COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 31, ENDING 7 August 2021

Published 19 August 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 7 August 2021

	2020		2021			
	Jan – Jun	July – Dec	Jan – Jun	last 4 weeks	last 7 days	year to date
Locally acquired	1,236 (39 %)	808 (52 %)	255 (27 %)	4,640 (99 %)	1,772 (99 %)	5,291 (87 %)
Interstate acquired	67 (2 %)	23 (1 %)	1 (0 %)	0	0	1 (0 %)
Overseas acquired	1,892 (59 %)	714 (46 %)	672 (72 %)	70 (1 %)	20 (1 %)	767 (13 %)
Total	3,195 (100 %)	1,545 (100 %)	928 (100 %)	4,710 (100 %)	1,792 (100 %)	6,059 (100 %)
Deaths	51	5	0	28	15	29

Summary for the week ending 7 August 2021

- There were 1,772 locally acquired cases reported in the week ending 7 August 2021. Of these:
    - 470 (27%) cases were residents of Canterbury-Bankstown LGA
    - 274 (15%) cases were residents of Cumberland LGA
    - 144 (8%) cases were residents of Fairfield LGA
    - 884 (50%) cases were residents across 29 other LGAs
- There were 20 cases reported in overseas returned travellers in the last week (up 25%).
- There were 15 deaths as a result of COVID-19 reported this week including a male in his 20s, a female and four males in their 60s, a male in his 70s, four females and two males in their 80s and two males in their 90s. Two of those who died were partially vaccinated and 13 were unvaccinated.
- In the four weeks ending 7 August 2021, 100% (2,193 out of 2,193) of the locally acquired cases sequenced were the delta variant of concern. For overseas-acquired cases, 100% (30/30) of sequenced cases were COVID-19 variants of concern.
- Since March 2021, 52 (1%) locally acquired cases have reported being fully vaccinated. 24 (4.3%) of overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates increased compared to the previous week (up 8.6%) with high testing rates in the Nepean Blue Mountains, South Western Sydney, Sydney, Western Sydney and Hunter New England LHDs in response to targeted public health messaging.
- In recent weeks there have been declines in lab diagnoses of several common respiratory viruses as well as emergency presentations for pneumonia and bronchiolitis.
- In the week ending 7 August, 184 sewage samples were tested for fragments of SARS-CoV-2- and there were 77 detections of fragments of SARS-CoV-2. The sewage treatment plants at Woolgoolga and Moama were added as new sites. Detections from Armidale, Bomaderry, Bonny Hills, Castle Hill-Cattai, Charmhaven, Coffs Harbour, Dubbo, Burwood Beach, Shortland, Mudgee, Woy Woy and West Lindfield occurred with no known or recent cases in the catchment. Subsequently cases were identified in all these catchments except Bombaderry, Bonny Hills, Coffs Harbour, and Woy Woy.

Indicators of effective prevention for COVID-19 in NSW for the week ending 07 August 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

Community exposure risk	07-Aug	06-Aug	05-Aug	04-Aug	03-Aug	02-Aug	01-Aug	Total Week Ending 07 Aug
Low risk	110	164	170	133	126	103	108	914 (52%)
Medium risk	40	50	59	46	31	33	28	287 (16%)
High risk	72	79	84	51	66	63	57	472 (27%)
Risk not determined	42	5	12	13	14	11	2	99 (6%)
Total	264	298	325	243	237	210	195	1,772 (100%)

Interpretation: In the week ending 7 August, 52% of total cases had low risk community exposures, 16% had medium risk, 27% had high risk community exposures. Six percent (99/1772) of cases have a risk status that have not yet been identified.

Measures of Public Health Action

	Week ending 7 Aug	Week ending 31 July
Proportion locally acquired cases notified to NSW Health by the laboratory within 1 day of specimen collection	73%	78%
Locally acquired cases interviewed by public health staff within 1 day of notification to NSW Health	89%	90%
Close contacts (identified by the case) contacted by public health staff within 2 days of case notification	100%	100%

Interpretation: In the week ending 7 August, 73% of cases were notified to NSW Health within a day of test and 89% of cases were interviewed within one day of notification. All close contacts were contacted by public health staff within two days of case notification. NSW Health has been working closely with laboratory providers to minimise the turn-around times for test results.

Where there are many cases, NSW Health may conduct a shorter preliminary interview with some patients upon confirmation of a positive COVID-19 result. In this preliminary interview the patient's result is confirmed, their welfare and medical needs are assessed, their need to isolate is reinforced, and their close contacts are identified to arrange urgent testing.

For those cases who have a short preliminary interview, further details are collected in a follow up interview. Only once the follow up interview is completed will cases be considered interviewed for the measures described in the table above.

In addition, 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.

