

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 24, ENDING 19 June 2021

Published 28 June 2021

Overview

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

	2020		2021		
	Jan – Jun	July – Dec	year to date 1 Jan – 19 June	last 4 weeks 23 May – 19 June	last 7 days 13 June – 19 June
Locally acquired	1,236 (39 %)	808 (52 %)	59 (8 %)	8 (10 %)	8 (24 %)
Interstate acquired	67 (2 %)	23 (1 %)	0	0	0
Overseas acquired	1,892 (59 %)	714 (46 %)	658 (92 %)	70 (90 %)	25 (76 %)
Total	3,195 (100 %)	1,545 (100 %)	717 (100 %)	78 (100 %)	33 (100 %)
Variants of concern*	0	10	304	37	15
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 19 June 2021

- There were 8 locally acquired cases and one new cluster reported in the week ending 19 June 2021.
- Of the 8 locally-acquired cases:
 - 6 cases were linked to the Bondi cluster
 - 2 cases were unable to be linked to a case or cluster including the source case for the Bondi cluster and a Western Sydney resident (the latter case has subsequently been deemed a false positive).
- There were 25 cases reported in overseas returned travellers this week, up 39% compared to the previous week.
- In the four weeks ending 19 June 2021, 50% (4/8) of locally acquired cases and 47% (33/70) 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, no locally acquired cases have reported being fully vaccinated. Eleven (2%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates increased compared to the previous week in most LHDs (up 21%). There were high testing rates in South Eastern Sydney, Sydney and Northern Sydney LHDs.
- In the week ending 19 June, 160 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were eight detections –taken from the Malabar and Brooklyn sewage treatment plants and the sewage networks at Botany (within the Malabar catchment), Paddington (within the Bondi catchment), and Camellia North (2 detections) and Camellia South (2 detections) sewage pumping stations (within the North Head catchment). The detections at Malabar and Bondi catchments include quarantine hotels, and the North Head catchment includes overseas returned cases who have recently returned home after completing their mandatory quarantine period. Although no active cases were identified in the Brooklyn sewage catchment, 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.

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

Locally acquired cases in isolation during their infectious period

	Week ending 19-Jun
	Count (%)
Locally acquired cases	8 (100%)
Cases with symptoms at diagnosis	7 (88%)
Number in isolation at least 48 hours before symptoms	0
Cases reporting no symptoms at diagnosis	1 (13%)
Number in isolation at least 48 hours before test	0

Interpretation: In the week ending 19 June 2021, one case (13%) did not report symptoms at the time of diagnosis and had sought testing because they were a close contact of a confirmed case of COVID-19. None of the remaining seven symptomatic cases were in isolation at least 48 hours prior to symptom onset. To reduce the spread of COVID-19 it is essential that people seek testing immediately if symptoms develop, however mild.

Measures of Public Health Action

	Week ending 19-Jun
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 19 June, all locally-acquired cases were notified within a day of positive test result and all close contacts were contacted by public health within 48 hours of case notification

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](#)

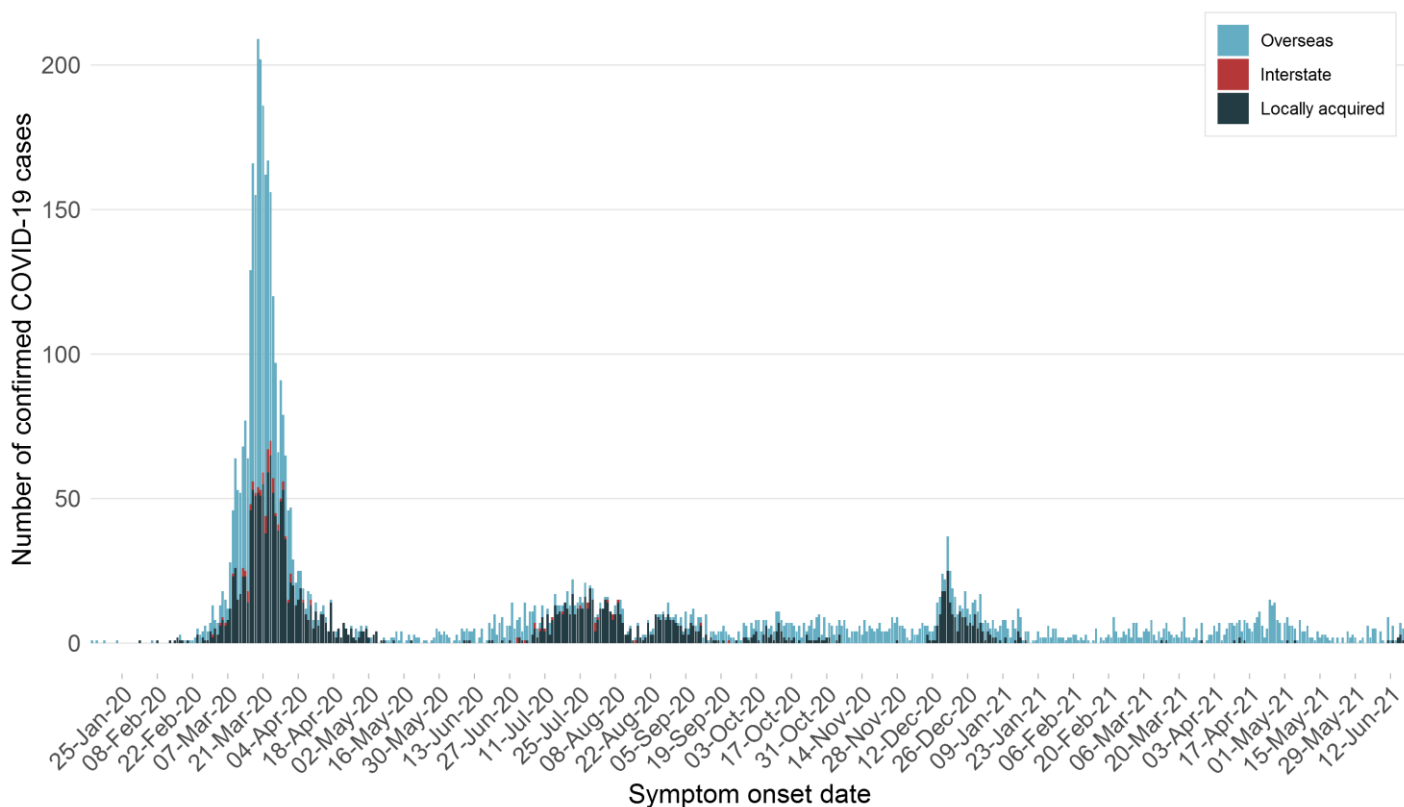
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Section 1: How is the outbreak tracking in NSW?

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 19 June 2021



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

Interpretation: Between 13 January 2020 and 19 June 2021, there were 5,457 confirmed COVID-19 cases. Of those, 3,264 (60%) were overseas acquired, 90 (2%) were interstate acquired, and 2,103 (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 19 June 2021

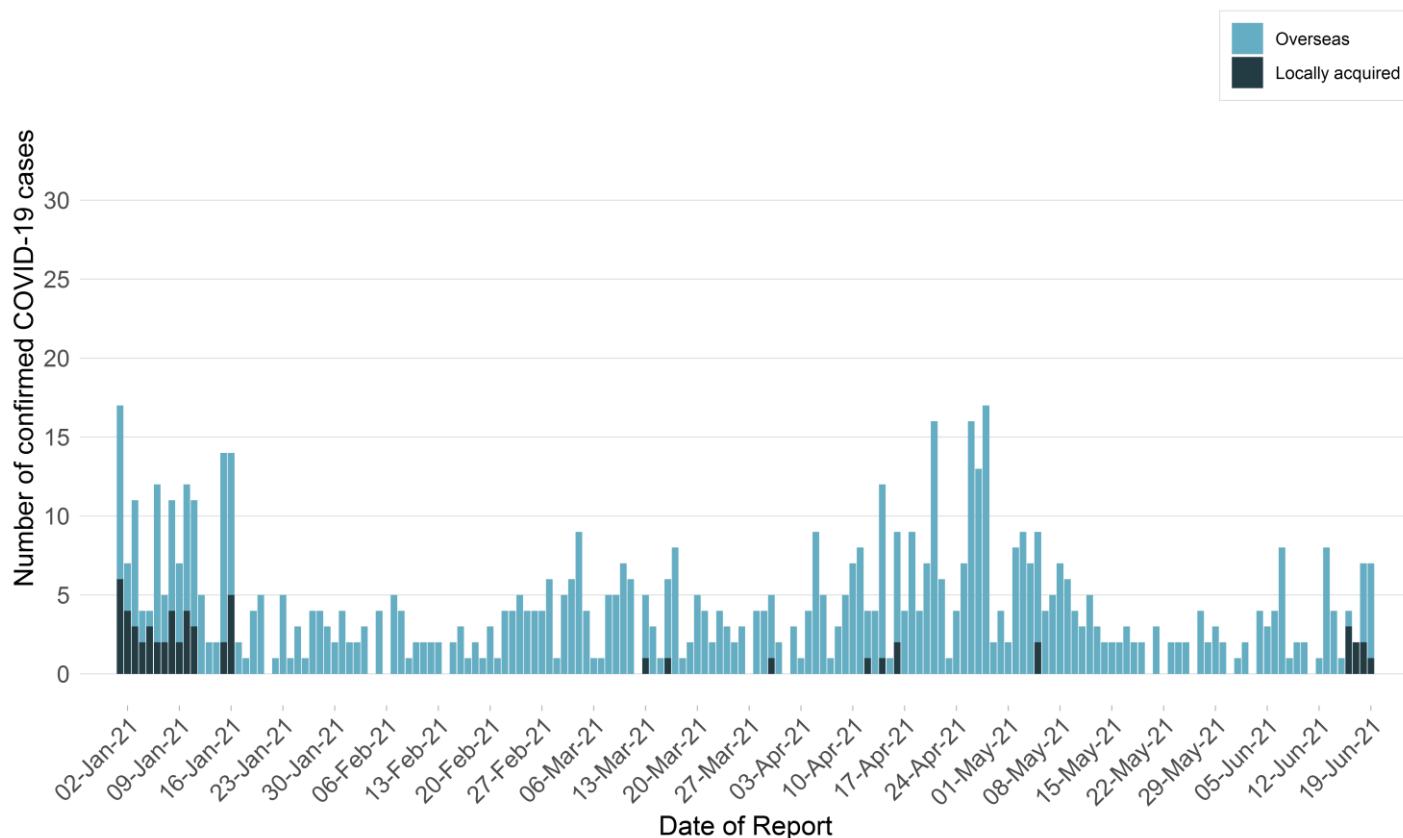


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 19 June 2021

	Week ending 19 June	Week ending 12 June	% change	Total 2021
Number of cases	33	18	83%	717
Locally acquired	8	0	-	59
Known epidemiological links to other cases or clusters	6	0	-	50
No epidemiological links to other cases or clusters	2	0	-	9
Overseas acquired	25	18	39%	658
Interstate acquired	0	0	-	0
Number of tests	142,241	117,467	21%	2,293,343

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

Interpretation: The majority of cases reported in the last four weeks in NSW were overseas acquired (70/78, 90%). Of the eight locally acquired cases; six cases are linked to the Bondi cluster (excluding the source case) and two cases are unable to be linked to a known case or cluster.

