

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 12, ENDING 27 MARCH 2021

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Summary for the week ending 27 March 2021

- There were no locally acquired cases reported in the week ending 27 March 2021.
- The number of cases reported in overseas returned travellers decreased this week (down 28%) compared to the previous week.
- There was one returned traveller reported in the week ending 27 March found to have a SARS-CoV-2 variant of concern (VoC). Of the 517 returned travellers diagnosed with COVID-19 since 29 November 2020, 86 (18%) have been diagnosed with a VoC.
- Testing rates decreased across all Local Health Districts compared to the previous week (down 17%).
- The NSW Sewage Surveillance Program reported three detections taken from the Bondi treatment plant, and the sewage networks at Paddington (within the Bondi catchment) and Botany (within the Malabar catchment). All detections were associated with known cases in returned travellers.
- Presentations to the emergency department for gastroenteritis and bronchiolitis decreased to unprecedented levels between
 March and October last year corresponding to the introduction of COVID-19 restrictions limiting social gatherings, improved
 hygiene practices and social distancing measures. In the week ending 27 March, bronchiolitis presentations remain below the
 seasonal range for this time of year while gastroenteritis presentations have increased to be back within the pre-COVID-19
 range for this time of year.

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Section 1: How is the outbreak tracking in NSW?

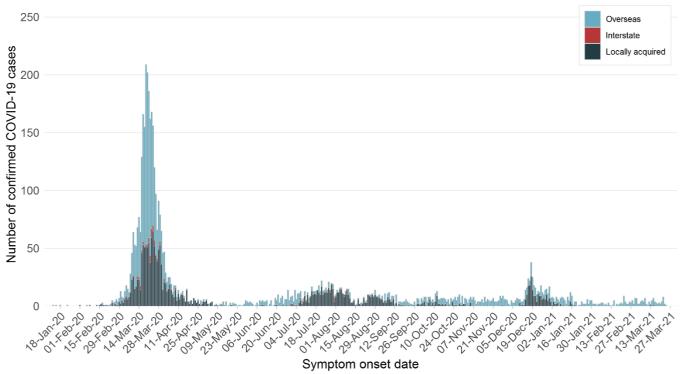
Table 1. COVID-19 cases and tests reported, NSW, from 25 January 2020 to 27 March 2021

	Week ending 27 Mar	Week ending 20 Mar	% change	Pandemic total
Number of cases	18	26	↓ 31%	5,092
Overseas acquired	18	25	↓ 28%	2,913
Interstate acquired	0	0	-	90
Locally acquired	0	1	↓ 100%	2,089
No epidemiological links to other cases or clusters	0	0	-	445
Number of deaths	0	0	-	56
Number of tests	62,224	75,860	↓ 17%	5,326,335

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 27 March



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

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 and are associated with the hotel quarantine cluster.

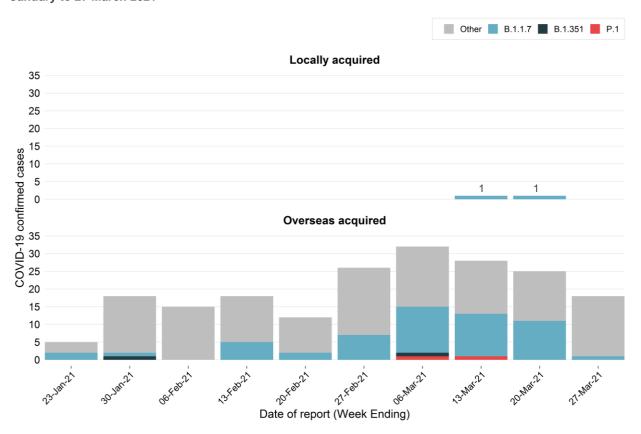
Section 2: Variants of Concern (VoC)

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, 86 (18%) 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, 17 January to 27 March 2021



Interpretation: In the week ending 27 March, one returned traveller was reported as having a COVID-19 VoC, which is 6% (1/18) of all cases reported this week.

Since 29 November 2020, of the 86 returned travellers with a VoC, majority likely acquired their infection in Lebanon (26). The remaining cases likely acquired their infection in the United Kingdom (14), India (12), South Africa (7), the United Arab Emirates (6), USA (5), Germany (3), Pakistan (2), and one case each in Finland, France, Jordan, Netherlands, Nigeria, 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, 28 February to 27 March 2021

		Week e	nding			Days since last
Local Health District	27 Mar	20 Mar	13 Mar	6 Mar	Total	case reported
Central Coast	0	0	0	0	0	88
Illawarra Shoalhaven	0	0	0	0	0	84
Nepean Blue Mountains	0	0	0	0	0	193
Northern Sydney	0	0	0	0	0	75
South Eastern Sydney	0	0	1	0	1	14
South Western Sydney	0	0	0	0	0	78
Sydney	0	0	0	0	0	75
Western Sydney	0	0	0	0	0	70
Far West	0	0	0	0	0	359
Hunter New England	0	0	0	0	0	233
Mid North Coast	0	0	0	0	0	340
Murrumbidgee	0	0	0	0	0	201
Northern NSW	0	0	0	0	0	245
Southern NSW	0	0	0	0	0	229
Western NSW	0	0	0	0	0	240
NSW*	0	1	1	0	2	14

^{*}Includes people with a usual place of residence outside of NSW

Interpretation: There were no locally acquired cases reported in the week ending 27 March. In the last four weeks there have been two locally acquired cases diagnosed with COVID-19, both associated with the hotel quarantine cluster.

