COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 19, ENDING 15 May 2021

Published 21 May 2021

Overview

Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 15 May 2021

	2020		2021		
	Jan–Jun	July–Dec	**year to date** 1 Jan – 15 May	**last 4 weeks** 17 April – 15 May	**last 7 days** 9 –15 May
Overseas acquired	1,893 (59%)	714 (46%)	576 (92%)	180 (99%)	25 (100%)
Interstate acquired	67 (2%)	23 (2%)	0	0	0
Locally acquired	1,237 (39%)	808 (52%)	51 (8%)	2 (1%)	0
Total	**3,197 (100%)**	**1,545 (100%)**	**627 (100%)**	**182 (100%)**	**25 (100%)**
Deaths	52	4	0	0	0

Summary for the week ending 15 May 2021

- There were no locally acquired cases reported in the week ending 15 May 2021.
- The number of cases reported in overseas returned travellers decreased this week (down 47%) compared to the previous week.
- On 11 May 2021 the SARS-CoV-2 lineage B.1.617 (including three sub-lineages, which vary in mutations) were recognised by the World Health Organization (WHO) as a variant of concern.
- In the four weeks ending 15 May 2021, 63% (114/180) of overseas acquired cases have been identified as having COVID-19 variants of concern (B.1.1.7, B.1.351, B.1.617 and P1). Of these, 53 (47%) were identified with B.1.617 variant.
- In the four weeks ending 8 May 2021, eight (2%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates remained stable compared to the previous week. Testing rates remain high in Northern Sydney, South Eastern Sydney and Sydney LHDs, which can be attributed to the community response of the reporting of two local confirmed cases in South Eastern Sydney LHD.
- The NSW Sewage Surveillance Program reported six detections – taken from the Bondi (twice) and Malabar (twice) treatment plants, and the sewage network at Paddington (within the Bondi catchment), and Botany (within the Malabar catchment). All contain quarantine hotels where active cases are known to have stayed. People can continue to shed fragments of the virus for several weeks.

Indicators of effective prevention measure for COVID-19 in NSW for the week ending 15 May 2021

Locally acquired cases in isolation during their infectious period

	Week of reporting			
	Week ending 15 May		Week ending 8 May	
	Count	%	Count	%
Locally acquired cases	0		2	
Cases with symptoms at diagnosis	–		1	50%
Number in isolation at least 48 hours before symptoms			0	0%
Cases reporting no symptoms at diagnosis	–		1	50%
Number in isolation at least 48 hours before test			0	0%

Interpretation: In the week ending 15 May, there were no locally acquired cases.

Measures of Public Health Action

	Week of reporting	
	Week ending 15 May	Week ending 8 May
Proportion locally-acquired cases notified to NSW Health by the laboratory within 24 hours	–	100%
Locally-acquired cases interviewed by public health staff within 1 day of notification to NSW Health	–	100%
Close contacts (identified by the case) contacted by public health within 48 hours of case notification	–	100%

Interpretation: In the week ending 15 May, there were no locally acquired cases and no additional public health action required.

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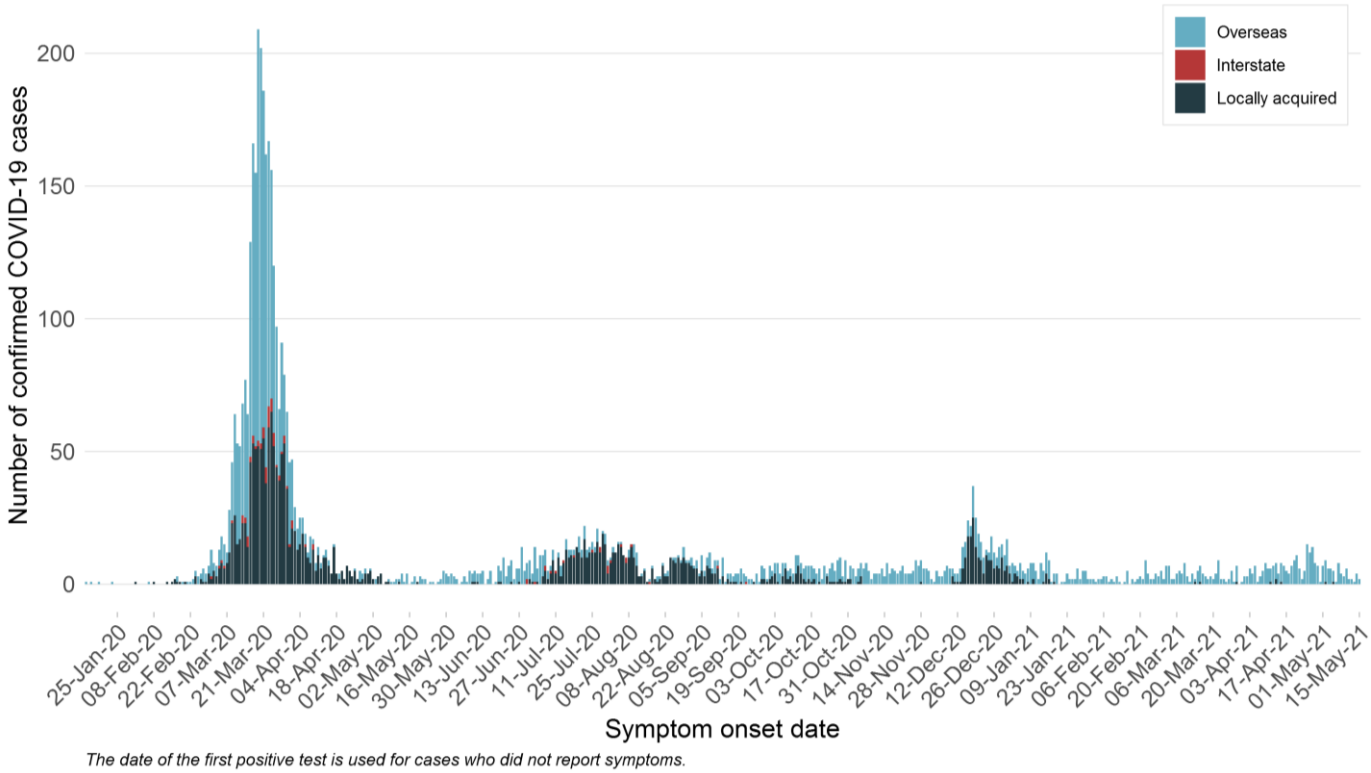
COVID-19 Vaccination program

- Australian Government Department of Health reports the number of vaccine doses administered across Australia — Daily COVID-19 vaccine rollout numbers
- Therapeutic Goods Administration (TGA) report data on received reports of suspected side effects (also known as adverse events) and other safety information from Australia and overseas — Weekly COVID-19 vaccine safety report
- AusVaxSafety is conducting active vaccine safety surveillance of the vaccines in use. Surveillance data have been provided by Vaxtracker, SmartVax and the Victorian Department of Health COVID-19 Vaccine Management System based on surveys sent on Day 3 after the vaccination — Weekly COVID-19 vaccine safety surveillance report

Section 1: How is the outbreak tracking in NSW?

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, from 25 January 2020 to 15 May 2021



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

Interpretation: Between 13 January 2020 and 15 May 2021, there were 5,369 confirmed COVID-19 cases. Of those, 3,183 (59%) were overseas acquired, 90 (2%) were interstate acquired, and 2,096 (39%) were locally acquired.

COVID-19 cases reported in 2020

The epidemiology of COVID-19 in NSW continued to evolve since the first three cases were reported in NSW on 25 January 2020 in people who acquired their infection in China. The first locally acquired COVID-19 case in NSW was reported on 2 March 2020 and by mid-March case numbers had increased rapidly in overseas returned travellers and their contacts and within localised community outbreaks. In NSW, the number of reported daily cases peaked on 27 March 2020 at 213 cases. Public health action and the introduction of a range of stringent control measures, including the closure of international borders, 14-day mandatory quarantine for returned travellers and restrictions of movement within NSW lead to a decline in cases. Community transmission was interrupted by the end of May 2020.

In early July seeding of SARS-CoV-2 into South Western Sydney from an outbreak in Melbourne lead to a second wave of infection. Following intensive public health action community transmission was again interrupted by the end of November 2020.

In December 2020 two new introductions of SARS-CoV-2 caused outbreaks in Sydney's Northern Beaches and Berala in Sydney's West. Community transmission was again interrupted by the end of January 2021.

COVID-19 cases reported in 2021

Figure 2. COVID-19 cases by likely infection source and reporting date, NSW, from 1 January 2021 to 15 May 2021

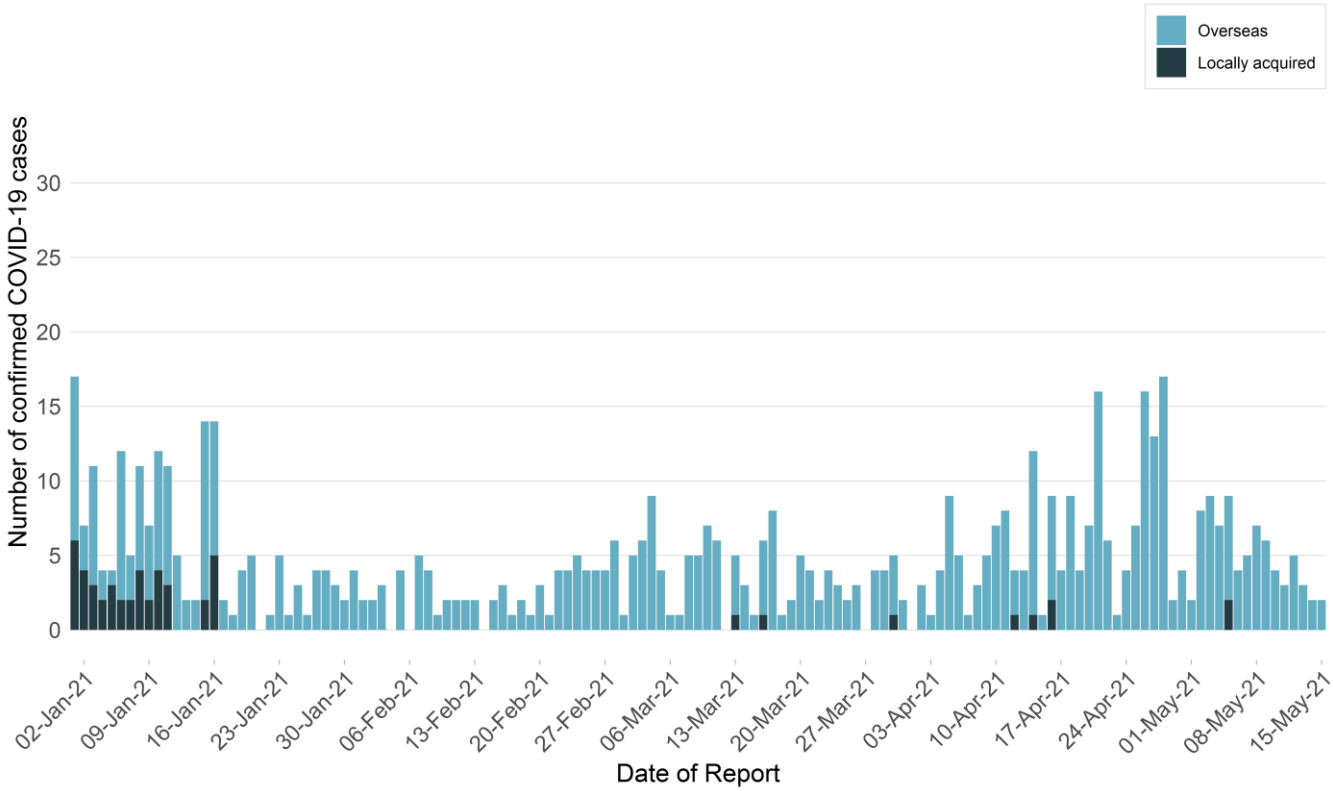


Table 1. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 15 May 2021

	Week ending 15 May	Week ending 8 May	% change	Total 2021
Number of cases	25	49	↓49%	627
Overseas acquired	25	47	↓47%	576
Interstate acquired	0	0	-	0
Locally acquired	0	2	↓100%	51
No epidemiological links to other cases or clusters	0	1	↓100%	7
Number of deaths	0	0	-	0
Number of tests	100,953	99,285	↑1.7%	1,711,953

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

Between the 1 January and 15 May 2021, 51 locally acquired COVID-19 cases have been reported in NSW, of these:

- 11 were associated with the Avalon cluster
- 31 were associated with the Berala cluster
- Two cases, a guest and a security guard, were associated with the Sydney hotel quarantine cluster in mid-March
- One case acquired their infection from an infectious Queensland resident who was visiting a Byron Bay pub, detected as part of extensive contact tracing in late March
- Three cases in one family acquired their infection in hotel quarantine in mid-April
- One person acquired their infection in hotel quarantine in mid-April
- Two cases, one a household contact of the other, from South Eastern Sydney acquired their infection from an unknown source in early May.

