Premier & Cabinet

Ref: A5060143

Mr David Blunt
Clerk of the Parliaments
Legislative Council
Parliament House
Macquarie Street
SYDNEY NSW 2000

Cc: public.accountability@parliament.nsw.gov.au

Dear Mr Blunt

Inquiry into the NSW Government's management of the COVID-19 pandemic

I refer to your letter dated 23 July 2021 concerning the Public Accountability Committee's request for documents for the purposes of its inquiry into the NSW Government's management of the COVID-19 pandemic. I also refer to the letter from Mr David Shoebridge MLC dated 6 August 2021 requesting documents by Monday 9 August 2021.

Please find enclosed a letter from the Minister for Health and Medical Research, the Hon. Brad Hazzard MP, together with relevant documents.

While the High Court has held that the Legislative Council has the power to compel the Executive Government to produce State papers, it is arguable that it is not reasonably necessary for the exercise of the Legislative Council's constitutional functions for Committees of the House to also have that power. The extent of this power is therefore uncertain.

On this occasion, however, the Government has decided to provide documents to the Committee on a voluntary basis to assist with its inquiry. In doing so, the Government does not concede that a Committee has the power to compel the production of State papers.

Should you require any clarification or further assistance, please contact Ms Kate Boyd, Deputy Secretary, General Counsel

Yours sincerely

Tim Reardon
Secretary

9 August 2021

52 Martin Place, Sydney NSW 2000 ■ GPO Box 5341, SYDNEY NSW 2001
Tel: (02) 9228 5555 ■ www.dpc.nsw.gov.au

The Hon. Brad Hazzard MP
Minister for Health and Medical Research

8 August 2021

Mr Tim Reardon
Secretary
Department of Premier and Cabinet
52 Martin Place
SYDNEY NSW 2000

Dear Mr Reardon

I write in relation to your letter of 6 August 2021, which concerned the 21 July 2021 resolution of the Legislative Council's Public Accountability Committee ('the Committee'). The Committee agreed to the resolution, which seeks the production of documents, as part of its inquiry into the NSW Government's management of the COVID-19 pandemic.

I agree with your advice to the Committee that the order for papers would divert both my office and the public servants within the Ministry of Health and the Department of Premier and Cabinet from the critical work needed to respond to the pandemic. However, I have also taken up your suggestion to consider whether there are any documents that may be provided voluntarily.

As you are aware, NSW Health has been proactively sharing information with the public throughout the pandemic. I have enclosed, for the Committee's benefit, a summary of the activities undertaken by the Chief Health Officer, Dr Kerry Chant PSM, and her team in responding to the pandemic, as well as copies of the *COVID-19 Weekly Surveillance Report* from the week ending 5 June 2021 to the week ending 17 July 2021.

Finally, it is essential that any correspondence to the Clerk of the Parliaments enclosing these documents states that they are being produced voluntarily and that the provision of the documents does not indicate that the NSW Government accepts or concedes the Committee has the power to compel production.

Yours sincerely

The Hon. Brad Hazzard MP
Minister for Health and Medical Research

GPO Box 5341 Sydney NSW 2001 ▪ P: (02) 8574 6000 ▪ F: (02) 9339 5506 ▪ W: nsw.gov.au/ministerhazzard

Chief Health Officer – Pandemic and Public Health advice

The Chief Health Officer, Dr Kerry Chant, and her public health team provides advice on a range of issues, multiple times a day to a wide range of key stakeholders.

Dr Chant also regularly provides advice to the members of Crisis Cabinet to be weighed up for decision-making. An array of constantly changing public health priorities are constantly under review.

The specific discussions that take place at Crisis Cabinet are cabinet-in-confidence, but the advice presented by NSW Health is carefully considered.

NSW Health provides full and comprehensive updates to the public every day in the form of media conferences, media releases and public health alerts, as well as through its website and social media.

All the key metrics on which Dr Chant's advice is based – such as the number of people infectious in the community, number of unlinked cases, and testing levels – are publicly reported each day.

Dr Chant provides information on the latest developments, highlights areas of concern and provides key messages directly to the public through daily media conferences, as well as answering questions from journalists.

A detailed breakdown and analysis of all COVID-related data is provided in the weekly COVID-19 surveillance report, which is published on the NSW Health website (www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx).

Comprehensive COVID-19 information is also provided through the NSW Government website (www.nsw.gov.au/covid-19).

The NSW Government also uses paid advertising to ensure messages reach all audiences. Channels include print media, TV, out of home, radio and social media.

NSW Health and the NSW Multicultural Health Communication Service have worked closely with multicultural groups throughout the COVID-19 pandemic, providing important information and public health advice in almost 60 languages.

August 2021

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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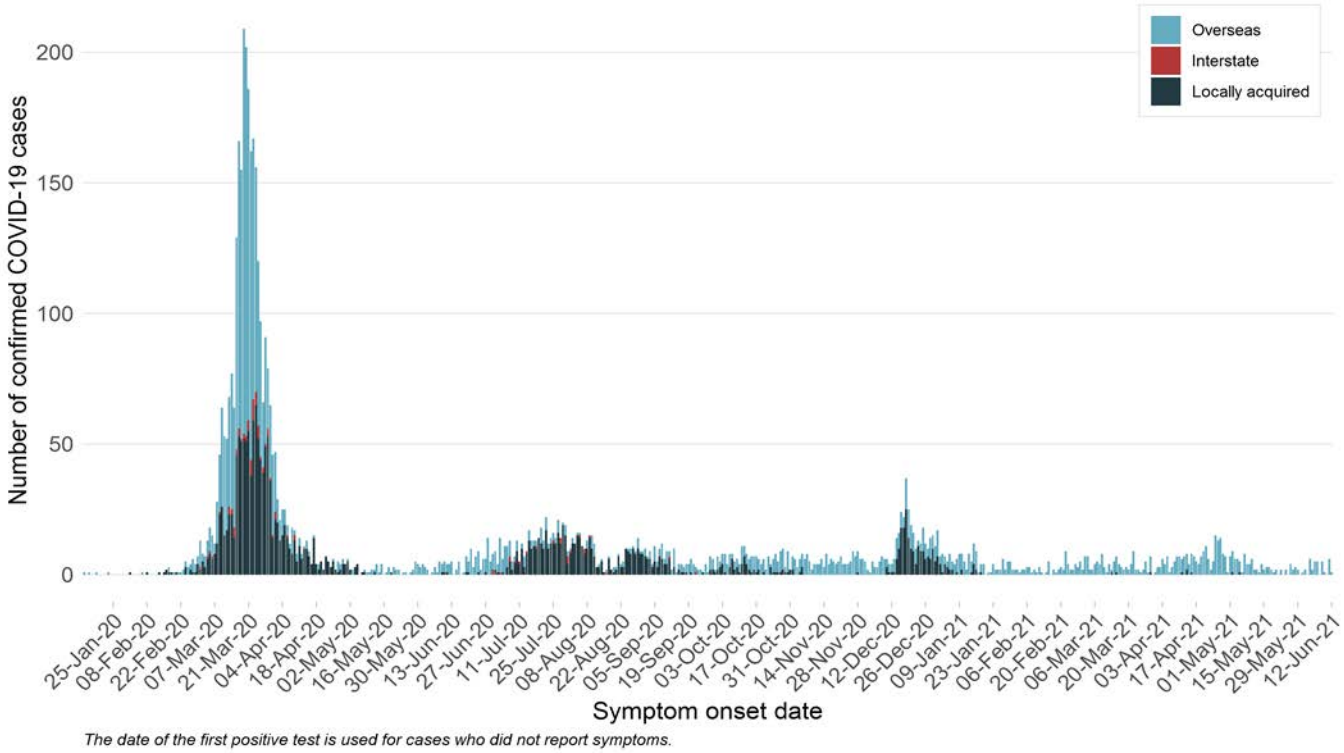
Section 1: How is the outbreak tracking in NSW?

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



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

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

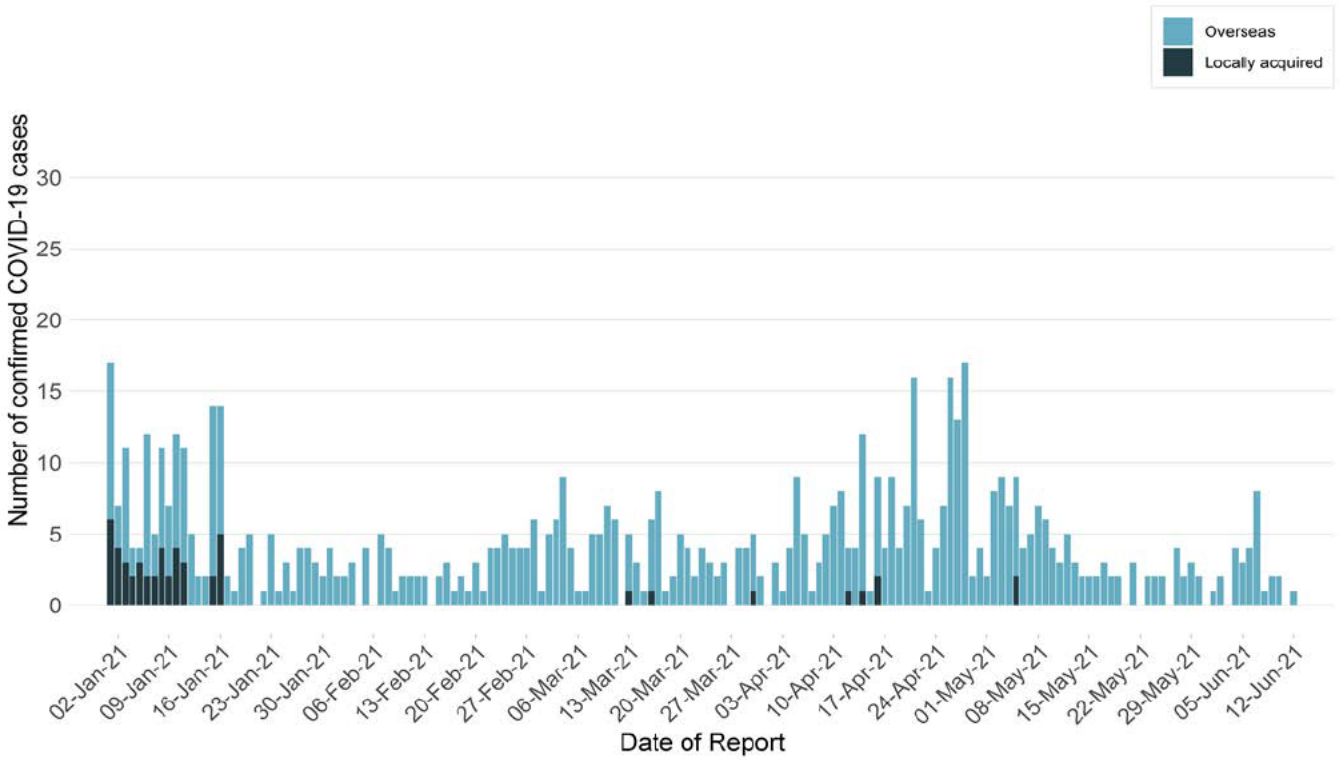


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 12 June 2021

	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 %

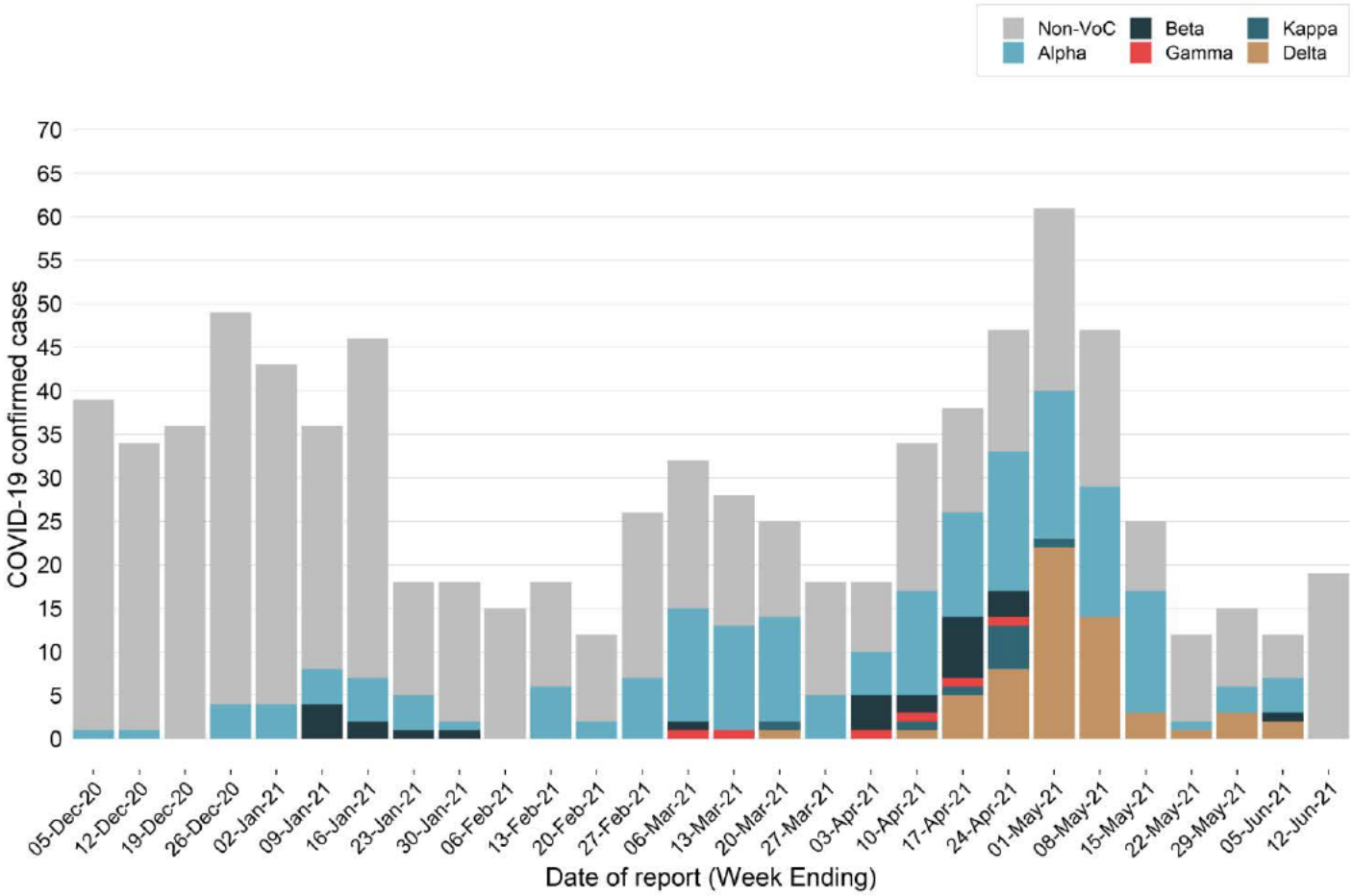
*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

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.

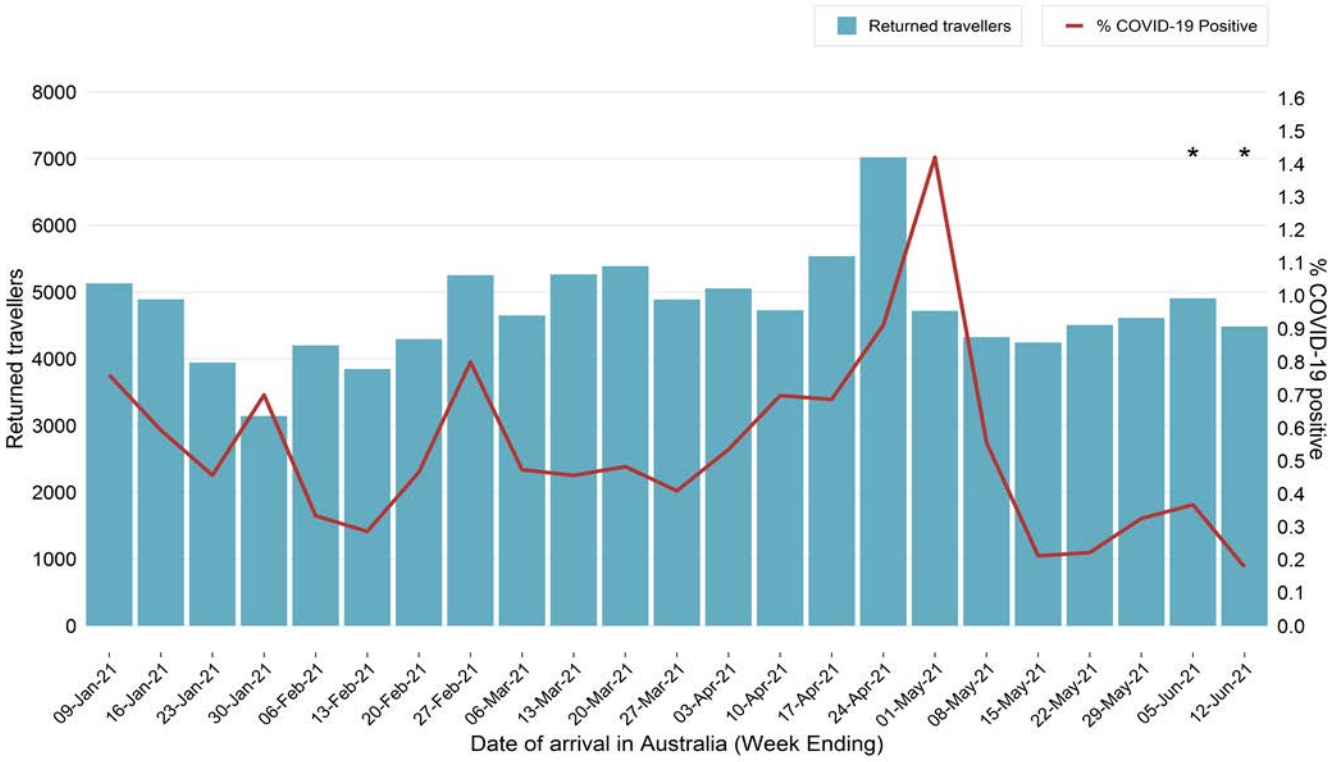
Section 5: COVID-19 in returned travellers

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



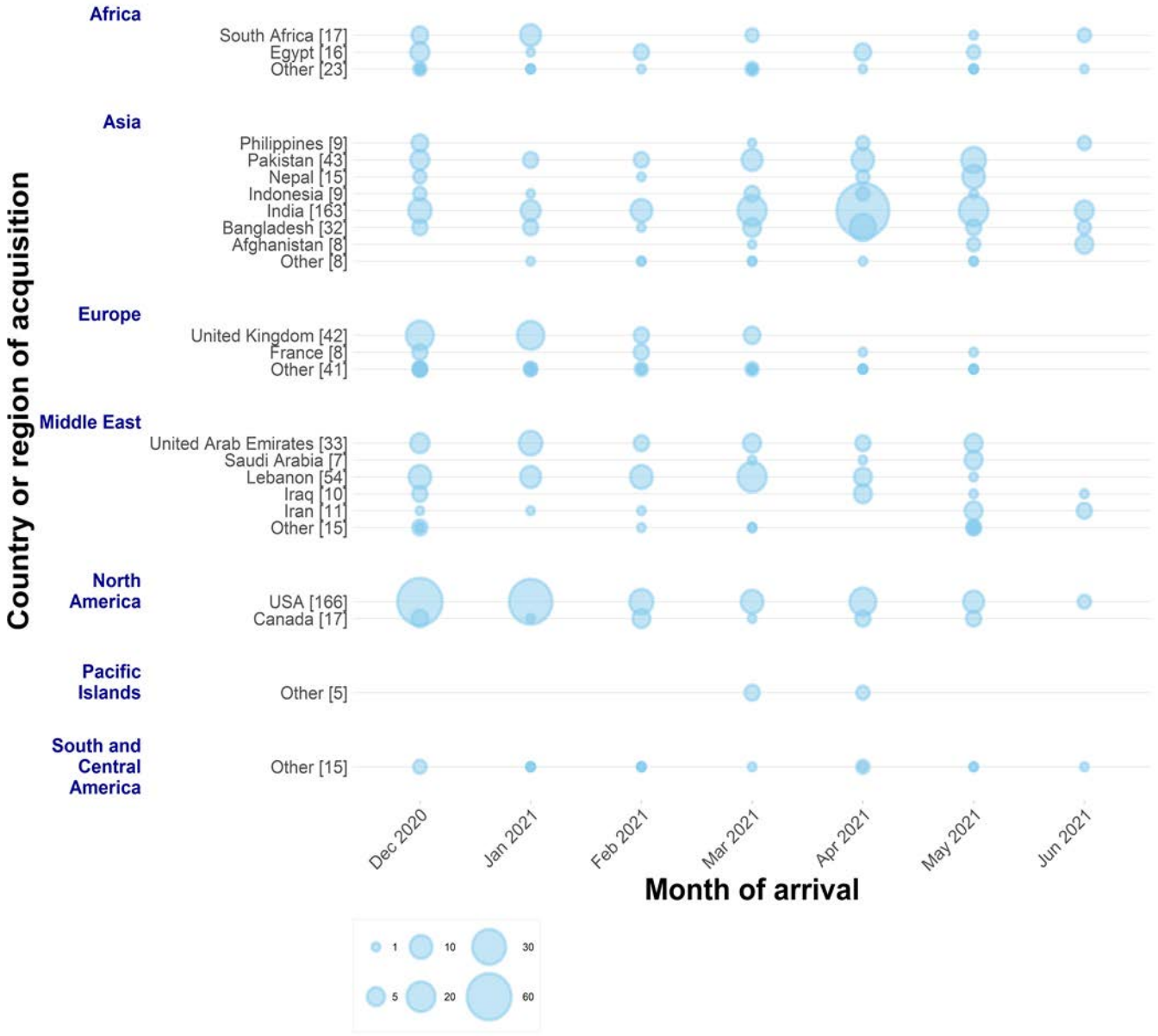
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

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

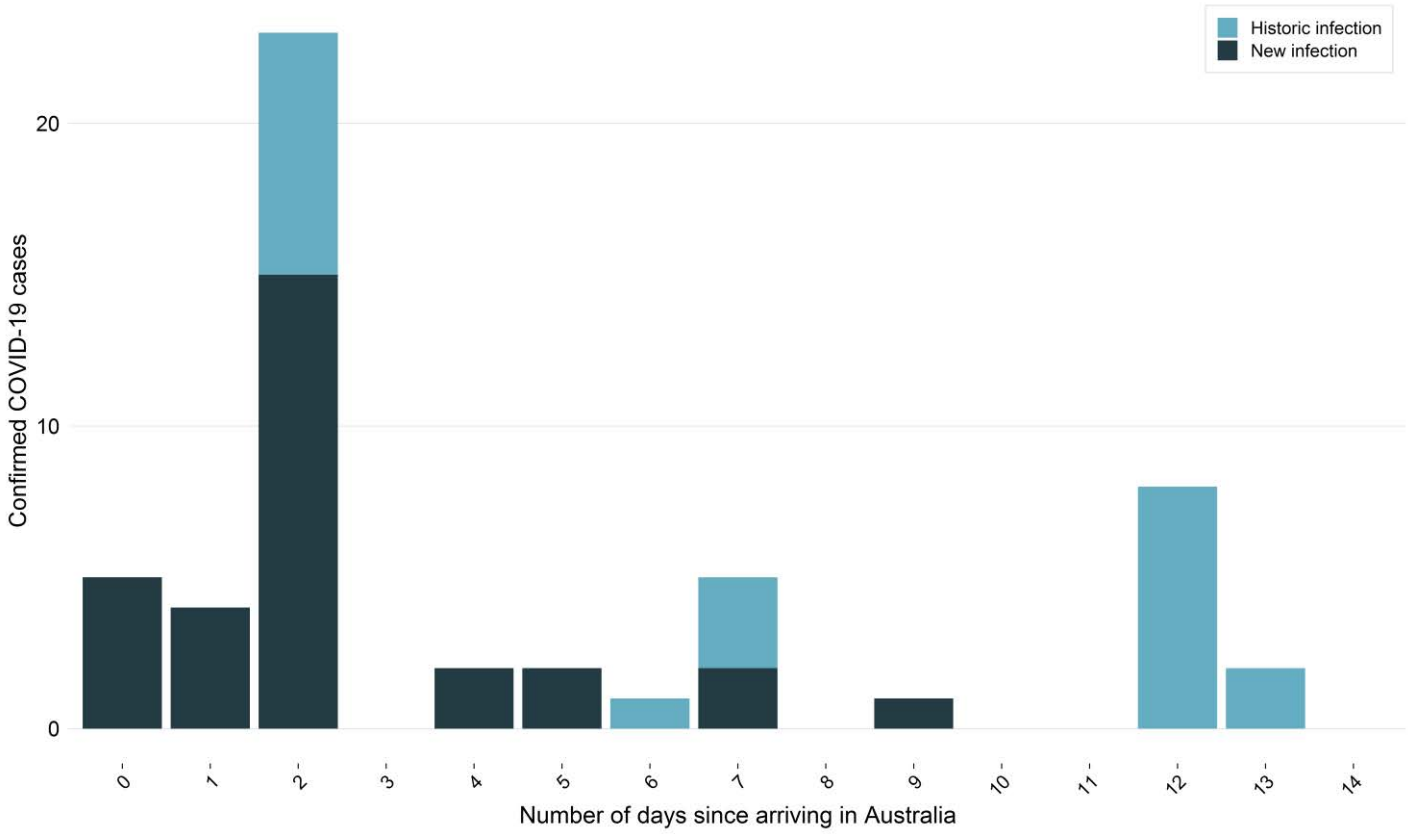
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved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

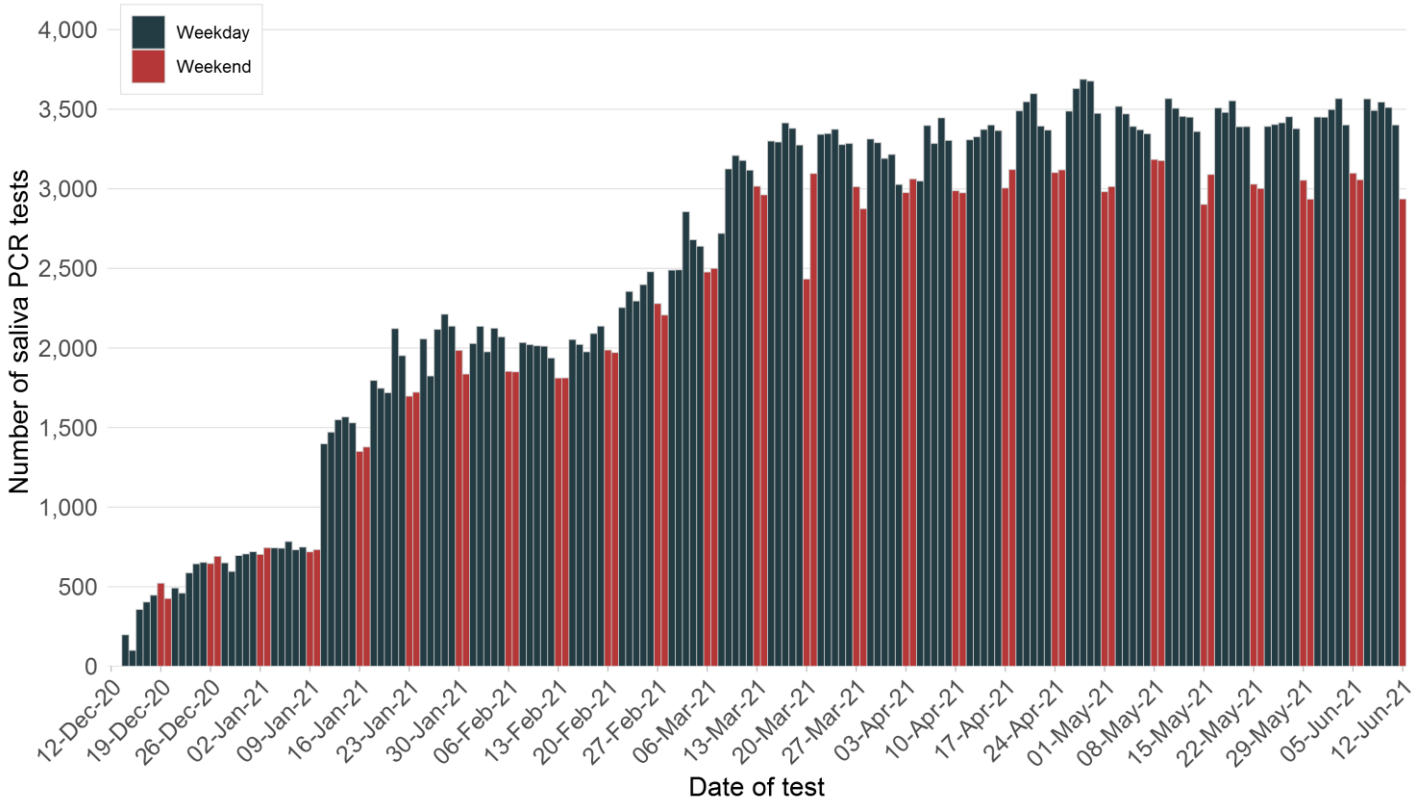
There were no locally acquired cases of COVID-19 reported in HCWs in the week ending 12 June 2021.

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.

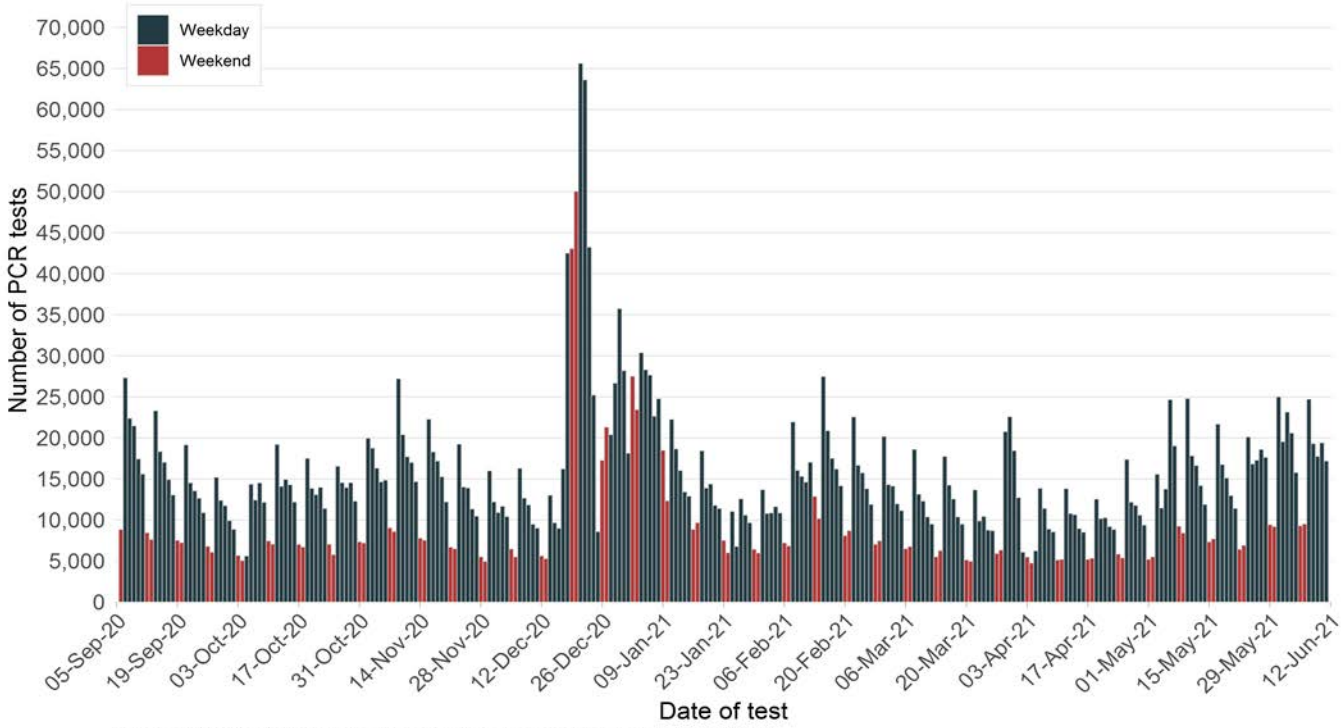
Section 9: COVID-19 testing in NSW

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



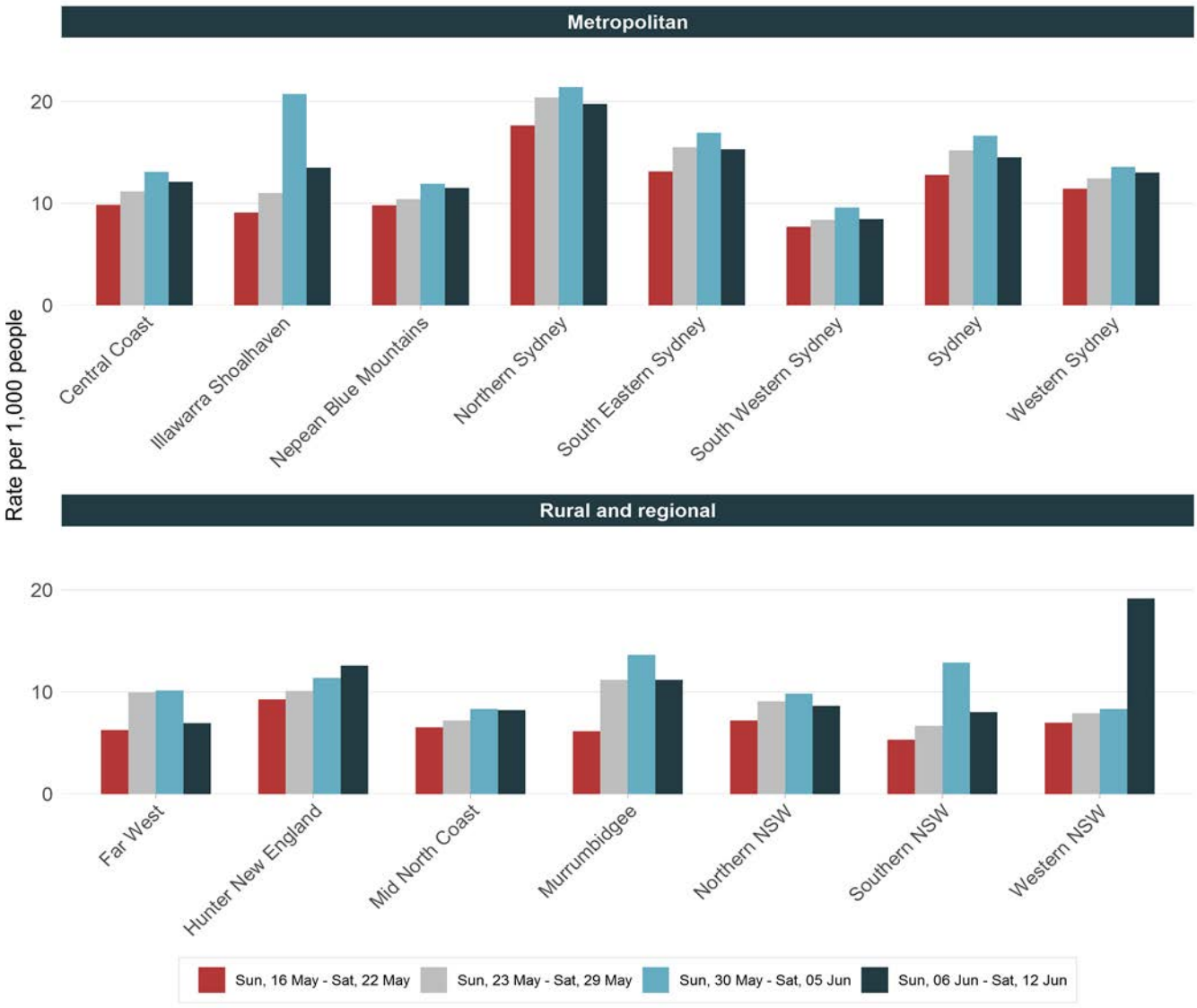
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

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

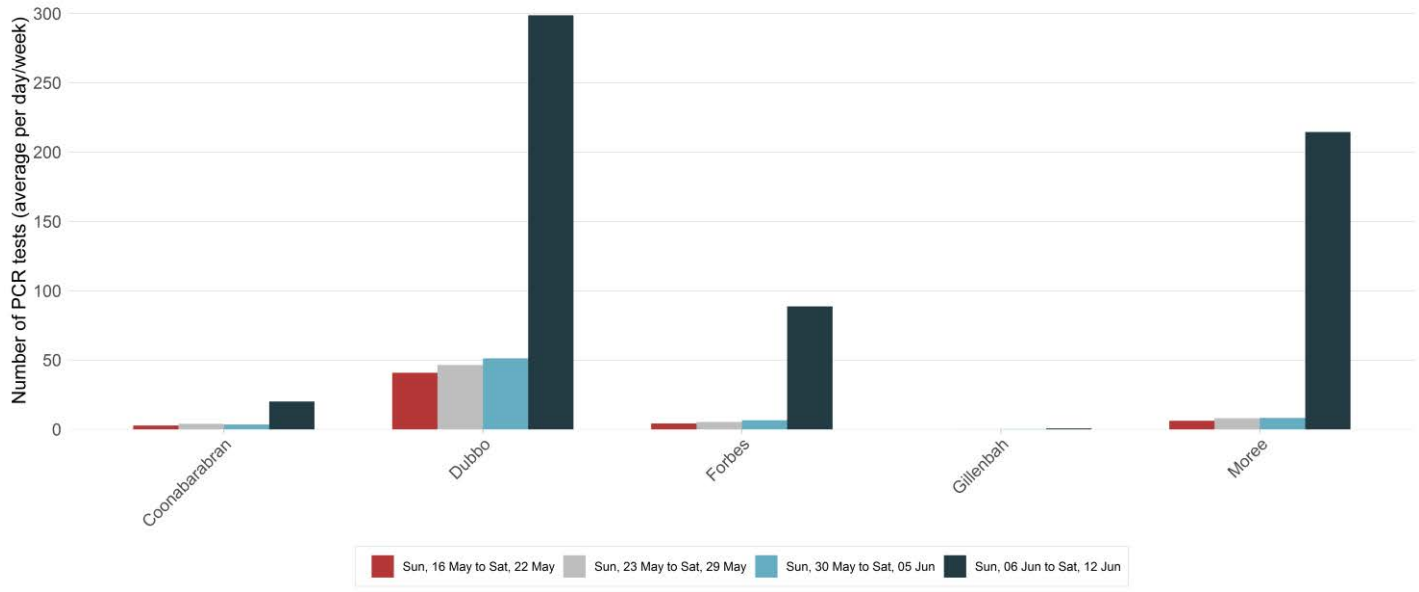
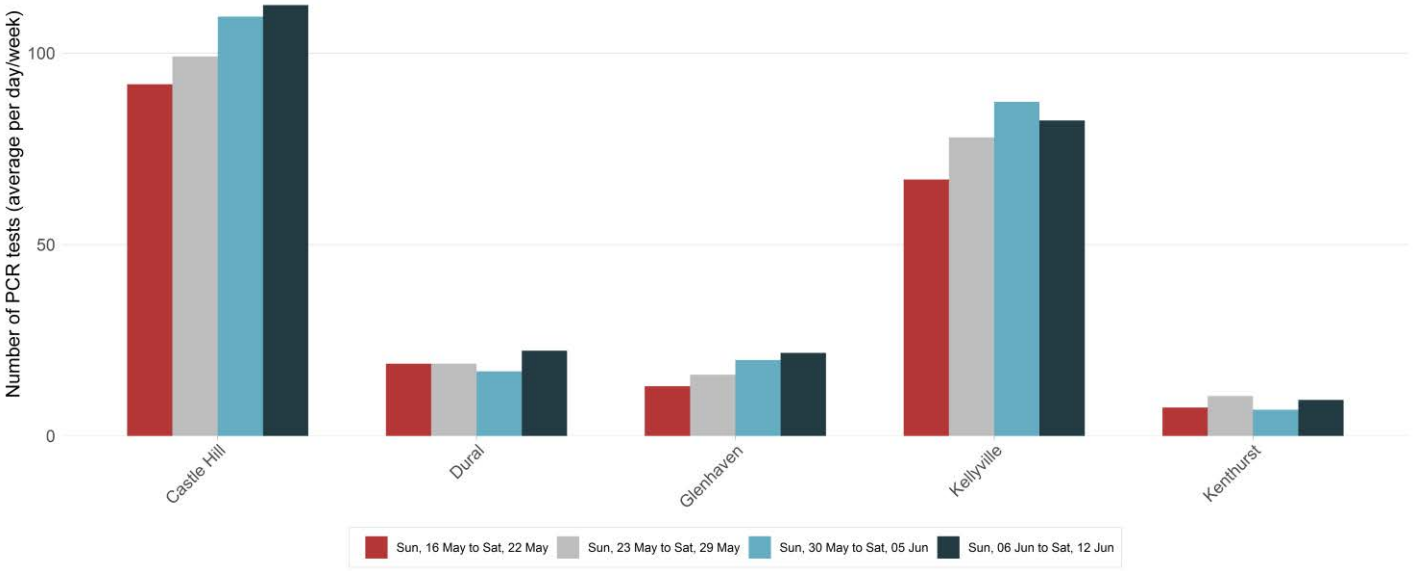


Figure 9c. Average number of PCR tests per day by week in suburbs of concern, NSW, 16 May to 12 June 2021

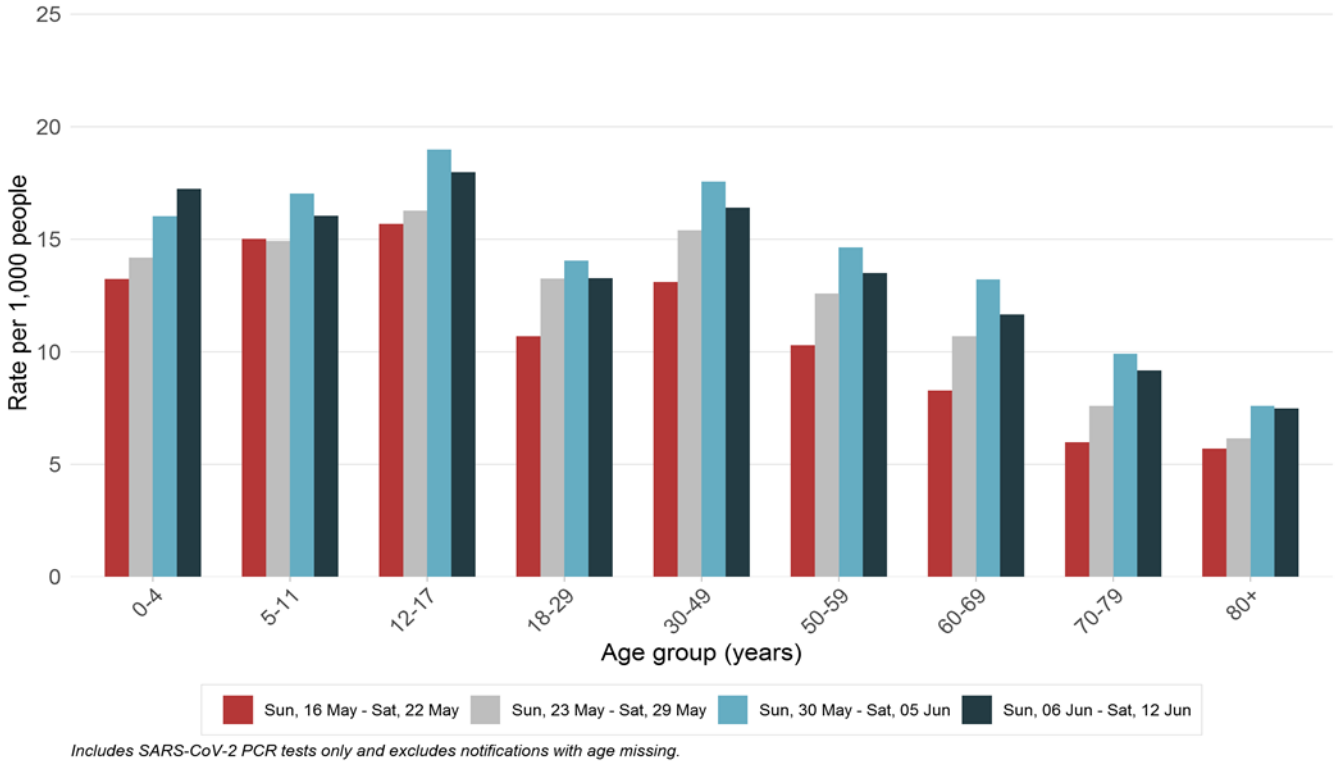


Interpretation: State-wide weekly testing rates in the week ending 12 June slightly decreased when compared to the previous week (14.4 per 1,000 people compared to 15.2 per 1,000 people). There were high testing rates in Western NSW and Hunter New England LHDs which were likely in response to identification 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

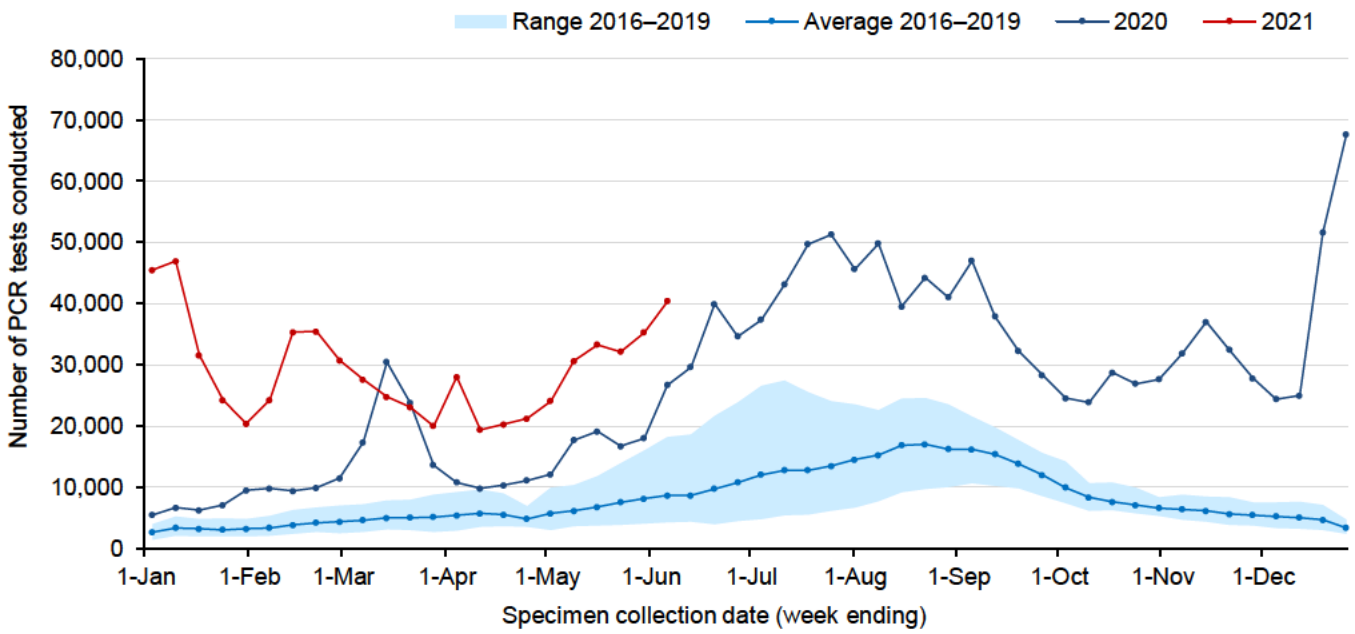
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted; 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

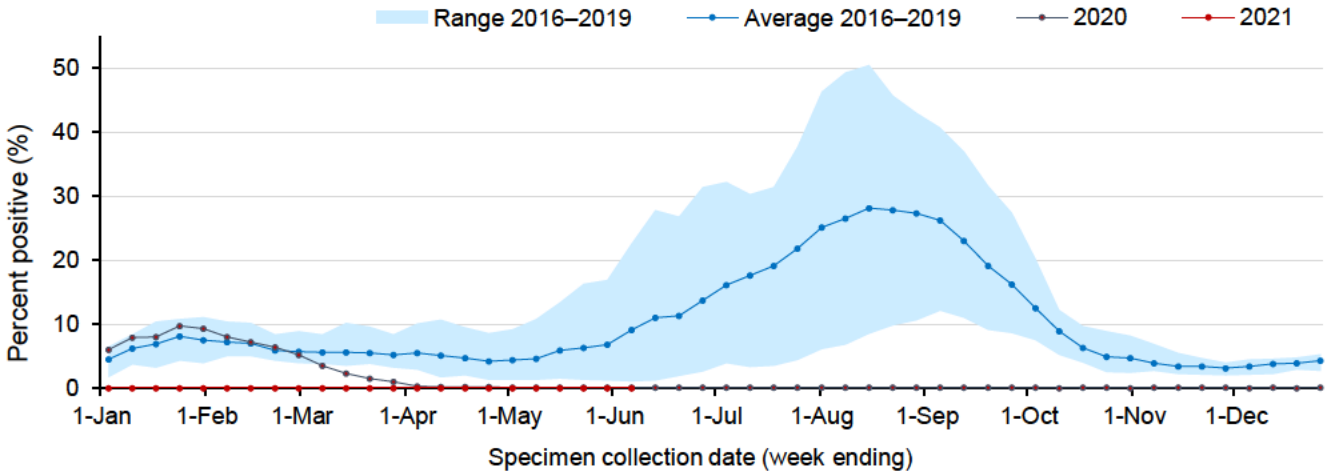


Interpretation: In the week ending 6 June, the number of influenza tests increased, with 40,405 influenza tests performed across participating laboratories compared with 35,280 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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

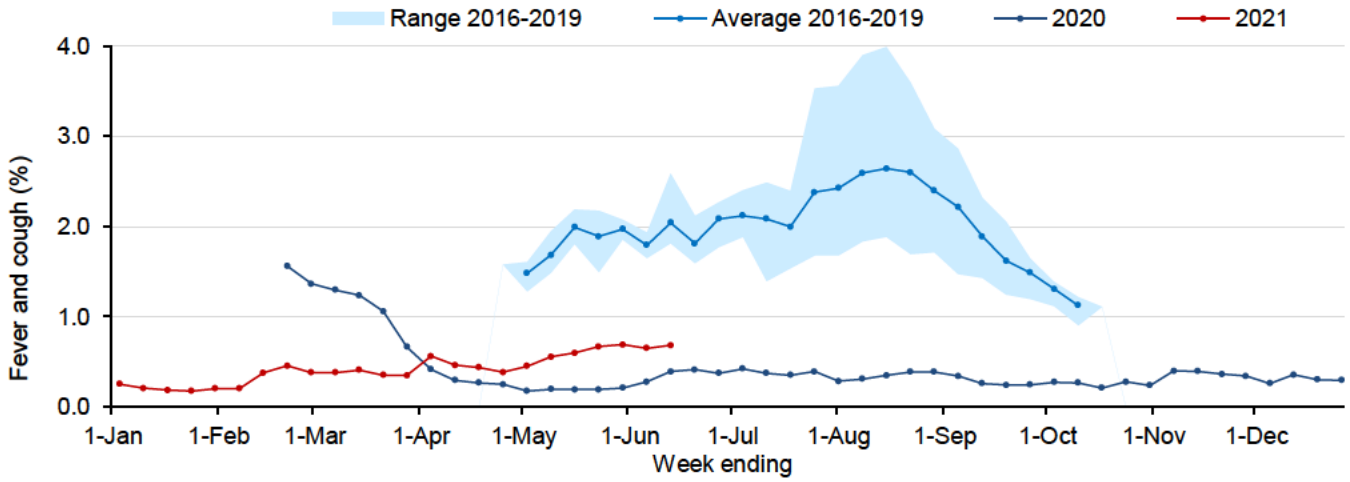


Interpretation: In the week ending 6 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have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



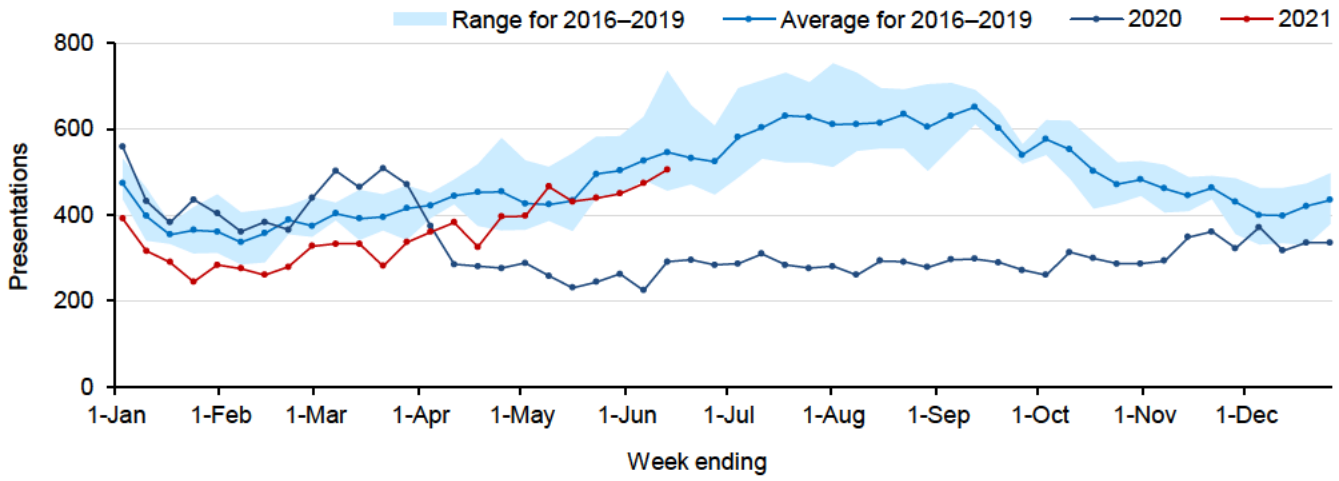
Interpretation: In NSW in the week ending 13 June 2021, of the 19,361 people surveyed, 132 people (0.68%) reported flu-like symptoms. In the last four weeks, 50% (315/633) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased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

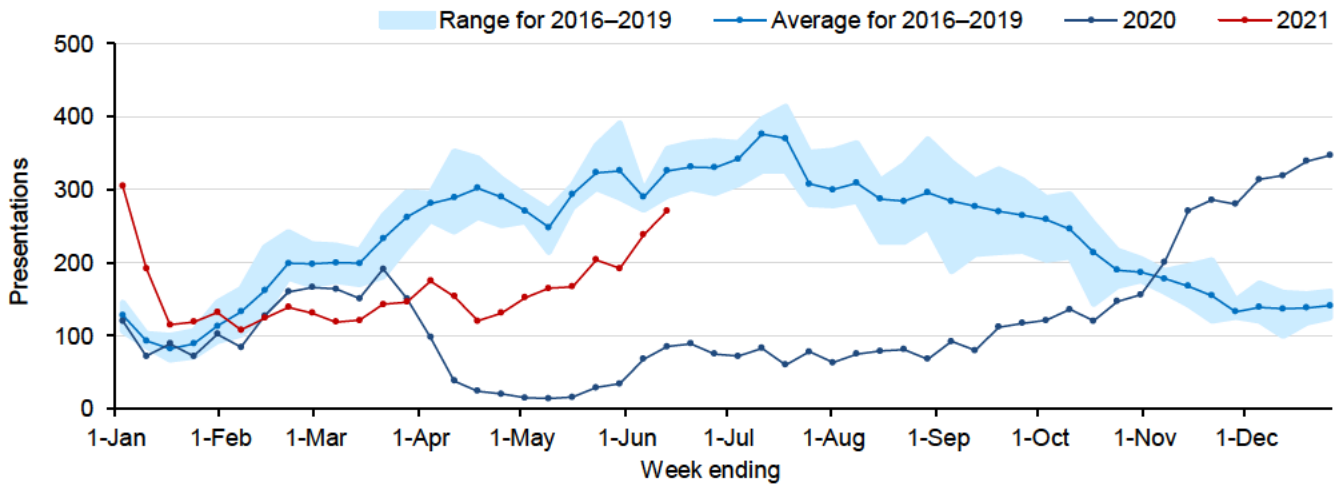
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 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 Heal h 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	
		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
Central Coast	*LHD Total*[2]	4352	12.33	4627	13.11	231350	655.64
Far West	Balranald	14	5.99	25	10.69	786	336.18
	Broken Hill	155	8.87	190	10.87	10135	579.84
	Central Darling	6	3.26	12	6.53	599	325.72
	Wentworth	53	7.51	79	11.20	3703	525.02
	LHD Total[2]	228	7.56	306	10.15	15223	505.01
Hunter New England	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
	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
	LHD Total[2]	12132	12.74	10847	11.39	569900	598.39
Illawarra Shoalhaven	Kiama	352	15.05	455	19.46	16458	703.75
	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
	LHD Total[2]	5694	13.57	8703	20.74	281408	670.64
Mid North Coast	Bellingen	115	8.85	140	10.77	6295	484.38
	Coffs Harbour	590	7.63	522	6.75	32611	422.00
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	14855	15.49	16257	16.95	802838	837.07
South Western Sydney	Camden	1385	13.65	1622	15.99	97980	965.92
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	4695	19.06	5294	21.49	248992	1010.75
	LHD Total[2]	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			
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]	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
	LHD Total[2]	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
	LHD Total[2]	13948	13.24	14312	13.59	771476	732.34
NSW Total[3]		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

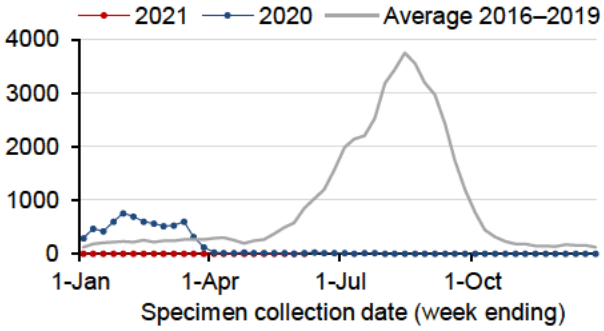
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	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

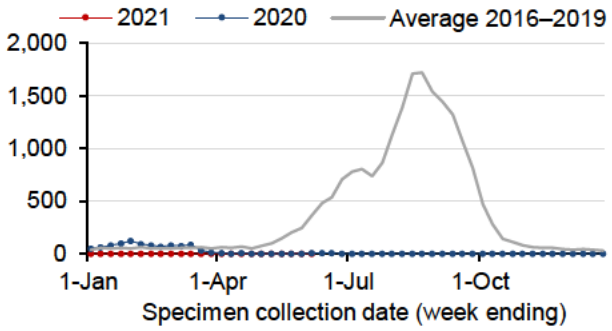
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 6 June 2021

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.

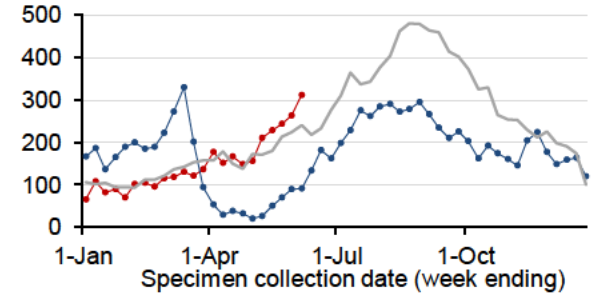
Influenza A



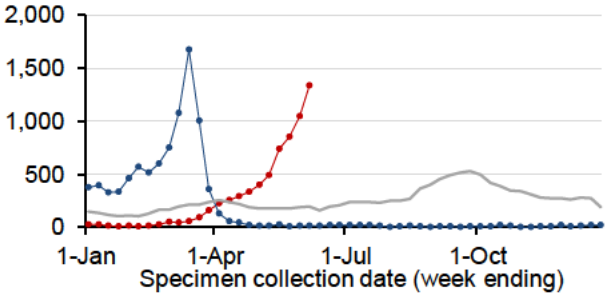
Influenza B



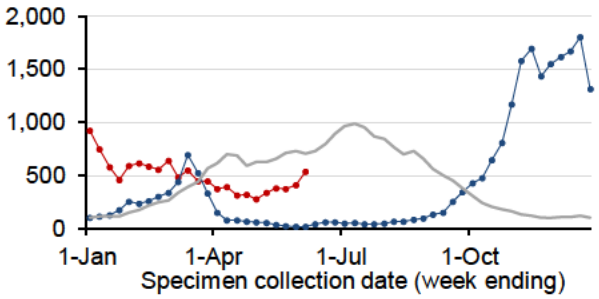
Adenovirus



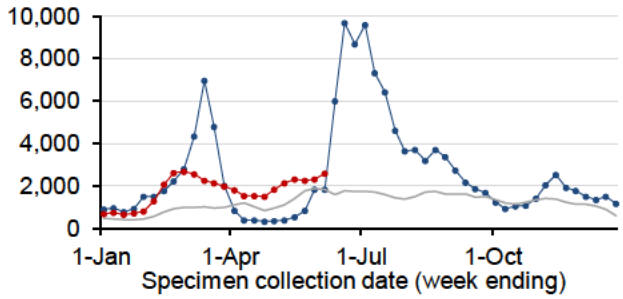
Parainfluenza



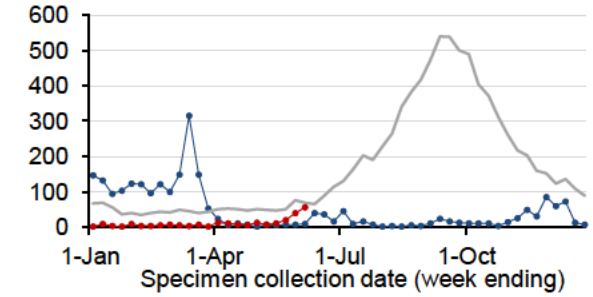
Respiratory syncytial virus (RSV)



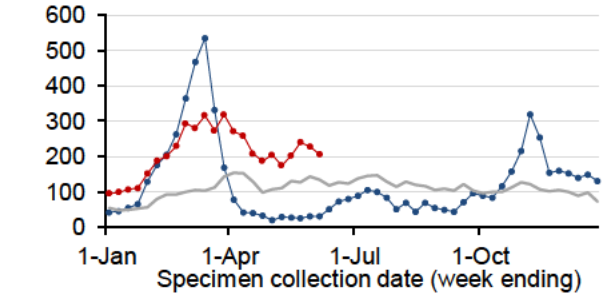
Rhinovirus



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										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		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	Gou burn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	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	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.

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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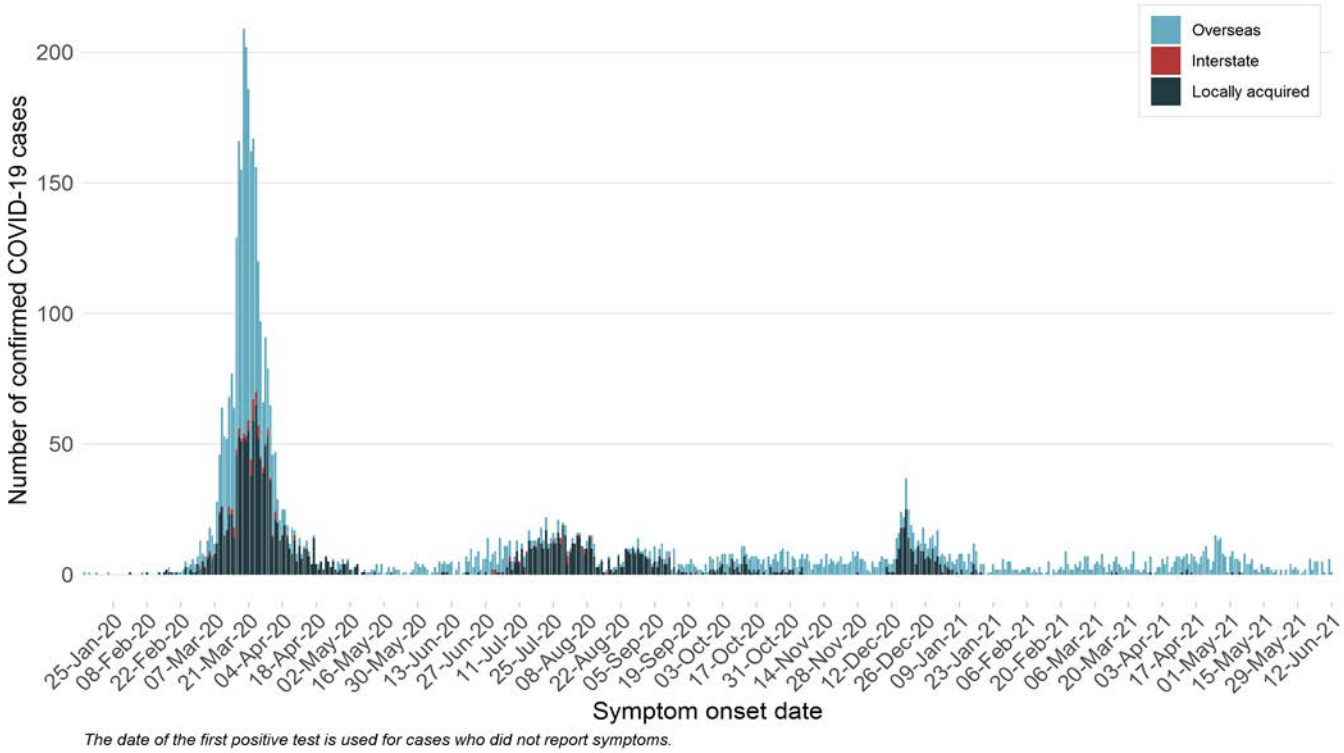
Section 1: How is the outbreak tracking in NSW?

