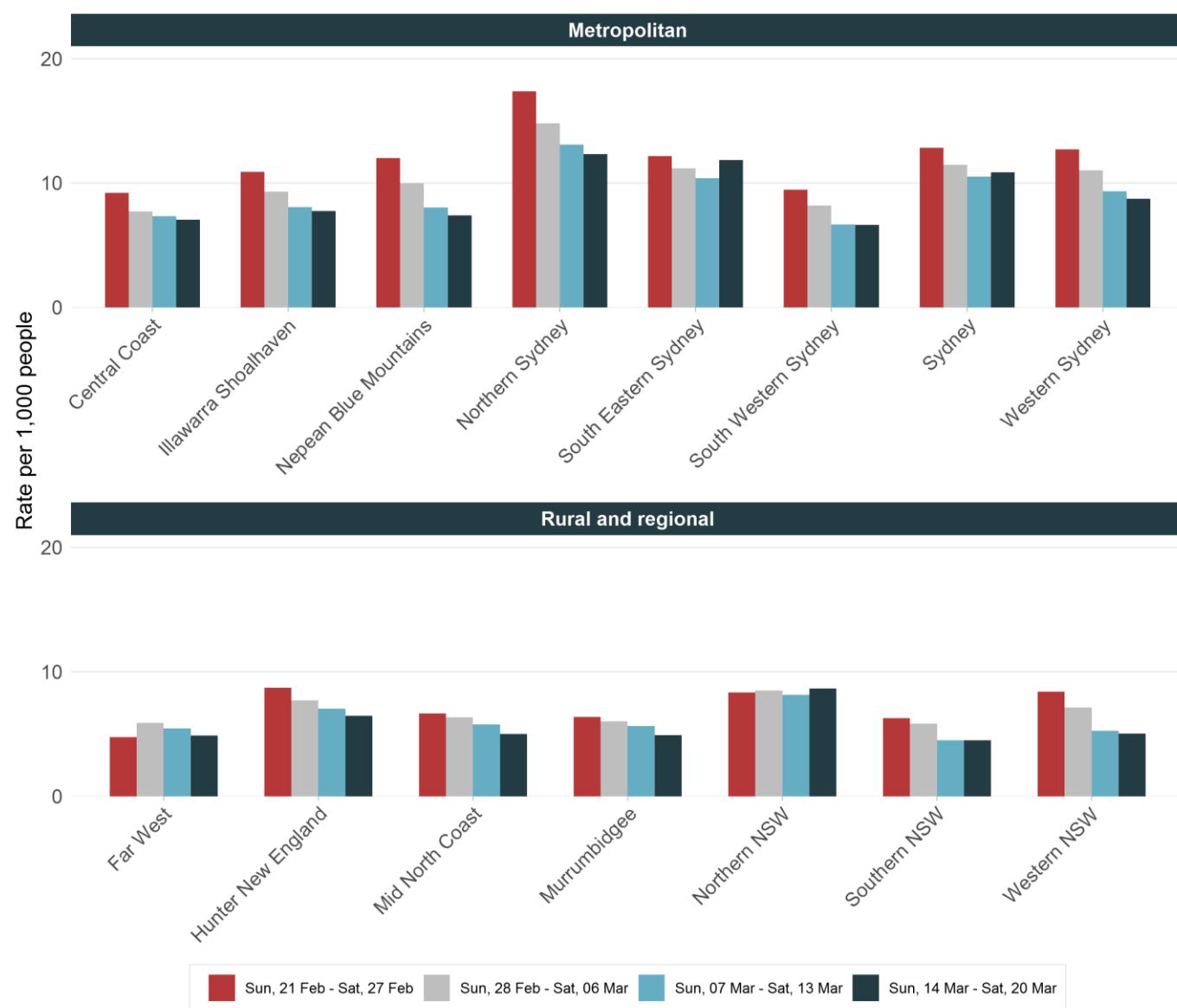


**Interpretation:** Testing numbers slightly decreased in the week ending 20 March (down 3%) compared to the previous week. The average daily testing rate of 1.3 per 1,000 people in NSW each day has decreased compared to the previous week of 1.4 per 1,000 people.

<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.