Interpretation: Since the elimination of local transmission in January, nine locally acquired cases have been identified and linked to five separate incursions of SARS-CoV-2 into NSW. The majority of cases reported in the last four weeks in NSW were overseas acquired (180/182, 99%).

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.

There are four internationally recognised VoCs, B.1.1.7, B.1.351, P1 and B.1.617 and two additional VoCs, B.1.427 and B.1.429, recognised by the US Centers for Disease Control and Prevention. Australia's Communicable Diseases Genomics Network (CDGN) reports on the four internationally recognised VoCs:

- B.1.1.7 first identified in the United Kingdom in September 2020 and recognised as a VoC on 14 December 2020
- B.1.351 first identified in South Africa in December 2020 and recognised as a VoC on 18 December 2020
- P.1 first identified in Japan among a group of Brazilian travellers in December 2020 and recognised as a VoC on 2 January 2021
- B.1.617 first detected in India in October 2020 (reported by three sub-lineages, which vary in mutations). This lineage was recognised as a VoC on 11 May 2021

All 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 all four of the VoCs in NSW.

In the four weeks ending 15 May 2021, there have been:

- two locally acquired COVID-19 cases diagnosed with a VoC; both diagnosed with the B.1.617.2 variant.
- 114 returned travellers were diagnosed with a VoC. Of these:
    - 57 (50%) with the B.1.1.7 variant
    - 53 (46%) with the B.1.617 variant
    - three (3%) with the B.1.351 variant
    - one (1%) with the P.1 variant.
- Three-quarters (86, 75%) of 114 returned travellers diagnosed with a VoC likely acquired their infection in either India (67, 59%), Pakistan (10, 9%) or Nepal (9, 8%).

Table 2a. Locally acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 15 May 2021

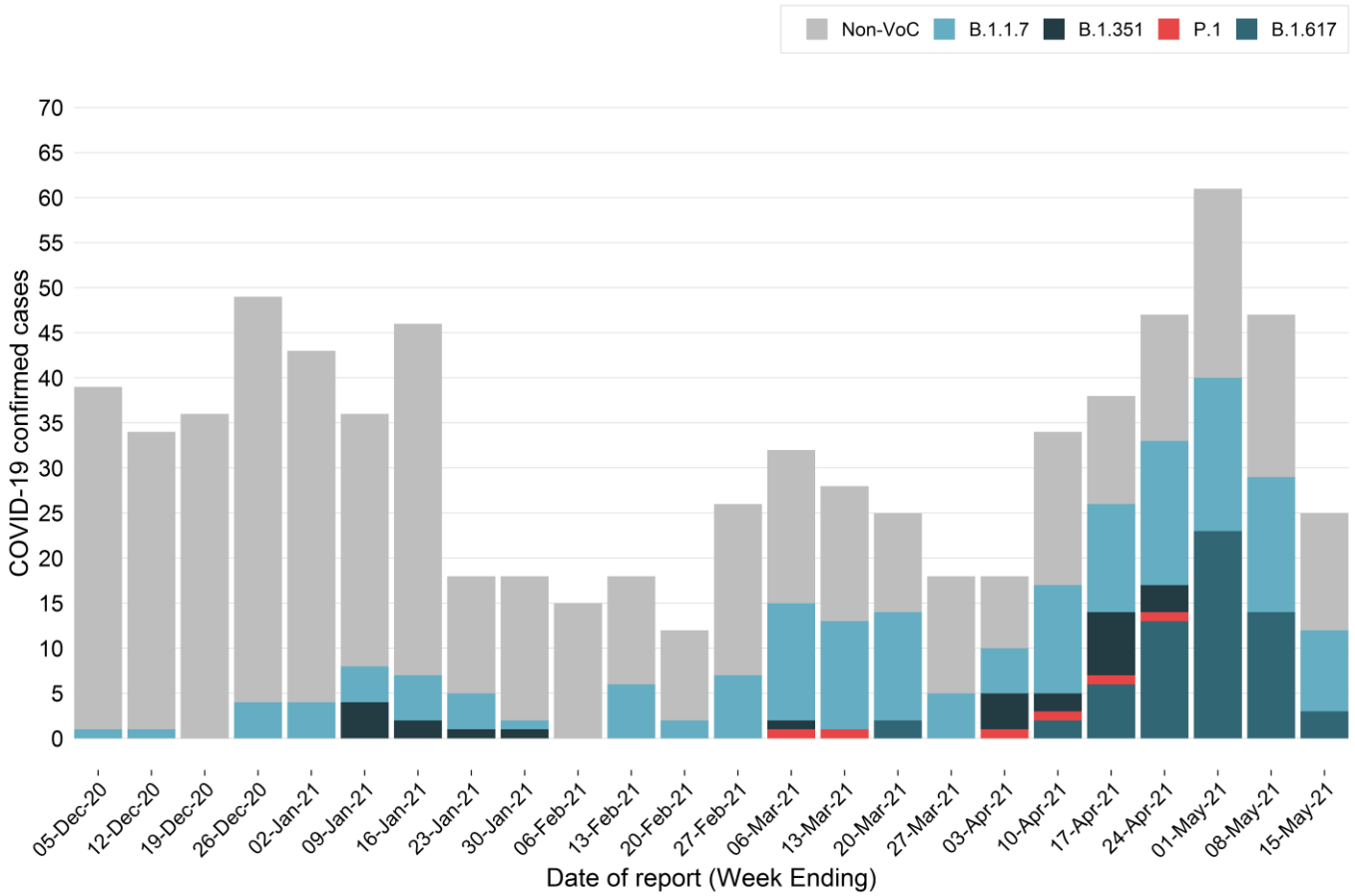
	Week ending				29 Nov to 17 Apr	Total since 29 November
	15 May*	8 May*	1 May	24 Apr		
Total locally acquired cases	**0**	**2**	**0**	**0**	**225**	**227**
Local cases with VoC	0	2	0	0	7	9
B.1.1.7	0	0	0	0	6	6
B.1.351	0	0	0	0	1	1
B.1.617	0	0	0	0	0	0
B.1.617.1	0	0	0	0	0	0
B.1.617.2	0	2	0	0	0	2
P.1	0	0	0	0	0	0
% locally acquired cases with VoC	-	100%	-	-	3%	4%

*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

Table 2b. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 15 May 2021

	Week ending				29 Nov to 17 Apr	Total since 29 November
	15 May*	8 May*	1 May	24 Apr		
Total overseas acquired cases	**25**	47	61	47	583	**763**
Overseas cases with VoC	12	29	40	33	147	261
B.1.1.7	9	15	17	16	110	167
B.1.351	0	0	0	3	22	25
B.1.617	0	0	2	1	5	8
B.1.617.1	0	0	1	5	2	8
B.1.617.2	3	14	20	7	3	47
P.1	0	0	0	1	5	6
% overseas acquired cases with VoC	48%	62%	66%	70%	25%	34%

Figure 3. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 15 May 2021



*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

Interpretation: Since 29 November 2020 there have been 261 returned travellers diagnosed with a COVID-19 VoC. On 11 May 2021 the SARS-CoV-2 lineage B.1.617 (including three sub-lineages, which vary in mutations) were recognised as an international variant of concern. In the four weeks ending 15 May 2021, 63% (114/180) of overseas acquired cases have been identified as having COVID-19 variants of concern (B.1.1.7, B.1.351, B.1.617 and P1). Of which 53 (47%) were identified with B.1.617 variant.

In total, 63 returned travellers have been identified as having the B.1.617 variant, of these 47 (75%) have the sub-lineage B.1.617.2, 8 have the either the B.1.617 or B.1.617.1 variant and no cases have been identified with the B.1.617.3 variant.

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 3. Locally acquired COVID-19 cases by LHD of residence and week reported, NSW, 4 April to 15 May 2021

Local Health District	Week ending				Total	Days since last case reported
	15 May	8 May	1 May	24 Apr		
Central Coast	0	0	0	0	0	137
Illawarra Shoalhaven	0	0	0	0	0	133
Nepean Blue Mountains	0	0	0	0	0	242
Northern Sydney	0	0	0	0	0	29
South Eastern Sydney	0	2	0	0	2	10
South Western Sydney	0	0	0	0	0	127
Sydney	0	0	0	0	0	124
Western Sydney	0	0	0	0	0	119
Far West	0	0	0	0	0	408
Hunter New England	0	0	0	0	0	29
Mid North Coast	0	0	0	0	0	389
Murrumbidgee	0	0	0	0	0	250
Northern NSW	0	0	0	0	0	46
Southern NSW	0	0	0	0	0	208
Western NSW	0	0	0	0	0	289
NSW*	**0**	**2**	**0**	**0**	**2**	**10**

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

Interpretation: In the week ending 15 May, there were no locally acquired cases.

In the week ending 8 May, testing identified two locally acquired cases of COVID-19 in a couple in their 50s from the same household in South Eastern Sydney. Whole genome sequencing showed that these cases were infected with an identical virus (a variant of concern B.1.617) that had infected a person who acquired their infection in the United States and arrived in NSW a few days earlier, in late April.

To check for any **direct transmission** between the overseas acquired case and the locally acquired case who had first onset of symptoms on 2 May, NSW Health conducted detailed interviews with the locally acquired and overseas acquired cases and reviewed other available data sources to establish their movements during the period when transmission might have occurred. Each case's close contacts were assessed, tested and isolated. We were unable to identify any opportunities for direct transmission between the overseas and locally acquired cases.

To check for any **indirect transmission** between the cases, through an intermediary case, NSW Health's contacted and tested over 900 people. These included people who had contact with the overseas acquired case while they were infectious:

- on the flight to Sydney
- at the airport on the day of arrival
- at the quarantine hotel
- at the Special Health Accommodation
- during transport between these locations

The investigation also included contacting and tested people who had contact with the first locally acquired case at the time he could have acquired his infection:

- people in his family and social circles
- people who were at venues he attended

Despite these extensive investigations, NSW Health has not identified how the initial case was exposed to COVID-19.

To contain any risk of **ongoing transmission in the community**, NSW Health identified people who attended the venues visited by the locally acquired cases while he was infectious, and contacted, tested and isolated people who attended the same venues, identified through QR sign-in data and through public alerts. This investigation identified nine venues of concern and 201 close contacts in relation to exposure with the two cases and no further community transmission has been identified.

Further to the investigation and contact tracing, on Sunday 9 May 2021, NSW Health announced that temporary COVID-safe measures would be introduced across Greater Sydney. These measures remained in place until 12:01am Monday 17 May 2021. For further details please see the NSW Health media release for 16 May 2021.

Section 4: Current COVID-19 clusters in NSW

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

Clusters are defined as a group of two or more cases (who don't reside in the same household) that are infected with the same virus (with the identical genetic sequence) that are linked epidemiologically to each other. This means that a direct source of infection can be identified for each case in the cluster, through contact with a known case where transmission likely occurred.