Section 4: Current COVID-19 clusters in NSW

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

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

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

Cases in community settings

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

Previously reported active clusters with no new cases identified this week

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.

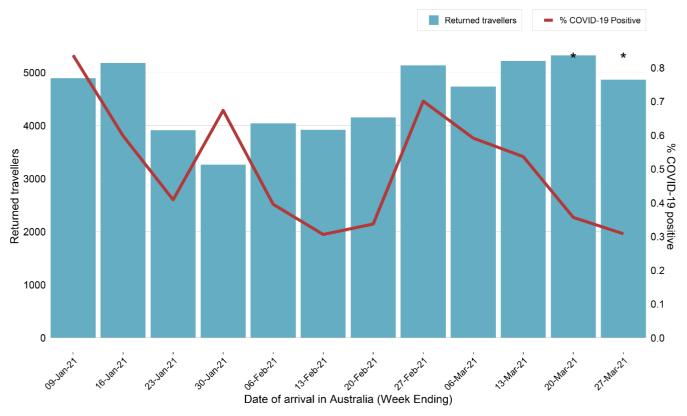
Section 5: COVID-19 in returned travellers

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, 3 January 2021 to 27 March 2021



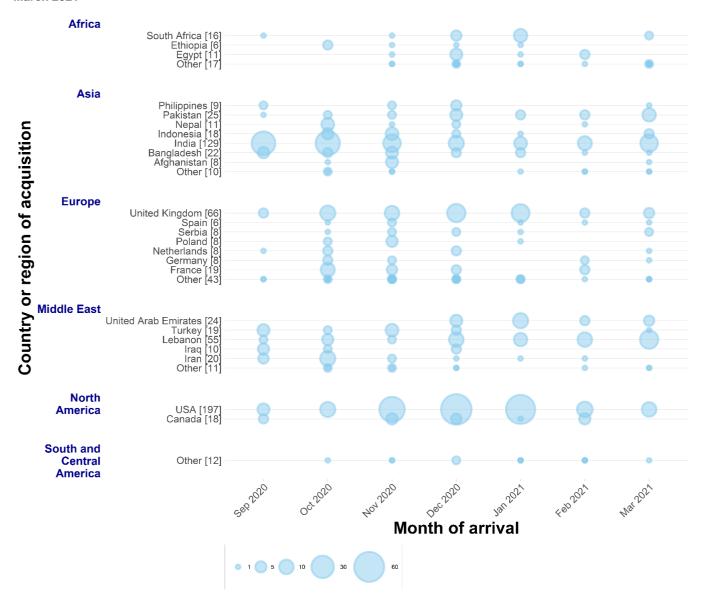
^{*}Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 640 people screened on arrival through Sydney International Airport daily. In the last four weeks, 102 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 27 March 2021



Interpretation: In February and March 2021, 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 (20, 19%), followed by travellers returning from India (19, 18%) and the United States of America (11, 11%).

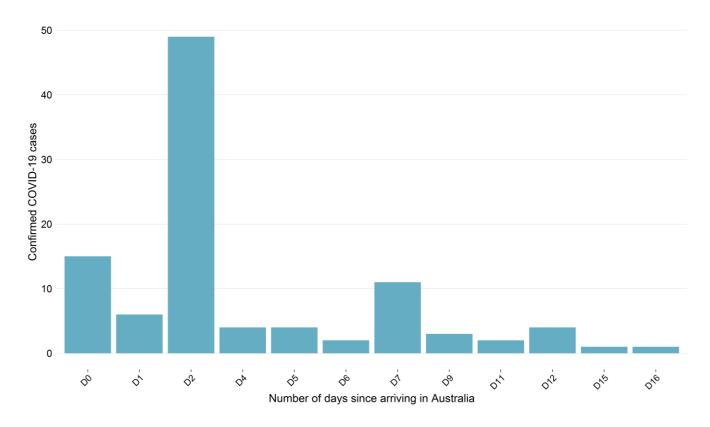
Hotel quarantine

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 27 March 2021



Interpretation: In the four weeks ending 27 March 2021, 69% 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 27 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

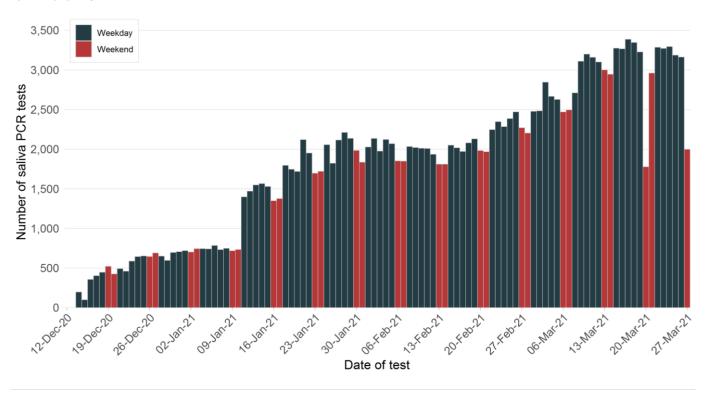
There were no cases of COVID-19 reported in Aboriginal people in the week ending 27 March.