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



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

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

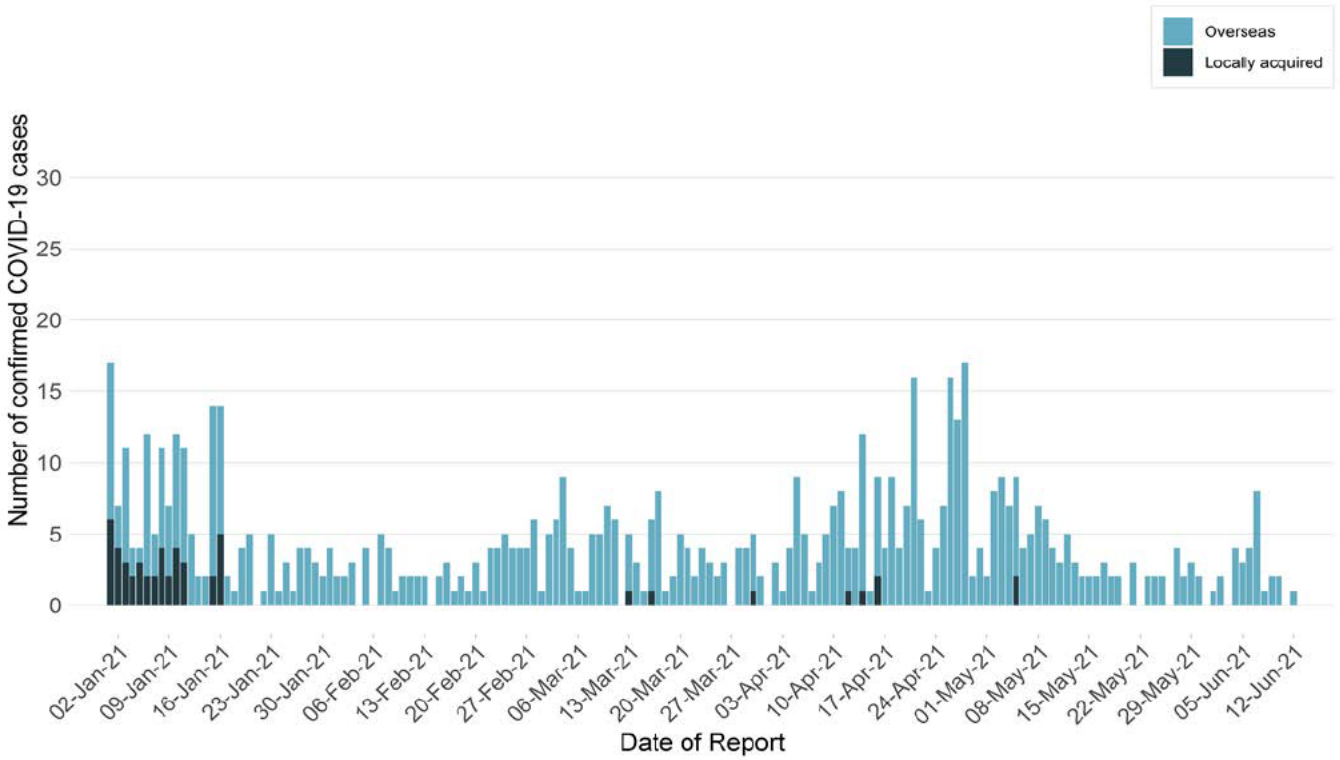


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 12 June 2021

	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 %

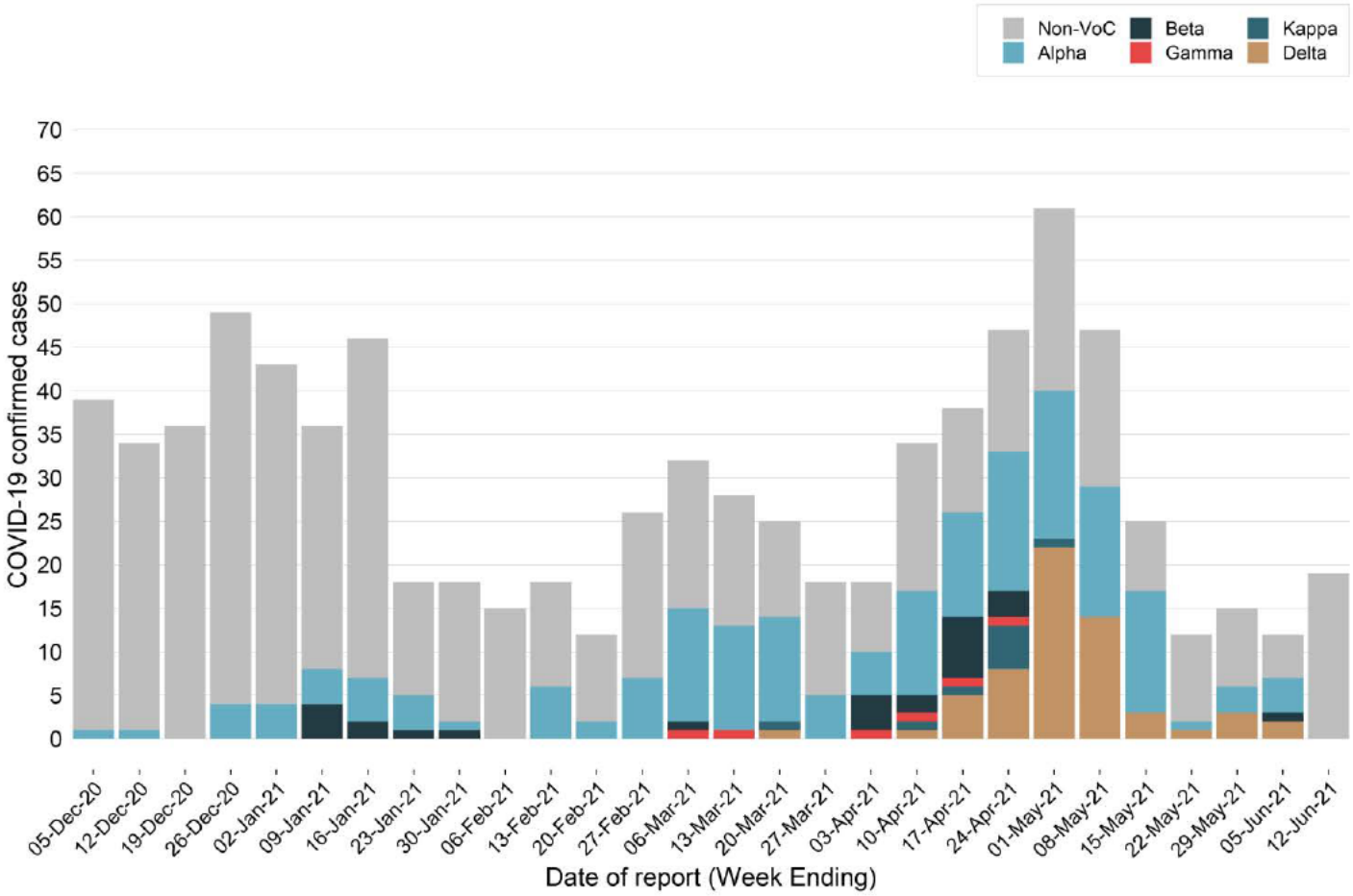
*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

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.

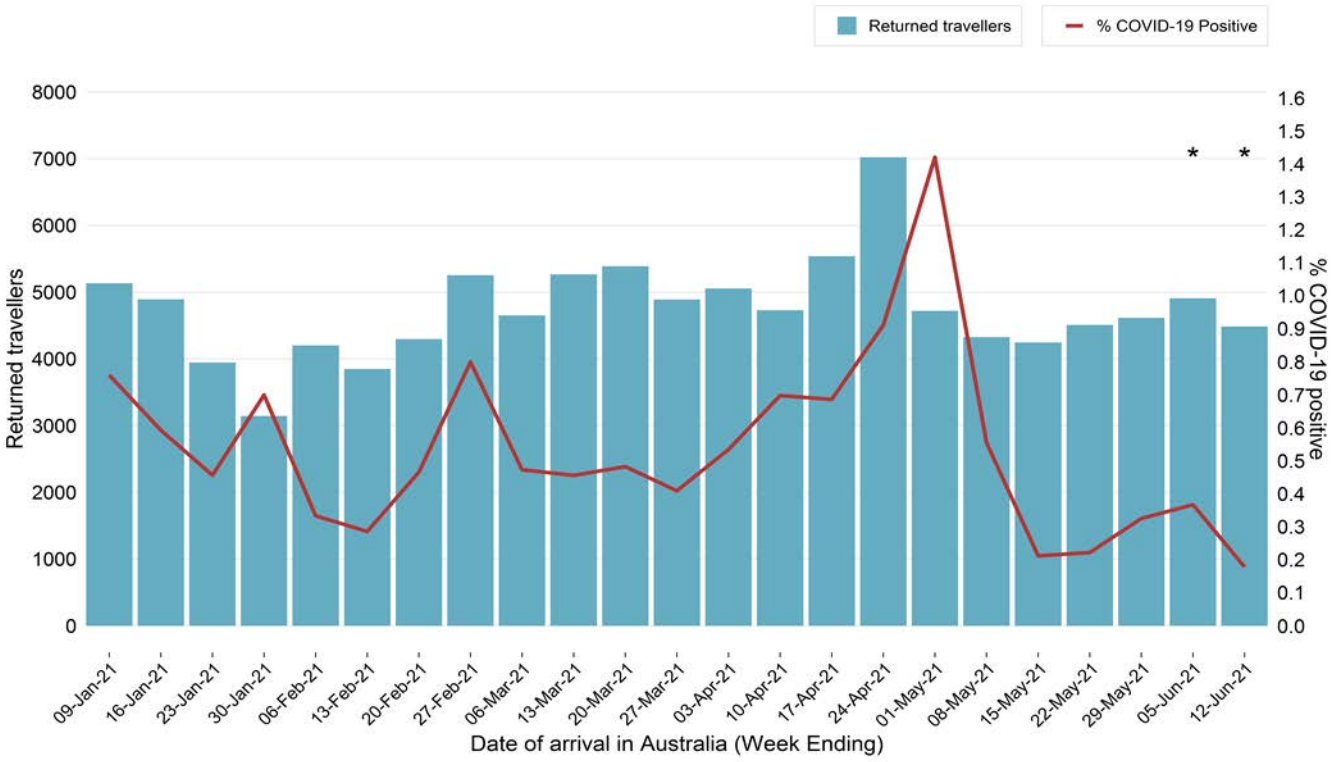
Section 5: COVID-19 in returned travellers

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



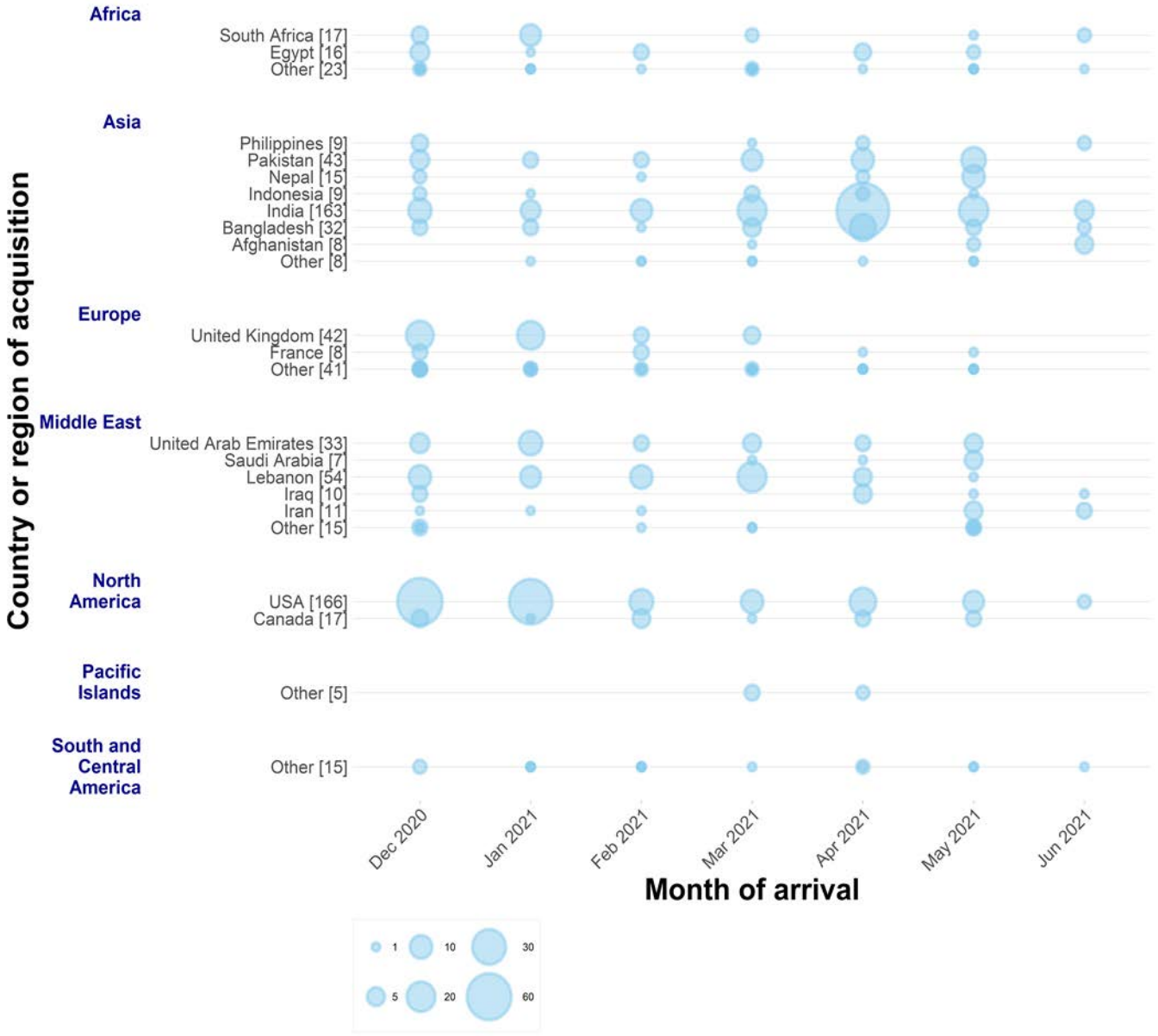
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

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

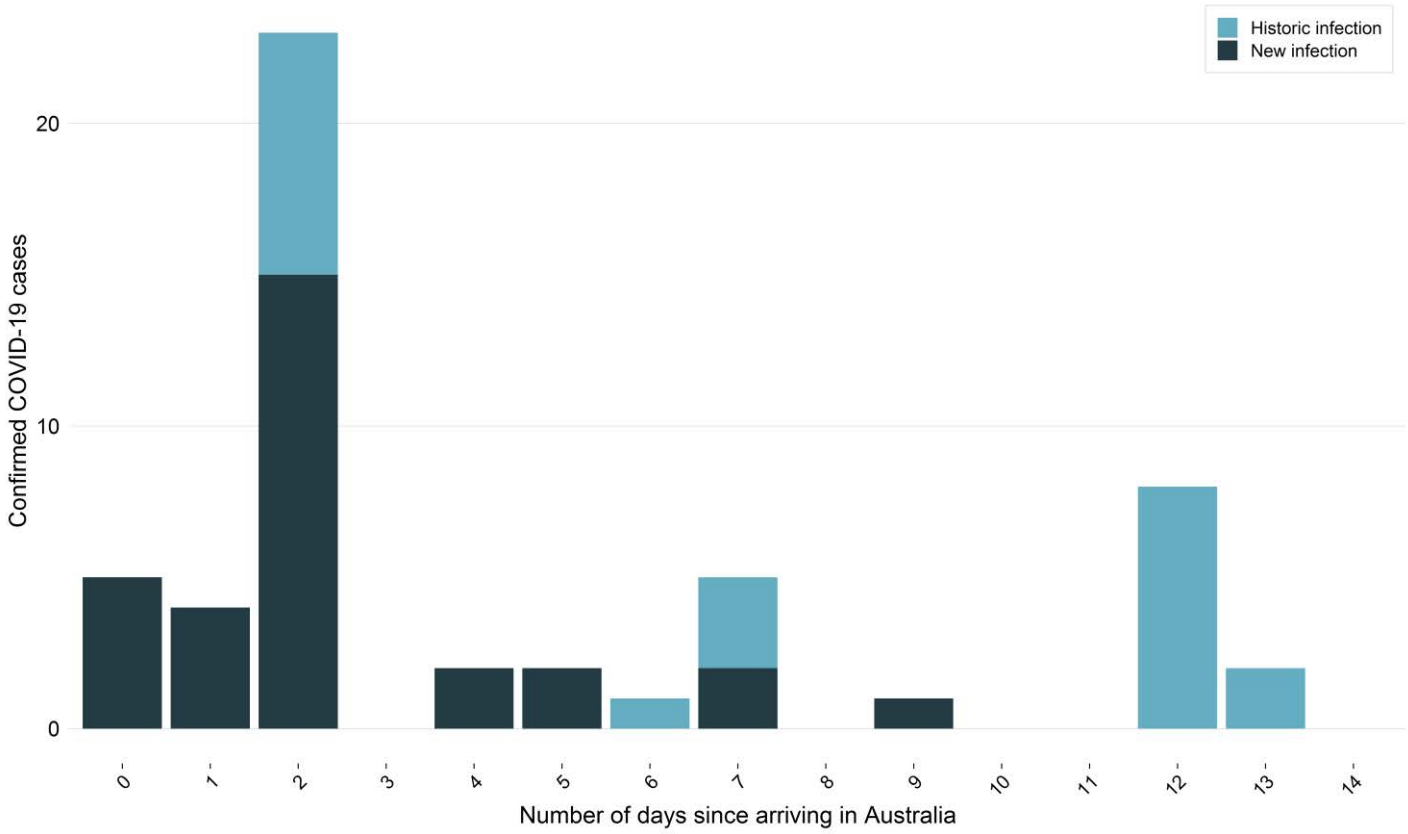
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved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

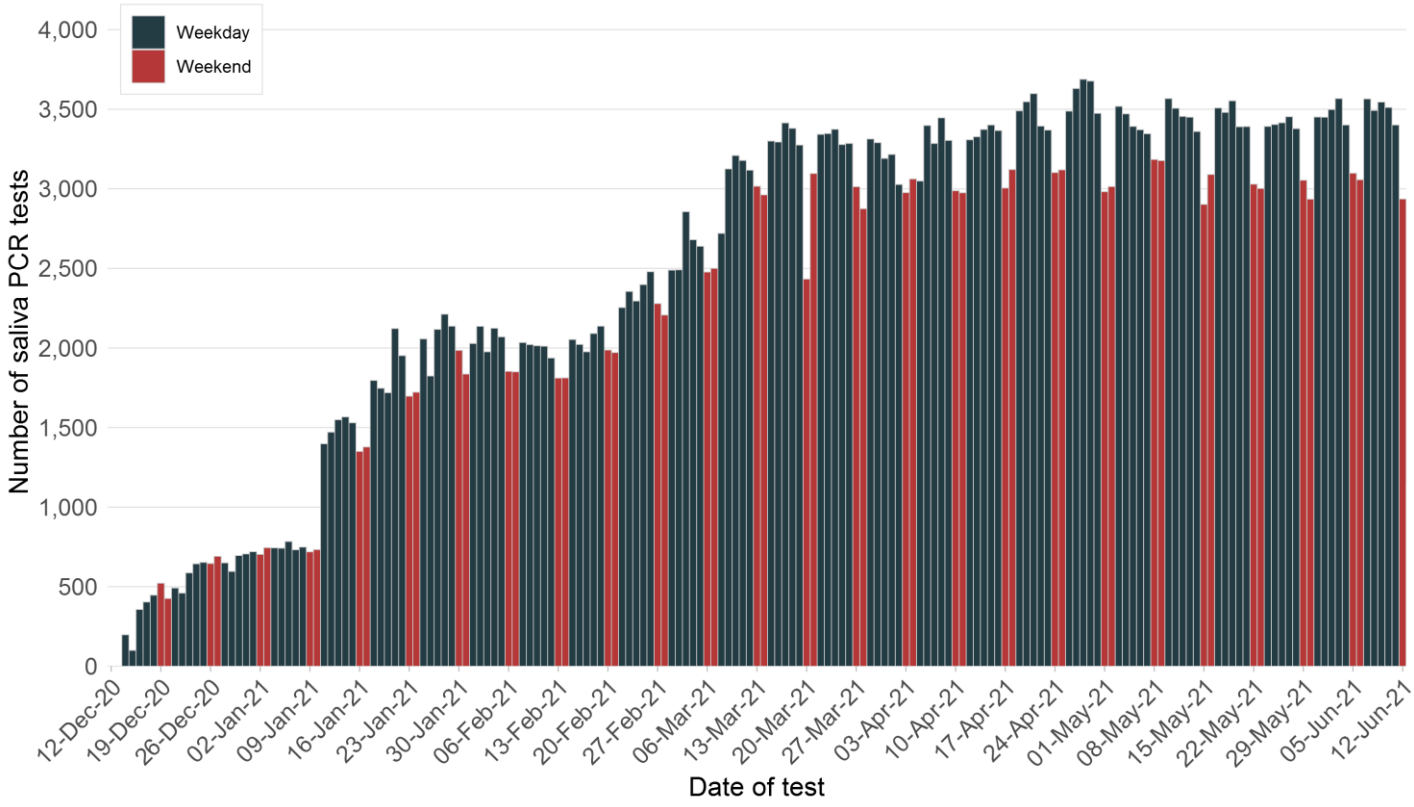
There were no locally acquired cases of COVID-19 reported in HCWs in the week ending 12 June 2021.

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.

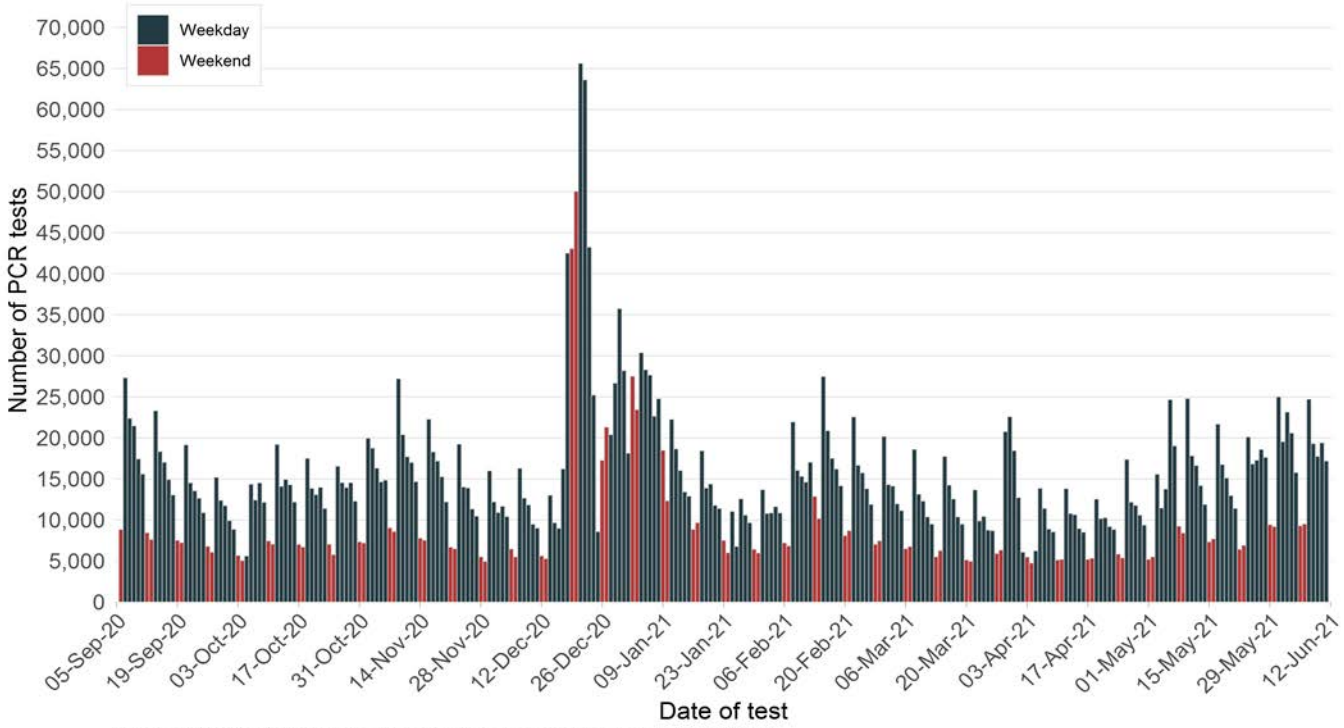
Section 9: COVID-19 testing in NSW

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



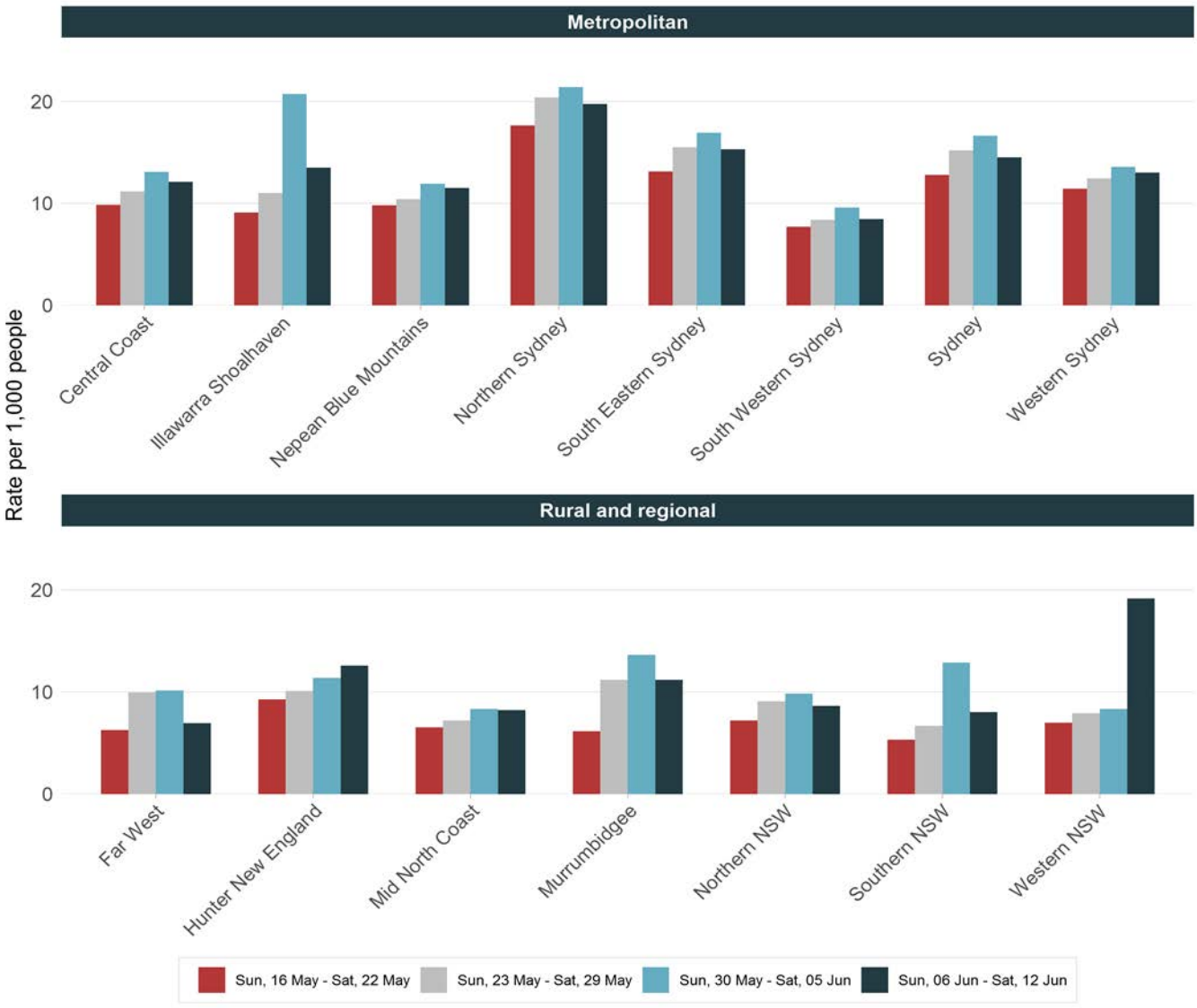
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

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

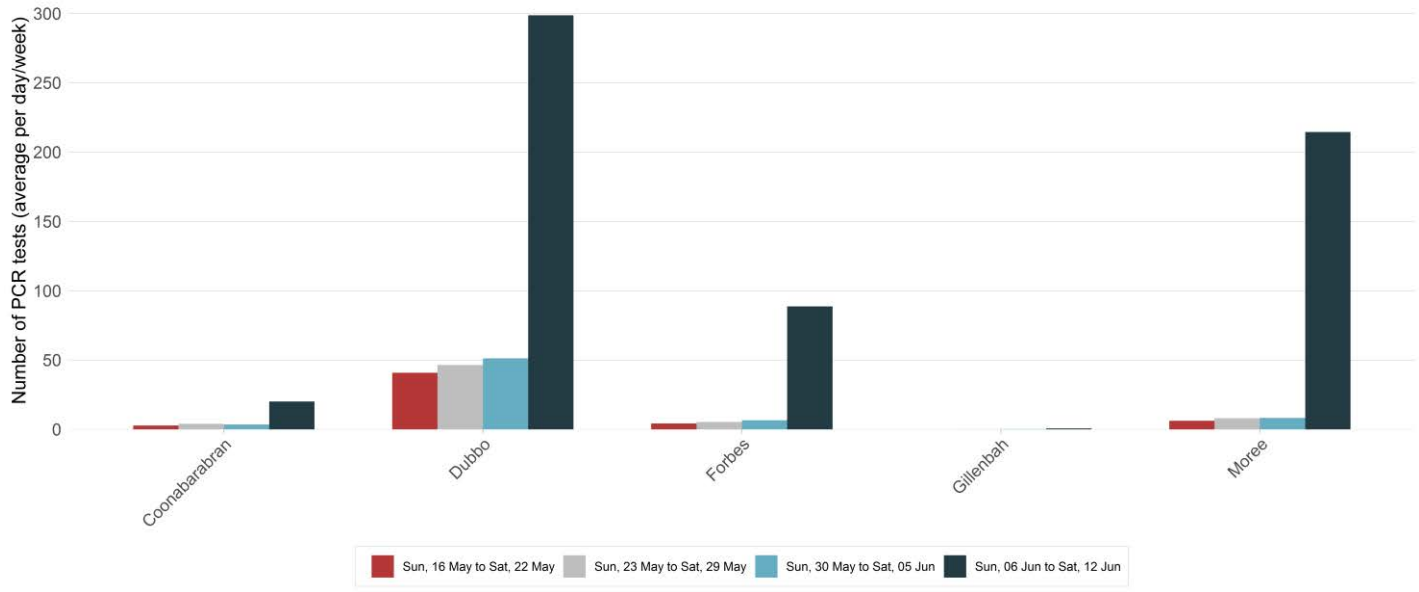
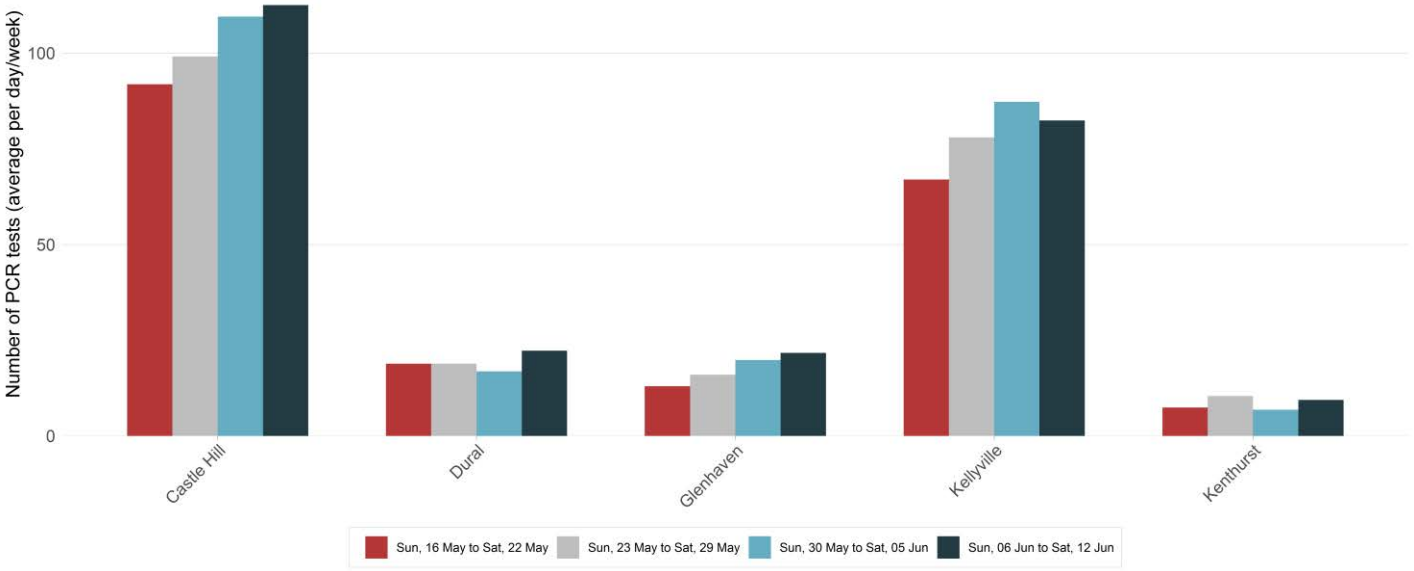


Figure 9c. Average number of PCR tests per day by week in suburbs of concern, NSW, 16 May to 12 June 2021

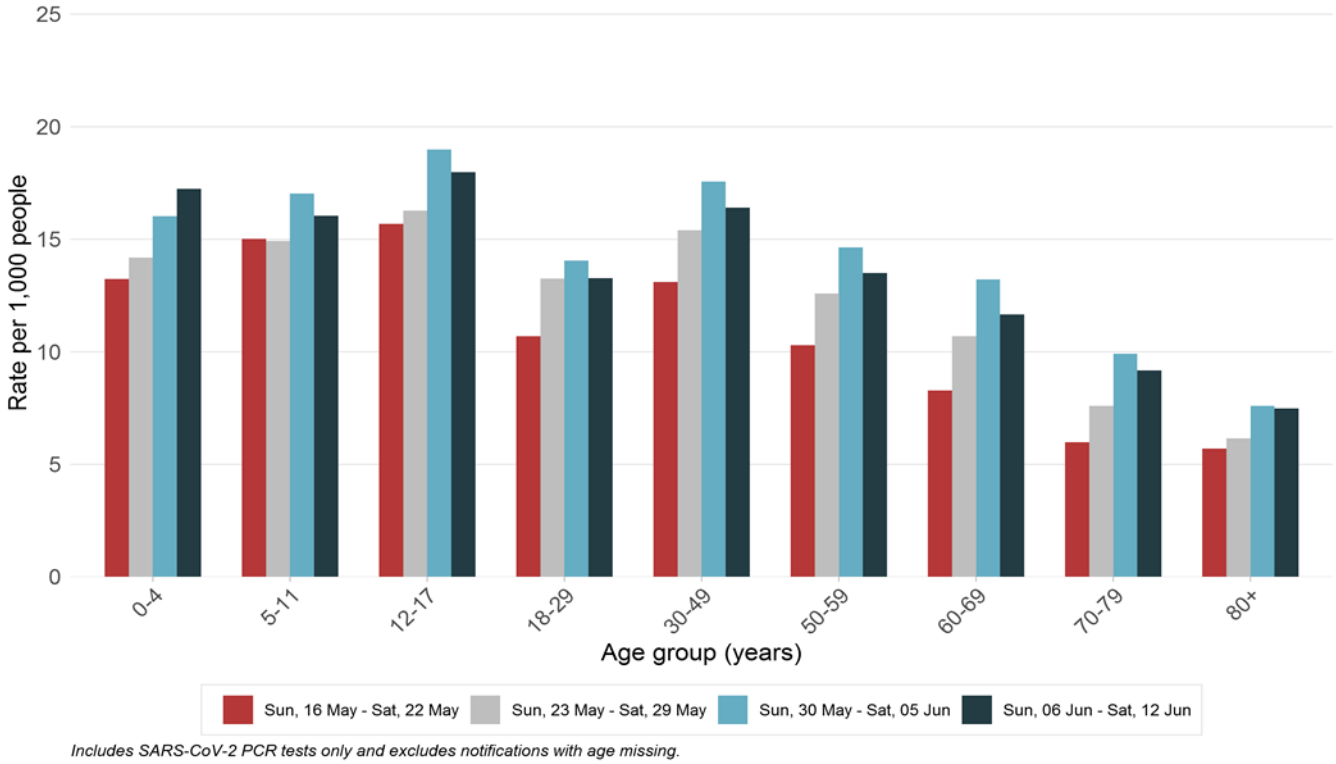


Interpretation: State-wide weekly testing rates in the week ending 12 June slightly decreased when compared to the previous week (14.4 per 1,000 people compared to 15.2 per 1,000 people). There were high testing rates in Western NSW and Hunter New England LHDs which were likely in response to identification 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

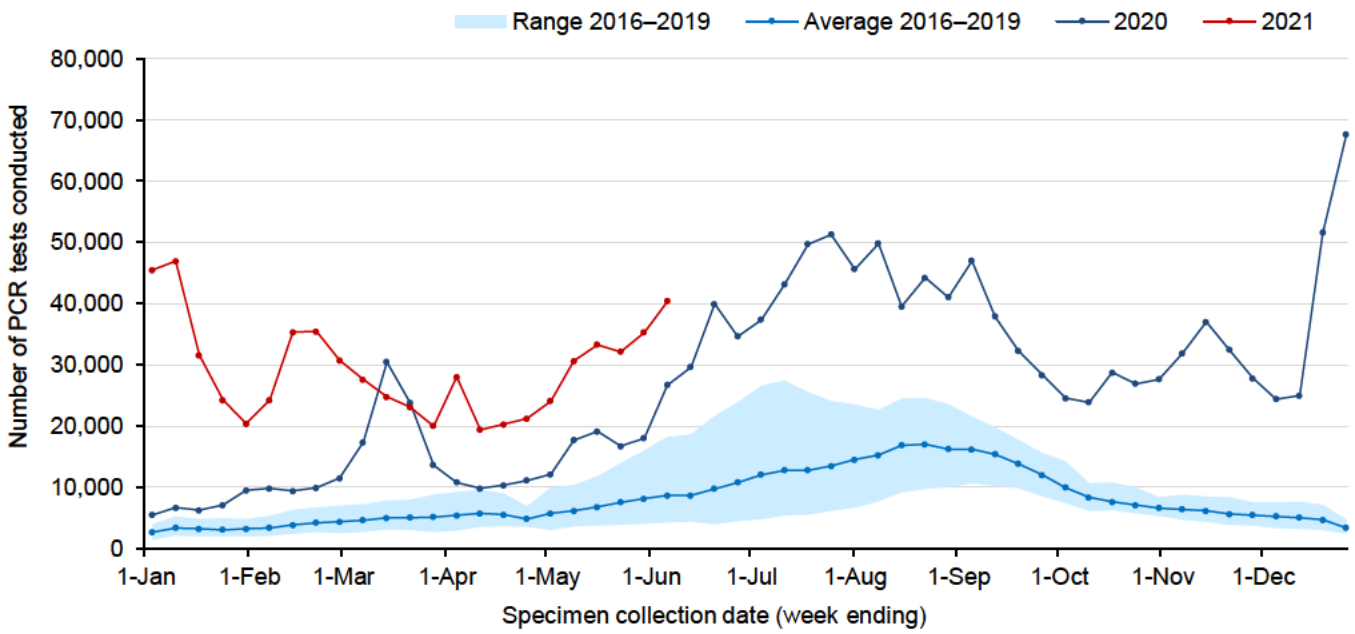
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted; 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

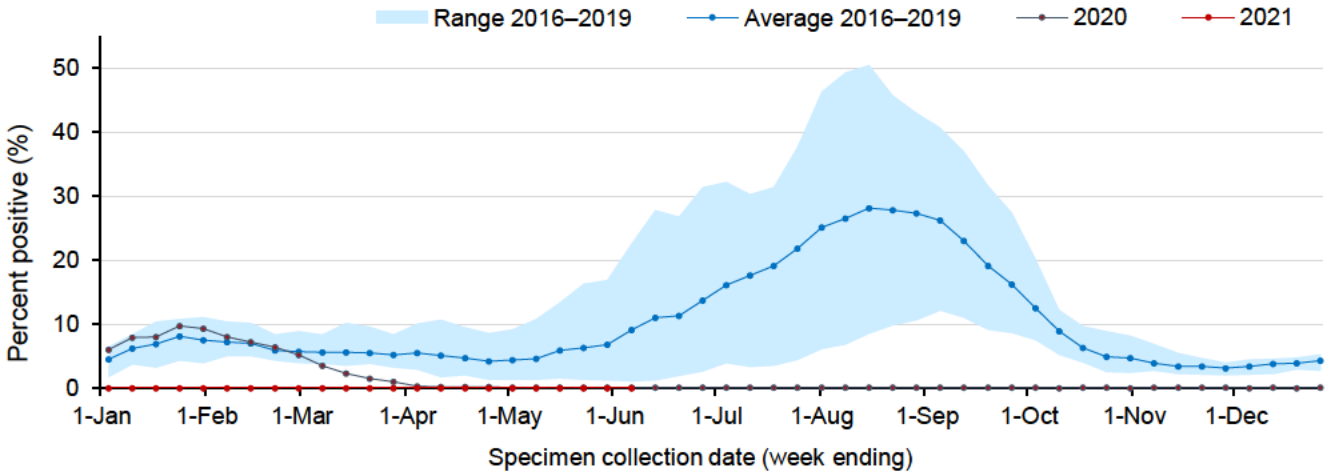


Interpretation: In the week ending 6 June, the number of influenza tests increased, with 40,405 influenza tests performed across participating laboratories compared with 35,280 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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

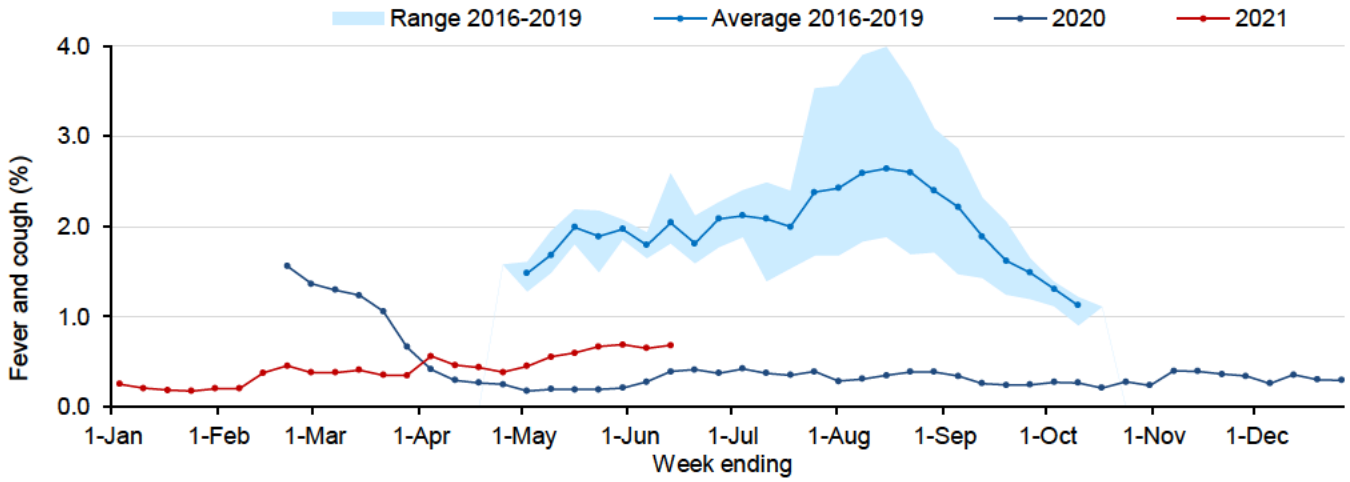


Interpretation: In the week ending 6 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have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



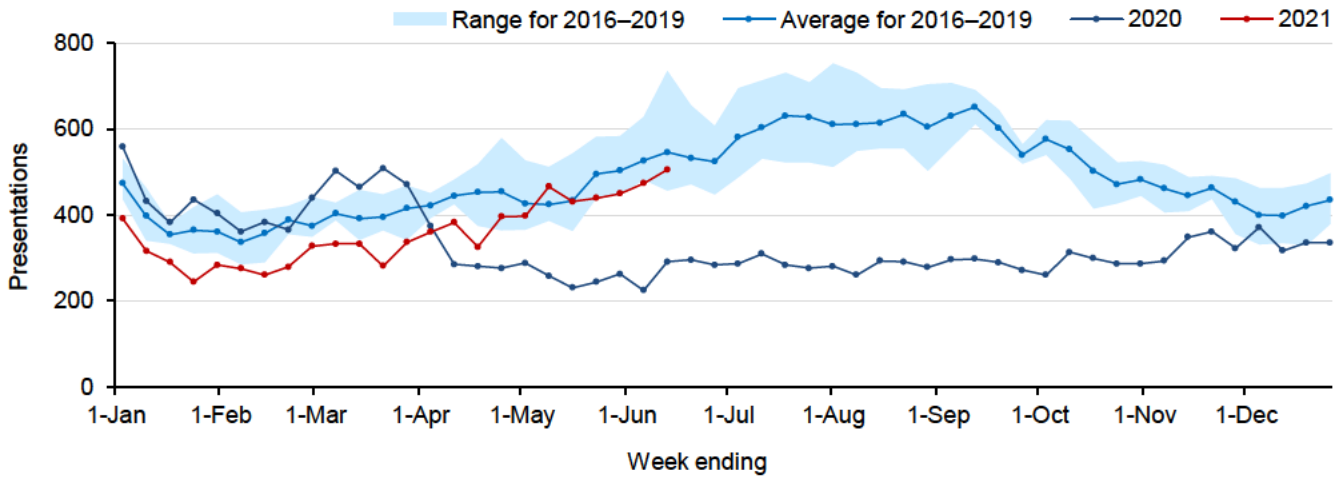
Interpretation: In NSW in the week ending 13 June 2021, of the 19,361 people surveyed, 132 people (0.68%) reported flu-like symptoms. In the last four weeks, 50% (315/633) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased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

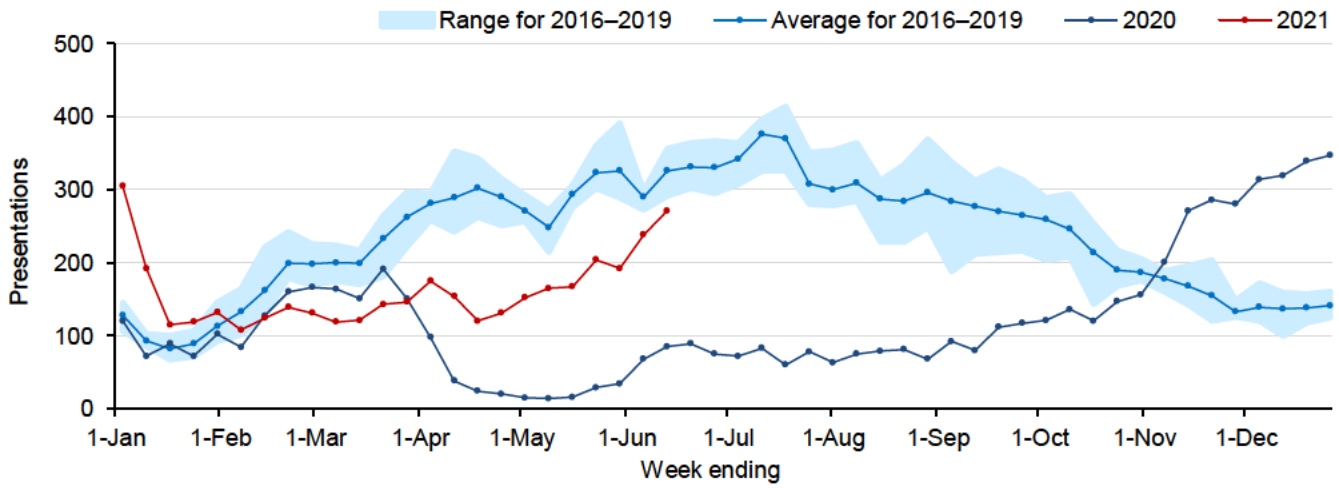
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 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 Heal h 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	
		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
Central Coast	*LHD Total*[2]	4352	12.33	4627	13.11	231350	655.64
Far West	Balranald	14	5.99	25	10.69	786	336.18
	Broken Hill	155	8.87	190	10.87	10135	579.84
	Central Darling	6	3.26	12	6.53	599	325.72
	Wentworth	53	7.51	79	11.20	3703	525.02
	LHD Total[2]	228	7.56	306	10.15	15223	505.01
Hunter New England	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
	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
	LHD Total[2]	12132	12.74	10847	11.39	569900	598.39
Illawarra Shoalhaven	Kiama	352	15.05	455	19.46	16458	703.75
	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
	LHD Total[2]	5694	13.57	8703	20.74	281408	670.64
Mid North Coast	Bellingen	115	8.85	140	10.77	6295	484.38
	Coffs Harbour	590	7.63	522	6.75	32611	422.00
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	14855	15.49	16257	16.95	802838	837.07
South Western Sydney	Camden	1385	13.65	1622	15.99	97980	965.92
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	4695	19.06	5294	21.49	248992	1010.75
	LHD Total[2]	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			
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]	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
	LHD Total[2]	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
	LHD Total[2]	13948	13.24	14312	13.59	771476	732.34
NSW Total[3]		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

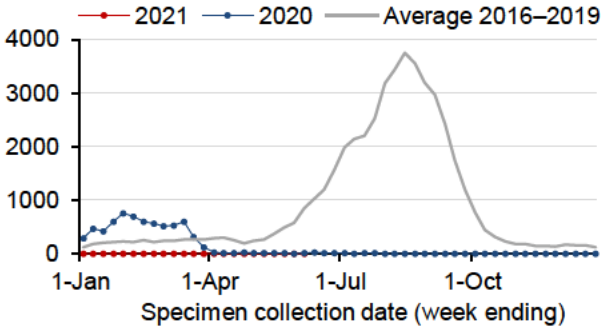
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	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

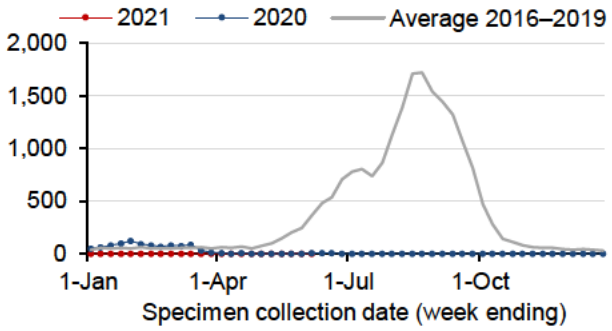
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 6 June 2021

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.

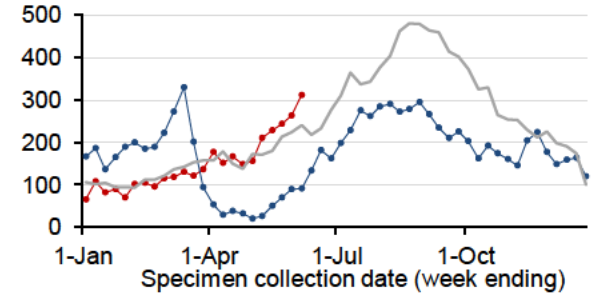
Influenza A



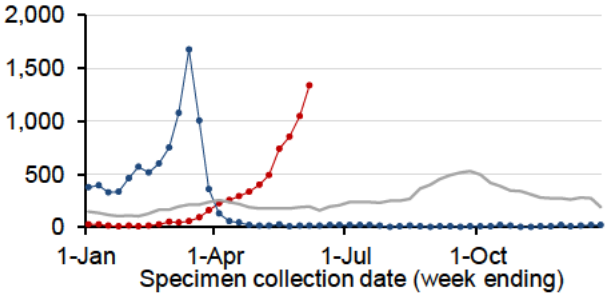
Influenza B



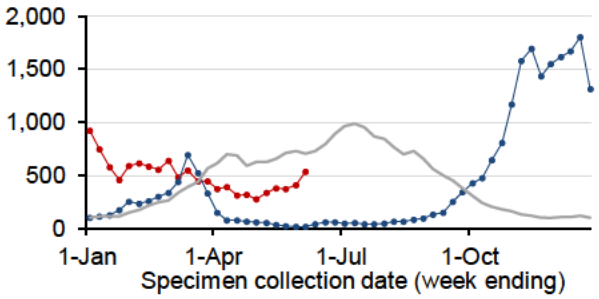
Adenovirus



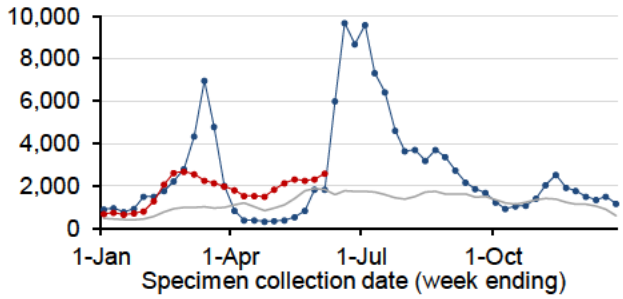
Parainfluenza



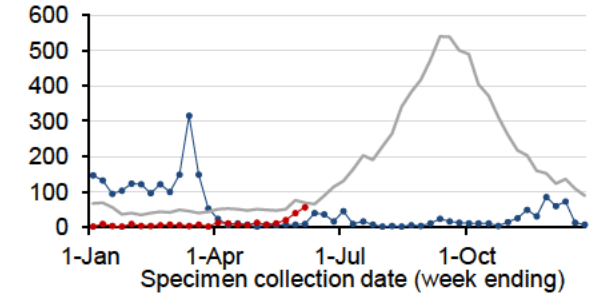
Respiratory syncytial virus (RSV)



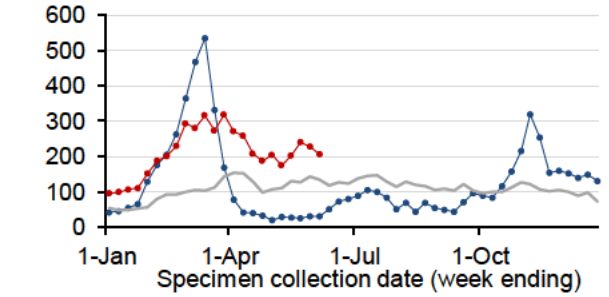
Rhinovirus



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										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		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	Gou burn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	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	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.

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

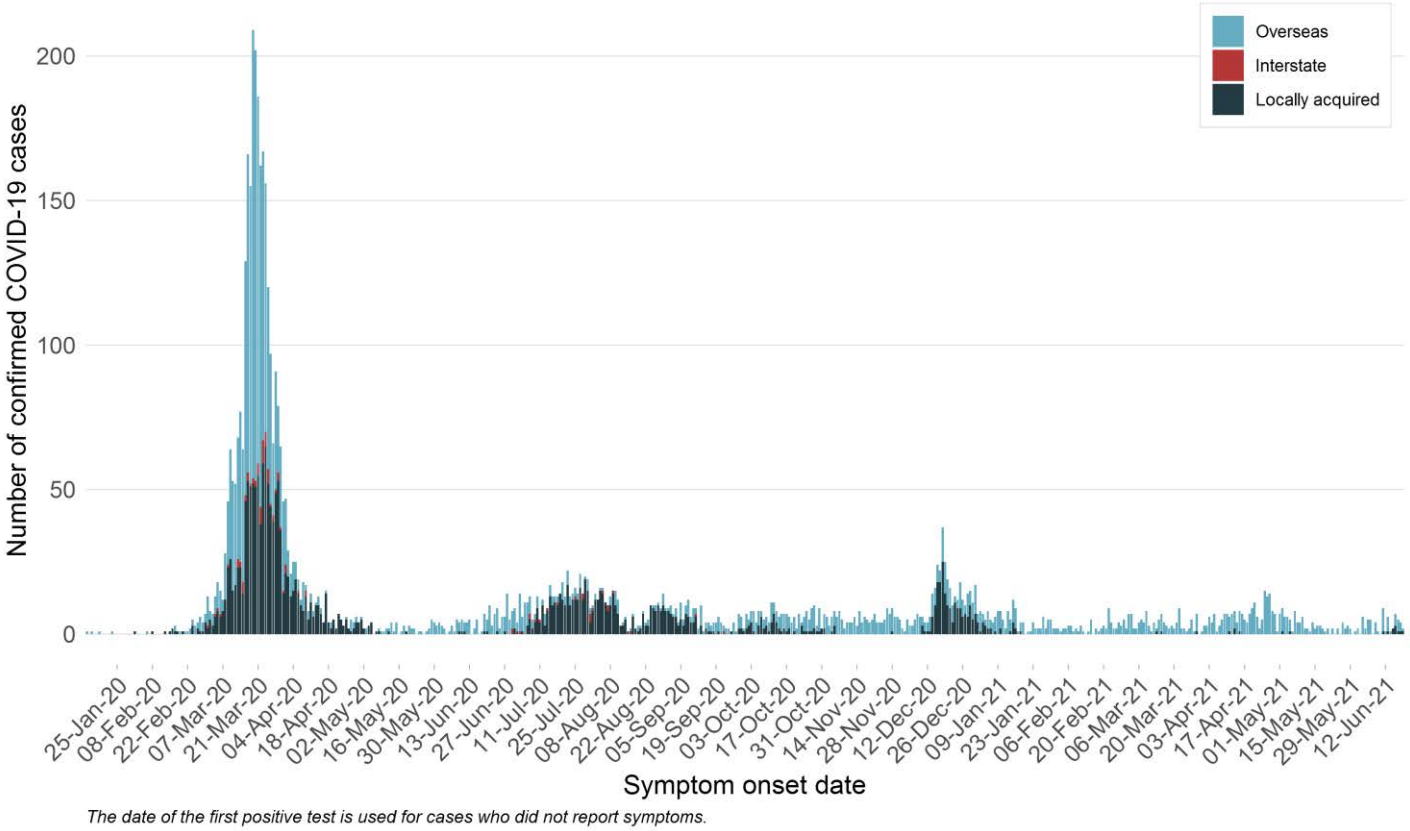
- Australian Government Department of Health reports the number of vaccine doses administered across Australia — Daily COVID-19 vaccine rollout numbers
- Therapeutic Goods Administration (TGA) report data on received reports of suspected side effects (also known as adverse events) and other safety information 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

Table of Contents

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

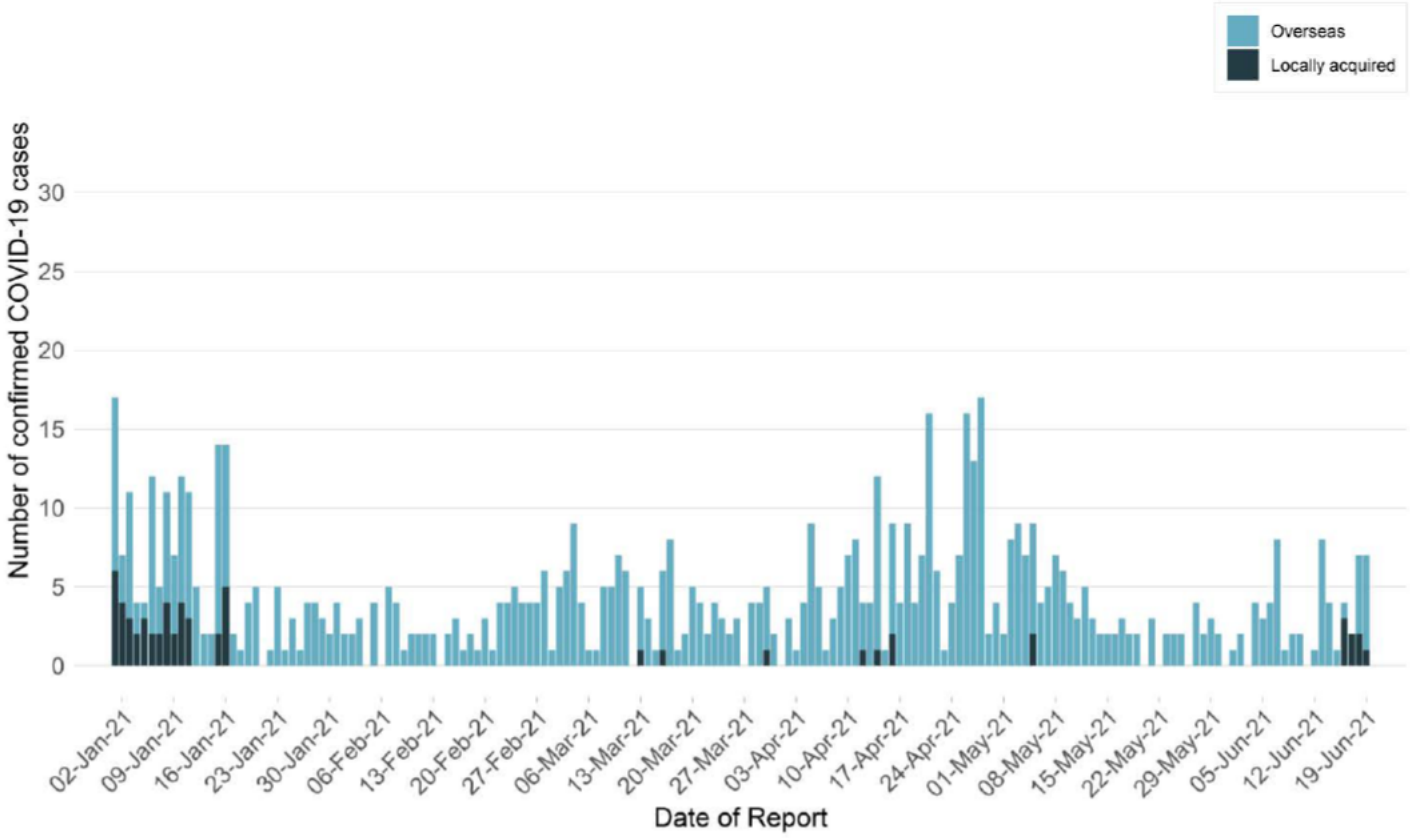


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 19 June 2021

	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%

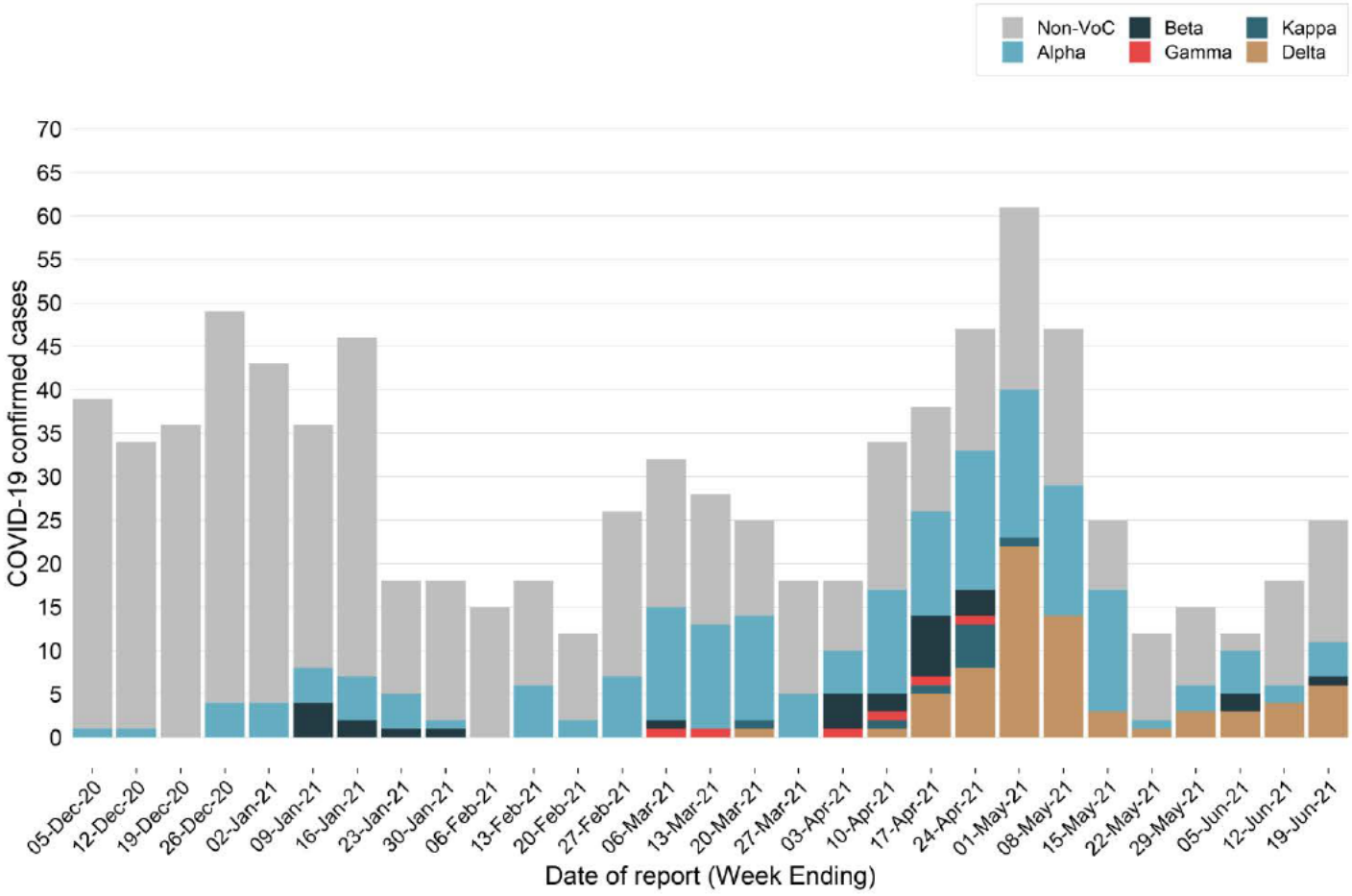
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 19 June have been the Delta variant of concern.

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.