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

Cases in community settings

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

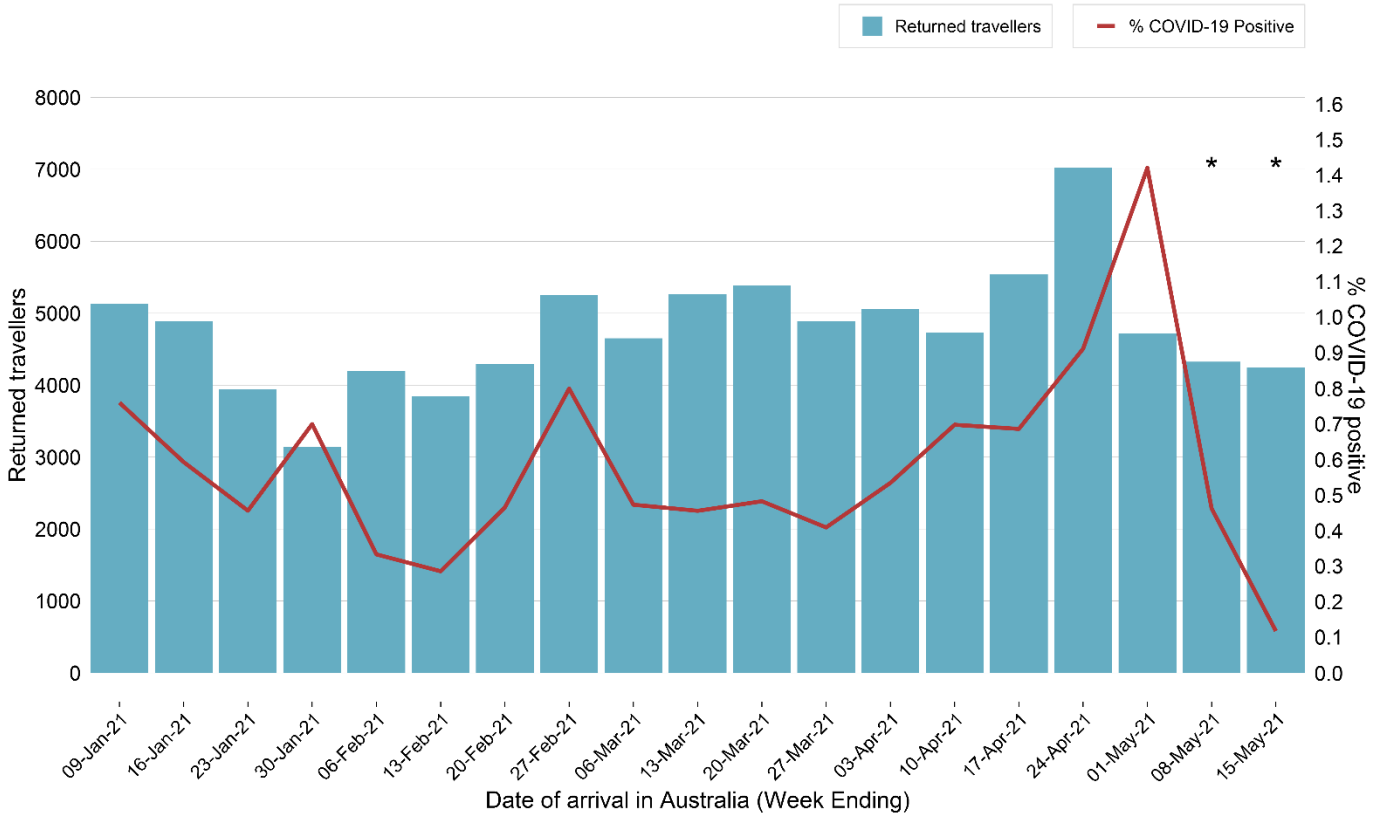
Section 5: COVID-19 in returned travellers

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 4. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 15 May 2021



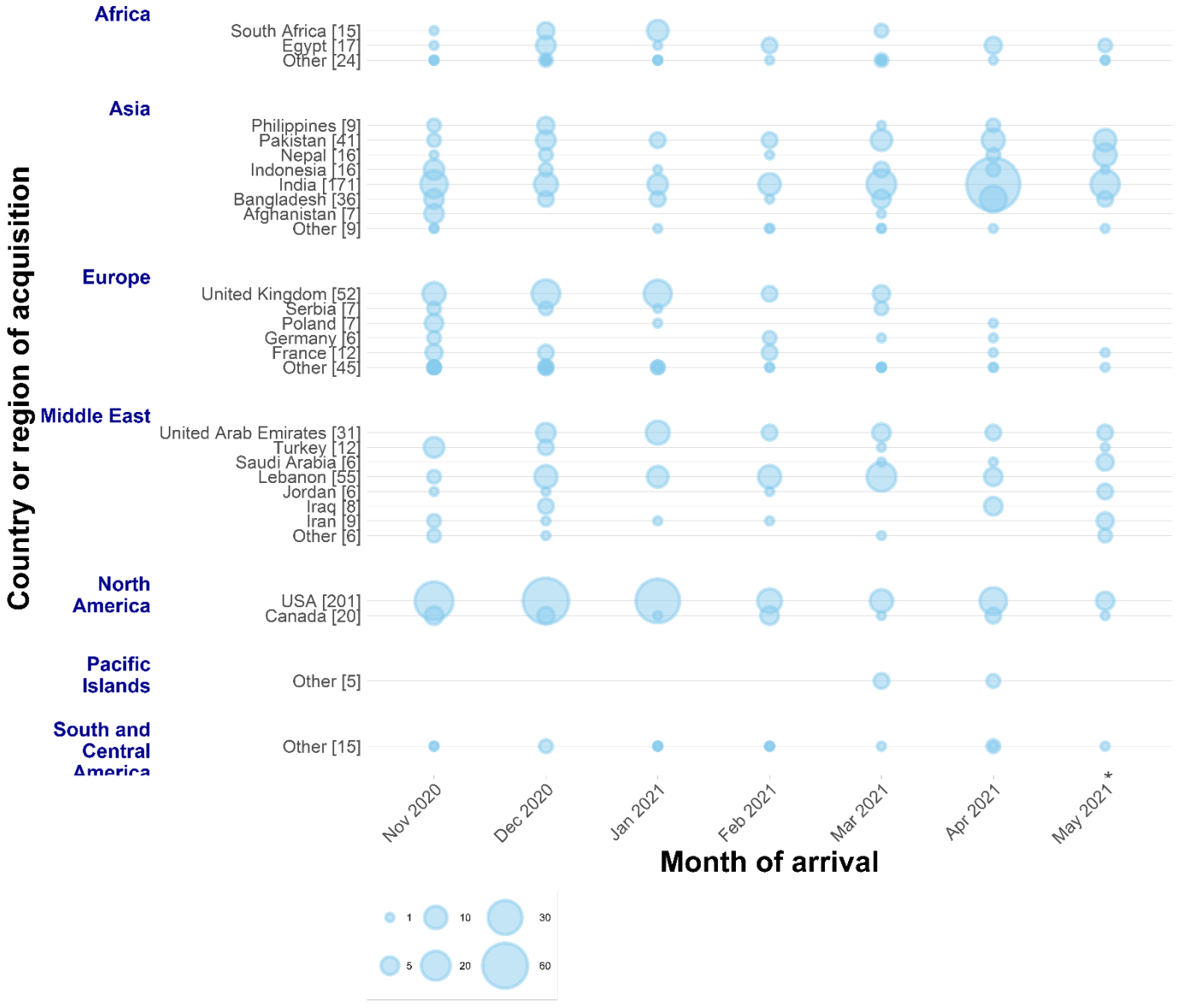
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021**,** there has been on average 680 people screened on arrival through Sydney International Airport daily. In the last four weeks, 180 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 low but increased to over 1% (1.3%) in returned travellers in the week ending 1 May 2021 for the first time in 2021.

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 5. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 October 2020 to 15 May 2021



* Data for current month is incomplete

Interpretation: In April 2021, there has been a significant increase in detections of COVID-19 in travellers from 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, there have been 180 COVID-positive travellers in NSW. The table below lists of countries of acquisition for these travellers.

Table 4. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 4 April 2021 to 15 May 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
India	91 (51%)
Pakistan	14 (8%)
Nepal	12 (7%)
USA	9 (5%)
Bangladesh	6 (3%)
Egypt	6 (3%)
Saudi Arabia	5 (3%)
Iran	4 (2%)
United Arab Emirates	4 (2%)
Jordan	3 (2%)
Other	26 (14%)
Total	**180**

Interpretation: In the last four weeks, travellers returning from India accounted for the largest number of overseas acquired cases (91, 51%), followed by travellers returning from Pakistan (14, 8%), Nepal (12, 7%), and the USA (9, 5%).

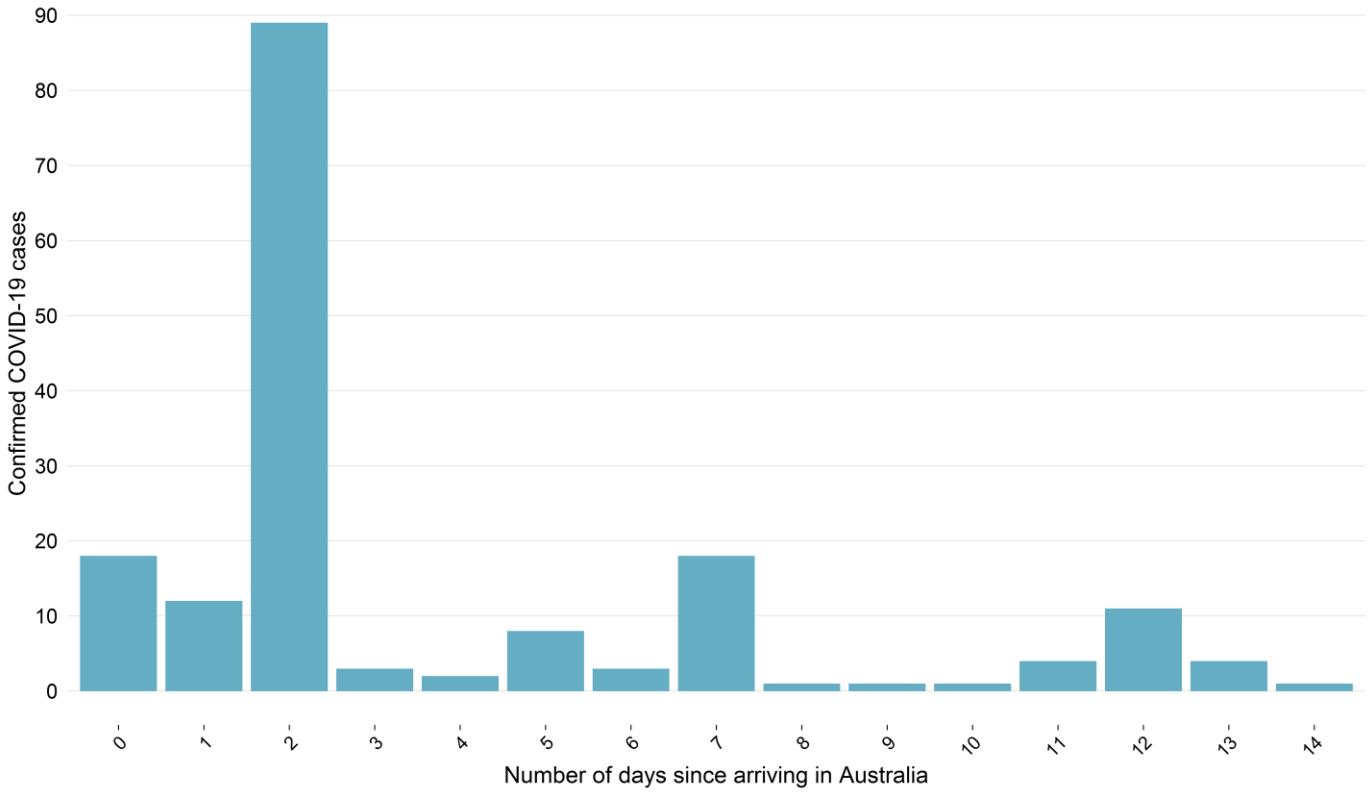
Cases among returned travellers in quarantine

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 acquired cases in returned travellers within the quarantine program, by the number of days since they arrived in Australia. Overseas acquired cases include people with likely exposure overseas, in flight or who are household-like contacts of overseas acquired cases within hotel quarantine.