## Testing by Local Health District

Figure 9. Rates of COVID-19 testing by LHD of residence, NSW, 14 February to 20 March 2021

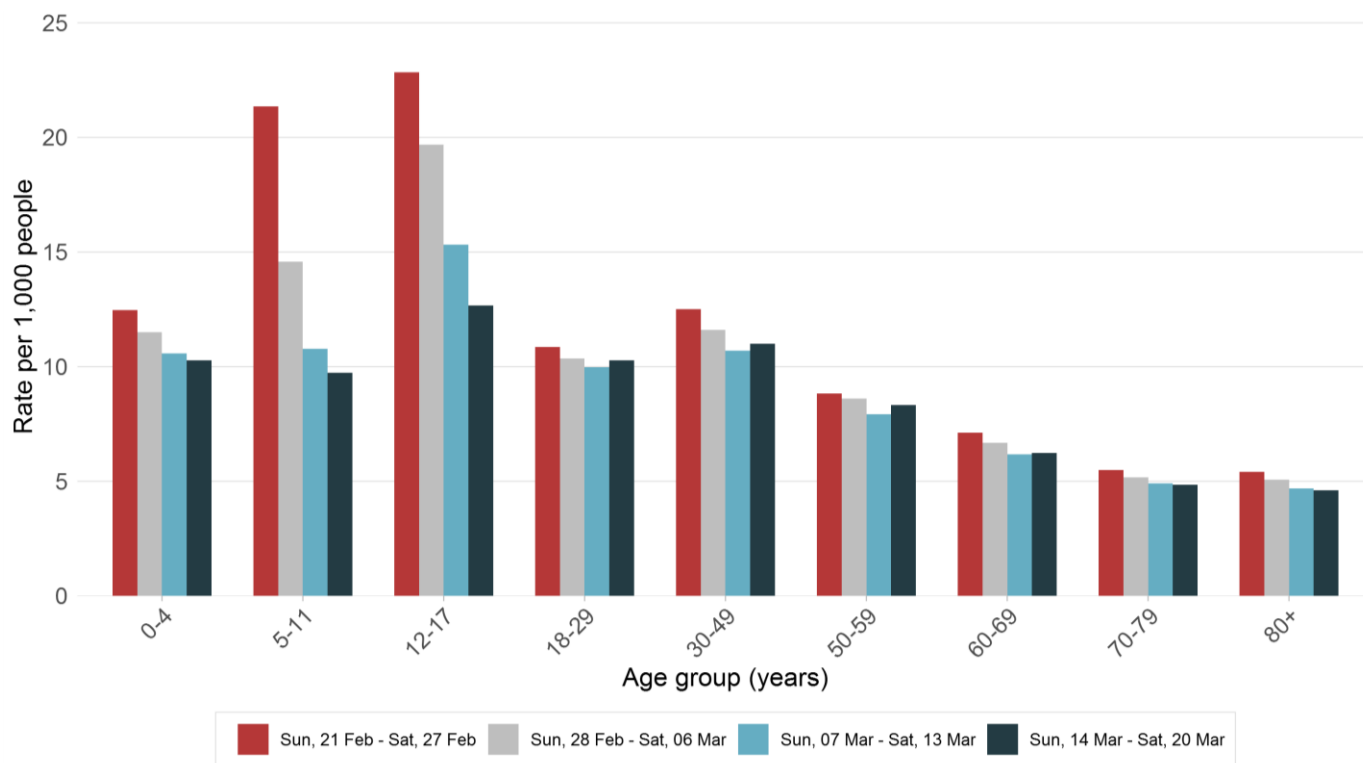


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

**Interpretation:** State-wide testing rates in the week ending 20 March were the same compared to the previous week (9 per 1,000 people). The decrease in testing rates was seen across most LHDs, except South Eastern Sydney which may have increased in response to the recent locally acquired case, and Northern and Southern NSW which remained similar.

## Testing by age group

Figure 10. Rates of COVID-19 testing by age group and week, NSW, 14 February to 20 March 2021



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

**Interpretation:** In the week ending 20 March, testing rates have decreased or remained similar in all age groups excluding those aged 18-29, 30-49 and 50-59 years. Testing rates decreased further in children aged 5-11 years, after increased testing in February.



## Section 9: 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 4. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 3 January 2021 to 20 March 2021**

		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Pop.	Location	2	3	4	5	6	7	8	9	10	11
<b>Sydney Sites</b>											
69,245	Warriewood										
57,933	West Hornsby										
318,810	Bondi							n	n	n	n
1,857,740	Malabar 1							n	n	n	n
	Malabar 2										
181,005	Liverpool				n						
161,200	Glenfield										
1,341,986	North Head						n	n			
<b>Sydney Network Sites</b>											
Bondi	Paddington Sewage Network										
Malabar	Homebush SPS										
Malabar	Botany Sewage Network										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										

Sampling commenced week ending 18 July 2020

	not sampled or analysed
	SARS-CoV-2 not detected
	SARS-CoV-2 detected
SPS	Sewage Pumping Station
n	result from network sites

**Interpretation:** In the week ending 20 March, 135 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 Paddington (within the Bondi catchment), Homebush (within the Malabar catchment) and Botany (within the Malabar catchment). These areas all receive sewage from quarantine hotels with known cases. There were no regional detections.

