

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 23, ENDING 12 June 2021

Published 17 June 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 12 June 2021

	2020		2021		
	Jan – Jun	July – Dec	year to date 1 Jan – 12 June	last 4 weeks 16 May – 12 June	last 7 days 6 June – 12 June
Overseas acquired	1,892 (59 %)	714 (46 %)	634 (93 %)	58 (100 %)	19 (100 %)
Interstate acquired	67 (2 %)	23 (1 %)	0	0	0
Locally acquired	1,236 (39 %)	808 (52 %)	51 (7 %)	0	0
Total	3,195 (100 %)	1,545 (100 %)	685 (100 %)	58 (100 %)	19 (100 %)
Variants of concern*	–	10	280	15	0
Deaths	52	4	0	0	0

* the reporting of COVID-19 variants of concern in NSW commenced on 29 November 2020

Summary for the week ending 12 June 2021

- There were no locally acquired cases reported in the week ending 12 June 2021.
- There were 19 cases reported in overseas returned travellers this week, up 58% compared to the previous week.
- In the four weeks ending 12 June 2021, 26% (15/58) of overseas acquired cases have been identified as having COVID-19 variants of concern [alpha (B.1.1.7), beta (B.1.351), gamma (P.1) and delta/kappa (B.1.617)].
- Since March 2021, eight (2%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates decreased compared to the previous week in most LHDs. There were high testing rates in Western NSW and Hunter New England LHDs.
- The NSW Sewage Surveillance Program reported four detections – taken from the Malabar (two detections) and Castle Hill - Cattai sewage treatment plants and the sewage network at Botany (within the Malabar catchment). The Malabar catchments include quarantine hotels. Although no active cases were identified in Castle Hill sewage catchment area, the detection may indicate the presence of people in the community who have recently been infected with the virus that causes COVID-19 but may no longer be infectious. People can continue to shed fragments of the virus for several weeks.
- On 10 June 2021, Queensland reported a locally acquired case, who was infected in Melbourne, likely in late May. The locally acquired case travelled with their partner, who was reported as a COVID-19 case on 11 June 2021, from Melbourne to the Sunshine Coast in Queensland via NSW while potentially infectious, stopping at regional locations including Gillenbah, Forbes, Dubbo and Moree. NSW Health is continuing to contact trace and identify any close or casual contacts based on exposure locations. No transmission related to these cases has been identified in NSW to date. For updated information on case locations and alerts in NSW please see: <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/case-locations-and-alerts.aspx> .

Indicators of effective prevention measure for COVID-19 in NSW for the week ending 12 June 2021

In the week ending 12 June 2021, there were no locally acquired cases.

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](#)

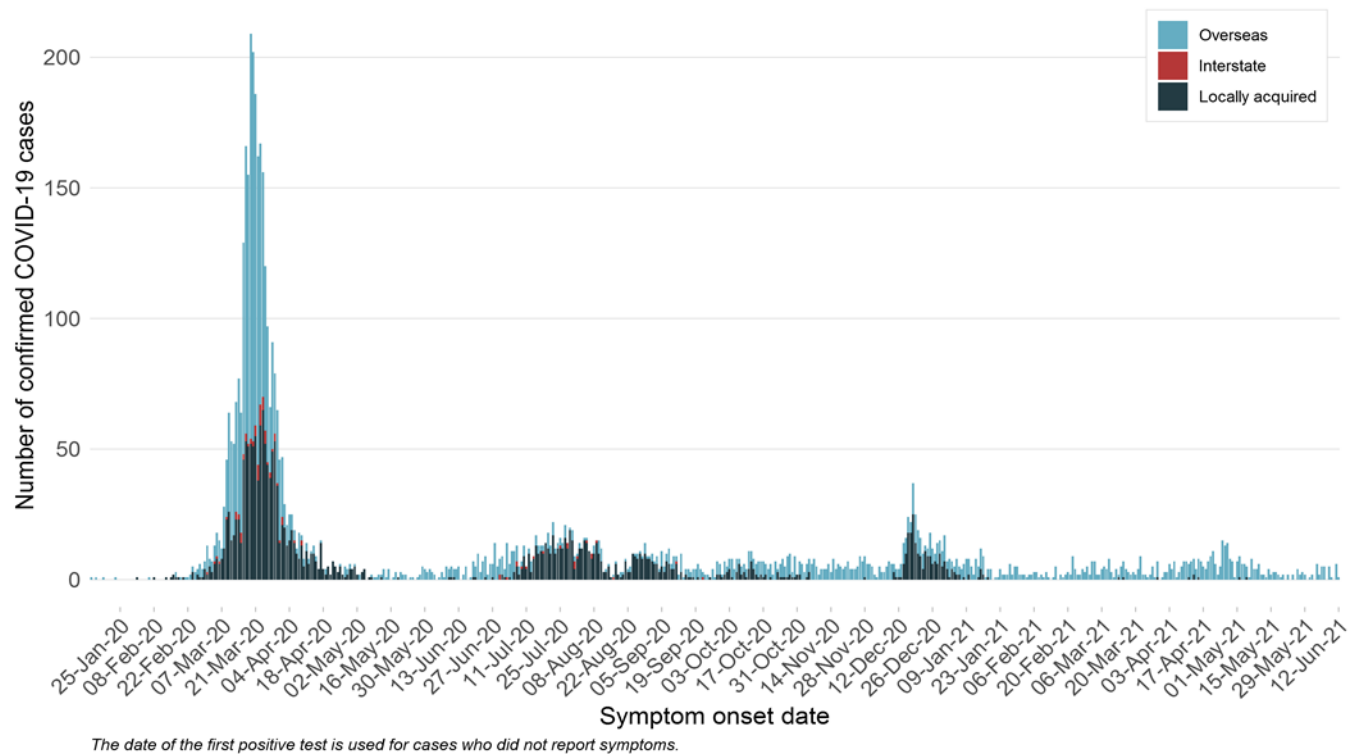
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Section 1: How is the outbreak tracking in NSW?

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 12 June 2021



Interpretation: Between 13 January 2020 and 12 June 2021, there were 5,424 confirmed COVID-19 cases. Of those, 3,239 (60%) were overseas acquired, 90 (2%) were interstate acquired, and 2,095 (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 12 June 2021

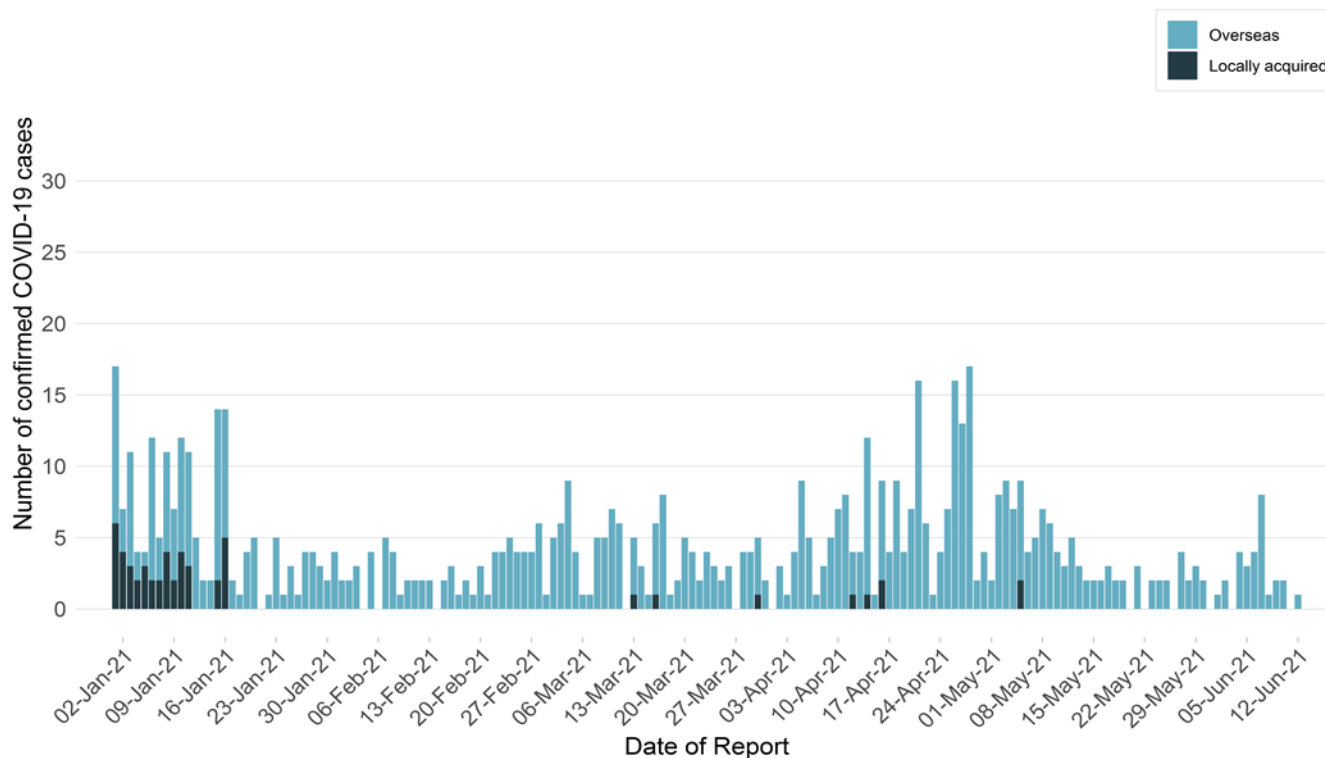


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 12 June 2021

	Week ending 12 June	Week ending 5 June	% change	Total 2021
Number of cases	19	12	58 %	685
Overseas acquired	19	12	58 %	634
Interstate acquired	0	0	-	0
Locally acquired	0	0	-	51
Known epidemiological links to other cases or clusters	0	0	-	44
No epidemiological links to other cases or clusters	0	0	-	7
Number of tests	116,827	122,611	-5 %	2,150,484

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

Between 1 January and 12 June 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 a 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 also acquired their infection in hotel quarantine in mid-April, in a different hotel
- 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. All the cases reported in the last four weeks in NSW were overseas acquired (58/58, 100%).

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.

This report reflects the recommendations of [Australia's Communicable Diseases Genomics Network \(CDGN\)](#) for reporting of Variants of Concern (VoC) in NSW. The CDGN reports on four internationally recognised VoCs:

- alpha (B.1.1.7) first identified in the United Kingdom in September 2020 and recognised as a VoC on 18 December 2020
- beta (B.1.351) first identified in South Africa in December 2020 and recognised as a VoC on 18 December 2020
- gamma (P.1) first identified in Japan among a group of Brazilian travellers in December 2020 and recognised as a VoC on 11 January 2021
- B.1.617 sub-lineages, including kappa (B.1.617.1) and delta (B.1.617.2). B.1.617 lineage was first detected in India in October 2020. The delta lineage (B.1.617.2) was internationally recognised as a VoC on 11 May 2021.

In the week ending 5 June 2021, the WHO updated their list (and naming structure) to only recognise the delta (B.1.617.2) sub-lineage of B.1.617 as a VoC.