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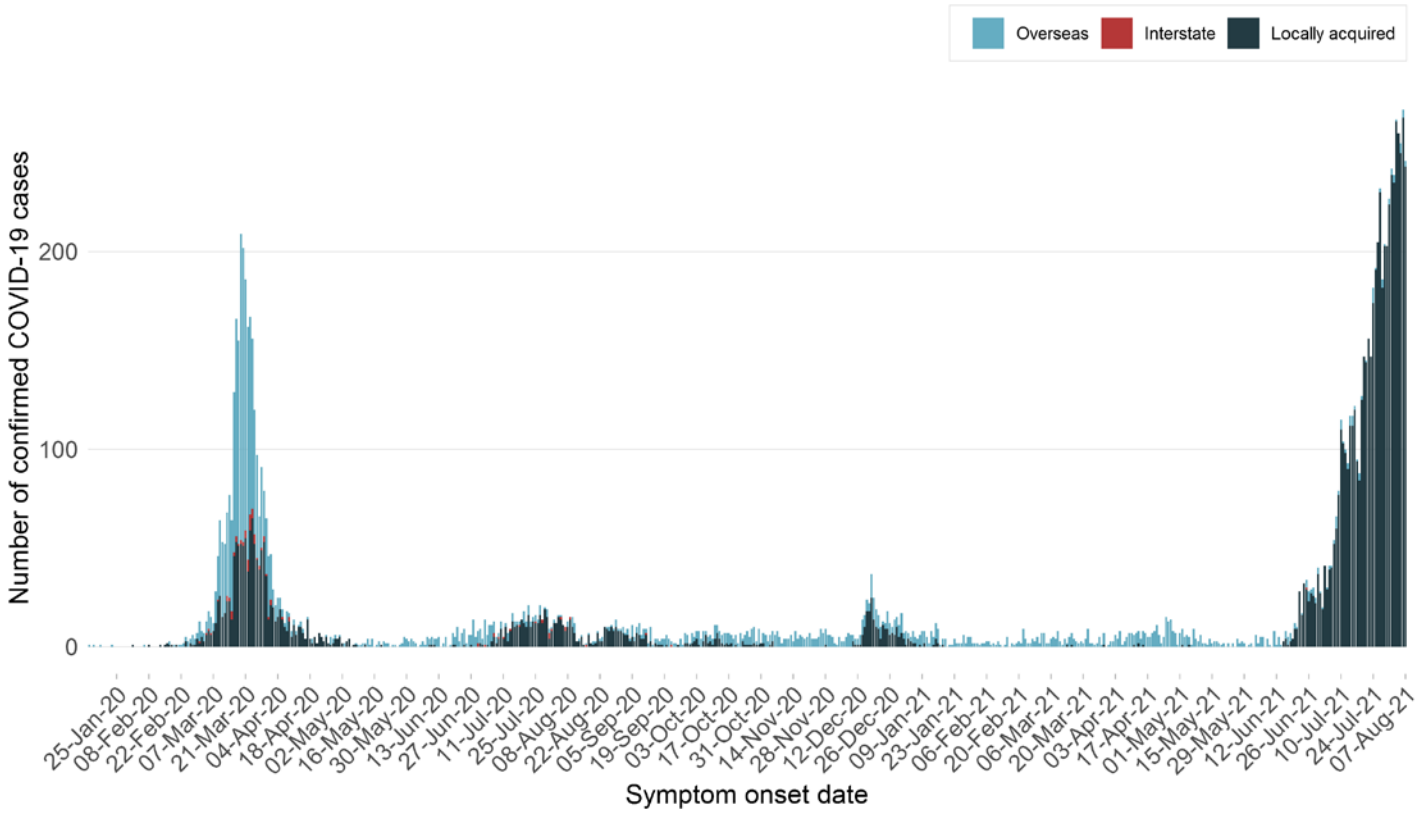
COVID-19 Vaccination program

- 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 7 August 2021



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

Interpretation: **Between 13 January 2020 and 7 August 2021, there were 10,799 confirmed COVID-19 cases. Of those, 3,373 (31%) were overseas acquired, 91 (1%) were interstate acquired, and 7,335 (68%) 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 led 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 7 August 2021