## Section 10: Other respiratory infections in NSW

### Influenza and other respiratory virus cases and tests reported in NSW, up to 14 March 2021

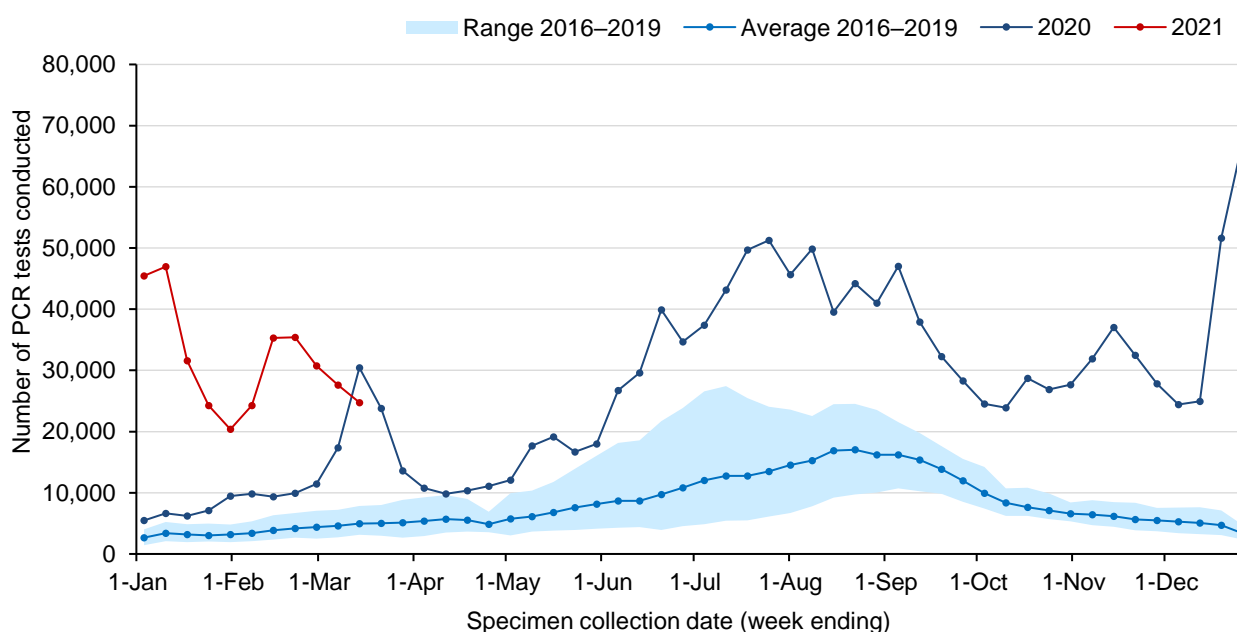
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 14 March 2021. A total of 346,644 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, the dark blue line showing PCR tests for 2020. The light blue line shows the average number of PCR tests carried out for the same week in the previous four years (2016–2019) and the shaded area shows the range of tests reported in the same time period.

Figure 11. Testing for influenza by week, NSW, 1 January 2016 to 14 March 2021

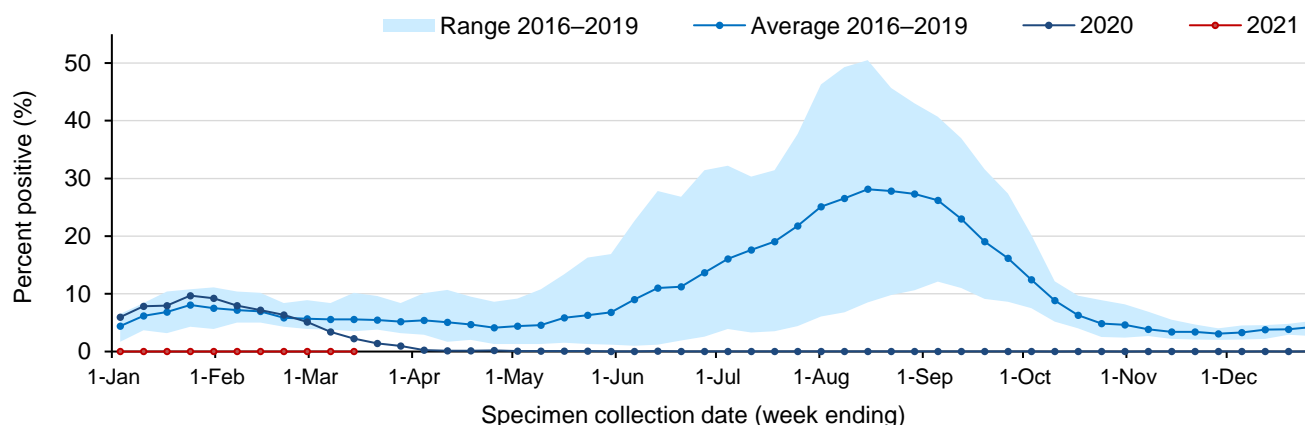


**Interpretation:** In the week ending 14 March, there were 24,718 influenza tests performed across the participating laboratories. Testing has decreased, following a similar pattern to COVID-19 testing. The testing numbers continue to exceed the four-year average for this time of year.