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 27 March 2021



^{*} The number of saliva PCR tests on 27 March 2021 is incomplete due to delays in reporting negative results.

Interpretation: Since screening of quarantine workers began in December 2020, a total of 188,651 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. One confirmed case of COVID-19 has been reported through saliva PCR testing, reported on 14 March 2021.

The daily number of saliva PCR tests is not included in the total PCR testing numbers reported.

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 27 March.

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

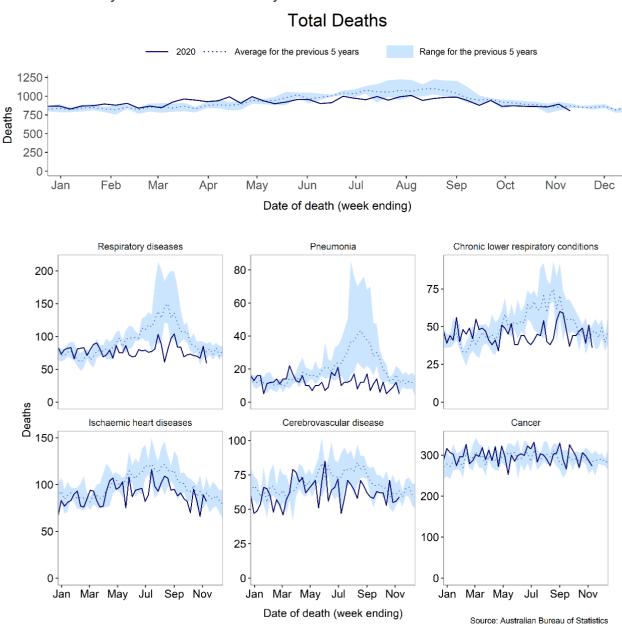
Age group (years)	Number of deaths	Number of cases	Case fatality rate
0–4	0	118	0%
5–11	0	122	0%
12–17	0	163	0%
18–29	0	1,148	0%
30–49	0	1,655	0%
50-59	1	693	0.1%
60–69	4	641	0.6%
70–79	15	388	3.9%
80+	36	164	22.0%
Total	56	5,092	1.1%

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.

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 personto-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.

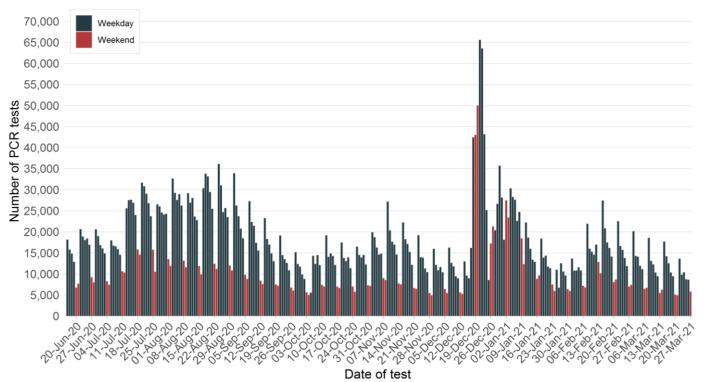
Section 8: COVID-19 testing in NSW

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. 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.

The PCR testing numbers reported are for tests performed on nose and throat swabs. Saliva PCR tests are not included, these are reported in the "Quarantine workers – Screening Program" section on page 11.

Figure 8. Number of PCR tests per day, NSW, 20 June 2020 to 27 March 2021



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

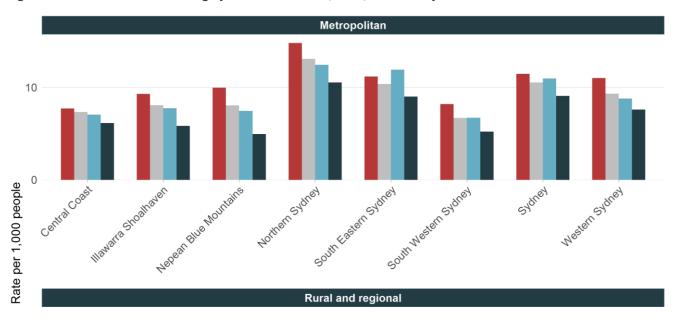
Interpretation: Testing numbers decreased in the week ending 27 March (down 18%) compared to the previous week. The average daily testing rate of 1.1 per 1,000 people in NSW each day has decreased compared to the previous week of 1.3 per 1,000 people.