Figure 6. Number of overseas acquired cases in the last four weeks who tested positive for SARS-CoV-2 during the 14-day quarantine period, by days since arrival in NSW, 17 April to 15 May 2021



Interpretation: In the four weeks ending 15 May 2021, 66% 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 vaccination status

COVID-19 vaccinations began in Australia on 22 February 2021. The first people to receive the COVID-19 vaccines are priority groups who are at a higher risk of COVID-19 including quarantine and border workers, frontline healthcare workers, and aged and disability care residents and staff.

There are a range of vaccines, with variable efficacy, currently being administered worldwide. People receiving vaccines are considered fully vaccinated two weeks after they complete the recommended course for that vaccine. Both vaccines being administered in Australia, Pfizer-BioNTech and AstraZeneca, and many from overseas such as Moderna and Sinovac, recommend a two-dose course. There is one single dose vaccine course currently being administered, the Johnson & Johnson vaccine in the USA.

The tables below show the number COVID-19 cases, by the number of self-reported COVID-19 vaccine doses received. The number of cases reported as **fully vaccinated** refers to vaccination being completed 14 days prior to known exposure to COVID-19 or 14 days prior to arrival in Australia.

Table 5a. Overseas acquired COVID-19 cases by number of self-reported COVID-19 vaccine doses received and week reported, NSW, 1 March to 15 May 2021

Number of self-reported vaccination doses received	Week ending				1 Mar to 17 Apr	Total since 1 March 2021
	15 May	8 May	1 May	24 Apr		
Total overseas acquired cases	25	47	61	47	187	367
Two doses	2	0	1	2	3	8
One dose	0	3	1	6	7	17
None	23	44	58	38	169	332
Unknown	0	0	1	1	8	10
Number (%) cases fully vaccinated	2 (8%)	0%	2 (3%)	3 (6%)	1 (1%)	8 (2%)

Table 5b. Locally acquired COVID-19 cases by number of self-reported COVID-19 vaccine doses received and week reported, NSW, 1 March to 15 May 2021

Number of self-reported vaccination doses received	Week ending				1 Mar to 17 Apr	Total since 1 March 2021
	15 May	8 May	1 May	24 Apr		
Total locally acquired cases	0	2	0	0	7	9
Two doses	0	0	0	0	0	0
One dose	0	0	0	0	2	2
None	0	2	0	0	5	7
Unknown	0	0	0	0	0	0
Number (%) cases fully vaccinated	-	0	-	-	0	0

Interpretation: Since 1 March 2021, eight (2%) cases reported being fully vaccinated prior to arrival in Australia, although may not have been fully vaccinated prior to being exposed to COVID-19.

There have been no locally acquired cases reported as being fully vaccinated.

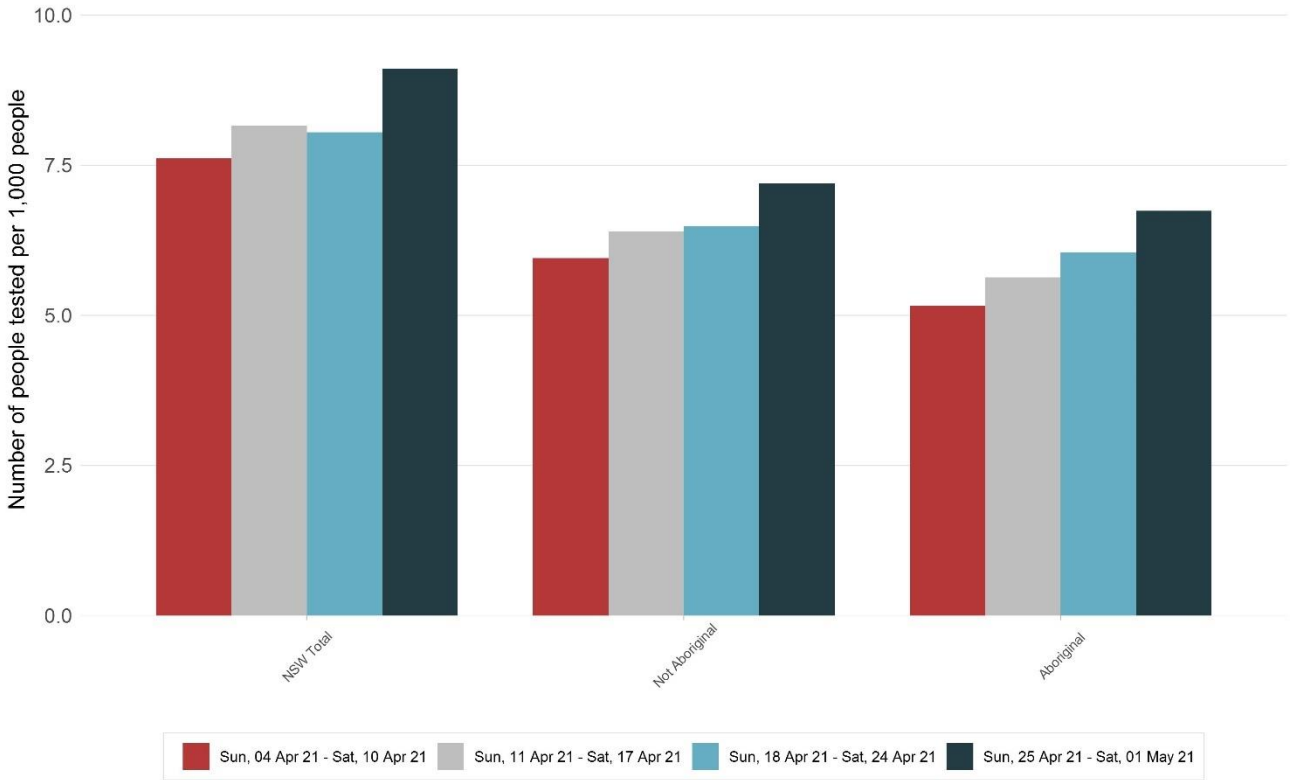
Section 7: COVID-19 in specific populations

Aboriginal people

Aboriginal and Torres Strait Islander communities are recognised as a priority group due to key drivers of increased risk of transmission and severity of COVID-19 which include mobility, remoteness, barriers to access including institutional racism and mistrust of mainstream health services, crowded and inadequate housing, and burden of disease.

In total, 49 Aboriginal people have been diagnosed with COVID-19, representing 1% of all cases in NSW. Aboriginal status is collected by public health staff on interview with the case at the time of diagnosis, those who test negative are not interviewed. Aboriginal status for those tested can be ascertained through linkage with other health information systems but there is a delay in getting this information. Results of the most recent linkage are available for people tested up to 1 May 2021, with Aboriginal status ascertained for approximately 90% of all COVID-19 test records.

Figure 7. Testing rate per 1,000 by Aboriginality and week, NSW, 4 April to 1 May 2021



Note: NSW Total includes persons tested in NSW without Aboriginality recorded.

Interpretation: Testing rates increased in the week ending 1 May compared to the previous week for Aboriginal people but continued to remain slightly lower than the testing rates reported for non-Aboriginal people.

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.

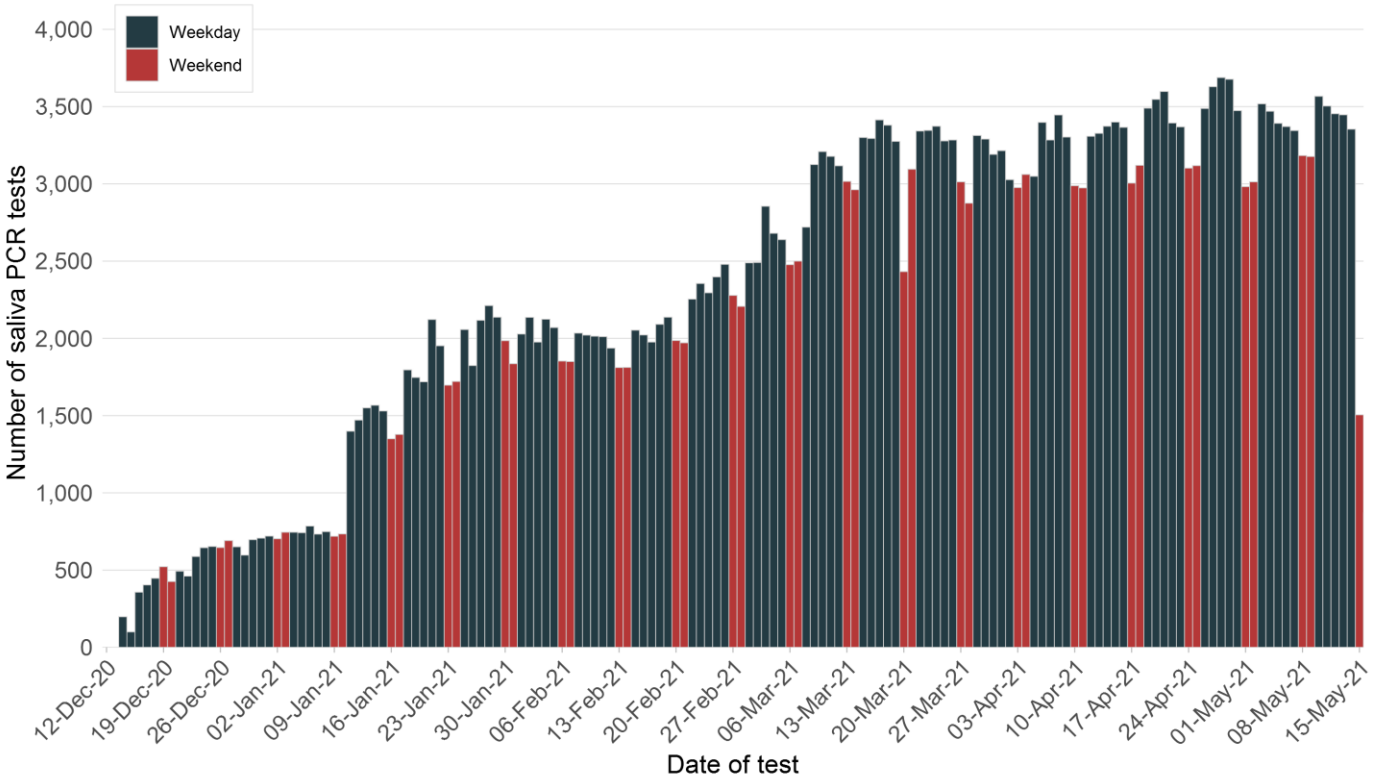
There were no locally acquired cases of COVID-19 reported in HCWs in the week ending 15 May 2021.

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).

Border and quarantine workers – saliva testing 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 SARS-CoV-2 saliva PCR testing, which is painless and quick (see NSW hotel quarantine worker surveillance and testing program).

Figure 8. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 15 May 2021



* The number of saliva PCR tests on 15 May 2021 is incomplete due to delays in reporting negative results.

Interpretation: Since screening of quarantine workers began in December 2020, a total of 351,928 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 13 March 2021.

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

Section 8: COVID-19 deaths

How many people have died as a result of COVID-19?

Since the start of the pandemic, 1.0% 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 15 May.