## 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 dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 12. Proportion of tests positive for influenza, NSW, 1 January 2016 to 14 March 2021

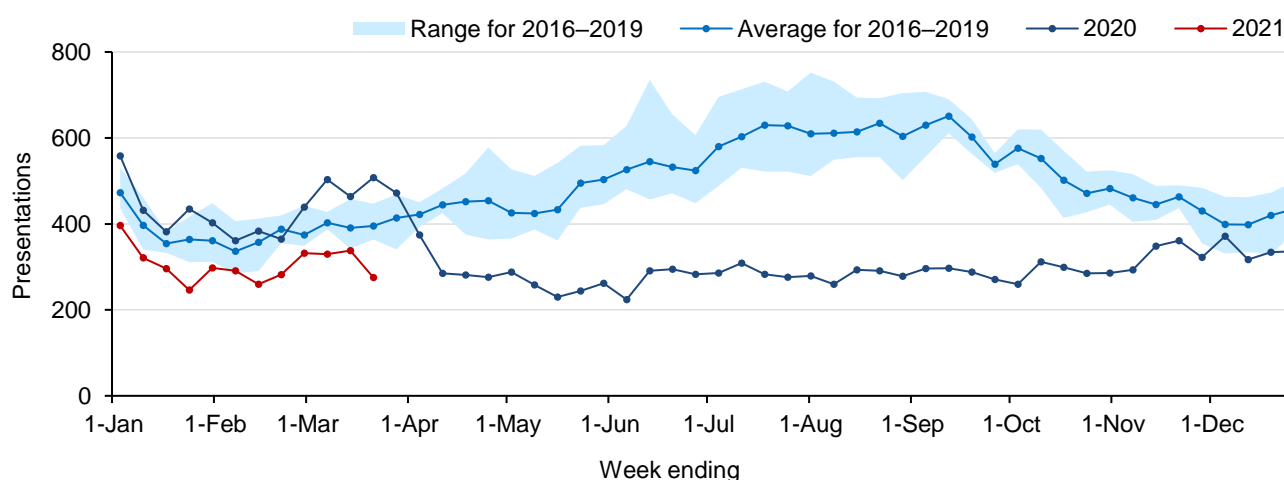


**Interpretation:** In the week ending 14 March, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year.

## 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 dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 13. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 21 March 2021



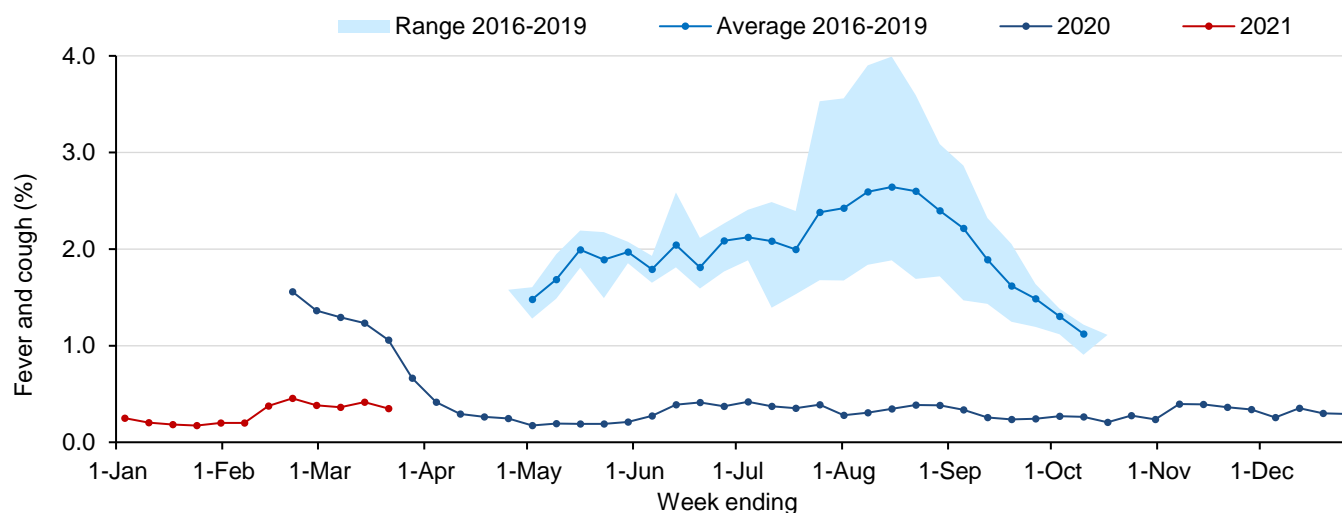
**Interpretation:** Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 21 March, pneumonia presentations decreased well 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 14. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 21 March 2021**