Section 2: 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, 16 May to 19 June 2021

Local Health District	Week ending				Total	Days since last case reported
	19 June	12 June	5 June	29 May		
Central Coast	0	0	0	0	0	172
Illawarra Shoalhaven	2	0	0	0	2	0
Nepean Blue Mountains	0	0	0	0	0	277
Northern Sydney	0	0	0	0	0	64
South Eastern Sydney	4	0	0	0	4	1
South Western Sydney	0	0	0	0	0	162
Sydney	1	0	0	0	1	3
Western Sydney	1	0	0	0	1	2
Far West	0	0	0	0	0	443
Hunter New England	0	0	0	0	0	64
Mid North Coast	0	0	0	0	0	424
Murrumbidgee	0	0	0	0	0	285
Northern NSW	0	0	0	0	0	81
Southern NSW	0	0	0	0	0	243
Western NSW	0	0	0	0	0	324
NSW*	8	0	0	0	8	0

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

Interpretation: There were 8 locally-acquired cases reported in the week ending 19 June. The majority of cases were residents of South Eastern Sydney LHD (4, 50%) followed by Illawarra Shoalhaven LHD (2, 25%). One case in a Western Sydney resident could not be linked to a known case or cluster. Extensive public health investigations have not identified any further transmission related to this case to date.

Section 3: 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

On 16 June, South Eastern Sydney Public Health Unit was notified of a case of COVID-19 in a resident of the Eastern Suburbs who worked as a hire car driver transporting overseas travellers from Sydney International Airport to hotel quarantine. The source of infection was unknown. On the same day, two further cases were reported in a household contact of the driver and a resident of Sydney Local Health District who was at a café in Vaucluse at the same time as the driver.

In the week ending 19 June there were a further four cases linked to this cluster who likely acquired their infection in Westfield Bondi Junction from brief exposure to the index case. Whole genome sequencing results suggest the variant associated with this cluster is the Delta strain (B.1.617.2). Investigation of the source of the driver's infection is still under investigation.

Table 4. Cases linked to Bondi cluster by setting of exposure, reported to week ending 19 June, NSW

Setting of exposure	Exposure site	Location	Primary cases	Subsequent cases		Total
				Non - household setting	Household setting	
Food Service	Café	Vaucluse	1	-	-	1
Retail	Westfield	Bondi Junction	4	-	-	4
Other	Household contact of index case		-	-	1	1
Total			5	-	1	6

Interpretation: Excluding the source case, a hire-car driver whose source is under investigation, there are six cases linked to this cluster.

Section 4: 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 four weeks ending 19 June 2021, there have been:

- 4 locally acquired cases diagnosed with a VoC. Of these:
 - 4 (100%) with the Delta variant. Of the additional four local cases reported this week, three cases are awaiting sequencing and one case is unable to be sequenced.
- 33 returned travellers diagnosed with a VoC. Of these:
 - 17 (51%) with the Alpha variant
 - 3 (9%) with the Beta variant
 - 16 (48%) with the Delta variant.
- The countries of likely acquisition of the 33 returned travellers diagnosed with a VoC are: Afghanistan (10, 30%), India (4, 12%), South Africa (4, 12%), USA (3, 9%), Iran (2, 6%), Iraq (2, 6%), UK (2, 6%), Philippines (2, 6%) and Bangladesh (1, 3%) and Northern Ireland (1, 3%), Uganda (1, 3%), unknown (1, 3%).

Table 5a. Locally acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 19 June 2021

	Week ending				29 Nov to 22 May	Total since 29 November
	19 June*	12 June*	5 June	29 May		
Total locally acquired cases	8	0	0	0	227	235
Local cases with VoC	4	0	0	0	9	13
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)	4	0	0	0	2	6
% locally acquired cases with VoC	50%	-	-	-	4%	6%

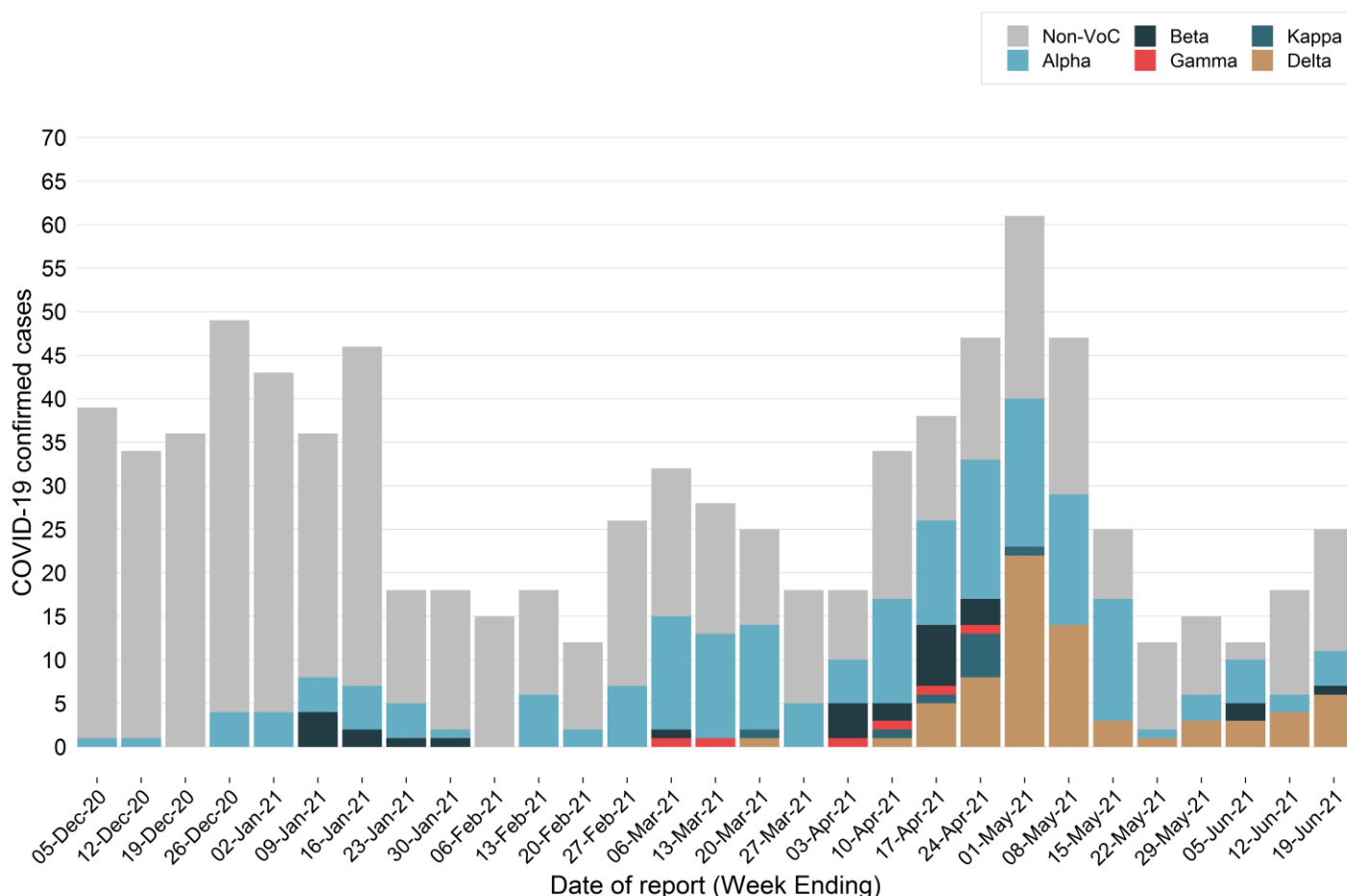
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 19 June have been the Delta variant of concern.

Table 5b. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 19 June 2021

	Week ending				29 Nov to 22 May	Total since 29 November
	19 June*	12 June*	5 June	29 May		
Total overseas acquired cases	25	18	12	15	775	845
Overseas cases with VoC	11	6	10	6	268	301
Alpha (B.1.1.7)	4	2	5	3	173	187
Beta (B.1.351)	1	0	2	0	25	28
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)	6	4	3	3	55	71
% overseas acquired cases with VoC	44%	33%	83%	40%	35%	36%

*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 19 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 301 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 19 June 2021, 47% (33/70) of overseas acquired cases have been identified as having COVID-19 variants of concern.