Table 6. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 15 May 2021

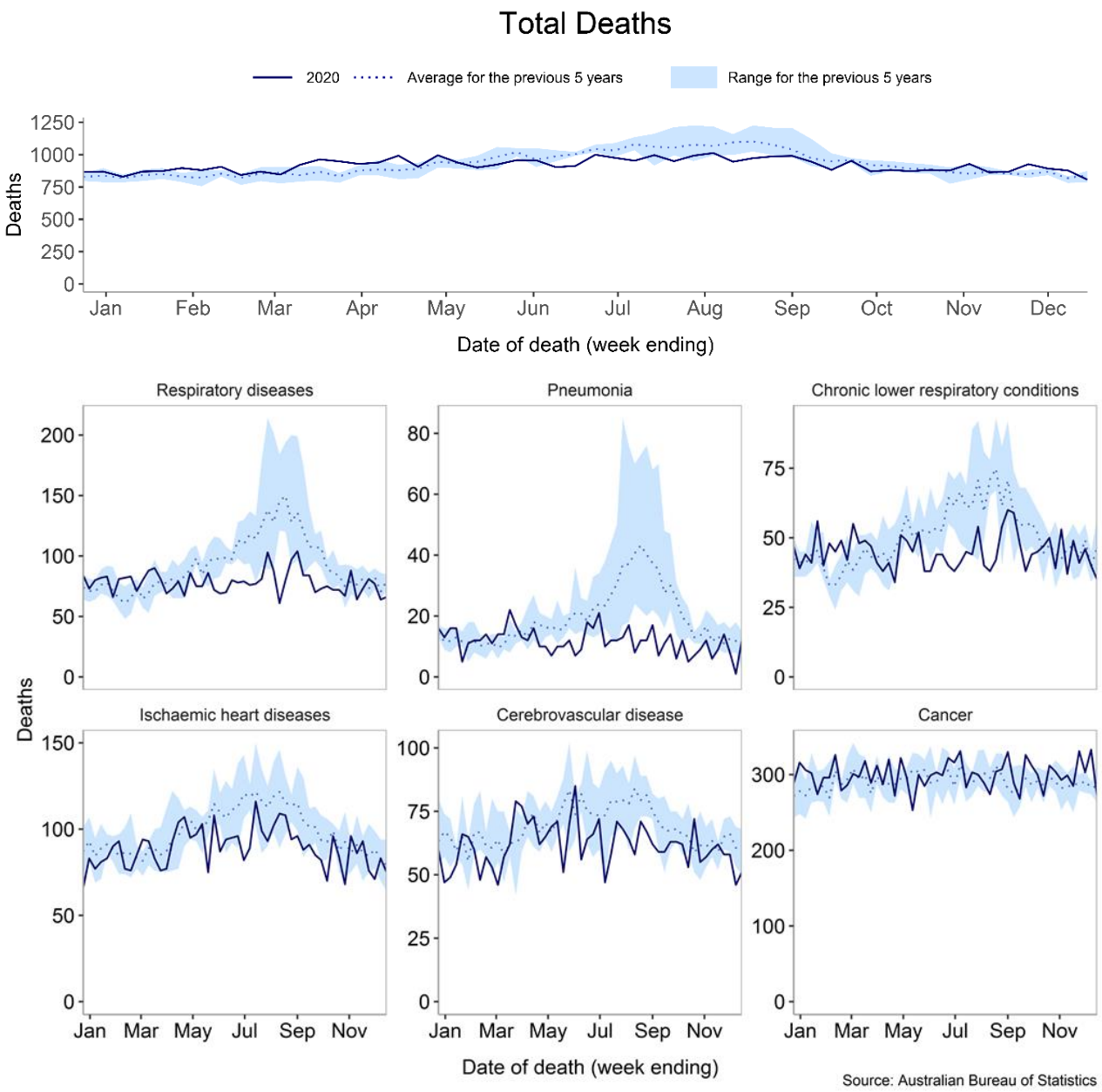
Age group (years)	Number of deaths	Number of cases	Case fatality rate
0–4	0	141	0%
5–11	0	133	0%
12–17	0	167	0%
18–29	0	1,205	0%
30–49	0	1,782	0%
50–59	1	707	0.1%
60–69	4	655	0.6%
70–79	15	390	3.8%
80+	36	164	22.0%
Total	**56**	5,344	**1.0%**

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 9. Deaths from any cause in NSW from January to 31 December 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.

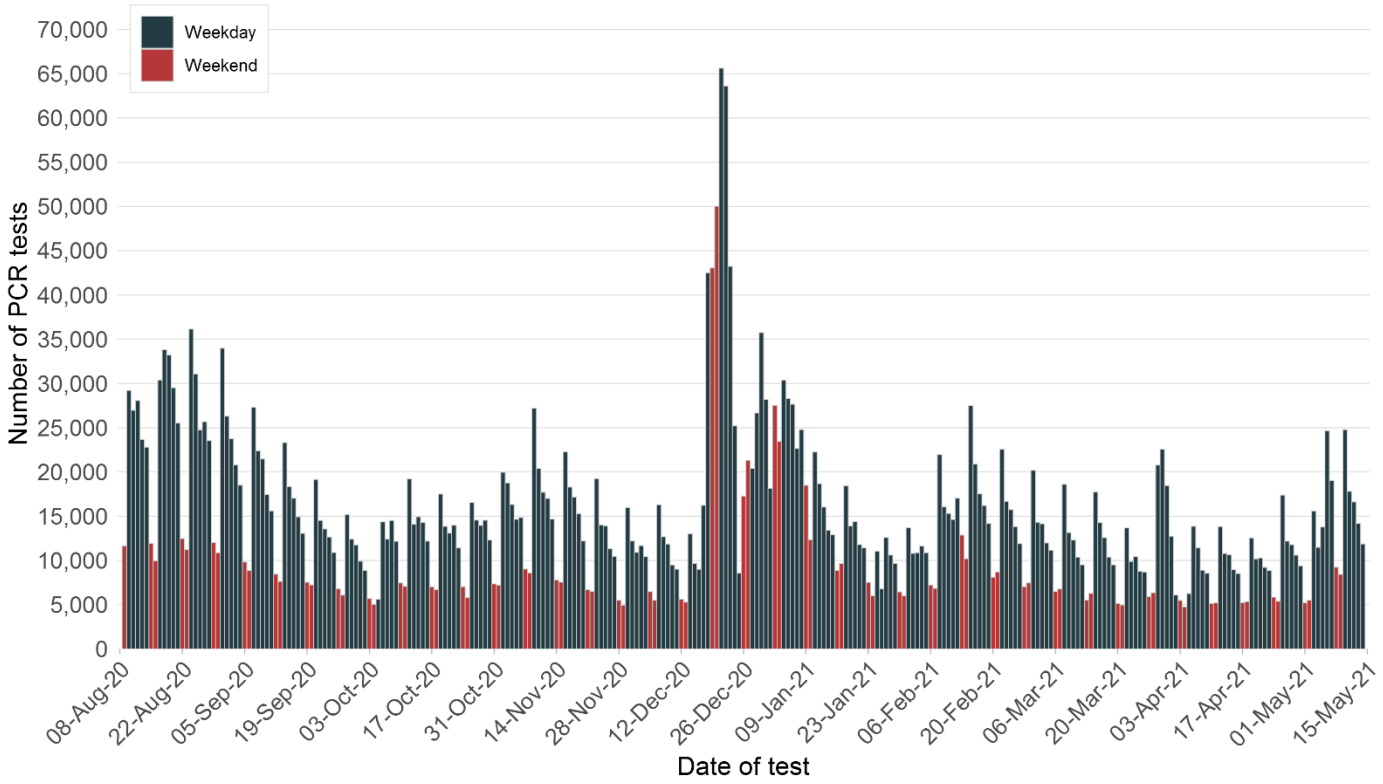
Section 9: COVID-19 testing in NSW

How much testing is happening?

The bars on the graph below show the number of tests by the date a person presented for the test.[1] While public health facilities are generally open seven days a week, 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 10. Number of PCR tests per day, NSW, 11 July 2020 to 15 May 2021



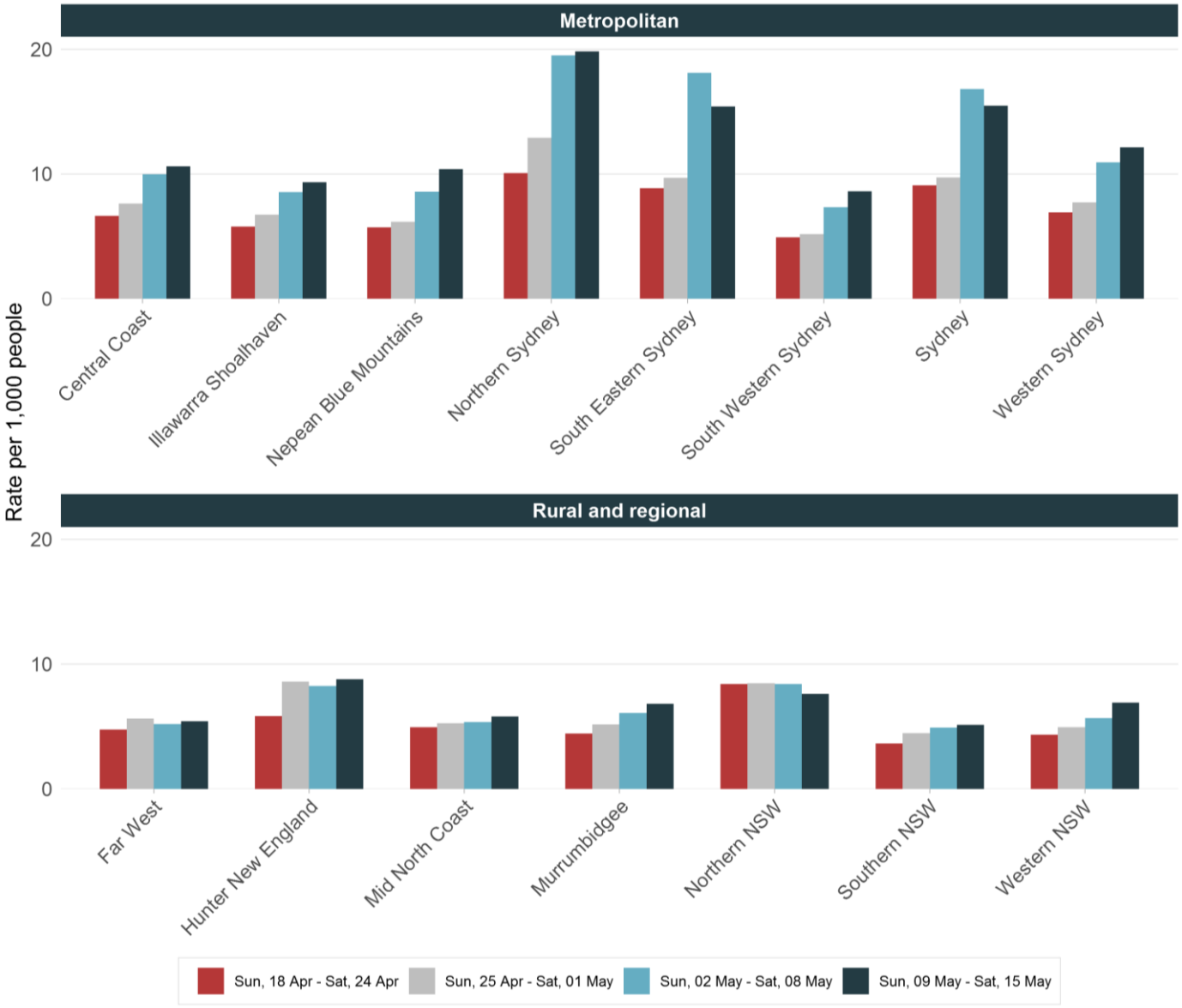
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers increased in the week ending 15 May (up 1.7%) compared to the previous week. The average daily testing rate remained stable at 1.8 per 1,000 people in NSW.

[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.