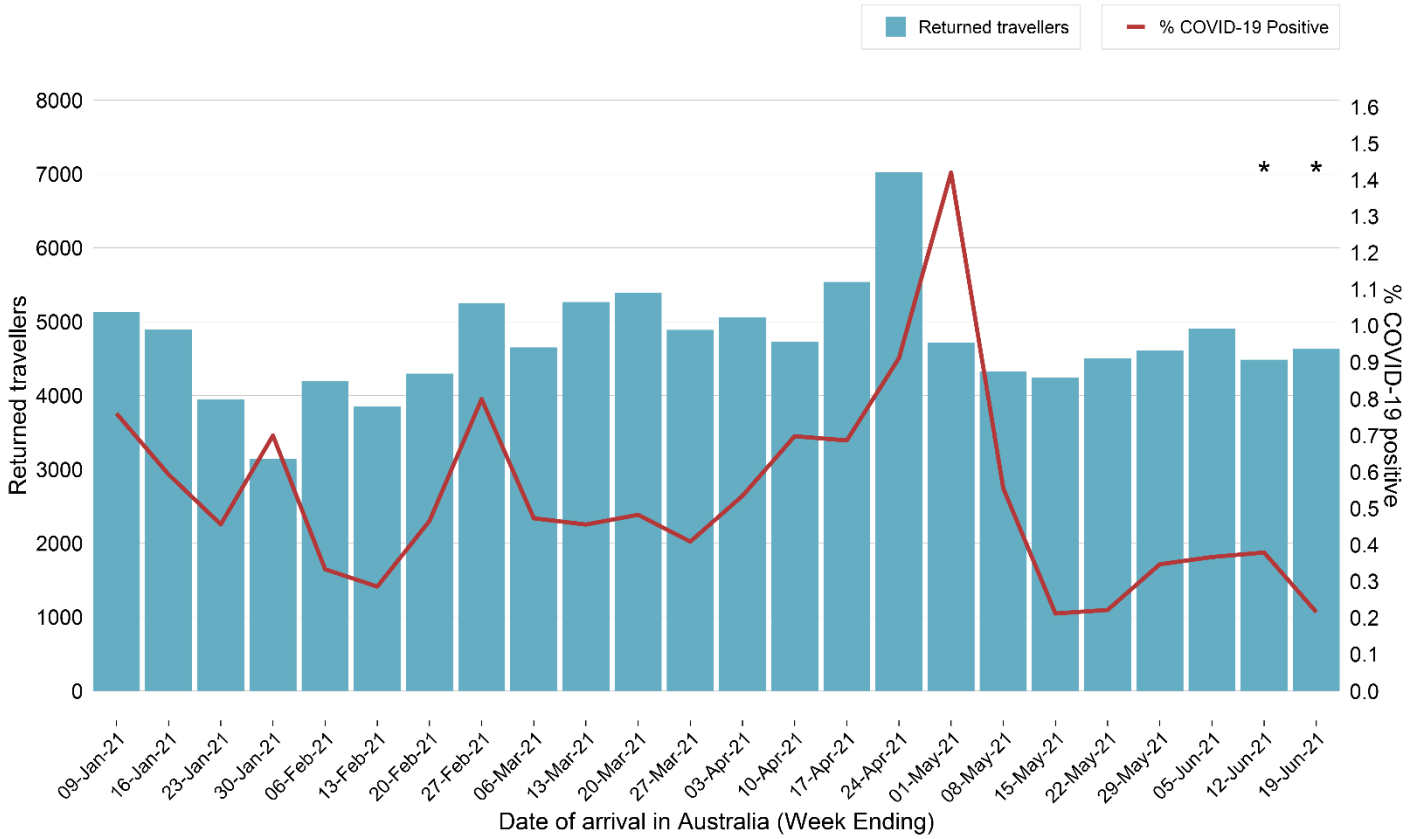
Section 5: COVID-19 in returned travellers

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



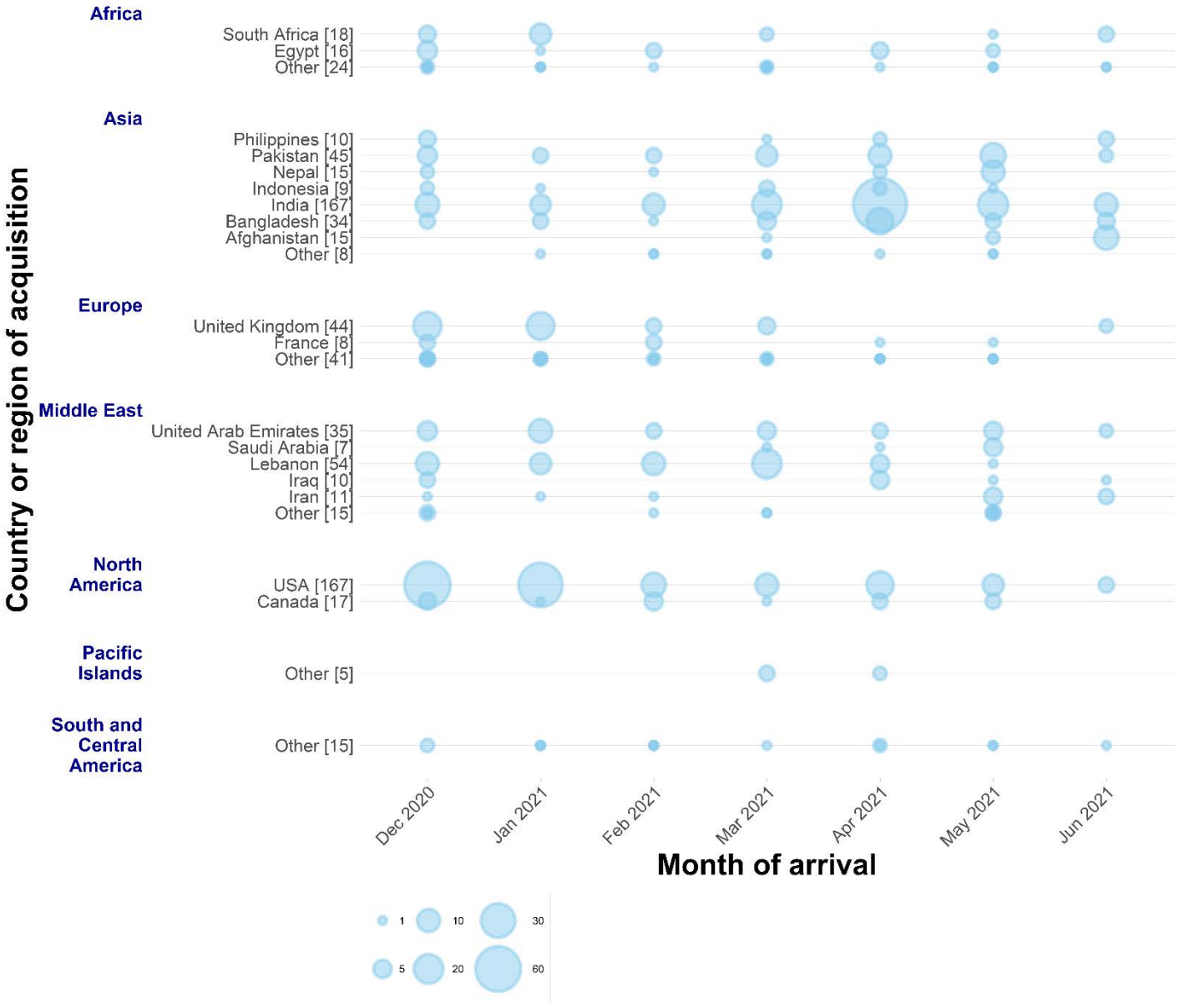
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

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

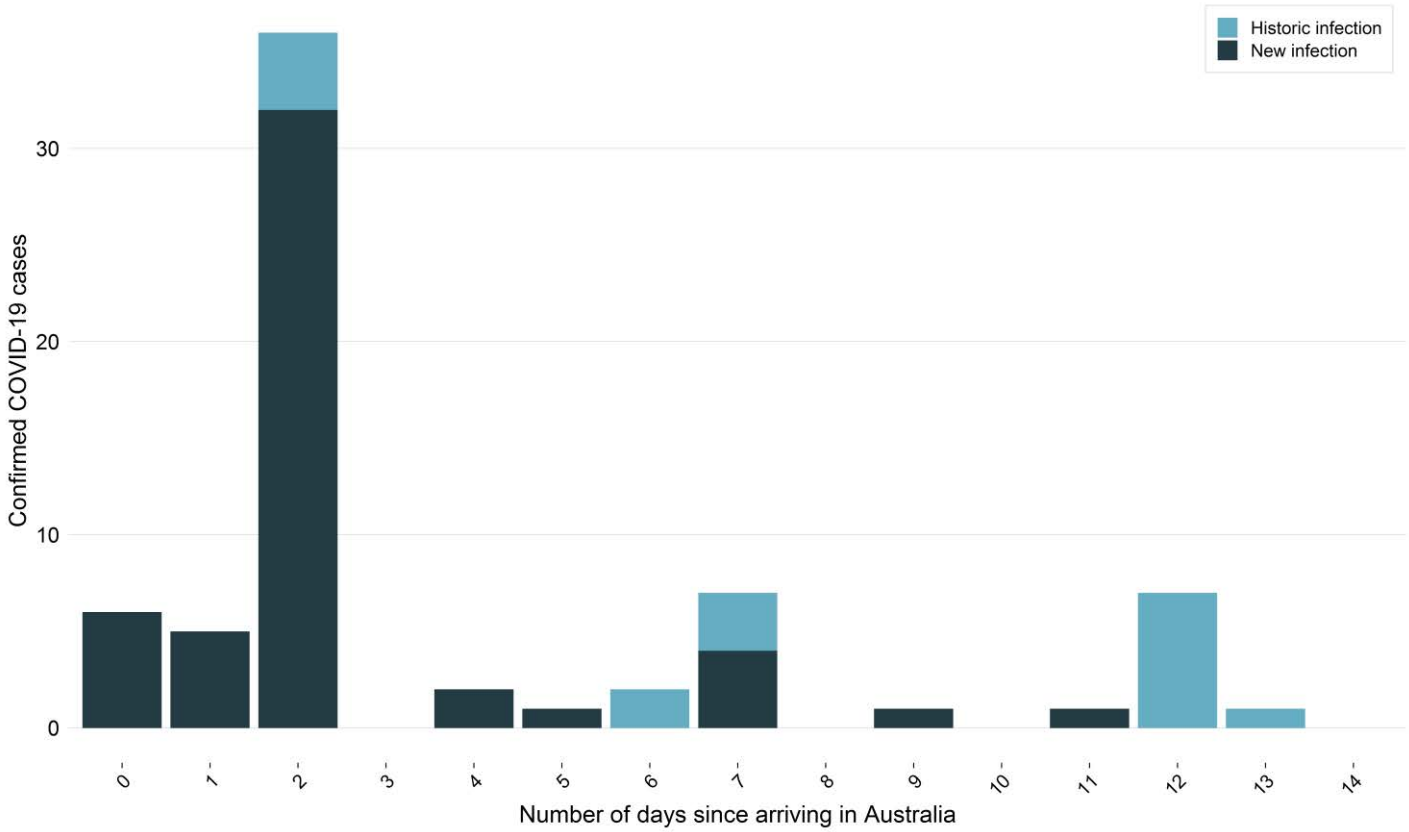
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved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

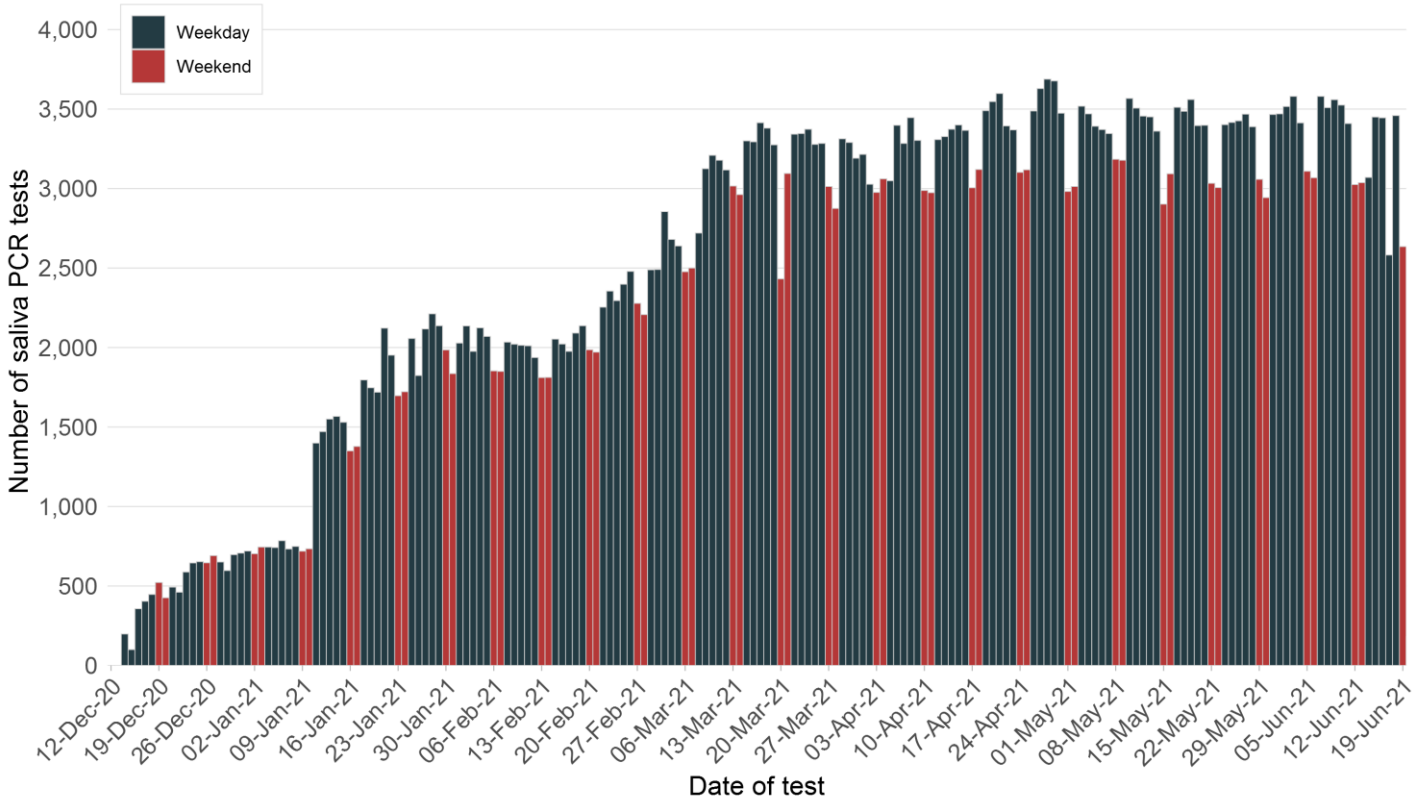
Pregnant women

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.

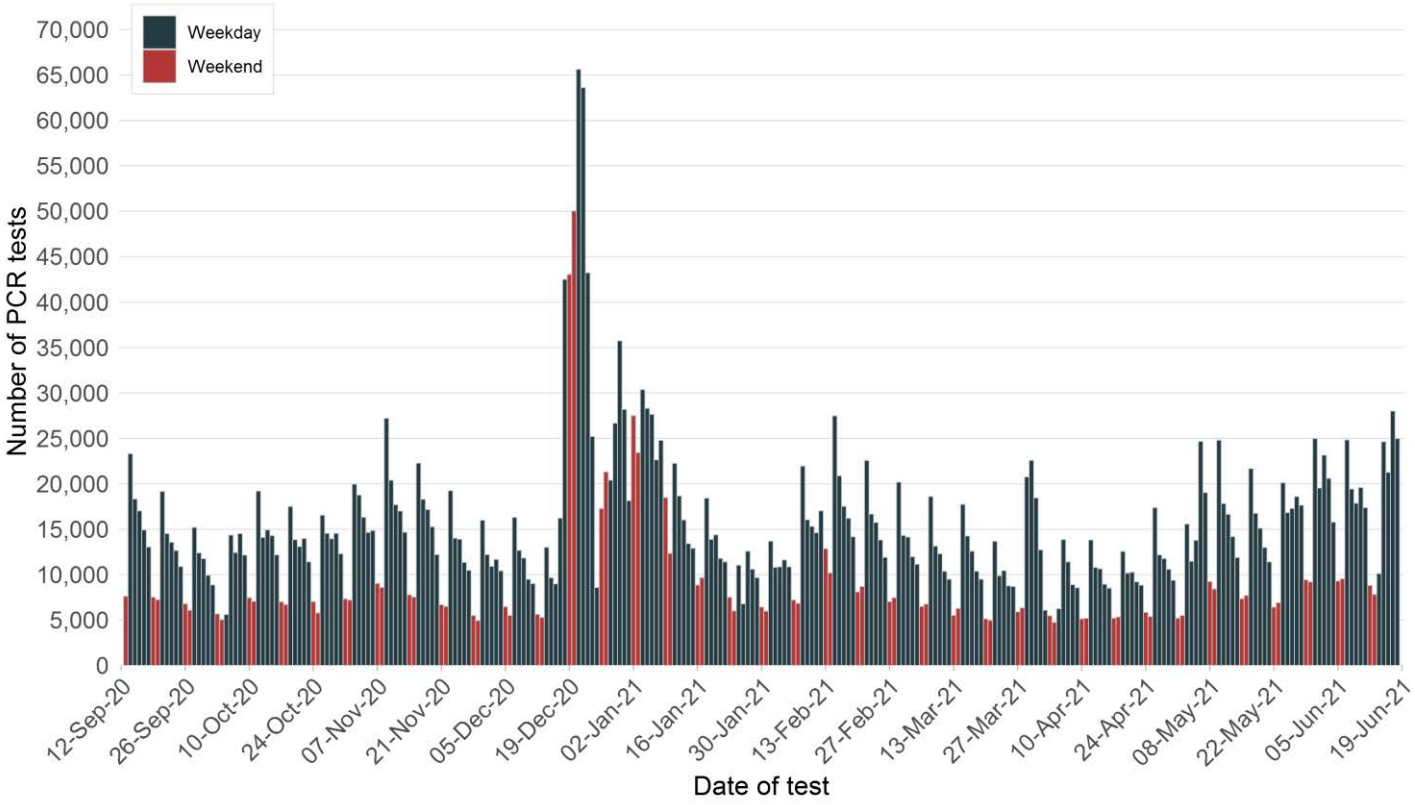
Section 9: COVID-19 testing in NSW

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



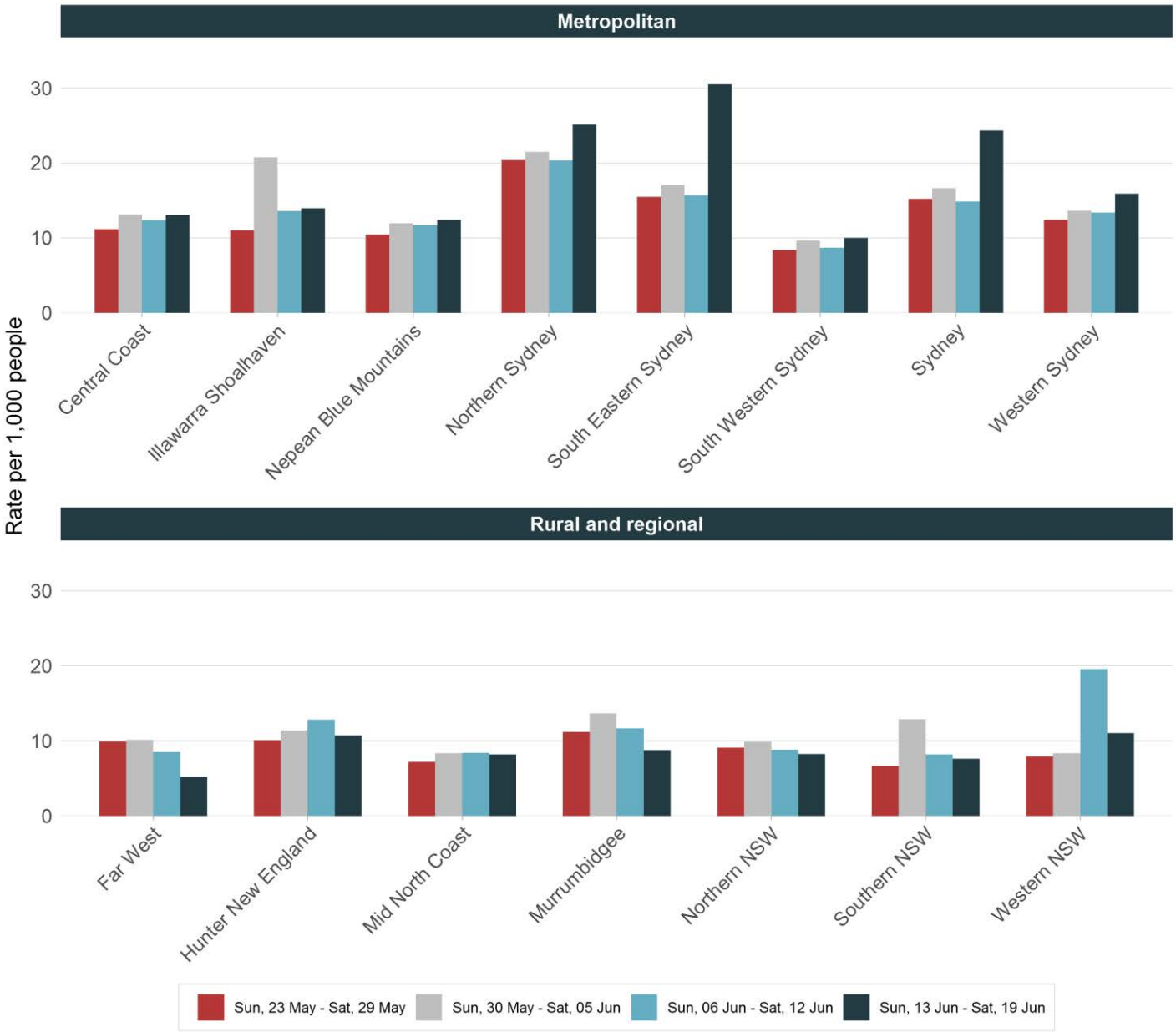
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

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

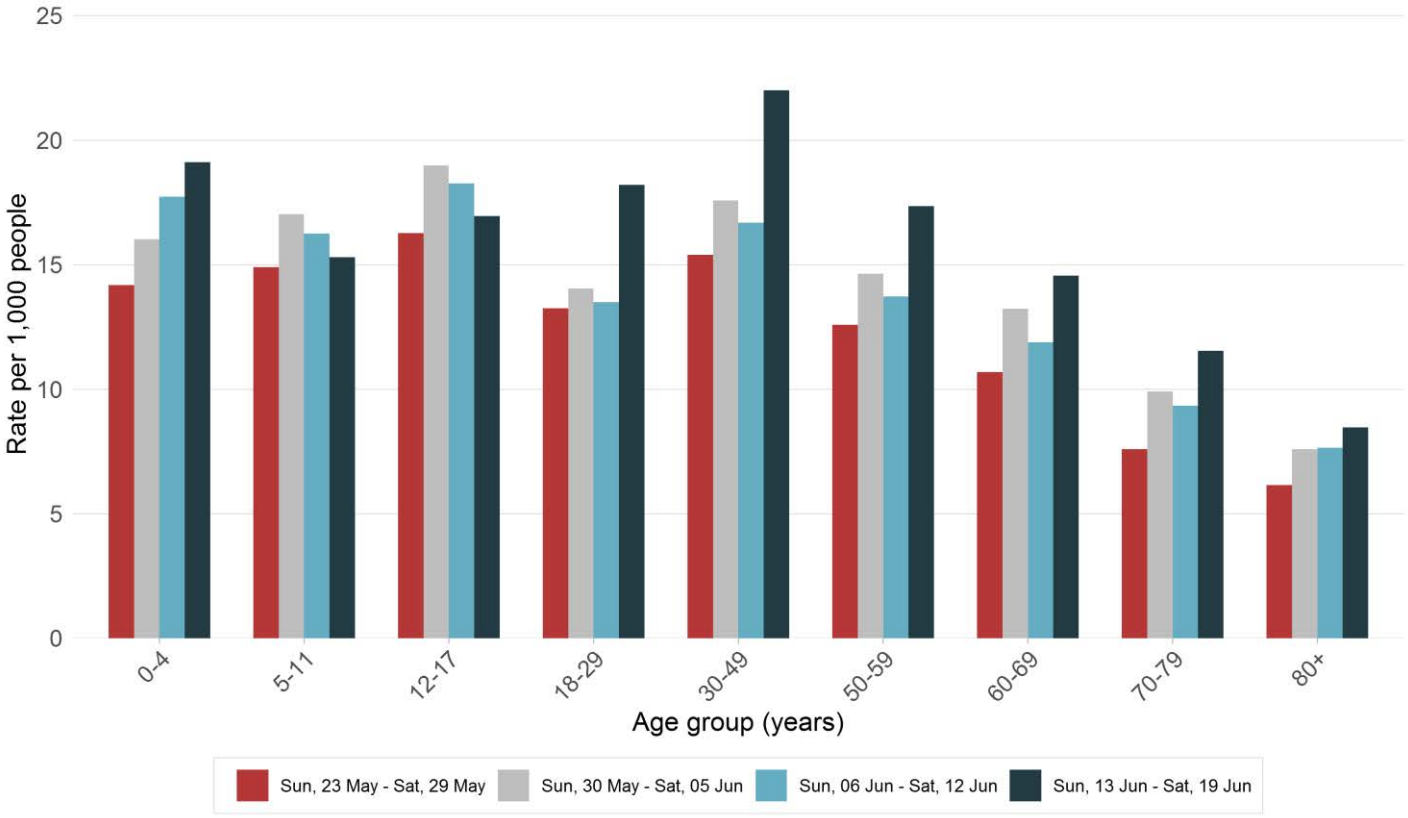


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

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

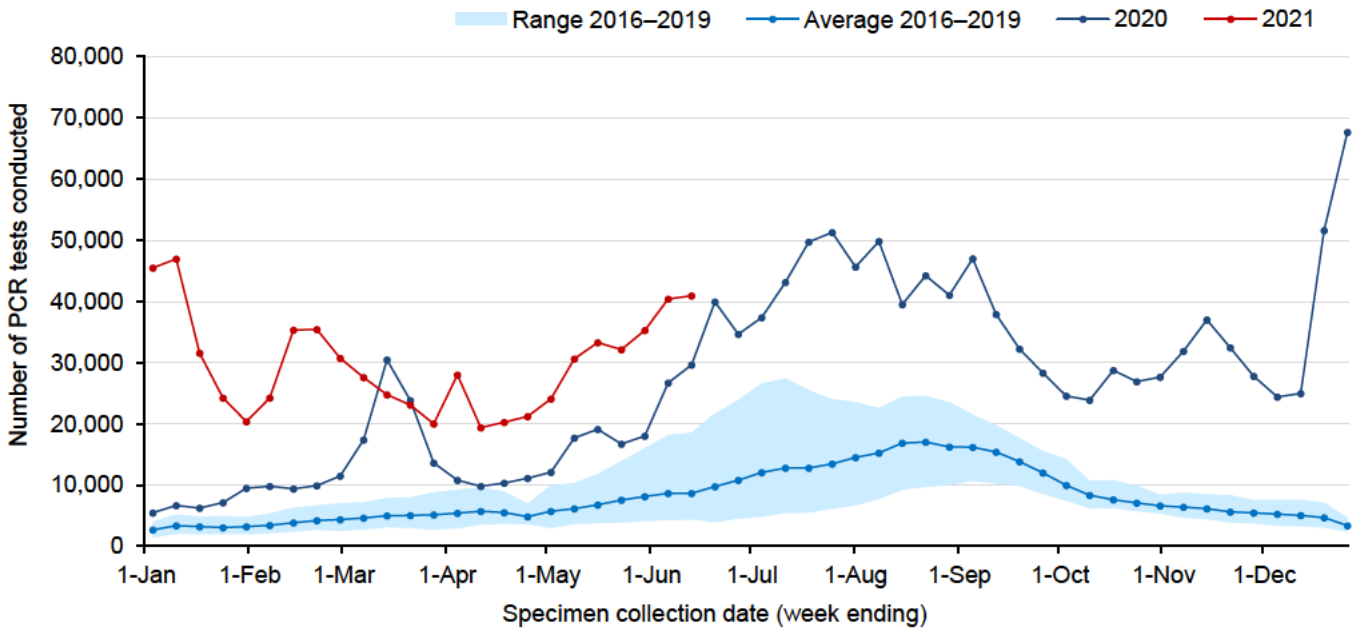
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted; 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

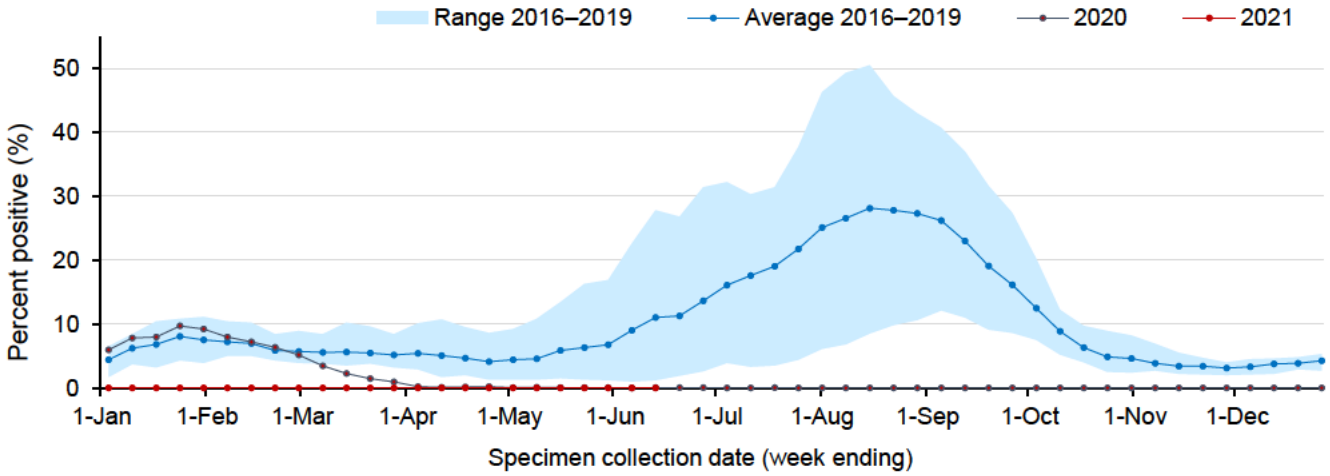


Interpretation: In the week ending 13 June, the number of influenza tests increased, with 40,929 influenza tests performed across participating laboratories compared with 40,405 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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

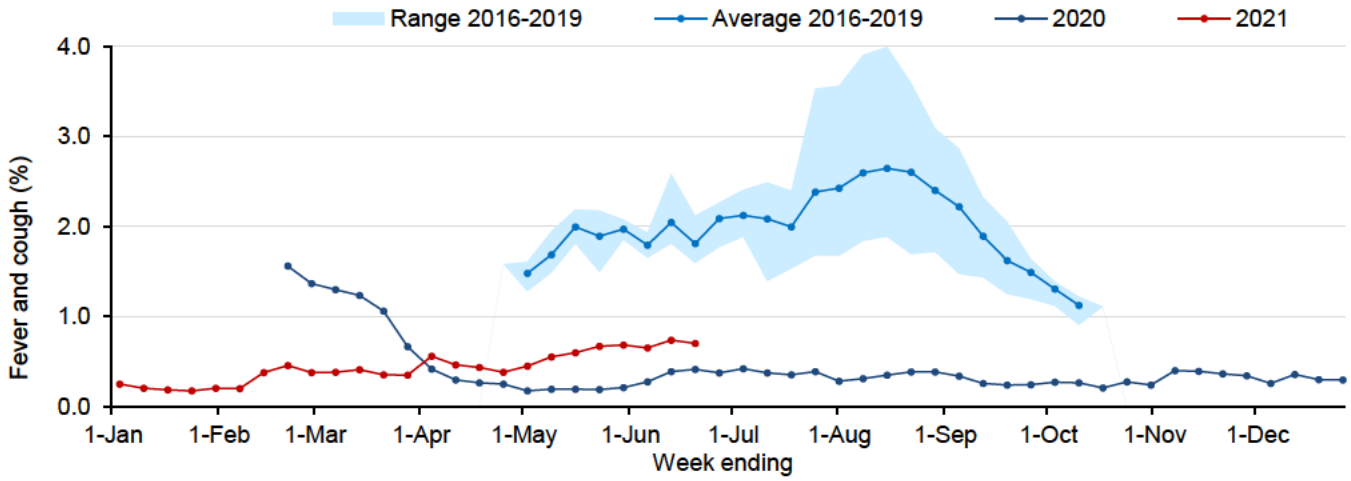


Interpretation: In the week ending 13 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There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



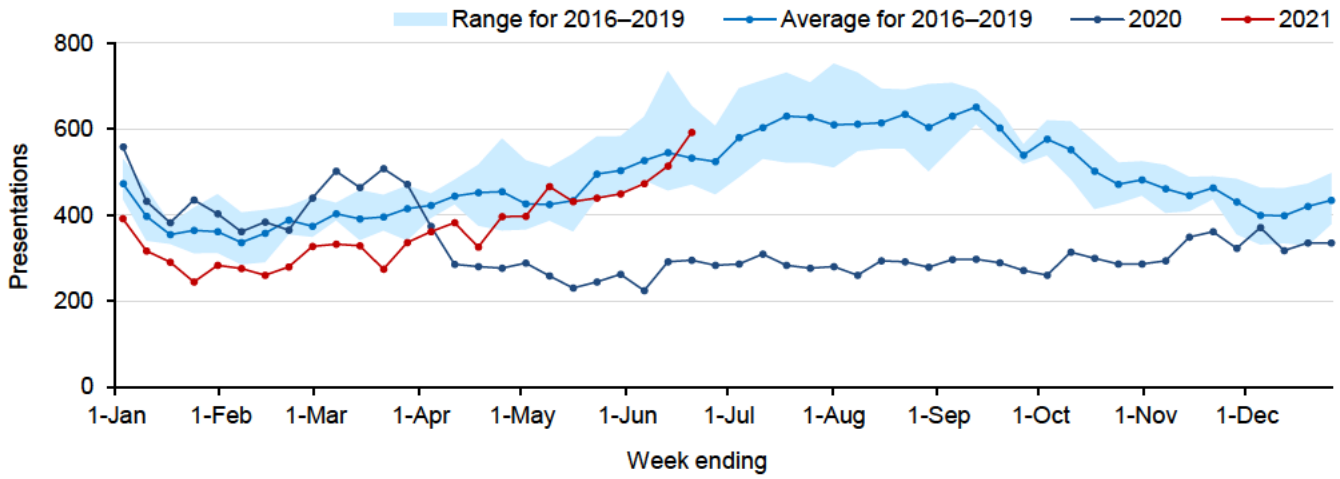
Interpretation: In NSW in the week ending 20 June 2021, of the 21,487 people surveyed, 150 people (0.70%) reported flu-like symptoms. In the last four weeks, 51% (351/688) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased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

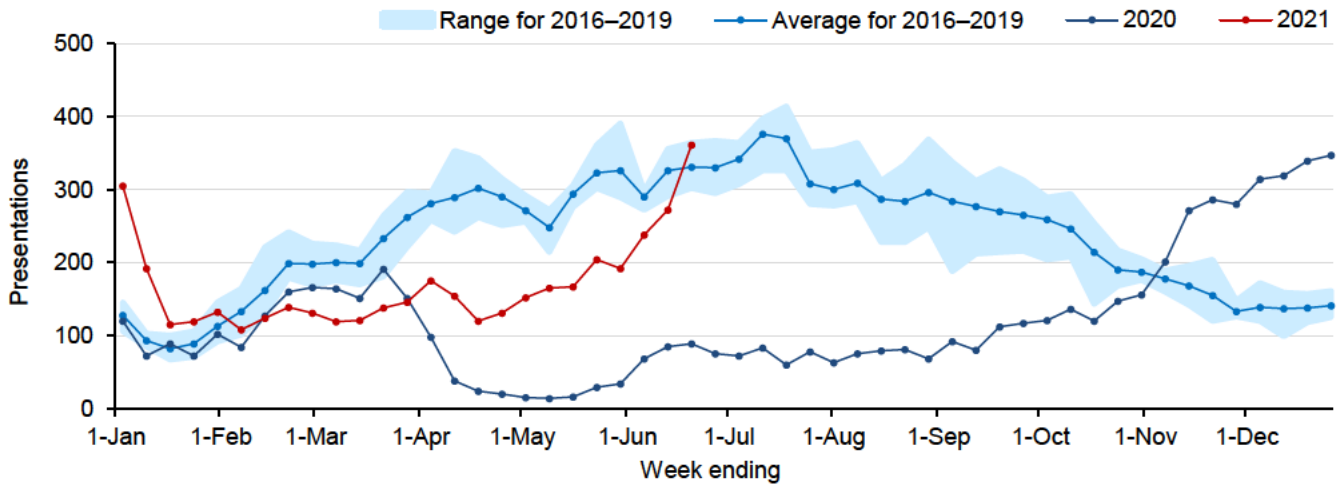
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 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 ac ivity).

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

		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
Central Coast	*LHD Total*[2]	4562	12.93	4368	12.38	236012	668.85
Far West	Balranald	10	4.28	15	6.42	797	340.89
	Broken Hill	91	5.21	177	10.13	10262	587.10
	Central Darling	4	2.18	8	4.35	605	328.98
	Wentworth	39	5.53	57	8.08	3751	531.83
	LHD Total[2]	144	4.78	257	8.53	15415	511.38
Hunter New England	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
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	28424	29.64	15031	15.67	831694	867.16
South Western Sydney	Camden	1638	16.15	1392	13.72	99623	982.12
	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
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	8770	35.60	4782	19.41	257990	1047.28
	LHD Total[2]	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
	LHD Total[2]	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
	LHD Total[2]	16192	15.37	14107	13.39	788116	748.14
NSW Total[3]		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

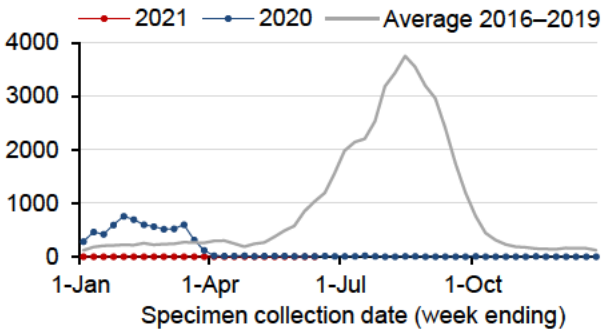
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	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

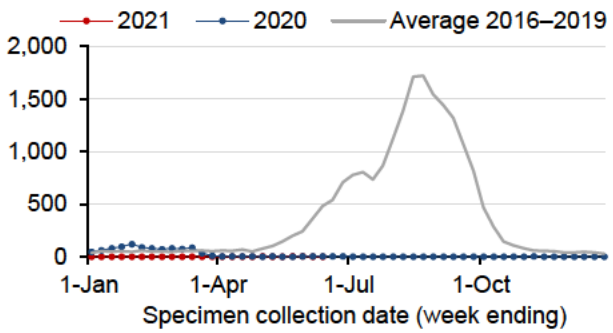
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 13 June 2021

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.

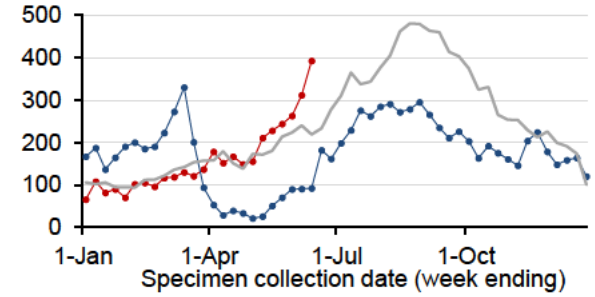
Influenza A



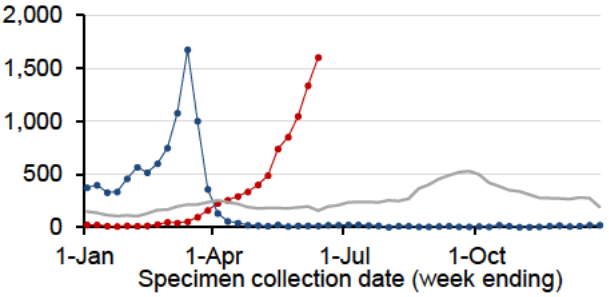
Influenza B



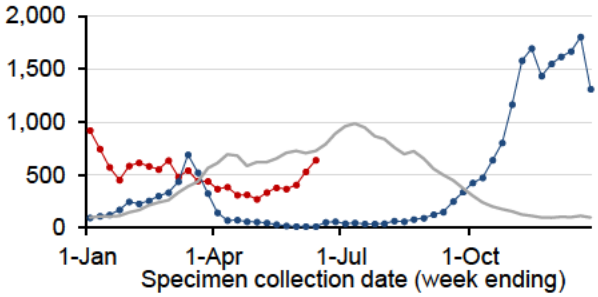
Adenovirus



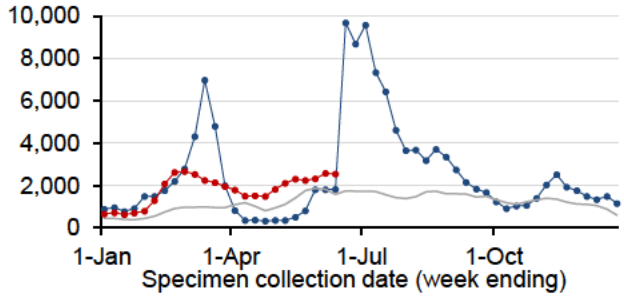
Parainfluenza



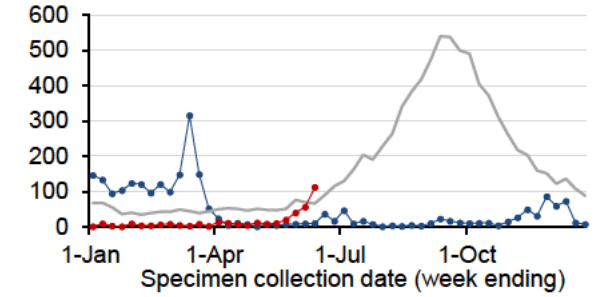
Respiratory syncytial virus (RSV)



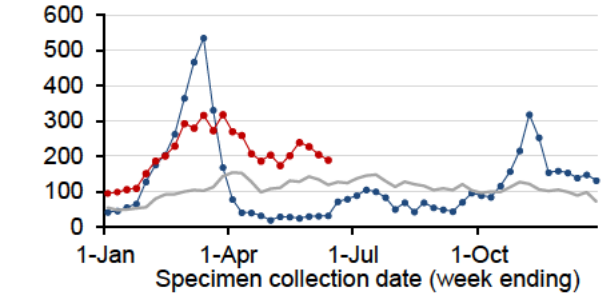
Rhinovirus



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										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		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	Cul burra 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 -Kooringal 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.

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 25, ENDING 26 June 2021

Published 06 July 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 26 June 2021

	2021			2020	
	last 7 days 20 June – 26 June	last 4 weeks 30 May – 26 June	year to date 1 Jan – 26 June	Jan – Jun	July – Dec
Locally acquired	110 (93%)	117 (65%)	168 (20%)	1,236 (39%)	808 (52%)
Interstate acquired	1 (1%)	1 (1%)	1 (0%)	67 (2%)	23 (1%)
Overseas acquired	7 (6%)	62 (34%)	665 (80%)	1,892 (59%)	714 (46%)
Total	**118 (100%)**	**180 (100%)**	**834 (100%)**	**3,195 (100%)**	**1,545 (100%)**
Deaths	0	0	0	52	4

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

Summary for the week ending 26 June 2021

- There were 110 locally acquired cases in the week ending 26 June 2021. Of these:
  - 107 cases were directly epi-linked to the Eastern Suburbs cluster
  - 3 cases, including two cases and one of their contacts who became case, have not been directly linked to this cluster but have been in the general area of other cases.

- There were 7 cases reported in returned overseas travellers this week, down 72% compared to the previous week.

- There was one interstate acquired case reported in a person who acquired their infection in the Northern Territory. This case has been identified as having the Delta variant that has a different viral sequence to the Eastern suburbs cluster.

- In the four weeks ending 26 June 2021, 100% (72/72) of locally acquired cases sequenced and 53% (33/62) of overseas acquired cases sequenced 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)]. Not all case samples can be sequenced.

- Since March 2021, no locally acquired case has reported being fully vaccinated. Eleven (2%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.

- Testing rates increased significantly across all metropolitan Local Health Districts compared to the previous week (up 155%) with a surge in testing in South Eastern Sydney, Sydney, Northern Sydney and Western Sydney Local Health Districts in response to the Eastern Suburbs cluster.

- In the week ending 26 June, 172 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 30 detections; one detection in regional NSW taken from the Bourke sewage treatment plant, and 27 detections from 20 sites across Sydney taken from the Brooklyn, Bondi, Cronulla, Malabar, West Camden, Castle Hill Glenhaven, Rouse Hill, St Marys, North Head sewage treatment plants and the sewage networks at Botany, Paddington, Lough Park, Caringbah, Maroubra, Auburn, Ireland Park, Port Kembla, Bellambi, Camellia South and Camellia North sewage pumping station.

  Although no active cases were identified in the Bourke, Port Kembla and Castle Hill Glenhaven catchments, 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. All other catchments were associated with known cases in the area.

Indicators of effective prevention for COVID-19 in NSW for the week ending 26 June 2021

Locally acquired cases in isolation during their infectious period

	Week ending 26-Jun	Week ending 19-Jun
	Count (%)	Count (%)
Locally acquired cases	110	7
Cases with symptoms at diagnosis	88	6
Number in isolation at least 48 hours before symptoms	21 (19%)	0
Cases reporting no symptoms at diagnosis*	22	1
Number in isolation at least 48 hours before test	8 (31%)	0

Interpretation: In the week ending 26 June 2021, 22 cases (20%) 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. Of the 88 symptomatic cases, 21 (19%) 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 26-Jun	Week ending 19-Jun
Proportion locally-acquired cases notified to NSW Health by the laboratory within 24 hours	100%	100%
Locally-acquired cases interviewed by public health staff within 1 day of notification to NSW Health	100%	100%
Close contacts (identified by the case) contacted by public health within 48 hours of case notification	100%	100%

Interpretation: In the week-ending 26 June, 100% of cases were notified to NSW Health within a day of positive test result.,100% of cases were interviewed within 1 day of notification and all close contacts were contacted by public health within 48 hours of case notification.

COVID-19 Vaccination program

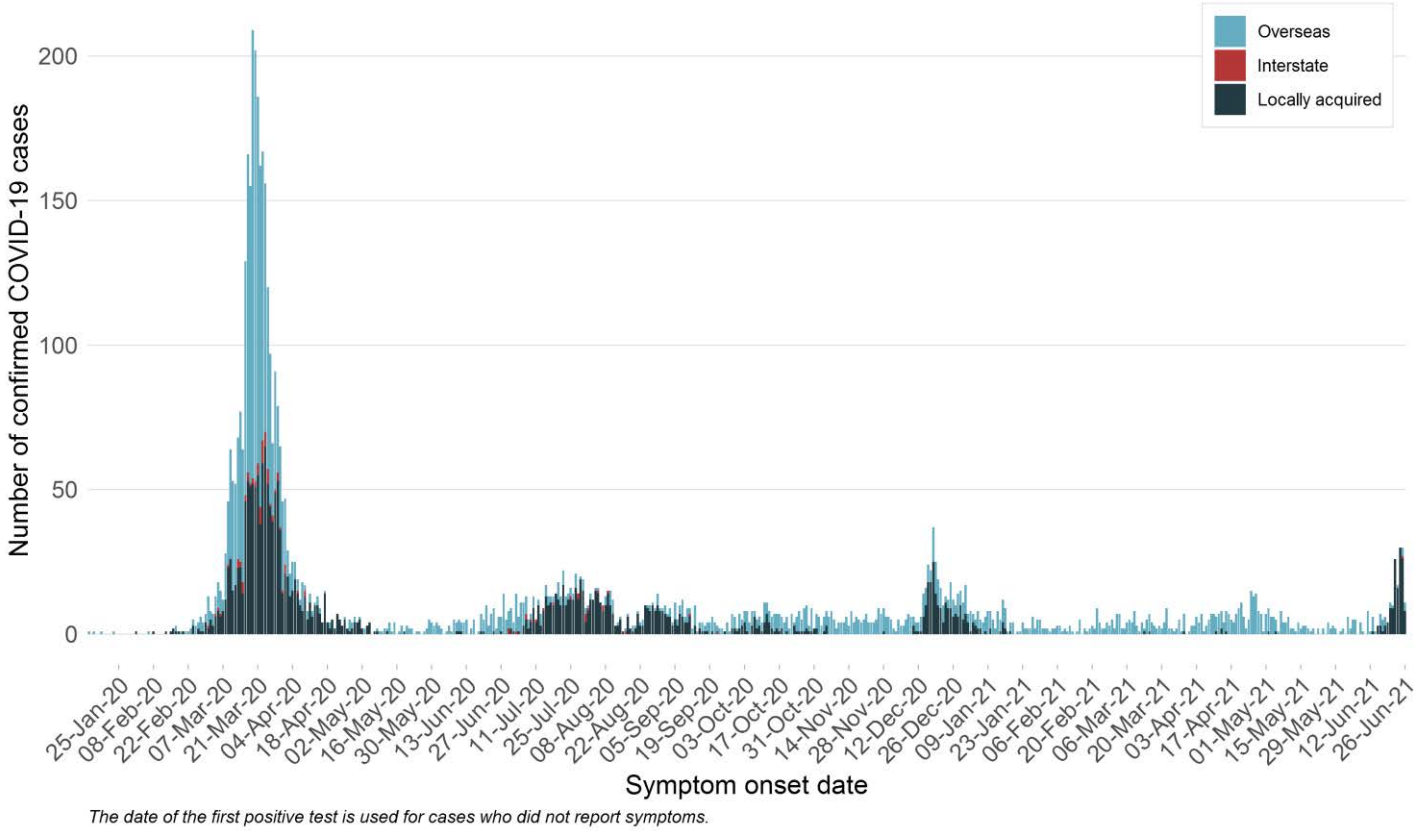
- Australian Government Department of Health reports the number of vaccine doses administered across Australia — Daily COVID-19 vaccine rollout numbers
- Therapeutic Goods Administration (TGA) report data on received reports of suspected side effects (also known as adverse events) and other safety information 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

Table of Contents

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 26 June 2021



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

Interpretation: Between 13 January 2020 and 26 June 2021, there were 5,574 confirmed COVID-19 cases. Of those, 3,271 (59%) were overseas acquired, 91 (2%) were interstate acquired, and 2,212 (40%) 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 26 June 2021

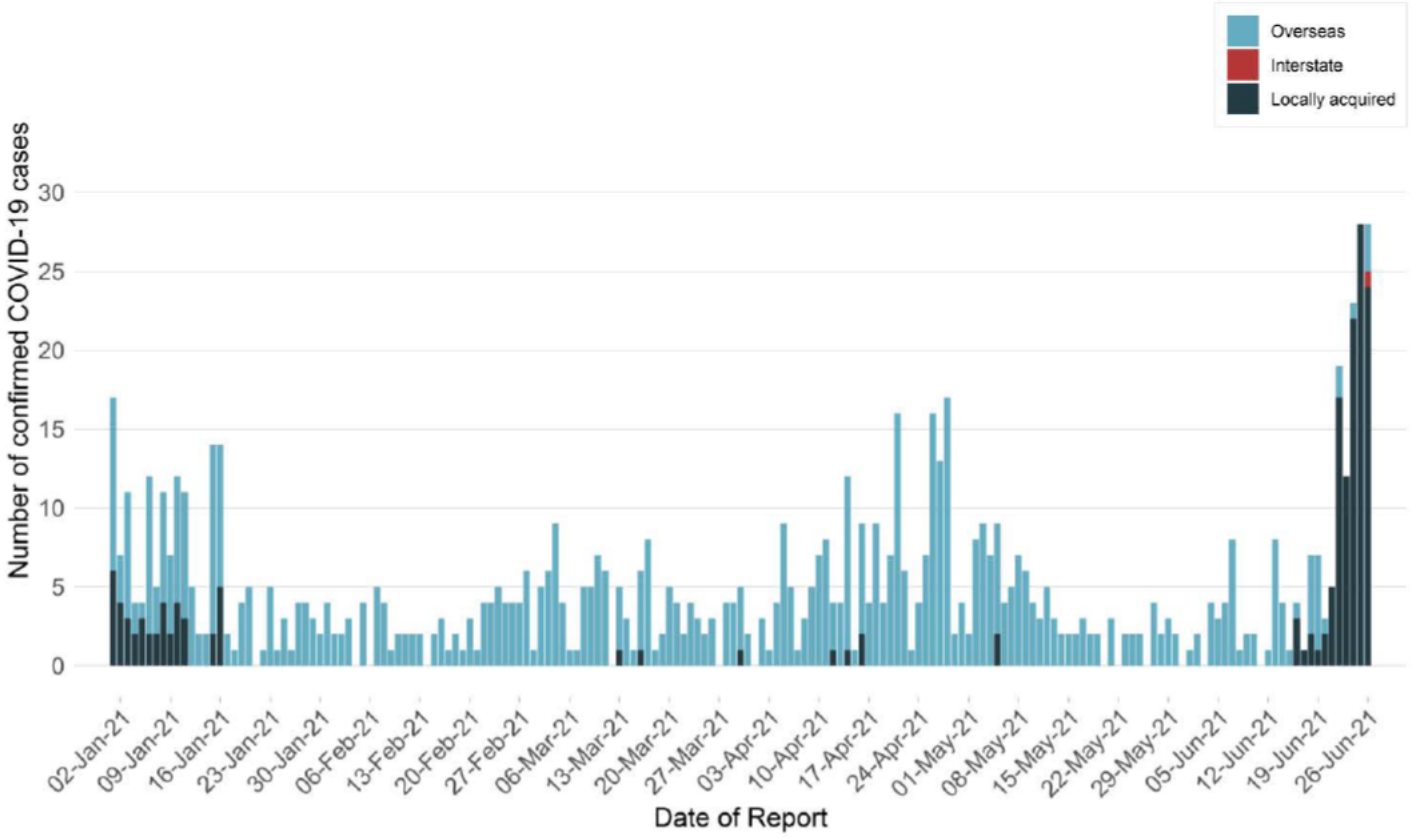


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 26 June 2021

	Week ending 26 June	Week ending 19 June	% change	Total 2021
Number of cases	118	32	269 %	834
Locally acquired	110	7	1471 %	168
Known epidemiological links to other cases or clusters	108	6	1700 %	158
No epidemiological links to other cases or clusters	2	1	100 %	10
Overseas acquired	7	25	-72 %	665
Interstate acquired	1	0	-	1
Number of tests	363,532	142,607	155 %	2,657,228

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 locally acquired (117/180, 65%). Of the 110 locally acquired cases reported in the week ending 26 June 2021; 107 cases are directly linked to the Eastern Suburbs cluster, three cases, including two cases and one of their contacts who became case, have not been directly linked to this cluster but have been in the general area of other cases. There were seven cases that were overseas acquired and one case who acquired their infection interstate whist in the Northern Territory.

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, 30 May to 26 June 2021

Local Health District	Week ending				Total	Days since last case reported
	26 June	19June	12 June	5 June		
Central Coast	0	0	0	0	0	179
Illawarra Shoalhaven	3	2	0	0	5	4
Nepean Blue Mountains	0	0	0	0	0	284
Northern Sydney	2	0	0	0	2	5
South Eastern Sydney	63	4	0	0	67	0
South Western Sydney	26	0	0	0	26	0
Sydney	13	1	0	0	14	0
Western Sydney	3	0	0	0	3	1
Far West	0	0	0	0	0	450
Hunter New England	0	0	0	0	0	71
Mid North Coast	0	0	0	0	0	431
Murrumbidgee	0	0	0	0	0	292
Northern NSW	0	0	0	0	0	88
Southern NSW	0	0	0	0	0	250
Western NSW	0	0	0	0	0	331
NSW*	110	7	0	0	117	0

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

Interpretation: There were 110 locally acquired cases reported in the week ending 26 June. The majority of cases were residents of South Eastern Sydney LHD (63, 57%) followed by South Western Sydney LHD (26, 24%), and Sydney (13, 12%).

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. Over the following days the number of cases linked to this cluster increased (see figure 2).

In the week ending 26 June there were 107 cases with direct links to this cluster, with 113 cases linked to the cluster since June 16. Of these, 69 are associated with transmission at 16 public exposure locations and one private event and 44 cases were household or social contacts of known cases. Whole genome sequencing results show the variant associated with this cluster is the Delta strain (B.1.617.2). Investigation of the source of the driver's infection could not identify the individual source of his infection.

Cases associated with this cluster attended a large number of public venues across Greater Sydney including pubs, restaurants, gyms, hair salons, healthcare facilities and schools (Table 4). To limit the spread of COVID-19, NSW Health have issued multiple public health alerts to people who may have been exposed. The list of venues attended by cases is published on the NSW Government website.

Table 4. Cases linked the Eastern Suburbs cluster by setting of exposure, reported to week ending 26 June, NSW

Setting of exposure	Exposure site	Location	Primary cases	Subsequent cases		Total
				Non-household contacts	Household contacts	
Food Service	Cafe	Vaucluse	1	-	-	1
		Bondi Beach	7	9	5	21
		Darlinghurst	1	-	-	1
	Pizza Shop	Paddington	1	-	-	1
	Warehouse	Marrickville	11	-	1	12
Education	Primary school	Coogee	1	-	-	1
Restaurant/Bar/ Club	Pub	Bondi	2	-	-	2
Retail	Myer	Bondi Junction	1	-	5	6
	David Jones	Bondi Junction	1	2	3	6
	Westfield (other)	Bondi Junction	4	1	2	7
	Salvos	St Peters	1	-	-	1
Personal Service	Nail Salon	Bondi Junction	1	-	2	3
	Hair Salon	Double Bay	8	1	1	10
Healthcare	Medical Centre	Bondi Junction	1	-	1	2
	Obstetrics	Wollongong	3	-	-	3
Gym	Gym	Bondi	1	-	3	4
Residential	Home (party)	West Hoxton	24	1	5	30
Other non-public locations	-	-	-	1	1	2
Total			**69**	**15**	**29**	**113**

Interpretation: Excluding the source case, a hire-car driver whose source is under investigation, there are 113 linked to this cluster.

Section 4: 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 in January 2020, 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 seven locally acquired cases of COVID-19 reported in HCWs in the week ending 26 June 2021. Of these, three cases may have acquired their infection in private healthcare settings and four were household or social contacts of known cases.

In total there have been 55 cases of COVID-19 in health care workers since 1 August 2020. Of these, 28 HCWs were potentially infected in healthcare settings. A further 13 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 were two cases in a pregnant woman in the week ending 26 June. Since January 2020, 47 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.

Section 5: 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 5a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 26 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 22 May	Total from 1 Mar 2021
	26 Jun	19 Jun	12 Jun	05 Jun		
Total locally acquired cases	**110**	**7**	**0**	**0**	**9**	**126**
Fully Vaccinated	0	0	0	0	0	0
Partially Vaccinated	2 (2%)	0	0	0	1 (11%)	3 (2%)
Single dose within 14 days	5 (5%)	1 (14%)	0	0	1 (11%)	7 (6%)
None	94 (85%)	6 (86%)	0	0	7 (78%)	107 (85%)
Unknown/missing	9 (8%)	0	0	0	0	9 (7%)

Table 5b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 26 June 2021

Self-reported Vaccination Status	Week ending				1 Mar to 22 May	Total from 1 Mar 2021
	26 Jun	19 Jun	12 Jun	05Jun		
Total overseas acquired cases	**7**	**25**	**18**	**12**	**394**	**456**
Fully Vaccinated	0	2 (8%)	0	0	8 (2%)	11 (2%)
Partially Vaccinated	0	0	1 (6%)	0	7 (2%)	6 (1%)
Single dose within 14 days	0	4 (16%)	0	0	15 (4%)	20 (4%)
None	6 (86%)	18 (72%)	17 (94%)	11 (92%)	353 (90%)	405 (89%)
Unknown/missing	1(14%)	1 (4%)	0	1 (8%)	11 (2%)	14 (3%)

Interpretation: Since 1 March 2021, there has been one (1%) locally acquired cases reported as being fully vaccinated and two (2%) cases partially 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.

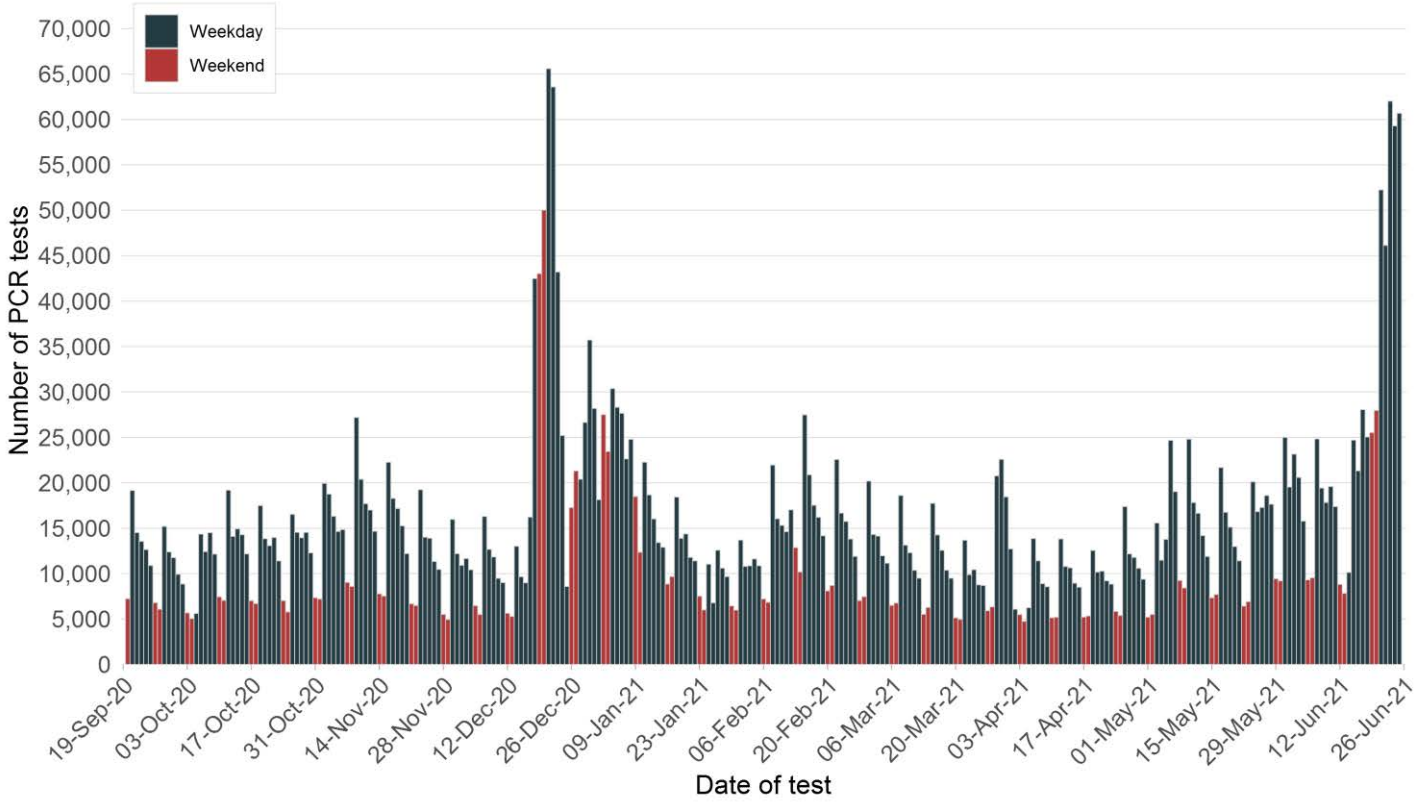
Section 6: COVID-19 testing in NSW

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 3. Number of PCR tests per day, NSW, 12 September 2020 to 26 June 2021



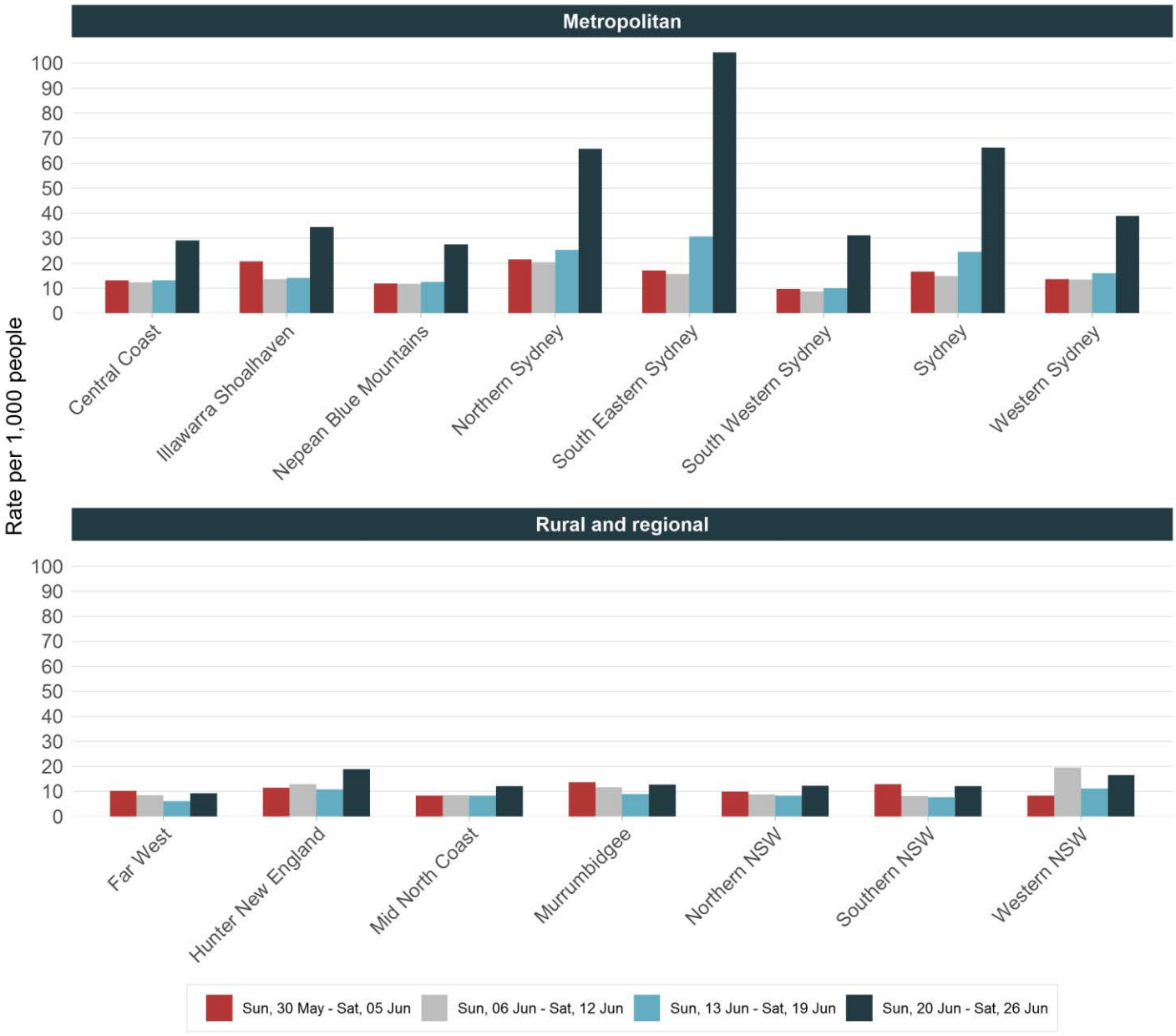
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers surged in the week ending 26 June 2021 (up 155%) compared to the previous week in response to the developing Eastern Suburbs cluster. The average daily testing rate of 6.4 per 1,000 people in NSW each day increased compared to the previous week of 2.5 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 4. Rates of COVID-19 testing by LHD of residence, NSW, 30 May to 26 June 2021

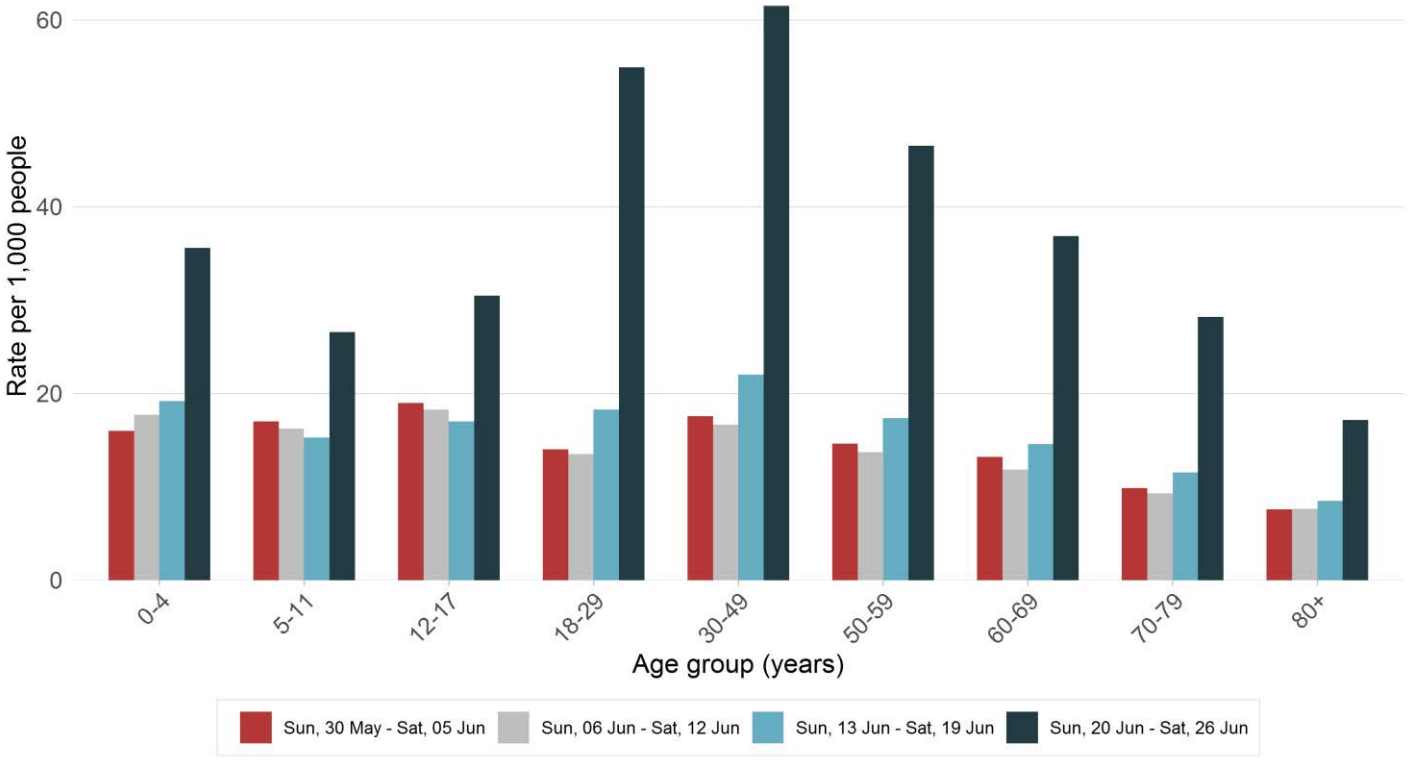


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 26 June significantly increased when compared to the previous week (44.9 per 1,000 people compared to 17.6 per 1,000 people). Testing rates increased across all metropolitan Local Health Districts with a surge in testing in South Eastern Sydney, Sydney, Northern Sydney and Western Sydney Local Health Districts in response to the Eastern Suburbs cluster. To limit the spread of COVID-19, multiple public health alerts were issued advising people that attended affected venues in the Eastern, Western and South Western suburbs seek testing and isolate regardless of symptoms.