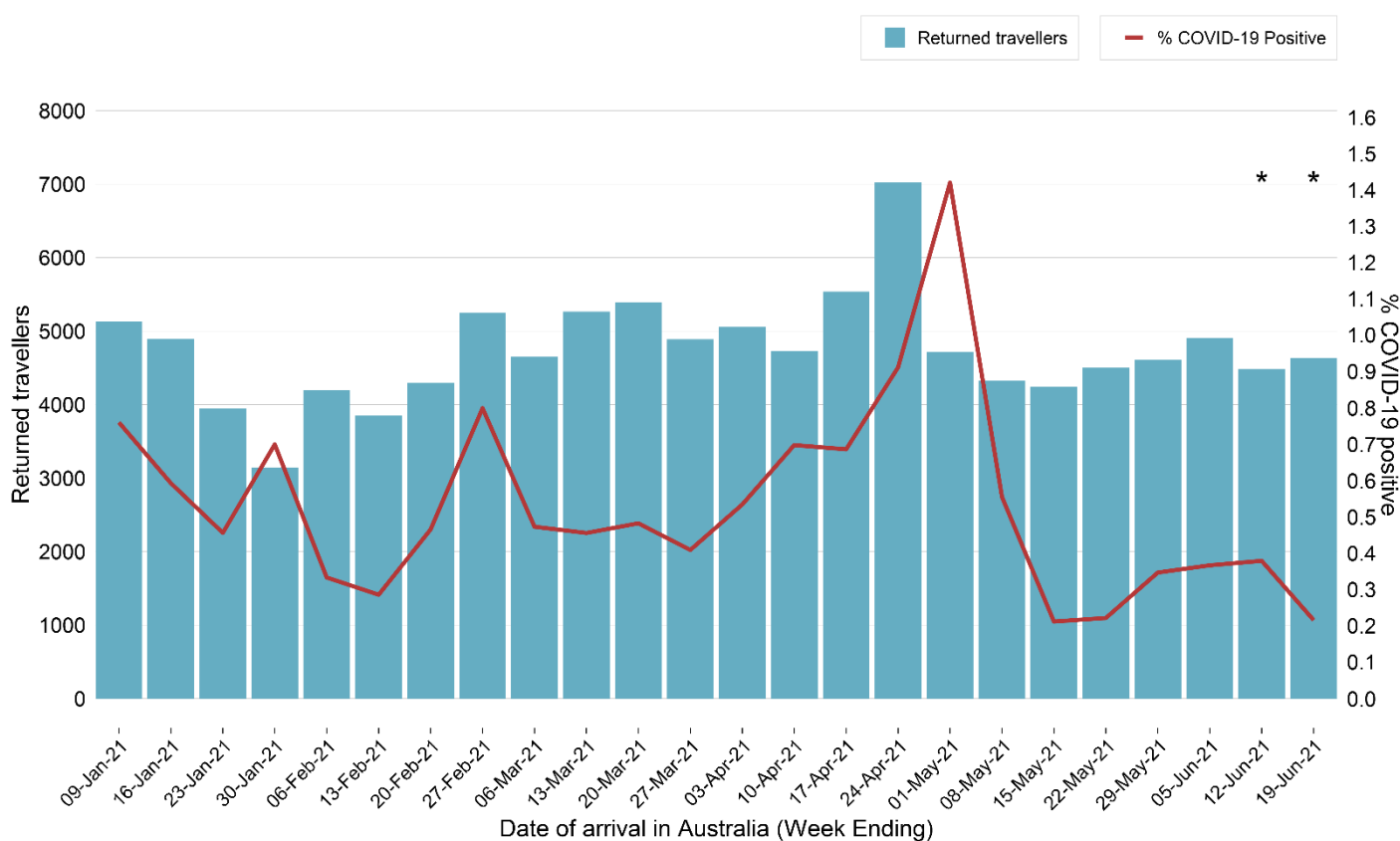
Section 5: COVID-19 in returned travellers

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 19 June 2021



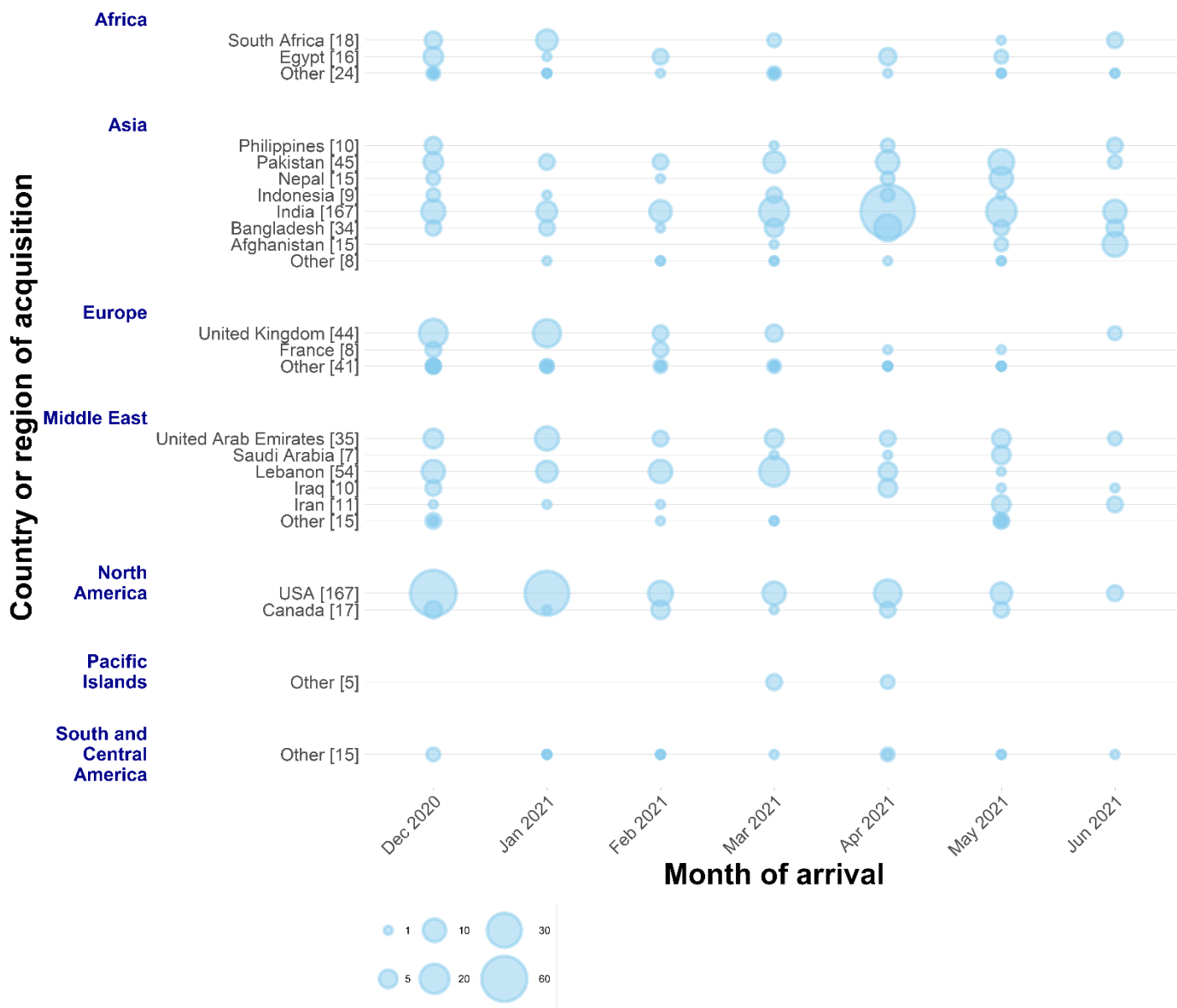
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

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, 70 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 returned travellers

The following figure displays the countries and regions with the greatest numbers of returned 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 19 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 returned 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 70 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 6. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 23 May 2021 to 19 June 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Afghanistan	13 (19%)
India	12 (17%)
USA	6 (9%)
Bangladesh	4 (6%)
South Africa	4 (6%)
Iran	3 (4%)
Philippines	3 (4%)
United Arab Emirates	3 (4%)
Canada	2 (3%)
Iraq	2 (3%)
Pakistan	2 (3%)
United Kingdom	2 (3%)
Other	14 (20%)
Total	70

Interpretation: In the last four weeks, travellers returning from Afghanistan and India accounted for the largest number of overseas acquired cases (25, 36%), followed by travellers returning from USA (6, 9%), Bangladesh and South Africa (8, 11%).

Cases among returned travellers in quarantine

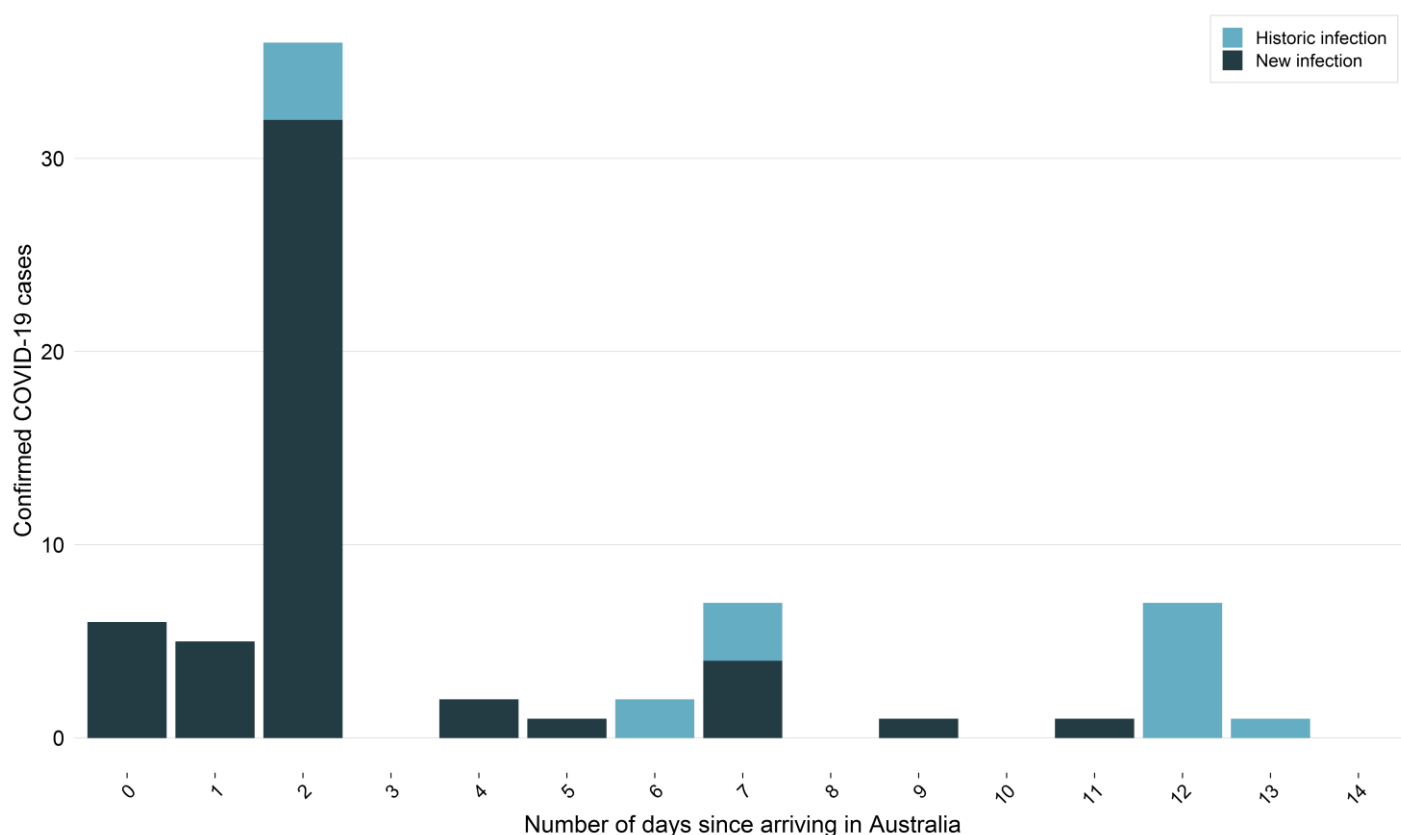
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved 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 three routine tests, including those that are symptomatic on arrival.