In the four weeks ending 12 June 2021, there have been:

- 15 returned travellers diagnosed with a VoC. Of these:
 - 8 (53%) with the alpha (B.1.1.7) variant
 - 1 (6%) with the beta (B.1.351) variant
 - 6 (40%) with the delta (B.1.617.2) variant
- The countries of likely acquisition of the 15 returned travellers diagnosed with a VoC are: India (2, 13%), South Africa (2, 13%), USA (2, 13%), unknown (2, 13%), Afghanistan (1, 7%), Iran (1, 7%), Iraq (1, 7%), Pakistan (1, 7%), Philippines (1, 7%) and Uganda (1, 7%) and United Kingdom (1, 7%).

Table 3a. Locally acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 12 June 2021

	Week ending				29 Nov to 15 May	Total since 29 November
	12 June*	5 June*	29 May	22 May		
Total locally acquired cases	0	0	0	0	227	227
Local cases with VoC	0	0	0	0	9	9
alpha (B.1.1.7)	0	0	0	0	6	6
beta (B.1.351)	0	0	0	0	1	1
gamma (P.1)	0	0	0	0	0	0
kappa (B.1.617.1)	0	0	0	0	0	0
delta (B.1.617.2)	0	0	0	0	2	2
% locally acquired cases with VoC	-	-	-	-	4 %	4 %

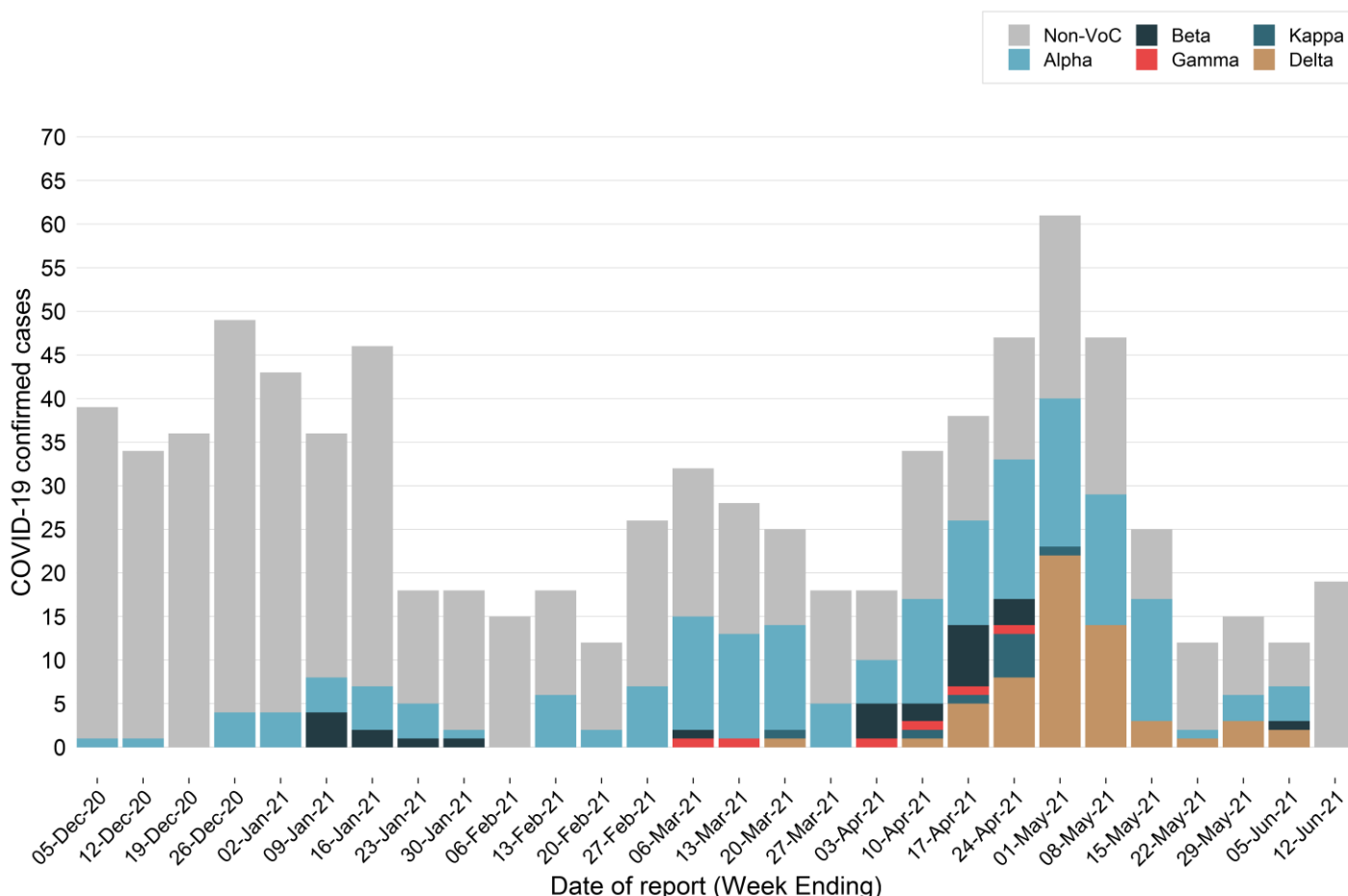
*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

Table 3b. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 12 June 2021

	Week ending				29 Nov to 15 May	Total since 29 November
	12 June*	5 June*	29 May	22 May		
Total overseas acquired cases	19	12	15	12	763	821
Overseas cases with VoC	0	7	6	2	266	281
alpha (B.1.1.7)	0	4	3	1	172	180
beta (B.1.351)	0	1	0	0	25	26
gamma (P.1)	0	0	0	0	6	6
kappa (B.1.617.1)	0	0	0	0	9	9
delta (B.1.617.2)	0	2	3	1	54	60
% overseas acquired cases with VoC	0 %	58 %	40 %	17 %	35 %	34 %

*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.

Figure 3. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 12 June 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 281 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 12 June 2021, 26% (15/58) of overseas acquired cases have been identified as having COVID-19 variants of concern.

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 4. Locally acquired COVID-19 cases by LHD of residence and week reported, NSW, 16 May to 12 June 2021

Local Health District	Week ending				Total	Days since last case reported
	12 June	5 June	29 May	22 May		
Central Coast	0	0	0	0	0	165
Illawarra Shoalhaven	0	0	0	0	0	161
Nepean Blue Mountains	0	0	0	0	0	270
Northern Sydney	0	0	0	0	0	57
South Eastern Sydney	0	0	0	0	0	38
South Western Sydney	0	0	0	0	0	155
Sydney	0	0	0	0	0	152
Western Sydney	0	0	0	0	0	147
Far West	0	0	0	0	0	436
Hunter New England	0	0	0	0	0	57
Mid North Coast	0	0	0	0	0	417
Murrumbidgee	0	0	0	0	0	278
Northern NSW	0	0	0	0	0	74
Southern NSW	0	0	0	0	0	236
Western NSW	0	0	0	0	0	317
NSW*	0	0	0	0	0	38

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

Interpretation: In the week ending 12 June 2021, there were no locally acquired cases.

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.

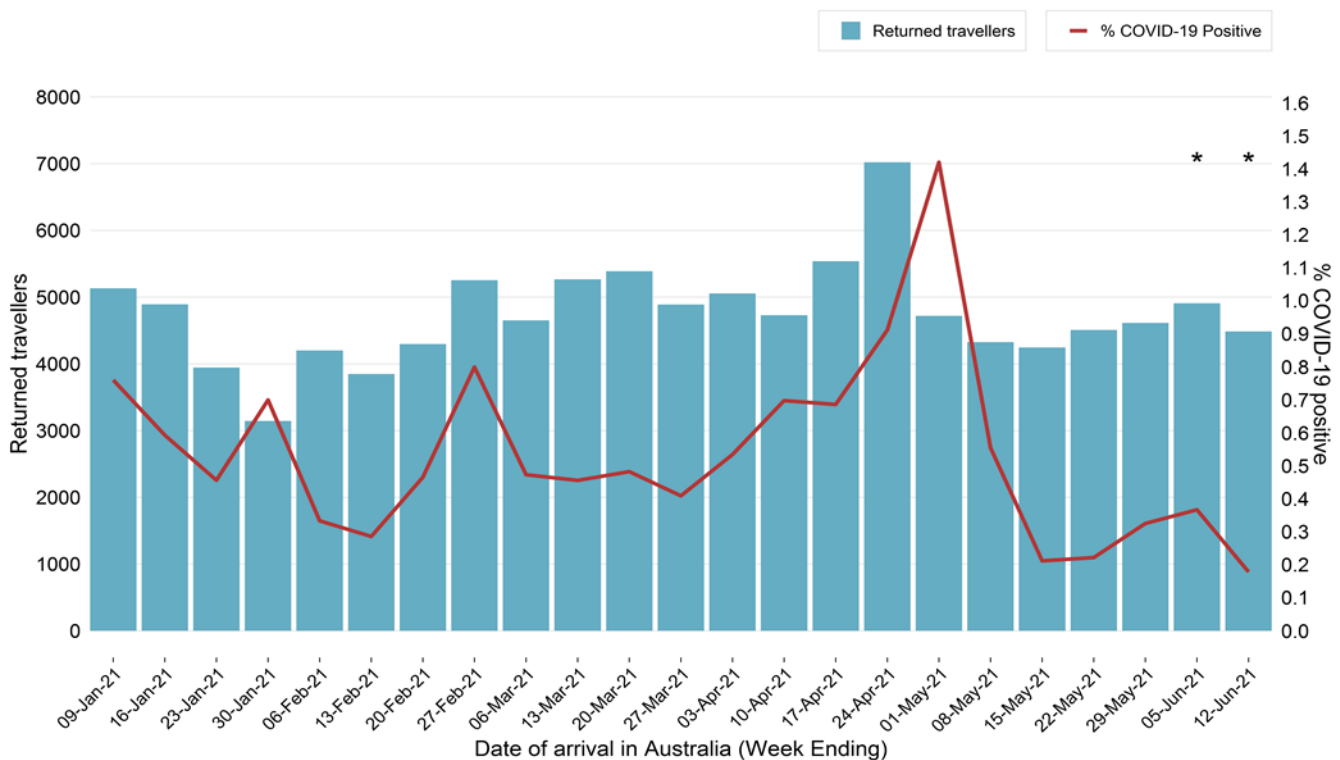
Section 5: COVID-19 in returned travellers