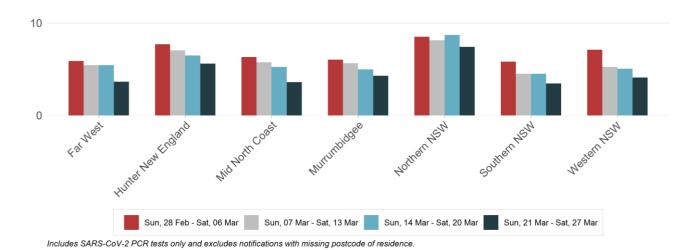
¹ The number of tests per day displayed below is different to the 24 hour increase in tests reported each day as there are delays in some laboratories providing negative results to NSW Health.

Epidemiological week 12, ending 27 March 2021

Testing by Local Health District

Figure 9. Rates of COVID-19 testing by LHD of residence, NSW, 28 February to 27 March 2021

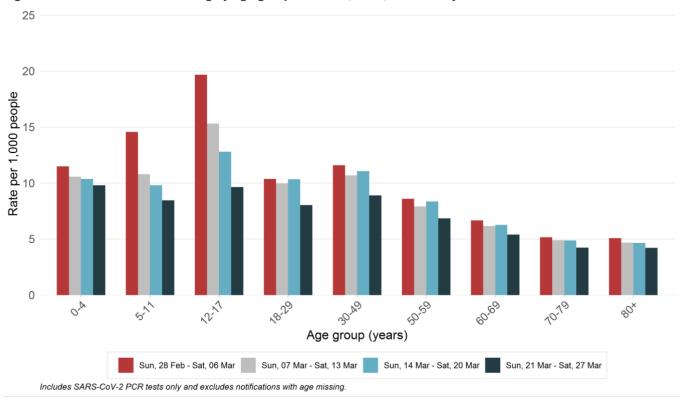




Interpretation: State-wide testing rates in the week ending 27 March decreased compared to the previous week (8 per 1,000 people compared to 9 per 1,000 people). The decrease in testing rates was seen across all LHDs.

Testing by age group

Figure 10. Rates of COVID-19 testing by age group and week, NSW, 28 February to 27 March 2021



Interpretation: In the week ending 27 March, testing rates have decreased in all age groups. Testing rates continued to decrease in children 5–17 years, after increased testing in February.

Section 9: NSW Sewage Surveillance Program

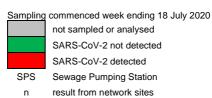
The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support 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. A number of sites were unable to send samples due to flooding.

Table 4. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 17 January 2021 to 27 March 2021

		23- Jan	30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Рор.	Location	3	4	5	6	7	8	9	10	11	12
Sydney Site	s										
69,245	Warriewood										
318,810	Bondi						n	n	n	n	n
4.057.740	Malabar 1						n	n	n	n	n
1,857,740	Malabar 2										
181,005	Liverpool			n							
161,200	Glenfield										
1,341,986	North Head					n	n				
Sydney Netv	vork Sites										
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										



Interpretation: In the week ending 27 March, 123 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were three detections – taken from the Bondi treatment plant, and the sewage network at Paddington (within the Bondi 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 21 March 2021

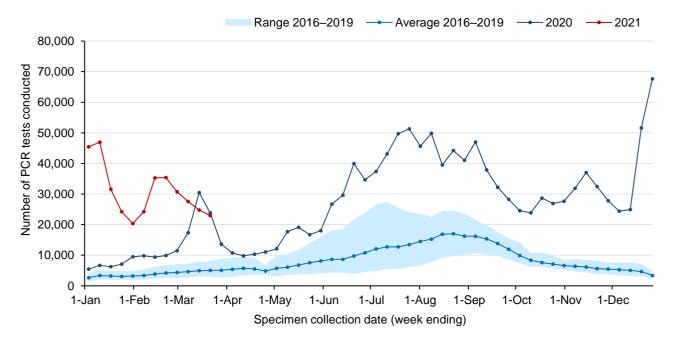
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 21 March 2021. A total of 346,709 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 21 March 2021



Interpretation: In the week ending 21 March, there were 23,014 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?

1-Feb

1-Jan

1-Mar

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.

Range 2016–2019 — Average 2016–2019 — 2020 — 2021

50

40

20

10

0

Figure 12. Proportion of tests positive for influenza, NSW, 1 January 2016 to 21 March 2021

Interpretation: In the week ending 21 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.

1-Jul

Specimen collection date (week ending)

1-Aug

1-Sep

1-Oct

1-Nov

1-Dec

1-Jun

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

1-Apr

1-May

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.