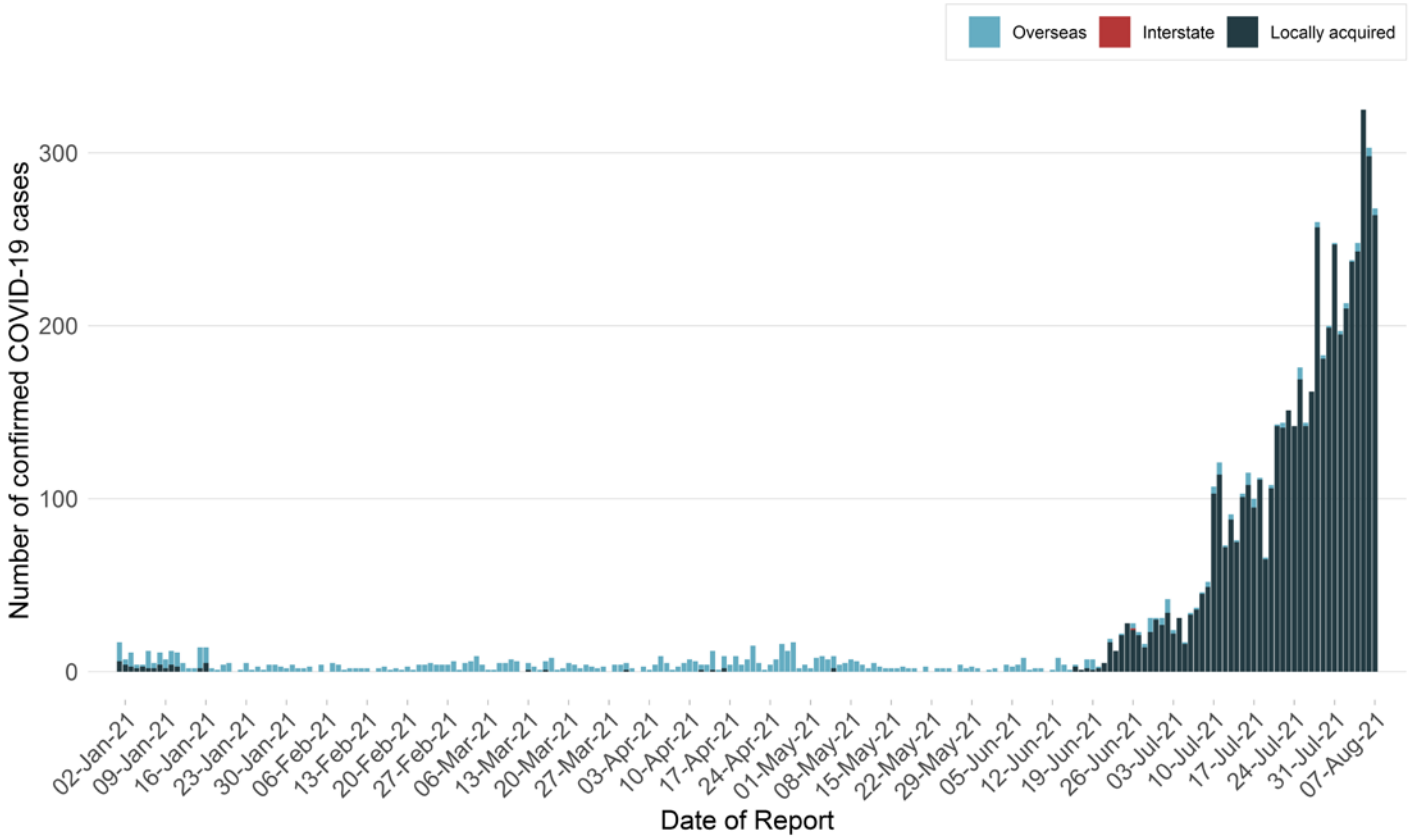


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 7 August 2021

	Week ending 07 Aug	Week ending 31 Jul	% change	Total 2021
Number of cases	1,792	1,373	31 %	6,059
Locally acquired	1,772	1,357	31 %	5,291
Known epidemiological links to other cases or clusters	1,001	849	18 %	3,590
No epidemiological links to other cases or clusters	771	508	52 %	1,701
Overseas acquired	20	16	25 %	767
Interstate acquired	0	0	-	1
Number of tests	770,553	709,819	9 %	5,958,867

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 4,640 (98.5%). All locally acquired cases sequenced had the same delta variant of concern. Of the 1,772 locally acquired cases associated with the Greater Sydney outbreak reported in the week ending 07 **August** 2021

- 470 (27%) cases were residents of Canterbury-Bankstown LGA
- 274 (15%) cases were residents of Cumberland LGA
- 144 (8%) cases were residents of Fairfield LGA
- 884 (50%) cases were residents across 29 other LGAs

In the week ending 07 August, the majority of cases with no epidemiological links were residents of Canterbury-Bankstown LGA (215/771, 28%). There were 20 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 considers 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, 11 July to 7 August 2021

Local Health District	Week ending				Total	Days since last case reported
	07 Aug	31 Jul	24 Jul	17 Jul		
South Western Sydney	660	597	411	468	2,136	0
Western Sydney	523	353	223	50	1,149	0
Sydney	306	271	112	39	728	0
Nepean Blue Mountains	117	14	4	11	146	0
South Eastern Sydney	97	79	82	80	338	0
Northern Sydney	31	32	15	5	83	0
Central Coast	12	2	4	0	18	0
Illawarra Shoalhaven	3	7	6	0	16	4
Hunter New England	23	0	0	0	23	0
Far West	0	1	1	0	2	9
Mid North Coast	0	0	0	0	0	492
Murrumbidgee	0	0	0	0	0	473
Northern NSW	0	0	0	0	0	334
Southern NSW	0	0	0	0	0	130
Western NSW	0	1	0	0	1	12
NSW*	1,772	1,357	858	653	4,640	0

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

Interpretation: There were 1,772 locally acquired cases reported in the week ending 07 August 2021. Most cases were residents of South Western Sydney LHD (660, 37%) followed by Western Sydney LHD (523, 30%), and Sydney LHD (306, 17%)