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 12 June 2021



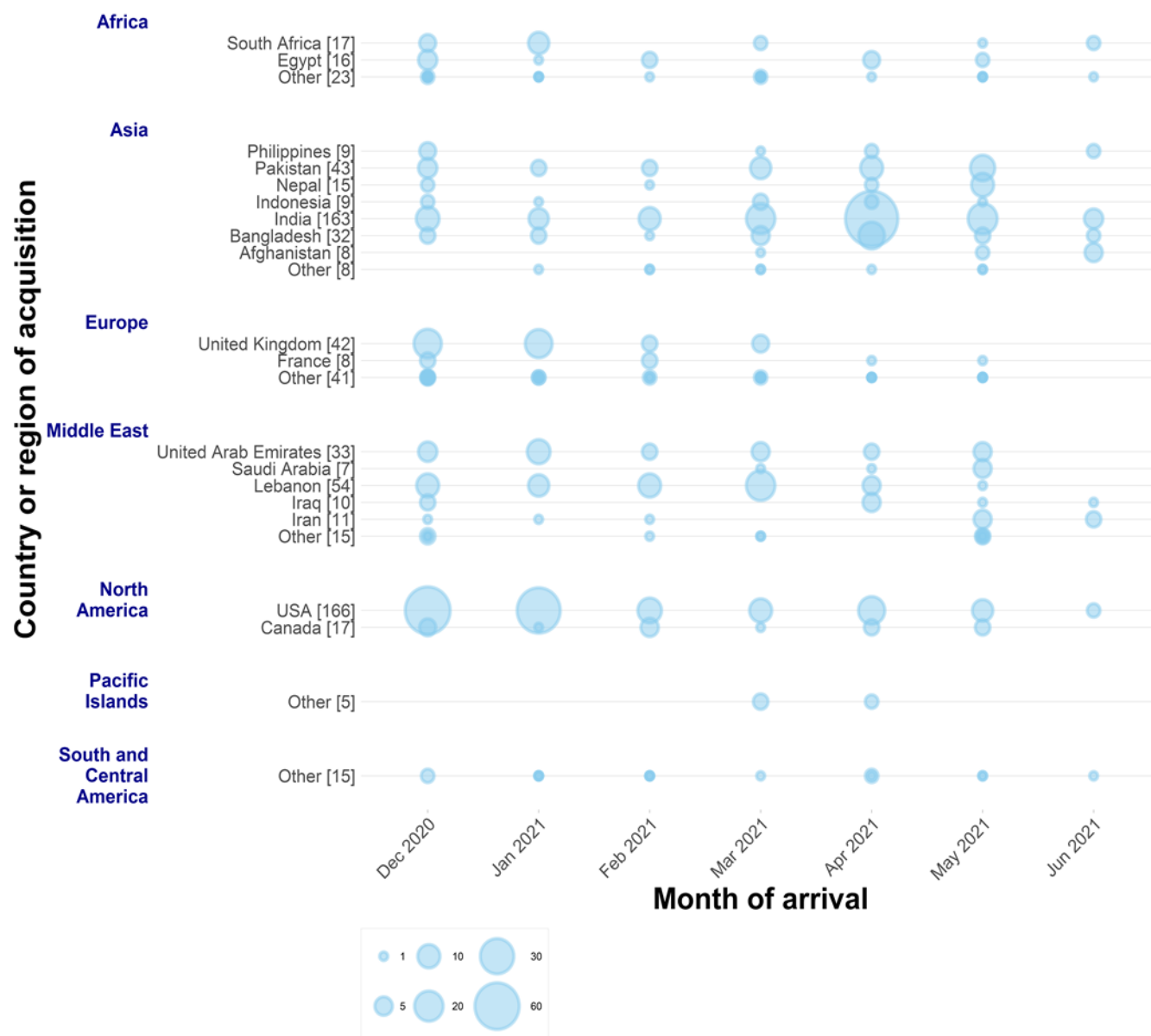
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 677 people screened on arrival through Sydney International Airport daily. In the last four weeks, 58 returned travellers have subsequently tested positive for COVID-19 while completing quarantine. The proportion of returned travellers who test positive for COVID-19 has been low. In the week ending 1 May 2021 the proportion increased to over 1% (1.4%) of returned travellers testing positive, but this has subsequently fallen back to lower levels.

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 December 2020 to 12 June 2021



* Data for current month is incomplete

Interpretation: In April 2021, there was a significant increase in detections of COVID-19 in travellers from India, which subsided following travel restrictions introduced in May. 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, as well as travel requirements enacted by the Australian Government.

In the last four weeks, there have been 58 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 5. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 16 May 2021 to 12 June 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
India	8 (14%)
Afghanistan	7 (12%)
USA	5 (9%)
Iran	4 (7%)
Pakistan	4 (7%)
South Africa	3 (5%)
Bangladesh	2 (4%)
Canada	2 (4%)
Iraq	2 (4%)
Philippines	2 (4%)
Other	19 (33%)
Total	58

Interpretation: In the last four weeks, travellers returning from India and Afghanistan accounted for the largest number of overseas acquired cases (15, 26%), followed by travellers returning from USA (5, 9%), Iran and Pakistan (8, 14%).

Cases among returned travellers in quarantine

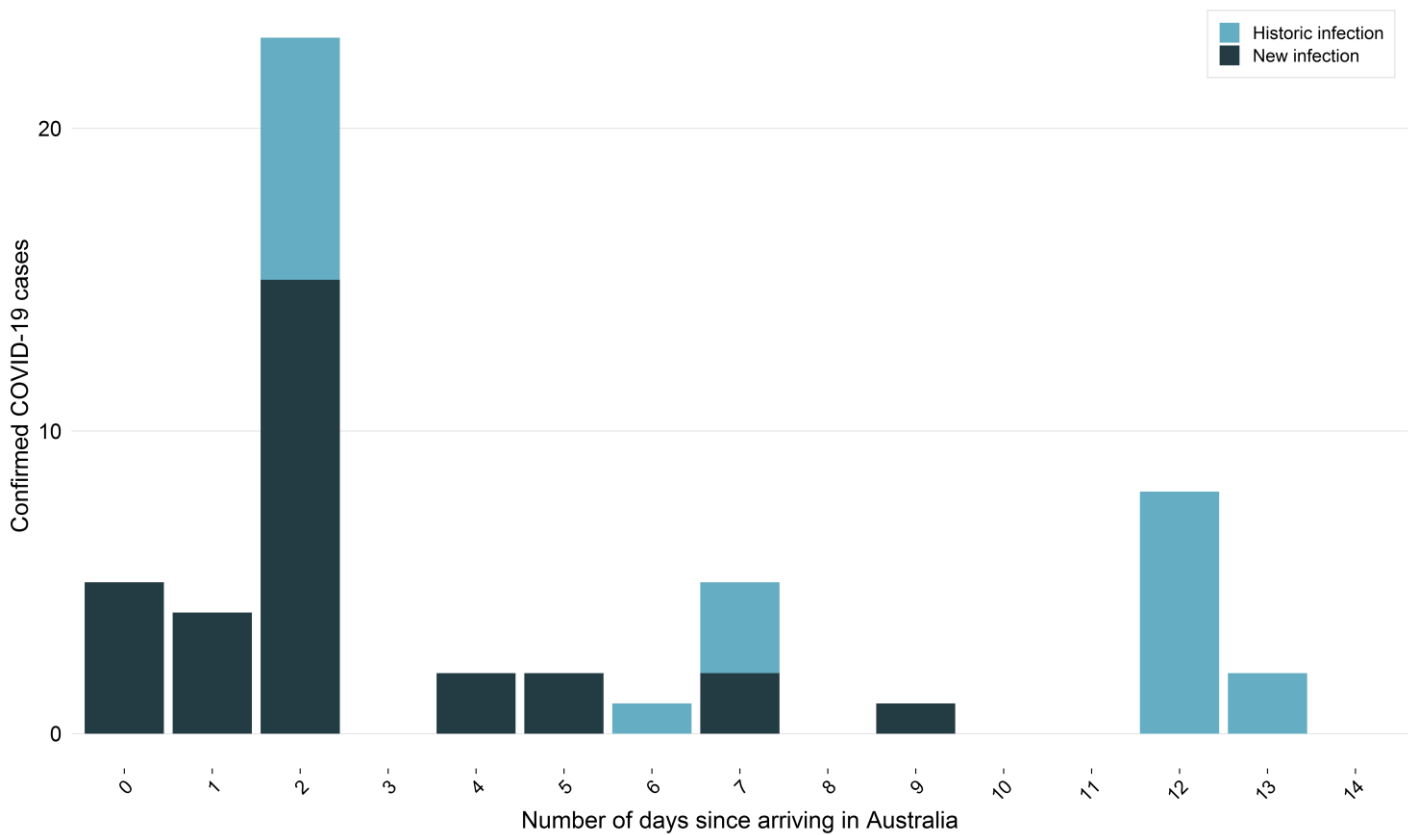
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved from day 10 to day 12 of quarantine. Routine day 7 screening was introduced on 2 June 2021. 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 are co-quarantining with family members who acquired COVID-19 overseas.

Historical COVID-19 infections are a subset of confirmed cases that have been infected sometime in the past and are not considered infectious at the time of diagnosis. An historic case requires laboratory evidence to support historic infection and must be asymptomatic in the 14 days prior to the positive test.

Figure 6. Number of overseas acquired cases in the last four weeks who tested positive for SARS-CoV-2 within 14 days since arrival in NSW by COVID-19 infection status, 16 May to 12 June 2021



Interpretation: In the four weeks ending 12 June 2021, 55% 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 of COVID-19 cases by self-reported COVID-19 vaccination status. Definitions of status are as follows:

- The number of cases reported as **fully vaccinated** refers to completion of the recommended course for the vaccine greater than 14 days prior to known exposure to COVID-19 or arrival in Australia.
- The number of cases reported as **partially vaccinated** refers to either:
 - the first dose of a two-dose vaccination being completed greater than 14 days prior to known exposure to COVID-19 or arrival in Australia, without receiving the second dose.
 - or, the second dose of a two-dose vaccination being completed within 14 days of known exposure to COVID-19 or arrival in Australia.
- The number of cases reported as single dose within 14 days refers to one dose of a two-dose vaccine (or single dose of Johnson & Johnson vaccine) being completed within 14 days of known exposure to COVID-19 or arrival in Australia.

Table 6a. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 12 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 15 May	Total from 1 Mar 2021
	12 June	5 June	29 May	22 May		
Total overseas acquired cases	19 (100 %)	12 (100 %)	15 (100 %)	12 (100 %)	367 (100 %)	425 (100 %)
Fully Vaccinated	0	0	1 (7 %)	1 (8 %)	6 (2 %)	8 (2 %)
Partially Vaccinated	1 (5 %)	0	0	0	7 (2 %)	8 (2 %)
Single dose within 14 days	0	0	2 (13 %)	1 (8 %)	12 (3 %)	15 (4 %)
None	17 (89 %)	11 (92 %)	11 (73 %)	10 (83 %)	332 (90 %)	381 (90 %)
Unknown	0	1 (8 %)	1 (7 %)	0	8 (2 %)	10 (2 %)
Missing	1 (5 %)	0	0	0	2 (1 %)	3 (1 %)

Table 6b. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 12 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 15 May	Total from 1 Mar 2021
	12 June	5 June	29 May	22 May		
Total locally acquired cases	0	0	0	0	9 (100 %)	9 (100 %)
Fully Vaccinated	0	0	0	0	0	0
Partially Vaccinated	0	0	0	0	1 (14 %)	1 (11 %)
Single dose within 14 days	0	0	0	0	1 (14 %)	1 (14 %)
None	0	0	0	0	7 (71 %)	7 (78 %)
Unknown/missing	0	0	0	0	0	0

Interpretation: Since 1 March 2021, eight (2%) cases reported being fully vaccinated prior to arrival in Australia, although they 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.

Since the beginning of the pandemic there have been 49 Aboriginal people diagnosed with COVID-19, representing 1% of all cases in NSW.

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.