Testing by Local Health District

Figure 11. Rates of COVID-19 testing by LHD of residence, NSW, 18 April to 15 May 2021

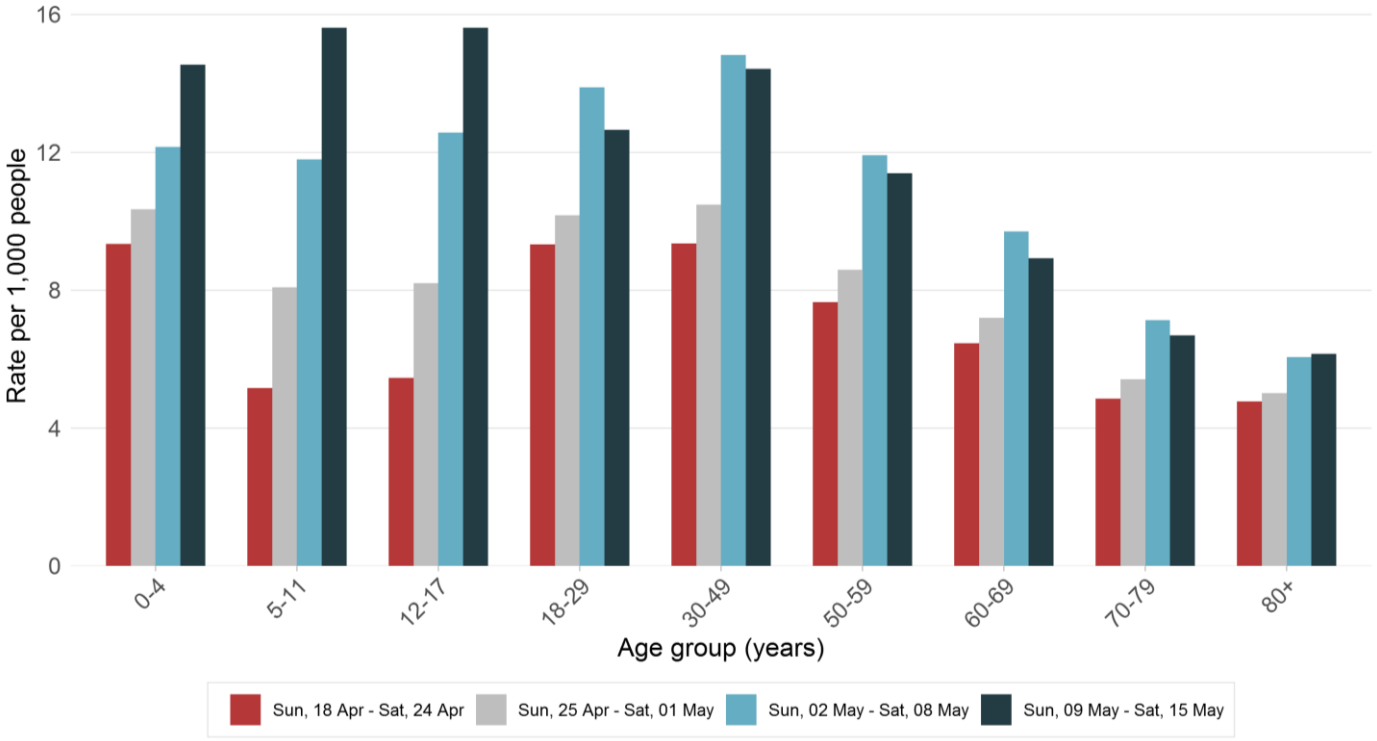


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 15 May remained stable overall when compared to the previous week (12.5 per 1,000 people compared to 12.3 per 1,000 people). Testing rates remain high in Northern Sydney, South Eastern Sydney and Sydney LHDs, which can be attributed to the community response of the reporting of two local confirmed cases in South Eastern Sydney LHD.

Testing by age group

Figure 12. Rates of COVID-19 testing by age group and week, NSW, 18 April to 15 May 2021



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

Interpretation: In the week ending 15 May, testing rates increased in children aged 0-17 years. This corresponds to an overall increase in respiratory activity in NSW for these age groups and messaging from NSW Health advising that students with flu-like symptoms are to be tested and symptom-free before being permitted to return to school.

Section 10: 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. In Sydney, testing is undertaken from both the sewage treatment plant (inlet sites) and sites within the network (network sites). 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. The results from all sites across NSW are available in Appendix D.

Table 7. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 13 March to 15 May 2021

		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Pop.	**Location**	10	11	12	13	14	15	16	17	18	19
Sydney sewage treatment plant (inlet sites)											
318,810	Bondi										
1,857,740	Malabar 1										
	Malabar 2										
Sydney network sites											
Bondi	Paddington Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Botany Sewage Network										
North Head	Allambie Heights Sewage Network										
Regional sites											
15,500	Merimbula										
225,834	Hunter - Burwood Beach										
7,700	Lennox Head										

Sampling commenced week ending 18 July 2020

not sampled or analysed
SARS-CoV-2 not detected
SARS-CoV-2 detected
site moved to composite sample or ceased
SPS Sewage Pumping Station

Interpretation: In the week ending 15 May, 155 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were six detections – taken from the Bondi (twice) and Malabar (twice) treatment plants, and the sewage network at Paddington (within the Bondi catchment) and Botany (within the Malabar catchment). All detections are within catchments that contain quarantine hotels where active cases are known to have stayed. People can continue to shed fragments of the virus for several weeks.

Section 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 9 May 2021

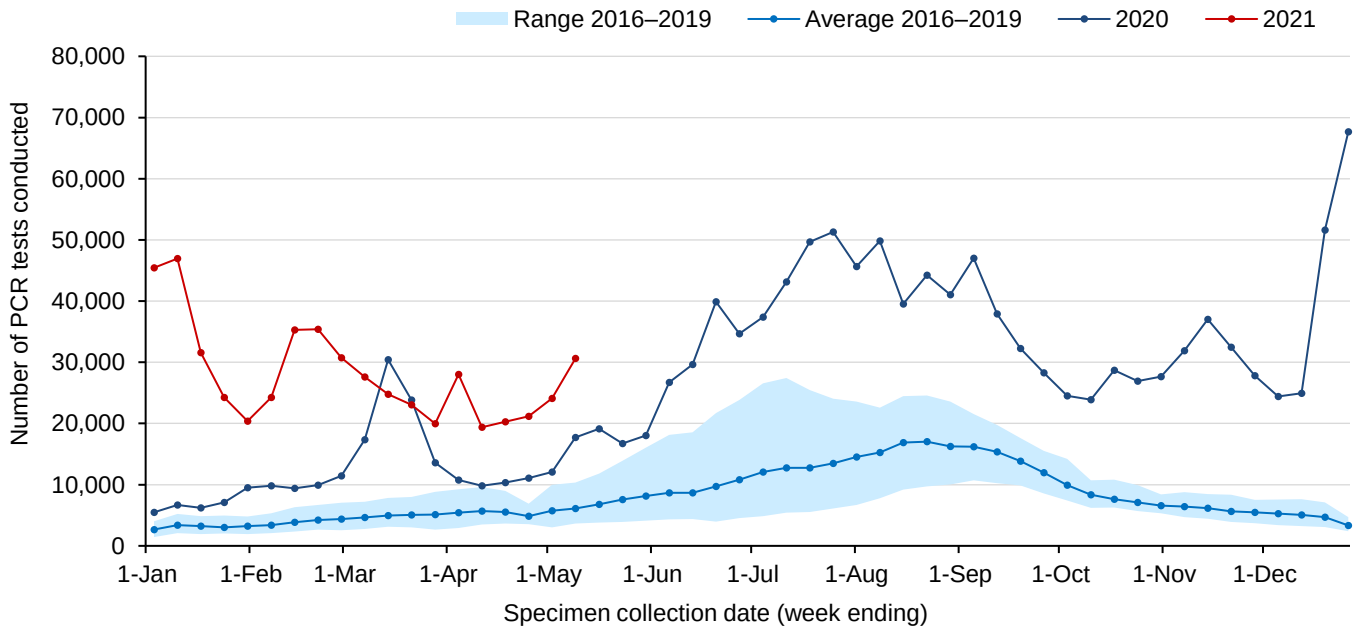
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 9 May 2021. A total of 533,377 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 13. Testing for influenza by week, NSW, 1 January 2016 to 9 May 2021

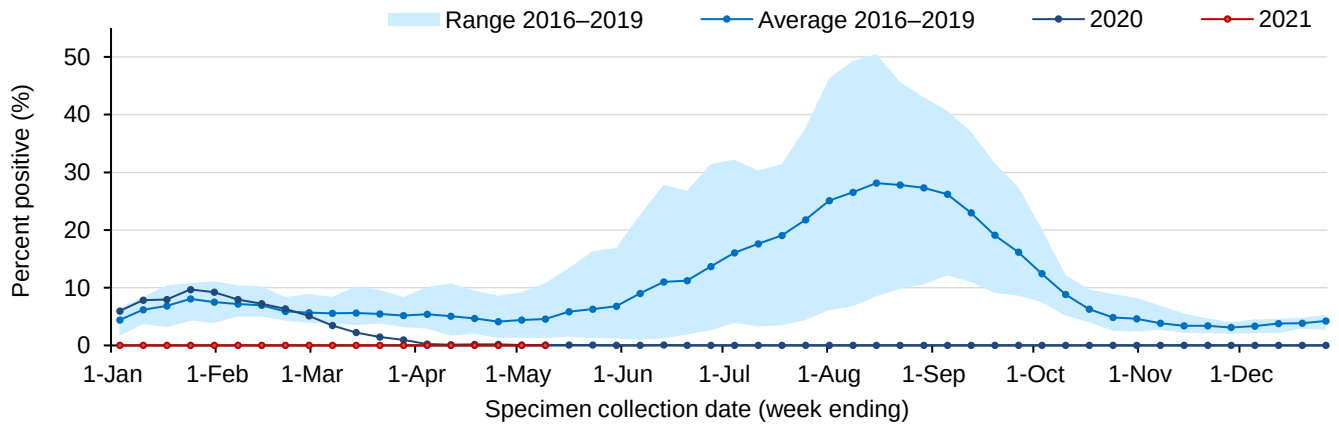


Interpretation: In the week ending 9 May, the number of influenza tests increased with 30,643 influenza tests performed across participating laboratories compared with 24,101 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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 14. Proportion of tests positive for influenza, NSW, 1 January 2016 to 9 May 2021

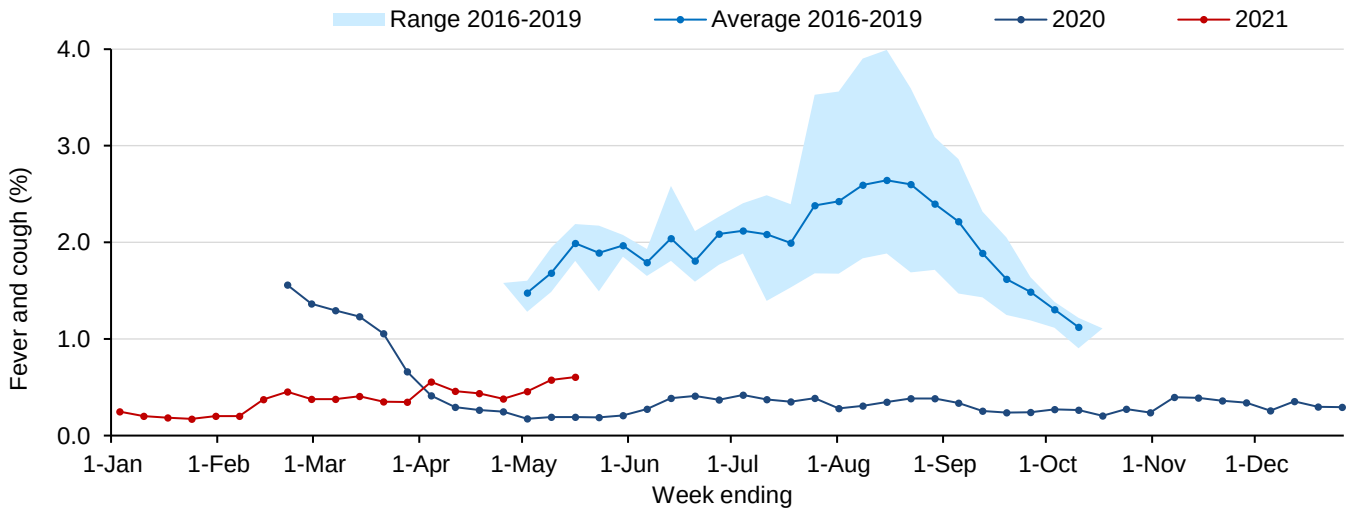


Interpretation: In the week ending 9 May, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 7 influenza cases reported in 2021. Investigations into the source of these cases are ongoing, and further confirmatory testing is underway.

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 has continued throughout the year due to the COVID-19 outbreak.