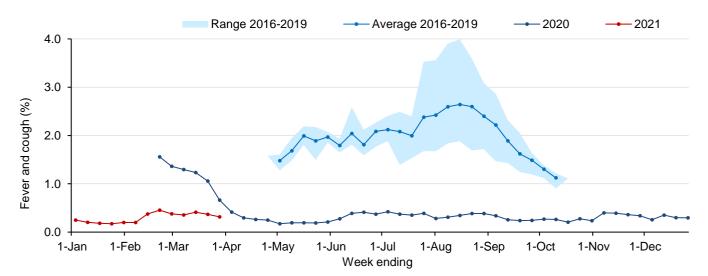


Figure 13. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 28 March 2021

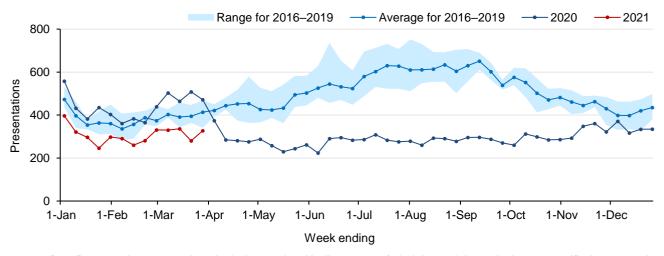
Interpretation: In NSW in the week ending 28 March of the 15,479 people surveyed, 49 people (0.32%) reported flu-like symptoms. In the last four weeks, around two-thirds (163/271) of new cases of flu-like illness reported having a COVID-19 test.

How are emergency department presentations tracking?

Improved hygiene and social distancing measures implemented during the COVID-19 pandemic have impacts on a broad range of other viral and bacterial infections.

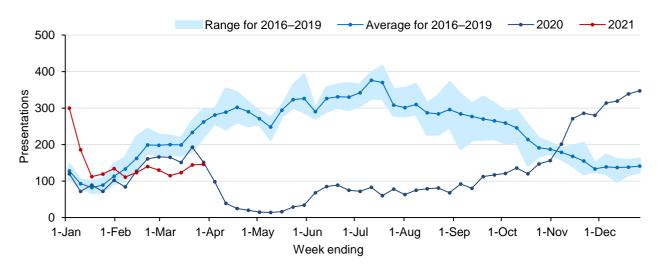
The figures below show weekly pneumonia, bronchiolitis and gastrointestinal presentations to Emergency Departments in NSW, using PHREDSS². The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded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

Figure 14. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 28 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 28 March, pneumonia presentations increased but remain below the seasonal range for this time of year.

Figure 15. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 28 March 2021



Interpretation: Bronchiolitis is a common disease of infants often caused by respiratory syncytial virus (RSV). Public health measures introduced last year around social distancing and improved hygiene practices coincided with a large decrease in bronchiolitis presentations for the majority of 2020. The later peak in December, corresponding to an increase in RSV detections. This year, bronchiolitis presentations have been below the usual range since mid-February.

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).

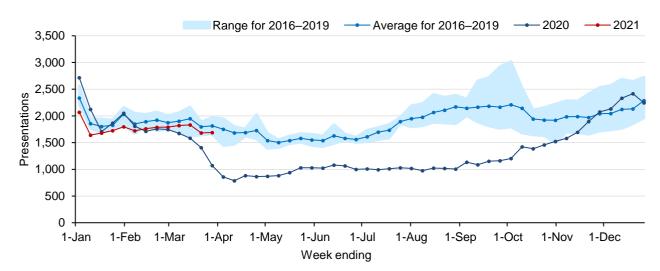


Figure 16. Emergency Department gastrointestinal presentations, NSW, 1 January 2016 to 28 March 2021

Interpretation: Gastrointestinal presentations include people diagnosed with gastroenteritis, diarrhoea, vomiting, nausea, food poisoning and blood in vomit. Outbreaks in gastrointestinal virus can be caused by bacteria (e.g. salmonella), viruses (e.g. norovirus or rotavirus) or parasites (e.g. cryptosporidium). Viral gastroenteritis is more common in younger children and adults aged 65 and over.

For the period between March and October 2020, gastrointestinal presentations were well below the seasonal range. This corresponds to the introduction of COVID-19 restrictions limiting public and private gatherings, improved hygiene practices and social distancing measures. Since mid-November 2020, gastrointestinal presentations have been within or slightly above the usual seasonal average.