Overseas returned travellers complete their quarantine in several facilities with the 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, 23 May to 19 June 2021



Interpretation: In the four weeks ending 19 June 2021, 46% 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, 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 7a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 19 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 22 May	Total from 1 Mar 2021
	19 Jun	12 Jun	05 Jun	29 May		
Total locally acquired cases	8 (100%)	0	0	0	9 (100%)	17 (100%)
Fully Vaccinated	0	0	0	0	0	0
Partially Vaccinated	0	0	0	0	1 (11%)	1 (6%)
Single dose within 14 days	1 (12%)	0	0	0	1 (11%)	2 (12%)
None	7 (88%)	0	0	0	7 (78%)	14 (82%)
Unknown/missing	0	0	0	0	0	0

Table 7b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 19 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 22 May	Total from 1 Mar 2021
	19 Jun	12 Jun	05 Jun	29 May		
Total overseas acquired cases	25 (100%)	18 (100%)	12 (100%)	15 (100%)	379 (100%)	449 (100%)
Fully Vaccinated	2 (8%)	1 (6%)	0	1 (7%)	7 (2%)	11 (2%)
Partially Vaccinated	0	1 (6%)	0	0	7 (2%)	6 (1%)
Single dose within 14 days	3 (12%)	1 (6%)	0	2 (13%)	13 (3%)	19 (4%)
None	18 (72%)	17 (94%)	11 (92%)	11 (73%)	342 (90%)	399 (89%)
Unknown/missing	2 (8%)	0	1 (8%)	1 (7%)	10 (3%)	14 (3%)

Interpretation: Since 1 March 2021, there have been no locally acquired cases reported as being fully vaccinated. Eleven (2%) overseas acquired 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.

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 19 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](#)).

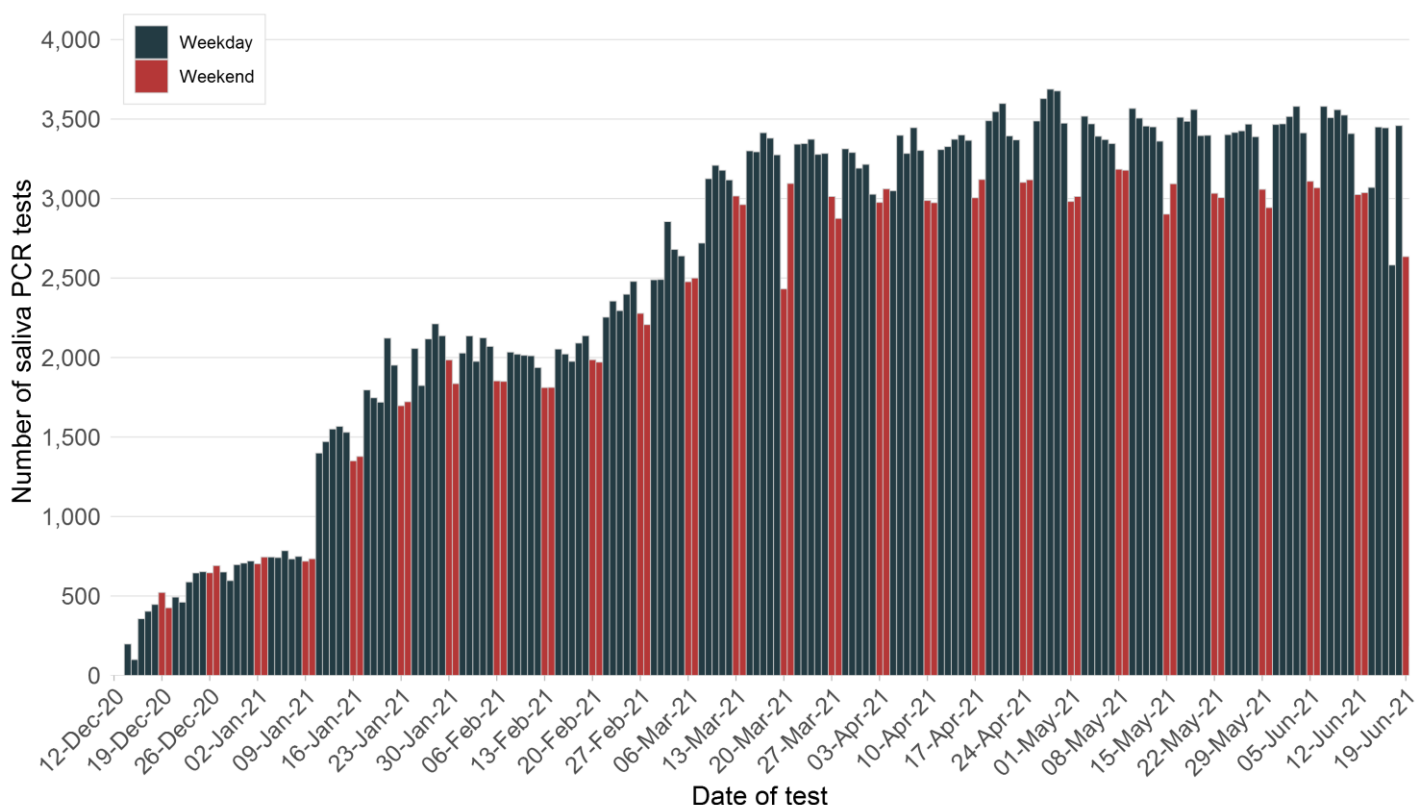
Pregnant women

There was one case in a pregnant woman in the week ending 19 June. In total, 45 pregnant women have been diagnosed with COVID-19 in NSW. As those who test negative are not interviewed, testing rates among pregnant women are not available.

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 19 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 467,706 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. Two confirmed cases of COVID-19 have been reported through saliva PCR testing, reported on 13 March and 16 June 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 19 June 2021.

Table 8. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 19 June 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	149	0%
5-11	0	148	0%
12-17	0	172	0%
18-29	0	1229	0%
30-49	0	1829	0%
50-59	1	712	0.1%
60-69	4	659	0.6%
70-79	15	395	3.8%
80+	36	164	22.0%
Total	56	5,457	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.