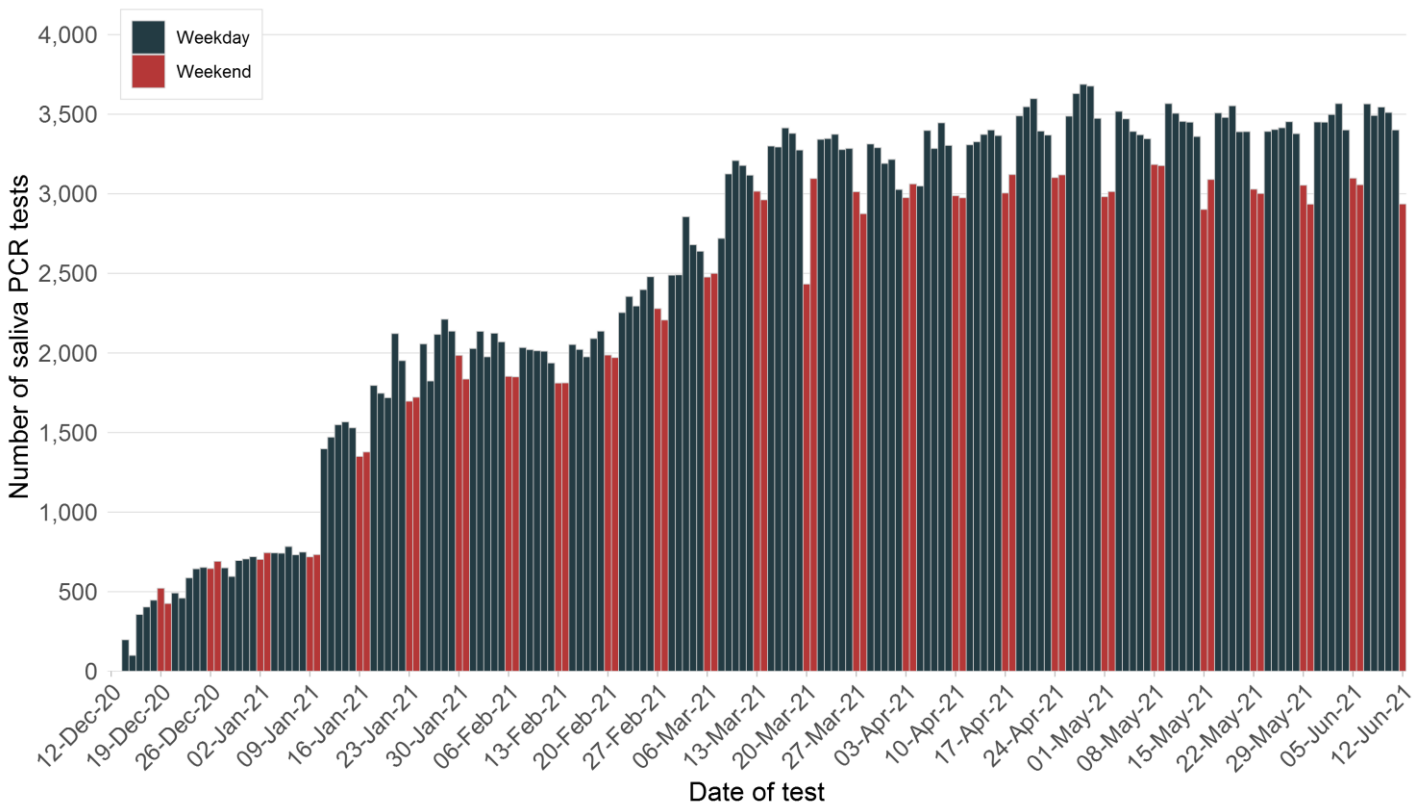
There were no locally acquired cases of COVID-19 reported in HCWs in the week ending 12 June 2021.

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 7. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 12 June 2021



* The number of saliva PCR tests in the most recent days may be incomplete due to delays in reporting negative results.

Interpretation: Since screening of quarantine workers began in December 2020, a total of 445,360 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 12 June 2021.

Table 7. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 12 June 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	149	0%
5-11	0	142	0%
12-17	0	172	0%
18-29	0	1221	0%
30-49	0	1816	0%
50-59	1	710	0.1%
60-69	4	657	0.6%
70-79	15	393	3.8%
80+	36	164	22.0%
Total	56	5424	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.

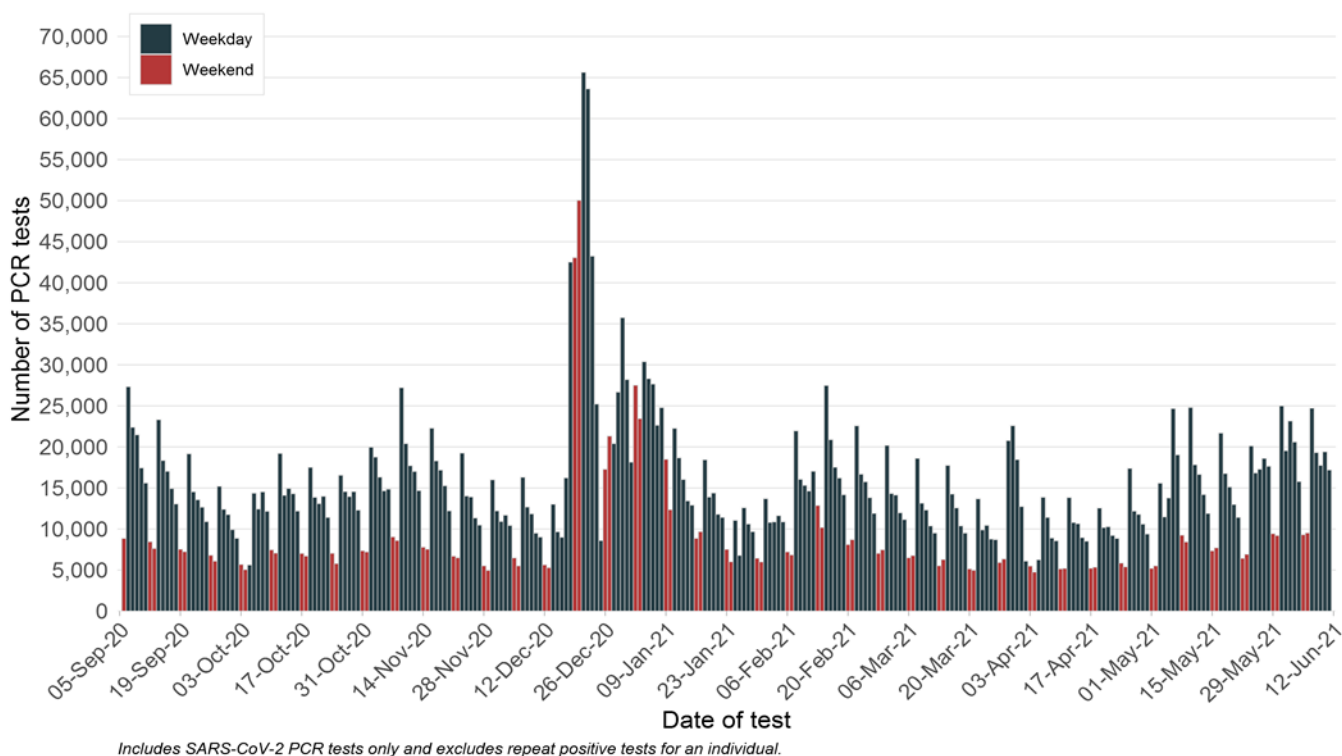
Section 9: COVID-19 testing in NSW

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 “Border and quarantine workers – saliva testing screening program” section on page 16.

Figure 8. Number of PCR tests per day, NSW, 11 July 2020 to 12 June 2021

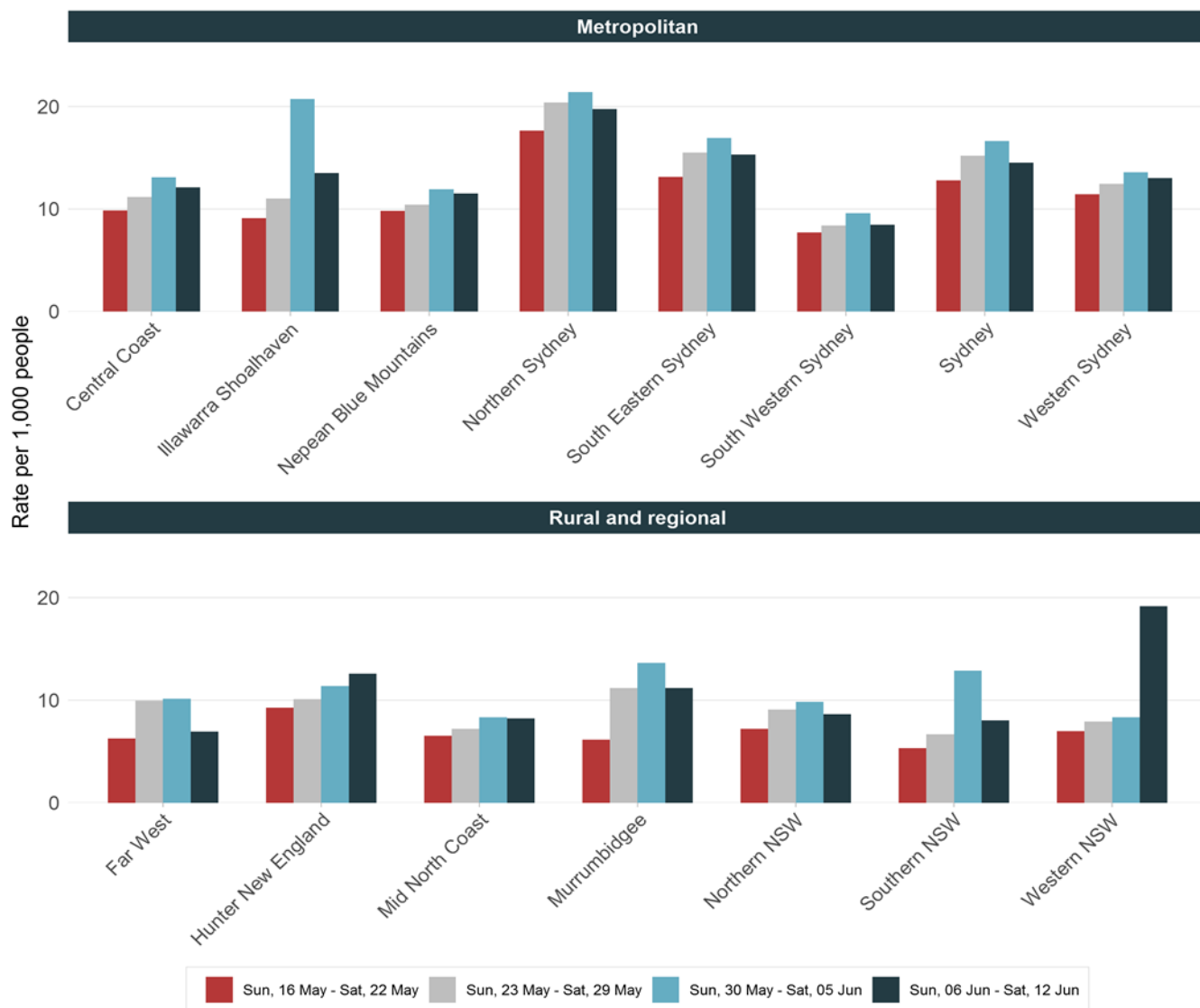


Interpretation: Testing numbers decreased in the week ending 12 June 2021 (down 5%) compared to the previous week. The average daily testing rate of 2.06 per 1,000 people in NSW each day decreased compared to the previous week of 2.17 per 1,000 people.