Appendix A: COVID-19 PCR tests in NSW by Local Government Area

			Week en	nding		Tota	l since
		27-M	arch	20-M	arch	January 2021	
Local Health District	Local Government Area	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	2165	6.14	2494	7.07	195277	553.41
	Balranald	2	0.86	5	2.14	657	281.01
	Broken Hill	79	4.52	125	7.15	8737	499.86
Far West	Central Darling	1	0.54	10	5.44	529	287.66
	Wentworth	28	3.97	24	3.4	3204	454.27
	LHD Total ²	110	3.65	164	5.44	13127	435.48
	Armidale Regional	179	5.82	193	6.27	13530	439.59
	Cessnock	214	3.57	213	3.55	20429	340.57
	Dungog	36	3.82	59	6.26	3329	353.28
	Glen Innes Severn	37	4.17	40	4.51	2443	275.39
	Gunnedah	45	3.55	39	3.08	4293	338.54
	Gwydir	16	2.99	8	1.49	899	167.94
	Inverell	67	3.97	70	4.14	5477	324.27
	Lake Macquarie	1378	6.69	1648	8	119873	582.19
	Liverpool Plains	25	3.16	36	4.56	2803	354.68
	Maitland	683	8.02	818	9.6	54178	636.15
Haratan Nassa	Mid-Coast	229	2.44	373	3.98	32585	347.25
Hunter New England	Moree Plains	35	2.64	55	4.15	3928	296.21
8	Muswellbrook	63	3.85	72	4.4	6050	369.42
	Narrabri	29	2.21	35	2.66	3350	255.04
	Newcastle	1374	8.3	1521	9.19	116835	705.65
	Port Stephens	367	4.99	372	5.06	37834	514.88
	Singleton	116	4.94	122	5.2	12456	530.92
	Tamworth Regional	314	5.02	379	6.06	29727	475.32
	Tenterfield	44	6.67	34	5.16	1484	225.05
	Upper Hunter Shire	52	3.67	66	4.65	5506	388.29
	Uralla	23	3.83	27	4.49	1649	274.28
	Walcha	15	4.79	17	5.42	1200	382.9
	LHD Total ²	5338	5.6	6190	6.5	479488	503.46
	Kiama	138	5.9	185	7.91	13951	596.55
Illawarra	Shellharbour	451	6.16	541	7.39	42493	580.24
Shoalhaven	Shoalhaven	444	4.2	518	4.9	46925	444.16
	Wollongong	1417	6.5	2014	9.23	134826	618.14
	LHD Total ²	2450	5.84	3258	7.76	238195	567.65
	Bellingen	58	4.46	81	6.23	5223	401.89
	Coffs Harbour	301	3.9	399	5.16	27540	356.38
Mid North	Kempsey	105	3.53	151	5.08	12163	408.91
Coast	Nambucca	63	3.18	68	3.43	6590	332.74
	Port Macquarie-Hastings	286	3.38	489	5.79	35599	421.17
	LHD Total ²	813	3.6	1188	5.26	87115	386.04

COVID-19 WEEKLY SURVEILLANCE IN NSW

Epidemiological week 12, ending 27 March 2021

			Week e	nding			
	-	27-M		20-Ma	arch		l since ry 2021
Local Health District	ocal Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
А	lbury	330	6.07	360	6.62	23818	438.21
В	errigan	19	2.17	31	3.54	2376	271.54
В	land	20	3.35	27	4.52	1912	320.16
C	Carrathool	1	0.36	0	0	427	152.55
C	Coolamon	9	2.07	19	4.38	1691	389.54
C	Cootamundra-Gundagai Regional	45	4.01	38	3.38	3865	344.01
E	dward River	21	2.31	37	4.07	3246	357.33
F	ederation	33	2.65	63	5.07	3912	314.55
G	Greater Hume Shire	71	6.6	59	5.48	4101	380.99
G	Griffith	126	4.66	119	4.4	11801	436.61
Н	lay	7	2.37	3	1.02	670	227.2
Murrumbidgee H	lilltops	94	5.03	107	5.72	6887	368.21
Ju	unee	14	2.09	20	2.99	1769	264.7
L	achlan¹	7	1.15	11	1.81	1200	197.53
L	eeton	41	3.58	43	3.76	3494	305.29
L	ockhart	6	1.83	9	2.74	1010	307.46
N	Aurray River	9	0.74	16	1.32	1055	87.06
N	/urrumbidgee	12	3.06	12	3.06	1045	266.79
N	larrandera	5	0.85	9	1.53	1386	234.96
S	nowy Valleys	66	4.56	65	4.49	5395	372.61
Т	emora	12	1.9	11	1.74	1639	259.87
V	Vagga Wagga	340	5.21	441	6.76	34263	525.04
L	HD Total²	1284	4.31	1492	5	116159	389.65
В	lue Mountains	550	6.95	746	9.43	59518	752.27
Н.	lawkesbury	137	2.04	479	7.12	40790	606.13
Nepean Blue Mountains	ithgow	60	2.78	82	3.8	8388	388.24
	enrith	1210	5.68	1628	7.64	143484	673.71
L	HD Total²	1944	4.97	2916	7.46	250201	639.92
В	allina	858	19.23	896	20.08	21272	476.65
В	syron	311	8.87	398	11.35	19117	544.94
C	Clarence Valley	147	2.85	222	4.3	15322	296.58
K	yogle	26	2.96	32	3.64	2471	280.92
Northern NSW L	ismore	316	7.23	397	9.09	20309	464.82
R	tichmond Valley	134	5.71	173	7.37	9308	396.68
Т	enterfield	44	6.67	34	5.16	1484	225.05
Т	weed	513	5.29	580	5.98	34078	351.32
L	HD Total ²	2306	7.43	2705	8.72	122215	393.78
Н	lornsby	1257	8.27	1419	9.33	95080	625.28
Н	lunters Hill	259	17.29	330	22.03	21328	1423.77
Northern K	u-ring-gai	1700	13.37	1943	15.28	125219	984.79
Sydney L	ane Cove	713	17.76	873	21.74	60406	1504.32
N	Mosman	300	9.68	341	11.01	25549	824.67
N	Jorth Sydney	647	8.62	704	9.38	46617	621.39