Testing by age group

Figure 5. Rates of COVID-19 testing by age group and week, NSW, 30 May to 26 June 2021



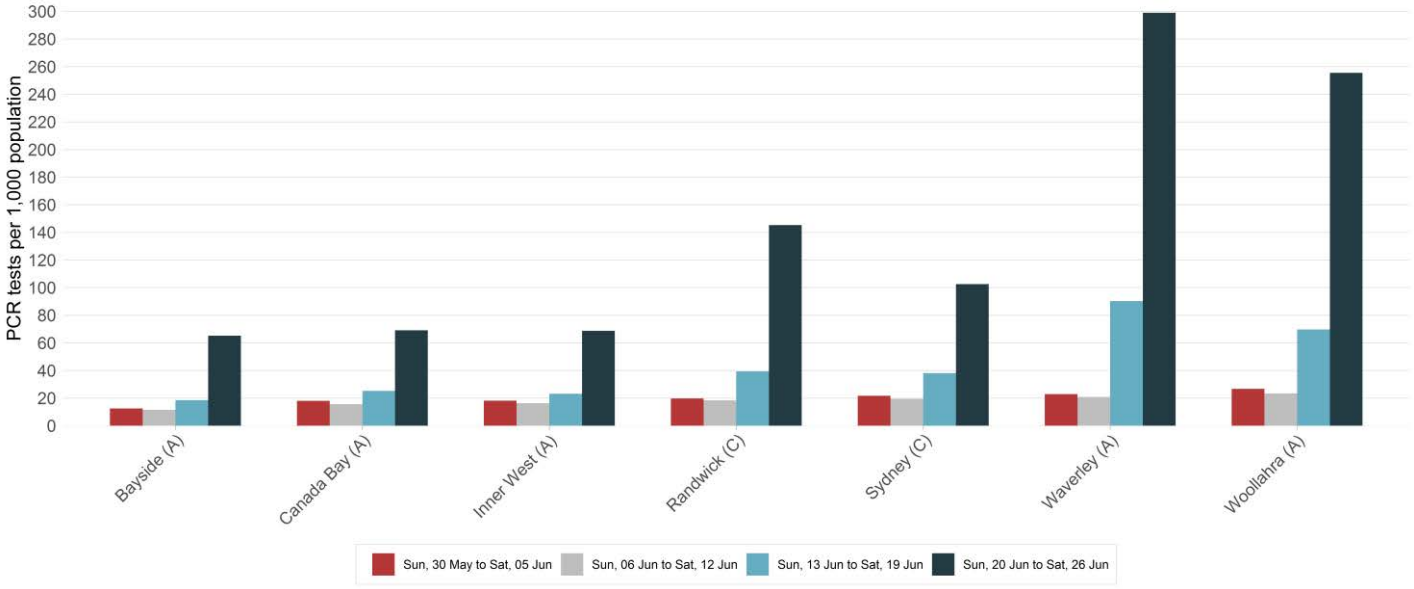
Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: In the week ending 26 June 2021, testing rates increased significantly across all age groups with the largest increase in adults aged 18-29 and 30-49 years.

Testing across Eastern Suburbs LGAs

The following figure displays the number of tests by seven Local Government Area across the Eastern Suburbs area.

Figure 6. Rates of COVID-19 testing by LGA of concern and week, NSW, 30 May to 26 June 2021

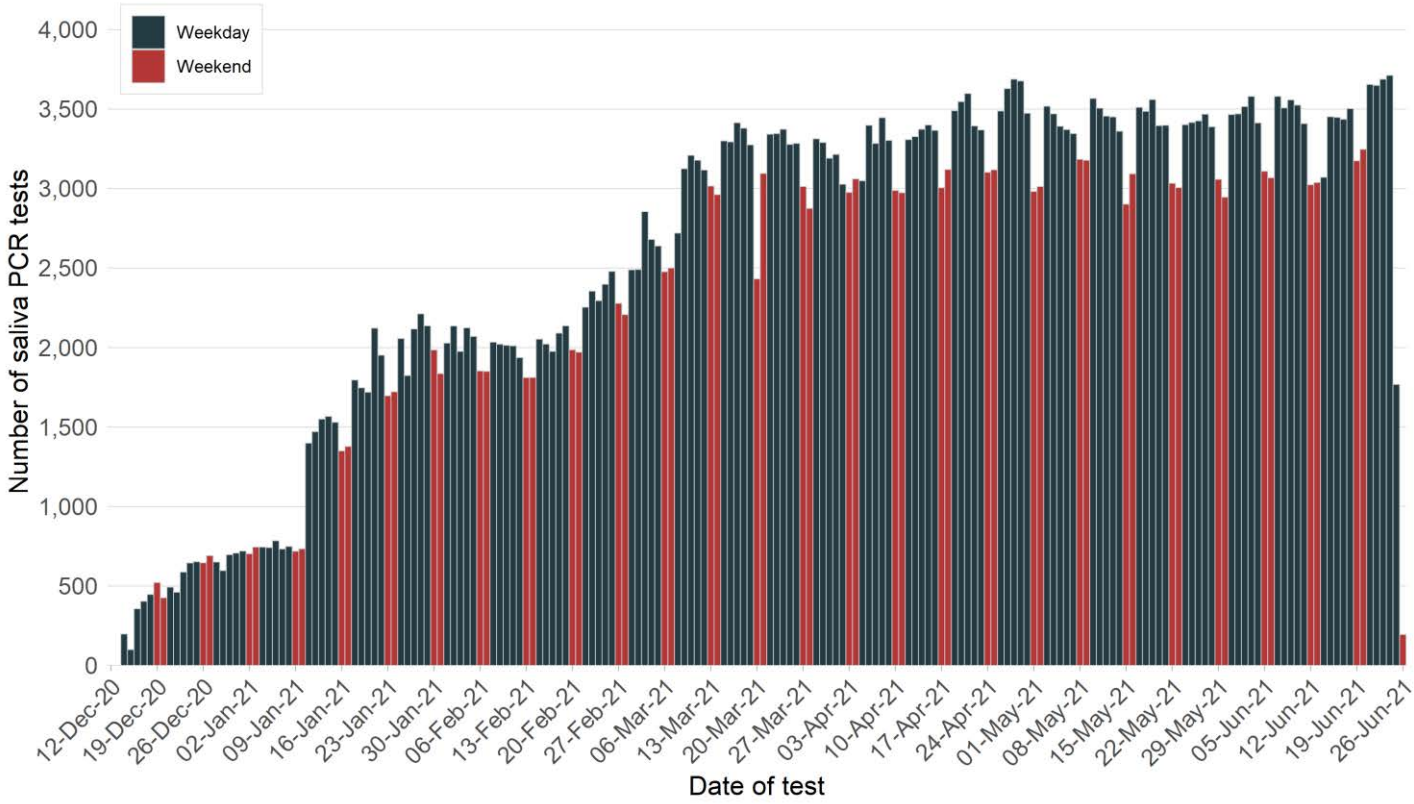


Interpretation: Testing rates increased across seven in response to the recent Eastern Suburbs cluster. This was mainly driven by testing in Waverley, Woollahra and Randwick LGAs where the rate tripled or more when compared to the previous week (299, 255,145 tests per 1000 people compared with 90, 70, 39 per 1,000 last week respectively).

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 26 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 493,513 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 7: 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 26 June 2021, there have been:

- 72 locally acquired cases diagnosed with a VOC. All cases have been identified as having the Delta variant.
- 33 returned travellers diagnosed with a VoC. Of these:
  - 11 (33%) with the Alpha variant
  - 4 (12%) with the Beta variant
  - 18 (55%) 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%), Iran (2, 6%), UK (2, 6%), Philippines (2, 6%), Bangladesh (2, 6%), USA (2, 6%), Iraq (1, 3%), Indonesia (1, 3%), Pakistan (1, 3%), Sierra Leone (1, 3%) and unknown (1, 3%).

Table 6a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 26 June 2021

	Week ending				29 Nov to 22 May	Total since 29 November
	26 June*	19 June*	12 June	5 June		
Total variants identified	65	7	0	0	9	33
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)	65	7	0	0	2	26

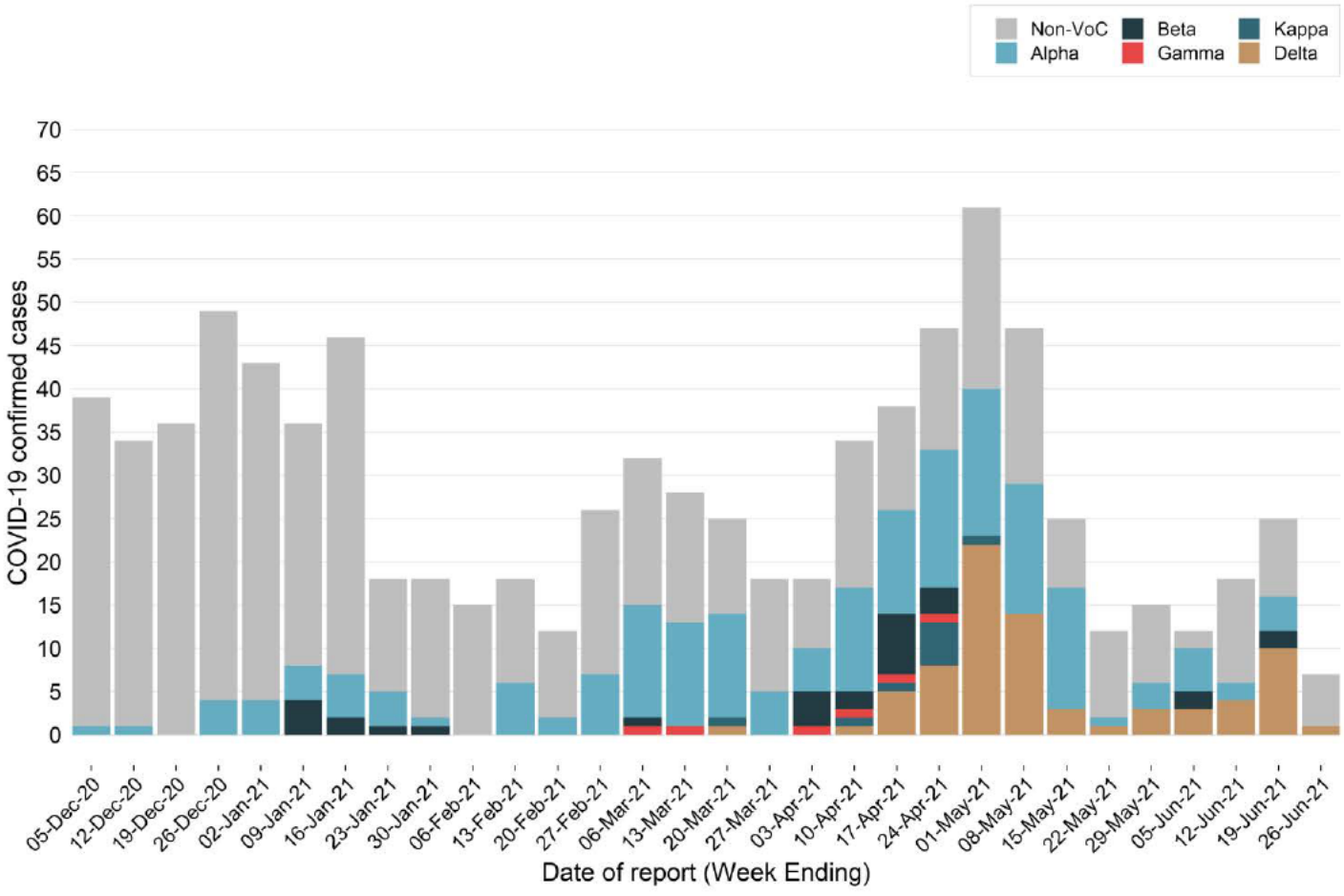
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 26 June have been the Delta variant of concern.

Table 6b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 26 June 2021

	Week ending				29 Nov to 22 May	Total since 29 November
	26 June*	19 June*	12 June	5 June		
Total variants identified	1	16	6	10	274	307
Alpha (B.1.1.7)	0	4	2	5	176	187
Beta (B.1.351)	0	2	0	2	25	29
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)	1	10	4	3	58	76

***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 8. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 26 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 26 June 2021, 53% (33/62) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 8: 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. Charlotte Pass has recommenced sampling. The results from all sites across NSW are available in Appendix D.

Table 7. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 26 June 2021

		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	**Location**	16	17	18	19	20	21	22	23	24	25
Sydney sewage treatment plant (inlet sites)											
1,241	Brooklyn										
318,810	Bondi										
233,176	Cronulla										
	Malabar 1										
1,857,740	Malabar 2										
98,743	West Camden										
1,341,986	North Head										
	Castle Hill Cattai										
26,997	Castle Hill Glenhaven										
119,309	Rouse Hill										
163,147	St Marys										
68,000	Port Kembla										
93,000	Bellambi										
Sydney network sites											
Bondi	Paddington										
Cronulla	Caringbah										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
Malabar	Homebush SPS										
Malabar	Botany										
Malabar	Maroubra										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn										
North Head	Allambie Heights										
Liverpool	Ireland Park										

Table 7. Continued

		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	**Location**	16	17	18	19	20	21	22	23	24	25
Regional Sites											
15,500	Merimbula										
2,050	Bourke										
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 26 June, 172 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were thirty detections. There was one detection in regional NSW taken from the Bourke sewage treatment plant. There were twenty nine detections in Sydney – taken from the Brooklyn, Bondi (2 detections), Cronulla (3 detections), Malabar (3 detections), West Camden, Castle Hill Glenhaven, Rouse Hill (2 detections), St Marys and North Head sewage treatment plants and the sewage network at Botany (within the Malabar catchment), Paddington (within the Bondi catchment), Lough Park (2 detections within the Bondi catchment), Caringbah (within the Cronulla catchment), Maroubra (within the Malabar catchment), Auburn (within the North Head catchment), Ireland Park (within the Liverpool catchment), Port Kembla, Bellambi (2 detections) and the sewage pumping stations Camellia South (2 detections within the North Head catchment) and Camellia North (within the North Head catchment).

Although no active cases were identified in the Bourke, Port Kembla and Castle Hill Glenhaven catchments, 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. All other catchments were associated with known cases in the area.

Section 9: 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 26 June 2021.

Table 8. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 26 June 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	155	0%
5-11	0	155	0%
12-17	0	177	0%
18-29	0	1260	0%
30-49	0	1869	0%
50-59	1	728	0.1%
60-69	4	666	0.6%
70-79	15	397	3.8%
80+	36	167	22.0%
Total	**56**	5,574	**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.

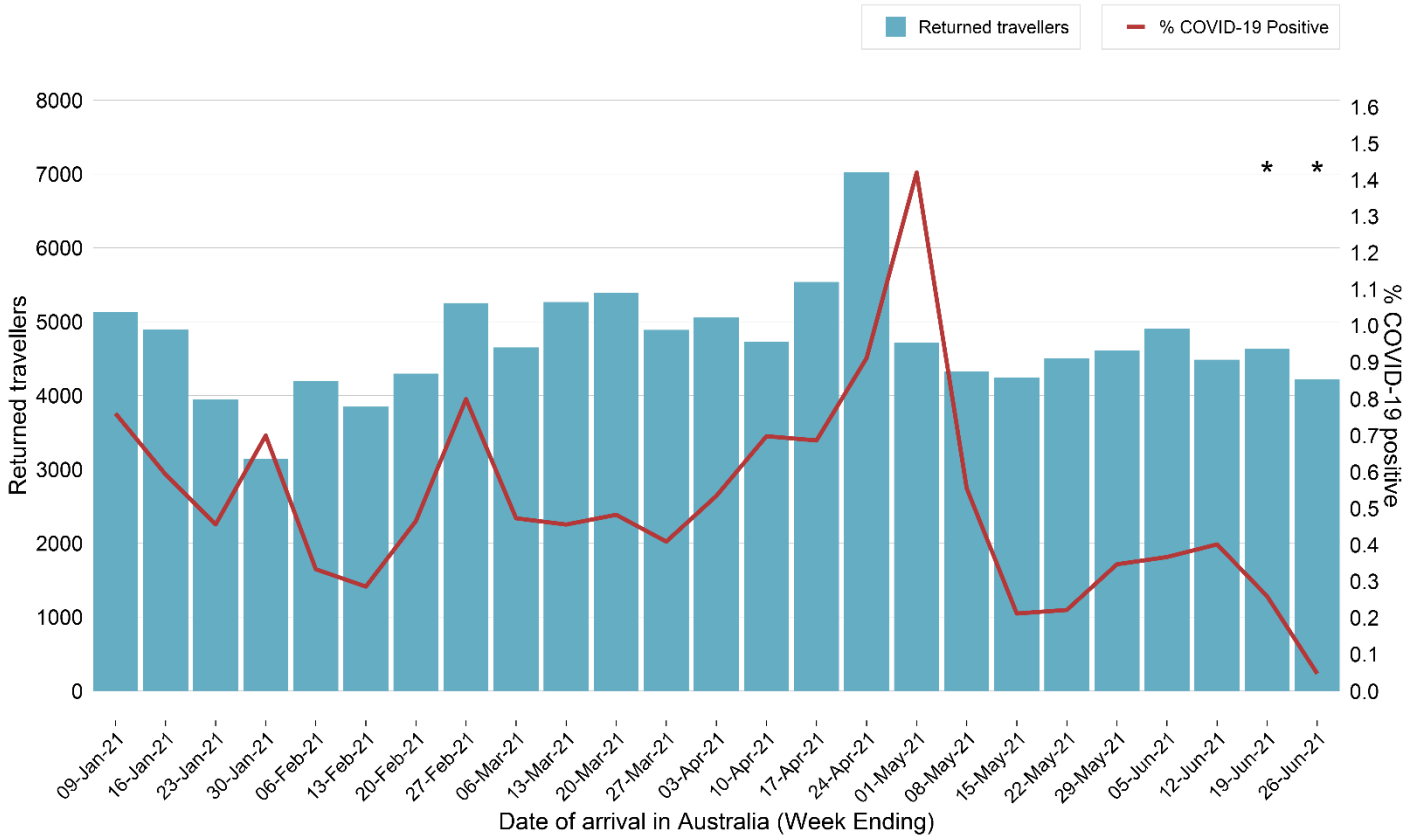
Section 10: COVID-19 in returned travellers

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 9. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 26 June 2021



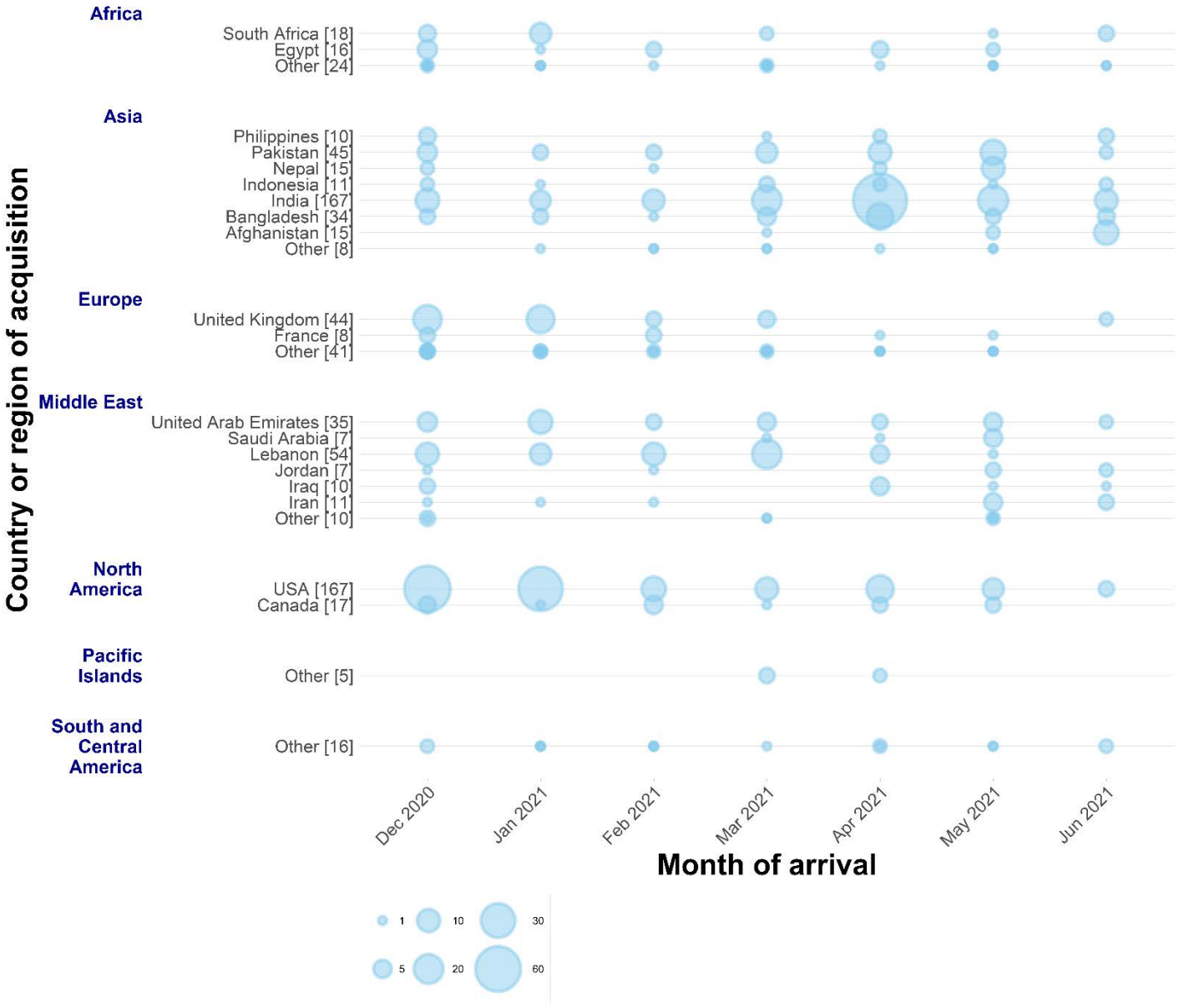
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of heir hotel quarantine period.

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, 62 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 10. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 December 2020 to 26 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 62 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 9. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 30 May 2021 to 26 June 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Afghanistan	12 (19%)
India	10 (16%)
Bangladesh	4 (6%)
South Africa	4 (6%)
USA	4 (6%)
Indonesia	3 (5%)
Iran	3 (5%)
Philippines	3 (5%)
Jordan	2 (3%)
Pakistan	2 (3%)
United Arab Emirates	2 (3%)
United Kingdom	2 (3%)
Venezuela,	2 (3%)
Other	9 (15%)
Total	62 (100%)

Interpretation: In the last four weeks, travellers returning from Afghanistan and India accounted for the largest number of overseas acquired cases (22, 40%), followed by travellers returning from Bangladesh, South Africa and USA (4, 6%).

Cases among returned travellers in quarantine

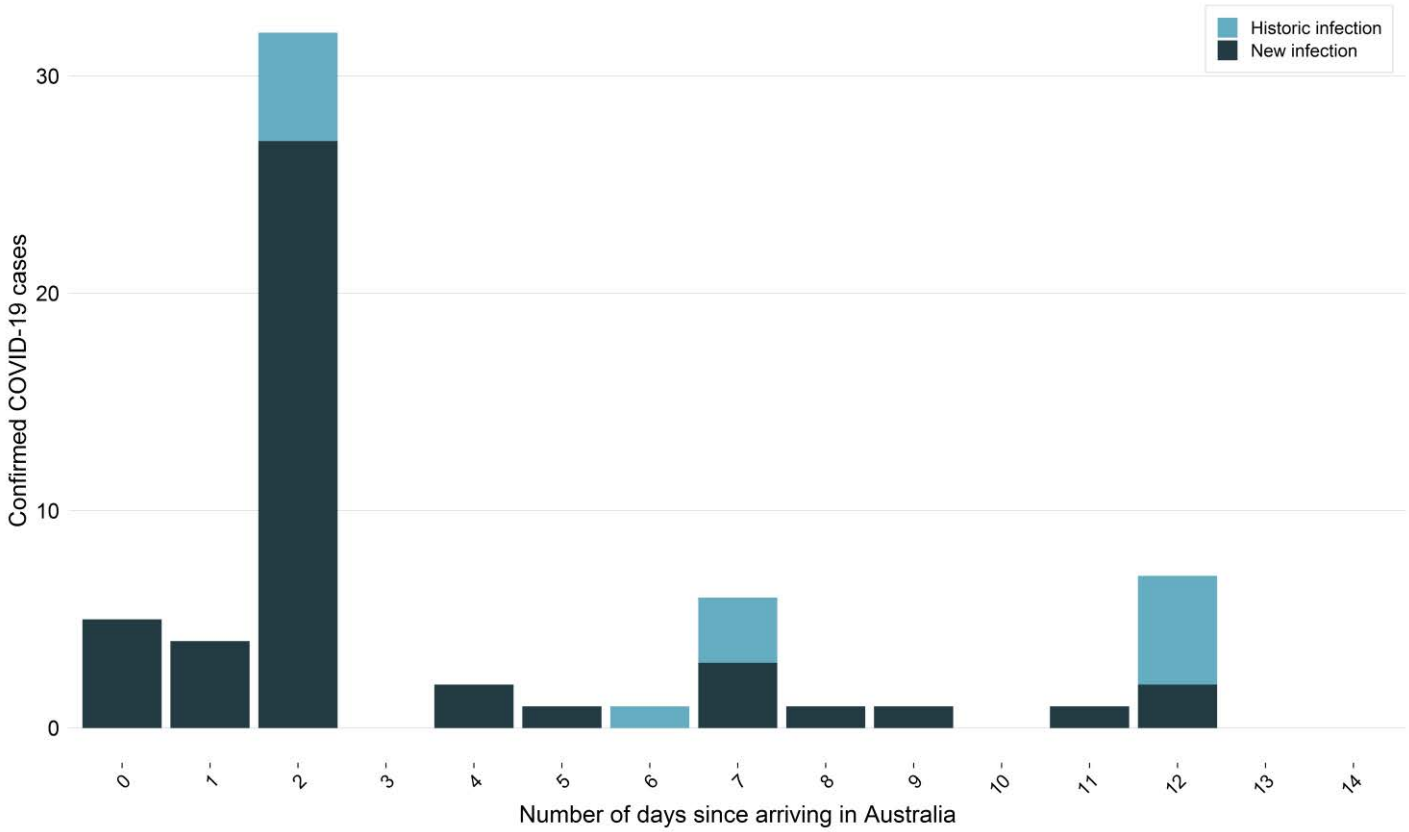
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved 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 11. 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, 30 May to 26 June 2021



Interpretation: In the four weeks ending 26 June 2021, 48% 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 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 20 June 2021

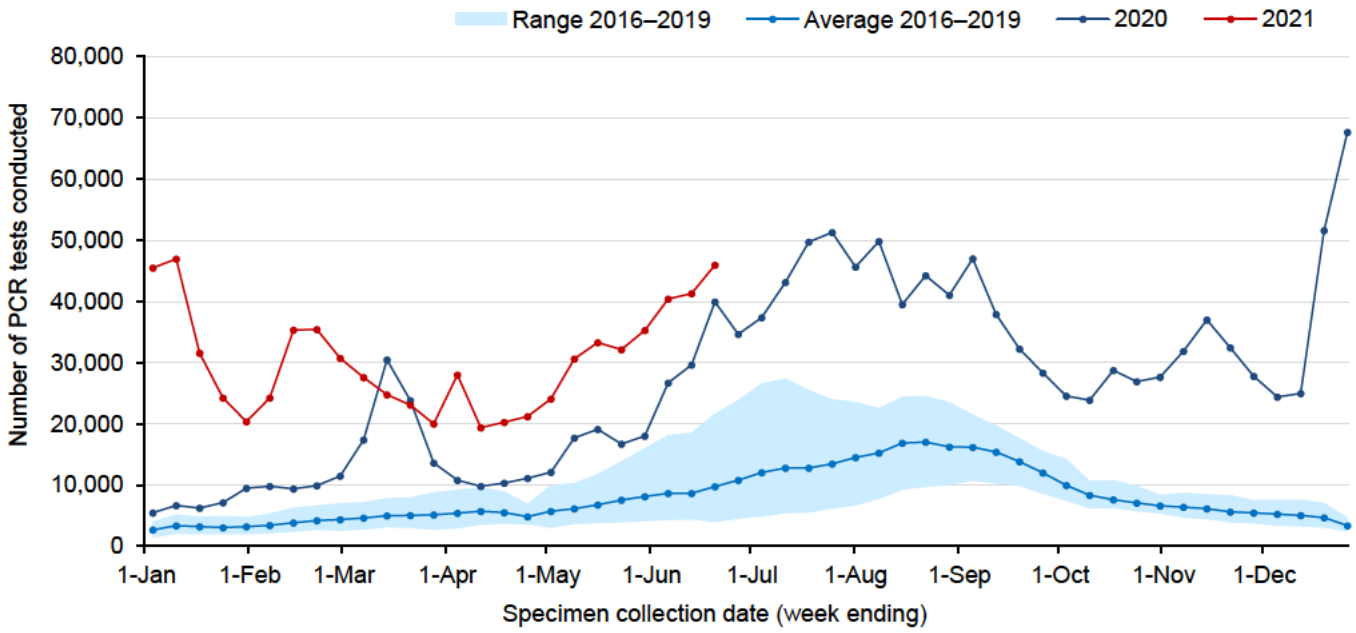
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 20 June 2021. A total of 761,697 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 12. Testing for influenza by week, NSW, 1 January 2016 to 20 June 2021

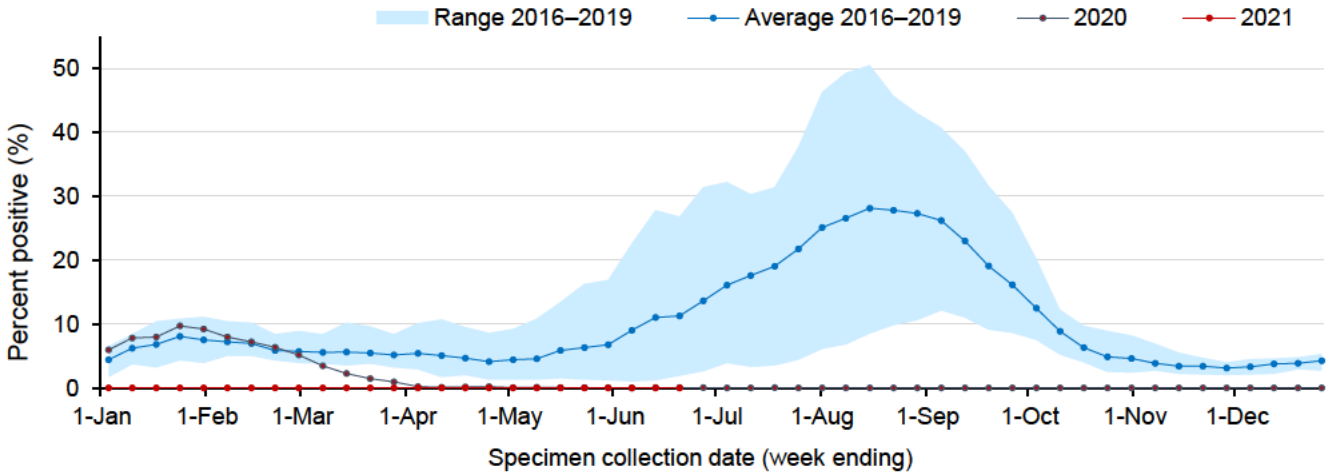


Interpretation: In the week ending 20 June, the number of influenza tests increased, with 45,936 influenza tests performed across participating laboratories compared with 41,306 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

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 13. Proportion of tests positive for influenza, NSW, 1 January 2016 to 20 June 2021

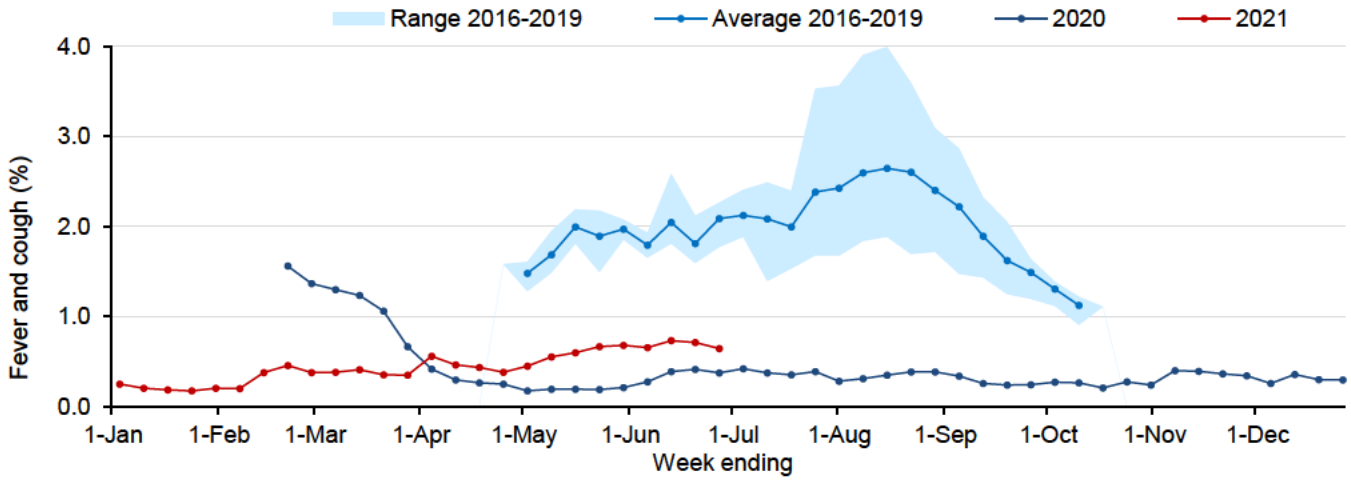


Interpretation: In the week ending 20 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There 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 14. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 27 June 2021



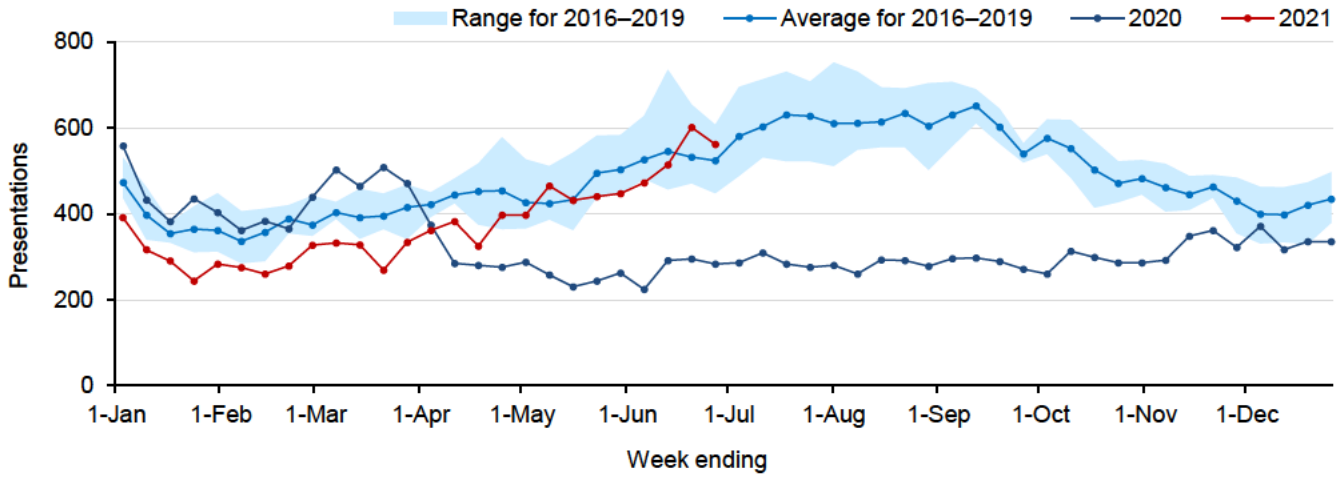
Interpretation: In NSW in the week ending 27 June 2021, of the 21,647 people surveyed, 139 people (0.64%) reported flu-like symptoms. In the last four weeks, 59% (394/664) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased 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.

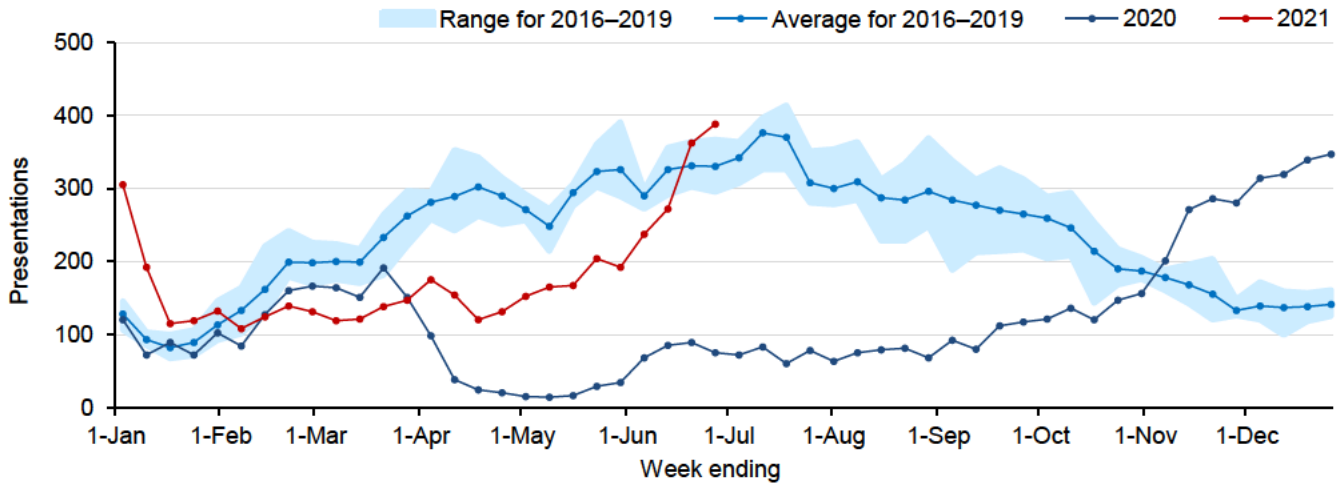
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 15. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 27 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 decreased and remain within the seasonal range for this time of year.

Figure 16. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 27 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 and are above 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	
		26-Jun		19-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
Central Coast	*LHD Total*[2]	9506	26.94	4634	13.13	245539	695.85
Far West	Balranald	28	11.98	12	5.13	827	353.72
	Broken Hill	151	8.64	124	7.09	10446	597.63
	Central Darling	9	4.89	4	2.18	614	333.88
	Wentworth	48	6.81	45	6.38	3805	539.49
	LHD Total[2]	236	7.83	185	6.14	15692	520.57
Hunter New England	Armidale Regional	417	13.55	277	9.00	17023	553.07
	Cessnock	540	9.00	280	4.67	24184	403.17
	Dungog	98	10.40	58	6.16	4126	437.86
	Glen Innes Severn	58	6.54	40	4.51	2978	335.70
	Gunnedah	167	13.17	91	7.18	5238	413.06
	Gwydir	37	6.91	31	5.79	1258	235.01
	Inverell	147	8.70	137	8.11	7099	420.31
	Lake Macquarie	4363	21.19	2801	13.60	151202	734.34
	Liverpool Plains	91	11.51	56	7.09	3391	429.08
	Maitland	2002	23.51	1112	13.06	67534	792.97
	Mid-Coast	903	9.62	598	6.37	39171	417.44
	Moree Plains	123	9.28	540	40.72	6908	520.93
	Muswellbrook	176	10.75	126	7.69	7369	449.96
	Narrabri	84	6.40	78	5.94	4095	311.76
	Newcastle	4424	26.72	2338	14.12	146040	882.04
	Port Stephens	1218	16.58	663	9.02	45583	620.34
	Singleton	307	13.09	185	7.89	14812	631.35
	Tamworth Regional	1145	18.31	689	11.02	37228	595.26
	Tenterfield	22	3.34	22	3.34	1835	278.28
	Upper Hunter Shire	172	12.13	111	7.83	6687	471.58
	Uralla	47	7.82	29	4.82	2052	341.32
	Walcha	80	25.53	9	2.87	1494	476.71
	LHD Total[2]	16619	17.45	10269	10.78	596886	626.73
Illawarra Shoalhaven	Kiama	791	33.82	402	17.19	17636	754.13
	Shellharbour	2585	35.30	909	12.41	52865	721.87
	Shoalhaven	1886	17.85	1100	10.41	59837	566.38
	Wollongong	8577	39.32	3473	15.92	170740	782.80
	LHD Total[2]	13839	32.98	5884	14.02	301078	717.51
Mid North Coast	Bellingen	171	13.16	120	9.23	6585	506.69
	Coffs Harbour	834	10.79	585	7.57	34038	440.47
	Kempsey	300	10.09	249	8.37	14754	496.02
	Nambucca	172	8.68	129	6.51	8003	404.09
	Port Macquarie-Hastings	1141	13.50	774	9.16	43872	519.04
	LHD Total[2]	2618	11.60	1857	8.23	107252	475.27
Murrumbidgee	Albury	679	12.49	558	10.27	30768	566.08

		Week ending				Total since January 2021	
		26-Jun		19-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
	Berrigan	24	2.74	30	3.43	2735	312.57
	Bland	66	11.05	39	6.53	2306	386.14
	Carrathool	13	4.64	7	2.50	520	185.78
	Coolamon	46	10.60	47	10.83	2054	473.16
	Cootamundra-Gundagai Regional	128	11.39	94	8.37	4923	438.18
	Edward River	26	2.86	27	2.97	3766	414.58
	Federation	72	5.79	79	6.35	4917	395.35
	Greater Hume Shire	115	10.68	108	10.03	5247	487.46
	Griffith	445	16.46	312	11.54	14787	547.08
	Hay	14	4.75	6	2.03	786	266.53
	Hilltops	250	13.37	155	8.29	8645	462.20
	Junee	42	6.28	52	7.78	2336	349.54
	Lachlan[1]	31	5.10	19	3.13	1405	231.28
	Leeton	99	8.65	79	6.90	4274	373.44
	Lockhart	26	7.91	12	3.65	1263	384.47
	Murray River	14	1.16	14	1.16	1342	110.74
	LHD Total[2]	31	7.91	21	5.36	1256	320.65
	Narrandera	47	7.97	32	5.42	1729	293.10
	Snowy Valleys	159	10.98	94	6.49	6496	448.65
	Temora	32	5.07	26	4.12	1923	304.90
	Wagga Wagga	1231	18.86	845	12.95	43606	668.21
	LHD Total[2]	3565	11.96	2642	8.86	146148	490.25
Nepean Blue Mountains	Blue Mountains	2314	29.25	1162	14.69	71991	909.92
	Hawkesbury	1857	27.59	1018	15.13	50258	746.82
	Lithgow	228	10.55	117	5.42	9820	454.52
	Penrith	5841	27.43	2635	12.37	171823	806.77
	LHD Total[2]	10145	25.95	4878	12.48	301537	771.22
Northern NSW	Ballina	942	21.11	554	12.41	35222	789.24
	Byron	550	15.68	371	10.58	27471	783.07
	Clarence Valley	404	7.82	301	5.83	19036	368.47
	Kyogle	64	7.28	62	7.05	3102	352.66
	Lismore	559	12.79	419	9.59	27027	618.58
	Richmond Valley	198	8.44	180	7.67	11950	509.27
	Tenterfield	22	3.34	22	3.34	1835	278.28
	Tweed	872	8.99	671	6.92	44261	456.29
	LHD Total[2]	3593	11.58	2564	8.26	168483	542.86
Northern Sydney	Hornsby	6539	43.00	2827	18.59	124006	815.51
	Hunters Hill	1778	118.69	696	46.46	28309	1889.79
	Ku-ring-gai	9009	70.85	3764	29.60	164563	1294.21
	Lane Cove	4738	117.99	1852	46.12	79566	1981.47
	Mosman	1909	61.62	815	26.31	33724	1088.54
	North Sydney	4139	55.17	1600	21.33	62772	836.73
	Northern Beaches	15858	57.98	6809	24.90	397194	1452.27
	Parramatta[1]	9335	36.30	4258	16.56	181830	706.97

		Week ending				Total since January 2021	
		26-Jun		19-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
	Ryde	7601	57.90	3359	25.59	120138	915.19
	Willoughby	3749	46.18	1542	18.99	64631	796.06
	LHD Total[2]	57364	60.01	24236	25.35	1112576	1163.88
South Eastern Sydney	Bayside	10834	60.73	3314	18.58	124755	699.32
	Georges River	5788	36.30	2037	12.77	101405	635.88
	Randwick	21455	137.84	6124	39.34	178364	1145.94
	Sutherland Shire	11689	50.69	4029	17.47	208646	904.75
	Sydney[1]	22671	92.03	9400	38.16	281155	1141.32
	Waverley	20073	270.18	6706	90.26	113726	1530.74
	Woollahra	13734	231.26	4145	69.80	94545	1592.02
	LHD Total[2]	92277	96.21	29399	30.65	924545	963.97
South Western Sydney	Camden	6930	68.32	1653	16.30	106526	1050.17
	Campbelltown	6240	36.50	2069	12.10	140238	820.38
	Canterbury-Bankstown[1]	10416	27.56	4281	11.33	246817	653.10
	Fairfield	2983	14.09	1302	6.15	104658	494.38
	Liverpool	5896	25.91	2280	10.02	165977	729.30
	Wingecarribee	1193	23.33	718	14.04	43868	857.90
	Wollondilly	1076	20.24	466	8.77	29793	560.56
	LHD Total[2]	29013	27.94	10431	10.04	710353	684.00
Southern NSW	Bega Valley	415	12.04	245	7.11	15955	462.79
	Eurobodalla	479	12.45	341	8.86	23249	604.29
	Goulburn Mulwaree	457	14.68	247	7.93	17290	555.38
	Queanbeyan-Palerang Regional	562	9.20	475	7.77	23336	381.93
	Snowy Monaro Regional	300	14.43	184	8.85	10291	494.88
	Upper Lachlan Shire	113	14.02	70	8.69	3848	477.48
	Yass Valley	145	8.49	92	5.38	5697	333.41
	LHD Total[2]	2477	11.41	1655	7.62	99708	459.33
Sydney	Burwood	1420	34.97	464	11.43	23746	584.70
	Canada Bay	6318	65.76	2426	25.25	94104	979.49
	Canterbury-Bankstown[1]	10416	27.56	4281	11.33	246817	653.10
	Inner West	12506	62.28	4644	23.13	213619	1063.78
	Strathfield	2456	52.34	869	18.52	41912	893.15
	LHD Total[2]	22671	92.03	9400	38.16	281155	1141.32
	LHD Total[2]	42214	60.59	17049	24.47	674364	967.84
Western NSW	Bathurst Regional	742	17.01	411	9.42	28012	642.21
	Blayney	106	14.37	65	8.81	4580	620.68
	Bogan	21	8.14	19	7.36	1193	462.40
	Bourke	125	48.26	10	3.86	830	320.46
	Brewarrina	9	5.59	10	6.21	422	261.95
	Cabonne	144	10.56	99	7.26	4852	355.88
	Cobar	31	6.66	37	7.94	1625	348.86
	Coonamble	56	14.15	18	4.55	1297	327.69
	Cowra	155	12.16	106	8.32	5377	421.96
	Dubbo Regional	1009	18.78	1004	18.69	29725	553.34
	Forbes	95	9.59	158	15.95	3843	387.95

		Week ending				Total since January 2021	
		26-Jun		19-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
	Gilgandra	52	12.27	36	8.49	1425	336.16
	Lachlan[1]	31	5.10	19	3.13	1405	231.28
	Mid-Western Regional	395	15.64	267	10.57	13103	518.91
	Narromine	90	13.81	79	12.12	2713	416.30
	Oberon	57	10.53	38	7.02	2397	442.99
	Orange	920	21.67	487	11.47	32034	754.61
	Parkes	173	11.66	161	10.85	6162	415.31
	Walgett	34	5.71	46	7.73	2106	353.77
	Warren	55	20.39	51	18.91	1914	709.68
	Warrumbungle Shire	98	10.56	67	7.22	4058	437.38
	Weddin	42	11.62	13	3.60	1245	344.59
	LHD Total[2]	4436	15.56	3196	11.21	149920	526.01
Western Sydney	Blacktown	11123	29.70	5323	14.22	291922	779.60
	Cumberland	7075	29.29	3164	13.10	182085	753.91
	Parramatta[1]	9335	36.30	4258	16.56	181830	706.97
	The Hills Shire	9784	54.98	4976	27.96	198881	1117.50
	LHD Total[2]	35553	33.75	16857	16.00	824187	782.38
NSW Total[3]		332802	41.14	142578	17.62	2626489	324.67

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 20 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 2020–20 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	761,697	4	<0.01%	9	<0.01%	4,140	10,034	12,552	45,575	507	5,220
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	–	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	41,306	0	–	0	–	402	1,685	678	2,597	113	189
20 June	45,936	0	–	0	–	336	1,818	629	2,182	149	198

Testing numbers in NSW from January–27 December 2020

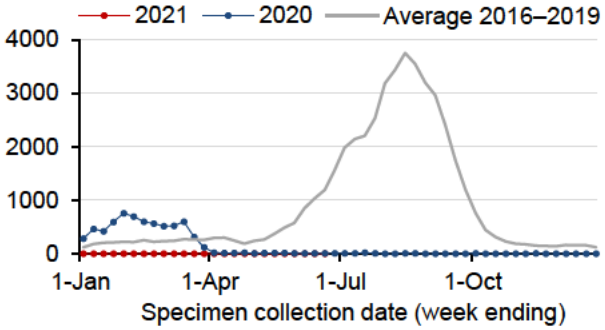
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	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

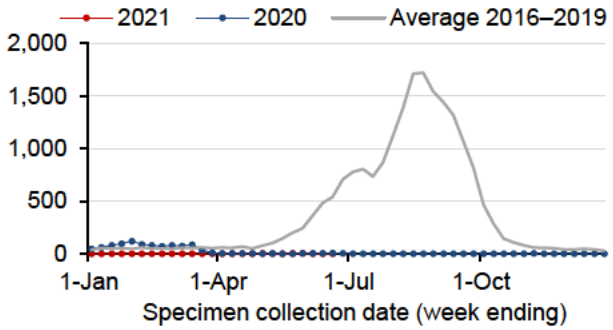
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 20 June 2021

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.

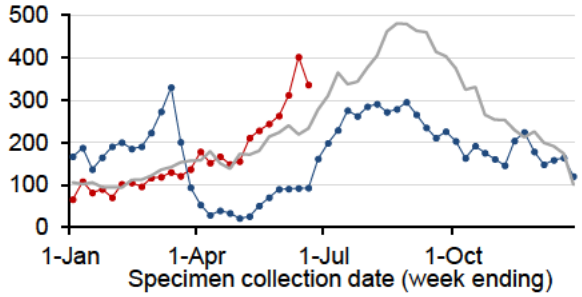
Influenza A



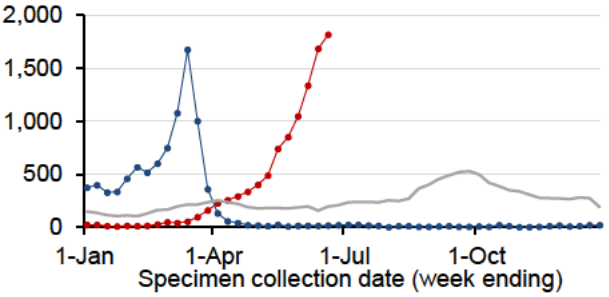
Influenza B



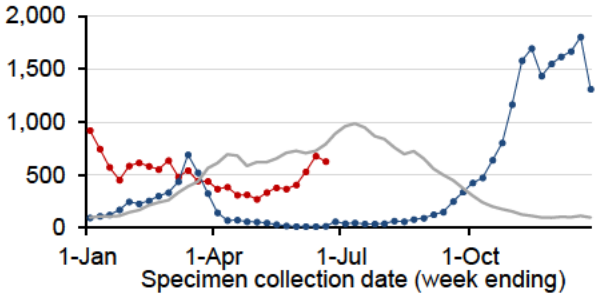
Adenovirus



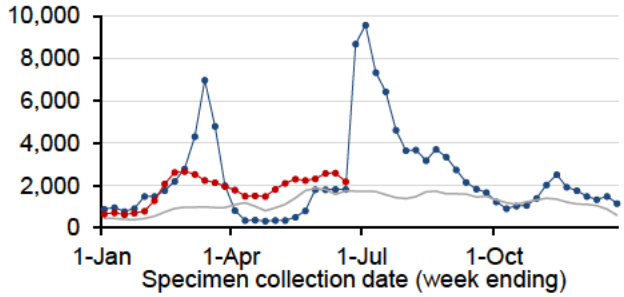
Parainfluenza



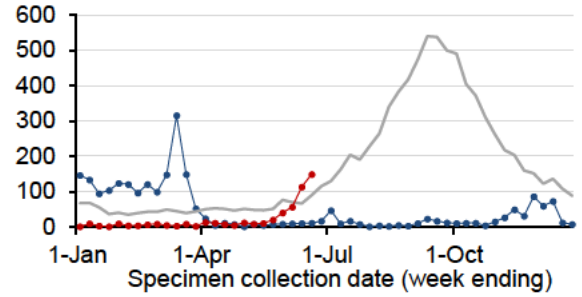
Respiratory syncytial virus (RSV)



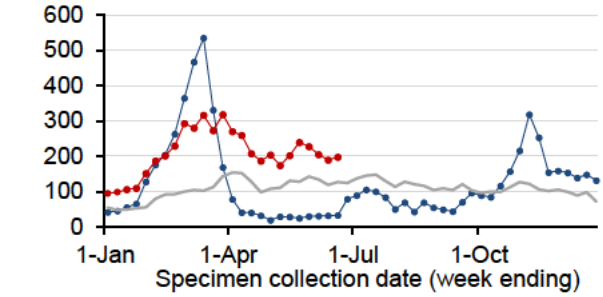
Rhinovirus



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 26 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. Charlotte Pass has recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	Location	16	17	18	19	20	21	22	23	24	25
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		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Network	Location	16	17	18	19	20	21	22	23	24	25
Bondi	Paddington Sewage Network										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	Location	16	17	18	19	20	21	22	23	24	25
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	Cul burra Beach										
139,500	Gosford-Kincumber										
59,060	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
	Albury composite	c		c	c	c	c	c	c	c	c
51,750	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
50,000	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	Location	16	17	18	19	20	21	22	23	24	25
	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	
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		24-Apr	1-May	8-May	15-May	22-May	29-May	5-Jun	12-Jun	19-Jun	26-Jun
Pop.	Location	16	17	18	19	20	21	22	23	24	25
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.

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 26, ENDING 3 July 2021

Published 12 July 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 3 July 2021

	2021			2020	
	last 7 days	last 4 weeks	year to date	Jan – Jun	Jul – Dec
	27 June - 3 July	6 June - 3 July	1 Jan - 3 July		
Locally acquired	171 (86%)	287 (79%)	338 (33%)	1,236 (39%)	808 (52%)
Interstate acquired	0	1 (<1%)	1 (<1%)	67 (2%)	23 (1%)
Overseas acquired	27 (14%)	77 (21%)	686 (67%)	1,892 (59%)	714 (46%)
Total	**198 (100%)**	**365 (100%)**	**1,025 (100%)**	**3,195 (100%)**	**1,545 (100%)**
Deaths	0	0	0	52	4

Summary for the week ending 3 July 2021

- There were 171 locally acquired cases and four new clusters reported in Eastern Sydney, Sydney and Western Sydney Local Health Districts in the week ending 3 July 2021. Of these:
  - 113 cases had direct contact with other cases in the Eastern Suburbs cluster

  The remaining cases do not have direct links, including:
  - 6 cases associated with a small gathering in a hotel in Waterloo
  - 4 cases associated with a place of worship in Lidcombe
  - 3 cases associated with an aged care facility in Baulkham Hills
  - 2 cases associated with a workplace in Banksmeadow
  - 29 cases linked to a known case whose source is unknown
  - 14 cases not currently linked to any other cases

- There were 27 cases reported in overseas returned travellers in the last week, an increase compared to the week ending 26 June, when 7 cases were reported.

- In the four weeks ending 3 July 2021, 100% (197/197) of locally acquired cases sequenced and 47% (36/77) of overseas acquired cases sequenced 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)]. Not all case samples can be sequenced.

- Since March 2021, nine (3%) of locally acquired cases have reported being fully vaccinated. Thirteen (3%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.

- Testing rates remain high across all metropolitan Local Health Districts and increased significantly across rural and regional Local Health Districts compared to the previous week (up 8%).

- In the week ending 3 July, 188 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 55 detections from 35 sites across Sydney taken from Penrith, Hornsby Heights, Bondi, Cronulla, Malabar 1, Malabar 2, Liverpool, West Camden, Glenfield, North Head, Rouse Hill, St Marys, Botany, Paddington, Lough Park, Parsley Bay, Earlwood, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Croydon, Dulwich Hill, Canterbury, Maroubra, Ireland Park, Auburn, Tunks Park, Port Kembla, Bellambi, Homebush, Camellia South and Camellia North. Although no active cases were identified in the Penrith and St Marys catchments at the time, a detection may indicate the presence of people in the community who have recently been infected with COVID-19 but may no longer be infectious or the movement of cases that have not yet been identified in their local area. People can continue to shed fragments of the virus for several weeks. All other catchments were associated with known cases in the area.

Indicators of effective prevention for COVID-19 in NSW for the week ending 3 July 2021

Locally acquired cases in isolation during their infectious period

	Week ending 3 July	Week ending 26 June
	Count (%)	Count (%)
Locally acquired cases	171	109
Cases with symptoms at diagnosis	134	87
Number in isolation at least 48 hours before symptoms	46 (34%)	21 (24%)
Cases reporting no symptoms at diagnosis*	37	22
Number in isolation at least 48 hours before test	11 (30%)	8 (36%)

Interpretation: In the week ending 3 July 2021, 37 cases (22%) 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. Of the 134 symptomatic cases, 46 (34%) 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 3 July	Week ending 26 June
Proportion locally-acquired cases notified to NSW Health by the laboratory within 24 hours	88% (150/171)	96% (105/109)
Locally-acquired cases interviewed by public health staff within 1 day of notification to NSW Health	100%	100%
Close contacts (identified by the case) contacted by public health within 48 hours of case notification	100%	100%

Interpretation: In the week ending 3 July, 88% of cases were notified to NSW Health within a day of test, 100% of cases were interviewed within 1 day of notification and all close contacts were contacted by public health within 48 hours of case notification. NSW health has been working closely with laboratory providers to minimise the turn-around times for test results.

Cases risk of community exposure

A case is assigned a risk level based on an initial assessment of a case's community exposures during their infectious period i.e. two days before symptom onset (or specimen collection date if asymptomatic) until the date NSW Health is notified.

- **Low risk** indicates that the case was in isolation during their infectious period or had stayed at home (with or without household members) with no community exposures.
- **Medium risk** indicates that the case was isolating for part of their infectious period, or only had low risk community exposures and no venue exposures for their entire infectious period.
- **High risk** indicates that the case was active in the community with venue exposures during their infectious period

Locally acquired cases by risk of community exposure during their infectious period, 27 June to 3 July 2021, reported at 8pm daily

Community exposure risk	3-Jul	2-Jul	1-Jul	30-Jun	29-Jun	28-Jun	27-Jun
Low risk	13 (81%)	23 (66%)	12 (39%)	8 (33%)	11 (50%)	6 (32%)	6 (33%)
Medium risk	1	3	4	4	5	2	3
High risk:	2	9	15	12	6	11	9
Total	**16**	**35**	**31**	**24**	**22**	**19**	**18**

Interpretation: The proportion of cases that were isolating or stayed home for their full infections period increased during this each week and by 3 July 81% of cases had low risk community exposures.

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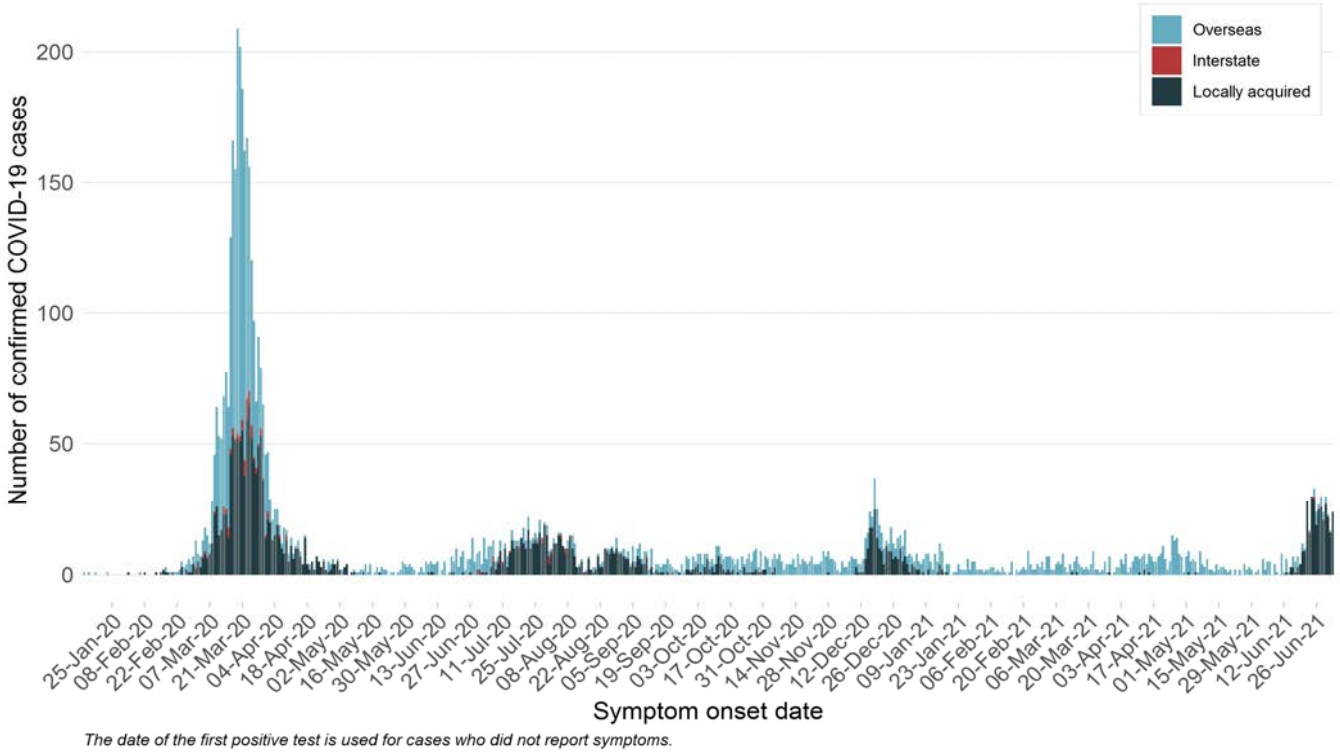
COVID-19 Vaccination program

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

Section 1: How is the outbreak tracking in NSW?

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

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, from 25 January 2020 to 3 July 2021



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

Interpretation: Between 13 January 2020 and 3 July 2021, there were 5,765 confirmed COVID-19 cases. Of those, 3,292 (57%) were overseas acquired, 91 (2%) were interstate acquired, and 2,382 (41%) 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 3 July 2021

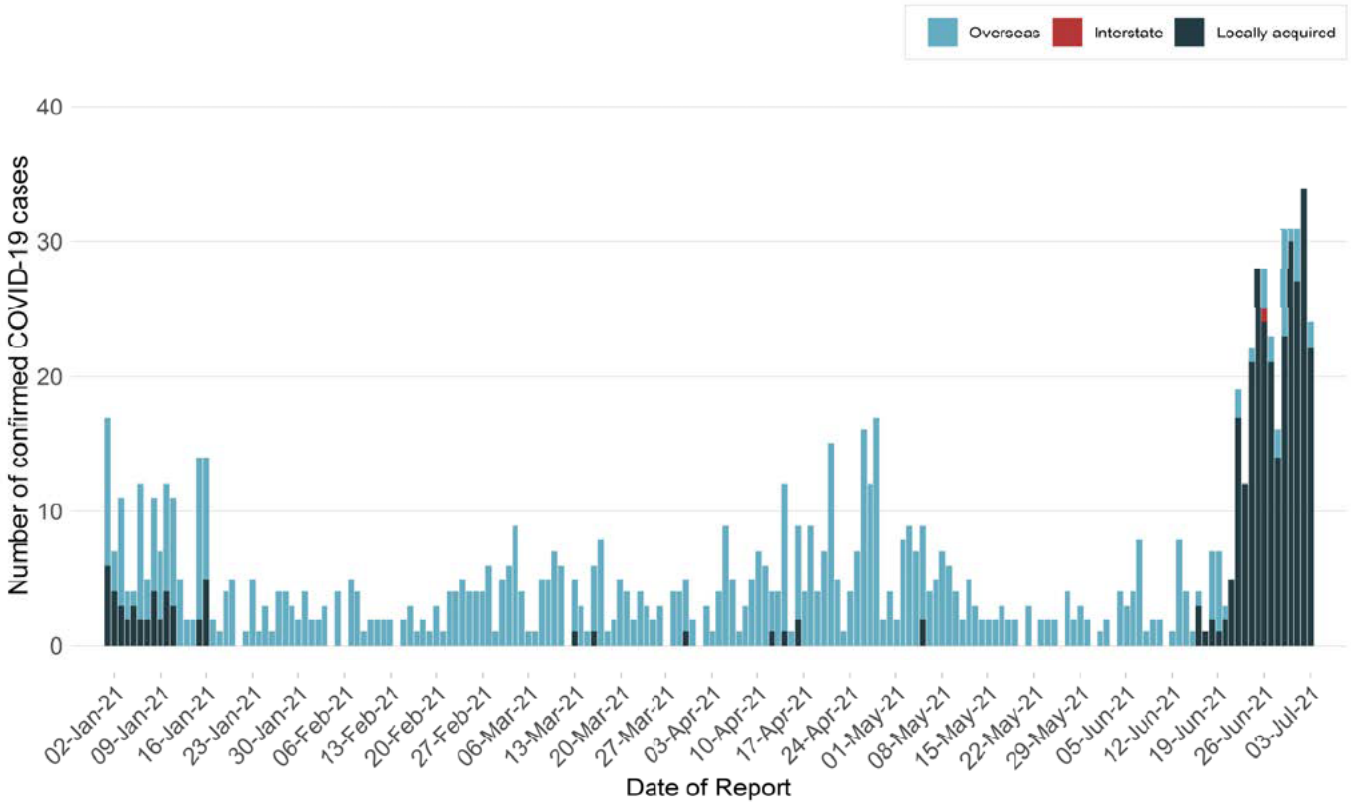


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 3 July 2021

	Week ending 3 July	Week ending 26 June	% change	Total 2021
Number of cases	198	117	69%	1,025
Locally acquired	171	109	57%	338
Known epidemiological links to other cases or clusters	157	107	47%	314
No epidemiological links to other cases or clusters	14	2	600%	24
Overseas acquired	27	7	286%	686
Interstate acquired	0	1	-	1
Number of tests	398,100	367,446	8%	3,059,273

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 locally acquired (287/365, 79%). Of the 171 locally acquired cases reported in the week ending 3 July 2021; 113 cases had direct contact with other cases in the Eastern Suburbs cluster. The remaining cases do not have direct links, including:

- 6 cases associated with a small gathering in a hotel in Waterloo
- 4 cases associated with a place of worship in Lidcombe
- 3 cases associated with an aged care facility in Baulkham Hills
- 2 cases associated with a workplace in Banksmeadow
- 29 cases linked to a known case whose source is unknown
- 14 cases not currently linked to any other cases.