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.

Testing by Local Health District and Selected Suburb

Figure 9a. Rates of COVID-19 testing by LHD of residence, NSW, 16 May to 12 June 2021



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

Figure 9b. Average number of PCR tests per day by week in suburbs of concern, NSW, 16 May to 12 June 2021

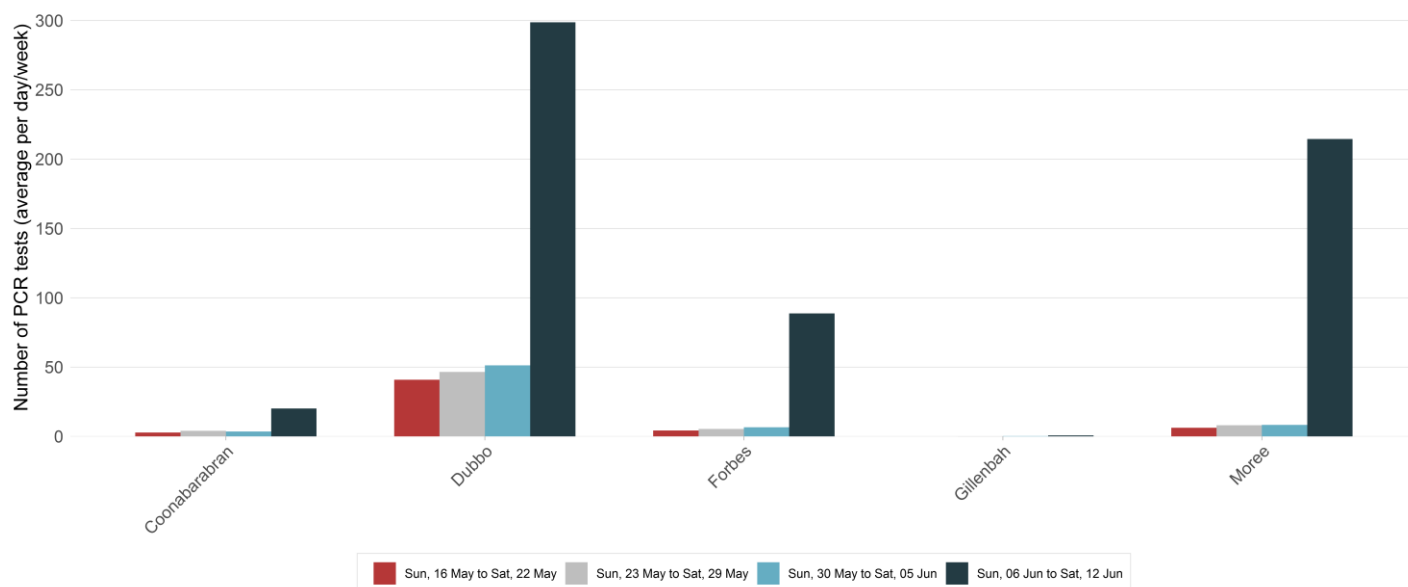
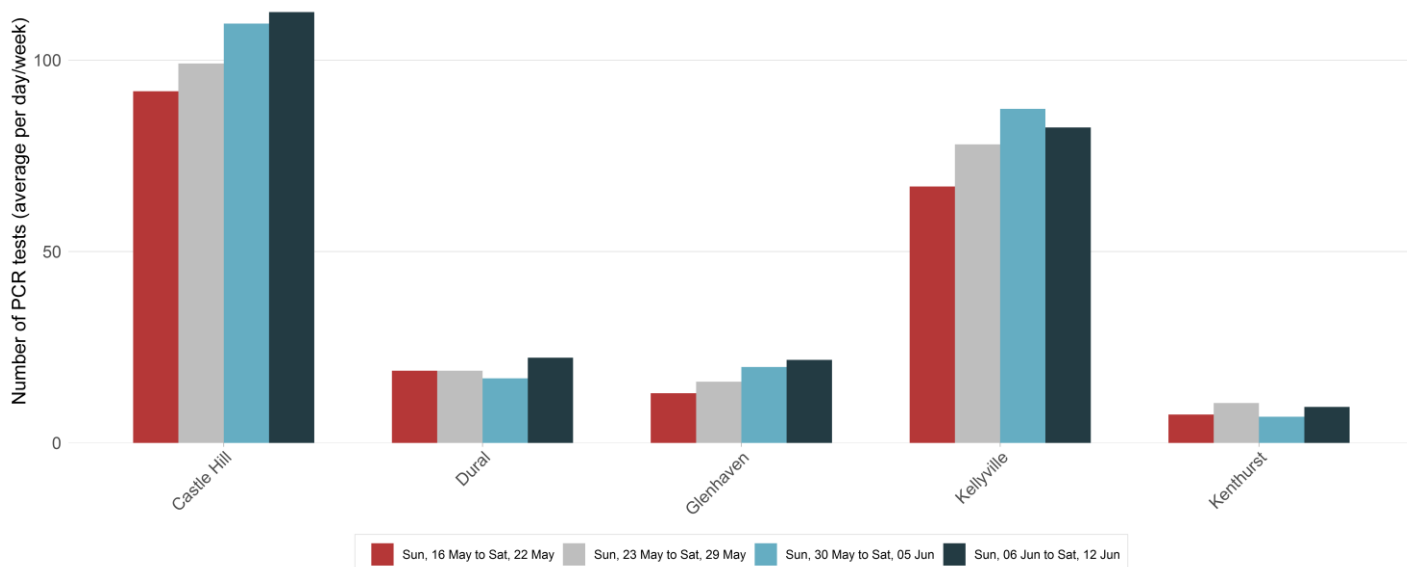


Figure 9c. Average number of PCR tests per day by week in suburbs of concern, NSW, 16 May to 12 June 2021

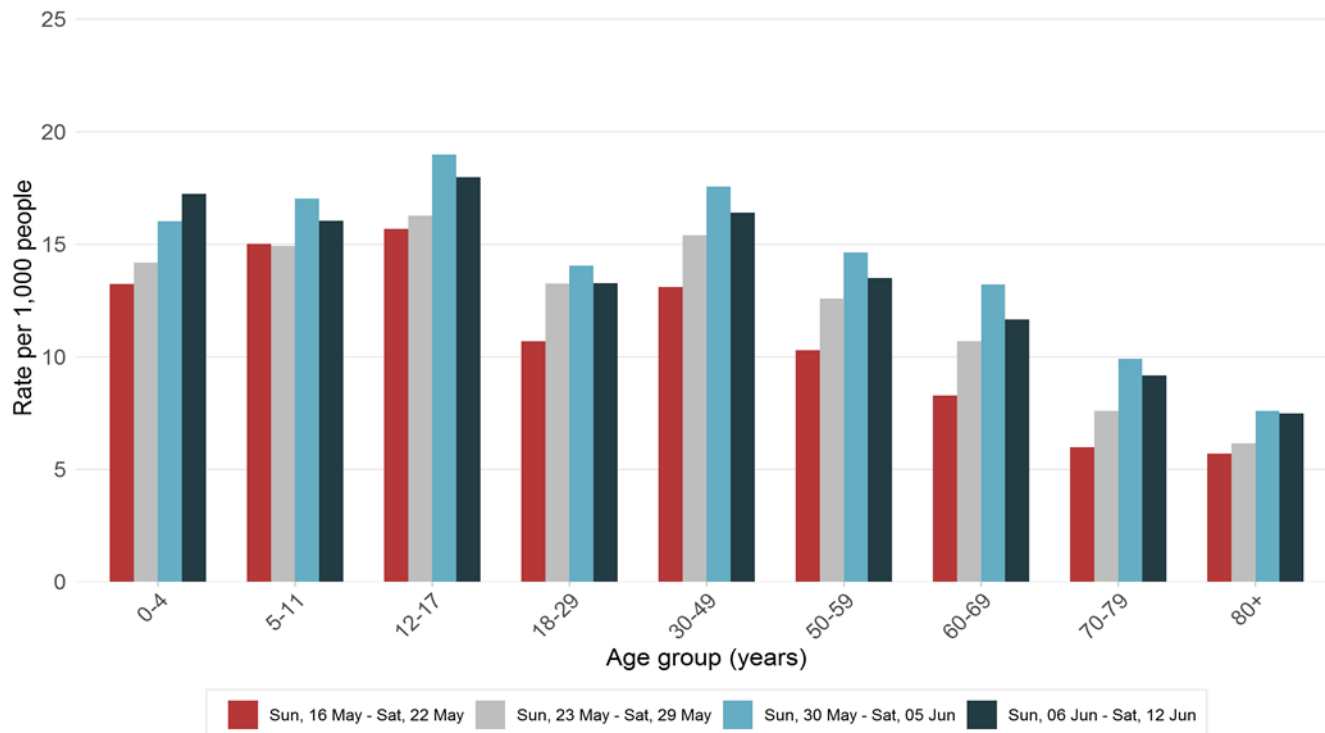


Interpretation: State-wide weekly testing rates in the week ending 12 June slightly decreased when compared to the previous week (14.4 per 1,000 people compared to 15.2 per 1,000 people). There were high testing rates in Western NSW and Hunter New England LHDs which were likely in response to identification of exposure locations associated with two cases in Queensland who travelled from Melbourne and through regional NSW while potentially infectious (Fig 9b). Suburbs of concern included Gillenbah, Forbes, Dubbo and Moree.

There were small increases in testing in response to alerts following positive sewage detections in the Castle Hill - Cattai catchment area (Fig 9c).

Testing by age group

Figure 10. Rates of COVID-19 testing by age group and week, NSW, 16 May to 12 June 2021



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

Interpretation: In the week ending 12 June 2021, testing rates decreased across all age groups when compared to the previous week except for age group 0-4, and were generally higher than in mid-May.

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. Forbes and Narrandera sewage treatment plants have been added as new sites. Perisher and Thredbo have recommenced sampling. The results from all sites across NSW are available in Appendix D.