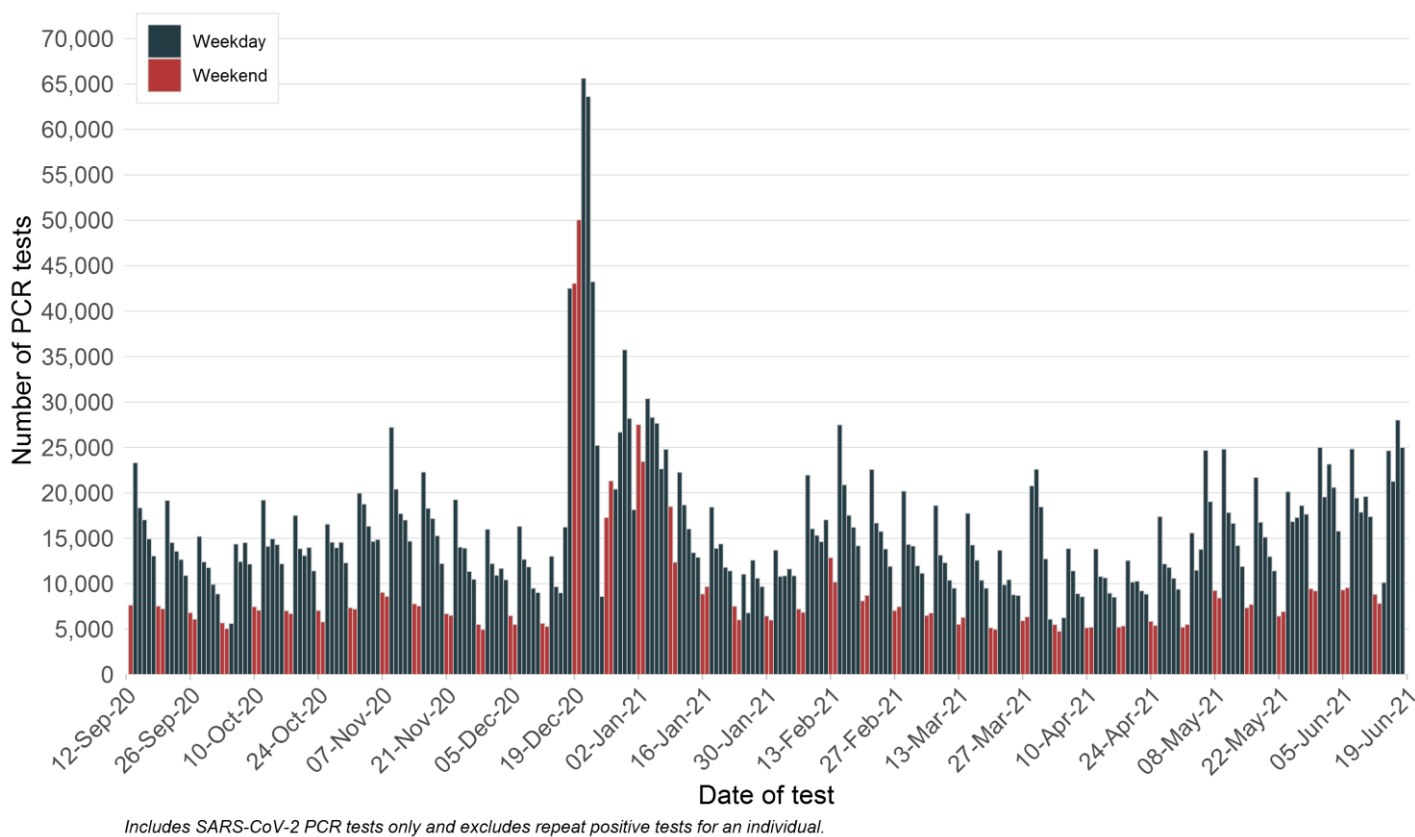
Section 9: COVID-19 testing in NSW

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, 12 September 2020 to 19 June 2021

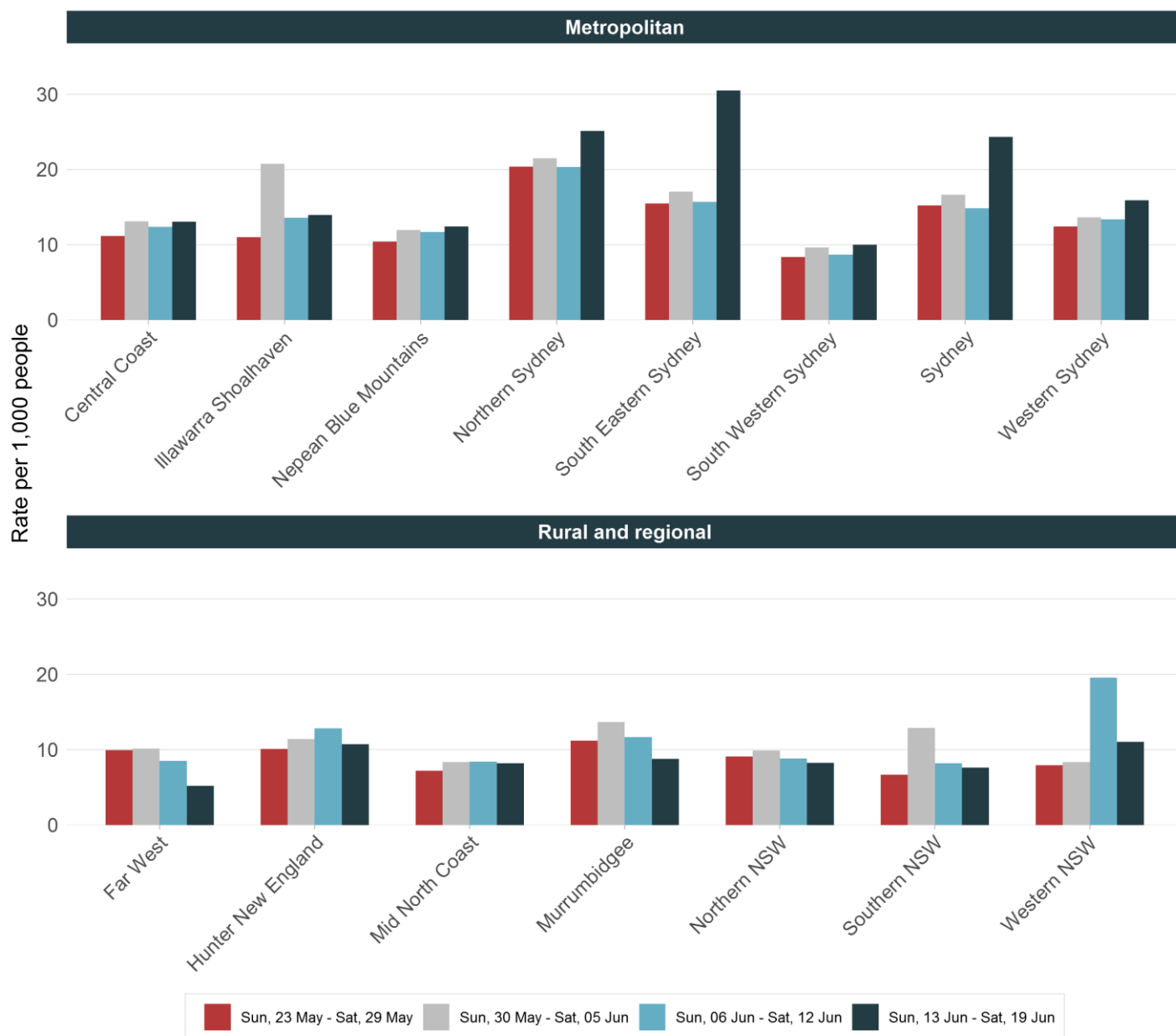


Interpretation: Testing numbers increased in the week ending 19 June 2021 (up 21%) compared to the previous week. The average daily testing rate of 2.5 per 1,000 people in NSW each day increased compared to the previous week of 2.1 per 1,000 people.

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

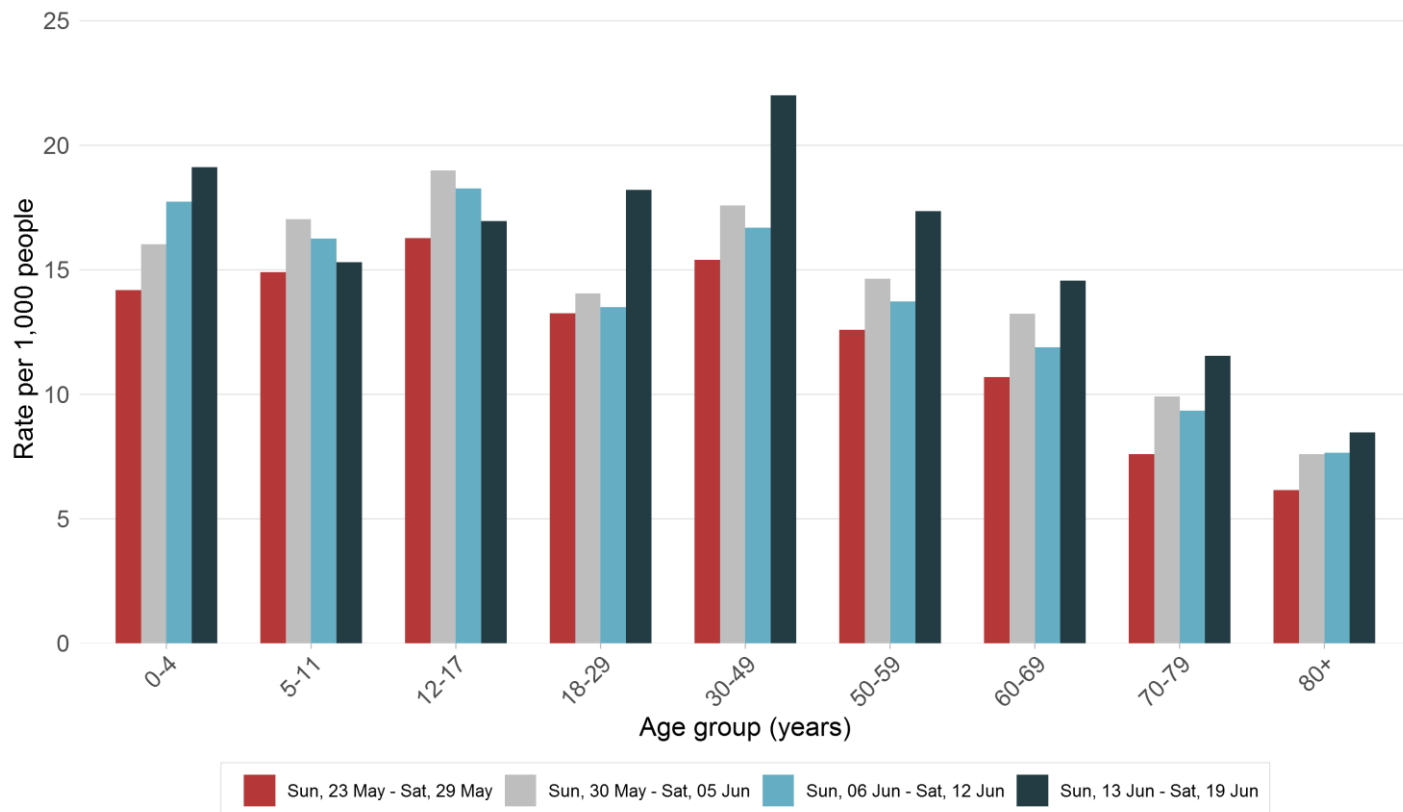


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 19 June increased when compared to the previous week (17.6 per 1,000 people compared to 14.5 per 1,000 people). Testing rates increased across all metropolitan Local Health Districts with a surge in testing in South Eastern Sydney, Sydney and Northern Sydney Local Health Districts after reports of cases in the area. To limit the spread of COVID-19, multiple public health alerts were issued advising people that attended affected venues in the Eastern Suburbs seek testing and isolate regardless of symptoms.

Testing by age group

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



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

Interpretation: In the week ending 19 June 2021, testing rates increased across all age groups except school aged children (5-11 and 12-17 years) when compared to the previous week.

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. Coonabarabran sewage treatment plant has been added as a new site. The results from all sites across NSW are available in Appendix D.