There were 27 cases that acquired their infection overseas.

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, 6 June to 3 July 2021

	Week ending					
Local Health District	**3 July**	**26 June**	**19 June**	**12 June**	**Total**	**Days since last case reported**
Central Coast	2	0	0	0	2	1
Illawarra Shoalhaven	1	3	2	0	6	3
Nepean Blue Mountains	0	0	0	0	0	291
Northern Sydney	6	2	0	0	8	1
South Eastern Sydney	80	62	4	0	146	0
South Western Sydney	35	26	0	0	61	0
Sydney	25	13	1	0	39	0
Western Sydney	22	3	0	0	25	0
Far West	0	0	0	0	0	457
Hunter New England	0	0	0	0	0	78
Mid North Coast	0	0	0	0	0	438
Murrumbidgee	0	0	0	0	0	299
Northern NSW	0	0	0	0	0	95
Southern NSW	0	0	0	0	0	257
Western NSW	0	0	0	0	0	338
NSW*	**171**	**109**	**7**	**0**	**287**	**0**

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

Interpretation: There were 171 locally acquired cases reported in the week ending 3 July. The majority of cases were residents of South Eastern Sydney LHD (80, 47%) followed by South Western Sydney LHD (35, 20%), and Sydney (25, 15%).

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

Of the 171 locally acquired cases reported in the last week, 128 cases were epidemiologically linked to recent clusters. Of these, 113 cases were in direct contact with other cases in the Eastern Suburbs, 6 cases were linked to the Waterloo hotel cluster, 4 cases were linked to a place of worship in Lidcombe, 3 cases were linked to an aged care facility in Baulkham Hills and 2 cases were linked to a workplace in Banksmeadow. A further 29 cases were linked to previously reported cases not linked to a cluster and 14 cases are under investigation.

Eastern Suburbs cluster

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. Over the following days the number of cases linked to this cluster increased (see figure 2).

In the week ending 3 July there were 113 cases directly epidemiologically linked to this cluster, with 226 cases linked to the cluster since June 16. Of the 226 cases reported, 108 are associated with transmission at 22 public exposure locations and one private event and 118 cases were household or social contacts of known cases. Whole genome sequencing results show the variant associated with this cluster is the Delta strain (B.1.617.2). Investigation of the source of the driver's infection could not identify the individual source of his infection.

Cases associated with this cluster attended a large number of public venues across Greater Sydney including pubs, restaurants, gyms, hair salons, healthcare facilities and schools (Table 4). To limit the spread of COVID-19, NSW Health have issued multiple public health alerts to people who may have been exposed. The list of venues attended by cases is published on the NSW Government website.

Table 4. Cases linked the Eastern Suburbs cluster by setting of exposure, reported to week ending 3 July, NSW

Setting of exposure	Exposure site	Location	Primary cases	Subsequent cases		Total
				Non - household setting	Household setting	
Food Service	Cafe	Vaucluse	1			1
		Bondi Beach	8	20	14	42
		Darlinghurst	1			1
	Pizza Shop	Paddington	4			4
	Food Distributor	Marrickville	16	4	10	30
Restaurant/Bar/ Club	Pub 1	Bondi	3			3
	Pub 2	Kensington	3		1	4
	Pub 3	Strathfield South	9	1	6	16
Retail	Myer	Bondi Junction	1	0	5	6
	David Jones	Bondi Junction	1	2	3	6
	Westfield (other)	Bondi Junction	4	2	6	12
	Salvos	St Peters	1			1
Personal Service	Nail Salon	Bondi Junction	1		3	4
	Hair Salon	Double Bay	11	4	2	17
Gym	Gym	Bondi	1		3	4
Workplace	Office 1	CBD	1			1
	Office 2	North Sydney	1	4	3	8
Healthcare	Medical Centre	Bondi Junction	1		1	2
	Obstetrics	Wollongong	3			3
Education	Primary school	Coogee	4	1	7	12
Travel	Plane	Gold Coast to Sydney	5		1	6
Residential	Home (party)	West Hoxton	28	2	13	43
Total			**108**	**40**	**78**	**226**

Interpretation: Excluding the source case, a hire-car driver whose source is under investigation, there are 226 cases epidemiologically linked to the cluster.

Waterloo cluster

On 3 July, South Western Sydney Public Health Unit was notified of six cases of COVID-19 associated with a small gathering in a hotel in Waterloo. Three of the six cases attended the event at the hotel including one case who later infected their three household contacts. In response, NSW Health issued a media release advising guests, staff and contractors, who was on any level of the hotel at the time to get tested and isolate. The source for this cluster remains under investigation.

Other community and healthcare clusters

Aged care facility cluster, Baulkham Hills

On 30 June 2021 Western Sydney Public Health Unit was notified of a case in an aged care worker who worked at an aged care facility in Baulkham Hills. The source of infection was a family member linked to a previously reported case whose source is under investigation. The aged care worker worked for three days whilst unknowingly infectious. Testing of close contacts including residents and staff identified a further case in a household contact, who also worked at the facility as an aged care worker, and three residents. Excluding the source and their household contact, there are three cases linked to this cluster.

Community Centre cluster, Lidcombe

On 29 June, Western Sydney Public Health Unit was notified of two cases who attended a religious community centre in Lidcombe on the evening of the 25 June 2021. The source of infection was a previously identified case whose source of infection remains under investigation. In the following days two household contacts were subsequently notified. Excluding source, there are currently four cases associated with this cluster.

Workplace cluster, Banksmeadow

On 26 June, Sydney Public Health Unit was notified of a single case who worked at a factory in Banksmeadow. In the following days a second worker from the factory and the household contact of the original worker were also notified. Excluding the source, who is not linked to a known case or cluster, there are three cases linked to this cluster.

Section 4: 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 in January 2020, there have been 54 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 seven locally acquired cases of COVID-19 reported in HCWs in the week ending 3 July 2021. Of these, three cases may have acquired their infection in public healthcare settings, the source for two is still under investigation and two were household or social contacts of known cases.

In total there have been 62 cases of COVID-19 in health care workers since 1 August 2020. Of these, 31 HCWs were potentially infected in healthcare settings. A further 17 cases were social or household contacts of a known case, eight were exposed in community settings, and for eight cases the source of infection is unknown. Prior to August 2020, there were 26 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).

Aged care workers

There were two cases in aged care workers in the week ending 3 July who acquired their infection in community settings. Both cases were unvaccinated and had worked in an aged care facility in Baulkham Hills whilst unknowingly infectious.

Pregnant women

There was one case in a pregnant woman in the week ending 3 July. Since January 2020, 47 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.

Section 5: 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 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 5a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 3 July 2021

	Week ending					
Number of vaccination doses received	3 July	26 June	19 June	12 June	01 Mar-05 June	Total from 1 Mar 2021
Total locally acquired cases	171	109	7	0	9	296
Fully vaccinated	7 (4%)	2 (2%)	0	0	0	9 (3%)
Partially vaccinated	2 (1%)	1 (1%)	0	0	1 (11%)	4 (1%)
Single dose within 14 days	3 (2%)	4 (4%)	1 (14%)	0	1 (11%)	9 (3%)
None	149 (87%)	96 (88%)	6 (86%)	0	7 (78%)	258 (87%)
Unknown/ Missing	10 (6%)	6 (6%)	0	0	0	16 (5%)

Table 5b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 3 July 2021

	Week ending					
Number of self-reported vaccination doses received	3 July	26 June	19 June	12 June	01 Mar-05 June	Total from 1 Mar 2021
Total overseas acquired cases	27	7	25	18	400	477
Fully vaccinated	3 (11%)	0	2 (8%)	1 (6%)	7 (2%)	13 (3%)
Partially vaccinated	0	0	0	0	6 (2%)	5 (1%)
Single dose within 14 days	1 (4%)	0	4 (16%)	0	15 (4%)	21 (4%)
None	21 (78%)	7 (100%)	18 (72%)	17 (94%)	360 (90%)	423 (89%)
Unknown/Missing	2 (7%)	0	1(4%)	0	12 (3%)	15 (3%)

Interpretation: Since 1 March 2021, there have been nine (3%) locally acquired cases reported as being fully vaccinated and four (1%) cases partially vaccinated. Thirteen (3%) 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.

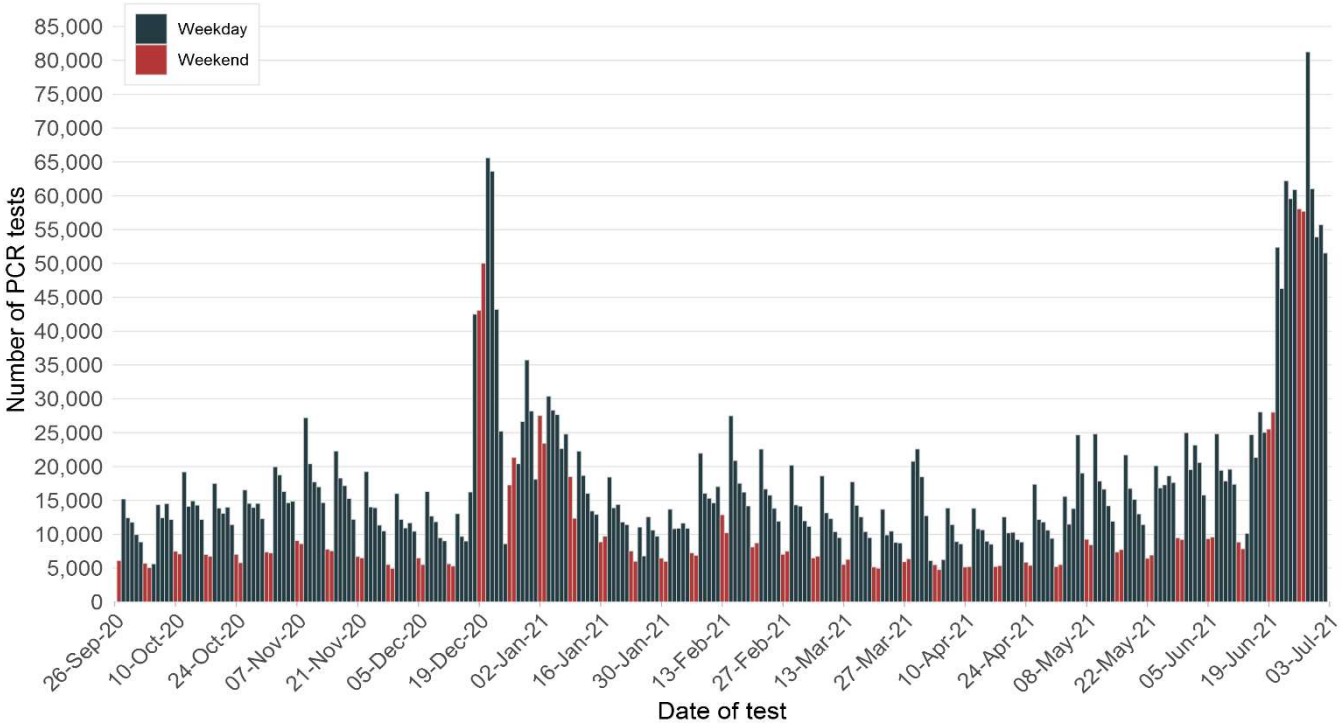
Section 6: COVID-19 testing in NSW

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.

Figure 3. Number of PCR tests per day, NSW, 12 September 2020 to 3 July 2021



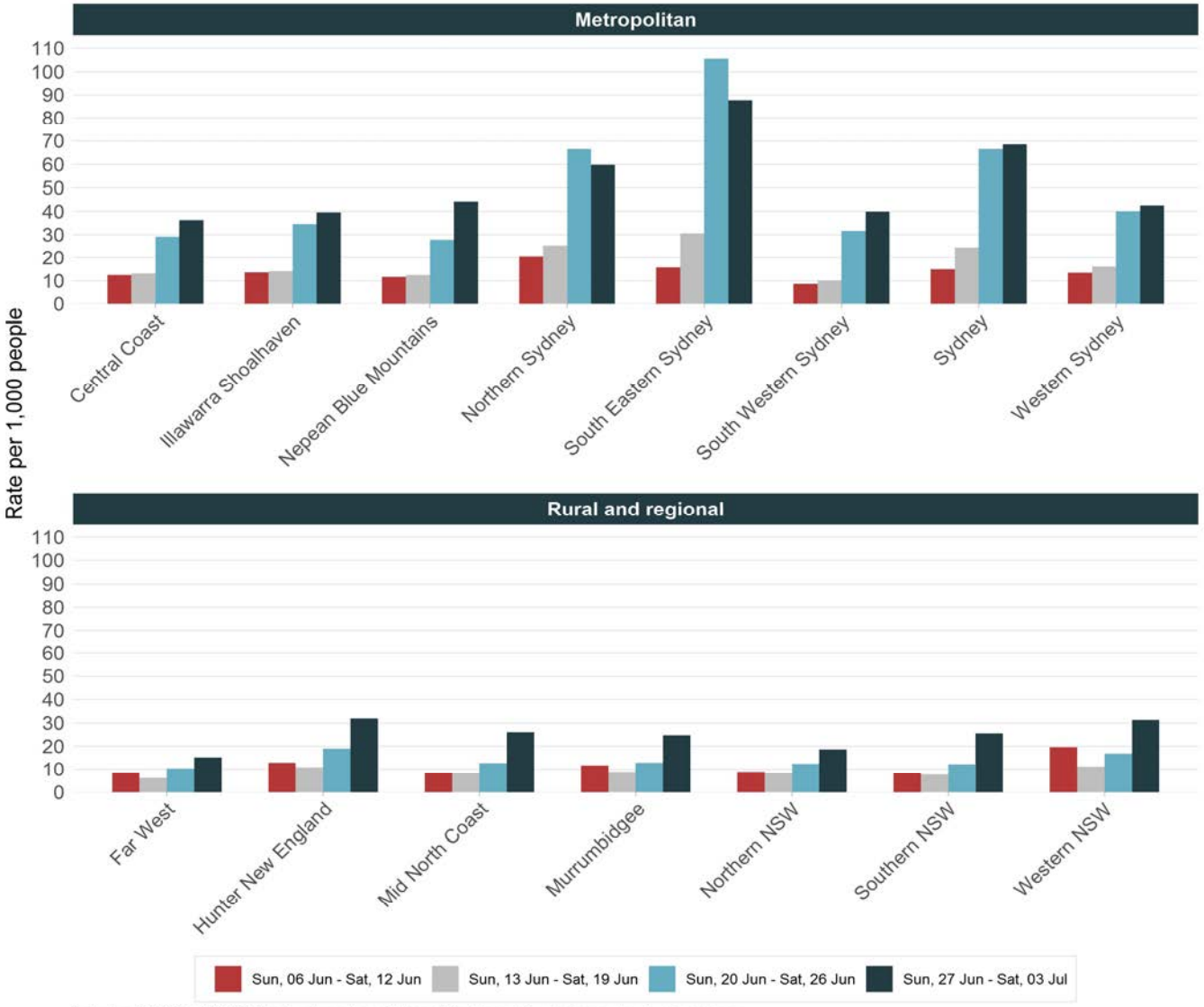
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers continue to increase in the week ending 3 July 2021 (up 8%) compared to the previous week in response to the developing Eastern Suburbs cluster. The average daily testing rate of 7.0 per 1,000 people in NSW each day increased compared to the previous week of 6.5 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 4. Rates of COVID-19 testing by LHD of residence, NSW, 6 June to 3 July 2021

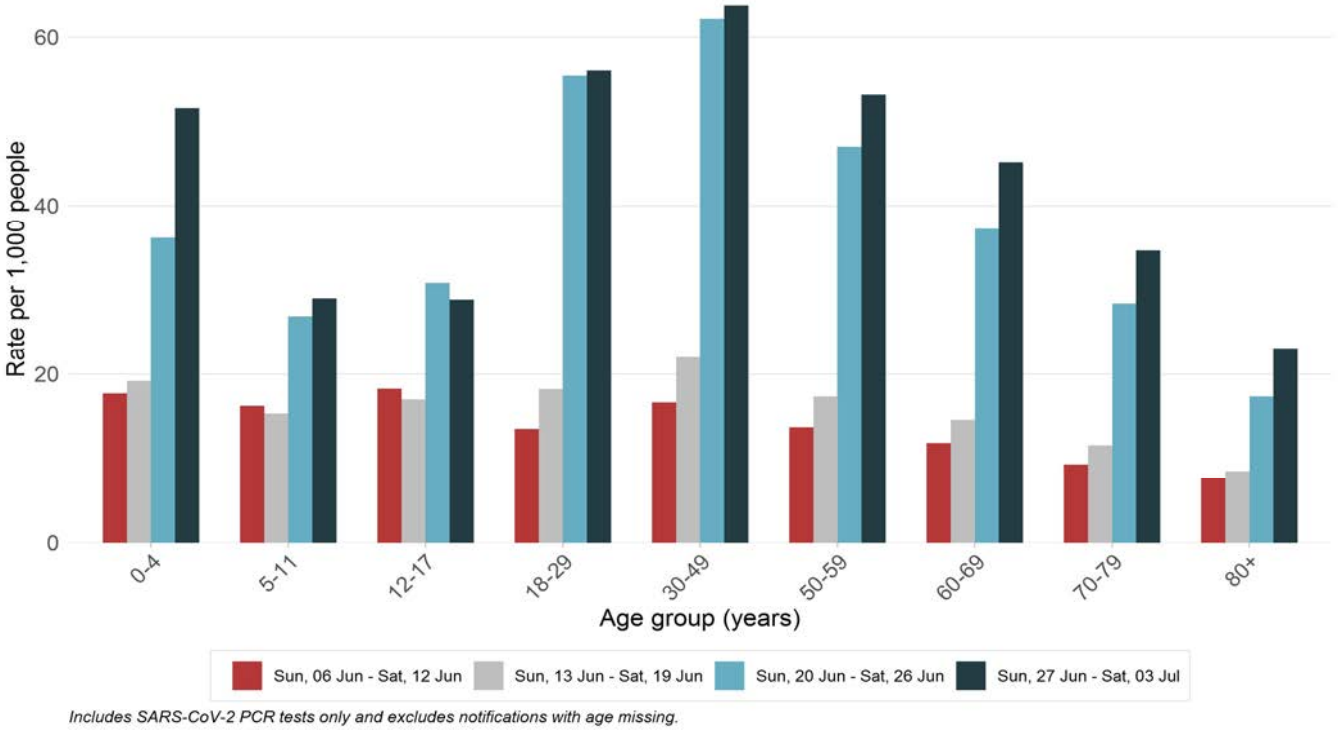


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 3 July increased when compared to the previous week (49.2 per 1,000 people compared to 45.4 per 1,000 people). Testing rates increased across most metropolitan Local Health Districts and across all rural and regional Local Health Districts. To limit the spread of COVID-19, multiple public health alerts were issued advising people that attended affected venues across metropolitan Sydney to seek testing and isolate regardless of symptoms.

Testing by age group

Figure 5. Rates of COVID-19 testing by age group and week, NSW, 6 June to 3 July 2021



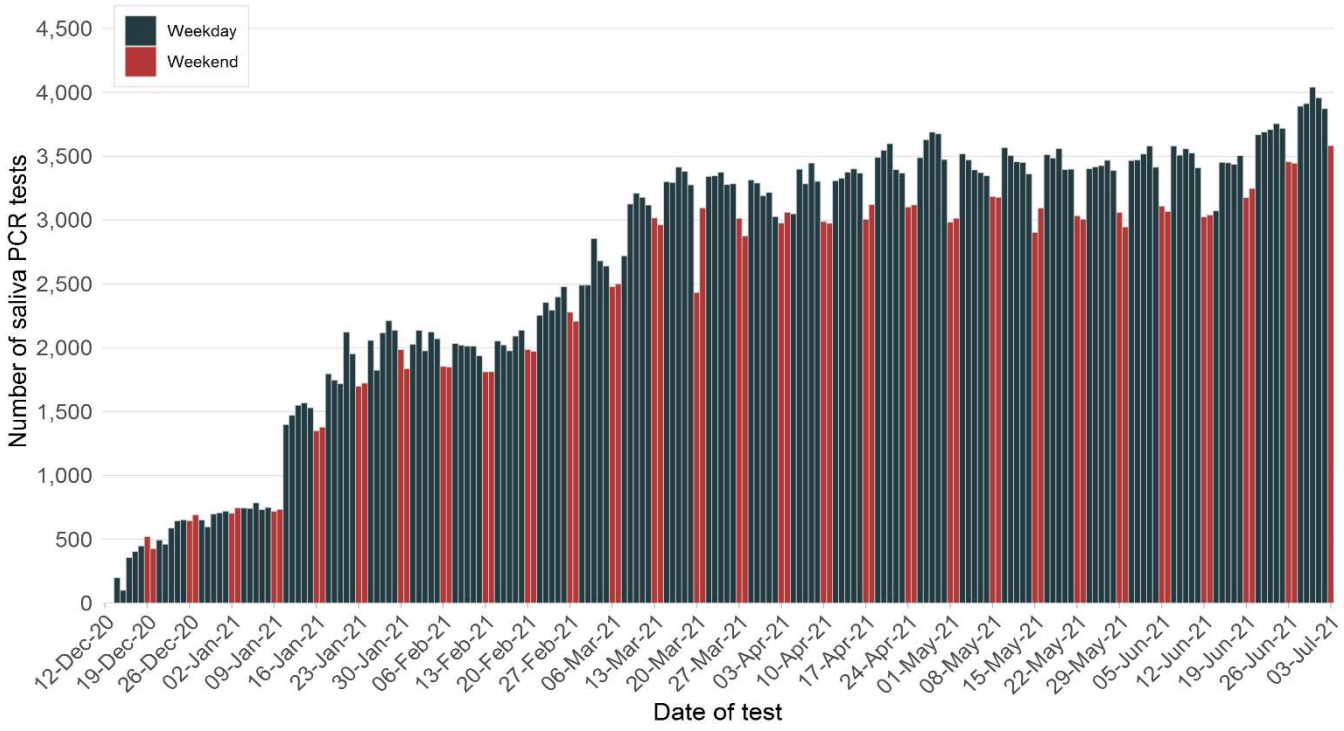
Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: In the week ending 3 July 2021, testing rates increased or remained steady across most age groups with the largest relative increase in children aged under five years.

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 3 July 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 520,145 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 7: 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 3 July 2021, there have been:

- 197 locally acquired cases diagnosed with a VOC. All cases have been identified as having the Delta variant.
- 36 returned travellers diagnosed with a VoC. Of these:
  - 12 (33%) with the alpha variant
  - 2 (6%) with the beta variant
  - 22 (61%) with the delta variant.
- The countries of likely acquisition of the 33 returned travellers diagnosed with a VoC are: Afghanistan (11, 31%), Bangladesh (4, 11%), India (4, 11%), Indonesia (4, 11%), Pakistan (3, 8%), USA (3, 8%), UK (2, 6%), Iraq (1, 3%), Philippines (1, 3%), South Africa (1, 3%), Sierra Leone (1, 3%) and unknown (1, 3%).

Table 6a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 3 July 2021

	Week ending				29 Nov to 05 June	Total since 29 November
	3 July*	26 June*	19 June	12 June		
Total variants identified	**92**	**98**	**7**	**0**	**9**	**26**
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)	92	98	7	0	2	199

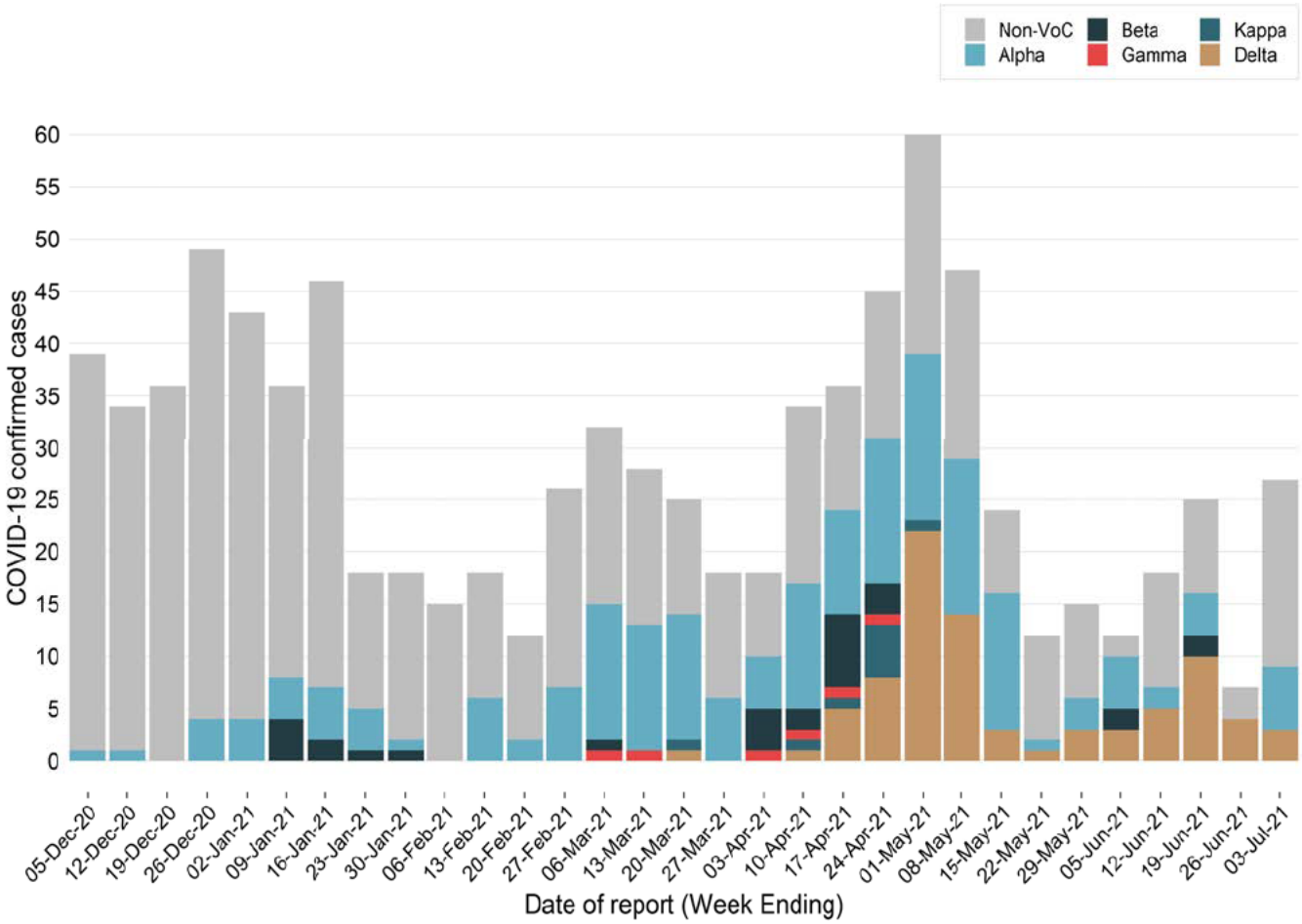
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 3 July have been the Delta variant of concern.

Table 6b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 3 July 2021

	Week ending				29 Nov to 05 June	Total since 29 November
	3 July*	26 June*	19 June	12 June		
Total variants identified	**9**	**4**	**16**	**7**	**279**	**315**
Alpha (B.1.1.7)	6	0	4	2	176	188
Beta (B.1.351)	0	0	2	0	27	29
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)	3	4	10	5	61	83

***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 8. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 3 July 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 279 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 3 July20 2021, 47% (36/77) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 8: NSW Sewage Surveillance Program

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. In Sydney, testing is undertaken from both the sewage treatment plant (inlet sites) and sites within the network (network sites). Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support NSW Health's response to COVID-19.

An infected person can shed virus in their faeces even if they do not have symptoms, and shedding can continue for several weeks after they are no longer infectious. The NSW sewage surveillance for SARS-CoV-2 is in the preliminary stages of analysis and work is progressing to assess the significance of the results. For example, it is not currently known the minimum number of cases that can be detected in a catchment. A small number of cases in a large sewage catchment may not be detected by sewage surveillance due to factors such as dilution, inhibition, reduction in shedding over the infection period or movement of cases.

The table below shows results for the last 10 weeks for sites that have had detections. The results from all sites across NSW are available in Appendix D.

Table 7. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 3 July 2021

		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	**Location**	17	18	19	20	21	22	23	24	25	26
Sydney sewage treatment plant (inlet sites)											
110,114	Penrith										
1,241	Brooklyn										
31,924	Hornsby Heights										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
119,309	Rouse Hill										
163,147	St Marys										
68,000	Port Kembla										
93,000	Bellambi										
Sydney network sites											
Bondi	Paddington										
Cronulla	Caringbah										
Malabar	Earlwood										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
Malabar	Arncliffe 1										
Malabar	Arncliffe 2										

Table 7 (Continued). Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 3 July 2021

		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	**Location**	17	18	19	20	21	22	23	24	25	26
Sydney network sites (continued)											
Malabar	Blakehurst										
Malabar	Padstow 1										
Malabar	Padstow 2										
Malabar	Fairfield 1										
Malabar	Fairfield 2										
Malabar	Homebush SPS										
Malabar	Croydon										
Malabar	Dulwich Hill										
Malabar	Canterbury										
Malabar	Botany										
Malabar	Maroubra										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn										
North Head	Tunks Park										
North Head	Allambie Heights										
Liverpool	Ireland Park										
Regional Sites											
2,050	Bourke										

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 3 July, 188 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 55 detections. Positive detections were found in sewage treatment plants in:

- Penrith (3), Hornsby Heights (2), Bondi, Cronulla, Malabar (2), Liverpool (2), West Camden (2), Glenfield, North Head,
- Rouse Hill (3) and St Marys.

There were also detections from the sewage networks and pumping stations within:

- the Malabar catchment including Botany, Earlwood, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Croydon, Dulwich Hill (2), Canterbury (2), Maroubra (2) and Homebush (2)
- the Bondi catchment including Paddington, Lough Park and Parsley Bay
- the Liverpool catchment including Ireland Park (2)
- the North Head catchment including Auburn (3), Tunks Park, Camellia South (2) and Camellia North (2)
- Port Kembla (2)
- Bellambi (3)

Although no active cases were identified in the Penrith and St Marys catchments at the time, the detections 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. All other catchments were associated with known cases in the area.

Section 9: 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 3 July 2021.

Table 8. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 3 July 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	160	0%
5-11	0	168	0%
12-17	0	191	0%
18-29	0	1304	0%
30-49	0	1930	0%
50-59	1	755	0.1%
60-69	4	678	0.6%
70-79	15	405	3.7%
80+	36	174	20.7%
Total	56	5,765	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.

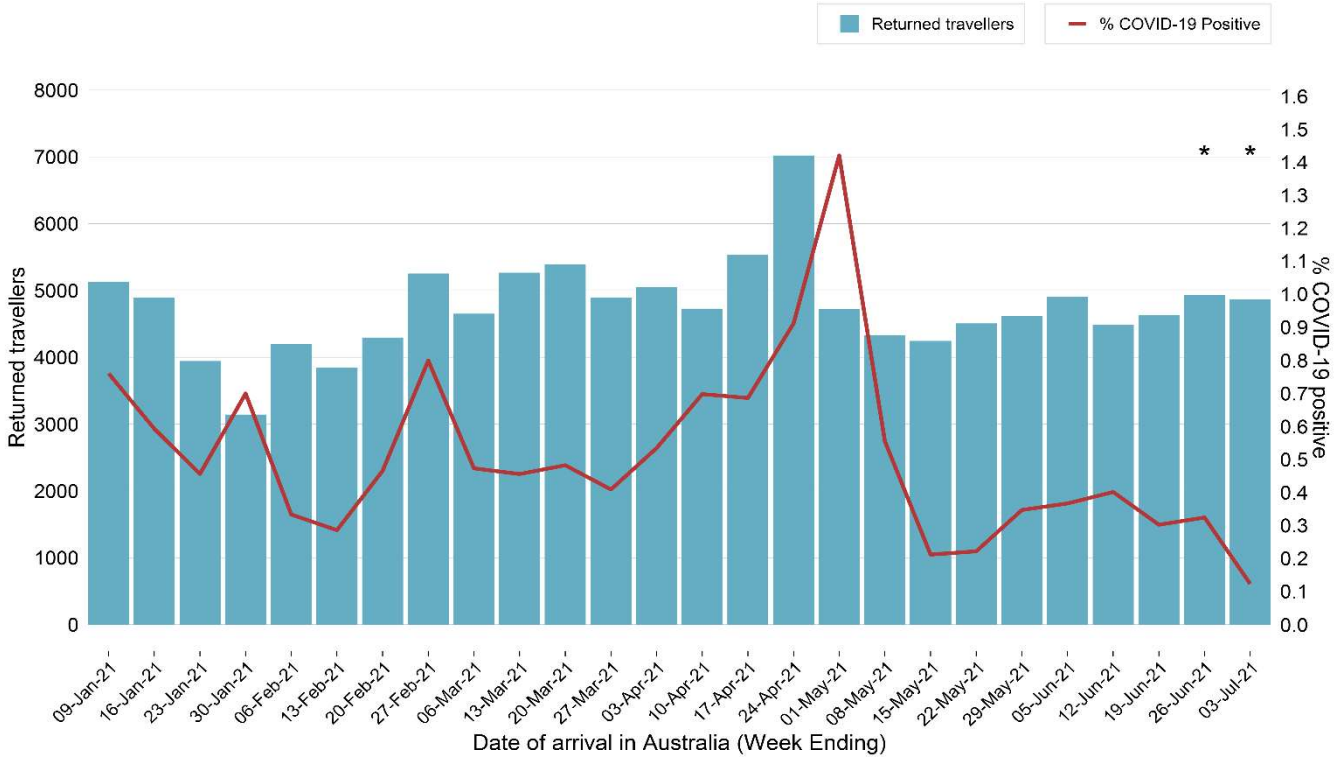
Section 10: COVID-19 in returned travellers

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



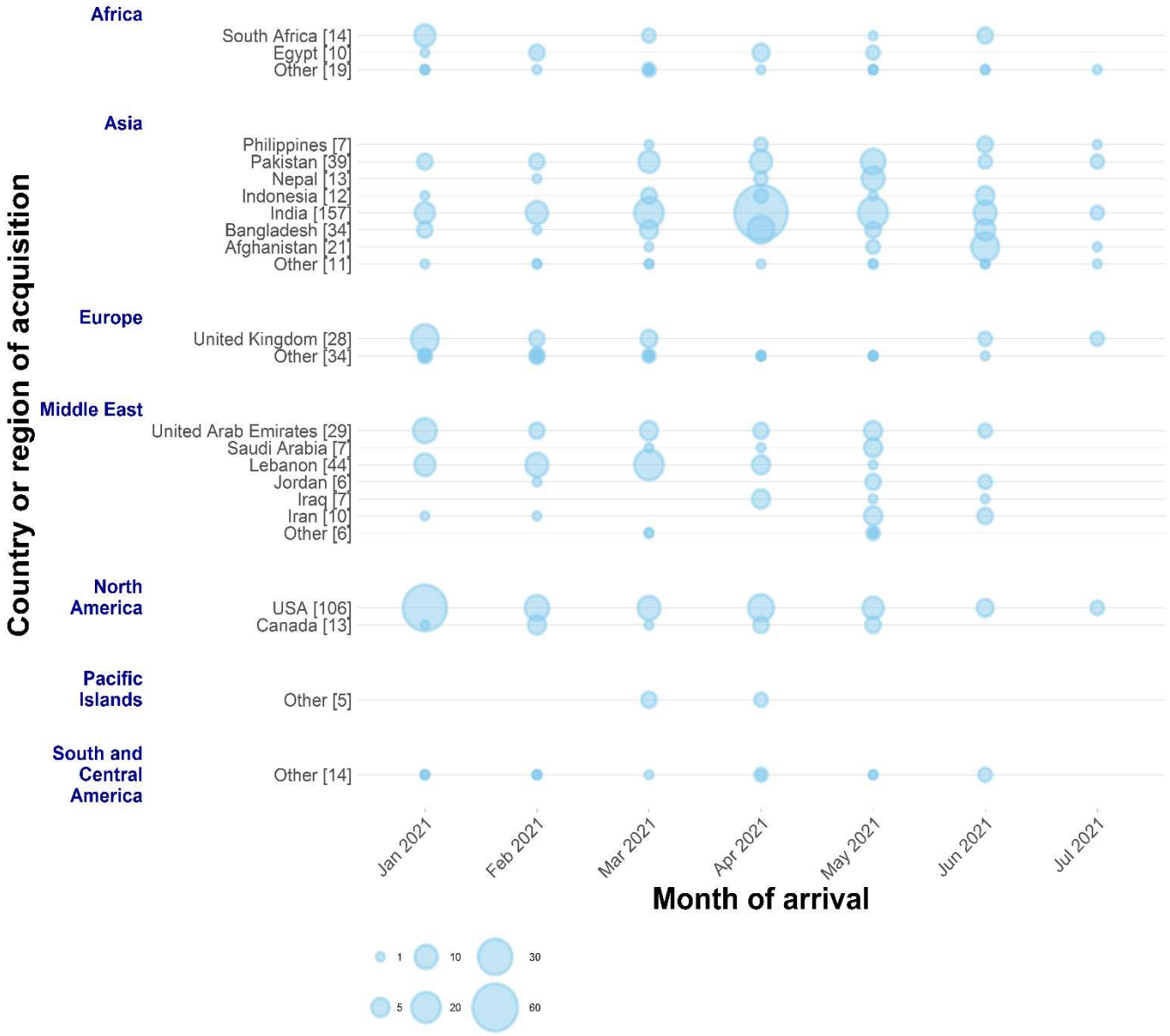
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 679 people screened on arrival through Sydney International Airport daily. In the last four weeks, 77 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 10. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 December 2020 to 3 July 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 77 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 9. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 6 June 2021 to 3 July 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Afghanistan	18 (23%)
India	11 (14%)
Bangladesh	7 (9%)
Indonesia	5 (6%)
USA	5 (6%)
Pakistan	4 (5%)
United Kingdom	4 (5%)
Philippines	3 (4%)
Cambodia	2 (3%)
Jordan	2 (3%)
United Arab Emirates	2 (3%)
Venezuela	2 (3%)
Other	12 (16%)
Total	**77**

Interpretation: In the last four weeks, travellers returning from Afghanistan and India accounted for the largest number of overseas acquired cases (29, 38%), followed by travellers returning from Bangladesh 7 (9%), Indonesia and USA (10, 13%).

Cases among returned travellers in quarantine

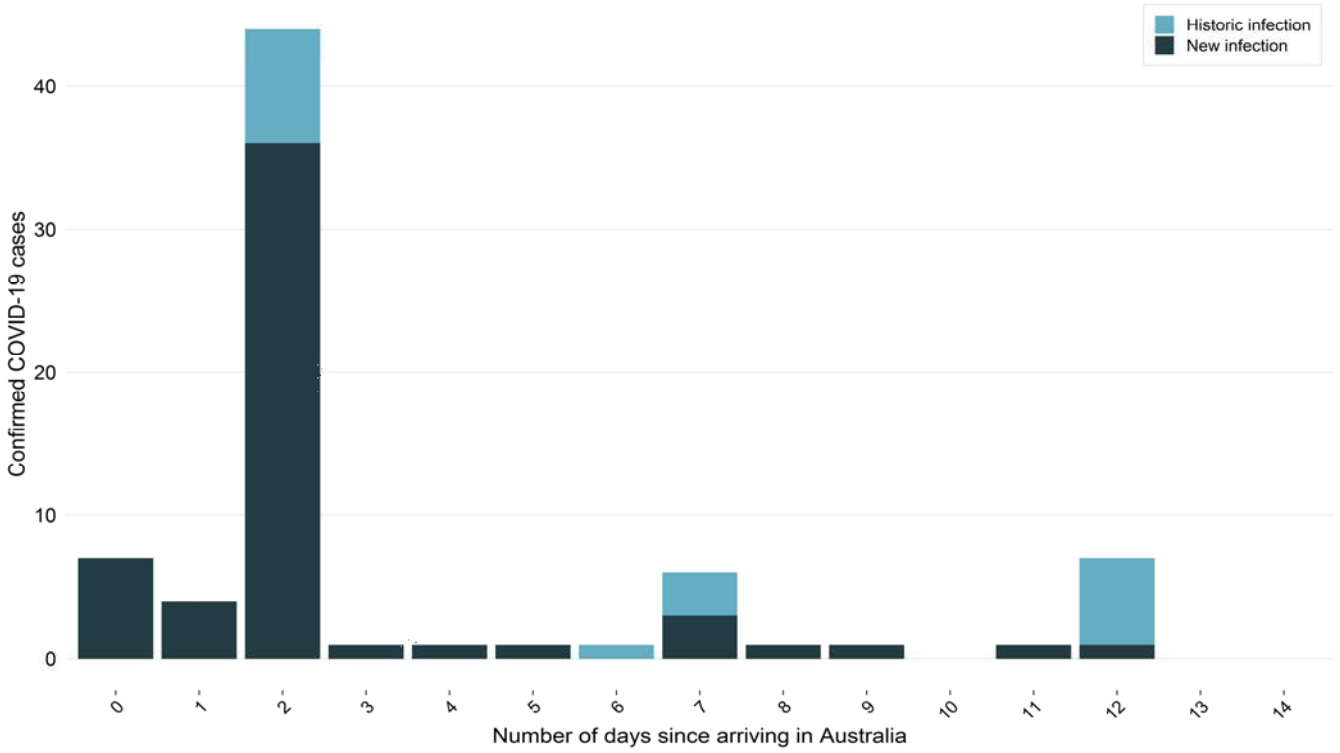
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved 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 11. 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, 6 Junto 3 July 2021



Interpretation: In the four weeks ending 3 July 2021, 44% of overseas acquired COVID-19 cases have tested positive within two days of arriving to Australia, with most people testing positive on day two screening.

Section 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 27 June 2021

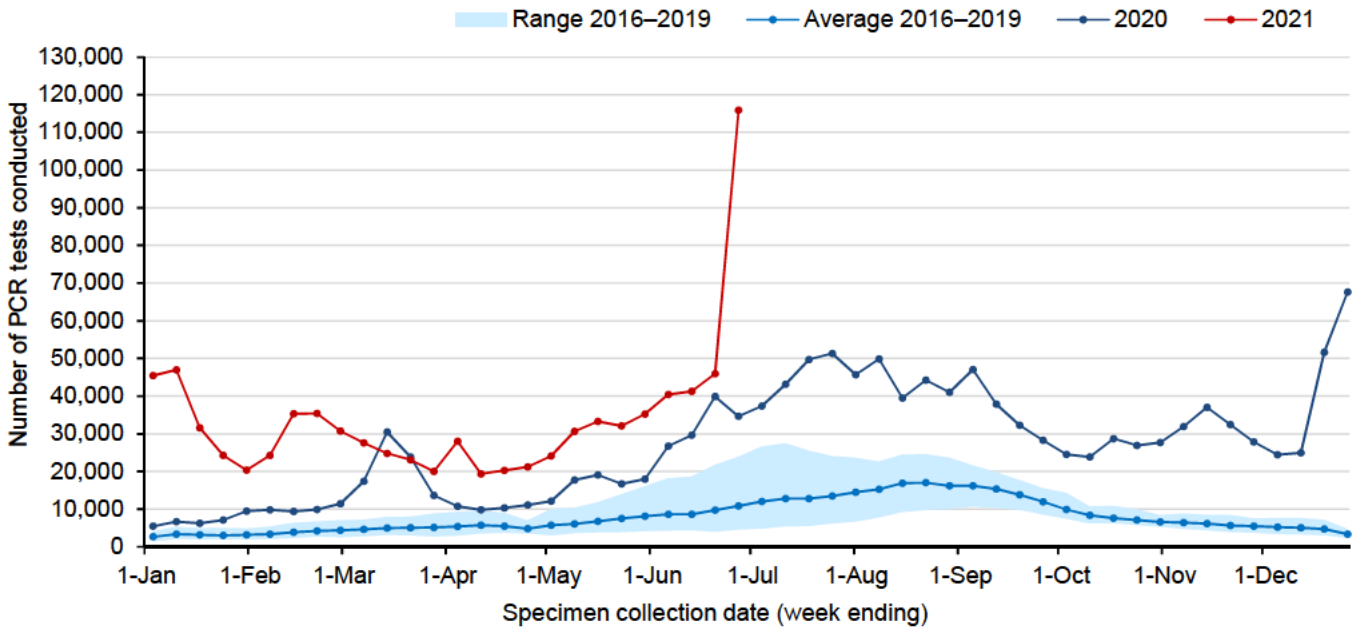
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 27 June 2021. A total of 877,589 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 12. Testing for influenza by week, NSW, 1 January 2016 to 27 June 2021

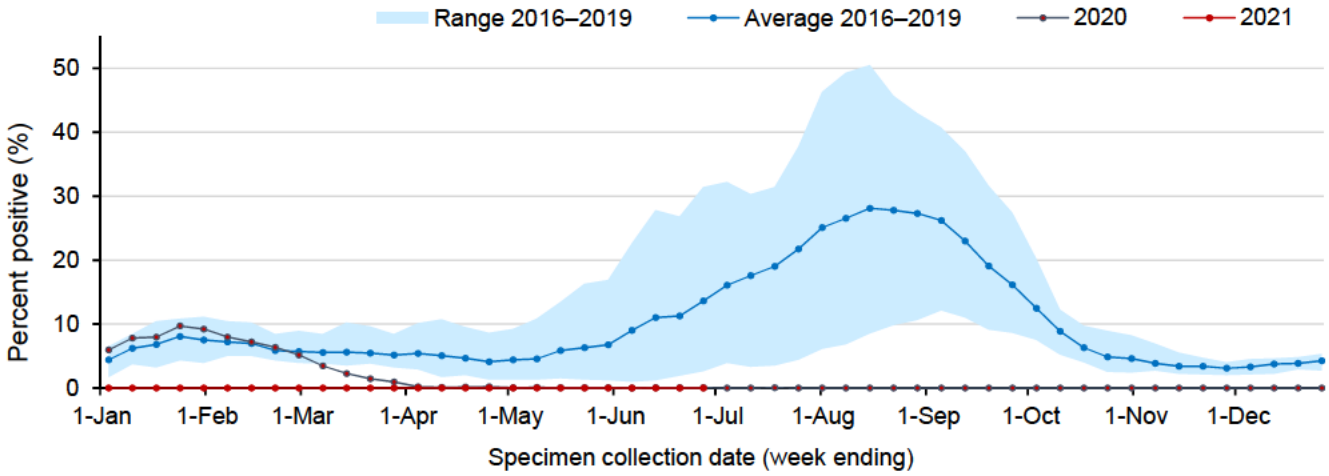


Interpretation: In the week ending 27 June, the number of influenza tests surged, with 115,892 influenza tests performed across participating laboratories compared with 45,936 the previous week. This spike in influenza tests is likely due to concurrent testing of influenza and COVID-19 by some sentinel labs. 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 13. Proportion of tests positive for influenza, NSW, 1 January 2016 to 27 June 2021

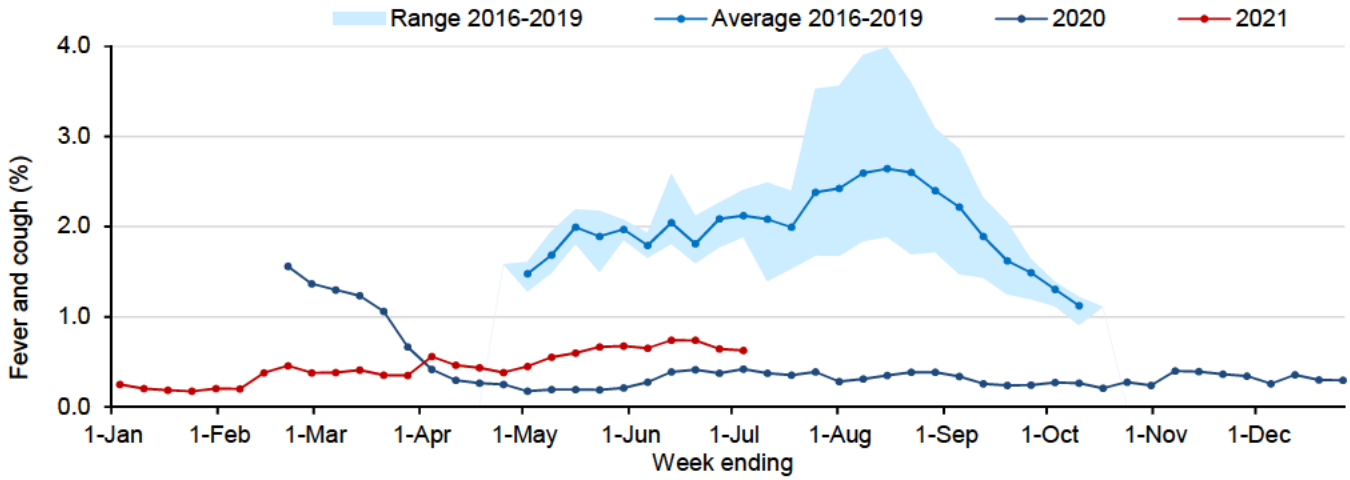


Interpretation: In the week ending 27 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There 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 14. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 4 July 2021



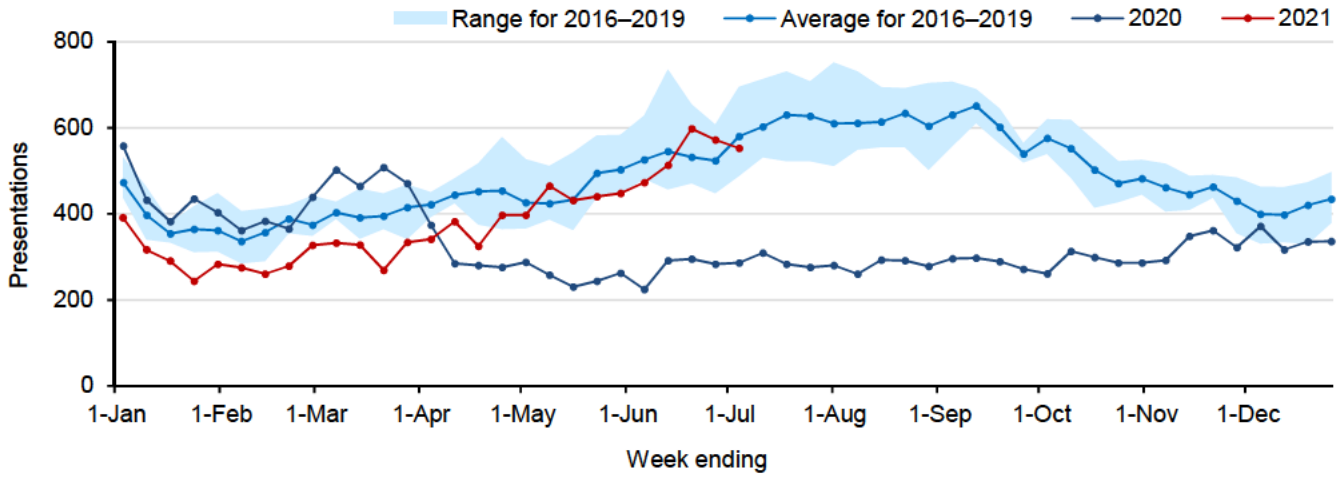
Interpretation: In NSW in the week ending 4 July 2021, of the 21,633 people surveyed, 135 people (0.62%) reported flu-like symptoms. In the last four weeks, 62% (416/668) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased 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.

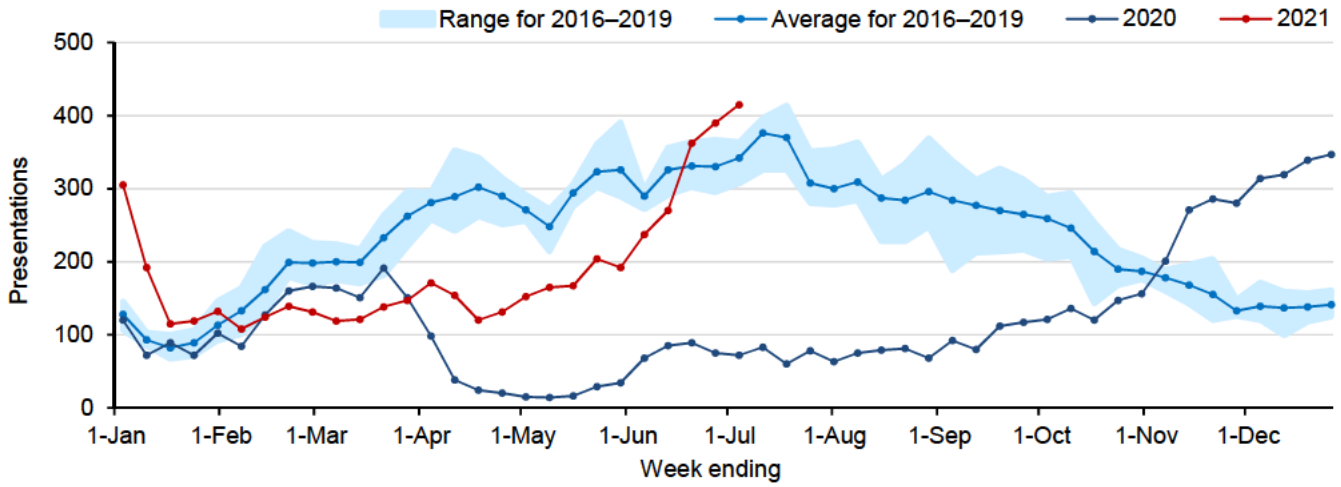
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 15. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 4 July 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 4 July, pneumonia presentations decreased and remain within the seasonal range for this time of year.

Figure 16. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 4 July 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 4 July 2021, bronchiolitis presentations increased and are above 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	
		03-Jul		26-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
Central Coast	*LHD Total*[2]	12789	36.24	10286	29.15	259155	734.44
Far West	Balranald	21	8.98	32	13.69	852	364.41
	Broken Hill	300	17.16	199	11.39	10794	617.54
	Central Darling	17	9.24	13	7.07	635	345.30
	Wentworth	120	17.01	67	9.50	3943	559.05
	LHD Total[2]	458	15.19	311	10.32	16224	538.22
Hunter New England	Armidale Regional	843	27.39	464	15.08	17911	581.92
	Cessnock	1249	20.82	575	9.59	25465	424.52
	Dungog	240	25.47	102	10.82	4370	463.76
	Glen Innes Severn	142	16.01	59	6.65	3121	351.82
	Gunnedah	286	22.55	176	13.88	5533	436.32
	Gwydir	48	8.97	37	6.91	1307	244.16
	Inverell	326	19.30	155	9.18	7434	440.14
	Lake Macquarie	8078	39.23	4893	23.76	159837	776.28
	Liverpool Plains	154	19.49	98	12.40	3551	449.32
	Maitland	3774	44.31	2086	24.49	71408	838.46
	Mid-Coast	1860	19.82	977	10.41	41115	438.16
	Moree Plains	206	15.53	164	12.37	7157	539.70
	Muswellbrook	386	23.57	190	11.60	7768	474.32
	Narrabri	210	15.99	104	7.92	4326	329.35
	Newcastle	6980	42.16	4864	29.38	153499	927.09
	Port Stephens	2403	32.70	1255	17.08	48031	653.65
	Singleton	713	30.39	320	13.64	15540	662.38
	Tamworth Regional	2055	32.86	1232	19.70	39372	629.54
	Tenterfield	51	7.73	24	3.64	1889	286.47
	Upper Hunter Shire	355	25.04	189	13.33	7059	497.81
	Uralla	127	21.12	56	9.31	2190	364.27
	Walcha	104	33.18	81	25.85	1599	510.21
	LHD Total[2]	30585	32.11	18098	19.00	629054	660.51
Illawarra Shoalhaven	Kiama	1338	57.21	831	35.53	19032	813.82
	Shellharbour	2724	37.20	2712	37.03	55742	761.16
	Shoalhaven	3684	34.87	1947	18.43	63588	601.89
	Wollongong	8843	40.54	9030	41.40	180071	825.58
	LHD Total[2]	16589	39.53	14520	34.60	318433	758.87
Mid North Coast	Bellingen	329	25.32	186	14.31	6930	533.24
	Coffs Harbour	1758	22.75	917	11.87	35872	464.20
	Kempsey	728	24.47	318	10.69	15500	521.10
	Nambucca	387	19.54	184	9.29	8406	424.44
	Port Macquarie-Hastings	2686	31.78	1236	14.62	46650	551.91
	LHD Total[2]	5888	26.09	2841	12.59	113358	502.33
Murrumbidgee	Albury	1398	25.72	754	13.87	32242	593.20
	Berrigan	93	10.63	31	3.54	2835	324.00
	Bland	121	20.26	70	11.72	2431	407.07

		Week ending				Total since January 2021	
		03-Jul		26-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
	Carrathool	38	13.58	14	5.00	562	200.79
	Coolamon	105	24.19	49	11.29	2162	498.04
	Cootamundra-Gundagai Regional	277	24.66	143	12.73	5215	464.17
	Edward River	106	11.67	29	3.19	3875	426.57
	Federation	193	15.52	83	6.67	5122	411.84
	Greater Hume Shire	245	22.76	128	11.89	5505	511.43
	Griffith	827	30.60	477	17.65	15653	579.12
	Hay	40	13.56	16	5.43	828	280.77
	Hilltops	491	26.25	256	13.69	9143	488.83
	Junee	107	16.01	59	8.83	2463	368.55
	Lachlan[1]	83	13.66	33	5.43	1490	245.27
	Leeton	249	21.76	108	9.44	4530	395.81
	Lockhart	78	23.74	29	8.83	1344	409.13
	Murray River	57	4.70	14	1.16	1399	115.45
	LHD Total[2]	70	17.87	32	8.17	1327	338.78
	Narrandera	81	13.73	47	7.97	1813	307.34
	Snowy Valleys	318	21.96	173	11.95	6829	471.65
	Temora	82	13.00	41	6.50	2014	319.33
	Wagga Wagga	2368	36.29	1279	19.60	46014	705.11
	LHD Total[2]	7359	24.69	3840	12.88	153792	515.89
Nepean Blue Mountains	Blue Mountains	6477	81.87	2525	31.91	78676	994.41
	Hawkesbury	2333	34.67	1994	29.63	52735	783.63
	Lithgow	490	22.68	245	11.34	10328	478.04
	Penrith	8160	38.31	6212	29.17	180385	846.97
	LHD Total[2]	17293	44.23	10868	27.80	319588	817.39
Northern NSW	Ballina	1045	23.42	969	21.71	36282	812.99
	Byron	915	26.08	607	17.30	28452	811.04
	Clarence Valley	859	16.63	429	8.30	19920	385.58
	Kyogle	122	13.87	65	7.39	3226	366.76
	Lismore	875	20.03	609	13.94	27958	639.89
	Richmond Valley	380	16.19	206	8.78	12340	525.89
	Tenterfield	51	7.73	24	3.64	1889	286.47
	Tweed	1592	16.41	937	9.66	45936	473.56
	LHD Total[2]	5796	18.67	3827	12.33	174538	562.37
Northern Sydney	Hornsby	6084	40.01	6949	45.70	130505	858.25
	Hunters Hill	1745	116.49	2054	137.12	30334	2024.97
	Ku-ring-gai	7907	62.18	9370	73.69	172872	1359.56
	Lane Cove	4275	106.46	5179	128.98	84310	2099.61
	Mosman	1890	61.01	2161	69.75	35866	1157.68
	North Sydney	3604	48.04	4510	60.12	66760	889.88
	Northern Beaches	17921	65.52	18208	66.57	417520	1526.59
	Parramatta[1]	10181	39.58	10427	40.54	193143	750.95
	Ryde	8344	63.56	8792	66.98	129733	988.28
	Willoughby	3476	42.81	4069	50.12	68456	843.17

		Week ending				Total since January 2021	
		03-Jul		26-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
	LHD Total[2]	57183	59.82	63594	66.53	1176233	1230.47
South Eastern Sydney	Bayside	11595	65.00	11672	65.43	137191	769.03
	Georges River	7770	48.72	6487	40.68	109888	689.08
	Randwick	25502	163.84	22766	146.26	205246	1318.65
	Sutherland Shire	12683	55.00	11997	52.02	221678	961.26
	Sydney[1]	19865	80.64	25502	103.52	303997	1234.04
	Waverley	11821	159.11	22606	304.27	128127	1724.57
	Woollahra	7794	131.24	15393	259.20	104024	1751.63
	LHD Total[2]	84128	87.72	101128	105.44	1017769	1061.17
South Western Sydney	Camden	6511	64.19	7589	74.81	113717	1121.06
	Campbelltown	8546	49.99	6579	38.49	149155	872.54
	Canterbury-Bankstown[1]	16706	44.21	11857	31.37	264988	701.18
	Fairfield	6037	28.52	3874	18.30	111576	527.06
	Liverpool	9076	39.88	6781	29.80	175956	773.14
	Wingecarribee	2328	45.53	1602	31.33	46611	911.55
	Wollondilly	1408	26.49	1191	22.41	31319	589.27
	LHD Total[2]	41498	39.96	32877	31.66	755780	727.74
Southern NSW	Bega Valley	809	23.47	420	12.18	16771	486.45
	Eurobodalla	1108	28.80	524	13.62	24404	634.31
	Goulburn Mulwaree	1007	32.35	517	16.61	18358	589.68
	Queanbeyan-Palerang Regional	1376	22.52	570	9.33	24723	404.63
	Snowy Monaro Regional	648	31.16	325	15.63	10967	527.39
	Upper Lachlan Shire	219	27.17	134	16.63	4087	507.13
	Yass Valley	369	21.60	158	9.25	6082	355.94
	LHD Total[2]	5544	25.54	2654	12.23	105442	485.75
Sydney	Burwood	2023	49.81	1598	39.35	25948	638.92
	Canada Bay	6419	66.81	6675	69.48	100902	1050.25
	Canterbury-Bankstown[1]	16706	44.21	11857	31.37	264988	701.18
	Inner West	13793	68.69	13810	68.77	228749	1139.13
	Strathfield	3796	80.89	2566	54.68	45824	976.52
	LHD Total[2]	19865	80.64	25502	103.52	303997	1234.04
	LHD Total[2]	47806	68.61	46358	66.53	726507	1042.68
Western NSW	Bathurst Regional	1772	40.63	830	19.03	29888	685.22
	Blayney	258	34.96	114	15.45	4846	656.73
	Bogan	37	14.34	23	8.91	1232	477.52
	Bourke	147	56.76	128	49.42	980	378.38
	Brewarrina	21	13.04	10	6.21	444	275.61
	Cabonne	313	22.96	154	11.30	5174	379.49
	Cobar	65	13.95	35	7.51	1694	363.68
	Coonamble	85	21.48	55	13.90	1380	348.66
	Cowra	270	21.19	161	12.63	5655	443.77
	Dubbo Regional	1720	32.02	1046	19.47	31492	586.24
	Forbes	178	17.97	107	10.80	4034	407.23
	Gilgandra	73	17.22	53	12.50	1501	354.09
	Lachlan[1]	83	13.66	33	5.43	1490	245.27

		Week ending				Total since January 2021	
		03-Jul		26-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
	Mid-Western Regional	757	29.98	414	16.40	13878	549.60
	Narromine	145	22.25	98	15.04	2868	440.08
	Oberon	160	29.57	61	11.27	2560	473.11
	Orange	2110	49.70	1034	24.36	34258	807.00
	Parkes	293	19.75	190	12.81	6470	436.07
	Walgett	80	13.44	44	7.39	2195	368.72
	Warren	104	38.56	56	20.76	2020	748.98
	Warrumbungle Shire	206	22.20	104	11.21	4269	460.12
	Weddin	79	21.87	44	12.18	1326	367.01
	LHD Total[2]	8945	31.38	4789	16.80	159244	558.73
Western Sydney	Blacktown	14505	38.74	13051	34.85	308354	823.48
	Cumberland	11756	48.67	8531	35.32	195301	808.63
	Parramatta[1]	10181	39.58	10427	40.54	193143	750.95
	The Hills Shire	9930	55.80	12151	68.28	211167	1186.54
	LHD Total[2]	44853	42.58	42160	40.02	875670	831.25
NSW Total[3]		398100	49.21	367446	45.42	3059273	378.16

Source - Notifiable condition information management System, accessed as at 8pm 05 Jul 2021
1 Local Government Area (LGA) spans multiple Local Health Districts.
2 Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.
3 NSW Total counts and rates since January 2021 include tests where residential information is incomplete. See https://www.health.nsw.gov.au/Infectious/covid-19/Pages/counting-tests.aspx for detail on how tests are counted.

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 27 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 2020–27 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	877,589	3	<0.01%	9	<0.01%	3,090	5,192	10,714	38,222	189	4,628
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	16	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	0	-	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	41,36	0	-	0	-	402	1,685	678	2,597	113	189
20 June	45,936	0	-	0	-	336	1,818	629	2,182	149	198
27 June	115,892	0	-	0	-	490	2,210	910	2,530	312	219

Testing numbers in NSW from January–27 December 2020

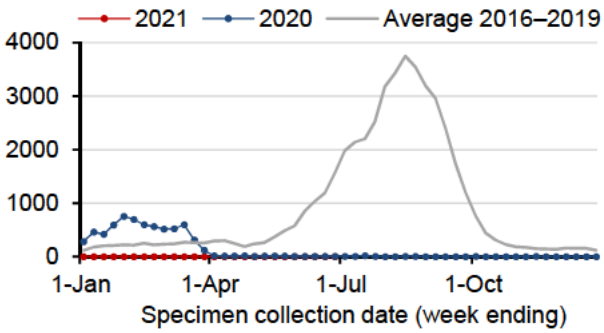
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,36	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	0.3%	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

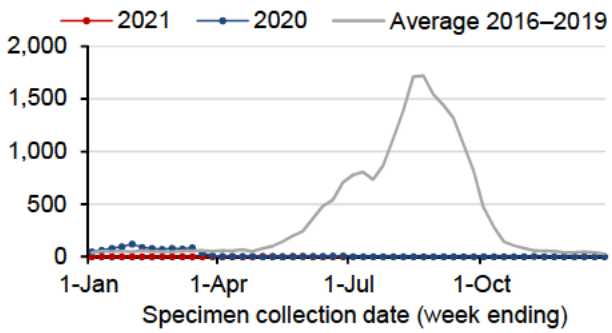
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 27 June 2021

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.