Table 8. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 4 April to 12 June 2021

		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Pop.	Location	14	15	16	17	18	19	20	21	22	23
Sydney sewage treatment plant (inlet sites)											
318,810	Bondi										
1,857,740	Malabar 1										
	Malabar 2										
26,997	Castle Hill Cattai										
Sydney network sites											
Bondi	Paddington										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
Malabar	Homebush SPS										
Malabar	Botany										
North Head	Allambie Heights										
Regional sites											
15,500	Merimbula										
225,834	Hunter - Burwood Beach										

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
p	result pending, not available at time of reporting

Interpretation: In the week ending 12 June, 167 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were four detections – taken from the Malabar and Castle Hill - Cattai sewage treatment plants and the sewage network at Botany (within the Malabar catchment). The Malabar catchments include quarantine hotels. Although no active cases were identified in Castle Hill sewage catchment area, the detection may indicate the presence of people in the community who have recently been infected with the virus that causes COVID-19 but may no longer be infectious. 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 6 June 2021

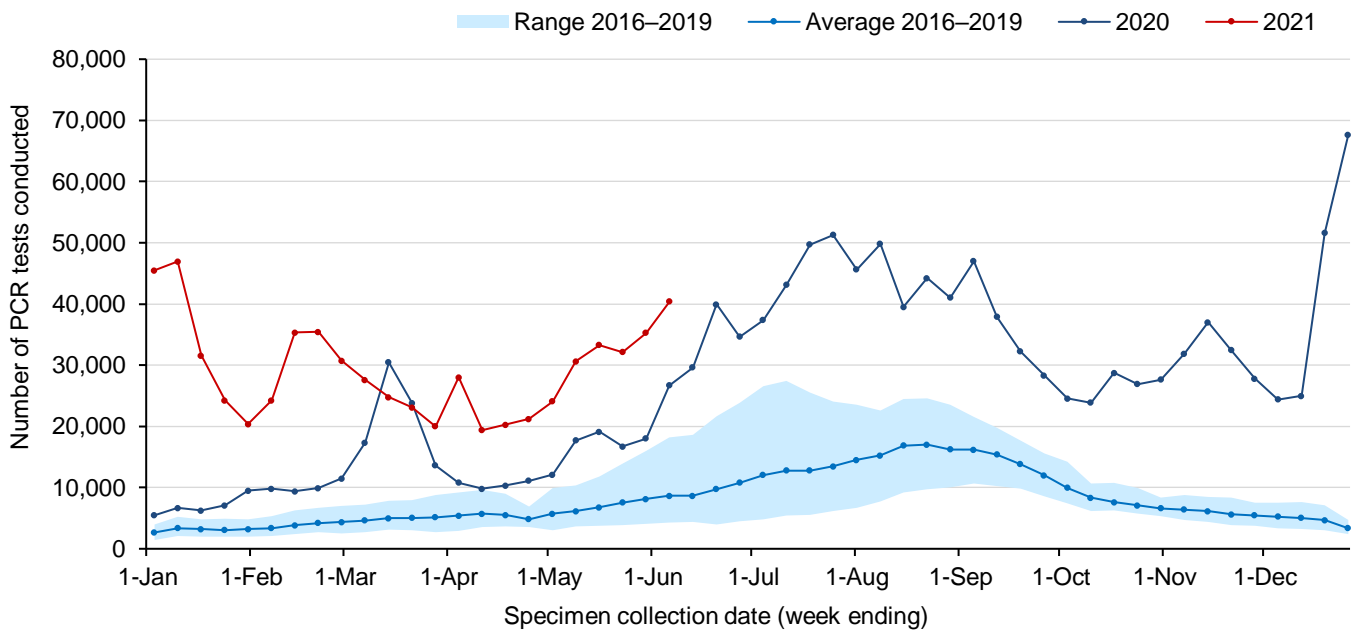
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 6 June 2021. A total of 674,455 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 6 June 2021

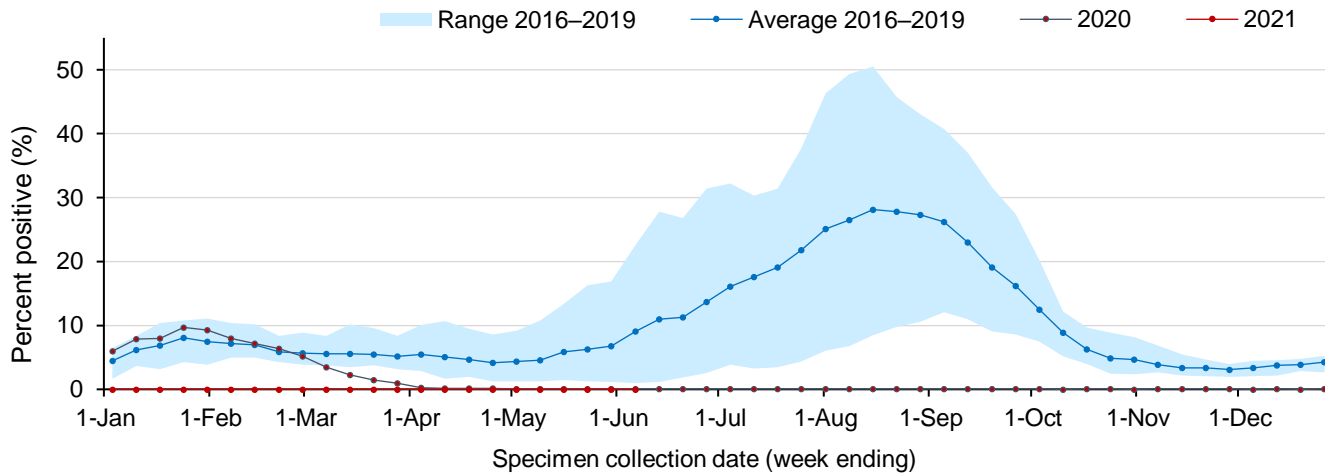


Interpretation: In the week ending 6 June, the number of influenza tests increased, with 40,405 influenza tests performed across participating laboratories compared with 35,280 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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 12. Proportion of tests positive for influenza, NSW, 1 January 2016 to 6 June 2021

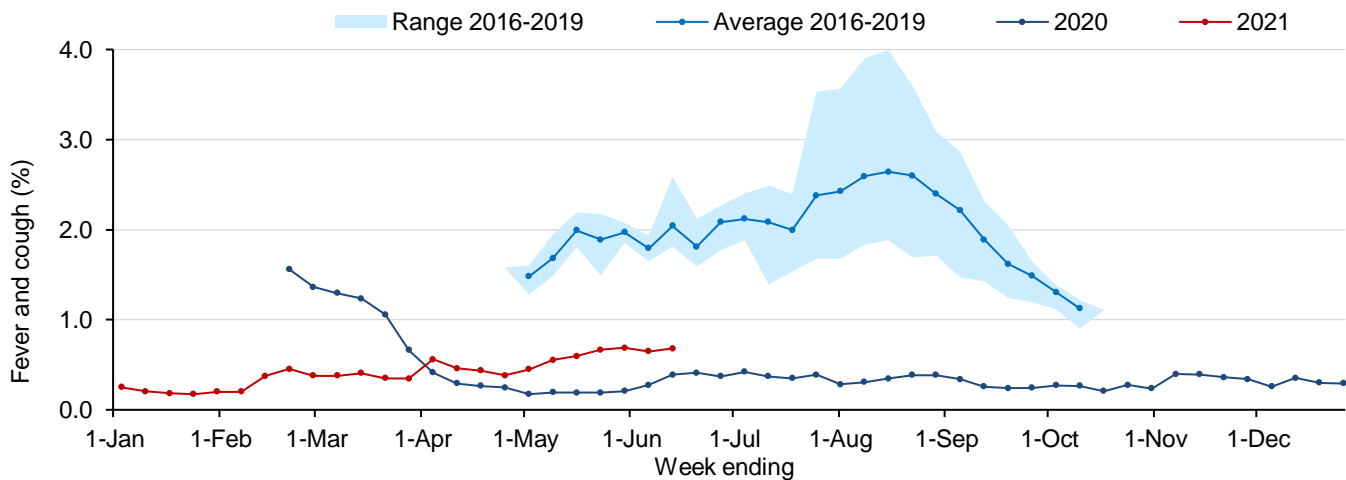


Interpretation: In the week ending 6 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 13 influenza cases reported in 2021.

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



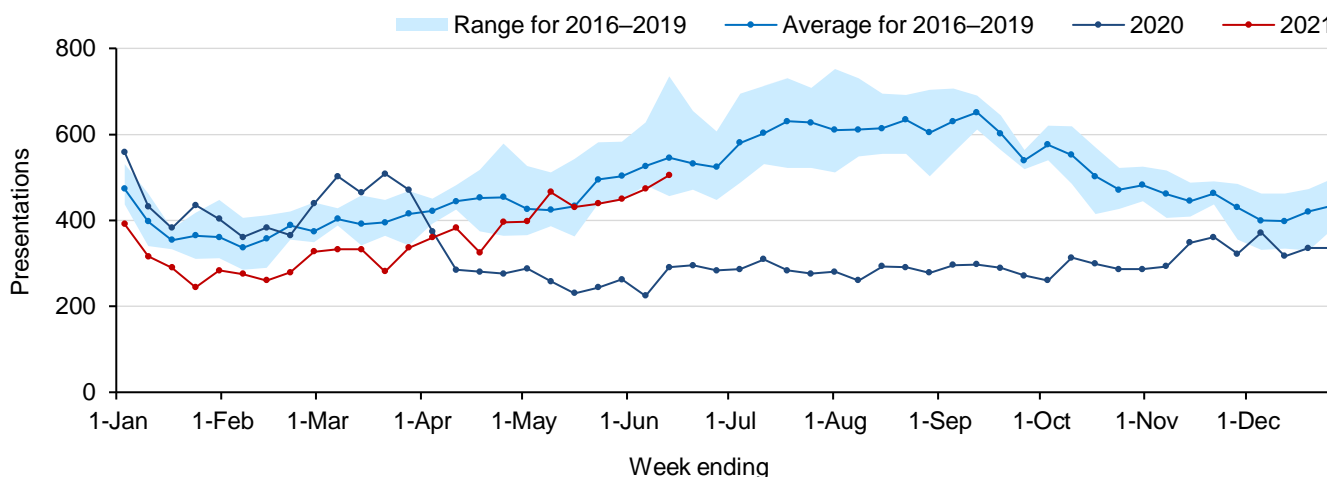
Interpretation: In NSW in the week ending 13 June 2021, of the 19,361 people surveyed, 132 people (0.68%) reported flu-like symptoms. In the last four weeks, 50% (315/633) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased since January, when 80% of people surveyed with flu-like symptoms were being tested, and has remained at around 50% since early April 2021.

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.

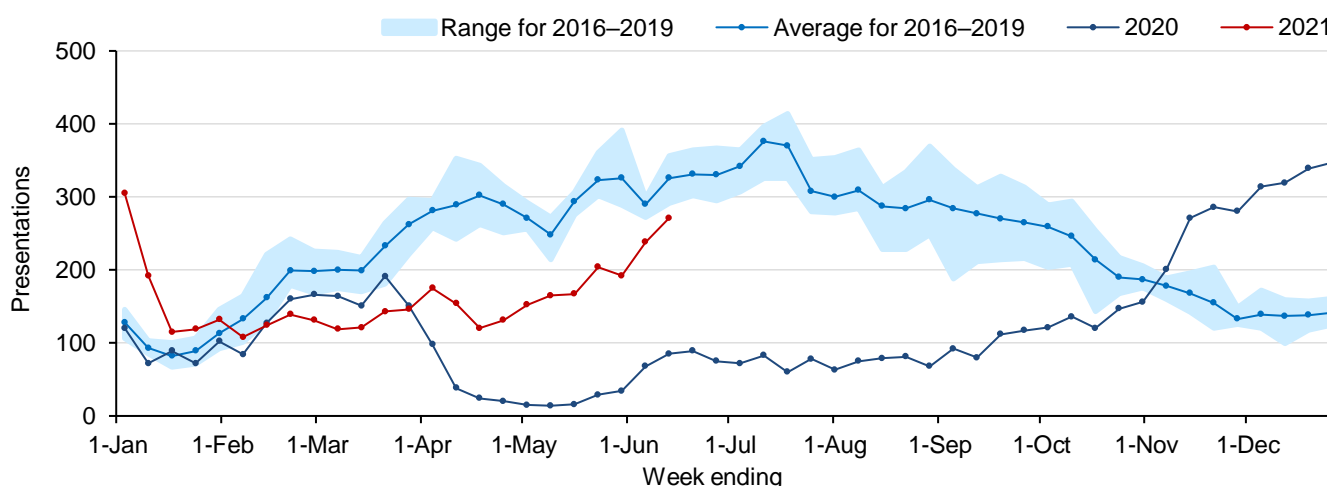
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS². The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 14. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 13 June 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 13 June, pneumonia presentations increased and are within the seasonal range for this time of year.