Table 9. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 19 June 2021

		17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun
Pop.	Location	15	16	17	18	19	20	21	22	23	24
Sydney sewage treatment plant (inlet sites)											
1,241	Brooklyn										
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	Camellia SPS - North										
North Head	Camellia SPS - South										
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 ending 19 June, 160 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were eight detections –taken from the Malabar and Brooklyn sewage treatment plants and the sewage network at Botany (within the Malabar catchment), Paddington (within the Bondi catchment), and Camellia North (2 detections) and Camellia South (2 detections) sewage pumping stations (within the North Head catchment). The detections at Malabar and Bondi catchments include quarantine hotels, and the North Head catchment includes overseas returned cases who have recently returned home after completing their mandatory quarantine period. Although no active cases were identified in the Brooklyn sewage catchment, 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 13 June 2021

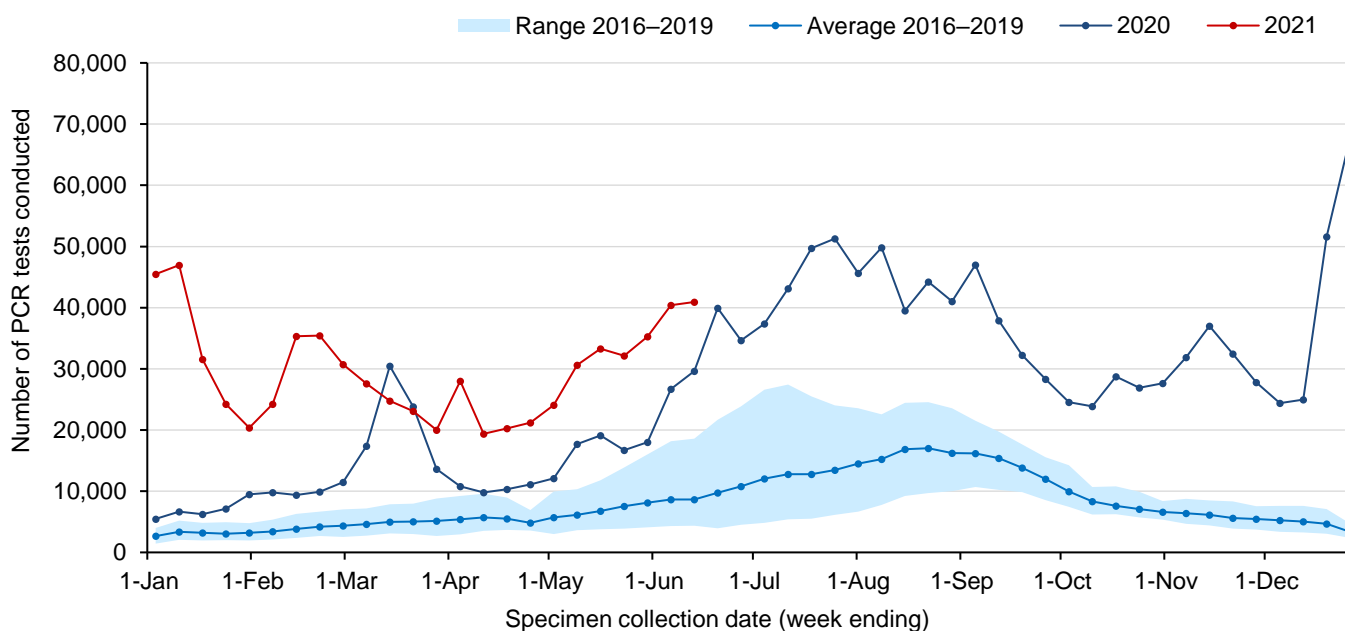
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 13 June 2021. A total of 715,384 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 13 June 2021

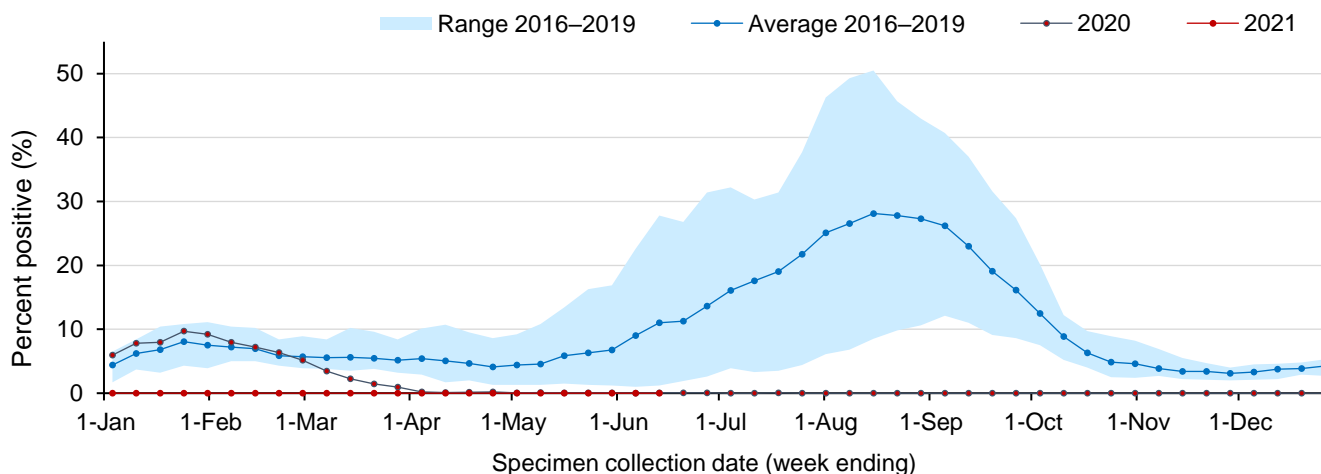


Interpretation: In the week ending 13 June, the number of influenza tests increased, with 40,929 influenza tests performed across participating laboratories compared with 40,405 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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 13 June 2021

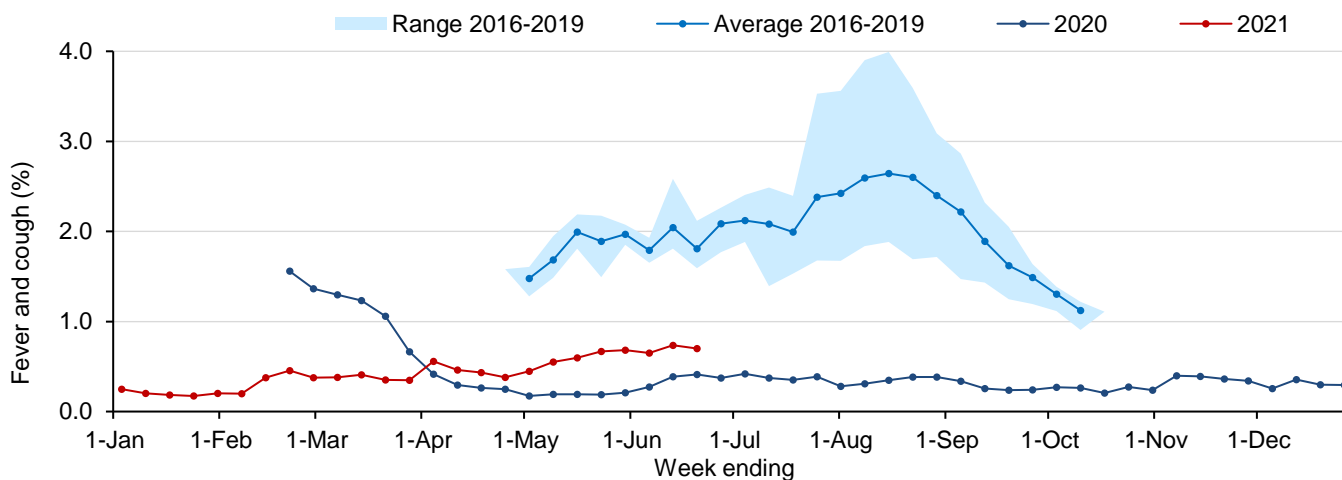


Interpretation: In the week ending 13 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There 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 20 June 2021



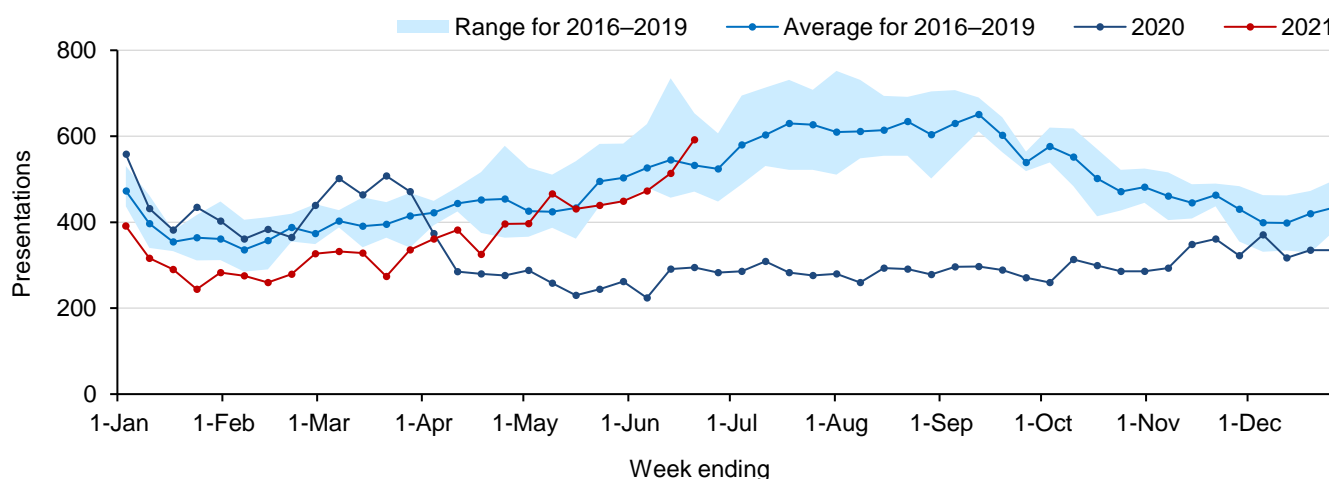
Interpretation: In NSW in the week ending 20 June 2021, of the 21,487 people surveyed, 150 people (0.70%) reported flu-like symptoms. In the last four weeks, 51% (351/688) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased 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.