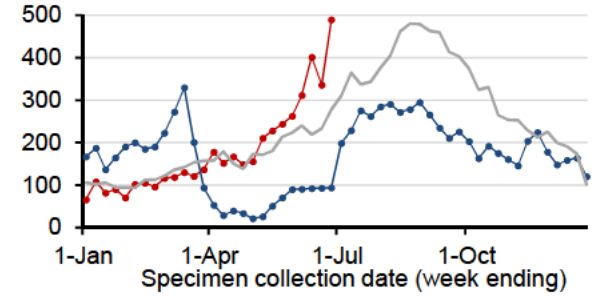
Influenza A



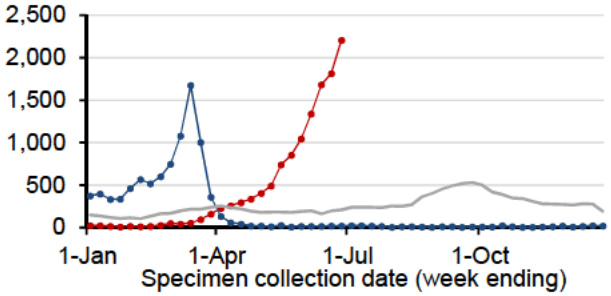
Influenza B



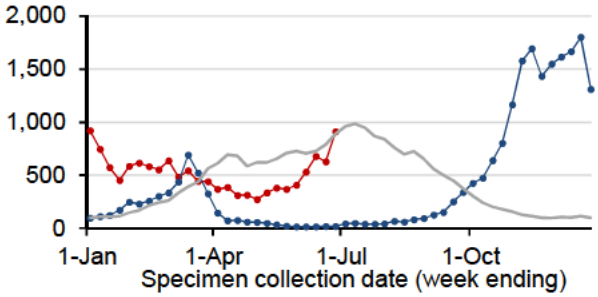
Adenovirus



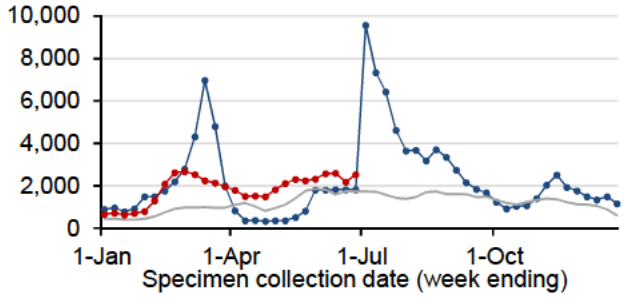
Parainfluenza



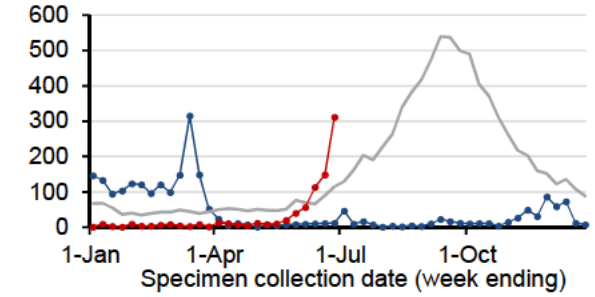
Respiratory syncytial virus (RSV)



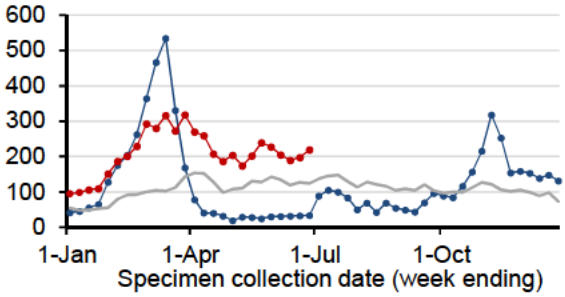
Rhinovirus



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 3 July 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. Charlotte Pass has recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
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										
37,61	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Network	Location	17	18	19	20	21	22	23	24	25	26
Bondi	Paddington Sewage Network										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,68	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
14,000	Vincentia										
16,000	St Georges Basin										
11,000	Cul burra Beach										
139,500	Gosford-Kincumber										
59,60	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
	Albury composite		C	C	C	C	C	C	C	C	C
51,750	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
	Wagga Wagga composite	C	C	C	C	C	C	C	C	C	C
50,000	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
	Griffith										
2,050	Bourke										
	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,63	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
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
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.

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 27, ENDING 10 July 2021

Published 19 July 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 10 July 2021

	2020		2021		
	Jan – Jun	July – Dec	year to date	last 4 weeks	last 7 days
			1 Jan - 10 Jul	13 Jun - 10 Jul	04 Jul - 10 Jul
Locally acquired	1,236 (39%)	808 (52%)	652 (48%)	601 (89%)	314 (97%)
Interstate acquired	67 (2%)	23 (1%)	1 (<1%)	1 (<1%)	0
Overseas acquired	1,892 (59%)	714 (46%)	697 (52%)	70 (10%)	11 (3%)
Total	**3,195 (100%)**	**1,545 (100%)**	**1,350 (100%)**	**672 (100%)**	**325 (100%)**
Deaths	52	4	1	1	1

Summary for the week ending 10 July 2021

- There were 314 locally acquired cases reported in the week ending 10 July 2021 and associated with the current Greater Sydney outbreak. Of these:
  - 62 cases had direct contact with other cases in the Eastern Suburbs cluster
  - 41 cases associated with a small gathering in a hotel in Waterloo
  - 7 cases associated with an aged care facility in Baulkham Hills
  - 2 cases associated with a place of worship in Lidcombe
  - 1 case associated with a workplace in Banksmeadow
  - 148 cases linked to a known case who is not directly linked to a cluster
  - 53 cases not currently linked to any other cases
- There were 11 cases reported in overseas returned travellers in the last week (down 59%).
- There was one death reported this week in a woman in her 90s reported with COVID-19.
- In the four weeks ending 10 July 2021, 100% (352/352) of locally acquired cases were sequenced and were the Delta variant of concern and 51% (36/70) of overseas acquired cases sequenced 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)]. Not all case samples can be sequenced.
- Since March 2021, 10 (2%) of locally acquired cases have reported being fully vaccinated. Sixteen (3%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates were high but decreased or remained steady across Local Health Districts compared to the previous week (down 26%) following a surge of testing in the previous fortnight in response to the outbreak.
- In the week ending 10 July, 173 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 46 detections taken from the sewage treatment sites (including pumping stations) in Bateau Bay, Penrith, Hornsby Heights, Bondi, Cronulla, Malabar, Liverpool, Glenfield, North Head, Castle Hill – Cattai, Paddington, Caringbah, Botany, Earlwood, Marrickville 1, Marrickville 2, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield 1, Fairfield 2, Dulwich Hill, Canterbury, Maroubra, Homebush, Ireland Park, Tunks Park, Camellia South, Camellia North, Northmead, Vineyard Creek, Boronia Park, Minto and Port Kembla.

  No active cases were identified in the Castle Hill - Cattai catchment at the time. These detections may be due to undetected cases, the movement of cases in neighbouring areas whilst unknowingly infectious or 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. All other catchments were associated with known cases in the area.

Indicators of effective prevention for COVID-19 in NSW for the week ending 10 July 2021

Cases risk of community exposure

A case is assigned a risk level based on an initial assessment of a case's community exposures during their infectious period i.e. two days before symptom onset (or specimen collection date if asymptomatic) until the date NSW Health is notified.

- **Low risk** indicates that the case was in isolation during their infectious period or had stayed at home (with or without household members) with no community exposures.
- **Medium risk** indicates that the case was isolating for part of their infectious period, or only had low risk community exposures and no venue exposures for their entire infectious period.
- **High risk** indicates that the case was active in the community with venue exposures during their infectious period

Locally acquired cases by risk of community exposure during their infectious period, as reported daily to 8pm

Community exposure risk	10-Jul	9-Jul	8-Jul	7-Jul	6-Jul	5-Jul	4-Jul	Total Week ending 10 July
Low risk	32	13	14	18	13	11	24	125 (43%)
Medium risk	10	11	10	9	7	5	4	56 (19%)
High risk	35	26	20	11	7	2	7	108 (37%)
Total	**77**	**50**	**44**	**38**	**27**	**18**	**35**	**289(100%)**

Interpretation: In the week ending 10 July, 43% of total cases reported this week had low risk of community exposures, 19% had medium risk and 37% had high risk of community exposures.

Measures of Public Health Action

	Week ending 10 July	Week ending 03 July
Proportion locally acquired cases notified to NSW Health by the laboratory within 24 hours	99% (312/314)	88% (150/171)
Locally acquired cases interviewed by public health staff within 1 day of notification to NSW Health	100%	100%
Close contacts (identified by the case) contacted by public health within 48 hours of case notification	100%	100%

Interpretation: In the week ending 10 July, 99% of cases were notified to NSW Health within a day of test, 100% of cases were interviewed within 1 day of notification and all close contacts were contacted by public health within 48 hours of case notification. NSW Health has been working closely with laboratory providers to minimise the turn-around times for test results.

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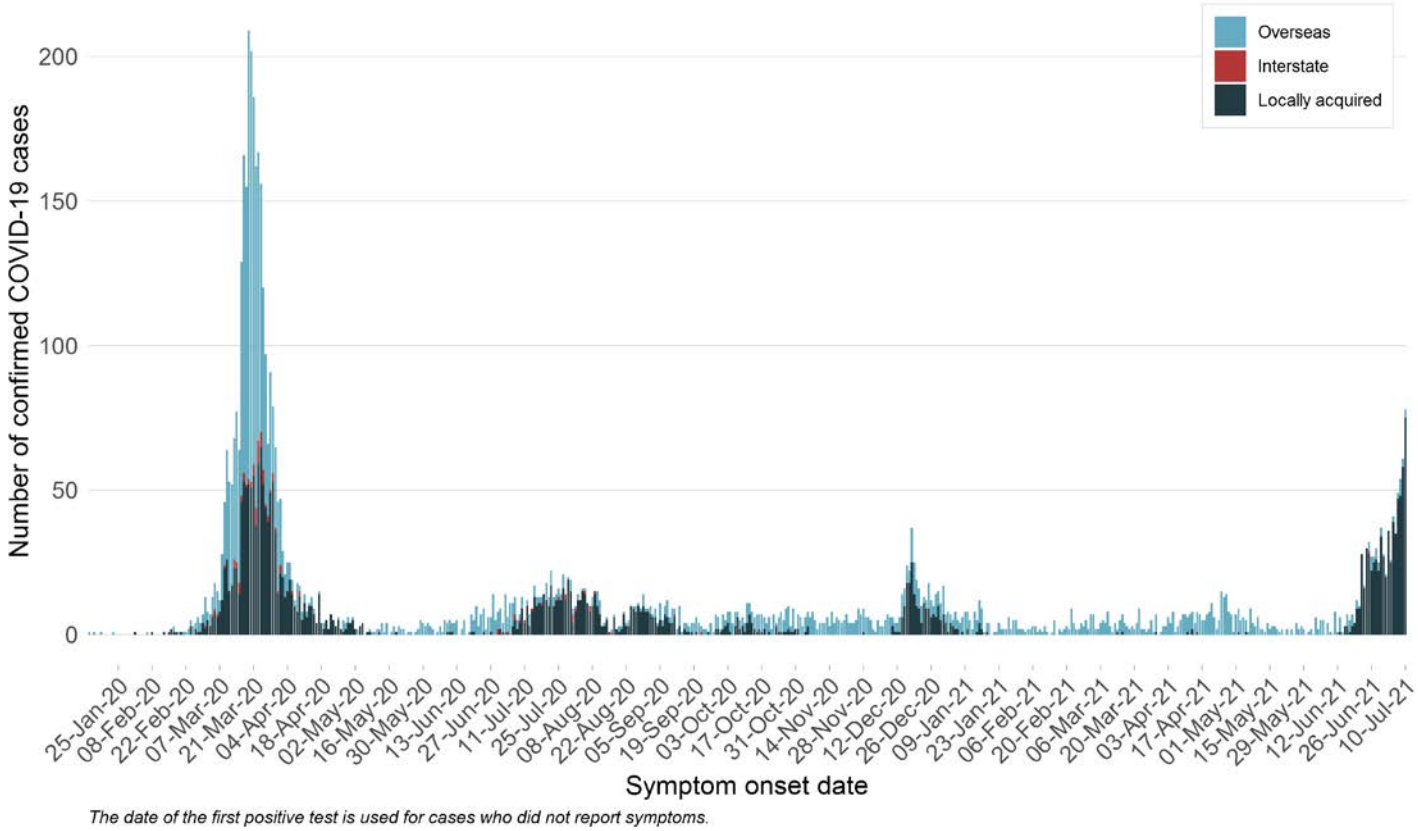
COVID-19 Vaccination program

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

Section 1: How is the outbreak tracking in NSW?

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

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, from 25 January 2020 to 10 July 2021



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

Interpretation: Between 13 January 2020 and 10 July 2021, there were 6,090 confirmed COVID-19 cases. Of those, 2,696 (44%) were locally acquired, 91 (2%) were interstate acquired and 3,303 (54%) were overseas 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 10 July 2021

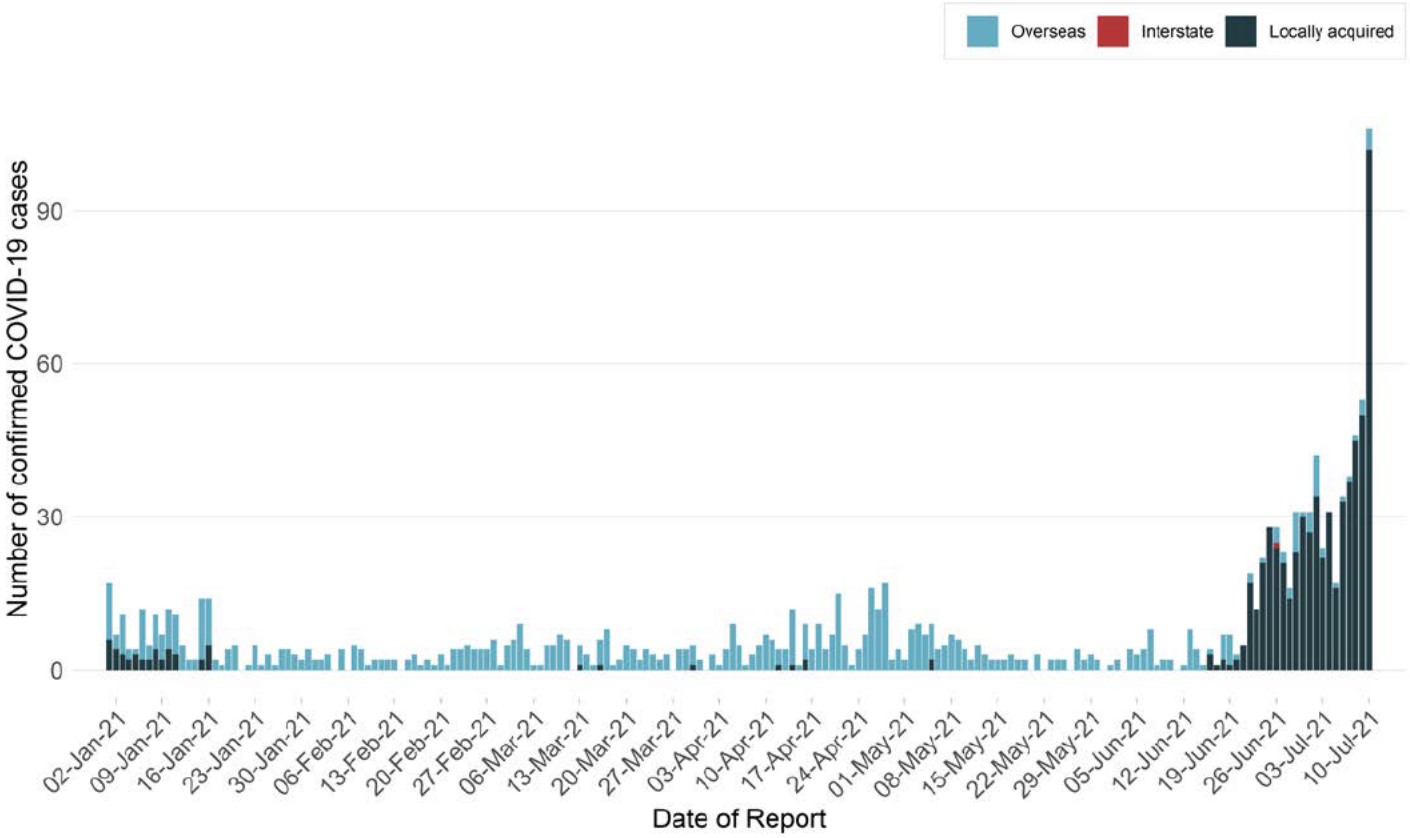


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 10 July 2021

	Week ending 10 Jul	Week ending 03 Jul	% change	Total 2021
Number of cases	325	198	64 %	1,350
Locally acquired	314	171	84 %	652
Known epidemiological links to other cases or clusters	261	162	61 %	580
No epidemiological links to other cases or clusters	53	9	489 %	72
Overseas acquired	11	27	-59 %	697
Interstate acquired	0	0	-	1
Number of tests	296,389	399,345	-26 %	3,356,889

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 locally acquired (601/671, 90%). All locally acquired cases had the same Delta variant of concern genetic sequence. Of the 314 locally acquired cases associated with the Greater Sydney outbreak reported in the week ending 10 July 2021, 62 cases were directly linked to cases in the Eastern Suburbs cluster. The remaining cases are not known to have direct links to cases in the Eastern Suburbs cluster, including:

- 41 cases associated with a small gathering in a hotel in Waterloo
- 7 cases associated with an aged care facility in Baulkham Hills
- 2 cases associated with a place of worship in Lidcombe
- 1 case associated with a workplace in Banksmeadow
- 148 cases linked to known cases not directly linked to other clusters
- 53 cases not currently linked to any other cases

There were 11 cases that acquired their infection overseas.

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,19 June to 10 July 2021

	Week ending					
Local Health District	10 Jul	03 Jul	26 Jun	19 Jun	Total	Days since last case reported
Central Coast	1	2	0	0	3	0
Illawarra Shoalhaven	0	1	3	2	6	10
Nepean Blue Mountains	7	0	0	0	7	0
Northern Sydney	4	6	2	0	12	6
South Eastern Sydney	74	80	62	4	220	0
South Western Sydney	164	35	26	0	225	0
Sydney	34	25	13	1	73	0
Western Sydney	30	22	3	0	55	0
Far West	0	0	0	0	0	464
Hunter New England	0	0	0	0	0	85
Mid North Coast	0	0	0	0	0	445
Murrumbidgee	0	0	0	0	0	306
Northern NSW	0	0	0	0	0	102
Southern NSW	0	0	0	0	0	264
Western NSW	0	0	0	0	0	345
NSW*	314	171	109	7	601	0

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

Interpretation: There were 314 locally acquired cases reported in the week ending 10 July. The majority of cases were residents of South Western Sydney LHD (164, 52%) followed by South Eastern Sydney LHD (74, 24%), and Sydney (34, 11%).

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

Of the 314 locally acquired cases associated with the Greater Sydney outbreak reported in the last week, 122 cases were epidemiologically linked to recent clusters. Of these, 62 cases were in direct contact with other cases in the Eastern Suburbs, 41 cases were linked to the Waterloo hotel cluster, 7 cases were linked to an aged care facility in Baulkham Hills, 2 cases were linked to a place of worship in Lidcombe, and 1 case were linked to a workplace in Banksmeadow. A further 148 cases were linked to previously reported cases not linked to a cluster and 53 cases are under investigation.

Eastern Suburbs cluster

On 16 June 2021, 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 10 July there were 62 cases directly epidemiologically linked to other cases in the outbreak, with 290 cases linked to the cluster since June 16. Of the 290 cases reported, 129 are associated with transmission at public exposure locations and one private event, 113 cases were household contacts and 48 were social contacts of previously reported cases. Whole genome sequencing results show the variant associated with this cluster is the Delta strain (B.1.617.2). Investigation of the source of the driver's infection could not identify the individual source of his infection.

Cases associated with this cluster attended many public venues across Greater Sydney including pubs, restaurants, gyms, hair salons, healthcare facilities and schools. To limit the spread of COVID-19, NSW Health have issued multiple public health alerts to people who may have been exposed. The list of venues attended by cases is published on the NSW Government website.

Waterloo cluster

On 3 July 2021, South Western Sydney Public Health Unit was notified of six cases of COVID-19 associated with a small gathering in a hotel in Waterloo. Three of the six cases attended the event at the hotel including one case who later infected their three household contacts. In the week ending 10 July there were 41 cases linked to this cluster. In total, there are 51 cases linked to this cluster including seven cases who attended the hotel, 32 household contacts and 19 social contacts. In response, NSW Health issued a media release advising guests, staff and contractors, who were on any level of the hotel at the time to get tested and isolate. The source for this cluster remains under investigation.

Aged care facility cluster, Baulkham Hills

On 30 June 2021 Western Sydney Public Health Unit was notified of a case in an aged care worker who worked at an aged care facility in Baulkham Hills. The source of infection was a family member linked to a previously reported case whose source remains under investigation. The aged care worker worked for three days whilst unknowingly infectious. Testing of close contacts including residents and staff identified a further case in a household contact, who also worked at the facility as an aged care worker, and three residents. In the week ending 10 July there are seven cases linked to this cluster. Excluding the source, an aged care worker and their household contact, there are 10 cases linked to this cluster. Of the ten cases, four cases are in aged care

workers who acquired their infection at the facility and six cases are in residents. All infected residents have been transferred to hospital for close monitoring and isolation purposes. Five of the six residents were fully vaccinated.

Community Centre cluster, Lidcombe

On 29 June 2021, Western Sydney Public Health Unit was notified of two cases who attended a religious community centre in Lidcombe on the evening of the 25 June 2021. The source of infection was a previously identified case whose source of infection remains under investigation. Two household contacts were subsequently notified. In the week ending 10 June there were two people linked to this cluster who were household contacts of a previously report case. Extensive contact tracing has not uncovered any further transmission associated with the venue. Excluding the source, there are six cases associated with this cluster including two cases who acquired their infection at the community centre and four household contacts.

Workplace cluster, Banksmeadow

On 26 June, Sydney Public Health Unit was notified of a single case who worked at a factory in Banksmeadow. In the following days a second worker from the factory and the household contact of the original worker were also notified. Excluding the source, who is not linked to a known case or cluster, there are four cases linked to this cluster including 2 cases who acquired their infection at the workplace and two household contacts.

Section 4: 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 in January 2020, there have been 54 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 six locally acquired cases of COVID-19 reported in HCWs in the week ending 10 July 2021. Of the six cases, one was partially vaccinated and five were not vaccinated.

In total there have been 71 cases of COVID-19 in health care workers since 1 August 2020. Of these, 32 HCWs were potentially infected in healthcare settings. A further 28 cases were social or household contacts of a known case, and for 11 cases the source of infection is unknown. Prior to August 2020, there were 26 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).

Aged care workers

There were four cases in aged care workers in the week ending 10 July 2021 who acquired their infection working in an aged care facility in Baulkham Hills. Three of the four cases were partially vaccinated and one was not vaccinated.

Pregnant women

There was one case in a pregnant woman in the week ending 10 July 2021. Since January 2020, 47 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.

Section 5: 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 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 4a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 10 July 2021

	Week ending					
Number of self-reported vaccination doses received	10 Jul	03 Jul	26 Jun	19 Jun	01 Mar-12 Jun	Total from 1 Mar 2021
Total locally acquired cases	**314**	**171**	**109**	**7**	**9**	**610**
Fully Vaccinated	1 (<1%)	7 (4%)	2 (2%)	0	0	10 (2%)
Partially Vaccinated	10 (3%)	3 (2%)	5 (5%)	1 (14%)	2 (22%)	21 (3%)
Single dose within 14 days	4 (1%)	1 (1%)	0	0	0	5 (1%)
Not vaccinated	288 (92%)	157 (92%)	99 (91%)	6 (86%)	7 (78%)	557 (91%)
Unknown/Missing	11 (4%)	3 (2%)	3 (3%)	0	0	17 (3%)

Table 4b. Interstate and overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 10 July 2021

	Week ending					
Number of self-reported vaccination doses received	10 Jul	03 Jul	26 Jun	19 Jun	01 Mar-12 Jun	Total from 1 Mar 2021
Total overseas acquired cases	**11**	**27**	**7**	**25**	**418**	**488**
Fully Vaccinated	0	3 (11%)	0	2 (8%)	11 (3%)	16 (3%)
Partially Vaccinated	2 (18%)	0	0	4 (16%)	18 (4%)	24 (5%)
Single dose within 14 days	0	0	0	0	0	0
Not vaccinated	4 (36%)	21 (78%)	8 (100%)	18 (72%)	377 (90%)	428 (88%)
Unknown /Missing	5 (46%)	3 (11%)	0	1 (4%)	12 (3%)	21 (4%)

Interpretation: Since 1 March 2021, there have been 10 (2%) locally acquired cases reported as being fully vaccinated and 21 (3%) cases partially vaccinated. Sixteen (3%) 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.

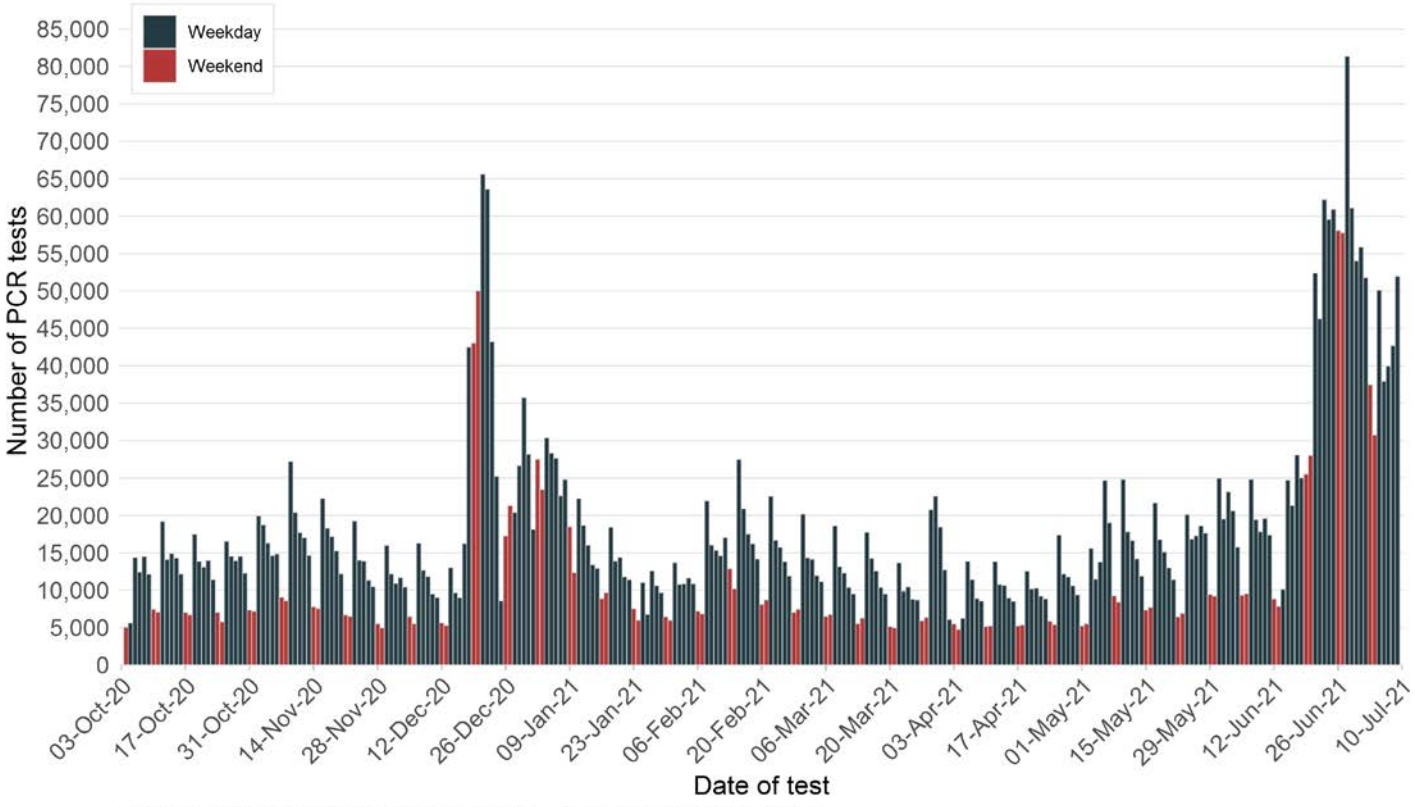
Section 6: COVID-19 testing in NSW

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.

Figure 3. Number of PCR tests per day, NSW, 12 September 2020 to 10 July 2021



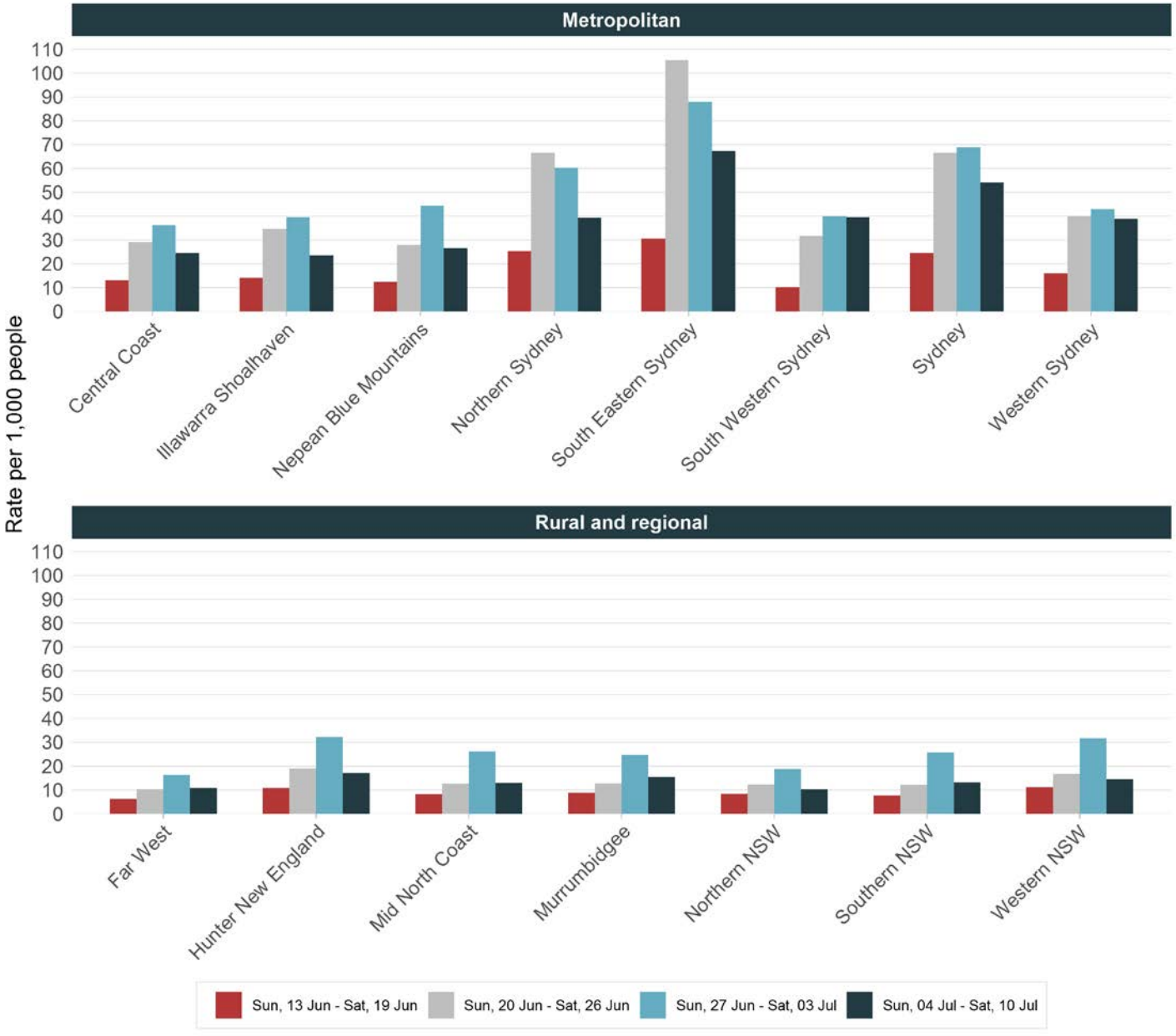
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers were high but decreased in the week ending 10 July 2021 (down 26%) compared to the previous week. The average daily testing rate of 5.2 per 1,000 people in NSW each day decreased compared to the previous week of 7.1 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 4. Rates of COVID-19 testing by LHD of residence, NSW, 6 June to 10 July 2021

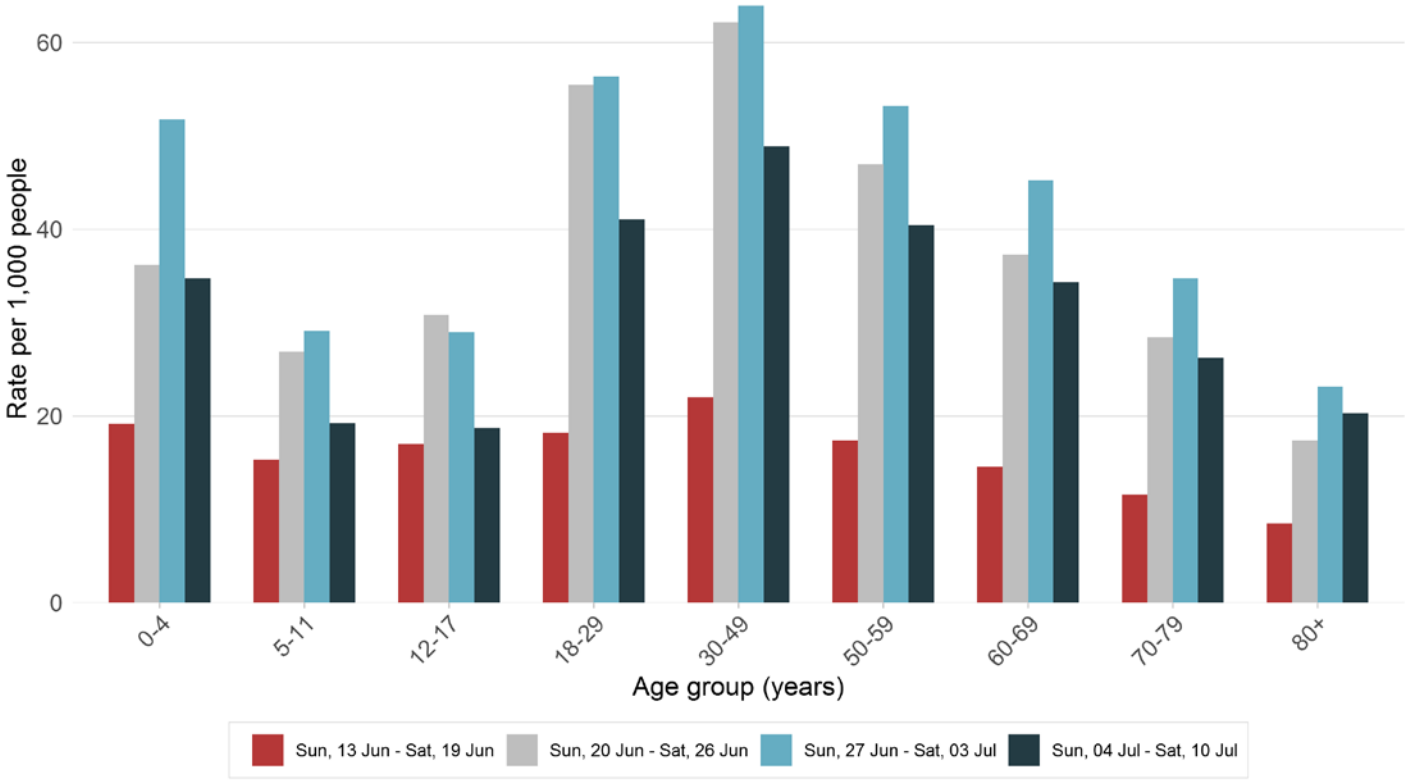


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 10 July decreased when compared to the previous week (36.6 per 1,000 people compared to 49.3 per 1,000 people). Testing rates decreased across all metropolitan and rural and regional Local Health Districts.

Testing by age group

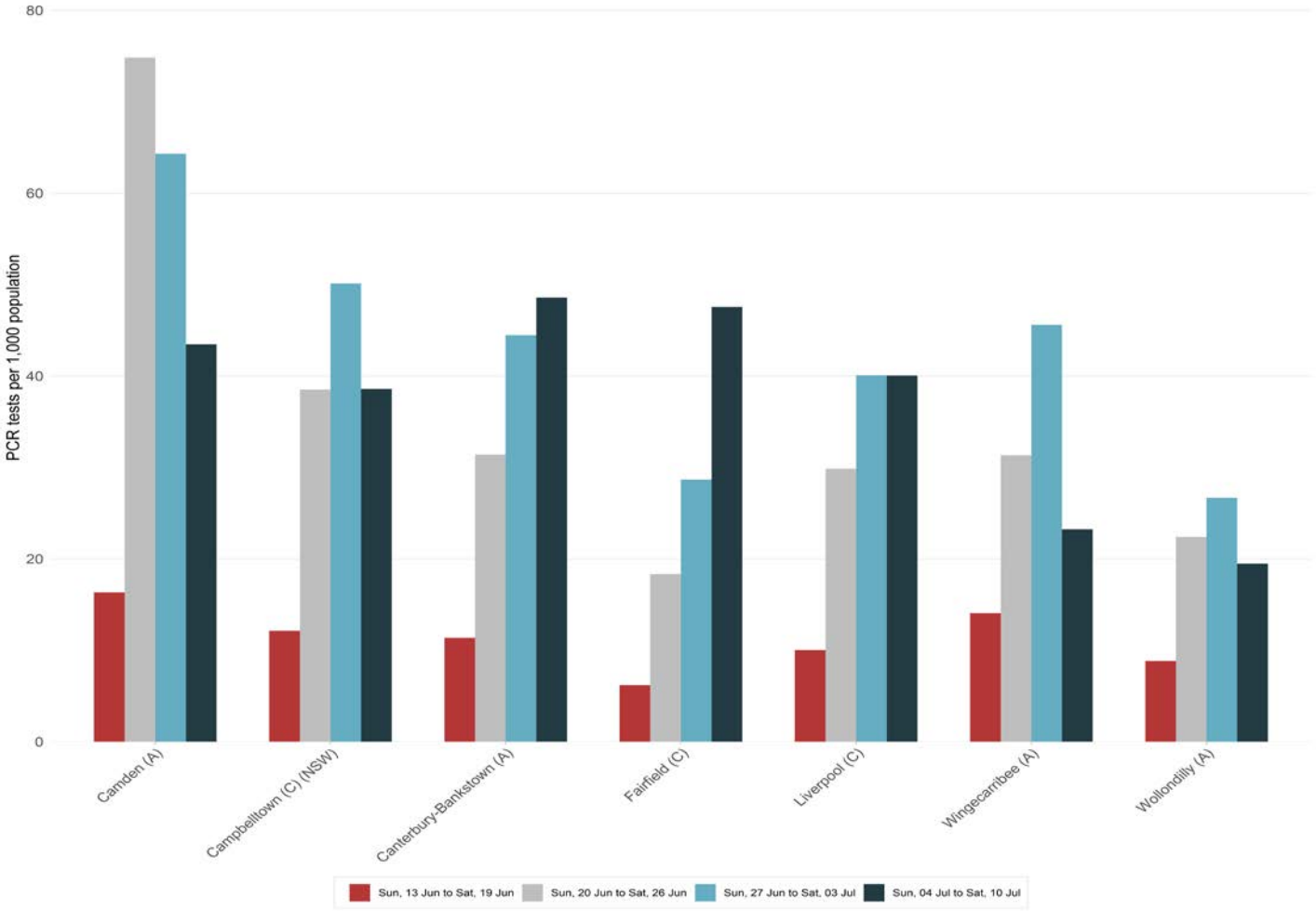
Figure 5. Rates of COVID-19 testing by age group and week, NSW, 6 June to 10 July 2021



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

Interpretation: In the week ending 10 July 2021, testing rates decreased across all age groups after a surge in testing in the previous fortnight in response to the emerging Eastern Suburbs cluster. The largest relative increase was in children aged under five years.

Figure 6. Rates of COVID-19 testing by LGA in South Western Sydney, NSW, 13 June to 10 July 2021

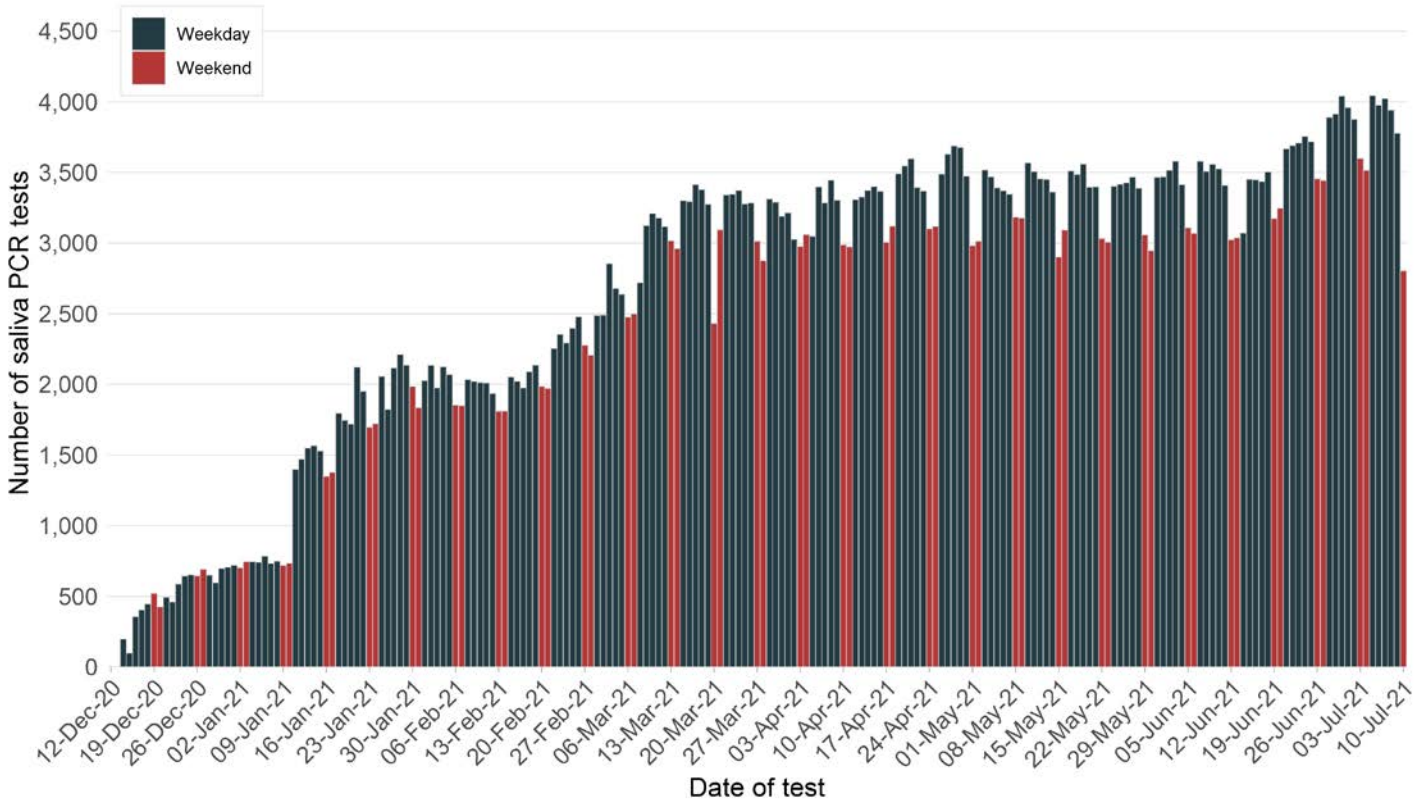


Interpretation: Testing rates have been elevated in seven LGAs across South Western Sydney for the third consecutive week in response to targeted public health messaging advising residents in the area to get tested. This was mainly driven by testing in Fairfield LGA where the rate increased significantly (47.8 tests per 1000 people compared with 28.7 per 1,000 last week respectively).

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 10 July 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 547,028 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 7: 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 10 July 2021, there have been:

- 352 locally acquired cases diagnosed with a VOC. All cases have been identified as having the Delta variant.
- 36 returned travellers diagnosed with a VoC. Of these:
  - 11 (31%) with the alpha variant
  - 5 (14%) with the beta variant
  - 20 (56%) with the delta variant.
- The countries of likely acquisition of the 36 returned travellers diagnosed with a VoC are: Afghanistan (8, 22%), Bangladesh (5, 14%), Indonesia (4, 11%), India (3, 8%), Pakistan (3, 8%), USA (3, 8%), Philippines (2, 6%), UK (2, 6%), Algeria (1, 3%), South Africa (1, 3%), Sierra Leone (1, 3%), Cambodia (1, 3%), Myanmar (1, 3%), and unknown (1, 3%).

Table 5a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 10 July 2021

	Week ending				29 Nov to 12 June	Total since 29 November
	10 July*	3 July*	26 June	19 June		
Total variants identified	**114**	**131**	**100**	**7**	**9**	**361**
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)	114	131	100	7	2	354

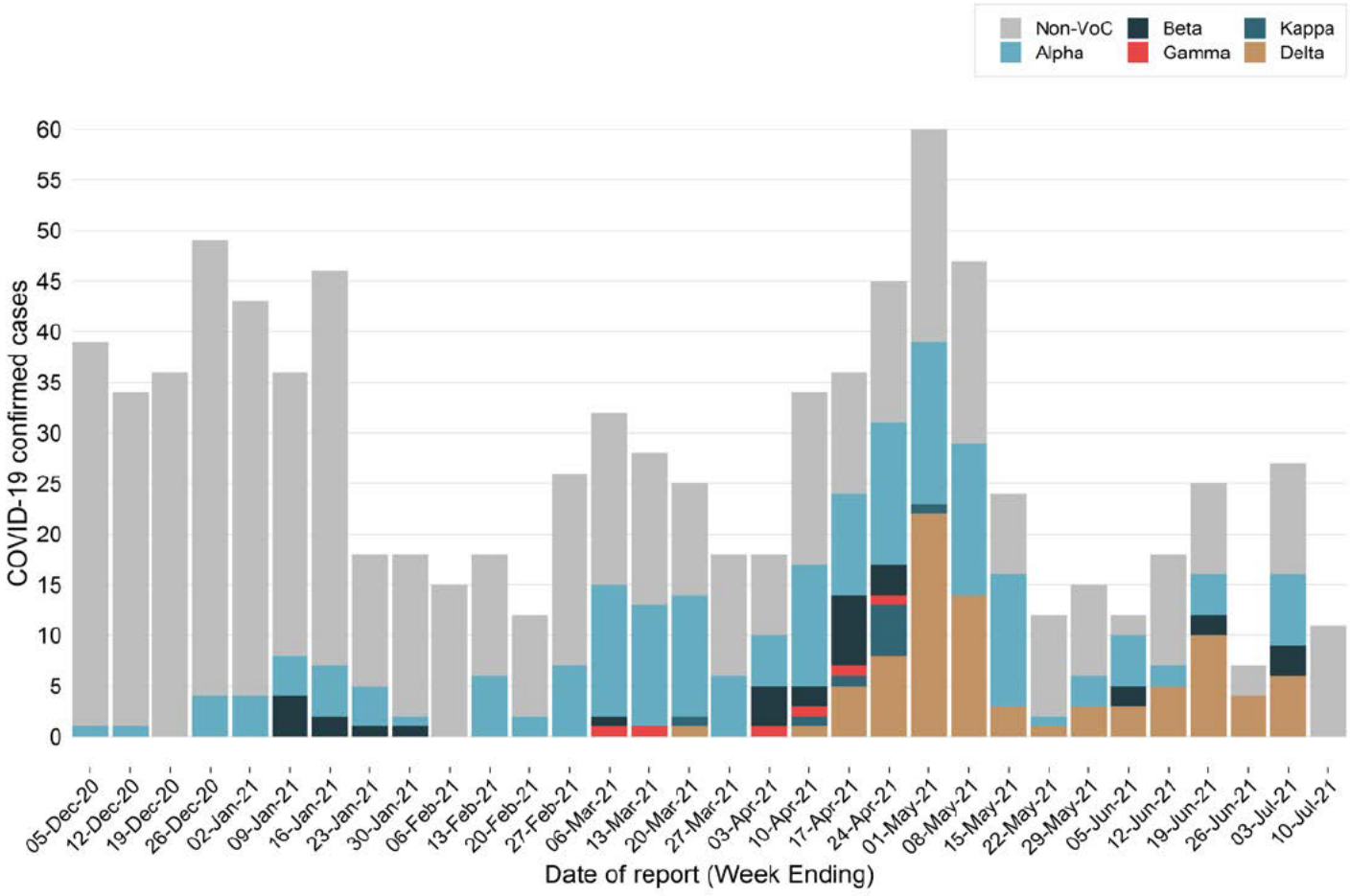
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 10 July have been the Delta variant of concern.

Table 5b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 10 July 2021

	Week ending				29 Nov to 12 June	Total since 29 November
	10 July*	3 July*	26 June	19 June		
Total variants identified	0	16	4	16	286	322
Alpha (B.1.1.7)	0	7	0	4	178	189
Beta (B.1.351)	0	3	0	2	27	32
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	6	4	10	66	86

***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 8. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 10 July 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 322 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 10 July 2021, 51% (36/70) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 8: NSW Sewage Surveillance Program

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. In Sydney, testing is undertaken from both the sewage treatment plant (inlet sites) and sites within the network (network sites). Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support NSW Health's response to COVID-19.

An infected person can shed virus in their faeces even if they do not have symptoms, and shedding can continue for several weeks after they are no longer infectious. The NSW sewage surveillance for SARS-CoV-2 is in the preliminary stages of analysis and work is progressing to assess the significance of the results. For example, it is not currently known the minimum number of cases that can be detected in a catchment. A small number of cases in a large sewage catchment may not be detected by sewage surveillance due to factors such as dilution, inhibition, reduction in shedding over the infection period or movement of cases.

The table below shows results for the last 10 weeks for sites that have had detections. The results from all sites across NSW are available in Appendix D.

Table 6. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 10 July 2021

		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	**Location**	18	19	20	21	22	23	24	25	26	27
Sydney sewage treatment plant (inlet sites)											
110,114	Penrith										
1,241	Brooklyn										
31,924	Hornsby Heights										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
119,309	Rouse Hill										
163,147	St Marys										
68,000	Port Kembla										
93,000	Bellambi										
Sydney network sites											
Bondi	Paddington										
Cronulla	Caringbah										
Malabar	Earlwood										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
Malabar	Arncliffe 1										
Malabar	Arncliffe 2										
Malabar	Blakehurst										
Malabar	Padstow 1										
Malabar	Padstow 2										
Malabar	Fairfield 1										
Malabar	Fairfield 2										

Table 6 (Continued). Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 10 July 2021

		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	Location	18	19	20	21	22	23	24	25	26	27
Sydney network sites (continued)											
Malabar	Homebush SPS										
Malabar	Croydon										
Malabar	Dulwich Hill										
Malabar	Canterbury										
Malabar	Botany										
Malabar	Maroubra										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn										
North Head	Northmead SPS										
North Head	Tunks Park										
North Head	Vineyard Creek										
North Head	Boronia										
Glenfield	Minto										
Liverpool	Ireland Park										
Regional Sites											
2,050	Bourke										
38,900	Bateau Bay										

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 10 July 2021, 173 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 46 detections. There was one detection outside Sydney taken from the Bateau Bay sewage treatment plant.

In Sydney there were detections from the sewage treatment plants in Penrith, Hornsby Heights, Bondi, Cronulla (2), Malabar (2), Liverpool, Glenfield (2), North Head and Castle Hill - Cattai.

There were also detections from the sewage networks and pumping stations within:

- the Bondi catchment including Paddington
- the Cronulla catchment including Caringbah
- the Malabar catchment including Botany, Earlwood, Marrickville 1, Marrickville 2, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Dulwich Hill (2), Canterbury (2), Maroubra and Homebush pumping station (2)
- the Liverpool catchment including Ireland Park (2)
  the North Head catchment including, Tunks Park, Camellia South and Camellia North, Northmead sewage pumping station, Vineyard Creek (2), Boronia Park
- the Glenfield catchment including Minto (2) Port Kembla (2)

No active cases were identified in the Castle Hill - Cattai catchments at the time. These detections may be due undetected cases, the movement of cases in neighbouring areas whilst unknowingly infectious or 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. All other catchments were associated with known cases in the area.

Section 9: COVID-19 hospitalisations and deaths

How many people are in hospital as a result of COVID-19?

In the four weeks ending 10 July 2021, there have been 78 people that have been admitted to hospital as a result of being diagnosed with COVID-19.

Table 7. Hospitalisations and ICU admissions as a result of COVID-19, by age group, NSW, from 13 June to 10 July 2021

Age-group (years)	Hospitalised (%)	Hospitalised and in ICU (%)
0-4	1 (1%)	0
5-17	6 (8%)	1 (4%)
18-29	10 (13%)	2 (9%)
30-49	18 (23%)	4 (17%)
50-59	14 (18%)	5 (22%)
60-69	9 (12%)	4 (17%)
70-79	10 (13%)	5 (22%)
80+	10 (13%)	2 (9%)
Total	**78 (100%)**	**23 (100%)**

Interpretation: The majority of cases hospitalised are 30-49 (23%) years of age followed by those aged 50-59 (18%). Of the 78 hospitalised cases, six are residents of the Baulkham Hills aged care facility and have been admitted for close monitoring and not due to deteriorating health concerns. Five of the six aged care residents are fully vaccinated.

How many people in hospital as a result of COVID-19 are vaccinated?

Of the 78 people hospitalised as a result of COVID-19, 23 (29%) people are in ICU of which 20 (91%) were unvaccinated and two (9%) are partially vaccinated. There have been no cases in ICU that have been fully vaccinated.

Table 8. Hospitalisations and ICU admissions as a result of COVID-19, by vaccination status, NSW, from 13 June to 10 July 2021

Vaccination status	Hospitalised (%)	Hospitalised and in ICU (%)
Fully Vaccinated	5 (6%)	0
Partially Vaccinated	8 (10%)	2 (9%)
Single dose within 14 days	1 (2%)	0
Not vaccinated	64 (82%)	21 (91%)
Total locally acquired cases	**78 (100%)**	**23 (100%)**

Interpretation: Of the 78 people hospitalised, 5 (6%) are fully vaccinated (all aged care residents) who were admitted for public health reasons rather than clinical need, 8 (10%) are partially vaccinated and 65 (82%) have not been vaccinated.

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 was one death reported in the week ending 10 July 2021 in a person in their 90s. This person was a household contact of a previously reported case and was unvaccinated.

Table 9. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 10 July 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	169	0%
5-11	0	184	0%
12-17	0	221	0%
18-29	0	1409	0%
30-49	0	2020	0%
50-59	1	795	0.1%
60-69	4	696	0.6%
70-79	15	417	3.6%
80+	37	179	20.7%
Total	57	6090	0.9%

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.

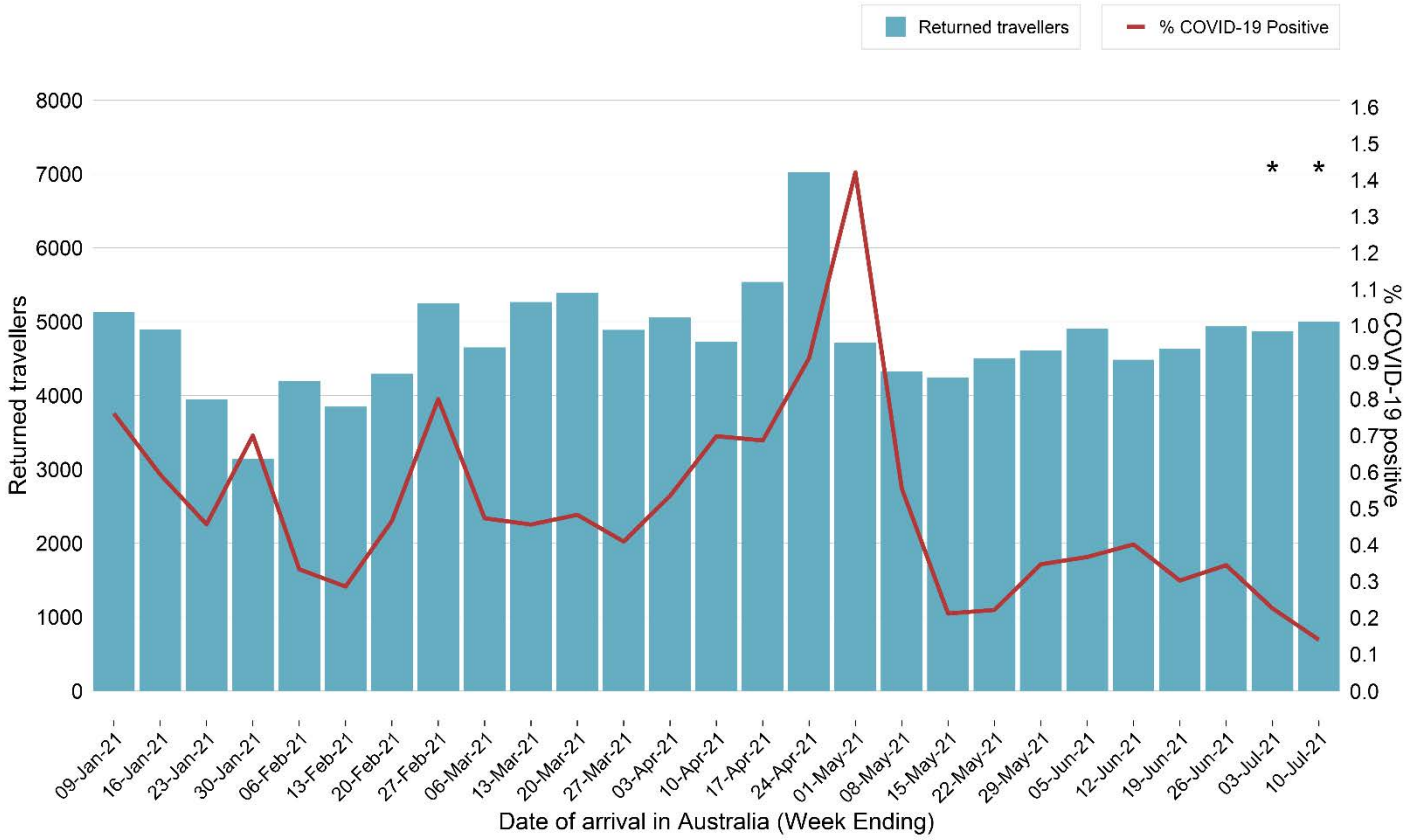
Section 10: COVID-19 in returned travellers

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 9. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 10 July 2021



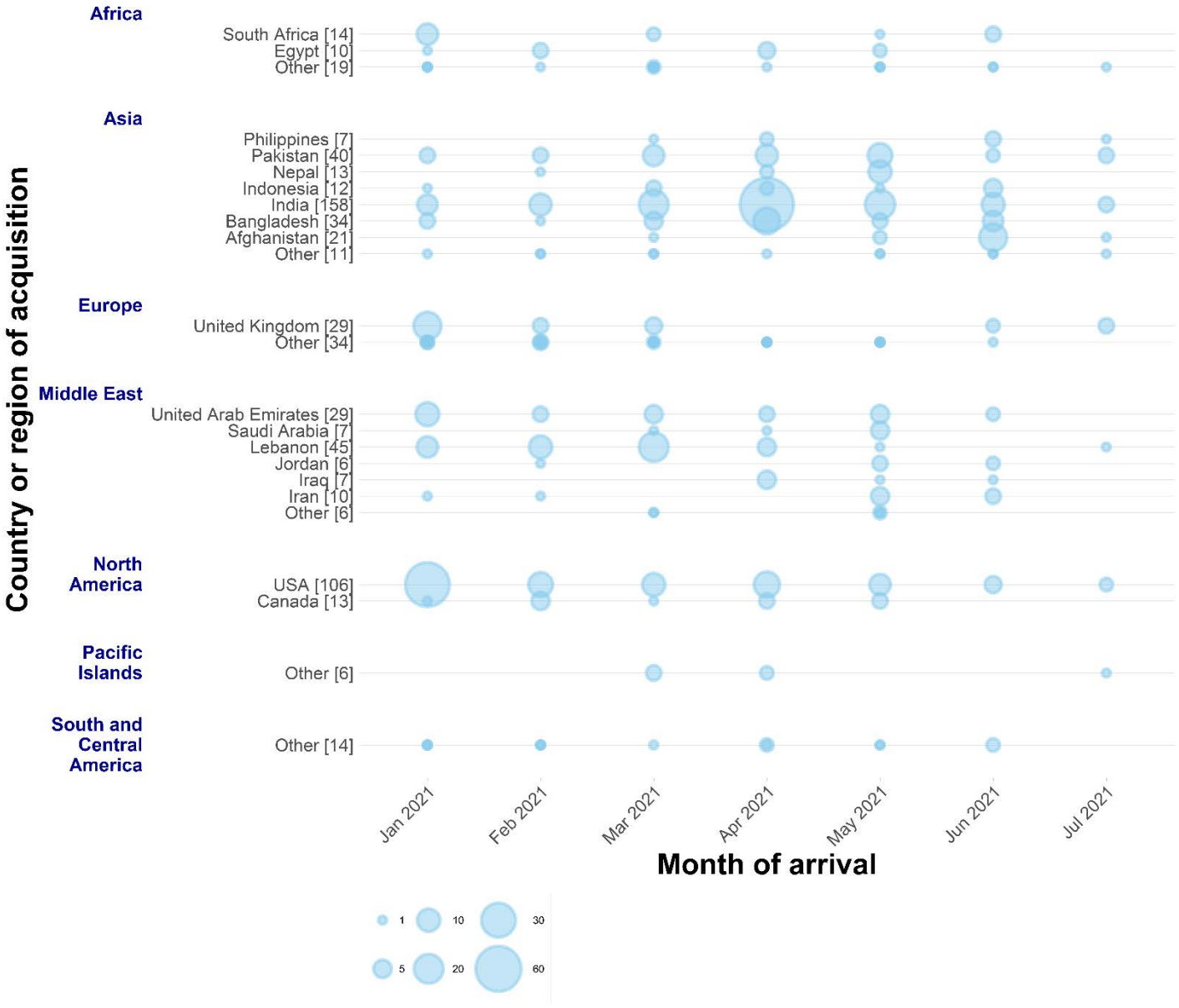
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 680 people screened on arrival through Sydney International Airport daily. In the last four weeks, 77 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 10. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 December 2020 to 10 July 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 77 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 10. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 6 June 2021 to 10 July 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Afghanistan	13 (19%)
India	7 (10%)
Bangladesh	5 (7%)
Indonesia	5 (7%)
Pakistan	5 (7%)
United Kingdom	5 (7%)
USA	4 (6%)
Cambodia	2 (3%)
Jordan	2 (3%)
Philippines	2 (3%)
United Arab Emirates	2 (3%)
Other	18 (26%)
Total	**70**

Interpretation: In the last four weeks, travellers returning from Afghanistan and India accounted for the largest number of overseas acquired cases (20, 29%), followed by travellers returning from Bangladesh, Indonesia, Pakistan and UK (25, 36%).

Cases among returned travellers in quarantine

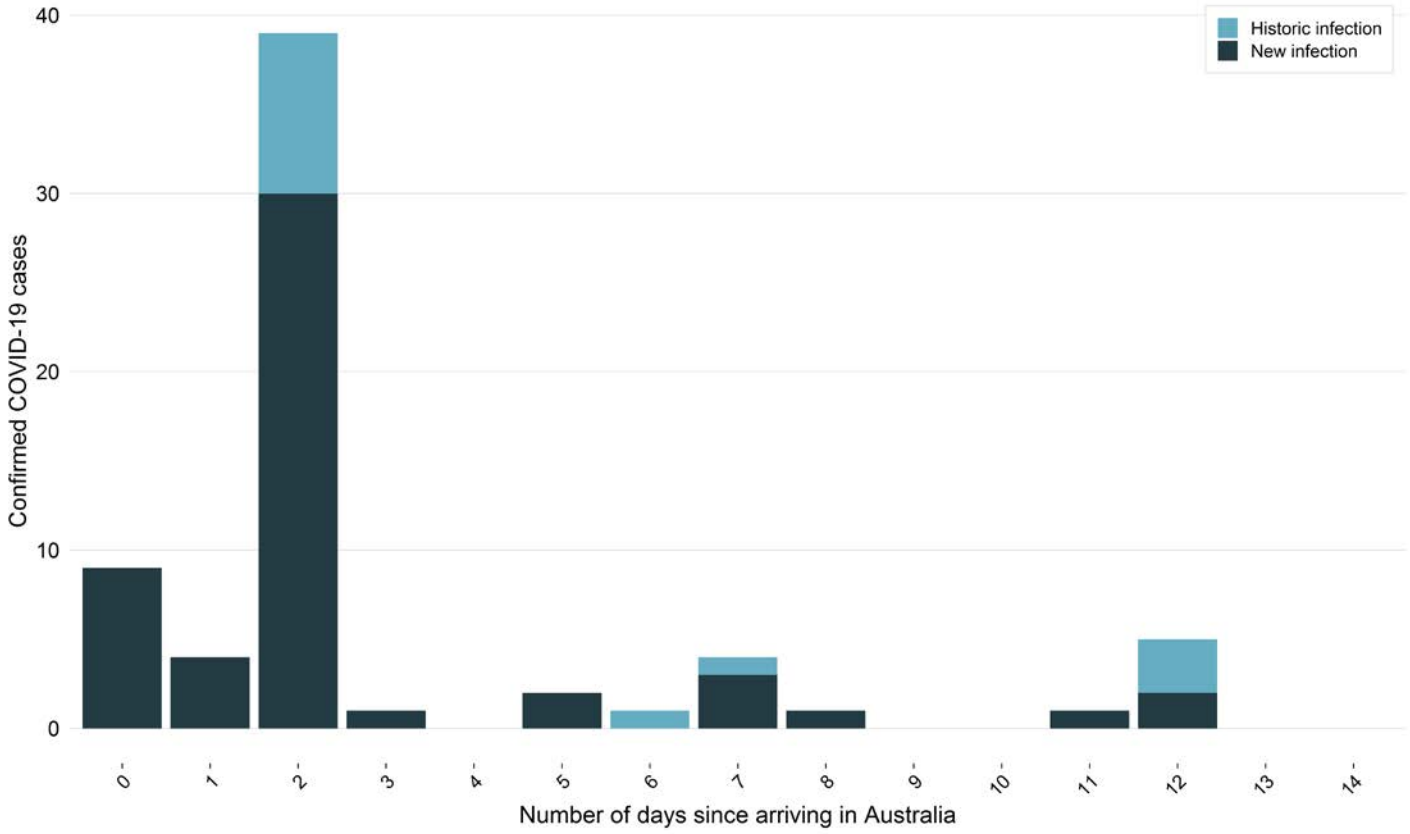
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved 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 11. 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, 6 Junto 10 July 2021



Interpretation: In the four weeks ending 10 July 2021, 56% of overseas acquired COVID-19 cases have tested positive within two days of arriving to Australia, with most people testing positive on day two screening.