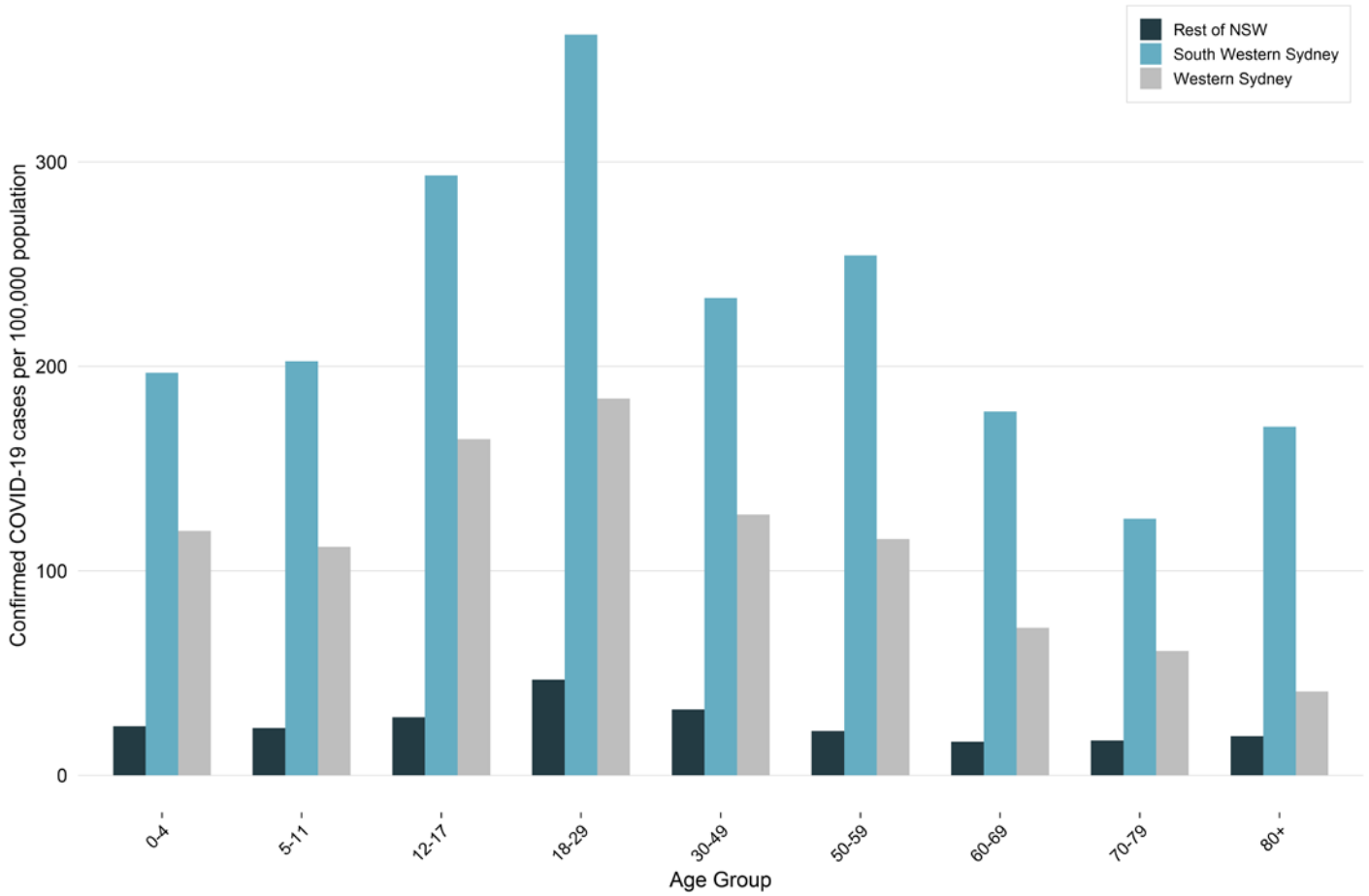
Section 3: Epidemiology of local cases with COVID-19 from 16 June 2021 to 7 August 2021

Since 16 June 2021, NSW has experienced a cluster of COVID-19 infections caused only by the delta variant of the SARS-CoV-2 virus. This section describes some of the epidemiological features of this cluster.

Age breakdown of locally acquired cases

Since 16 June 2021, 5,240 locally acquired cases have been diagnosed with COVID-19 in NSW with 5,212 cases residing in eight metropolitan LHD areas*. 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 LHD (45%, 2,359/5,240). Overall rates of infection in the South Western Sydney LHD are 224.1 per 100,000 people compared with 110.8 per 100,000 people in Western Sydney LHD and 25.5 per 100,000 people in the rest of the NSW Local Health Districts.

Figure 3. Rates of COVID-19 infection by age group, South Western Sydney LHD, Western Sydney LHD and rest of Metropolitan LHDs, NSW, 16 June to 7 August 2021



Interpretation: From 16 June to 7 August, the age group with the highest rates of COVID-19 was those aged 18-29. The rate was almost eight times higher in South Western Sydney and four times higher in Western Sydney when compared with the rest of the metropolitan LHDs (362.3, 184.3 and 46.8 per 100,000 people respectively).

*Metropolitan LHDs include: Central Coast LHD, Illawarra Shoalhaven LHD, Nepean Blue Mountains LHD, Northern Sydney LHD, South Eastern Sydney LHD, South Western Sydney LHD, Sydney LHD and Western Sydney LHD.

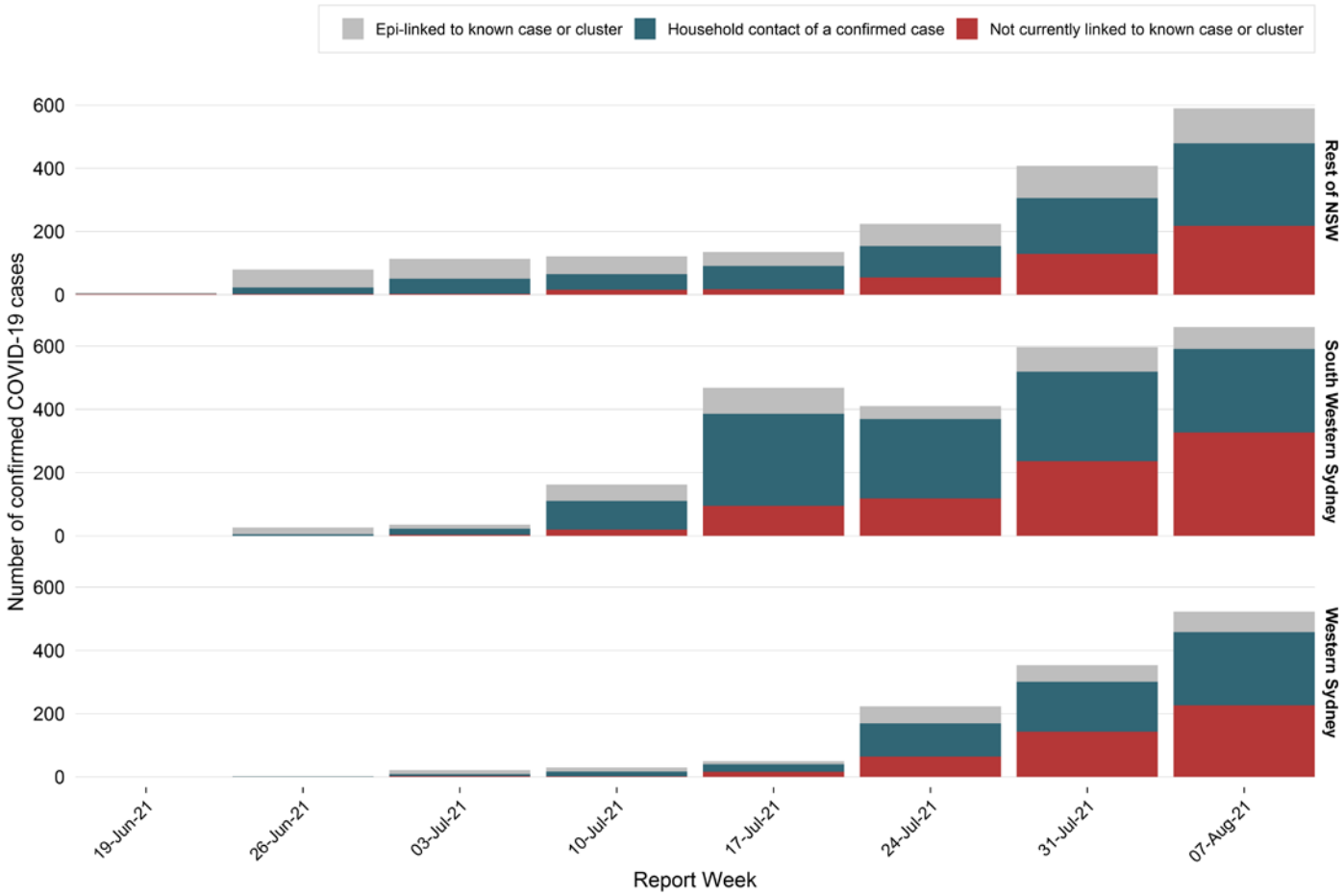
Source of infection for locally acquired cases in NSW