**Interpretation:** In NSW in the week ending 21 March of the 15,701 people surveyed, 55 people (0.35%) reported flu-like symptoms. In the last four weeks, around two-thirds (163/271) 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 2021	
		20-March		13-March		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Central Coast	Central Coast / LHD Total2	2487	7.05	2594	7.35	193109	547.26
	Balranald	4	1.71	6	2.57	654	279.73
Far West	Broken Hill	112	6.41	123	7.04	8645	494.59
	Central Darling	8	4.35	7	3.81	526	286.03
	Wentworth	23	3.26	28	3.97	3175	450.16
	LHD Total2	147	4.88	164	5.44	13000	431.26
	Armidale Regional	193	6.27	198	6.43	13352	433.8
Hunter New England	Cessnock	206	3.43	221	3.68	20206	336.85
	Dungog	59	6.26	50	5.31	3292	349.36
	Glen Innes Severn	39	4.4	47	5.3	2405	271.11
	Gunnedah	39	3.08	64	5.05	4248	334.99
	Gwydir	8	1.49	2	0.37	883	164.95
	Inverell	70	4.14	67	3.97	5410	320.31
	Lake Macquarie	1648	8	1800	8.74	118496	575.5
	Liverpool Plains	36	4.56	35	4.43	2778	351.51
	Maitland	818	9.6	846	9.93	53490	628.07
	Mid-Coast	367	3.91	393	4.19	32349	344.74
	Moree Plains	41	3.09	54	4.07	3879	292.51
	Muswellbrook	72	4.4	63	3.85	5986	365.51
	Narrabri	34	2.59	36	2.74	3320	252.76
	Newcastle	1520	9.18	1663	10.04	115455	697.31
	Port Stephens	372	5.06	460	6.26	37468	509.9
	Singleton	122	5.2	165	7.03	12341	526.02
	Tamworth Regional	378	6.04	403	6.44	29410	470.25
	Tenterfield	34	5.16	22	3.34	1440	218.38
	Upper Hunter Shire	66	4.65	87	6.14	5454	384.63
	Uralla	27	4.49	26	4.32	1626	270.46
	Walcha	17	5.42	18	5.74	1185	378.11
	LHD Total2	6159	6.47	6715	7.05	474106	497.81
Illawarra Shoalhaven	Kiama	185	7.91	215	9.19	13811	590.57
	Shellharbour	540	7.37	574	7.84	42041	574.07
	Shoalhaven	518	4.9	579	5.48	46477	439.92
	Wollongong	2012	9.22	2022	9.27	133401	611.61
	LHD Total2	3255	7.76	3390	8.08	235730	561.78
Mid North Coast	Bellingen	81	6.23	96	7.39	5165	397.43
	Coffs Harbour	376	4.87	352	4.56	27216	352.19
	Kempsey	146	4.91	189	6.35	12052	405.18
	Nambucca	67	3.38	82	4.14	6526	329.51
	Port Macquarie-Hastings	461	5.45	581	6.87	35284	417.44
	LHD Total2	1131	5.01	1300	5.76	86243	382.17