Section 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 04 July 2021

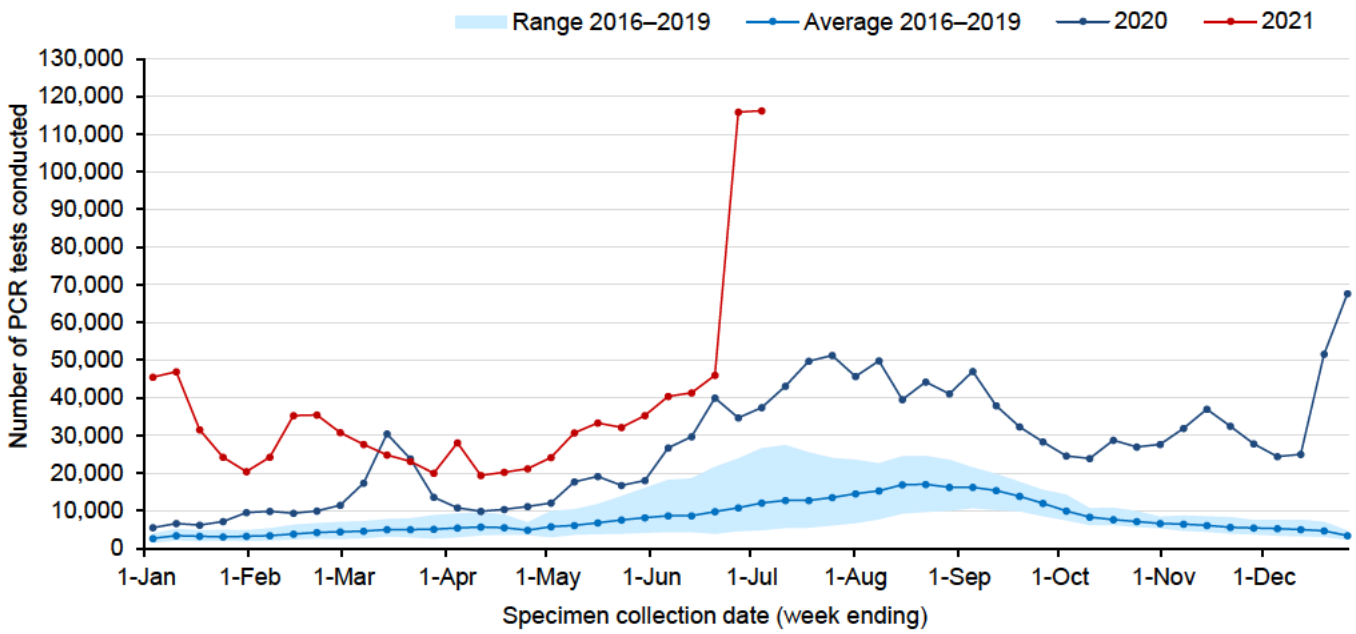
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 4 July 2021. A total of 993,812 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 12. Testing for influenza by week, NSW, 1 January 2016 to 04 July 2021

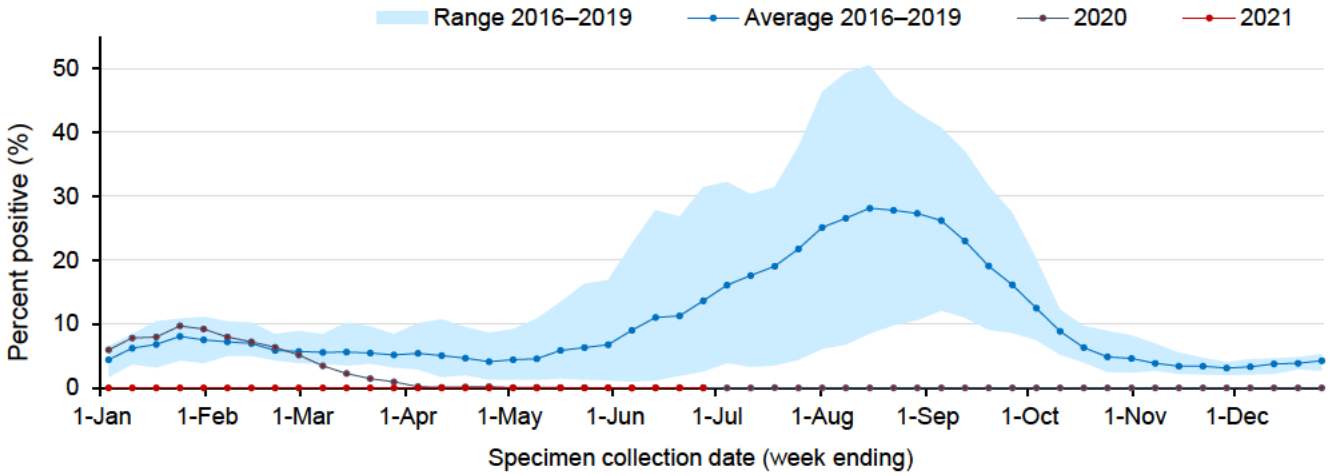


Interpretation: In the week ending 4 July, the number of influenza tests surged, with 116,223 influenza tests performed across participating laboratories compared with 45,936 the previous week. This spike in influenza tests is likely due to concurrent testing of influenza and COVID-19 by some sentinel labs. 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 13. Proportion of tests positive for influenza, NSW, 1 January 2016 to 4 July 2021

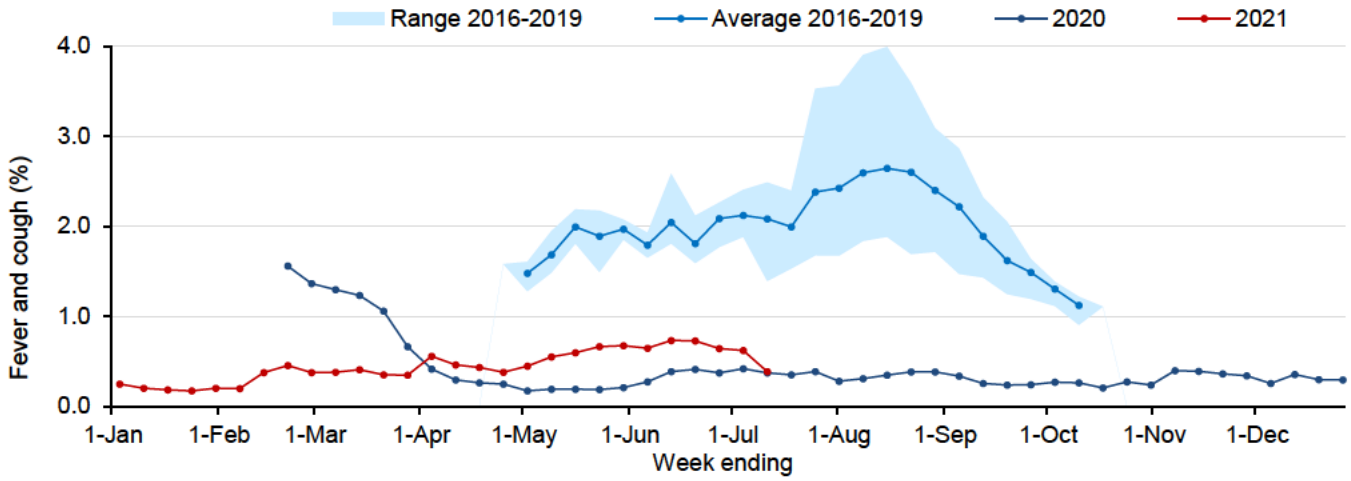


Interpretation: In the week ending 4 July, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 13 influenza cases reported in 2021 and none in the last week.

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 14. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 11 July 2021



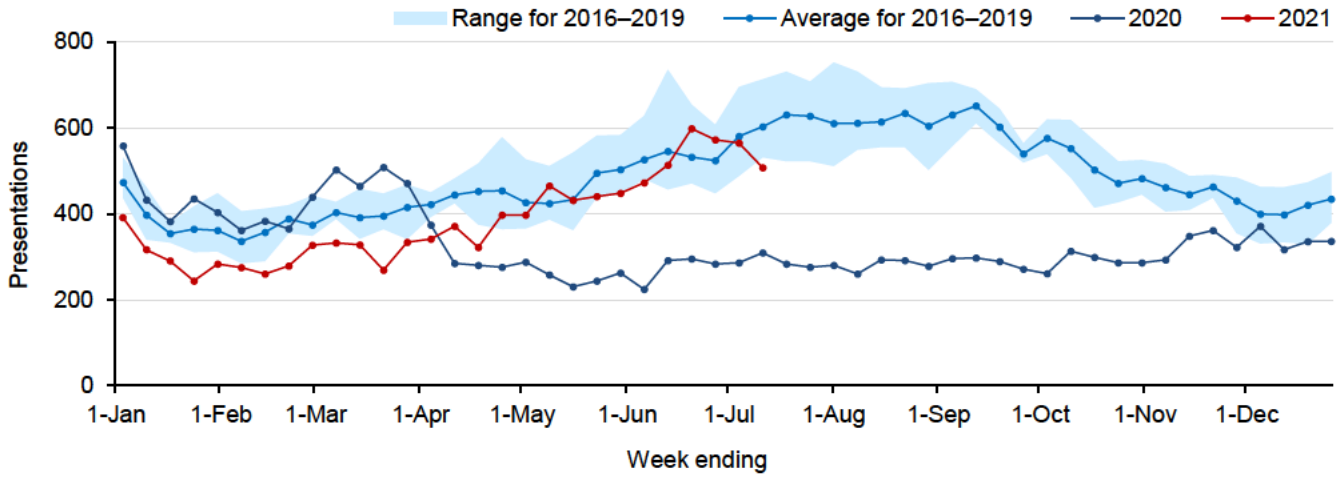
Interpretation: In NSW in the week ending 11 July 2021, of the 22,034 people surveyed, 85 people (0.39%) reported flu-like symptoms. In the last four weeks, 64% (375/588) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased 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.

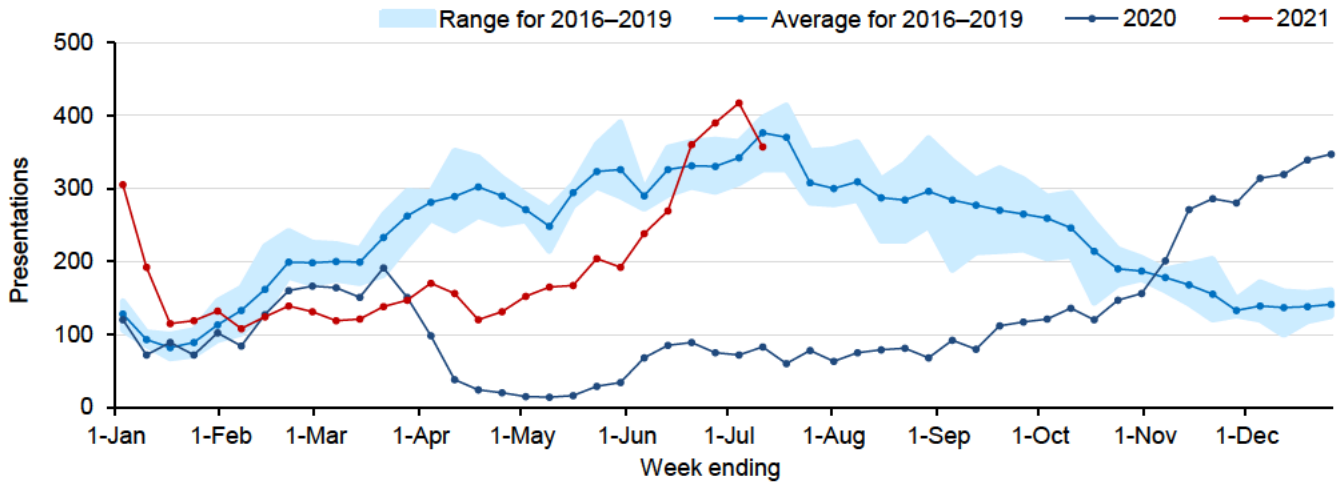
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 15. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 11 July 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 11 July, pneumonia presentations decreased and are below the seasonal range for this time of year.

Figure 16. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 11 July 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 11 July 2021, bronchiolitis presentations decreased and 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	
		10-Jul		03-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Central Coast	*LHD Total*[2]	8667	24.56	12817	36.32	267842	759.05
Far West	Balranald	15	6.42	22	9.41	868	371.26
	Broken Hill	188	10.76	319	18.25	11001	629.38
	Central Darling	20	10.88	23	12.51	661	359.43
	Wentworth	103	14.60	127	18.01	4054	574.79
	LHD Total[2]	326	10.81	491	16.29	16584	550.16
Hunter New England	Armidale Regional	444	14.43	843	27.39	18355	596.35
	Cessnock	696	11.60	1251	20.86	26170	436.28
	Dungog	92	9.76	240	25.47	4462	473.52
	Glen Innes Severn	55	6.20	142	16.01	3176	358.02
	Gunnedah	156	12.30	292	23.03	5702	449.65
	Gwydir	34	6.35	49	9.15	1342	250.70
	Inverell	220	13.03	327	19.36	7655	453.23
	Lake Macquarie	4422	21.48	8087	39.28	164241	797.67
	Liverpool Plains	64	8.10	155	19.61	3618	457.80
	Maitland	1985	23.31	3775	44.33	73382	861.63
	Mid-Coast	1110	11.83	1860	19.82	42222	449.96
	Moree Plains	102	7.69	220	16.59	7272	548.37
	Muswellbrook	192	11.72	384	23.45	7959	485.99
	Narrabri	99	7.54	212	16.14	4428	337.11
	Newcastle	3749	22.64	7013	42.36	157293	950.00
	Port Stephens	1229	16.73	2406	32.74	49264	670.43
	Singleton	372	15.86	711	30.31	15910	678.15
	Tamworth Regional	968	15.48	2058	32.91	40351	645.19
	Tenterfield	33	5.00	54	8.19	1925	291.93
	Upper Hunter Shire	151	10.65	355	25.04	7210	508.46
	Uralla	66	10.98	127	21.12	2256	375.25
	Walcha	34	10.85	104	33.18	1633	521.06
	LHD Total[2]	16272	17.09	30660	32.19	645397	677.67
Illawarra Shoalhaven	Kiama	663	28.35	1340	57.30	19692	842.04
	Shellharbour	1756	23.98	2733	37.32	57504	785.22
	Shoalhaven	1782	16.87	3700	35.02	65399	619.03
	Wollongong	5674	26.01	8870	40.67	185770	851.71
	LHD Total[2]	9875	23.53	16643	39.66	328365	782.54
Mid North Coast	Bellingen	158	12.16	329	25.32	7088	545.40
	Coffs Harbour	899	11.63	1768	22.88	36797	476.17
	Kempsey	385	12.94	729	24.51	15888	534.14
	Nambucca	188	9.49	385	19.44	8592	433.83
	Port Macquarie-Hastings	1309	15.49	2695	31.88	47974	567.57
	LHD Total[2]	2939	13.02	5906	26.17	116339	515.54
Murrumbidgee	Albury	1030	18.95	1405	25.85	33279	612.28
	Berrigan	80	9.14	94	10.74	2916	333.26
	Bland	57	9.54	121	20.26	2488	416.61

		Week ending				Total since January 2021	
		10-Jul		03-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Carrathool	19	6.79	38	13.58	581	207.57
	Coolamon	63	14.51	104	23.96	2223	512.09
	Cootamundra-Gundagai Regional	167	14.86	279	24.83	5384	479.22
	Edward River	103	11.34	108	11.89	3980	438.13
	Federation	203	16.32	195	15.68	5327	428.32
	Greater Hume Shire	128	11.89	245	22.76	5633	523.32
	Griffith	528	19.53	833	30.82	16189	598.95
	Hay	28	9.49	41	13.90	857	290.61
	Hilltops	263	14.06	491	26.25	9409	503.05
	Junee	48	7.18	119	17.81	2529	378.42
	Lachlan[1]	58	9.55	83	13.66	1548	254.81
	Leeton	133	11.62	250	21.84	4665	407.60
	Lockhart	39	11.87	78	23.74	1383	421.00
	Murray River	74	6.11	58	4.79	1474	121.64
	LHD Total[2]	49	12.51	70	17.87	1376	351.29
	Narrandera	42	7.12	81	13.73	1855	314.46
	Snowy Valleys	161	11.12	314	21.69	6984	482.35
	Temora	47	7.45	83	13.16	2062	326.94
	Wagga Wagga	1328	20.35	2373	36.36	47354	725.64
	LHD Total[2]	4615	15.48	7395	24.81	158459	531.55
Nepean Blue Mountains	Blue Mountains	2126	26.87	6485	81.97	80822	1021.54
	Hawkesbury	1684	25.02	2340	34.77	54431	808.83
	Lithgow	235	10.88	492	22.77	10565	489.01
	Penrith	6535	30.68	8189	38.45	186901	877.56
	LHD Total[2]	10387	26.57	17339	44.35	329990	843.99
Northern NSW	Ballina	506	11.34	1044	23.39	36786	824.28
	Byron	509	14.51	921	26.25	28970	825.80
	Clarence Valley	400	7.74	861	16.67	20322	393.36
	Kyogle	66	7.50	121	13.76	3290	374.03
	Lismore	483	11.05	878	20.10	28447	651.08
	Richmond Valley	227	9.67	380	16.19	12566	535.52
	Tenterfield	33	5.00	54	8.19	1925	291.93
	Tweed	995	10.26	1598	16.47	46939	483.90
	LHD Total[2]	3193	10.29	5811	18.72	177751	572.72
Northern Sydney	Hornsby	4415	29.03	6101	40.12	134944	887.45
	Hunters Hill	1259	84.05	1765	117.82	31609	2110.08
	Ku-ring-gai	5221	41.06	7939	62.44	178121	1400.84
	Lane Cove	2788	69.43	4315	107.46	87132	2169.89
	Mosman	1172	37.83	1889	60.97	37042	1195.64
	North Sydney	2425	32.32	3628	48.36	69215	922.61
	Northern Beaches	10312	37.70	17972	65.71	427915	1564.59
	Parramatta[1]	11598	45.09	10250	39.85	204805	796.30
	Ryde	6064	46.19	8517	64.88	135963	1035.74
	Willoughby	2326	28.65	3491	43.00	70800	872.04

		Week ending				Total since January 2021	
		10-Jul		03-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	LHD Total[2]	37688	39.43	57576	60.23	1214349	1270.35
South Eastern Sydney	Bayside	9326	52.28	11624	65.16	146537	821.41
	Georges River	9510	59.63	7786	48.82	119381	748.61
	Randwick	17512	112.51	25565	164.25	222864	1431.84
	Sutherland Shire	13338	57.84	12698	55.06	235016	1019.10
	Sydney[1]	13920	56.51	19970	81.07	317964	1290.74
	Waverley	6016	80.97	11868	159.74	134227	1806.68
	Woollahra	4393	73.97	7802	131.38	108438	1825.96
	LHD Total[2]	64658	67.42	84381	87.98	1082678	1128.85
South Western Sydney	Camden	4409	43.47	6523	64.31	118144	1164.70
	Campbelltown	6596	38.59	8568	50.12	155755	911.15
	Canterbury-Bankstown[1]	18358	48.58	16807	44.47	283418	749.95
	Fairfield	10068	47.56	6069	28.67	121629	574.55
	Liverpool	9117	40.06	9124	40.09	185125	813.43
	Wingecarribee	1188	23.23	2332	45.61	47804	934.88
	Wollondilly	1035	19.47	1418	26.68	32370	609.04
	LHD Total[2]	41152	39.63	41677	40.13	797046	767.47
Southern NSW	Bega Valley	494	14.33	811	23.52	17267	500.84
	Eurobodalla	545	14.17	1115	28.98	24954	648.61
	Goulburn Mulwaree	440	14.13	1012	32.51	18799	603.85
	Queanbeyan-Palerang Regional	756	12.37	1390	22.75	25496	417.28
	Snowy Monaro Regional	377	18.13	652	31.35	11347	545.66
	Upper Lachlan Shire	110	13.65	221	27.42	4200	521.16
	Yass Valley	139	8.13	372	21.77	6224	364.25
	LHD Total[2]	2867	13.21	5581	25.71	108343	499.11
Sydney	Burwood	1673	41.19	2032	50.03	27625	680.22
	Canada Bay	4087	42.54	6443	67.06	105005	1092.96
	Canterbury-Bankstown[1]	18358	48.58	16807	44.47	283418	749.95
	Inner West	10134	50.47	13826	68.85	238850	1189.43
	Strathfield	2941	62.67	3827	81.55	48808	1040.11
	LHD Total[2]	13920	56.51	19970	81.07	317964	1290.74
	LHD Total[2]	37701	54.11	47970	68.85	764268	1096.87
Western NSW	Bathurst Regional	765	17.54	1774	40.67	30655	702.81
	Blayney	137	18.57	259	35.10	4984	675.43
	Bogan	21	8.14	37	14.34	1253	485.66
	Bourke	29	11.20	147	56.76	1009	389.58
	Brewarrina	8	4.97	24	14.90	455	282.43
	Cabonne	139	10.20	313	22.96	5314	389.76
	Cobar	45	9.66	65	13.95	1739	373.34
	Coonamble	56	14.15	85	21.48	1435	362.56
	Cowra	181	14.20	270	21.19	5836	457.98
	Dubbo Regional	821	15.28	1730	32.20	32319	601.63
	Forbes	98	9.89	180	18.17	4134	417.32
	Gilgandra	49	11.56	74	17.46	1552	366.12
	Lachlan[1]	58	9.55	83	13.66	1548	254.81

		Week ending				Total since January 2021	
		10-Jul		03-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Mid-Western Regional	345	13.66	758	30.02	14224	563.30
	Narromine	71	10.89	145	22.25	2939	450.97
	Oberon	42	7.76	161	29.75	2603	481.06
	Orange	881	20.75	2128	50.13	35161	828.27
	Parkes	157	10.58	291	19.61	6626	446.59
	Walgett	42	7.06	101	16.97	2259	379.47
	Warren	56	20.76	104	38.56	2076	769.74
	Warrumbungle Shire	102	10.99	214	23.07	4380	472.08
	Weddin	29	8.03	79	21.87	1355	375.03
	LHD Total[2]	4118	14.45	9011	31.62	163432	573.42
Western Sydney	Blacktown	11631	31.06	14569	38.91	320037	854.68
	Cumberland	10862	44.97	11915	49.33	206309	854.21
	Parramatta[1]	11598	45.09	10250	39.85	204805	796.30
	The Hills Shire	8268	46.46	9952	55.92	219466	1233.17
	LHD Total[2]	40965	38.89	45159	42.87	916922	870.41
NSW Total[3]		296389	36.64	399345	49.36	3356889	414.95

Source - Notifiable condition information management System, accessed as at 8pm 12 Jul 2021

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

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

3 NSW Total counts and rates since January 2021 include tests where residential information is incomplete. See https://www.health.nsw.gov.au/Infectious/covid-19/Pages/counting-tests.aspx for detail on how tests are counted.

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 04 July 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 2020–04 July 2021

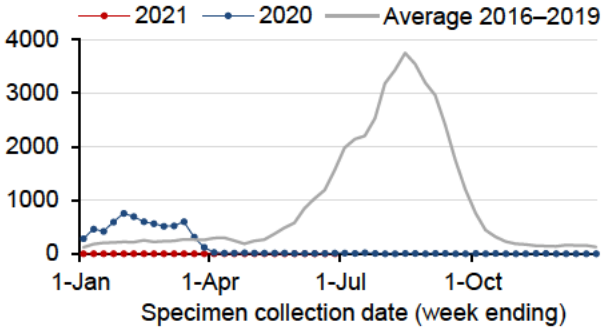
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	993,812	4	<0.01%	9	<0.01%	5,068	14,157	14,392	50,090	1,213	5,624
Month ending											
31 January*	168,596	1	<0.01%	0	-	416	88	3,275	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	0	-	6	<0.01%	946	3,129	1,491	8,982	78	843
Week ending											
6 June	40,405	1	-	0	<0.01%	312	1,339	531	2,574	56	205
13 June	41,306	0	-	0	-	402	1,685	678	2,597	113	189
20 June	45,936	0	-	0	-	336	1,818	629	2,182	149	198
27 June	115,892	0	-	0	-	490	2,210	910	2,530	312	219
4 July	116,223	0	-	0	-	438	1,913	930	1,985	394	185

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

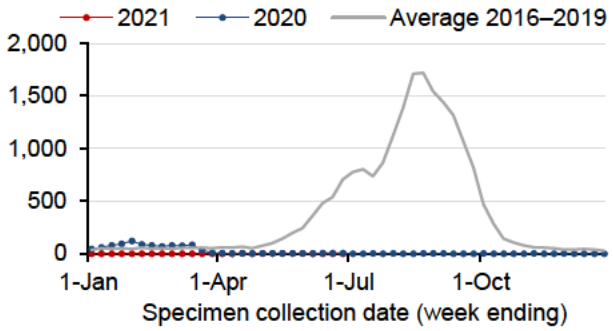
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 04 July 2021

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.

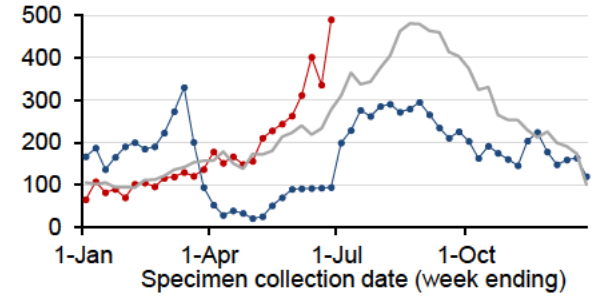
Influenza A



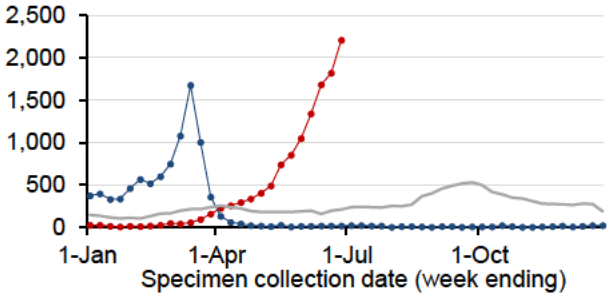
Influenza B



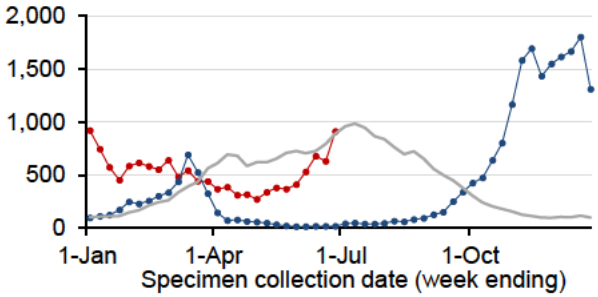
Adenovirus



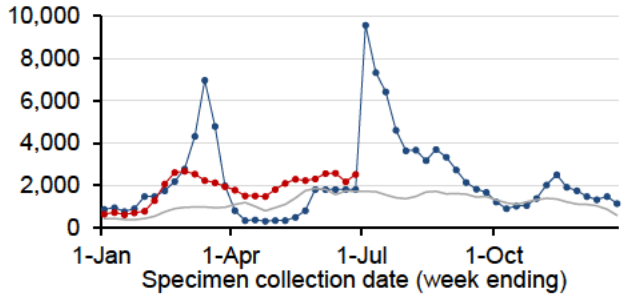
Parainfluenza



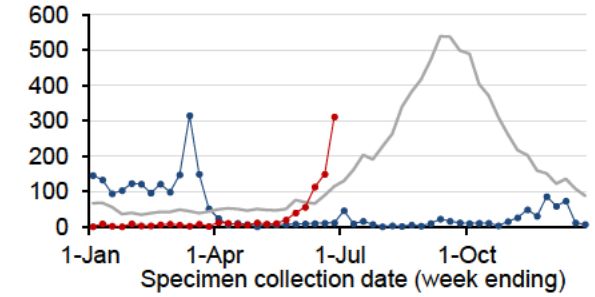
Respiratory syncytial virus (RSV)



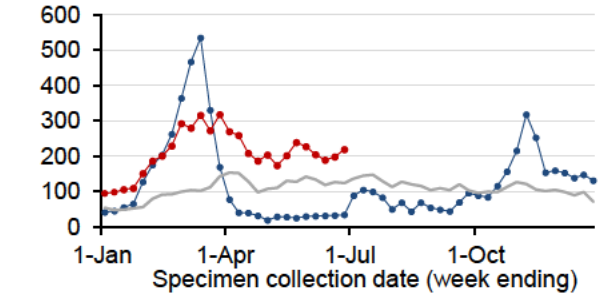
Rhinovirus



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 10 July 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. Charlotte Pass has recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	Location	18	19	20	21	22	23	24	25	26	27
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										
37,61	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Network	Location	18	19	20	21	22	23	24	25	26	27
Bondi	Paddington Sewage Network										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	Location	18	19	20	21	22	23	24	25	26	27
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,68	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
14,000	Vincentia										
16,000	St Georges Basin										
11,000	Cul burra Beach										
139,500	Gosford-Kincumber										
59,60	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
	Albury composite	c	c	c	c	c	c	c	c	c	c
51,750	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
50,000	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	Location	18	19	20	21	22	23	24	25	26	27
	Griffith										
2,050	Bourke										
	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,63	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
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July
Pop.	Location	18	19	20	21	22	23	24	25	26	27
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.

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 28, ENDING 17 July 2021

Published 2 August 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 17 July 2021

	2020		2021			
	Jan – Jun	July – Dec	Jan – Jun	last 4 weeks	last 7 days	Year to date
				20 Jun - 17 Jul	11 Jul - 17 Jul	
Locally acquired	1,236 (39%)	808 (52%)	255(25%)	1,249 (95%)	656 (96%)	1,307 (64%)
Interstate acquired	67 (2%)	23 (1%)	1(<1%)	1 (<1%)	0	1 (<1%)
Overseas acquired	1,892 (59%)	714 (46%)	672 (72%)	69 (5%)	24 (4%)	721 (36%)
Total	**3,195 (100%)**	**1,545 (100%)**	**928 (100%)**	**1,319 (100 %)**	**680 (100 %)**	**2,029 (100%)**
Deaths	51	5	0	4	3	4

Summary for the week ending 17 July 2021

- There were 656 locally acquired cases reported in the week ending 17 July 2021. Of these:
  - 384 (59%) cases were residents of Fairfield LGA
  - 67 (10%) cases were residents of Canterbury-Bankstown LGA
  - 47 (7%) cases were residents of Liverpool LGA
  - 158 (24%) cases were residents across 25 other LGAs
- There were 24 cases reported in overseas returned travellers in the last week, an increase compared to the week ending 10 July, when 11 cases were reported.
- There were three deaths as a result of COVID-19 reported this week including a man in his 70s, a man in his 80s and a woman in her 90s.
- In the four weeks ending 17 July 2021, 100% (788/788) of the locally acquired cases sequenced were the delta variant of concern. For overseas-acquired cases, 48% (33/69) of sequenced cases were COVID-19 variants of concern. Not all case samples can be sequenced.
- Since March 2021, 16 (1%) of 1265 locally acquired cases have reported being fully vaccinated. Nineteen (4%) of overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates increased across all Local Health Districts compared to the previous week (up 68%) with a surge in testing in the South Western Sydney area in response to targeted public health messaging.
- In the week ending 17 July, 170 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 54 detections taken from the sewage treatment sites (including pumping stations) in Bateau Bay, Winmalee, Penrith, McGraths Hill, Hornsby Heights, Bondi, Cronulla, Malabar, Liverpool, West Camden, Glenfield, North Head, Quakers Hill, Rouse Hill, St Marys, Wollongong, Paddington, Caringbah, Botany, Earlwood, Marrickville 1 and 2, Blakehurst, Arncliffe 1 and 2, Padstow 1 and 2, Fairfield pumping station 1 and 2, Dulwich Hill, Canterbury, Maroubra, Homebush, Ireland Park, Auburn, Tunks Park, Camellia South, Camellia North, Northmead, Vineyard Creek, Minto, Ropes Creek, Eastern Creek, Port Kembla.

  All catchments with positive detections were associated with known cases living in the area.

Indicators of effective prevention for COVID-19 in NSW for the week ending 17 July 2021

Cases' community risk

A case is assigned a community exposure risk level based on an initial assessment of their opportunity to transmit the infection in the community during their infectious period. Their infectious period is two days before symptom onset (or specimen collection date if asymptomatic) until the date NSW Health is notified of the infection.

- **Low risk** indicates that the case was in isolation during their infectious period or had stayed at home (with or without household members) with no community exposures.
- **Medium risk** indicates that the case was isolating for part of their infectious period, or only had low risk community exposures and no venue exposures for their entire infectious period.
- **High risk** indicates that the case was active in the community with venue exposures during their infectious period

Locally acquired cases by risk of community exposure during their infectious period, as reported daily to 8pm

Community exposure risk	17-Jul	16-Jul	15-Jul	14-Jul	13-Jul	12-Jul	11-Jul	Total Week ending 17 July
Low risk	70	71	51	30	65	56	57	400 (59%)
Medium risk	5	10	16	7	7	9	17	71 (11%)
High risk	30	30	30	28	25	24	39	206 (30%)
Total	**105**	**111**	**97**	**65**	**97**	**89**	**113**	**677 (100%)**

Note: Risk numbers reported to 8pm on 17 July and will not be the same as total numbers reported for the week

Interpretation: In the week ending 17 July, 59% of total cases reported this week had low risk of community exposures, 11% had medium risk and 30% had high risk of community exposures. This compares to 43% low risk, 19% medium risk and 37% high risk reported in the previous week.

Measures of Public Health Action

	Week ending 17 July	Week ending 10 July
Proportion locally acquired cases notified to NSW Health by the laboratory within one day of specimen collection	93%	99%
Locally acquired cases interviewed by public health staff within one day of notification to NSW Health*	97%	100%
Close contacts (identified by the case) contacted by public health within two days of case notification	100%	100%

* **Note**: Short delays in conducting interviews may be as a result of cases being moved to a different location for the purpose of isolation or deteriorating health, incorrect contact details, or not being able to be reached by phone, in which case escalation processes are put in place.

Interpretation: In the week ending 17 July, 93% of cases were notified to NSW Health within a day of test and 96% of cases were interviewed within one day of notification and all close contacts were contacted by public health within two days of case notification. NSW health has been working closely with laboratory providers to minimise the turn-around times for test results.

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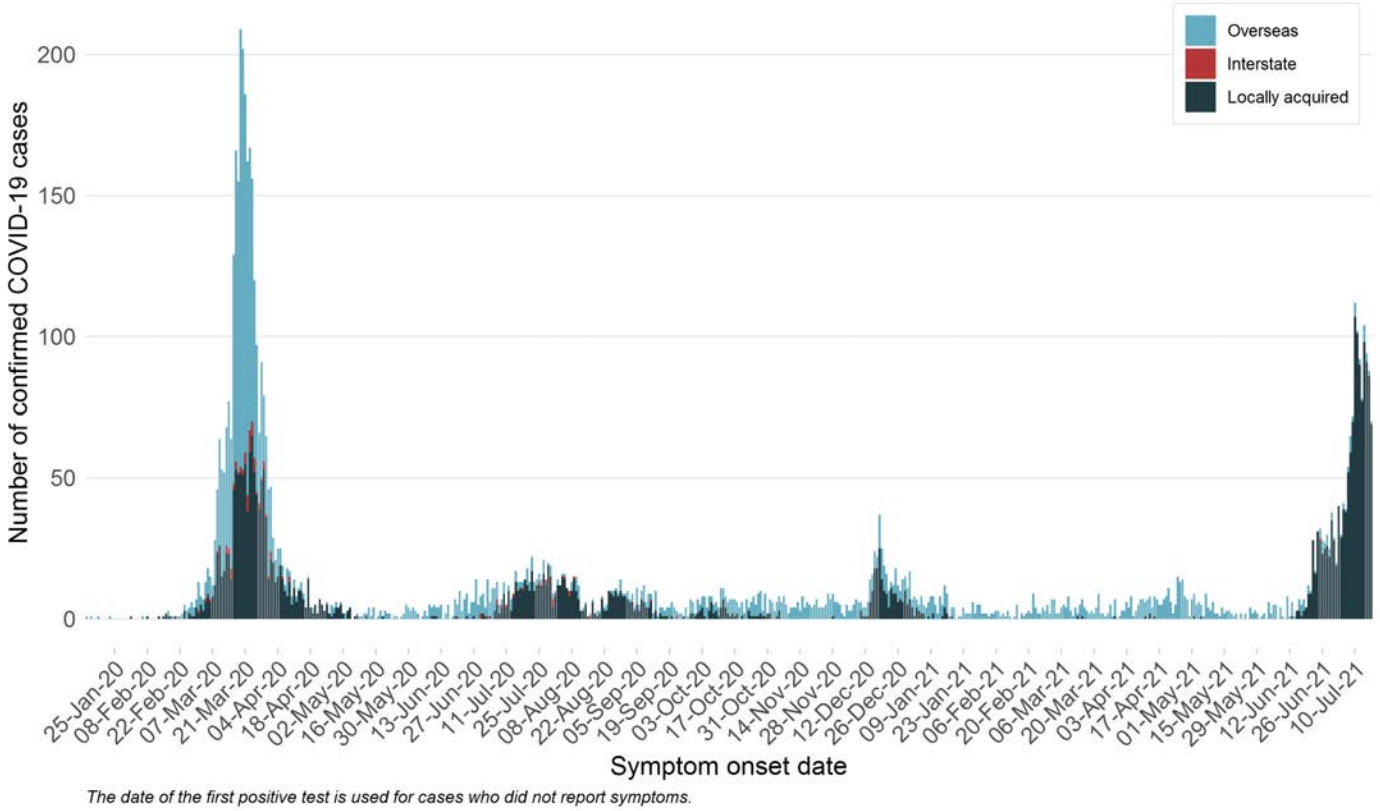
COVID-19 Vaccination program

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

Section 1: How is the outbreak tracking in NSW?

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

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, from 25 January 2020 to 17 July 2021



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

Interpretation: Between 13 January 2020 and 17 July 2021, there were 6,769 confirmed COVID-19 cases. Of those, 3,351 (50%) were locally acquired, 91 (1%) were interstate acquired and 3,327 (49%) were overseas 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 17 July 2021

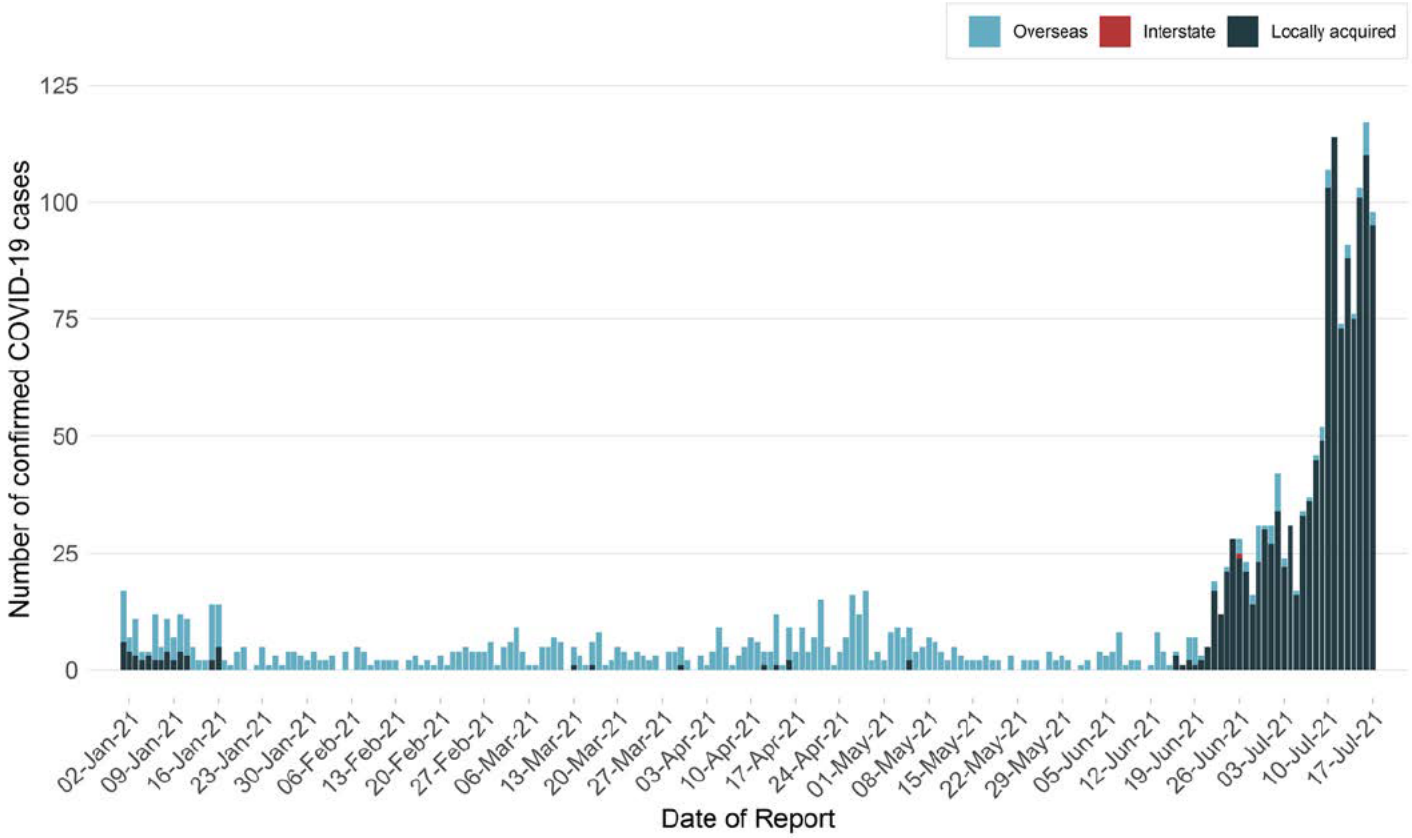


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 17 July 2021

	Week ending 17 Jul	Week ending 10 Jul	% change	Total 2021
Number of cases	680	324	110 %	2,029
Locally acquired	656	313	110 %	1,307
Known epidemiological links to other cases or clusters	507	271	87 %	1,097
No epidemiological links to other cases or clusters	149	42	254 %	210
Overseas acquired	24	11	118 %	721
Interstate acquired	0	0	-	1
Number of tests	499,760	297,328	68 %	3,856,317

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

Interpretation: Most cases reported in the last four weeks in NSW were locally acquired 1249 (95%). All locally acquired cases sequenced had the same delta variant of concern. Of the 656 locally acquired cases associated with the Greater Sydney outbreak reported in the week ending 17 July 2021,

- 384 (59%) cases were residents of Fairfield LGA
- 67 (10%) cases were residents of Canterbury-Bankstown LGA
- 47 (7%) cases were residents of Liverpool LGA
- 158 (24%) cases were residents across 25 other LGAs

In the week ending 17 July, the majority of cases with no epidemiological links were residents of Fairfield LGA (87/149, 58%). There were 24 cases that acquired their infection overseas.

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, 20 June to 17 July 2021

	Week ending					
Local Health District	17 Jul	10 Jul	03 Jul	26 Jun	Total	Days since last case reported
Central Coast	0	1	2	0	3	8
Illawarra Shoalhaven	0	0	1	3	4	19
Nepean Blue Mountains	11	7	0	0	18	1
Northern Sydney	5	4	6	2	17	2
South Eastern Sydney	79	76	80	62	297	1
South Western Sydney	472	162	35	26	695	0
Sydney	39	33	25	13	110	1
Western Sydney	50	30	22	3	105	1
Far West	0	0	0	0	0	483
Hunter New England	0	0	0	0	0	95
Mid North Coast	0	0	0	0	0	471
Murrumbidgee	0	0	0	0	0	315
Northern NSW	0	0	0	0	0	110
Southern NSW	0	0	0	0	0	278
Western NSW	0	0	0	0	0	346
NSW*	656	313	171	109	1249	0

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

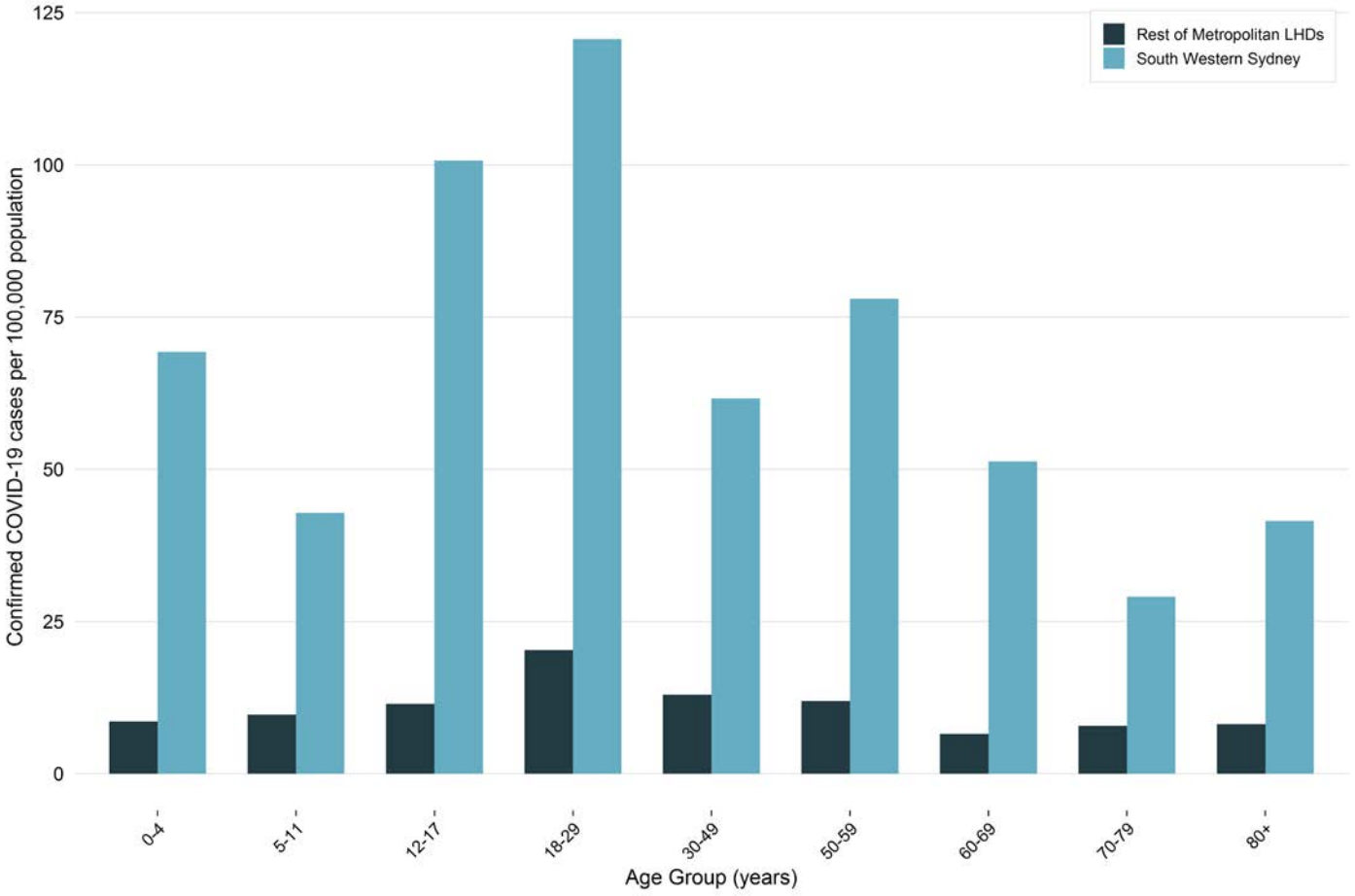
Interpretation: There were 656 locally acquired cases reported in the week ending 17 July. Most cases were residents of South Western Sydney LHD (472, 72%) followed by South Eastern Sydney LHD (79, 12%), and Western Sydney (50, 8%).

Section 3: Epidemiology of local cases with COVID-19 from16 June 2021 to 17 July 2021

Age breakdown of locally acquired cases in NSW

Since 16 June 2021, 1,256 locally acquired cases have been diagnosed with COVID-19 in NSW. The rate of COVID-19 diagnosed in each age group allows the risk of infection by age to be compared between areas. The largest number of cases were reported in South Western Sydney (55%, 695/1,256). The rate in this period in the South Western Sydney was 72.1 per 100,000 people compared with 12.4 per 100,000 people in the rest of the metropolitan local health districts.

Figure 3. Rates of COVID-19 infection by age group, South Western Sydney LHD and rest of metropolitan LHDs, NSW, 16 June to 17 July 2021



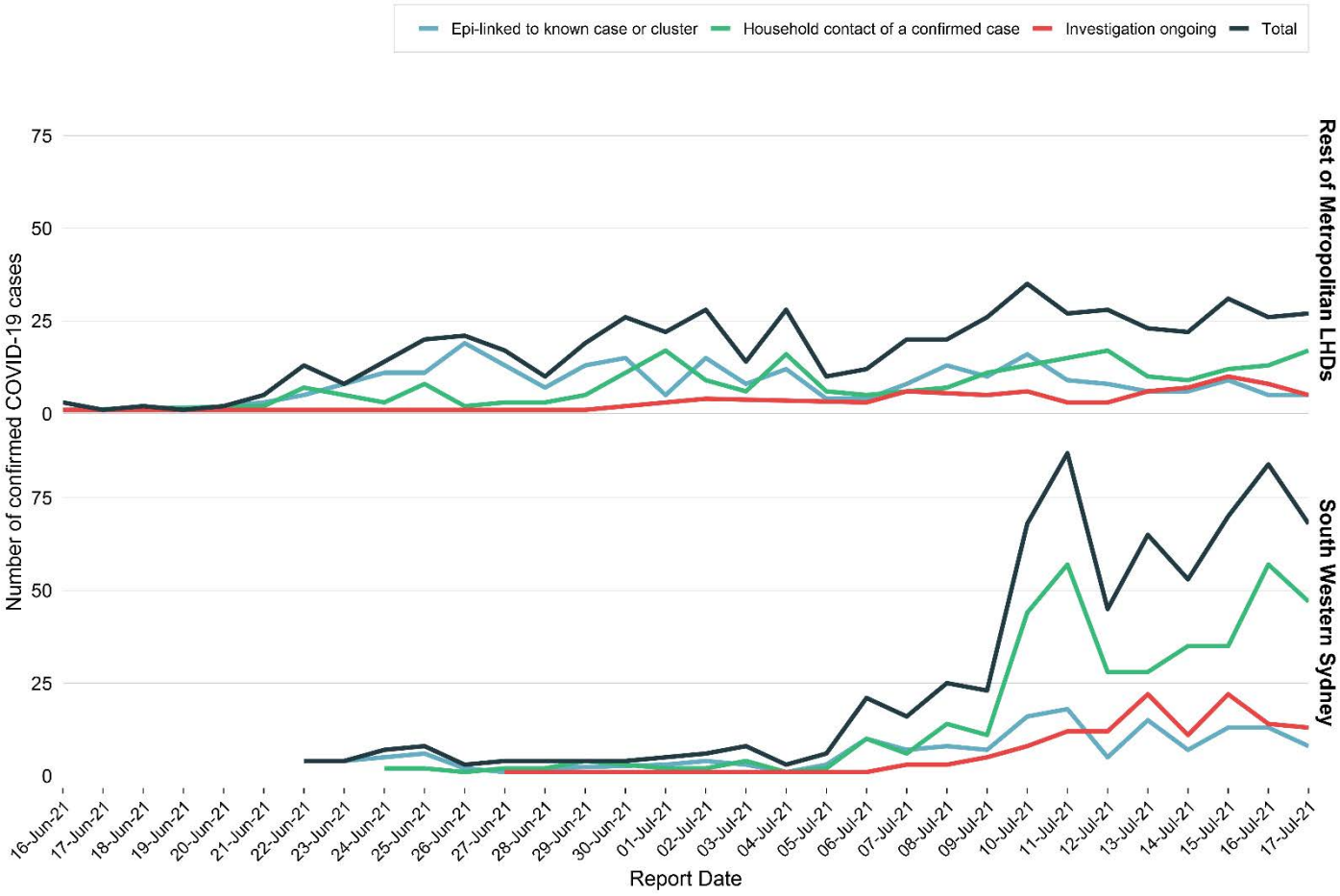
Interpretation: Since July 16, the highest rate of people diagnosed with COVID-19 was in people aged 18-29 years of age. The rate was almost six times higher in South Western Sydney when compared with the rest of metropolitan LHDs (120.7 per 100,000 compared with 20.3 per 100,000 people respectively).

Source of infection for locally acquired cases in NSW

In the week ending 17 July, the majority of cases diagnosed with COVID-19 acquired their infection in a household setting 380/656 (58%). Of the 472 case reported this week in South Western Sydney LHD, 287 (61%) were household contacts, 79 (17%) were epidemiologically linked but not household contacts and 106 (22%) were not currently linked to a case or cluster.

There were 184 cases reported this week who reside outside of the South Western Sydney area. Of these 93 (51%) are household contacts, 48 (26%) are epidemiologically linked but not household contacts and 43 (23%) have not currently been linked to a case or cluster.

Figure 4: Source of infection for locally acquired cases, South Western Sydney LHD and rest of metropolitan LHDs, 16 June to 17 July 2021, reported at 8pm daily

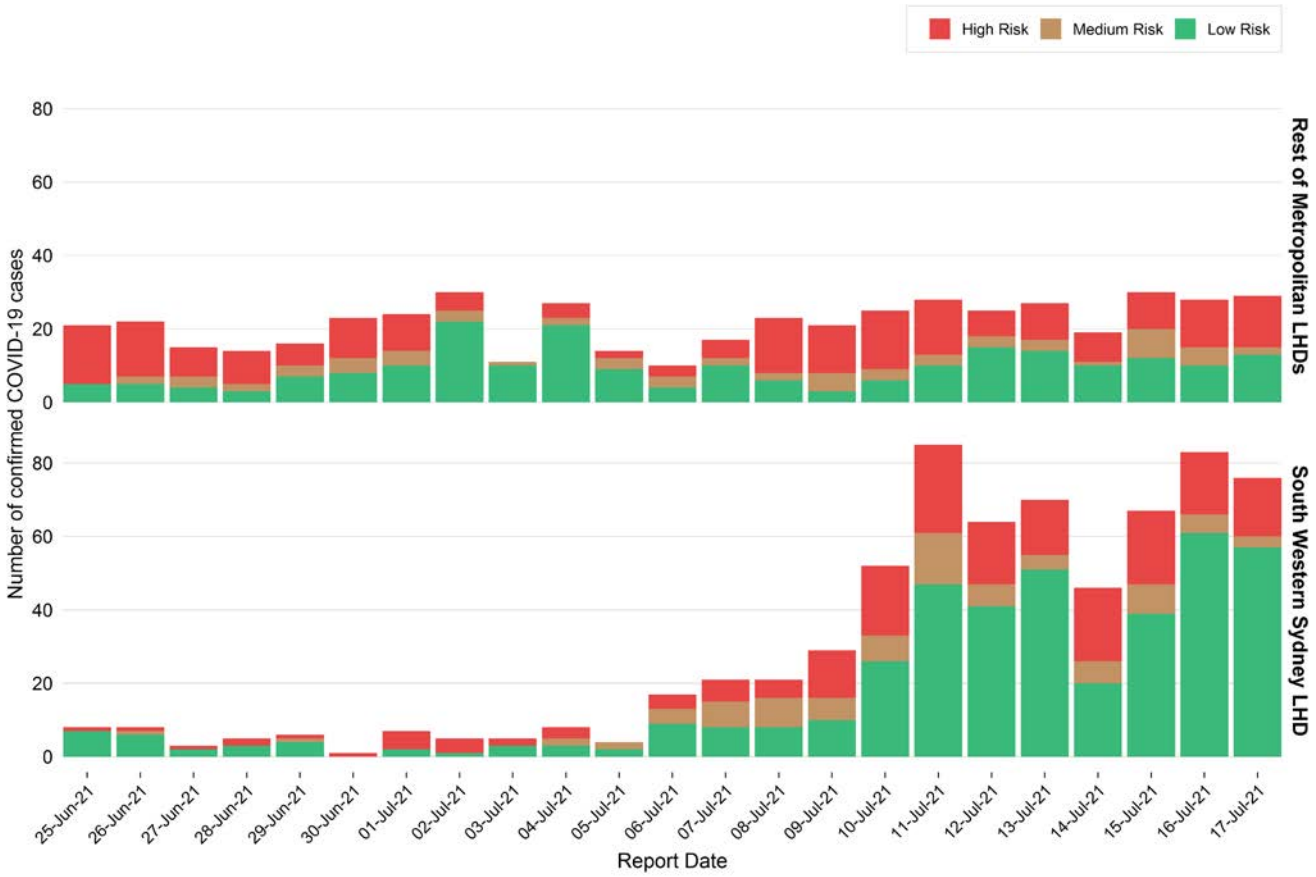


Interpretation: There was a surge of case in South Western Sydney on the 10 and 11 July following targeted testing of close contacts in the Fairfield LGA area. The proportion of household contacts diagnosed with COVID-19 has increased over time and remains the biggest risk group for onward transmission of COVID-19.

Measurement of risk of community exposure by LGA

In the week ending 17 July, 677 cases were assessed for risk to the community. Of these, 491 (73%) were residents of South Western Sydney and 186 (27%) were residents of other metropolitan LHDs. In the week ending 17 July, the majority of cases were considered low risk in the community (400/677, 59%).

Figure 5: Daily number of locally acquired cases by community risk level, South Western Sydney LHD and rest of metropolitan LHDs, 25 June to 17 July 2021.



Note: Reported at 24-hour intervals to 8pm daily. This is a different reporting period to what is used in the rest of the report which uses calendar days.

Interpretation: Of the 491 cases reported this week in South Western Sydney, 129 (26%) were classified as high risk, 46 (9%) medium risk and 316 (64%) low risk. This compares to 77 (41%) classified as high risk, 25 (13%) as medium risk and 84 (45%) as low risk in the rest of the metropolitan LHDs during the same period.

Section 4: 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.

There were four locally acquired cases of COVID-19 reported in Aboriginal people in the week ending 17 July 2021. None of the cases have reported being vaccinated. There have been 12 Aboriginal people diagnosed with COVID-19 associated with the Greater Sydney outbreak.

Since the beginning of the pandemic in January 2020, there have been 61 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 seventeen locally acquired cases of COVID-19 reported in HCWs in the week ending 17 July 2021. Of the seventeen cases, five (29%) were fully vaccinated,

In total there have been 85 cases of COVID-19 in health care workers since 1 August 2020. Of these, 35 HCWs were potentially infected in healthcare settings. A further 34 cases were social or household contacts of a known case, and for 16 cases the source of infection is either unknown or under investigation. Prior to August 2020, there were 26 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).

Aged care workers

There were five locally acquired cases in aged care workers in the week ending 17 July 2021. One case, who was unvaccinated, acquired their infection while working in an aged care facility in Baulkham Hills and four cases acquired their infections in the community. Of the four community acquired cases, one case was partially vaccinated and three were not vaccinated.

Since 1 January 2021, there have been 16 cases reported in aged care workers. Of these, 5 (31%) people have reported being partially vaccinated. There have been no aged care workers that have been fully vaccinated.

Pregnant women

There were five cases in a pregnant woman in the week ending 17 July 2021. Since January 2020, 55 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.

Section 5: COVID-19 vaccination status

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

There are a range of vaccines available 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. In the United States of America, there is one single dose vaccine available, the Johnson & Johnson vaccine.

The tables below show the number of COVID-19 cases by their COVID-19 vaccination status. Definitions of status are as follows:

- Cases reported as **fully vaccinated** completed the recommended vaccine course greater than 14 days prior to known exposure to COVID-19 or arrival in Australia.
- Cases reported as **partially vaccinated**:
  - received their first dose of a two-dose vaccination prior to known exposure to COVID-19 or arrival in Australia, or
  - completed their second dose of a two-dose vaccination within 14 days prior to known exposure to COVID-19 or arrival in Australia, or
  - completed a single-dose vaccination course (currently only Johnson & Johnson vaccine) within 14 days prior to known exposure to COVID-19 or arrival in Australia.

Table 4a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 17 July 2021

	Week ending					
Vaccination status	17-Jun	10-Jul	3-Jul	26-Jun	01 Mar-19 Jun	Total from 1 Mar 2021
Total locally acquired cases	**656**	**313**	**171**	**109**	**16**	**1265**
Fully Vaccinated	2 (<1%)	3 (1%)	7 (4%)	2 (2%)	0	14 (1%)
Partially Vaccinated	24 (4%)	20 (6%)	5 (3%)	5 (5%)	3 (19%)	57 (5%)
None	565 (86%)	287 (92%)	157 (92%)	100 (92%)	13 (81%)	1122 (89%)
Unknown/Missing	65 (10%)	3 (1%)	2 (1%)	2 (2%)	0	72 (6%)

Table 4b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 17 July 2021

	Week ending					
Vaccination status	17-Jun	10-Jul	3-Jul	26-Jun	01 Mar-19 Jun	Total from 1 Mar 2021
Total overseas acquired cases	**24**	**11**	**27**	**7**	**443**	**512**
Fully Vaccinated	6 (25%)	0	3 (11%)	0	10 (2%)	19 (4%)
Partially Vaccinated	5 (21%)	3 (27%)	1 (4%)	0	25 (6%)	34 (7%)
None	7 (29%)	5 (45%)	21 (78%)	7 (100%)	395 (89%)	435 (85%)
Unknown /Missing	6 (25%)	3 (27%)	2 (7%)	0	13 (3%)	24 (5%)

Interpretation: In the past week fewer than 1% of locally acquired cases were fully vaccinated. This compares with around 10% of the NSW population who had received two doses of vaccine by July 9. Since 1 March 2021, there have been 14 (1%) locally acquired cases reported as being fully vaccinated and 57 (5%) cases partially vaccinated in the 14 days preceding their known exposure date. Nineteen (4%) 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.

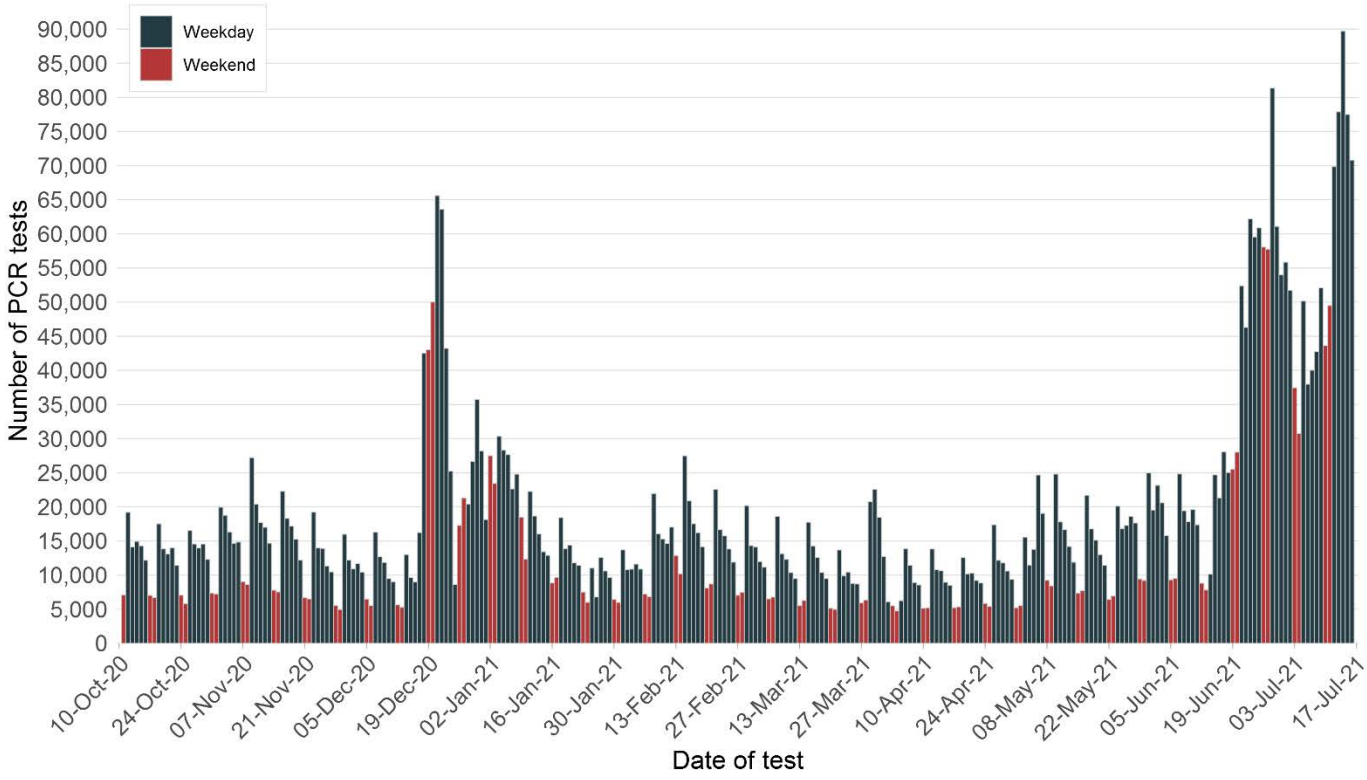
Section 6: COVID-19 testing in NSW

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.