In the week ending 7 August, 43% of cases diagnosed with COVID-19 acquired their infection in a household setting (757/1,772) compared with 45% the previous week. Of the 660 cases reported this week in South Western Sydney LHD, 264 (40%) were household contacts, 69 (10%) were epidemiologically linked but not household contacts and 327 (50%) were not currently linked to a case or cluster.

There were 523 cases reported this week in Western Sydney LHD. Of these 232 (44%) are household contacts, 65 (13%) are epidemiologically linked but not household contacts and 226 (43%) have not currently been linked to a case or cluster.

Of the remaining 589 cases reported this week in the rest of the NSW LHDs, 261 (44%) are household contacts, 110 (19%) are epidemiologically linked but not household contacts and 218 (37%) have not currently been linked to a case or cluster.

Figure 4. Source of infection for locally acquired cases, South Western Sydney LHD, Western Sydney LHD and rest of NSW LHDs, week ending 19 June to 7 August 2021

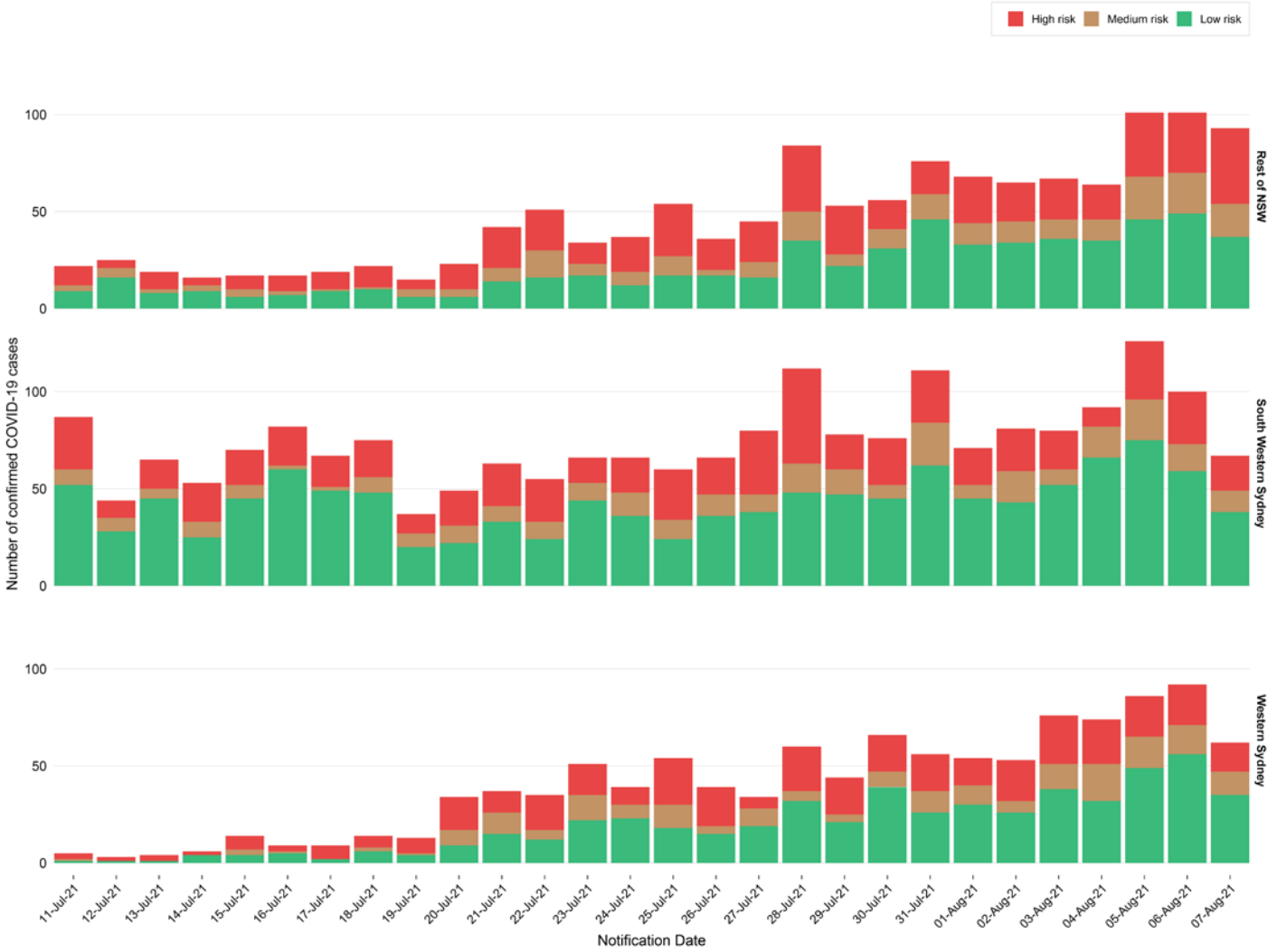