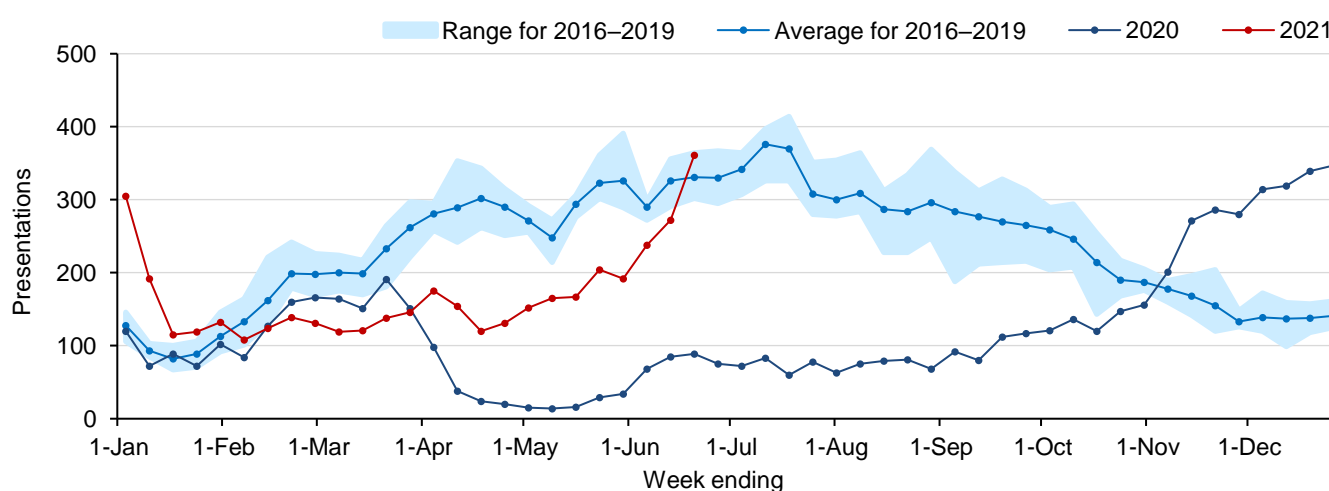
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS². The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 14. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 20 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 20 June, pneumonia presentations increased and remain within the seasonal range for this time of year.

Figure 15. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 20 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 20 June 2021, bronchiolitis presentations increased sharply but are within 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

		Week ending				Total since January 2021	
		19-Jun		12-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		
Central Coast	<i>LHD Total²</i>	4562	12.93	4368	12.38	236012	668.85
	Balranald	10	4.28	15	6.42	797	340.89
	Broken Hill	91	5.21	177	10.13	10262	587.10
Far West	Central Darling	4	2.18	8	4.35	605	328.98
	Wentworth	39	5.53	57	8.08	3751	531.83
	<i>LHD Total²</i>	144	4.78	257	8.53	15415	511.38
	Armidale Regional	271	8.80	396	12.87	16601	539.36
	Cessnock	271	4.52	320	5.33	23632	393.97
	Dungog	58	6.16	69	7.32	4028	427.46
	Glen Innes Severn	39	4.40	71	8.00	2919	329.05
	Gunnedah	90	7.10	102	8.04	5071	399.89
	Gwydir	31	5.79	92	17.19	1221	228.10
	Inverell	132	7.82	246	14.56	6948	411.37
	Lake Macquarie	2581	12.54	2792	13.56	146641	712.19
	Liverpool Plains	54	6.83	54	6.83	3299	417.44
	Maitland	1108	13.01	1082	12.70	65547	769.64
Hunter New England	Mid-Coast	594	6.33	596	6.35	38272	407.86
	Moree Plains	513	38.68	1702	128.35	6760	509.77
	Muswellbrook	120	7.33	169	10.32	7186	438.79
	Narrabri	78	5.94	124	9.44	4013	305.52
	Newcastle	2274	13.73	2367	14.30	141591	855.17
	Port Stephens	647	8.80	669	9.10	44367	603.79
	Singleton	180	7.67	190	8.10	14500	618.05
	Tamworth Regional	683	10.92	899	14.37	36088	577.03
	Tenterfield	22	3.34	39	5.91	1813	274.95
	Upper Hunter Shire	109	7.69	152	10.72	6514	459.38
	Uralla	26	4.32	42	6.99	2004	333.33
	Walcha	9	2.87	26	8.30	1414	451.18
	<i>LHD Total²</i>	9888	10.38	12203	12.81	580010	609.01
Illawarra Shoalhaven	Kiama	396	16.93	353	15.09	16855	720.73
	Shellharbour	906	12.37	903	12.33	50305	686.92
	Shoalhaven	1086	10.28	1351	12.79	57945	548.47
	Wollongong	3452	15.83	3097	14.20	162182	743.57
	<i>LHD Total²</i>	5840	13.92	5704	13.59	287287	684.65
Mid North Coast	Bellingen	114	8.77	115	8.85	6410	493.23
	Coffs Harbour	579	7.49	594	7.69	33202	429.65
	Kempsey	246	8.27	239	8.03	14451	485.83
	Nambucca	128	6.46	159	8.03	7830	395.35
	Port Macquarie-Hastings	749	8.86	790	9.35	42705	505.24
	<i>LHD Total²</i>	1816	8.05	1897	8.41	104598	463.51
Murrumbidgee	Albury	491	9.03	713	13.12	30018	552.28
	Berrigan	26	2.97	55	6.29	2707	309.37

		Week ending				Total since January 2021	
		19-Jun		12-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	37	6.20	60	10.05	2238	374.75
	Carrathool	7	2.50	23	8.22	510	182.21
	Coolamon	46	10.60	35	8.06	2007	462.34
	Cootamundra-Gundagai Regional	93	8.28	110	9.79	4795	426.79
	Edward River	24	2.64	76	8.37	3737	411.38
	Federation	72	5.79	112	9.01	4838	389.00
	Greater Hume Shire	100	9.29	154	14.31	5124	476.03
	Griffith	284	10.51	350	12.95	14319	529.76
	Hay	6	2.03	18	6.10	772	261.78
	Hilltops	155	8.29	205	10.96	8397	448.94
	Junee	34	5.09	90	13.47	2273	340.12
	Lachlan ¹	18	2.96	26	4.28	1373	226.01
	Leeton	76	6.64	115	10.05	4172	364.53
	Lockhart	12	3.65	36	10.96	1237	376.56
	Murray River	14	1.16	10	0.83	1328	109.59
	<i>LHD Total²</i>	22	5.62	28	7.15	1226	312.99
	Narrandera	32	5.42	145	24.58	1685	285.64
	Snowy Valleys	90	6.22	109	7.53	6330	437.18
	Temora	22	3.49	39	6.18	1887	299.19
	Wagga Wagga	842	12.90	976	14.96	42381	649.44
	<i>LHD Total²</i>	2490	8.35	3467	11.63	142444	477.83
Nepean Blue Mountains	Blue Mountains	1144	14.46	1061	13.41	69664	880.51
	Hawkesbury	996	14.80	957	14.22	48394	719.12
	Lithgow	116	5.37	153	7.08	9592	443.97
	Penrith	2599	12.20	2417	11.35	166000	779.43
	<i>LHD Total²</i>	4801	12.28	4564	11.67	291388	745.26
Northern NSW	Ballina	543	12.17	534	11.97	34268	767.86
	Byron	359	10.23	392	11.17	26914	767.20
	Clarence Valley	292	5.65	317	6.14	18624	360.50
	Kyogle	59	6.71	42	4.77	3036	345.16
	Lismore	417	9.54	451	10.32	26472	605.88
	Richmond Valley	174	7.42	241	10.27	11746	500.58
	Tenterfield	22	3.34	39	5.91	1813	274.95
	Tweed	648	6.68	757	7.80	43368	447.09
	<i>LHD Total²</i>	2498	8.05	2741	8.83	164838	531.12
Northern Sydney	Hornsby	2767	18.20	2370	15.59	117415	772.17
	Hunters Hill	610	40.72	499	33.31	26448	1765.55
	Ku-ring-gai	3650	28.71	3206	25.21	155482	1222.79
	Lane Cove	1738	43.28	1442	35.91	74742	1861.34
	Mosman	728	23.50	650	20.98	31720	1023.85
	North Sydney	1482	19.75	1126	15.01	58533	780.22
	Northern Beaches	6603	24.14	5563	20.34	381239	1393.93
	Parramatta ¹	4047	15.74	3583	13.93	172336	670.05
	Ryde	3215	24.49	2566	19.55	112447	856.60