Figure 6. Number of PCR tests per day, NSW, 10 October 2020 to 17 July 2021



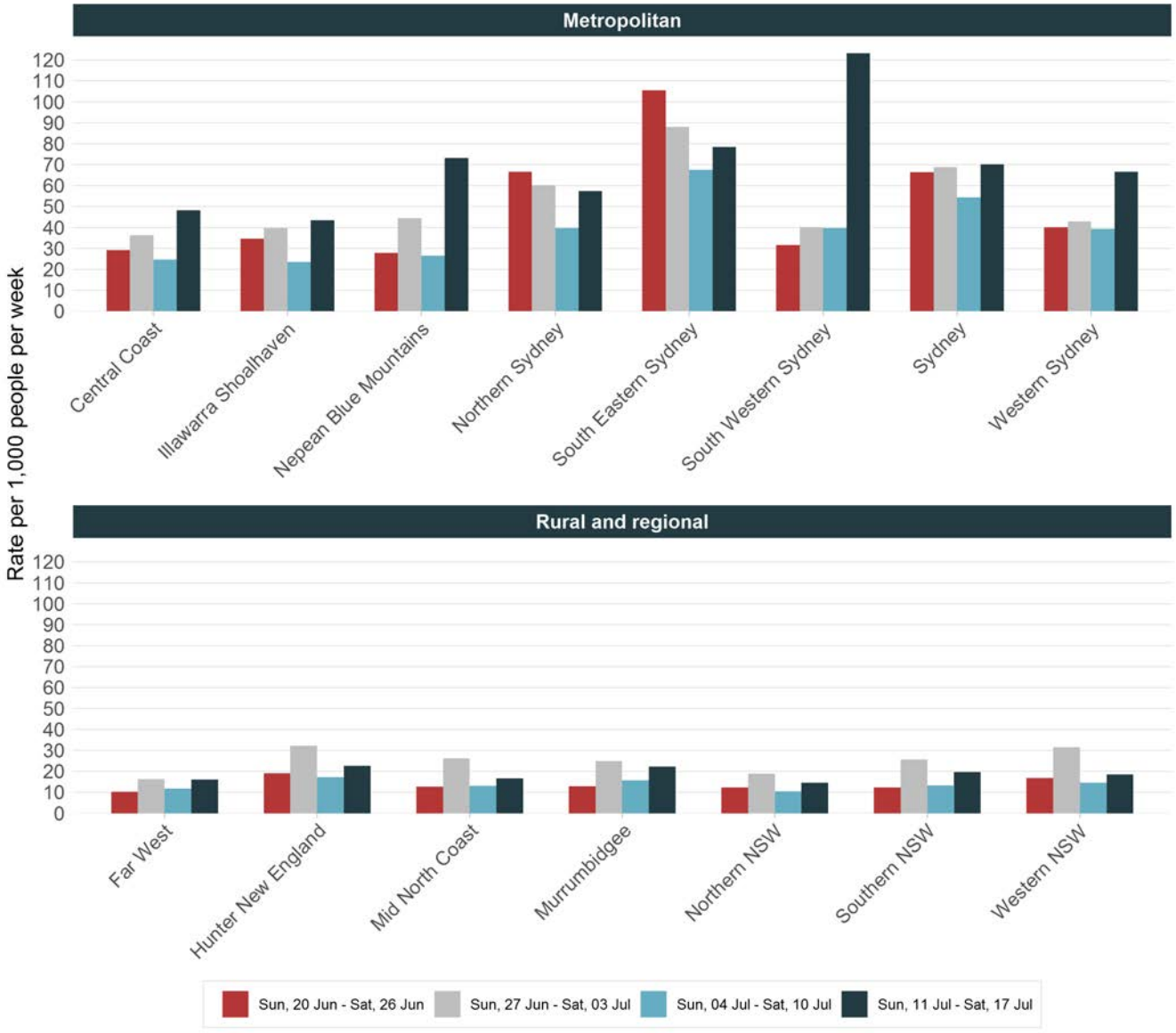
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers increased significantly in the week ending 17 July 2021 (up 68%) compared to the previous week. The average daily testing rate of 8.8 per 1,000 people in NSW each day increased compared to the previous week of 5.3 per 1,000 people.

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

Testing by Local Health District and Selected Suburb in the previous four weeks

Figure 7. Rates of COVID-19 testing by LHD of residence, NSW, 20 June to 17 July 2021

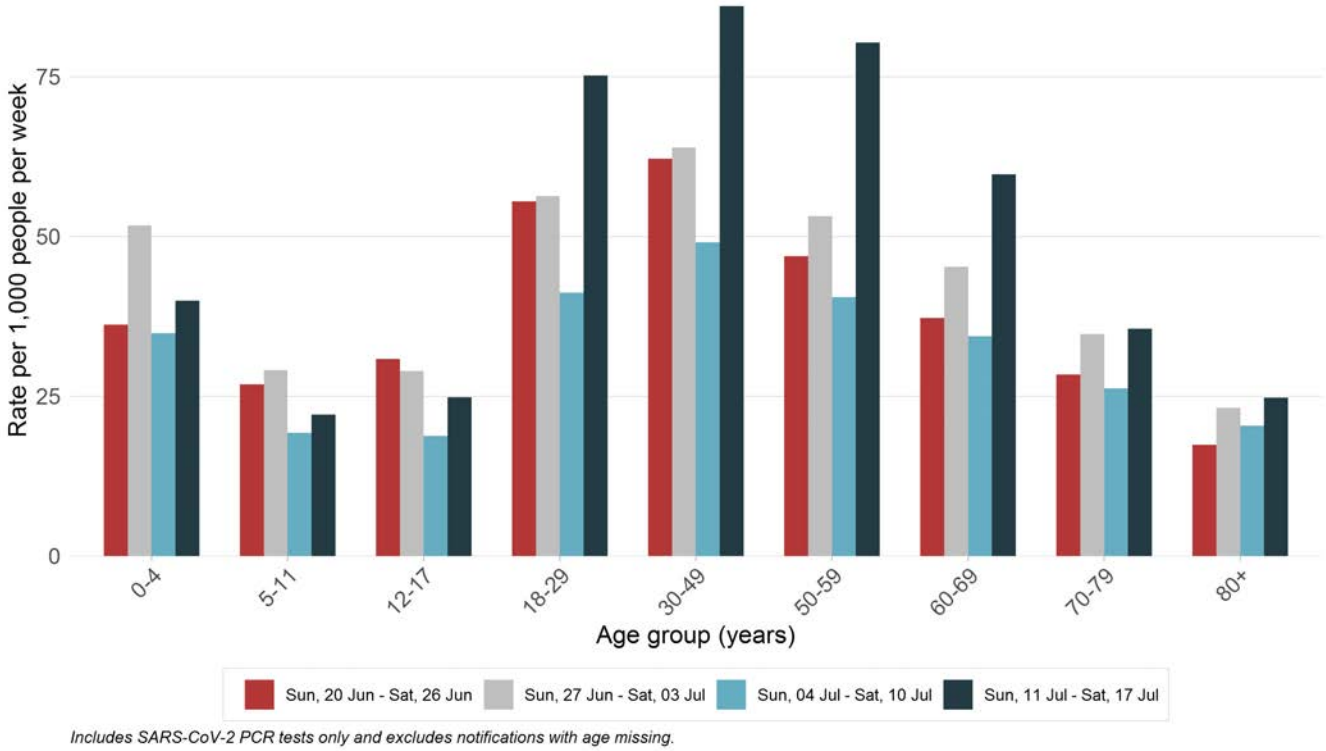


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 17 July increased compared to the previous week (61.8 per 1,000 people compared to 36.8 per 1,000 people). Testing rates increased in South Western Sydney Local Health District (LHD) as a result of targeted public health messaging to residents of the Fairfield, Canterbury Bankstown and Liverpool Local Government Areas (LGAs) in response to high numbers of COVID-19 cases and exposure venues in South western Sydney LHD. This week NSW Health has expanded COVID-19 testing across the Fairfield LGA with more 24/7 clinics and extended hours at existing sites. High testing rates were also seen in Nepean Blue Mountains and Western Sydney LHDs.

Testing by age group

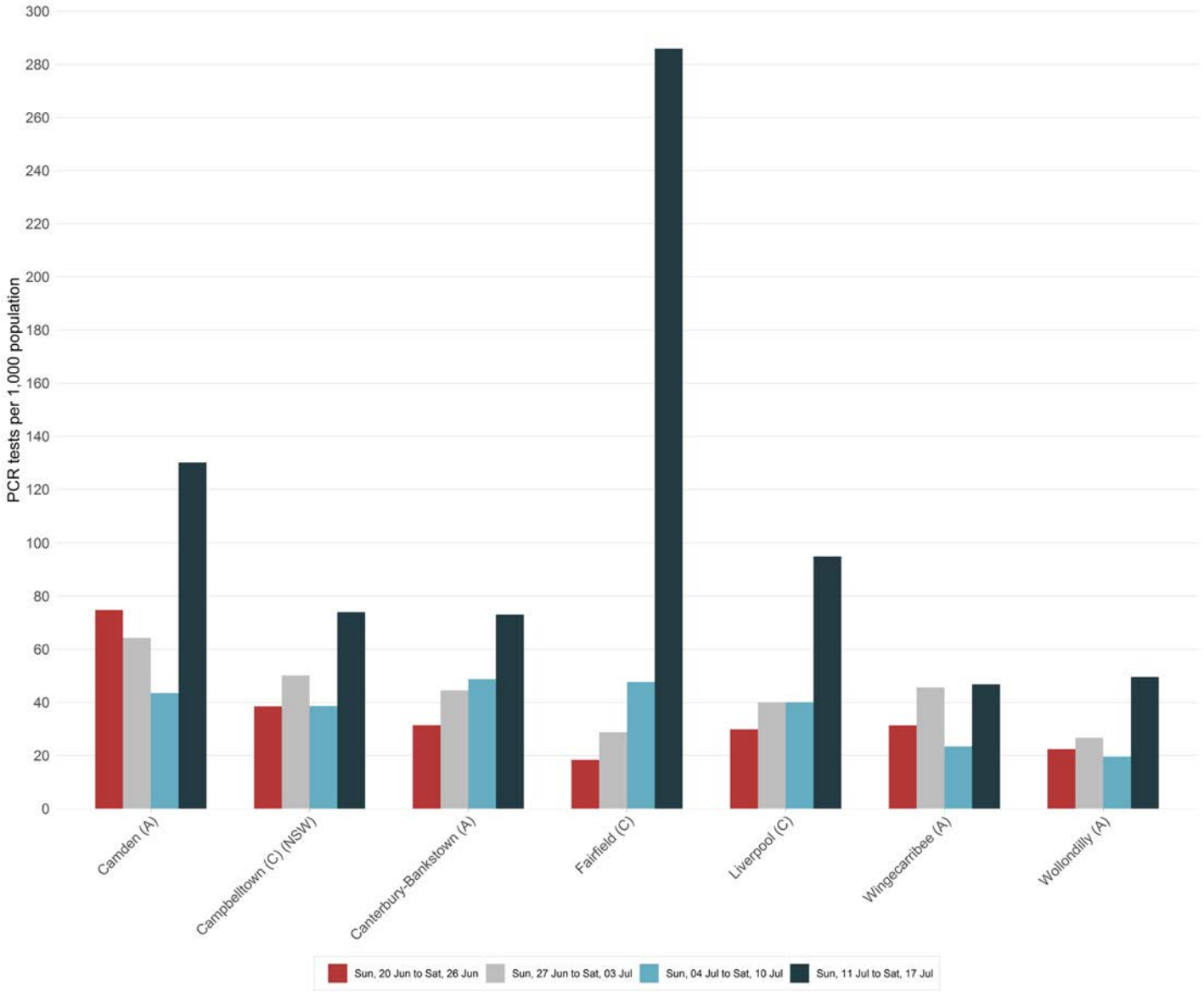
Figure 8. Rates of COVID-19 testing per 1,000 people by age group and week, NSW, 20 June to 17 July 2021



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

Interpretation: In the week ending 17 July 2021, testing rates increased across all age groups with the greatest increase seen in adults aged 18-69.

Figure 9. Rates of COVID-19 testing per 1,000 people by LGA in South Western Sydney and week, NSW, 20 June to 17 July 2021

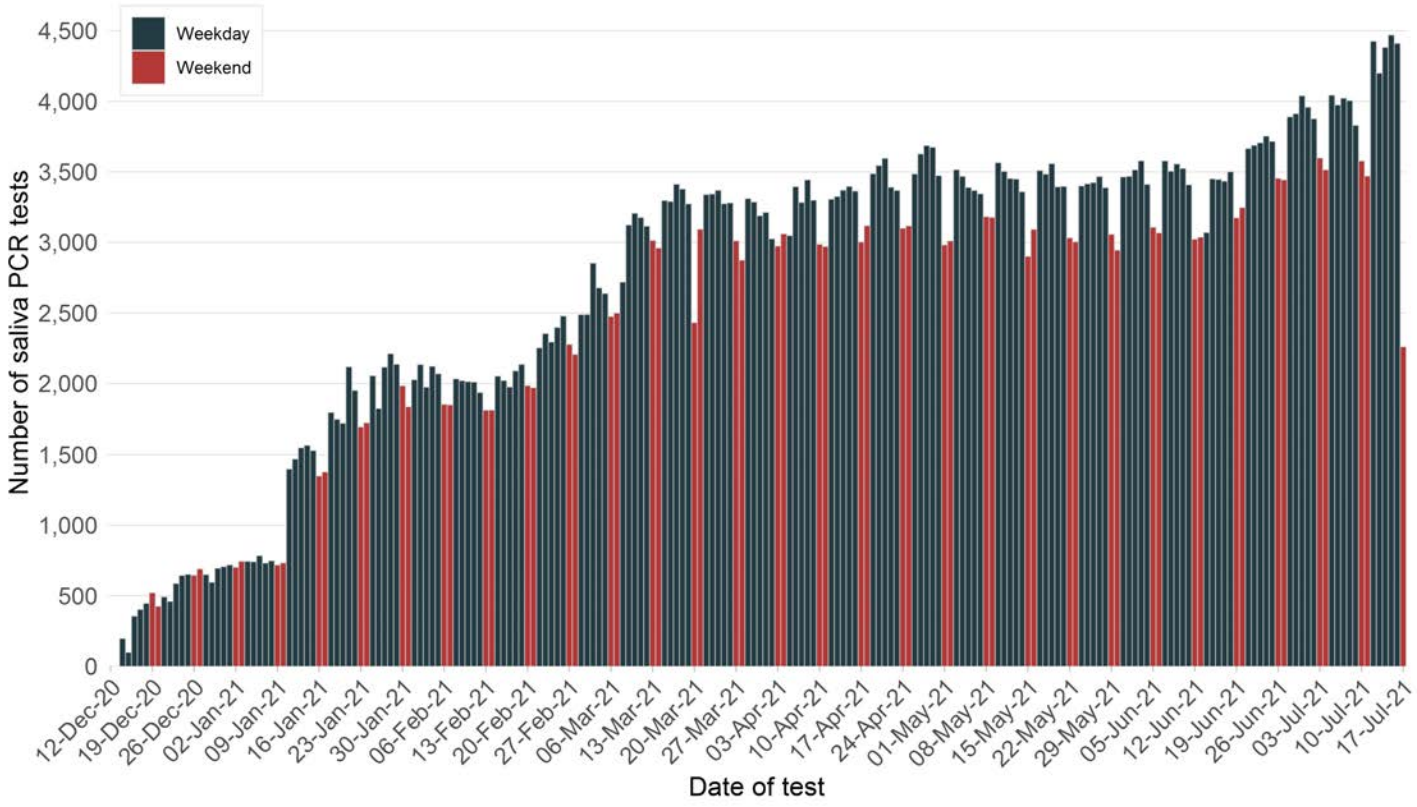


Interpretation: Testing rates increased in all seven LGAs across South Western Sydney in response to targeted public health messaging advising residents in the area to get tested. The largest increase was in Fairfield LGA where the rate increased substantially (285.9 tests per 1,000 people compared with 47.7 per 1,000 last week).

Border and quarantine workers – saliva testing screening program

The number of COVID-19 infections in people returning to Australia from overseas reflects the number of cases in other parts of the world. Cases in returned overseas travellers are then detected 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 10. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 17 July 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 575,950 saliva PCR tests have been conducted to 17 July 2021. 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 7: Variants of Concern (VoC)

Like other viruses, the SARS-CoV-2 virus that causes COVID-19 acquires mutations over time. Some of these mutations affect parts of the virus, such as the spike protein on the surface of the virus, which play an important role in infection. The spike protein allows the virus to enter human cells during infection. That is why it plays an important role in our own immune response to the virus and is the immune mechanism targeted by many COVID-19 vaccines. Global surveillance is done to monitor the prevalence of mutations in the SARS-CoV-2 virus. The surveillance particularly focuses on mutations affecting 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). The 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 17 July 2021, there have been:

- 788 locally acquired cases diagnosed with a VOC. All of these cases have been diagnosed with infection by the Delta variant.
- 33 returned travellers diagnosed with a VoC. Of these:
  - 10 (31%) with the alpha variant
  - 3 (14%) with the beta variant
  - 20 (56%) with the delta variant.
- The countries of likely acquisition of the 33 returned travellers diagnosed with a VoC are: Indonesia (4, 12%), Bangladesh (3, 9%), USA (3, 9%), Afghanistan (2, 6%), Cambodia (2, 6%), Pakistan (2, 6%), UAE (2, 6%), UK (2, 6%), Algeria (1, 3%), China (1, 3%), Fiji (1, 3%), Germany (1, 3%), India (1 3%), Lebanon (1, 3%), Myanmar (1, 3%), Philippines (1, 3%), Sri Lanka (1, 3%), and unknown (4, 12%).

Table 5a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 17 July 2021

Variant	Week ending				29 Nov to 19 June	Total since 29 November
	17 July*	10 July*	3 July	26 June		
Total variants identified	**291**	**260**	**137**	**100**	**16**	**804**
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)	291	260	137	100	9	797

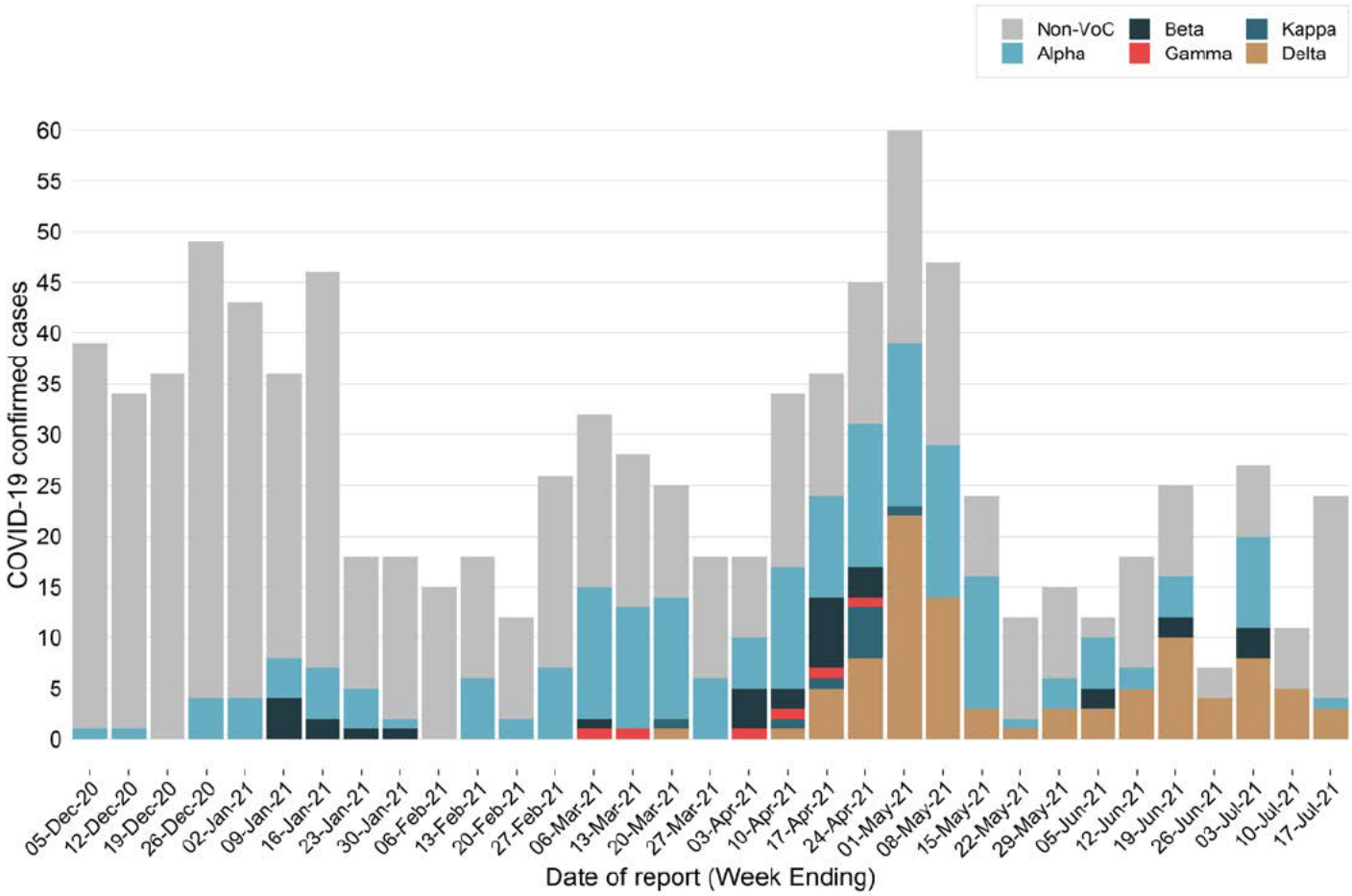
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 17 July have been the Delta variant of concern.

Table 5b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 17 July 2021

Variant	Week ending				29 Nov to 19 June	Total since 29 November
	17 July*	10 July*	3 July	26 June		
Total variants identified	**4**	**5**	**20**	**4**	**302**	**335**
Alpha (B.1.1.7)	1	0	9	0	182	191
Beta (B.1.351)	0	0	3	0	29	32
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)	3	5	8	4	76	96

***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 11. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 17 July 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 335 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 17 July 2021, 48% (33/69) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 8: NSW Sewage Surveillance Program

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. In Sydney, testing is undertaken from both the sewage treatment plant (inlet sites) and sites within the network (network sites). Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support NSW Health's response to COVID-19.

An infected person can shed virus in their faeces even if they do not have symptoms, and shedding can continue for several weeks after they are no longer infectious. The NSW sewage surveillance for SARS-CoV-2 is in the preliminary stages of analysis and work is progressing to assess the significance of the results. For example, it is not currently known the minimum number of cases that can be detected in a catchment. A small number of cases in a large sewage catchment may not be detected by sewage surveillance due to factors such as dilution, inhibition, reduction in shedding over the infection period or movement of cases.

The table below shows results for the last 10 weeks for sites that have had detections. The results from all sites across NSW are available in Appendix D.

Table 6. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 17 July 2021

		15 May	22 May	29 May	5 June	12 June	19 June	26 June	3 July	10 July	17 July
Pop.	**Location**	19	20	21	22	23	24	25	26	27	28
60,514	Blue Mountains (Winmalee)										
110,114	Penrith										
8,000	McGraths Hill										
1,241	Brooklyn										
31,924	Hornsby Heights										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
163,147	Quakers Hill										
119,309	Rouse Hill										
37,061	Riverstone										
163,147	St Marys										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Table 6 (Continued). Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 17 July 2021

		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Catchment	**Location**	19	20	21	22	23	24	25	26	27	28
Sydney network sites											
Bondi	Paddington										
Cronulla	Caringbah										
Malabar	Earlwood										
Malabar	Marrickville										
Malabar	Marrickville										
Malabar	Arncliffe 1										
Malabar	Arncliffe 2										
Malabar	Blakehurst										
Malabar	Padstow 1										
Malabar	Padstow 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Croydon										
Malabar	Dulwich Hill										
Malabar	Canterbury										
Malabar	Botany										
Malabar	Maroubra										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn										
North Head	Northmead SPS										
North Head	Tunks Park										
North Head	Vineyard Creek										
North Head	Boronia										
Glenfield	Minto										
Liverpool	Ireland Park										
Quakers Hill	Eastern Creek										
St Marys	Ropes Creek										
Regional Sites											
2,050	Bourke										
38,900	Bateau Bay										

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 17 July, 170 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 54 detections. There was one detection outside Sydney taken from the Bateau Bay sewage treatment plant.

In Sydney there were detections from the sewage treatment plants in:

- Winmalee, Penrith (2), McGraths Hill, Hornsby Heights, Bondi, Cronulla (2), Malabar (2), Liverpool, West Camden, Glenfield, North Head, Quakers Hill, Rouse Hill, St Marys and Wollongong

There were also detections from the sewage networks and pumping stations within:

- the Bondi catchment including Paddington
- the Cronulla catchment including Caringbah
- the Malabar catchment including Botany, Earlwood, Marrickville 1, Marrickville 2, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Dulwich Hill, Canterbury, Maroubra and Homebush
- the Liverpool catchment including Ireland Park (2)
- the North Head catchment including Auburn (2), Tunks Park, Camellia South (2) and Camellia North (2), Northmead sewage pumping station, Vineyard Creek (2)
- the Glenfield catchment including Minto (2)
- the St Marys catchment including Ropes Creek (2)
- the Quakers Hill catchment including Eastern Creek
- Port Kembla

All catchments with positive detections were associated with known cases living in the area.

Section 9: COVID-19 hospitalisations and deaths

How many people are in hospital as a result of COVID-19?

In the last four weeks, there have been 175 people that have been admitted to hospital as a result of being diagnosed with COVID-19.

Table 7. Hospitalisations and ICU admissions as a result of COVID-19, by age group, NSW, from 13 June to 17 July 2021

Age-group (years)	Hospitalised (%)	Hospitalised and in ICU (%)
0-4	3 (2%)	0
5-11	3 (2%)	0
12-17	5 (3%)	1 (3%)
18-29	29 (17%)	4 (11%)
30-49	45 (26%)	8 (22%)
50-59	34 (19%)	8 (22%)
60-69	19 (11%)	7 (19%)
70-79	17 (10%)	5 (14%)
80+	20 (11%)	3 (8%)
Total	**175**	**36**

Interpretation: The highest number of cases hospitalised are aged 30-49 (45, 26%) years, followed by those aged 50-59 years (34, 19%). Of the 175 hospitalised cases, six were residents an aged care facility and have been admitted for close monitoring and not due to deteriorating health concerns. Five of the six aged care residents are fully vaccinated.

How many people in hospital with COVID-19 are vaccinated?

Of the 175 people hospitalised as a result of COVID-19 in the four weeks ending 17 July 2021, 36 (21%) people were in ICU of which 33 (91%) were unvaccinated and three (9%) were partially vaccinated or had a single dose within 14 days. There have been no fully vaccinated cases in ICU.

Table 8. Hospitalisations and ICU admissions due to COVID-19, by vaccination status, NSW, from 20 June to 17 July 2021

Vaccination status	Hospitalised (%)	Hospitalised and in ICU (%)
Fully Vaccinated	6 (3%)	0
Partially Vaccinated / one dose	15 (9%)	3 (9%)
Not vaccinated	154 (88%)	33 (91%)
Total locally acquired cases	**175 (100%)**	**36 (100%)**

Interpretation: Of the 175 people hospitalised in the last four weeks, 6 (3%) are fully vaccinated, of which five cases are aged care residents who were admitted for public health reasons rather than clinical need, 15 (9%) were partially vaccinated and 154 (88%) were not vaccinated.

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

Since the start of the pandemic, <1.0% of cases (60 people) have died as a result of COVID-19, most of whom were 80 years of age or older, including 28 residents of aged care facilities with known COVID-19 outbreaks. Approximately 20% (12/60) of the deaths were in overseas acquired cases.

There were three deaths reported in the week ending 17 July including a man in his 70s, a man in his 80s and a woman in her 90s reported with COVID-19. Two cases were household contacts and one case was a close contact of previously reported cases. All three cases were unvaccinated.

Table 9. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 17 July 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	213	0%
5-11	0	233	0%
12-17	0	288	0%
18-29	0	1606	0%
30-49	0	2183	0%
50-59	1	881	0.1%
60-69	4	737	0.5%
70-79	16	434	3.7%
80+	39	194	20.1%
Total	60	6769	0.9%

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.

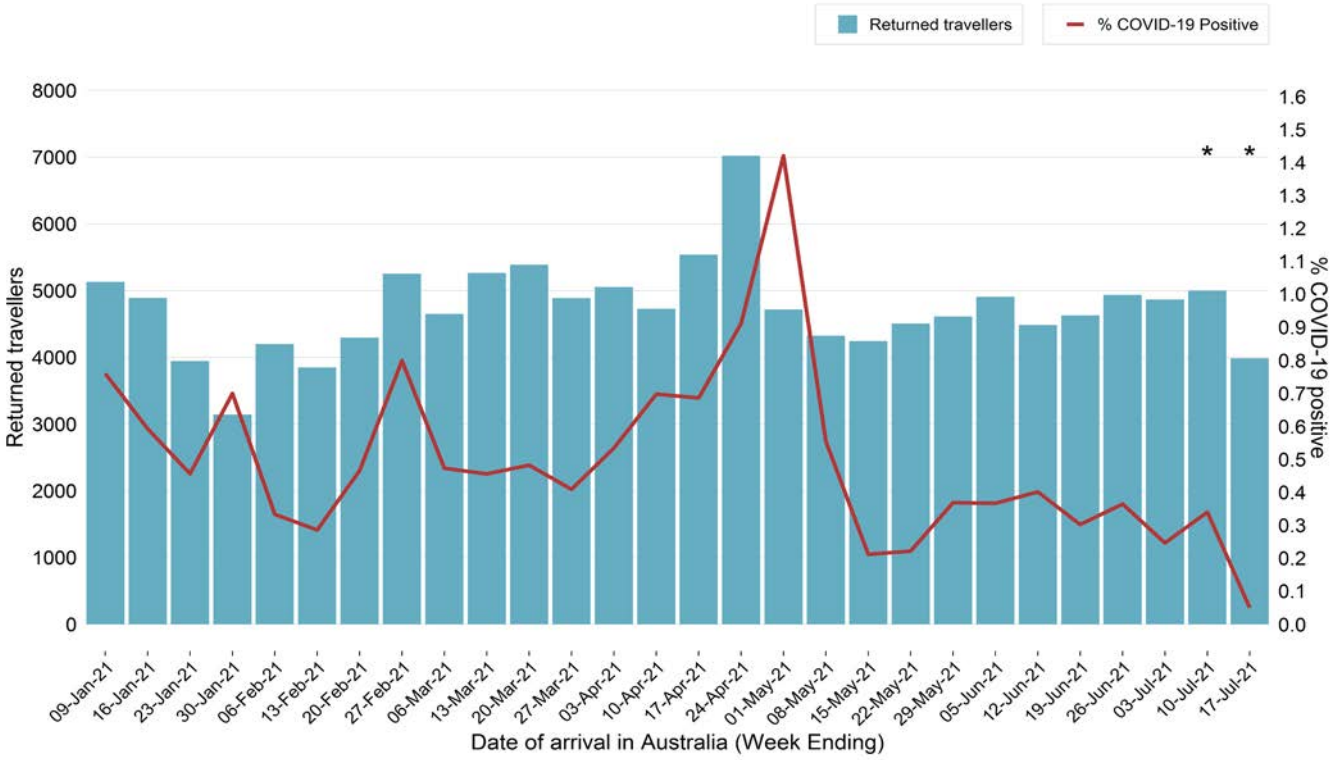
Section 10: COVID-19 in returned travellers

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 12. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 17 July 2021



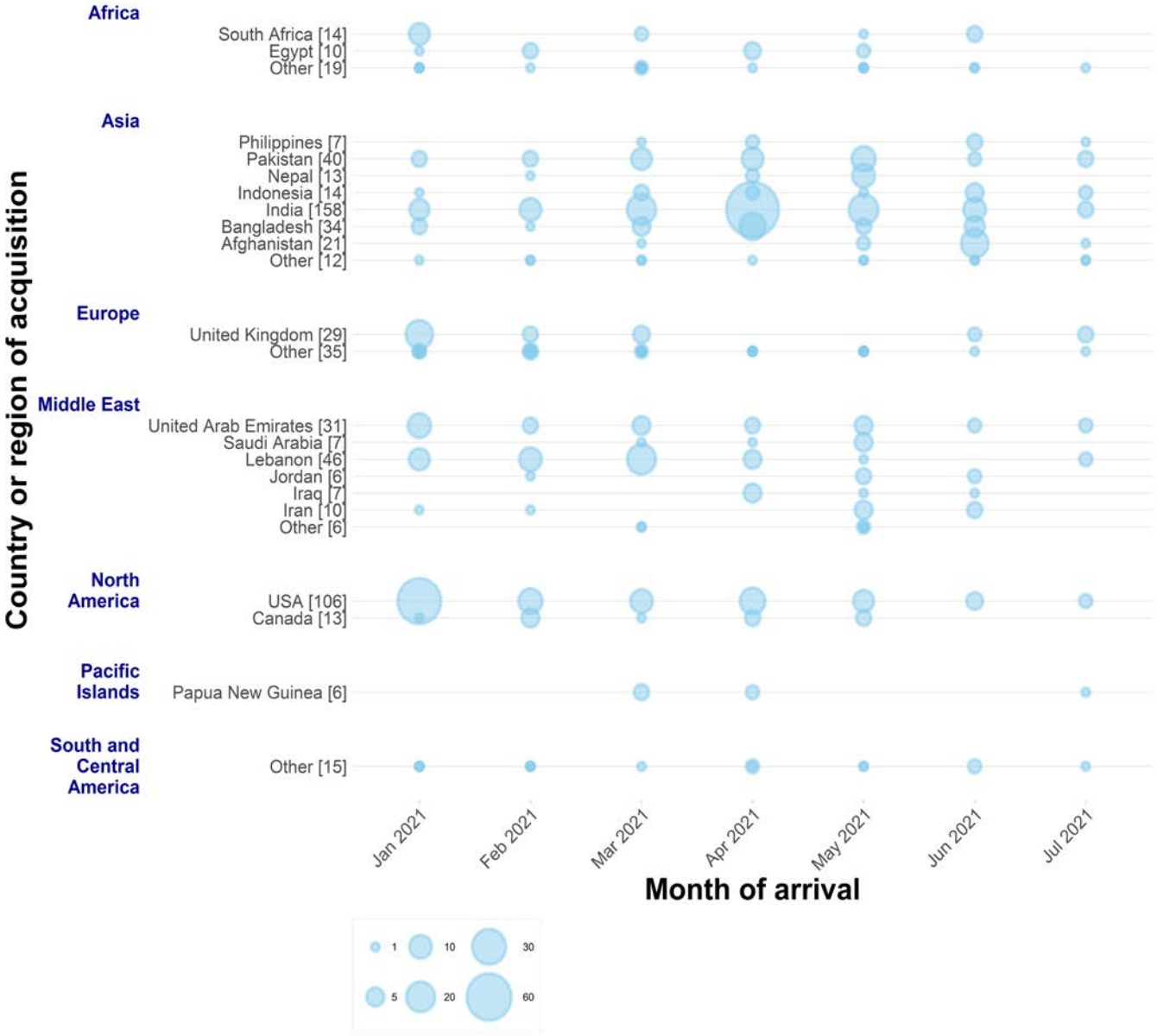
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 676 people screened on arrival through Sydney International Airport daily. In the last four weeks, 69 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 13. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 December 2020 to 17 July 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 69 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 10. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 20 June 2021 to 17 July 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Indonesia	8 (12%)
Afghanistan	6 (9%)
United Arab Emirates	4 (6%)
United Kingdom	4 (6%)
Bangladesh	3 (4%)
Egypt	3 (4%)
India	3 (4%)
Pakistan	3 (4%)
USA	3 (4%)
Cambodia	2 (3%)
Fiji	2 (3%)
Jordan	2 (3%)
Lebanon	2 (3%)
Other	24 (35%)
Total	**69**

Interpretation: In the four weeks to 17 July 2021, travellers returning from Indonesia, Afghanistan and United Arab Emirates accounted for the largest number of overseas acquired cases (18, 26%).

Cases among returned travellers in quarantine

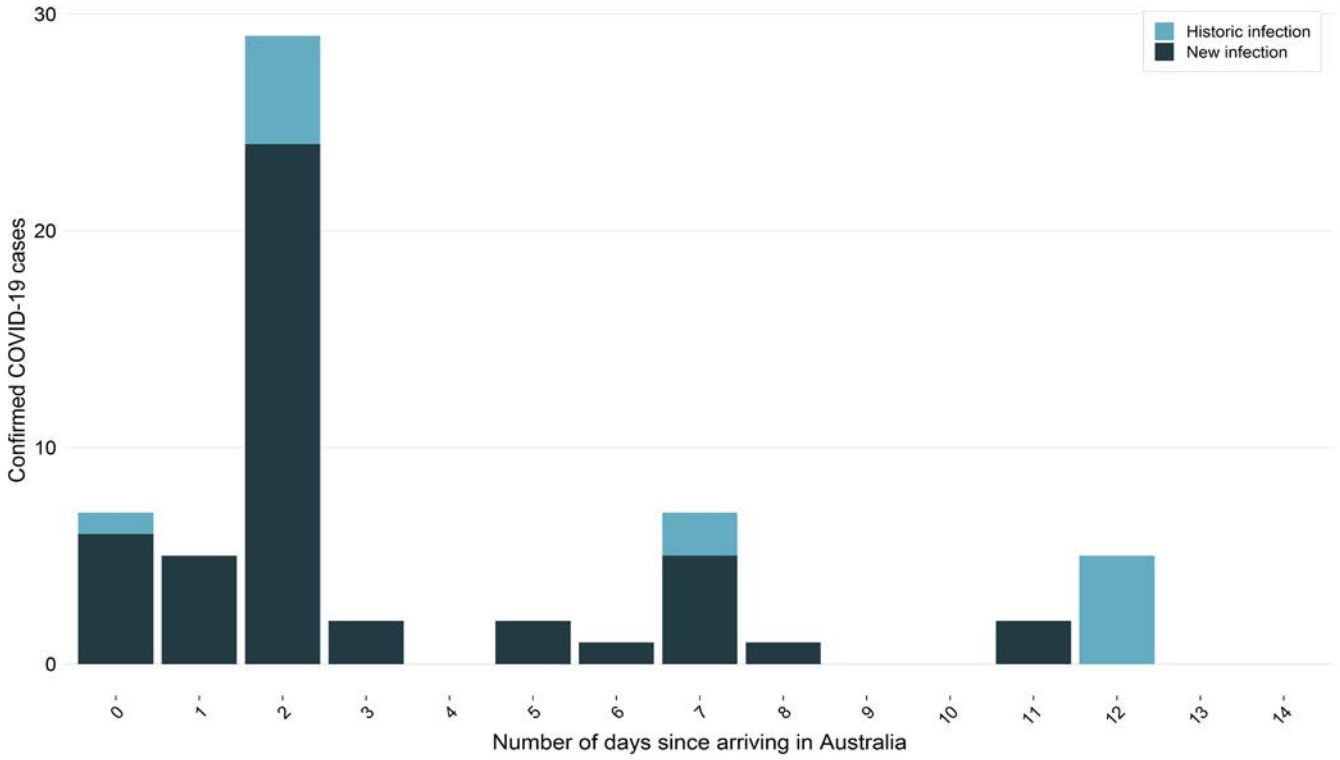
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved from day 10 to day 12 of quarantine. Routine day 7 screening was introduced on 2 June 2021. In addition to these three routine tests, individuals that become symptomatic, or who are symptomatic on arrival, are also tested.

Overseas returned travellers complete their quarantine in several facilities, with the majority in hotels managed by police 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 14. 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, 20 Jun to 17 July 2021



Interpretation: In the four weeks ending 17 July 2021, 59% of overseas acquired COVID-19 cases have tested positive within two days of arriving to Australia, with most people testing positive on day two screening.

Section 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 11 July 2021

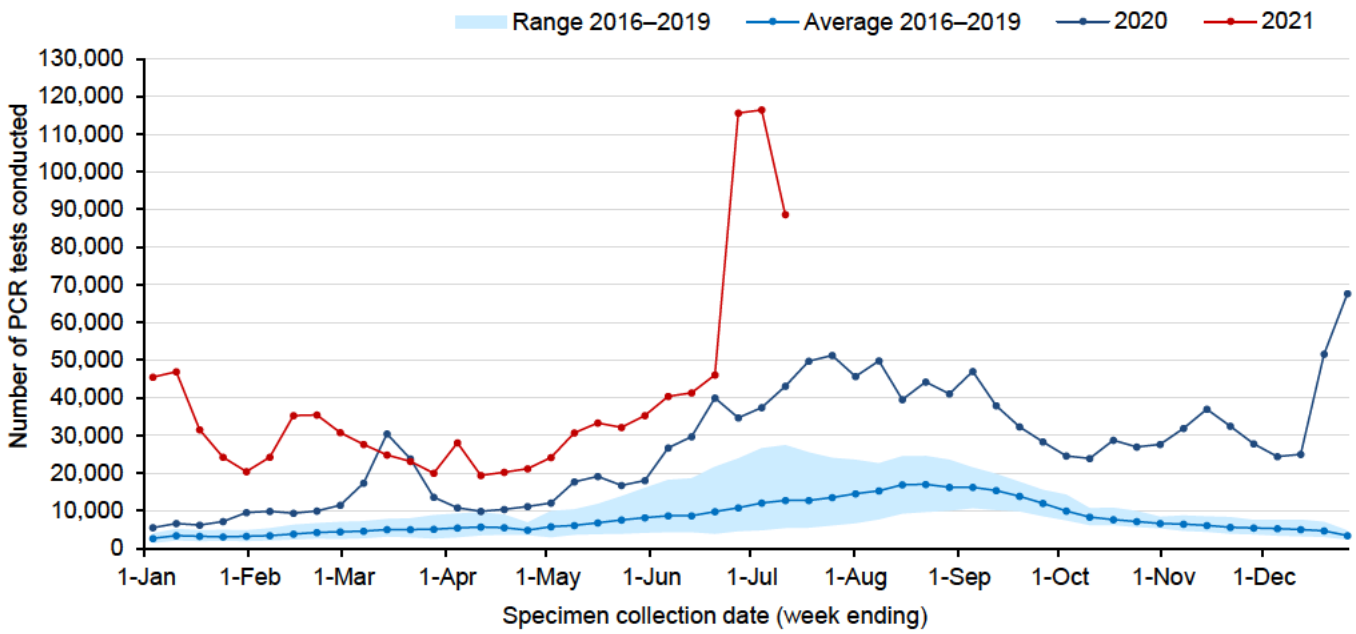
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 11 July 2021. A total of 1,082, 506 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 15. Testing for influenza by week, NSW, 1 January 2016 to 11 July 2021

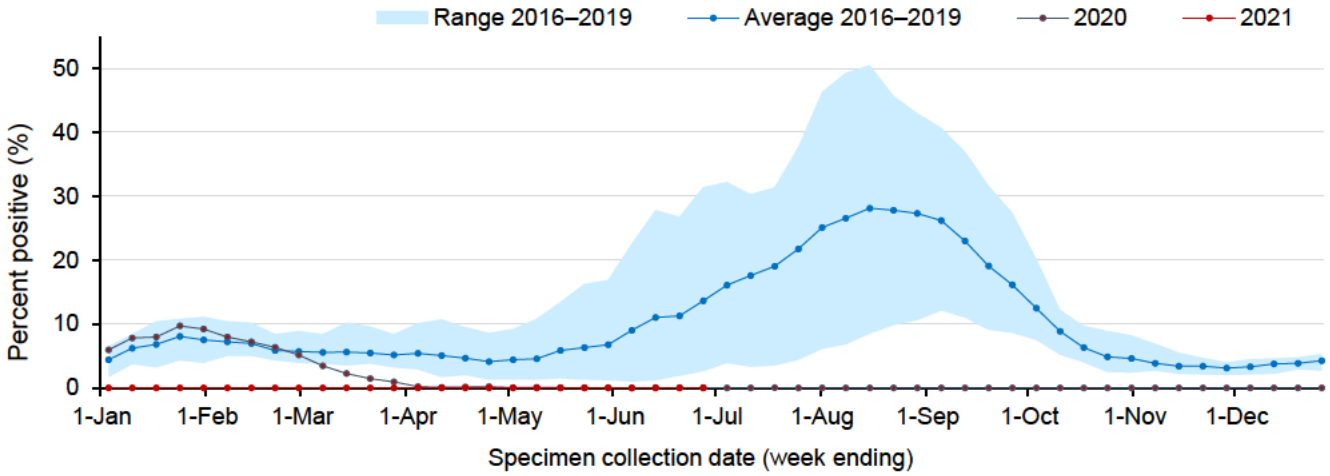


Interpretation: In the week ending 11 July, the number of influenza tests surged, with 88,691 influenza tests performed across participating laboratories compared with 116,414 the previous week. The elevated level of influenza tests is likely due to concurrent testing of influenza and COVID-19 by some sentinel labs. 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 16. Proportion of tests positive for influenza, NSW, 1 January 2016 to 11 July 2021

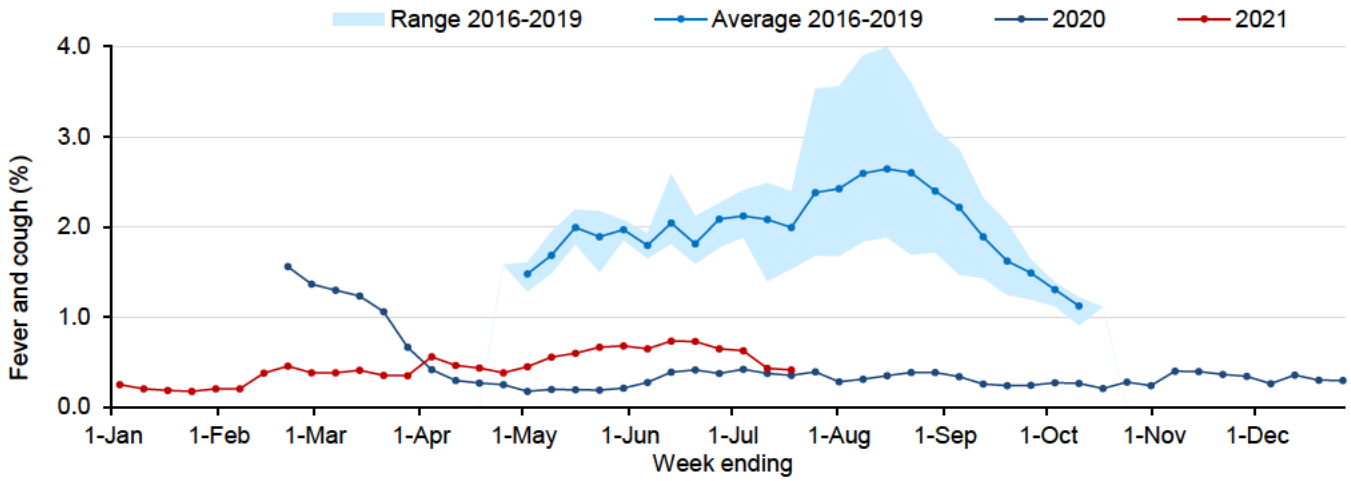


Interpretation: In the week ending 11 July, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 13 influenza cases reported in 2021 and none were reported in the week ending 11 July.

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 17. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 18 July 2021



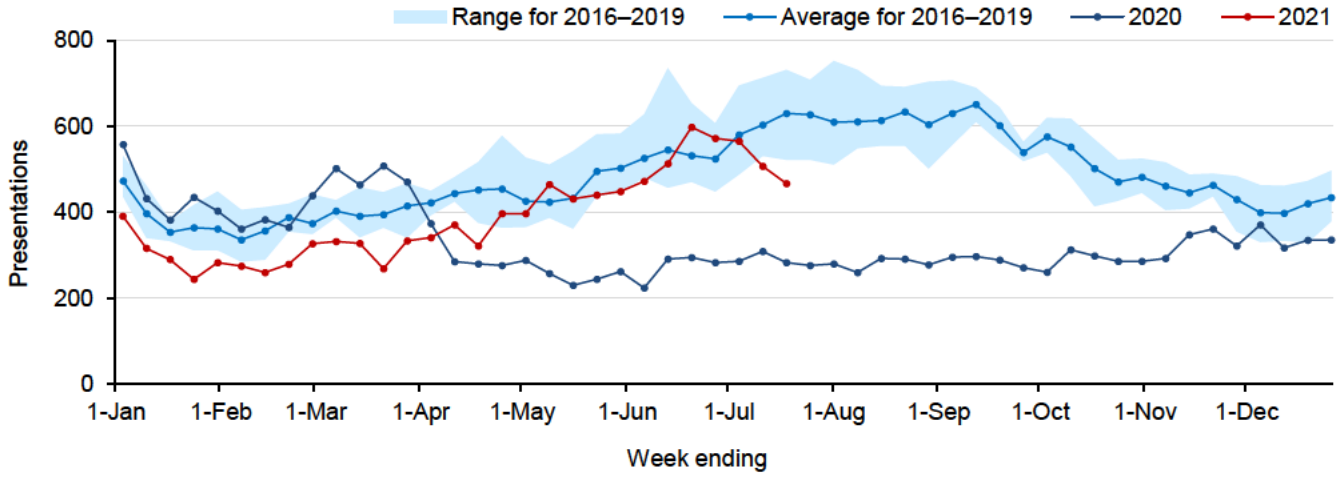
Interpretation: In NSW in the week ending 18 July 2021, of the 22,068 people surveyed, 91 people (0.41%) reported flu-like symptoms. In the last four weeks, 62% (324/521) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people with flu-like symptoms being tested for COVID-19 has decreased since January, when 80% reported 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.

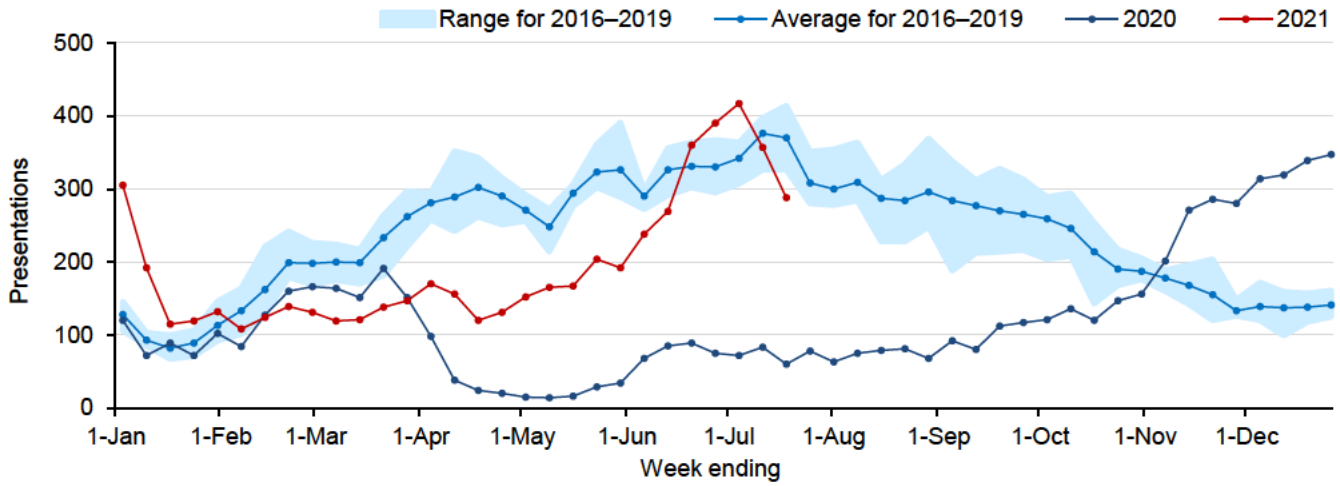
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 18. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 18 July 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 18 July, pneumonia presentations decreased and are below the seasonal range for this time of year.

Figure 19. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 18 July 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 18 July 2021, bronchiolitis presentations decreased are 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

		Week ending				Total since January 2021	
		17-Jul		10-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Central Coast	*LHD Total*[2]	16975	48.11	8709	24.68	284822	807.17
Far West	Balranald	42	17.96	16	6.84	911	389.65
	Broken Hill	257	14.7	212	12.13	11280	645.35
	Central Darling	25	13.59	22	11.96	688	374.12
	Wentworth	158	22.4	105	14.89	4214	597.48
	LHD Total[2]	482	15.99	355	11.78	17093	567.04
Hunter New England	Armidale Regional	487	15.82	446	14.49	18844	612.24
	Cessnock	1023	17.05	697	11.62	27199	453.43
	Dungog	149	15.81	93	9.87	4612	489.44
	Glen Innes Severn	70	7.89	55	6.2	3247	366.02
	Gunnedah	161	12.7	157	12.38	5861	462.19
	Gwydir	42	7.85	34	6.35	1384	258.55
	Inverell	158	9.35	219	12.97	7808	462.29
	Lake Macquarie	6454	31.35	4428	21.51	170679	828.94
	Liverpool Plains	86	10.88	65	8.22	3705	468.81
	Maitland	3016	35.41	1986	23.32	76380	896.84
	Mid-Coast	1382	14.73	1113	11.86	43605	464.69
	Moree Plains	129	9.73	109	8.22	7409	558.71
	Muswellbrook	256	15.63	192	11.72	8214	501.56
	Narrabri	125	9.52	99	7.54	4551	346.48
	Newcastle	4475	27.03	3761	22.72	161759	976.98
	Port Stephens	1361	18.52	1227	16.7	50623	688.93
	Singleton	613	26.13	372	15.86	16522	704.23
	Tamworth Regional	1178	18.84	1011	16.17	41603	665.21
	Tenterfield	47	7.13	33	5	1971	298.91
	Upper Hunter Shire	212	14.95	151	10.65	7419	523.2
	Uralla	52	8.65	66	10.98	2308	383.9
	Walcha	40	12.76	34	10.85	1673	533.82
	LHD Total[2]	21514	22.59	16347	17.16	666945	700.29
Illawarra Shoalhaven	Kiama	914	39.08	666	28.48	20607	881.17
	Shellharbour	3918	53.5	1758	24.01	61416	838.64
	Shoalhaven	2648	25.06	1793	16.97	68052	644.14
	Wollongong	10593	48.57	5692	26.1	196362	900.27
	LHD Total[2]	18073	43.07	9909	23.61	346437	825.61
Mid North Coast	Bellingen	208	16	158	12.16	7296	561.4
	Coffs Harbour	1077	13.94	903	11.69	37873	490.09
	Kempsey	551	18.52	383	12.88	16435	552.53
	Nambucca	297	15	188	9.49	8889	448.83
	Port Macquarie-Hastings	1629	19.27	1313	15.53	49606	586.88
	LHD Total[2]	3762	16.67	2945	13.05	120099	532.2
Murrumbidgee	Albury	1563	28.76	1034	19.02	34842	641.03
	Berrigan	61	6.97	83	9.49	2980	340.57
	Bland	72	12.06	57	9.54	2560	428.67

		Week ending				Total since January 2021	
		17-Jul		10-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Carrathool	47	16.79	19	6.79	628	224.37
	Coolamon	96	22.11	63	14.51	2319	534.21
	Cootamundra-Gundagai Regional	253	22.52	168	14.95	5638	501.82
	Edward River	162	17.83	103	11.34	4142	455.97
	Federation	241	19.38	211	16.97	5576	448.34
	Greater Hume Shire	652	60.57	130	12.08	6287	584.08
	Griffith	499	18.46	534	19.76	16701	617.89
	Hay	93	31.54	34	11.53	956	324.18
	Hilltops	315	16.84	263	14.06	9722	519.78
	Junee	71	10.62	63	9.43	2624	392.64
	Lachlan[1]	61	10.04	59	9.71	1610	265.02
	Leeton	171	14.94	136	11.88	4840	422.89
	Lockhart	63	19.18	39	11.87	1446	440.18
	Murray River	69	5.69	74	6.11	1543	127.33
	LHD Total[2]	62	15.83	50	12.76	1439	367.37
	Narrandera	81	13.73	43	7.29	1937	328.36
	Snowy Valleys	235	16.23	164	11.33	7223	498.86
	Temora	66	10.46	47	7.45	2128	337.4
	Wagga Wagga	1705	26.13	1334	20.44	49017	751.13
	LHD Total[2]	6598	22.13	4674	15.68	165080	553.76
	Blue Mountains	5182	65.5	2130	26.92	86003	1087.02
	Hawkesbury	6494	96.5	1698	25.23	60928	905.37
Nepean Blue Mountains	Lithgow	413	19.12	237	10.97	10980	508.22
	Penrith	16946	79.57	6550	30.75	203872	957.25
	LHD Total[2]	28598	73.14	10422	26.66	358616	917.2
	Ballina	597	13.38	504	11.29	37375	837.48
	Byron	613	17.47	520	14.82	29569	842.88
	Clarence Valley	614	11.88	400	7.74	20934	405.21
	Kyogle	101	11.48	67	7.62	3393	385.74
Northern NSW	Lismore	736	16.85	528	12.08	29273	669.99
	Richmond Valley	595	25.36	229	9.76	13164	561.01
	Tenterfield	47	7.13	33	5	1971	298.91
	Tweed	1266	13.05	1000	10.31	48214	497.05
	LHD Total[2]	4533	14.61	3255	10.49	182364	587.58
	Hornsby	6275	41.27	4433	29.15	141245	928.88
	Hunters Hill	1577	105.27	1264	84.38	33187	2215.42
	Ku-ring-gai	7809	61.41	5255	41.33	185951	1462.42
	Lane Cove	3621	90.18	2805	69.85	90790	2260.99
Northern Sydney	Mosman	1515	48.9	1183	38.18	38567	1244.86
	North Sydney	3071	40.94	2443	32.56	72298	963.7
	Northern Beaches	18087	66.13	10349	37.84	446022	1630.8
	Parramatta[1]	13622	52.96	11657	45.32	218462	849.4
	Ryde	7516	57.26	6164	46.96	143603	1093.94
	Willoughby	3092	38.08	2344	28.87	73914	910.39

		Week ending				Total since January 2021	
		17-Jul		10-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	LHD Total[2]	54697	57.22	37951	39.7	1269323	1327.86
South Eastern Sydney	Bayside	12842	71.99	9357	52.45	159392	893.47
	Georges River	13356	83.75	9518	59.68	132755	832.47
	Randwick	12036	77.33	17504	112.46	234850	1508.84
	Sutherland Shire	19836	86.01	13362	57.94	254879	1105.23
	Sydney[1]	20430	82.93	14031	56.96	338351	1373.5
	Waverley	6145	82.71	6051	81.45	140362	1889.25
	Woollahra	4586	77.22	4414	74.33	113013	1902.99
	LHD Total[2]	75174	78.38	64848	67.61	1157849	1207.22
South Western Sydney	Camden	13201	130.14	4409	43.47	131304	1294.44
	Campbelltown	12647	73.98	6610	38.67	168375	984.98
	Canterbury-Bankstown[1]	27616	73.07	18428	48.76	311046	823.05
	Fairfield	60517	285.87	10096	47.69	182099	860.2
	Liverpool	21599	94.91	9124	40.09	206632	907.93
	Wingecarribee	2394	46.82	1196	23.39	50196	981.66
	Wollondilly	2634	49.56	1040	19.57	34998	658.49
	LHD Total[2]	127801	123.06	41232	39.7	924640	890.33
Southern NSW	Bega Valley	539	15.63	496	14.39	17806	516.48
	Eurobodalla	628	16.32	545	14.17	25581	664.91
	Goulburn Mulwaree	1286	41.31	447	14.36	20089	645.28
	Queanbeyan-Palerang Regional	914	14.96	755	12.36	26408	432.21
	Snowy Monaro Regional	403	19.38	388	18.66	11758	565.42
	Upper Lachlan Shire	227	28.17	110	13.65	4425	549.08
	Yass Valley	221	12.93	139	8.13	6443	377.07
	LHD Total[2]	4220	19.44	2886	13.3	112568	518.58
Sydney	Burwood	1745	42.97	1683	41.44	29375	723.31
	Canada Bay	5274	54.9	4107	42.75	110299	1148.06
	Canterbury-Bankstown[1]	27616	73.07	18428	48.76	311046	823.05
	Inner West	11832	58.92	10176	50.67	250743	1248.65
	Strathfield	3288	70.07	2962	63.12	52094	1110.13
	LHD Total[2]	20430	82.93	14031	56.96	338351	1373.5
	LHD Total[2]	48754	69.97	37874	54.36	813051	1166.89
Western NSW	Bathurst Regional	1043	23.91	764	17.52	31697	726.7
	Blayney	136	18.43	138	18.7	5121	694
	Bogan	30	11.63	21	8.14	1283	497.29
	Bourke	36	13.9	30	11.58	1046	403.86
	Brewarrina	22	13.66	8	4.97	477	296.09
	Cabonne	306	22.44	139	10.2	5620	412.2
	Cobar	52	11.16	43	9.23	1787	383.64
	Coonamble	61	15.41	60	15.16	1505	380.24
	Cowra	170	13.34	181	14.2	6005	471.24
	Dubbo Regional	865	16.1	822	15.3	33182	617.7
	Forbes	104	10.5	98	9.89	4238	427.82
	Gilgandra	34	8.02	50	11.8	1587	374.38
	Lachlan[1]	61	10.04	59	9.71	1610	265.02

		Week ending				Total since January 2021	
		17-Jul		10-Jul			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Mid-Western Regional	597	23.64	345	13.66	14821	586.95
	Narromine	85	13.04	72	11.05	3024	464.02
	Oberon	86	15.89	42	7.76	2689	496.95
	Orange	1093	25.75	887	20.89	36253	854
	Parkes	203	13.68	158	10.65	6827	460.13
	Walgett	87	14.61	57	9.58	2362	396.77
	Warren	62	22.99	57	21.13	2139	793.1
	Warrumbungle Shire	117	12.61	106	11.42	4502	485.23
	Weddin	49	13.56	29	8.03	1403	388.32
	LHD Total[2]	5284	18.54	4152	14.57	168739	592.04
Western Sydney	Blacktown	24644	65.81	11849	31.64	344857	920.97
	Cumberland	20073	83.11	10960	45.38	226467	937.67
	Parramatta[1]	13622	52.96	11657	45.32	218462	849.4
	The Hills Shire	13269	74.56	8298	46.63	232760	1307.87
	LHD Total[2]	70168	66.61	41369	39.27	987414	937.33
NSW Total[3]		499760	61.78	297328	36.75	3856317	476.69

Source - Notifiable condition information management System, accessed as at 8pm 18 Jul 2021
1 Local Government Area (LGA) spans multiple Local Health Districts.
2 Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.
3 NSW Total counts and rates since January 2021 include tests where residential information is incomplete. See https://www.health.nsw.gov.au/Infectious/covid-19/Pages/counting-tests.aspx for detail on how tests are counted.

Appendix B: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 11 July 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 2020–11 July 2021

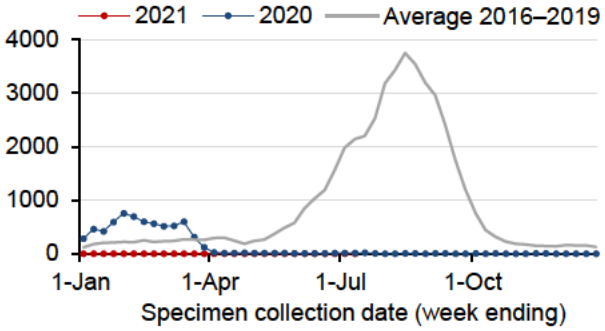
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,082,506	4	<0.01%	9	<0.01%	5,474	15,543	15,455	51,579	1,795	5,784
Month ending											
31 January*	168,596	1	<0.01%	0	-	416	88	3,275	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	0	-	6	<0.01%	946	3,129	1,491	8,982	78	843
27 June	243,351	1	-	0	<0.01%	1,551	7,104	2,794	9,915	635	811
Week ending											
4 July	116,414	0	-	0	-	448	1,995	994	2,018	422	185
11 July	88,691	0	-	0	-	385	1,252	953	1,424	549	160

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

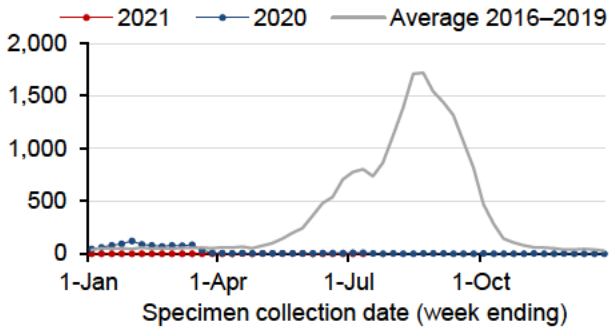
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 11 July 2021

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.

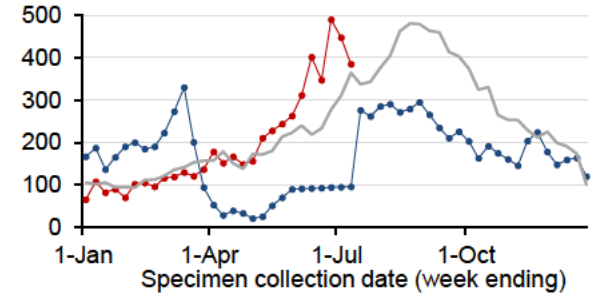
Influenza A



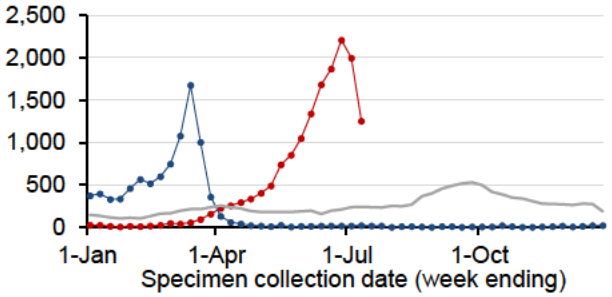
Influenza B



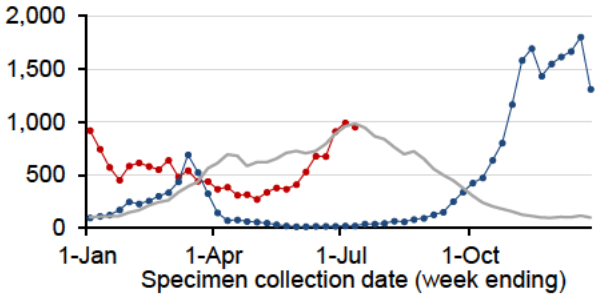
Adenovirus



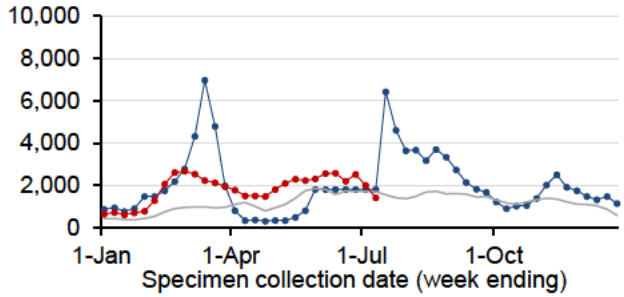
Parainfluenza



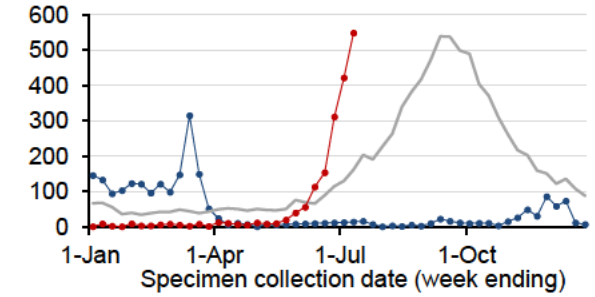
Respiratory syncytial virus (RSV)



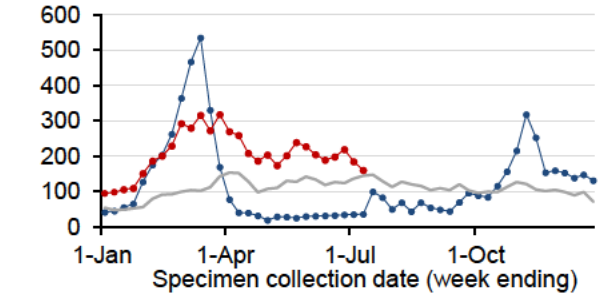
Rhinovirus



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 17 July 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. Charlotte Pass has recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Pop.	Location	19	20	21	22	23	24	25	26	27	28
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										
37,61	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Network	Location	19	20	21	22	23	24	25	26	27	28
Bondi	Paddington Sewage Network										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Pop.	Location	19	20	21	22	23	24	25	26	27	28
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,68	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
14,000	Vincentia										
16,000	St Georges Basin										
11,000	Cul burra Beach										
139,500	Gosford-Kincumber										
59,60	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
	Albury composite	c	c	c	c	c	c	c	c	c	c
51,750	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
	Wagga Wagga composite	c	c	c	c	c	c	c	c	c	c
50,000	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Pop.	Location	19	20	21	22	23	24	25	26	27	28
	Griffith										
2,050	Bourke										
	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,63	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
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July	10-July	17-July
Pop.	Location	19	20	21	22	23	24	25	26	27	28
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.