Interpretation: In the week ending 7 August, cases increased significantly across the South Western Sydney area (660 compared to 597 the previous week) and Western Sydney area (523 cases compared with 356 the previous week), and the rest of NSW LHDs (589 cases compared with 407).

Measurement of risk of community exposure by LHD

In the week ending 7 August, 378 (52%) cases were classified as low risk, 93 (14%) as medium risk and 146 (22%) as high risk in South Western Sydney. This compares to 266 (51%) classified as low risk, 91 (17%) as medium risk and 140 (27%) as high risk in Western Sydney and 270 (46%) classified as low risk, 103 (17%) as medium risk and 186 (32%) as high risk in the rest of the Metropolitan LHDs during the same period.

Figure 5. Daily number of locally acquired cases by community risk level, South Western Sydney LHD, Western Sydney LHD and rest of NSW LHDs, 11 July to 7 August 2021.



Note: Graph does not include cases where risk has not yet been identified (99 cases, 6%)

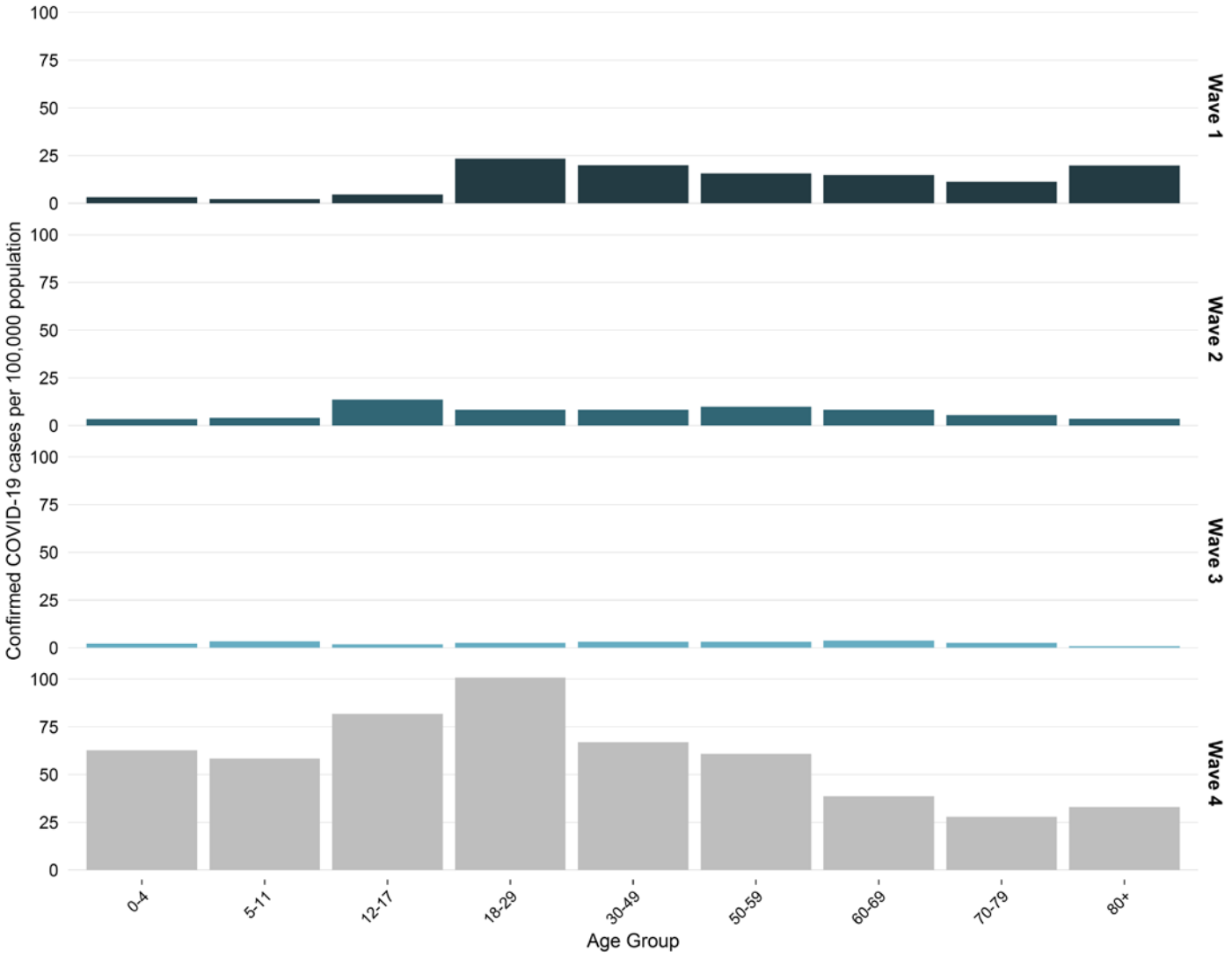
Interpretation: While 52% (914/1,772), of cases reported in South Western Sydney, Western Sydney and the rest of NSW LHDs were considered low risk in the community 43% were infectious in the community for at least part of their infectious period.