		Week ending				Total since January 2021	
		19-Jun		12-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	1468	18.08	1226	15.10	60825	749.18
	<i>LHD Total²</i>	23202	24.27	19431	20.33	1054455	1103.08
South Eastern Sydney	Bayside	3089	17.32	2061	11.55	113711	637.41
	Georges River	1904	11.94	1721	10.79	95518	598.97
	Randwick	5956	38.27	2846	18.28	156845	1007.68
	Sutherland Shire	3886	16.85	3565	15.46	196877	853.72
	Sydney ¹	8770	35.60	4782	19.41	257990	1047.28
	Waverley	6625	89.17	1544	20.78	93645	1260.45
	Woollahra	4083	68.75	1392	23.44	80832	1361.11
	<i>LHD Total²</i>	28424	29.64	15031	15.67	831694	867.16
	South Western Sydney	Camden	1638	16.15	1392	13.72	99623
Campbelltown		2008	11.75	1868	10.93	133974	783.73
Canterbury-Bankstown ¹		4022	10.64	3315	8.77	236212	625.04
Fairfield		1271	6.00	1099	5.19	101664	480.24
Liverpool		2216	9.74	2027	8.91	160067	703.33
Wingecarribee		709	13.87	652	12.75	42676	834.59
Wollondilly		442	8.32	504	9.48	28699	539.97
<i>LHD Total²</i>		10154	9.78	9049	8.71	681250	655.97
Southern NSW	Bega Valley	238	6.90	282	8.18	15535	450.60
	Eurobodalla	326	8.47	375	9.75	22755	591.45
	Goulburn Mulwaree	246	7.90	352	11.31	16835	540.76
	Queanbeyan-Palerang Regional	468	7.66	369	6.04	22771	372.68
	Snowy Monaro Regional	172	8.27	237	11.40	9981	479.97
	Upper Lachlan Shire	64	7.94	65	8.07	3729	462.71
	Yass Valley	83	4.86	98	5.74	5540	324.22
	<i>LHD Total²</i>	1598	7.36	1778	8.19	97182	447.70
Sydney	Burwood	392	9.65	297	7.31	22261	548.14
	Canada Bay	2102	21.88	1504	15.65	87500	910.76
	Canterbury-Bankstown ¹	4022	10.64	3315	8.77	236212	625.04
	Inner West	4039	20.11	3269	16.28	200593	998.91
	Strathfield	805	17.15	660	14.06	39392	839.45
	<i>LHD Total²</i>	8770	35.60	4782	19.41	257990	1047.28
	<i>LHD Total²</i>	15342	22.02	10364	14.87	630732	905.22
Western NSW	Bathurst Regional	407	9.33	482	11.05	27283	625.50
	Blayney	60	8.13	81	10.98	4469	605.64
	Bogan	19	7.36	18	6.98	1172	454.26
	Bourke	10	3.86	9	3.47	705	272.20
	Brewarrina	9	5.59	8	4.97	412	255.74
	Cabonne	97	7.11	116	8.51	4706	345.17
	Cobar	35	7.51	35	7.51	1592	341.78
	Coonamble	18	4.55	26	6.57	1241	313.54
	Cowra	104	8.16	111	8.71	5220	409.64
	Dubbo Regional	993	18.49	2312	43.04	28714	534.52
	Forbes	155	15.65	652	65.82	3746	378.15
	Gilgandra	35	8.26	85	20.05	1374	324.13

		Week ending				Total since January 2021	
		19-Jun		12-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
	Lachlan ¹	18	2.96	26	4.28	1373	226.01
	Mid-Western Regional	258	10.22	315	12.47	12699	502.91
	Narromine	79	12.12	110	16.88	2625	402.79
	Oberon	37	6.84	33	6.10	2339	432.27
	Orange	476	11.21	486	11.45	31103	732.68
	Parkes	146	9.84	282	19.01	5974	402.64
	Walgett	29	4.87	46	7.73	2055	345.20
	Warren	45	16.69	86	31.89	1853	687.06
	Warrumbungle Shire	66	7.11	229	24.68	3959	426.71
	Weddin	13	3.60	37	10.24	1203	332.96
	<i>LHD Total²</i>	3104	10.89	5579	19.57	145423	510.23
Western Sydney	Blacktown	5142	13.73	4820	12.87	280673	749.56
	Cumberland	2964	12.27	2334	9.66	174846	723.94
	Parramatta ¹	4047	15.74	3583	13.93	172336	670.05
	The Hills Shire	4883	27.44	4073	22.89	189016	1062.07
	<i>LHD Total²</i>	16192	15.37	14107	13.39	788116	748.14
NSW Total³		137425	16.99	117457	14.52	2288527	282.89

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 13 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 2020–13 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	715,384	4	<0.01%	9	<0.01%	3,795	8,135	11,885	43,349	357	5,022
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
30 May	131,316	1	<0.01%	6	<0.01%	946	3,129	1,491	8,982	78	843
Week ending											
6 June	40,405	1	<0.01%	0	–	312	1,339	531	2,574	56	205
13 June	40,929	0	–	0	–	393	1,604	640	2,553	112	189

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

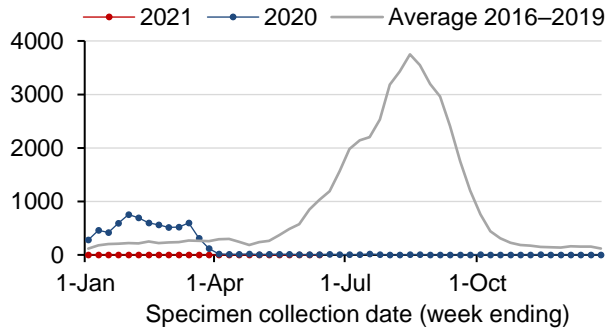
RSV - Respiratory syncytial virus

*Five-week period

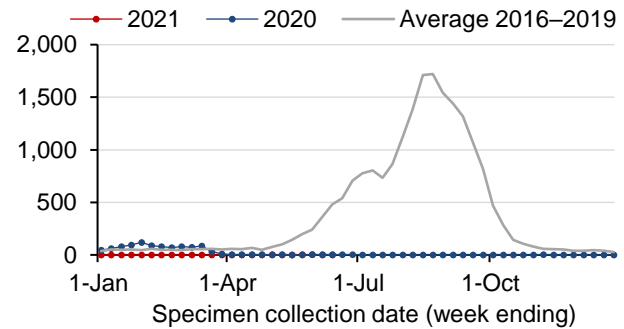
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 13 June 2021

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.

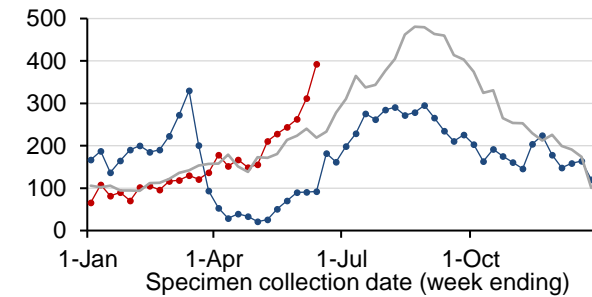
Influenza A



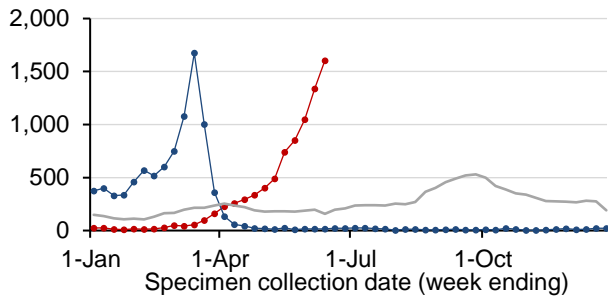
Influenza B



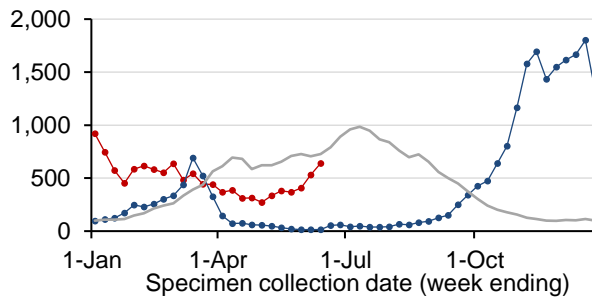
Adenovirus



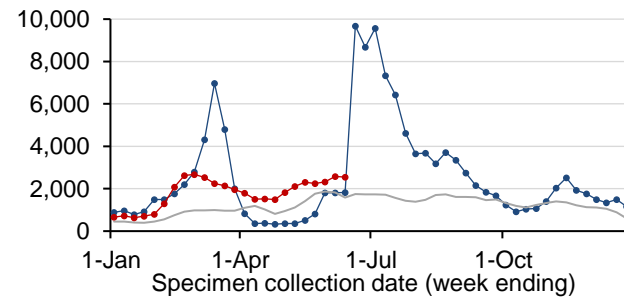
Parainfluenza



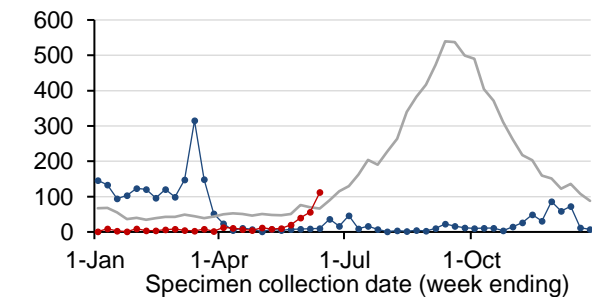
Respiratory syncytial virus (RSV)



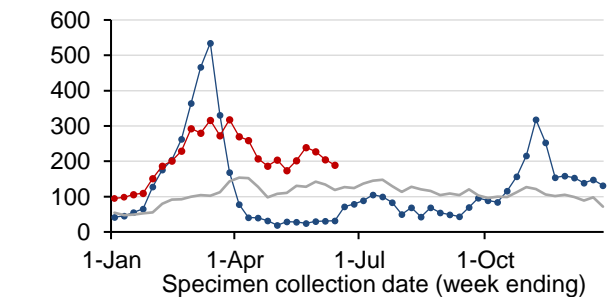
Rhinovirus



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 19 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. Coonabarabran 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		17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun
Pop.	Location	15	16	17	18	19	20	21	22	23	24
60,514	Blue Mountains (Winmalee)										
4,681	North Richmond										p
13,052	Richmond										p
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		17- Apr	24- Apr	1- May	8- May	15- May	22- May	29- May	5- Jun	12- Jun	19- Jun
Network	Location	15	16	17	18	19	20	21	22	23	24
Bondi	Paddington Sewage Network	Red	Red	Red	Red	Red	Green	Red	Red	Green	Red
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	Red	Green	Green	Green	Green	Green	Green
Malabar	Marrickville Sewage Network 2	Green	Green	Green	Red	Green	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	Red	Red	Green	Green	Green
Malabar	Olympic Park	Green	Grey	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	Red
North Head	Camellia SPS - South	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
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	Red	Red	Green	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		17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun
Pop.	Location	15	16	17	18	19	20	21	22	23	24
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 -Koorlingal STP										
	Gundagai										
	Narrandera										

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

Regional Sites (con't)		17-Apr	24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun
Pop.	Location	15	16	17	18	19	20	21	22	23	24
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										
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	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.