Figure 15. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 13 June 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 13 June 2021, bronchiolitis presentations increased 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	
		12-Jun		05-Jun		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Central Coast	<i>LHD Total²</i>	4352	12.33	4627	13.11	231350	655.64
	Balranald	14	5.99	25	10.69	786	336.18
	Broken Hill	155	8.87	190	10.87	10135	579.84
Far West	Central Darling	6	3.26	12	6.53	599	325.72
	Wentworth	53	7.51	79	11.20	3703	525.02
	<i>LHD Total²</i>	228	7.56	306	10.15	15223	505.01
	Armidale Regional	394	12.8	338	10.98	16323	530.33
	Cessnock	318	5.3	319	5.32	23354	389.33
	Dungog	68	7.22	75	7.96	3969	421.20
	Glen Innes Severn	71	8	31	3.49	2879	324.54
	Gunnedah	101	7.96	68	5.36	4980	392.71
	Gwydir	93	17.37	18	3.36	1189	222.12
	Inverell	247	14.62	136	8.05	6817	403.61
	Lake Macquarie	2787	13.54	3006	14.60	144040	699.56
	Liverpool Plains	55	6.96	49	6.20	3246	410.73
	Maitland	1082	12.7	1179	13.84	64437	756.60
Hunter New England	Mid-Coast	602	6.42	768	8.18	37684	401.59
	Moree Plains	1651	124.5	65	4.90	6096	459.69
	Muswellbrook	168	10.26	127	7.75	7063	431.28
	Narrabri	120	9.14	55	4.19	3931	299.28
	Newcastle	2363	14.27	2732	16.50	139303	841.35
	Port Stephens	664	9.04	753	10.25	43714	594.90
	Singleton	190	8.1	232	9.89	14319	610.33
	Tamworth Regional	895	14.31	696	11.13	35393	565.92
	Tenterfield	39	5.91	21	3.18	1790	271.46
	Upper Hunter Shire	153	10.79	115	8.11	6407	451.83
	Uralla	42	6.99	46	7.65	1978	329.01
	Walcha	25	7.98	18	5.74	1404	447.99
	<i>LHD Total²</i>	12132	12.74	10847	11.39	569900	598.39
	Kiama	352	15.05	455	19.46	16458	703.75
Illawarra Shoalhaven	Shellharbour	903	12.33	1134	15.48	49392	674.45
	Shoalhaven	1352	12.8	3497	33.10	56856	538.16
	Wollongong	3087	14.15	3617	16.58	158702	727.61
	<i>LHD Total²</i>	5694	13.57	8703	20.74	281408	670.64
	Bellingen	115	8.85	140	10.77	6295	484.38
	Coffs Harbour	590	7.63	522	6.75	32611	422.00
Mid North Coast	Kempsey	239	8.03	244	8.20	14198	477.32
	Nambucca	159	8.03	137	6.92	7702	388.89
	Port Macquarie-Hastings	791	9.36	838	9.91	41930	496.07
	<i>LHD Total²</i>	1894	8.39	1881	8.34	102736	455.26
Murrumbidgee	Albury	707	13.01	1097	20.18	29474	542.27
	Berrigan	52	5.94	80	9.14	2676	305.83

		Week ending				Total since January 2021	
		12-Jun		05-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Bland	60	10.05	34	5.69	2201	368.55
	Carrathool	27	9.65	10	3.57	503	179.71
	Coolamon	35	8.06	40	9.21	1959	451.28
	Cootamundra-Gundagai Regional	109	9.7	314	27.95	4701	418.42
	Edward River	73	8.04	85	9.36	3710	408.41
	Federation	115	9.25	149	11.98	4759	382.65
	Greater Hume Shire	154	14.31	140	13.01	5017	466.09
	Griffith	349	12.91	312	11.54	14014	518.48
	Hay	18	6.1	20	6.78	766	259.75
	Hilltops	204	10.91	241	12.88	8241	440.60
	Junee	78	11.67	43	6.43	2223	332.64
	Lachlan ¹	26	4.28	18	2.96	1352	222.55
	Leeton	116	10.14	95	8.30	4094	357.71
	Lockhart	36	10.96	45	13.70	1225	372.91
	Murray River	10	0.83	41	3.38	1314	108.43
	<i>LHD Total²</i>	28	7.15	16	4.08	1202	306.87
	Narrandera	145	24.58	21	3.56	1653	280.22
	Snowy Valleys	108	7.46	160	11.05	6239	430.90
	Temora	39	6.18	35	5.55	1862	295.23
	Wagga Wagga	976	14.96	1083	16.60	41525	636.32
	<i>LHD Total²</i>	3446	11.56	4070	13.65	139814	469.00
Nepean Blue Mountains	Blue Mountains	1062	13.42	1229	15.53	68516	866.00
	Hawkesbury	933	13.86	950	14.12	47368	703.88
	Lithgow	153	7.08	162	7.50	9474	438.51
	Penrith	2392	11.23	2363	11.10	163367	767.06
	<i>LHD Total²</i>	4516	11.55	4670	11.94	286517	732.80
Northern NSW	Ballina	533	11.94	580	13.00	33722	755.62
	Byron	392	11.17	443	12.63	26538	756.48
	Clarence Valley	311	6.02	303	5.87	18318	354.57
	Kyogle	42	4.77	54	6.14	2976	338.34
	Lismore	451	10.32	526	12.04	26040	595.99
	Richmond Valley	242	10.31	270	11.51	11572	493.16
	Tenterfield	39	5.91	21	3.18	1790	271.46
	Tweed	760	7.83	873	9.00	42703	440.23
	<i>LHD Total²</i>	2738	8.82	3056	9.85	162272	522.85
Northern Sydney	Hornsby	2353	15.47	2432	15.99	114627	753.83
	Hunters Hill	485	32.38	562	37.52	25808	1722.83
	Ku-ring-gai	3169	24.92	3306	26.00	151744	1193.40
	Lane Cove	1395	34.74	1593	39.67	72927	1816.14
	Mosman	638	20.59	699	22.56	30948	998.93
	North Sydney	1106	14.74	1106	14.74	57012	759.95
	Northern Beaches	5545	20.27	6019	22.01	374540	1369.44
	Parramatta ¹	3483	13.54	3516	13.67	168051	653.39
	Ryde	2453	18.69	2689	20.48	109097	831.08

		Week ending				Total since January 2021	
		12-Jun		05-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Willoughby	1206	14.85	1326	16.33	59324	730.69
	<i>LHD Total²</i>	19109	19.99	20486	21.43	1030655	1078.18
South Eastern Sydney	Bayside	2036	11.41	2219	12.44	110550	619.69
	Georges River	1713	10.74	1826	11.45	93565	586.72
	Randwick	2809	18.05	3063	19.68	150814	968.94
	Sutherland Shire	3551	15.4	3776	16.37	192962	836.74
	Sydney ¹	4695	19.06	5294	21.49	248992	1010.75
	Waverley	1533	20.63	1696	22.83	86987	1170.83
	Woollahra	1379	23.22	1578	26.57	76721	1291.88
	<i>LHD Total²</i>	14855	15.49	16257	16.95	802838	837.07
	South Western Sydney	Camden	1385	13.65	1622	15.99	97980
Campbelltown		1806	10.56	1990	11.64	131895	771.57
Canterbury-Bankstown ¹		3271	8.66	3701	9.79	232078	614.10
Fairfield		1066	5.04	1280	6.05	100335	473.96
Liverpool		1986	8.73	2078	9.13	157791	693.33
Wingecarribee		648	12.67	819	16.02	41960	820.59
Wollondilly		501	9.43	498	9.37	28241	531.36
<i>LHD Total²</i>		8873	8.54	9992	9.62	670821	645.93
Southern NSW	Bega Valley	281	8.15	377	10.94	15291	443.53
	Eurobodalla	374	9.72	434	11.28	22414	582.59
	Goulburn Mulwaree	351	11.27	996	31.99	16586	532.76
	Queanbeyan-Palerang Regional	366	5.99	471	7.71	22298	364.94
	Snowy Monaro Regional	238	11.45	252	12.12	9805	471.51
	Upper Lachlan Shire	65	8.07	140	17.37	3661	454.27
	Yass Valley	98	5.74	120	7.02	5456	319.31
	<i>LHD Total²</i>	1773	8.17	2793	12.87	95546	440.16
Sydney	Burwood	298	7.34	395	9.73	21861	538.29
	Canada Bay	1472	15.32	1723	17.93	85349	888.37
	Canterbury-Bankstown ¹	3271	8.66	3701	9.79	232078	614.10
	Inner West	3258	16.22	3645	18.15	196482	978.44
	Strathfield	652	13.89	677	14.43	38573	822.00
	<i>LHD Total²</i>	4695	19.06	5294	21.49	248992	1010.75
	<i>LHD Total²</i>	10276	14.75	11583	16.62	615111	882.80
Western NSW	Bathurst Regional	483	11.07	462	10.59	26873	616.10
	Blayney	80	10.84	99	13.42	4407	597.24
	Bogan	18	6.98	15	5.81	1153	446.90
	Bourke	9	3.47	4	1.54	694	267.95
	Brewarrina	6	3.72	4	2.48	401	248.91
	Cabonne	115	8.43	70	5.13	4607	337.91
	Cobar	36	7.73	32	6.87	1556	334.05
	Coonamble	27	6.82	12	3.03	1223	308.99
	Cowra	111	8.71	122	9.57	5115	401.40
	Dubbo Regional	2308	42.96	432	8.04	27706	515.76
	Forbes	649	65.52	48	4.85	3573	360.69
	Gilgandra	84	19.82	27	6.37	1338	315.64

		Week ending				Total since January 2021	
		12-Jun		05-Jun		No.	Tests per 1,000 population
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Lachlan ¹	26	4.28	18	2.96	1352	222.55
	Mid-Western Regional	313	12.4	248	9.82	12435	492.46
	Narromine	109	16.73	47	7.21	2545	390.52
	Oberon	34	6.28	49	9.06	2303	425.61
	Orange	481	11.33	477	11.24	30605	720.95
	Parkes	282	19.01	111	7.48	5817	392.06
	Walgett	23	3.86	12	2.02	2002	336.30
	Warren	86	31.89	22	8.16	1808	670.37
	Warrumbungle Shire	226	24.36	50	5.39	3890	419.27
	Weddin	37	10.24	24	6.64	1189	329.09
	<i>LHD Total²</i>	5537	19.43	2378	8.34	142204	498.94
Western Sydney	Blacktown	4774	12.75	4992	13.33	275392	735.46
	Cumberland	2314	9.58	2449	10.14	171813	711.38
	Parramatta ¹	3483	13.54	3516	13.67	168051	653.39
	The Hills Shire	4056	22.79	4025	22.62	184097	1034.43
	<i>LHD Total²</i>	13948	13.24	14312	13.59	771476	732.34
NSW Total³		116827	14.44	122574	15.15	2149056	265.65