Local Health District	Local Government Area	Week ending				Total since January 2021	
		20-March		13-March			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Murrumbidgee	Albury	360	6.62	433	7.97	23488	432.14
	Berrigan	27	3.09	38	4.34	2353	268.91
	Bland	27	4.52	26	4.35	1892	316.81
	Carrathool	0	0	4	1.43	426	152.2
	Coolamon	19	4.38	24	5.53	1682	387.47
	Cootamundra-Gundagai Regional	37	3.29	43	3.83	3819	339.92
	Edward River	30	3.3	49	5.39	3218	354.25
	Federation	63	5.07	44	3.54	3879	311.89
	Greater Hume Shire	58	5.39	57	5.3	4029	374.3
	Griffith	119	4.4	165	6.1	11675	431.94
	Hay	3	1.02	9	3.05	663	224.82
	Hilltops	106	5.67	99	5.29	6792	363.13
	Junee	13	1.95	24	3.59	1746	261.26
	Lachlan1	9	1.48	10	1.65	1191	196.05
	Leeton	41	3.58	38	3.32	3451	301.53
	Lockhart	9	2.74	17	5.18	1004	305.63
	Murray River	16	1.32	14	1.16	1046	86.32
	Murrumbidgee	11	2.81	22	5.62	1032	263.47
	Narrandera	9	1.53	13	2.2	1381	234.11
	Snowy Valleys	65	4.49	76	5.25	5329	368.05
	Temora	11	1.74	19	3.01	1627	257.97
	Wagga Wagga	441	6.76	464	7.11	33922	519.81
	LHD Total2	1466	4.92	1682	5.64	114846	385.25
Nepean Blue Mountains	Blue Mountains	744	9.4	819	10.35	58953	745.13
	Hawkesbury	478	7.1	498	7.4	40646	603.99
	Lithgow	82	3.8	105	4.86	8326	385.37
	Penrith	1611	7.56	1744	8.19	142233	667.83
	LHD Total2	2897	7.41	3147	8.05	248193	634.78
Northern NSW	Ballina	895	20.05	687	15.39	20409	457.31
	Byron	398	11.35	415	11.83	18810	536.19
	Clarence Valley	222	4.3	191	3.7	15175	293.74
	Kyogle	32	3.64	52	5.91	2445	277.97
	Lismore	395	9.04	401	9.18	19989	457.5
	Richmond Valley	173	7.37	188	8.01	9174	390.97
	Tenterfield	34	5.16	22	3.34	1440	218.38
	Tweed	569	5.87	592	6.1	33555	345.92
	LHD Total2	2691	8.67	2530	8.15	119894	386.3
Northern Sydney	Hornsby	1415	9.31	1570	10.32	93820	617
	Hunters Hill	319	21.3	304	20.29	21058	1405.74
	Ku-ring-gai	1921	15.11	2032	15.98	123492	971.21
	Lane Cove	864	21.52	884	22.01	59681	1486.27
	Mosman	341	11.01	372	12.01	25246	814.89
	North Svdnev	689	9.18	772	10.29	45984	612.95

**COVID-19 WEEKLY SURVEILLANCE IN NSW**  
**Epidemiological week 11, ending 20 March 2021**

[www.health.nsw.gov.au/coronavirus](http://www.health.nsw.gov.au/coronavirus)

Local Health District	Local Government Area	Week ending				Total since January 2021	
		20-March		13-March		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Northern Beaches	3402	12.44	3533	12.92	321014	1173.73
	Parramatta1	2240	8.71	2354	9.15	137042	532.83
	Ryde	1586	12.08	1622	12.36	86499	658.93
	Willoughby	757	9.32	902	11.11	47696	587.47
	LHD Total2	11789	12.33	12524	13.1	852089	891.38
South Eastern Sydney	Bayside	1730	9.7	1397	7.83	90647	508.12
	Georges River	2054	12.88	1200	7.52	77457	485.71
	Randwick	1799	11.56	1766	11.35	123868	795.82
	Sutherland Shire	2463	10.68	2305	10	161566	700.6
	Sydney1	3440	13.96	3373	13.69	200781	815.05
	Waverley	1022	13.76	1053	14.17	70960	955.11
	Woollahra	1054	17.75	968	16.3	60109	1012.16
	LHD Total2	11388	11.87	9956	10.38	657348	685.38
South Western Sydney	Camden	1054	10.39	1055	10.4	85125	839.19
	Campbelltown	1279	7.48	1379	8.07	114493	669.77
	Canterbury-Bankstown1	2786	7.37	2549	6.74	198679	525.72
	Fairfield	1024	4.84	984	4.65	88977	420.31
	Liverpool	1585	6.96	1506	6.62	139644	613.59
	Wingecarribee	447	8.74	505	9.88	36326	710.41
	Wollondilly	251	4.72	318	5.98	24447	459.97
	LHD Total2	6897	6.64	6945	6.69	586581	564.82
Southern NSW	Bega Valley	143	4.15	150	4.35	12937	375.25
	Eurobodalla	224	5.82	190	4.94	19614	509.81
	Goulburn Mulwaree	179	5.75	168	5.4	13631	437.85
	Queanbeyan-Palerang Regional	220	3.6	254	4.16	18749	306.86
	Snowy Monaro Regional	99	4.76	110	5.29	8209	394.76
	Upper Lachlan Shire	44	5.46	41	5.09	3006	373
	Yass Valley	66	3.86	67	3.92	4527	264.94
	LHD Total2	975	4.49	980	4.51	80703	371.78
Sydney	Burwood	292	7.19	262	6.45	18463	454.62
	Canada Bay	934	9.72	948	9.87	70758	736.49
	Canterbury-Bankstown1	2786	7.37	2549	6.74	198679	525.72
	Inner West	2208	11	2260	11.25	164438	818.87
	Strathfield	471	10.04	452	9.63	32406	690.58
	Sydney1	3440	13.96	3373	13.69	200781	815.05
	LHD Total2	7565	10.86	7336	10.53	511348	733.88
Western NSW	Bathurst Regional	269	6.17	286	6.56	23017	527.69
	Blayney	41	5.56	38	5.15	3783	512.67
	Bogan	14	5.43	12	4.65	1006	389.92
	Bourke	9	3.47	7	2.7	608	234.75
	Brewarrina	0	0	0	0	357	221.6
	Cabonne	52	3.81	68	4.99	3881	284.66
	Cobar	5	1.07	19	4.08	1294	277.8