Age breakdown of locally acquired cases across four waves, NSW, from 1 January 2020 - 7 August 2021

There have been four distinct waves in reported cases of COVID-19 in NSW since 1 January 2020. Each wave captures a sharp rise in cases after a prolonged period of very few or no cases. Each wave is distinct and is described below:

- The first wave represents the period from 1 January to 31 May 2020 and includes the period prior to international borders being closed. In this period, there were 1,230 locally acquired cases with residents of South Eastern Sydney mainly affected (350/1230, 29%). The median age and interquartile range (IQR) for cases diagnosed in this period was 39 years (IQR = 27-56 years).
- The second wave represents the period from 1 June to 31 October 2020. In this period there were 627 locally acquired cases and cases were mainly affected of South Western Sydney and Western Sydney (407/627, 65%). The median age was 37 years (IQR = 22-55 years).
- The third wave represents the period from 1 November 2020 to 31 January 2021 and was seeded in the Northern Beaches and Berala areas from two distinct outbreak sources. In this period there were 229 locally acquired cases with residents of Northern Sydney mainly affected (125/229, 55%). The median age was 39 years (IQR = 20-58 years).
- The current fourth wave is considered the period between 1 June to present. To 7 August there have been 5,240 locally acquired cases in this period with 68% (3,561 /5,240) of cases residing in South Western Sydney and Western Sydney. The median age was 30 years (IQR = 19-47 years).

Figure 6. Rates of COVID-19 infection by age group, four waves, NSW, from 25 January 2020 to 7 August 2021



Interpretation: The fourth wave of COVID-19 which has been driven by the more transmissible delta variant has had significantly higher rates of infections across all age groups when compared with previous waves. In this fourth wave the age group with the highest rates of people diagnosed with COVID-19 is those aged 18-29 years (100.8 per 100,000 people) and high rates are also seen in people aged 12-17 years of age (81.8 per 100,000 people) and 30-59 years (67.0 per 100,000 people).

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 23 locally acquired cases of COVID-19 reported in Aboriginal people in the week ending 7 August 2021. Of the 23 cases, none was fully vaccinated. In total there have been 49 Aboriginal people diagnosed with COVID-19 in the current Greater Sydney outbreak.

Since the beginning of the pandemic in January 2020, there have been 98 Aboriginal people diagnosed with COVID-19, representing 1% of all cases in NSW. This compares to 3.4% of Aboriginal people residing 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.

In the week ending 7 August, there were 39 healthcare workers diagnosed with COVID-19. Of these, 3 (8%) were potentially infected in a healthcare setting, 16 (41%) were social or household contacts of previously reported cases and 20 (51%) are currently not linked. Three (8%) cases were fully vaccinated and 14 (36%) were partially vaccinated.

In total there have been 182 cases of COVID-19 in health care workers since August 2020. Of these, 48 were potentially infected in healthcare settings. A further 75 cases were linked to social or household contacts, and for 59 cases the source of infection is either unknown or under investigation. Prior to August 2020, there were 35 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).

Table 5. Number of healthcare worker infections by source of infection and proportion fully vaccinated

Healthcare workers	Last 7 days			Current Greater Sydney outbreak (16 June-07 August 2021)		
	Number of HCWs	Fully vaccinated	Partially vaccinated	Number of HCWs	Fully vaccinated	Partially vaccinated
Healthcare acquired	3	1 (33%)	1 (33%)	25	6 (24%)	8 (32%)
Community acquired	16	0 (0%)	8 (50%)	58	4 (7%)	19 (33%)
Not currently linked	20	2 (10%)	5 (25%)	50	5 (10%)	17 (34%)
Total	39	3 (8%)	14 (36%)	133	15 (11%)	44 (33%)

Interpretation: Since 16 June, most healthcare workers associated with the Greater Sydney outbreak have been infected in the community and outside of a healthcare setting (108/133, 81%). Of the 133 healthcare workers that have been diagnosed with COVID-19 in the current outbreak, 15 (11%) have been fully vaccinated and 44 (33%) have been partially vaccinated.

Aged care workers

There were 13 locally acquired cases in aged care workers in the week ending 7 August 2021. Five cases acquired their infection while working in an aged care facility, five cases were social or household contacts of a known case and for three cases the source of infection is under investigation. Of the five cases who acquired their infection at work, 80% (4/5) were partially vaccinated.

Since 1 January 2021, there have been 40 cases reported in aged care workers. Of these, 21 (52%) people have reported being partially vaccinated. There has been one aged care worker diagnosed with COVID-19 who has been fully vaccinated.

Table 6. Number of aged care worker infections by source of infection and proportion fully vaccinated

Aged care workers	Last 7 days			Current Greater Sydney outbreak (16 June - 07 August 2021)		
	Number of ACWs	Fully vaccinated	Partially Vaccinated	Number of ACWs	Fully vaccinated	Partially Vaccinated
Acquired at aged care facility	5	0 (0%)	4 (80%)	11	0 (0%)	7 (64%)
Community acquired	5	1 (20%)	2 (40%)	19	1 (5%)	8 (42%)
Not currently linked	3	0 (0%)	2 (67%)	10	0 (0%)	6 (60%)
Total	**13**	**1 (8%)**	**8 (62%)**	**40**	**1 (2%)**	**21 (52%)**

Interpretation: In the week ending 7 August there were 13 aged care workers diagnosed with COVID-19. Of these, five (38%) were infected in an aged care facility, five (38%) were social or household contacts of previously reported cases and three (23%) are not currently linked.