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 6 June 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 2020–6 June 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	674,455	4	<0.01%	9	0.00%	3,402	6,531	11,245	40,796	245	4,833
Month ending											
31 January*	168,596	1	<0.01%	0	0.00%	416	88	3,275	3,541	23	560
28 February	125,718	2	<0.01%	0	0.00%	419	106	2,386	8,667	22	910
28 March	95,458	0	-	0	0.00%	507	354	1,909	8,891	18	1,187
2 May*	112,962	0	-	3	0.00%	802	1,515	1,653	8,141	48	1,128
30 May	131,316	0	-	6	0.00%	946	3,129	1,491	8,982	78	843
Week ending											
6 June	40,405	1	<0.01%	0	0.00%	312	1,339	531	2,574	56	205

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

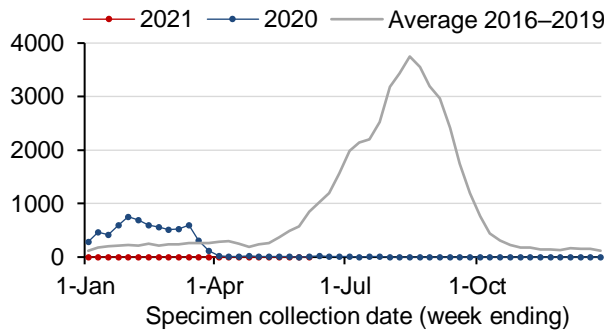
RSV - Respiratory syncytial virus

*Five-week period

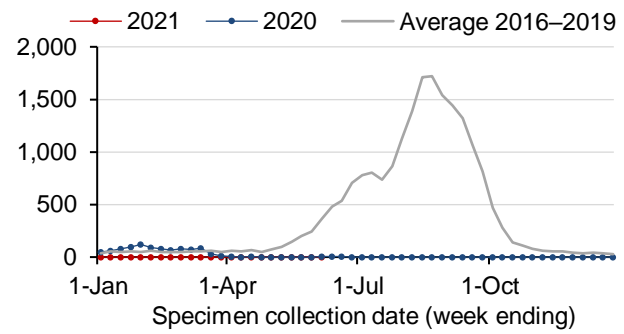
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 6 June 2021

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.

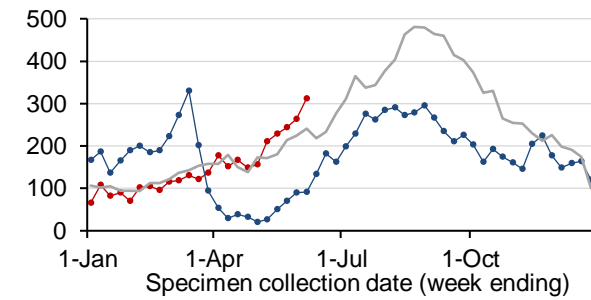
Influenza A



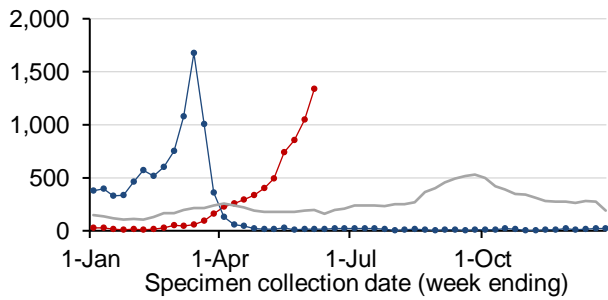
Influenza B



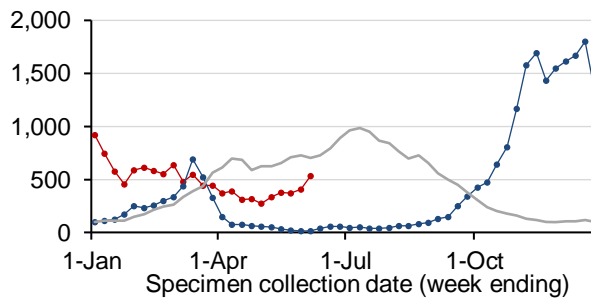
Adenovirus



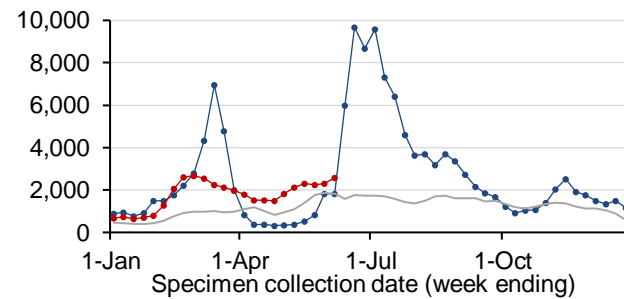
Parainfluenza



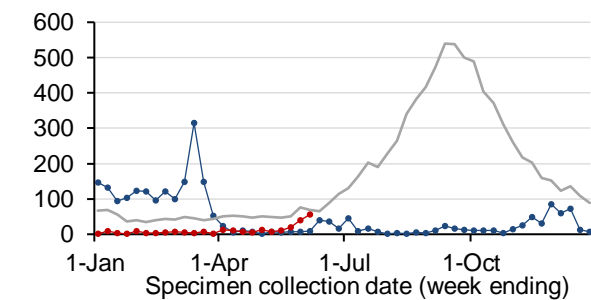
Respiratory syncytial virus (RSV)



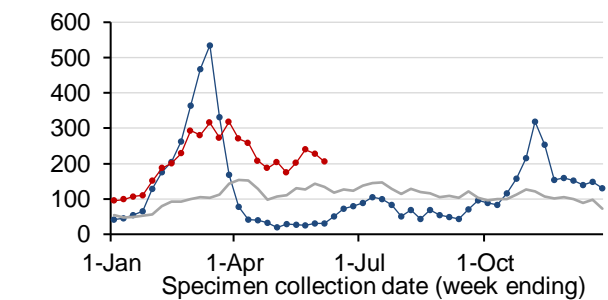
Rhinovirus



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 12 June 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. Forbes and Narrandera sewage treatment plants have been added as new sites. Perisher and Thredbo have recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Pop.	Location	14	15	16	17	18	19	20	21	22	23
60,514	Blue Mountains (Winmalee)										
4,681	North Richmond										
13,052	Richmond										
110,114	Penrith										
12,000	Lithgow										
19,000	South Windsor										
8,000	McGraths Hill										
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
6,882	Wallacia										
14,600	Picton										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
163,374	Quakers Hill										
119,309	Rouse Hill										
37,061	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Network	Location	14	15	16	17	18	19	20	21	22	23
Bondi	Paddington Sewage Network	Red	Red	Red	Red	Red	Red	Green	Red	Red	Green
Bondi	Rozelle Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Cronulla	Caringbah Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Cronulla	Miranda Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Earlwood Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Marrickville Sewage Network 1	Green	Green	Green	Green	Red	Green	Green	Green	Green	Green
Malabar	Marrickville Sewage Network 2	Green	Green	Green	Green	Red	Green	Green	Green	Green	Green
Malabar	Bardwell Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Arncliffe Sewage Network 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Arncliffe Sewage Network 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Blakehurst Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Padstow Sewage Network 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Padstow Sewage Network 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Fairfield SPS 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Fairfield SPS 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Homebush SPS	Green	Green	Green	Green	Green	Green	Red	Red	Green	Green
Malabar	Olympic Park	Green	Green	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Malabar	Croydon Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Dulwich Hill Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Canterbury Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Botany Sewage Network	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Malabar	Maroubra Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Camellia SPS - North	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Camellia SPS - South	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Auburn Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Northmead SPS	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Northmead Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Tunks Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Vineyard Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Boronia Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	West Lindfield Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Lane Cove West Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Allambie Heights Sewage Network	Green	Green	Red	Red	Green	Green	Green	Green	Green	Green
North Head	Buffalo Creek Reserve Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Glenfield	Minto Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Liverpool	Ireland Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Quakers Hill	Eastern Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
St Marys	Ropes Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Regional Sites		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Pop.	Location	14	15	16	17	18	19	20	21	22	23
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										
14,000	Vincentia										
16,000	St Georges Basin										
11,000	Cullburra Beach										
139,500	Gosford-Kincumber										
59,060	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
51,750	Albury composite	C	C	C		C	C	C	C	C	C
	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	C	C	C	C	C	C	C	C	C	C
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Koorringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Pop.	Location	14	15	16	17	18	19	20	21	22	23
	Griffith										
2,050	Bourke										
	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,603	Bathurst										
	Forbes										
	Balranald										
19,000	Broken Hill										
500	Dareton										
1100	Buronga										
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	C	C
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun
Pop.	Location	14	15	16	17	18	19	20	21	22	23
18,958 (both plants total)	Byron Bay - Ocean Shores										
	Byron Bay										
3,500	Mullumbimby										
31,104	Ballina										
7,700	Lennox Head										
16,000	Tweed - Murwillumbah										
75,000	Tweed - Banora Point										
25,000	Tweed - Kingscliff										
18,000	Tweed - Hastings Point										
18,550	Grafton composite	c	c	c	c	c	c	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	<p>A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases).</p> <p>Case counts include:</p> <ul style="list-style-type: none"> - NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and - interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis
Health care workers	Individuals who work within a hospital or other healthcare settings, including staff in direct or indirect contact with patients or infectious materials.
Incubation period	The time in which the case was infected. The incubation period for COVID-19 is between 1 and 14 days prior to symptom onset.
Overseas acquired case	Case who travelled overseas during their incubation period. While testing rates in NSW are high and case counts are low, cases who have travelled overseas in their incubation period are considered to have acquired their infection overseas.
Interstate acquired case	Case who travelled interstate during their infection and the public health investigation concludes the infection was likely acquired interstate.
Cluster	Group of cases sharing a common source of infection or are linked to each other in some way.

Dates used in COVID-19 reporting

Event	Date name	Source
Person first starts to feel unwell	Date of symptom onset	Public health staff interview all cases at the time of diagnosis. This is the date provided to NSW Health by the case.
Person has a swab taken	Date of test	This date is provided to NSW Health by the laboratory when the test result (positive or negative) is notified.
Laboratory notifies NSW Health of result	Date of notification	<p>This date is provided to NSW Health by the laboratory. Laboratories prioritise notification of positive results to allow prompt public health action.</p> <p>Positive cases: The date of notification is collected by NSW Health on the day of notification. Cases are informed of their diagnosis by their doctor or public health staff as soon as the result is available. The date of notification to NSW Health is usually the same day as the date the case finds out about the result.</p> <p>Negative cases: Some laboratories notify NSW Health of negative results in batches at regular intervals. For these laboratories the date of notification to NSW Health does not reflect the date the negative result was available at the laboratory. NSW Health does not collect information on the date the person was informed of the result.</p>