Local Health District	Local Government Area	Week ending				Total since January 2021	
		20-March		13-March		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Western Sydney	Coonamble	9	2.27	15	3.79	1090	275.39
	Cowra	65	5.1	67	5.26	4200	329.59
	Dubbo Regional	256	4.77	265	4.93	22164	412.59
	Forbes	32	3.23	26	2.62	2568	259.24
	Gilgandra	7	1.65	9	2.12	1095	258.32
	Lachlan <sup>1</sup>	9	1.48	10	1.65	1191	196.05
	Mid-Western Regional	156	6.18	123	4.87	10161	402.4
	Narromine	16	2.46	33	5.06	2111	323.92
	Oberon	14	2.59	18	3.33	1960	362.23
	Orange	347	8.17	336	7.92	26116	615.2
	Parkes	48	3.24	74	4.99	4875	328.57
	Walgett	12	2.02	14	2.35	1805	303.21
	Warren	15	5.56	9	3.34	1530	567.3
	Warrumbungle Shire	45	4.85	56	6.04	3264	351.8
	Weddin	14	3.87	18	4.98	994	275.12
	LHD Total <sup>2</sup>	1434	5.03	1499	5.26	118725	416.56
	Blacktown	3266	8.72	3406	9.1	232369	620.56
	Cumberland	1799	7.45	1955	8.09	148308	614.06
	Parramatta <sup>1</sup>	2240	8.71	2354	9.15	137042	532.83
	The Hills Shire	2330	13.09	2587	14.54	150840	847.56
	LHD Total <sup>2</sup>	9203	8.74	9834	9.34	646928	614.11
<b>NSW Total<sup>3</sup></b>		75,261	9.3	76,220	9.42	1,099,940	135.97

Source - Notifiable condition information management System, accessed as at 8pm 22 March 2021.

<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 since January 2021 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 March 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 March 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	346,644	5	0.00%	0	0.00%	1,083	291	6,683	16,968	53	2,063
<b>Month ending</b>											
31 January*	168,596	2	0.00%	0	0.00%	416	88	3,275	3,541	23	560
28 February	125,718	3	0.00%	0	0.00%	419	106	2,386	8,667	22	910
<b>Week ending</b>											
7 March	25,988	0	0.00%	0	0.00%	110	43	468	2,511	5	267
14 March	24,718	0	0.00%	0	0.00%	129	54	540	2,220	3	313

### 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

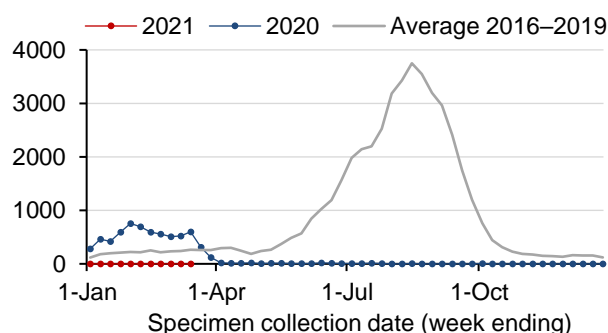
RSV - Respiratory syncytial virus

\*Five-week period

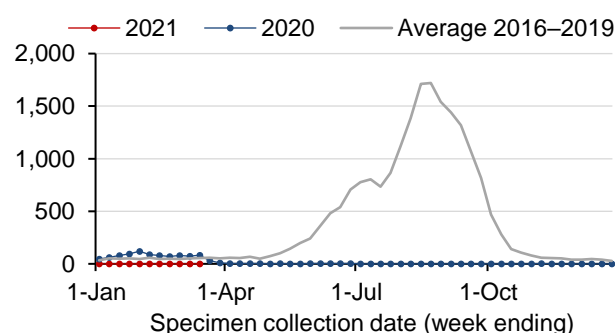
## Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 14 March 2021

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.