Figure 15. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 16 May 2021



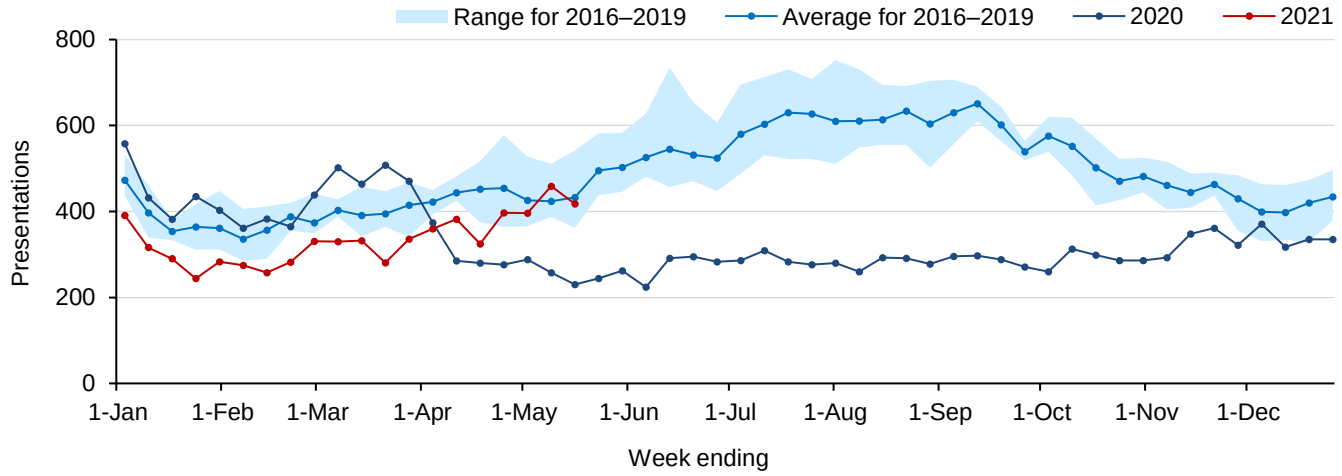
Interpretation: In NSW in the week ending 16 May of the 21,135 people surveyed, 128 people (0.61%) reported flu-like symptoms. In the last four weeks, 46% (218/469) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has been decreased since January when 80% of people surveyed with flu-like symptoms were being tested.

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.

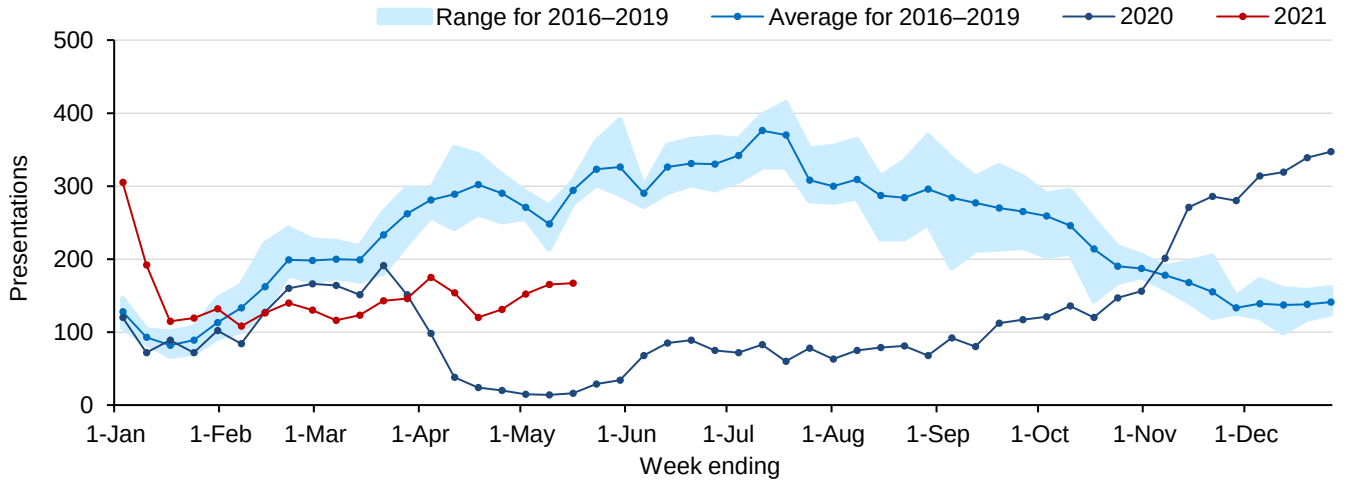
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 16. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 16 May 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 16 May, pneumonia presentations decreased and are now below the seasonal average for this time of year.

Figure 17. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 16 May 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. A rise in bronchiolitis presentations in the later part of 2020 corresponds to an increase in RSV detections. In the week ending 16 May 2021, bronchiolitis presentations continue to increase but remain below the seasonal range for this time of year.

[2] NSW Health Public Health Rapid, Emergency Disease and Syndromic Surveillance (PHREDSS) system, CEE, NSW Ministry of Health. Comparisons are made with data for the preceding 5 years. Includes unplanned presentations to 67 NSW emergency departments (accounts for 87% of total public ED activity).

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

Local Health District	Local Government Area	Week ending				Total since January 2021	
		15-May		08-May			
		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]	3744	10.61	3520	9.98	214988	609.27
Far West	Balranald	6	2.57	10	4.28	705	301.54
	Broken Hill	102	5.84	108	6.18	9471	541.85
	Central Darling	5	2.72	8	4.35	572	311.04
	Wentworth	50	7.09	31	4.4	3448	488.87
	LHD Total[2]	163	5.41	157	5.21	14196	470.94
Hunter New England	Armidale Regional	242	7.86	197	6.4	15042	488.71
	Cessnock	265	4.42	244	4.07	22097	368.38
	Dungog	66	7	75	7.96	3697	392.34
	Glen Innes Severn	39	4.4	21	2.37	2714	305.94
	Gunnedah	65	5.13	46	3.63	4676	368.74
	Gwydir	21	3.92	13	2.43	1028	192.04
	Inverell	81	4.8	91	5.39	6160	364.71
	Lake Macquarie	2335	11.34	2279	11.07	133173	646.78
	Liverpool Plains	43	5.44	43	5.44	3053	386.31
	Maitland	1063	12.48	887	10.41	59992	704.41
	Mid-Coast	489	5.21	467	4.98	35291	376.09
	Moree Plains	78	5.88	57	4.3	4339	327.2
	Muswellbrook	87	5.31	82	5.01	6532	398.85
	Narrabri	47	3.58	42	3.2	3638	276.97
	Newcastle	2083	12.58	2092	12.64	129521	782.27
	Port Stephens	515	7.01	542	7.38	41074	558.97
	Singleton	162	6.91	142	6.05	13512	575.93
	Tamworth Regional	530	8.47	438	7	32618	521.55
	Tenterfield	17	2.58	29	4.4	1690	256.29
	Upper Hunter Shire	73	5.15	59	4.16	5944	419.18
	Uralla	34	5.66	22	3.66	1836	305.39
	Walcha	19	6.06	7	2.23	1315	419.59
	LHD Total[2]	8349	8.77	7866	8.26	528520	554.95
Illawarra Shoalhaven	Kiama	212	9.07	218	9.32	15103	645.81
	Shellharbour	704	9.61	544	7.43	45936	627.26
	Shoalhaven	640	6.06	595	5.63	50418	477.23
	Wollongong	2370	10.87	2236	10.25	147090	674.37
	LHD Total[2]	3926	9.36	3593	8.56	258547	616.15
Mid North Coast	Bellingen	99	7.62	76	5.85	5805	446.68
	Coffs Harbour	415	5.37	365	4.72	30562	395.49
	Kempsey	182	6.12	176	5.92	13342	448.55
	Nambucca	82	4.14	79	3.99	7219	364.5
	Port Macquarie-Hastings	532	6.29	515	6.09	38957	460.89
	LHD Total[2]	1310	5.81	1211	5.37	95885	424.9

Local Health District	Local Government Area	Week ending				Total since January 2021	
		15-May		08-May			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Murrumbidgee	Albury	463	8.52	415	7.64	26402	485.75
	Berrigan	7	0.8	12	1.37	2498	285.49
	Bland	36	6.03	24	4.02	2057	344.44
	Carrathool	5	1.79	6	2.14	452	161.49
	Coolamon	29	6.68	22	5.07	1833	422.25
	Cootamundra-Gundagai Regional	67	5.96	46	4.09	4156	369.92
	Edward River	33	3.63	28	3.08	3454	380.23
	Federation	52	4.18	49	3.94	4318	347.19
	Greater Hume Shire	72	6.69	75	6.97	4495	417.6
	Griffith	203	7.51	179	6.62	12906	477.49
	Hay	11	3.73	5	1.7	707	239.74
	Hilltops	130	6.95	95	5.08	7525	402.32
	Junee	35	5.24	45	6.73	1989	297.62
	Lachlan[1]	18	2.96	9	1.48	1270	209.05
	Leeton	47	4.11	49	4.28	3773	329.66
	Lockhart	23	7	20	6.09	1106	336.68
	Murray River	6	0.5	5	0.41	1102	90.94
	Murrumbidgee	9	2.3	11	2.81	1125	287.21
	Narrandera	11	1.86	9	1.53	1459	247.33
	Snowy Valleys	66	4.56	71	4.9	5807	401.06
	Temora	17	2.7	16	2.54	1745	276.68
	Wagga Wagga	704	10.79	631	9.67	37883	580.51
	LHD Total[2]	2029	6.81	1814	6.09	127202	426.7
Nepean Blue Mountains	Blue Mountains	1027	12.98	821	10.38	64206	811.52
	Hawkesbury	719	10.68	590	8.77	43921	652.65
	Lithgow	112	5.18	88	4.07	8948	414.16
	Penrith	2222	10.43	1886	8.86	154443	725.16
	LHD Total[2]	4063	10.39	3364	8.6	269417	689.07
Northern NSW	Ballina	642	14.39	1138	25.5	31588	707.81
	Byron	286	8.15	298	8.49	24964	711.61
	Clarence Valley	273	5.28	191	3.7	17215	333.22
	Kyogle	41	4.66	31	3.52	2781	316.17
	Lismore	360	8.24	287	6.57	24173	553.26
	Richmond Valley	165	7.03	127	5.41	10637	453.31
	Tenterfield	17	2.58	29	4.4	1690	256.29
	Tweed	590	6.08	531	5.47	39726	409.54
	LHD Total[2]	2361	7.61	2609	8.41	151465	488.03
Northern Sydney	Hornsby	2246	14.77	1936	12.73	105447	693.46
	Hunters Hill	553	36.92	551	36.78	23757	1585.91
	Ku-ring-gai	3016	23.72	2836	22.3	139452	1096.73
	Lane Cove	1414	35.21	1378	34.32	67088	1670.73
	Mosman	566	18.27	615	19.85	28478	919.21
	North Sydney	1087	14.49	1202	16.02	52698	702.44
	Northern Beaches	5706	20.86	6057	22.15	352464	1288.72

Local Health District	Local Government Area	Week ending				Total since January 2021	
		15-May		08-May			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Parramatta[1]	3073	11.95	2896	11.26	154806	601.9
	Ryde	2444	18.62	2243	17.09	99230	755.92
	Willoughby	1202	14.8	1197	14.74	54322	669.08
	LHD Total[2]	18963	19.84	18659	19.52	954555	998.57
South Eastern Sydney	Bayside	1945	10.9	2195	12.3	102502	574.58
	Georges River	1644	10.31	1574	9.87	86937	545.16
	Randwick	2829	18.18	3246	20.85	139789	898.1
	Sutherland Shire	3058	13.26	3005	13.03	179407	777.96
	Sydney[1]	4779	19.4	5484	22.26	230217	934.54
	Waverley	1728	23.26	2507	33.74	80905	1088.97
	Woollahra	1794	30.21	2709	45.62	70830	1192.69
	LHD Total[2]	14774	15.4	17369	18.11	744185	775.92
South Western Sydney	Camden	1387	13.67	1197	11.8	92352	910.44
	Campbelltown	1955	11.44	1621	9.48	124558	728.65
	Canterbury-Bankstown[1]	3513	9.3	3168	8.38	218671	578.62
	Fairfield	1235	5.83	1047	4.95	95781	452.45
	Liverpool	1967	8.64	1618	7.11	150042	659.28
	Wingecarribee	493	9.64	466	9.11	39429	771.09
	Wollondilly	381	7.17	336	6.32	26488	498.37
	LHD Total[2]	8954	8.62	7645	7.36	635202	611.63
Southern NSW	Bega Valley	192	5.57	189	5.48	14117	409.47
	Eurobodalla	203	5.28	194	5.04	21136	549.37
	Goulburn Mulwaree	186	5.97	188	6.04	14866	477.52
	Queanbeyan-Palerang Regional	253	4.14	272	4.45	20818	340.72
	Snowy Monaro Regional	153	7.36	98	4.71	9014	433.47
	Upper Lachlan Shire	45	5.58	65	8.07	3361	417.05
	Yass Valley	79	4.62	60	3.51	5060	296.13
	LHD Total[2]	1113	5.13	1066	4.91	88405	407.26
Sydney	Burwood	363	8.94	353	8.69	20551	506.03
	Canada Bay	1574	16.38	1605	16.71	79296	825.36
	Canterbury-Bankstown[1]	3513	9.3	3168	8.38	218671	578.62
	Inner West	3331	16.59	4032	20.08	183509	913.84
	Strathfield	606	12.91	607	12.94	36074	768.74
	Sydney[1]	4779	19.4	5484	22.26	230217	934.54
	LHD Total[2]	10785	15.48	11709	16.8	573776	823.48
Western NSW	Bathurst Regional	437	10.02	330	7.57	25068	574.72
	Blayney	55	7.45	50	6.78	4099	555.5
	Bogan	6	2.33	11	4.26	1086	420.93
	Bourke	9	3.47	3	1.16	672	259.46
	Brewarrina	3	1.86	3	1.86	383	237.74
	Cabonne	90	6.6	54	3.96	4246	311.43
	Cobar	22	4.72	22	4.72	1426	306.14
	Coonamble	9	2.27	6	1.52	1161	293.33
	Cowra	72	5.65	75	5.89	4654	365.22