			Week	ending		Tota	l since
		27-M		20-M	arch		ry 2021
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Northern Beaches	2757	10.08	3404	12.45	323760	1183.77
	Parramatta ¹	1952	7.59	2254	8.76	139010	540.48
	Ryde	1319	10.05	1628	12.4	87850	669.23
	Willoughby	684	8.42	762	9.39	48384	595.94
	LHD Total ²	10084	10.55	11905	12.45	862245	902.01
	Bayside	1280	7.18	1748	9.8	91938	515.36
	Georges River	1151	7.22	2066	12.96	78626	493.04
	Randwick	1458	9.37	1797	11.55	125310	805.08
South Eastern	Sutherland Shire	1936	8.4	2464	10.68	163505	709.01
Sydney	Sydney ¹	2803	11.38	3472	14.09	203602	826.5
	Waverley	894	12.03	1025	13.8	71834	966.88
	Woollahra	924	15.56	1061	17.87	61040	1027.83
	LHD Total ²	8652	9.02	11434	11.92	665996	694.4
	Camden	757	7.46	1059	10.44	85892	846.75
	Campbelltown	1118	6.54	1296	7.58	115634	676.45
	Canterbury-Bankstown ¹	2286	6.05	2858	7.56	201044	531.98
South Western	Fairfield	796	3.76	1050	4.96	89795	424.17
Sydney	Liverpool	1182	5.19	1596	7.01	140838	618.84
	Wingecarribee	342	6.69	447	8.74	36663	717
	Wollondilly	200	3.76	252	4.74	24648	463.75
	LHD Total ²	5406	5.21	6992	6.73	592078	570.11
	Bega Valley Eurobodalla	71	2.06	143	4.15	13008	377.31
	Goulburn Mulwaree	180	4.68	225	5.85	19796	514.54
	Queanbeyan-Palerang Regional	122	3.92	179	5.75	13752	441.73
Southern NSW	Snowy Monaro Regional	207	3.39	221	3.62	18958	310.28
	Upper Lachlan Shire	84 37	4.04 4.59	99 47	4.76 5.83	8293 3045	398.8 377.84
	Yass Valley	52	3.04	66		4579	267.98
	LHD Total ²	753	3.47	980	3.86 4.51	81461	375.27
	Burwood	250	6.16	292	7.19	18718	460.9
	Canada Bay	830	8.64	936	9.74	71592	745.18
	Canterbury-Bankstown ¹	2286	6.05	2858	7.56	201044	531.98
Sydney	Inner West	1830	9.11	2224	11.08	166281	828.05
	Strathfield	391	8.33	472	10.06	32794	698.84
	Sydney ¹	2803	11.38	3472	14.09	203602	826.5
	LHD Total ²	6325	9.08	7644	10.97	517767	743.1
	Bathurst Regional	186	4.26	269	6.17	23206	532.03
	Blayney	32	4.34	41	5.56	3815	517.01
	Bogan	6	2.33	14	5.43	1012	392.25
Western NSW	Bourke	10	3.86	9	3.47	618	238.61
	Brewarrina	1	0.62	0	0	358	222.22
	Cabonne	32	2.35	52	3.81	3913	287
	Cobar	9	1.93	5	1.07	1303	279.73

			Week	ending		Tota	l since
		27-M	arch	20-M	arch	Janua	ry 2021
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Coonamble	9	2.27	9	2.27	1099	277.67
	Cowra	49	3.85	65	5.1	4249	333.44
	Dubbo Regional	232	4.32	257	4.78	22394	416.87
	Forbes	30	3.03	32	3.23	2598	262.27
	Gilgandra	9	2.12	7	1.65	1104	260.44
	Lachlan ¹	7	1.15	11	1.81	1200	197.53
	Mid-Western Regional	120	4.75	157	6.22	10282	407.19
	Narromine	20	3.07	16	2.46	2131	326.99
	Oberon	19	3.51	14	2.59	1979	365.74
	Orange	289	6.81	348	8.2	26405	622.01
	Parkes	44	2.97	48	3.24	4920	331.6
	Walgett	9	1.51	14	2.35	1817	305.22
	Warren	8	2.97	17	6.3	1540	571
	Warrumbungle Shire	46	4.96	45	4.85	3310	356.76
	Weddin	11	3.04	14	3.87	1005	278.16
	LHD Total ²	1175	4.12	1442	5.06	119909	420.72
	Blacktown	2616	6.99	3292	8.79	234999	627.58
	Cumberland	1645	6.81	1817	7.52	149956	620.88
Western Sydney	Parramatta ¹	1952	7.59	2254	8.76	139010	540.48
o, and,	The Hills Shire	2179	12.24	2337	13.13	153004	859.72
	LHD Total ²	8005	7.6	9265	8.8	654948	621.73
NSW Total ³		62224	7.69	75860	9.38	1162776	143.73

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

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

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.