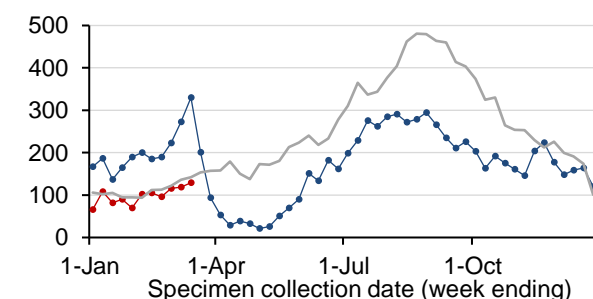
Influenza A



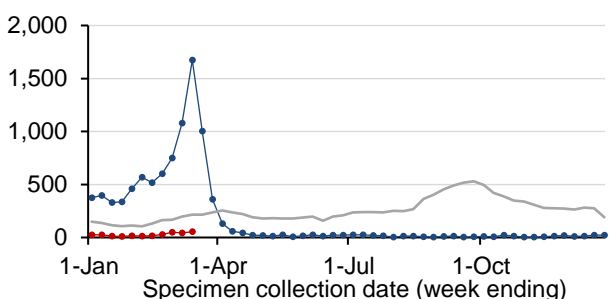
Influenza B



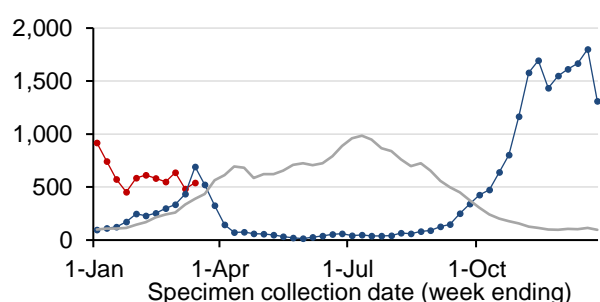
Adenovirus



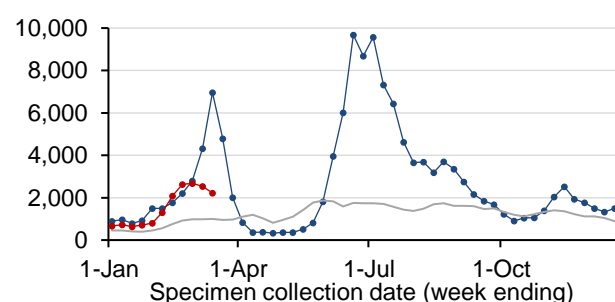
Parainfluenza



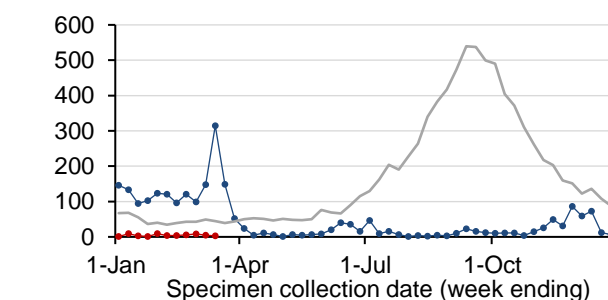
Respiratory syncytial virus (RSV)



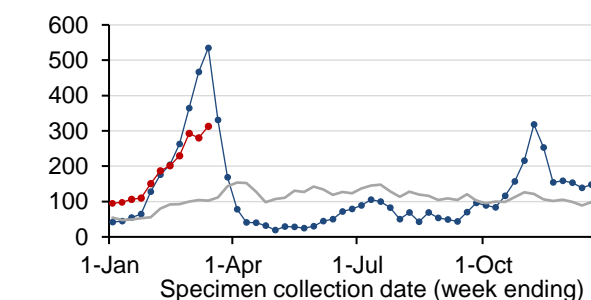
Rhinovirus



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 March 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		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Pop.	Location	2	3	4	5	6	7	8	9	10	11
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	n	n	n
233,176	Cronulla										
1,857,740	Malabar 1							n	n	n	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		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Network	Location	2	3	4	5	6	7	8	9	10	11
Bondi	Paddington Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda 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	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Mary's	Ropes Creek Sewage Network										

**COVID-19 WEEKLY SURVEILLANCE IN NSW**  
**Epidemiological week 11, ending 20 March 2021**

[www.health.nsw.gov.au/coronavirus](http://www.health.nsw.gov.au/coronavirus)

Regional Sites		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Pop.	Location	2	3	4	5	6	7	8	9	10	11
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		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	C
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Koorringal STP										
2,050	Bourke										
	Nyngan										

Regional Sites (con't)		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Pop.	Location	2	3	4	5	6	7	8	9	10	11
40,000	Orange										
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										
32,500	Lismore composite					C		C	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	C	C	C
12,250	North Grafton										
6,300	South Grafton										

Regional Sites (con't)		16-Jan	23-Jan	30-Jan	6-Feb	13-Feb	20-Feb	27-Feb	6-Mar	13-Mar	20-Mar
Pop.	Location	2	3	4	5	6	7	8	9	10	11
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	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.