Local Health District	Local Government Area	Week ending				Total since January 2021	
		15-May		08-May			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Dubbo Regional	311	5.79	283	5.27	24267	451.74
	Forbes	39	3.94	37	3.74	2819	284.58
	Gilgandra	17	4.01	12	2.83	1200	283.09
	Lachlan[1]	18	2.96	9	1.48	1270	209.05
	Mid-Western Regional	219	8.67	190	7.52	11370	450.28
	Narromine	25	3.84	30	4.6	2313	354.92
	Oberon	29	5.36	29	5.36	2125	392.72
	Orange	438	10.32	353	8.32	28766	677.63
	Parkes	75	5.05	46	3.1	5307	357.69
	Walgett	15	2.52	10	1.68	1938	325.55
	Warren	22	8.16	15	5.56	1658	614.76
	Warrumbungle Shire	46	4.96	32	3.45	3525	379.93
	Weddin	12	3.32	18	4.98	1097	303.63
	LHD Total[2]	1966	6.9	1617	5.67	130088	456.43
Western Sydney	Blacktown	4569	12.2	3848	10.28	256794	685.79
	Cumberland	2358	9.76	2255	9.34	162246	671.77
	Parramatta[1]	3073	11.95	2896	11.26	154806	601.9
	The Hills Shire	3430	19.27	3072	17.26	169233	950.91
	LHD Total[2]	12789	12.14	11500	10.92	717901	681.49
NSW Total[3]		100,953	12.48	99,285	12.27	1,711,953	211.62

Source - Notifiable Condition Information Management System, accessed as at 8pm 17 May 2021.

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

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

[3]NSW Total counts and rates 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 9 May 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 2020–9 May 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	533,377	3	<0.01%	4	<0.01%	2,409	2,553	9,559	31,352	119	3,959
Month ending											
31 January*	168,596	1	<0.01%	0	–	416	88	3,275	3,541	23	560
28 February	125,718	2	<0.01%	0	–	419	106	2,386	8,667	22	910
28 March	95,458	0	–	0	–	507	354	1,909	8,891	18	1,187
2 May*	112,962	0	–	3	<0.01%	802	1,515	1,653	8,141	48	1,128
Week ending											
9 May	30,643	0	–	1	<0.01%	265	490	336	2,112	8	174

Testing numbers in NSW from January–27 December 2020

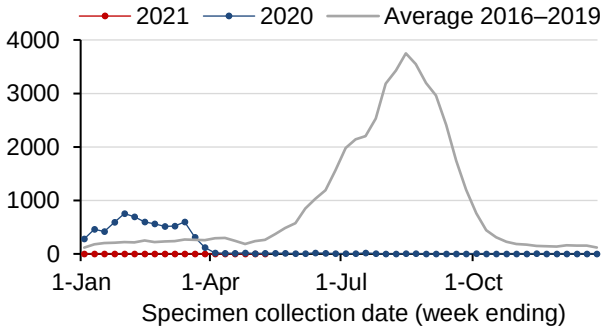
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,036	599	335
1 March	40,575	2,363	5.82%	315	0.78%	798	2,435	1,118	8,245	437	1,007
29 March	85,238	1,549	1.82%	200	0.23%	898	4,117	1,977	18,088	664	1,502
3 May *	54,128	70	0.13%	13	0.02%	175	273	410	2,250	48	210
31 May	71,525	35	0.05%	6	0.01%	237	62	115	3,511	27	112
28 June	130,922	42	0.03%	11	0.01%	629	83	178	28,321	112	246
2 August *	227,152	34	0.01%	2	<0.01%	1,251	89	209	31,589	79	427
30 August	174,594	9	0.01%	2	<0.01%	1,137	37	299	13,926	14	235
27 September	145,489	6	0.00%	1	<0.01%	938	35	866	8,416	61	259
1 November *	131,686	7	0.01%	1	<0.01%	894	56	3,508	5,632	51	662
29 November	129,164	6	<0.01%	3	<0.01%	752	42	6,255	8,252	192	884
27 December	167,756	2	<0.01%	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

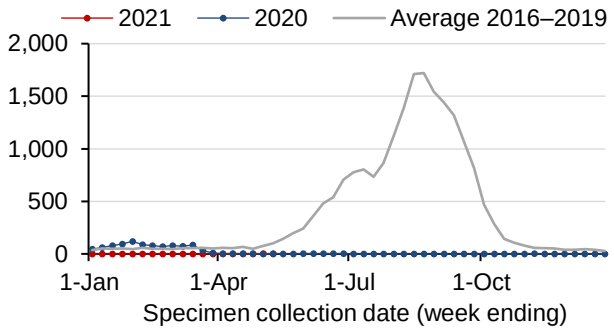
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 9 May 2021

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.

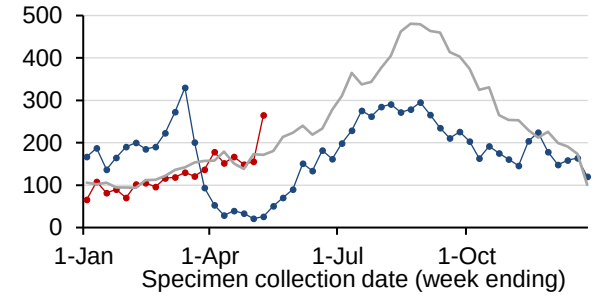
Influenza A



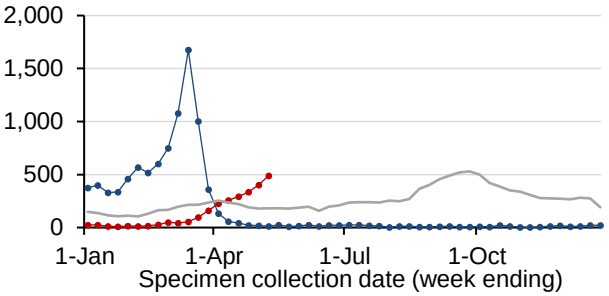
Influenza B



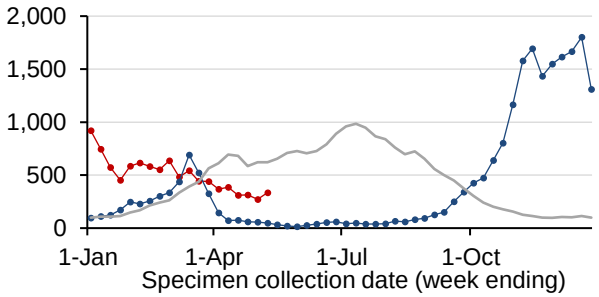
Adenovirus



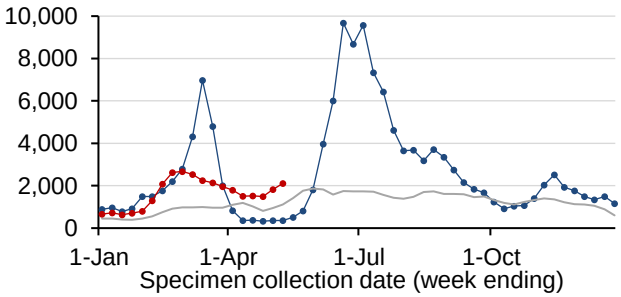
Parainfluenza



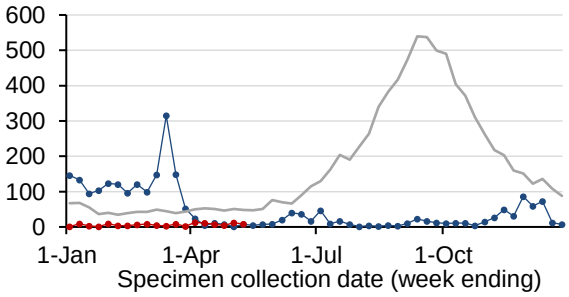
Respiratory syncytial virus (RSV)



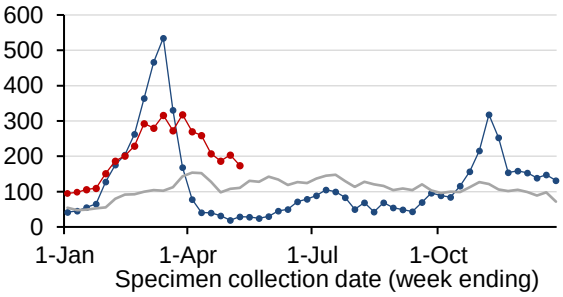
Rhinovirus



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 15 May 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. Griffith sewage treatment plant has been added as a new site. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Pop.	Location	10	11	12	13	14	15	16	17	18	19
60, 514	Blue Mountains (Winmalee)										
4,681	North Richmond										
13,052	Richmond										
110,114	Penrith										
12,000	Lithgow										
19,000	South Windsor										
8,000	McGraths Hill										
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										
233,176	Cronulla										
	Malabar 1										
1,857,740	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
6,882	Wallacia										
14,600	Picton										
161,200	Glenfield										
1,341,986	North Head										
	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										

Sydney Network Sites		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Network	Location	10	11	12	13	14	15	16	17	18	19
Bondi	Paddington Sewage Network										
Bondi	Rozelle 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	Olympic Park										
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 Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Pop.	Location	10	11	12	13	14	15	16	17	18	19
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										
51,750	Albury composite		c	c	c	c	c	c		c	c
	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Griffith										
2,050	Bourke										
	Nyngan										

Regional Sites (con't)		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Pop.	Location	10	11	12	13	14	15	16	17	18	19
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										
	Muswellbrook										
	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										
3,000	Hunter -Dungog										
21,500	Hunter - Kurri Kurri										
32,000	Hunter - Cessnock										
40,000	Hunter - Farley										
32500	Lismore composite	c			c		c	c	c	c	c
17,000	East Lismore										
15,500	South Lismore										
18,958 (both plants total)	Byron Bay - Ocean Shores										
	Byron Bay										
2,000	Bangalow										
3,500	Mullumbimby										
31,104	Ballina										
7,700	Lennox Head										
16,000	Tweed - Murwillumbah										

Regional Sites (con't)		13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May
Pop.	Location	10	11	12	13	14	15	16	17	18	19
75,000	Tweed - Banora Point										
25,000	Tweed - Kingscliff										
18,000	Tweed - Hastings Point										
18,550	Grafton composite	c	c	c		c	c	c	c	c	c
12,250	North Grafton										
6,300	South Grafton										
6,500	Yamba										
8,730	Nambucca Heads										
54,370	Port Macquarie										
7,010	Bonny Hills										
8,540	Dunbogan										
12,105	South West Rocks										
4,052	Crescent Head										
12,000	Urunga										
50,000	Coffs Harbour										

Sampling commenced week ending 18 July 2020

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

Glossary

Term	Description
Case	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.