 $^{^3}$ NSW Total counts and rates since January 2021 include tests where residential information is incomplete.

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 21 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 2020–21 March 2021

Specimen	PCR tests	Influe	nza A	Influ	ienza B	Adeno-	Para-	RSV	Rhino-	HMPV**	Entero-
collection date	conducted	No.	%Pos.	No.	%Pos.	virus	influenza	Κ3ν	virus	LIMIL A	virus
Total	346,709	5	0.00%	0	0.00%	1,084	291	6,683	16,983	53	2,066
Month ending											
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
Week ending											
7 March	27,612	0	0.00%	0	0.00%	119	43	482	2,540	5	280
14 March	24,783	0	0.00%	0	0.00%	130	54	540	2,235	3	316
21 March	23,014	0	0.00%	0	0.00%	117	95	442	2,078	8	273

Testing numbers in NSW from January-27 December 2020

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

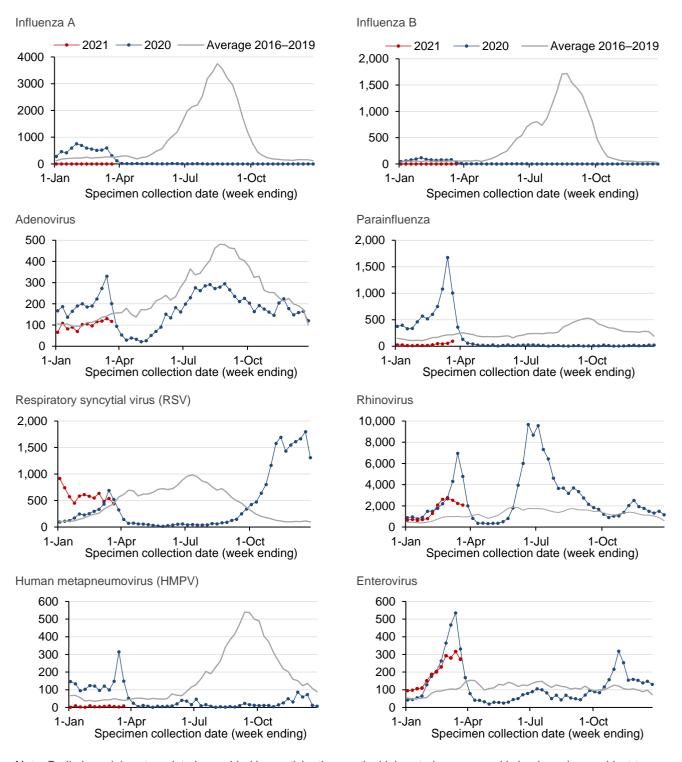
HMPV – Human metapneumovirus RSV - Respiratory syncytial virus

*Five-week period

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Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 21 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.



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

Appendix D: SARS-CoV-2 testing in sewage samples collected in the previous 10 weeks, week ending 27 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	3	23- Jan	30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Pop.	Location	3	4	5	6	7	8	9	10	11	12
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	n
233,176	Cronulla										
4.057.740	Malabar 1						n	n	n	n	n
1,857,740	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				
00.007	Castle Hill Cattai										
26,997	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										

COVID-19 WEEKLY SURVEILLANCE IN NSW

Epidemiological week 12, ending 27 March 2021

Sydney Netw	Sydney Network Sites		30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Network	Location	3	4	5	6	7	8	9	10	11	12
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 12, ending 27 March 2021

Regional Sites		23- Jan	30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Pop.	Location	3	4	5	6	7	8	9	10	11	12
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,068	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
16,000	St Georges Basin										
11,000	Cullburra Beach										
139,500	Gosford-Kincumber										
59,060	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
	Albury composite	С	С	С	С	С	С	С		С	С
51,750	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										
	Wagga Wagga composite		С	С	С	С	С	С	С	С	С
F0 000	Wagga Wagga- inlet 1										
50,000	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
2,050	Bourke										
	Nyngan										

Regional S	ites (con't)	23- Jan	30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Pop.	Location	3	4	5	6	7	8	9	10	11	12
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										
32500	Lismore composite				С		С	С	С		
17,000	East Lismore										
15,500	South Lismore										
	Byron Bay - Ocean Shores										
18,958	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				С	С	С	С	С	С	С
12,250	North Grafton										
6,300	South Grafton										

Epidemiological week 12, ending 27 March 2021

Regional Sites (con't)		23- Jan	30- Jan	6- Feb	13- Feb	20- Feb	27- Feb	6- Mar	13- Mar	20- Mar	27- Mar
Pop.	Location	3	4	5	6	7	8	9	10	11	12
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.