Pregnant women

There were 19 cases in a pregnant woman in the week ending 07 August. Since January 2020, 99 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 6a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 7 August 2021

Vaccination Status	Week					Total from 1 Mar 2021
	07 Aug 21	31 Jul 21	24 Jul 21	17 Jul 21	10 Jul 21	
Total locally acquired cases	**1772**	**1357**	**858**	**653**	**609**	**5249**
Fully Vaccinated	22 (1.2%)	14 (1.0%)	7 (0.8%)	2 (0.3%)	7 (1.1%)	52 (1.0%)
Partially Vaccinated	163 (9.2%)	135 (9.9%)	52 (6.1%)	24 (3.7%)	38 (6.2%)	412 (7.8%)
None	1,259 (71%)	1,077 (79.4%)	790 (92.1%)	624 (95.6%)	559 (91.8%)	4,309 (82.1%)
Under Investigation	328 (18.5%)	131 (9.7%)	9 (1%)	3 (0.5%)	5 (0.8%)	476 (9.1%)

Table 6b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 7 August 2021

Vaccination Status	Week					Total from 1 Mar 2021
	07 Aug 21	31 Jul 21	24 Jul 21	17 Jul 21	10 Jul 21	
Total overseas acquired cases	**20**	**16**	**8**	**26**	**488**	**558**
Fully Vaccinated	1 (5.0%)	0 (0.0%)	2 (25.0%)	7 (26.9%)	14 (2.9%)	24 (4.3%)
Partially Vaccinated	0 (0.0%)	2 (12.5%)	1 (12.5%)	5 (19.2%)	28 (5.7%)	36 (6.5%)
None	4 (20.0%)	4 (25.0%)	5 (62.5%)	11 (42.3%)	428 (87.7%)	452 (81%)
Unknown/Missing	15 (75.0%)	10 (62.5%)	0 (0.0%)	3 (11.5%)	18 (3.7%)	46 (8.2%)

Interpretation: In the past week 1.2 % of locally acquired cases were fully vaccinated. This compares with around 23% of the NSW population who had received two doses of vaccine by 7 August. Since 1 March 2021, there have been 52 (1.0%) locally acquired cases reported as being fully vaccinated and 412 (7.8%) partially vaccinated. Twenty-four (4.3%) overseas acquired cases have 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 hospitalisations and deaths

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

In the week ending 7 August 2021, of the 1,772 locally acquired cases, there were 176 people admitted to hospital as a result of being diagnosed with COVID-19. In total, there have been 759 people hospitalised as a result of the current Greater Sydney outbreak.

Table 7. Hospitalisations and ICU admissions as a result of COVID-19, by age group, NSW, from 16 June to 7 August 2021

Age-group (years)	Hospitalised (%)	Rate of hospitalisations per 100,000 people, NSW	Hospitalised and in ICU (%)	Rate of ICU admission per 100,000 people, NSW
0-4	13 (1.7%)	2.6	0 (0.0%)	0.0
5-11	11 (1.4%)	1.5	0 (0.0%)	0.0
12-17	17 (2.2%)	3.0	2 (1.9%)	0.4
18-29	131 (17.3%)	9.5	15 (14.0%)	1.1
30-49	211 (27.8%)	9.6	18 (16.8%)	0.8
50-59	136 (17.9%)	14.0	26 (24.3%)	2.7
60-69	90 (11.9%)	10.7	24 (22.4%)	2.9
70-79	77 (10.1%)	13.2	14 (13.1%)	2.4
80+	73 (9.6%)	21.2	8 (7.5%)	2.3
Total	759 (100.0%)	9.4	107 (100.0%)	1.3

Interpretation: The highest number of cases hospitalised are aged 30-49 (211, 27.8%) years, followed by those aged 50-59 years (136, 17.9%). In NSW, cases aged 80 years and over have the highest rate of hospitalisation (21.2 per 100,000 people).

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

Of the 759 people hospitalised as a result of COVID-19 in the current outbreak, 107 (14%) people were in ICU of which 98 (91.6%) were unvaccinated or whose vaccination status is unknown and 9 (8.4%) were partially vaccinated or had a single dose within 14 days. There were no fully vaccinated cases in ICU.

Table 8. Hospitalisations and ICU admissions due to COVID-19, by vaccination status, NSW, from 16 June to 7 August 2021

Vaccination status	Hospitalised (%)	Hospitalised and in ICU (%)
Fully Vaccinated	16 (2.1%)	0 (0.0%)
Partially vaccinated	74 (9.7%)	9 (8.4%)
None	669 (88.1%)	98 (91.6%)
Total	759 (100.0%)	107 (100.0%)

Interpretation: Of the 759 people hospitalised, 16 (2.1%) are fully vaccinated, 74 (9.7%) were partially vaccinated and 669 (88.1%) were either not vaccinated or vaccination status has not yet been determined.

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

Since the start of the pandemic, <1% of cases (86 people) have died as a result of COVID-19, most of whom were 80 years of age or older, including 30 residents of aged care facilities with known COVID-19 outbreaks. Approximately 14% (12/86) of the deaths were in overseas acquired cases.

There were 15 deaths as a result of COVID-19 reported this week including a male in his 20s, a female and four males in their 60s, a male in his 70s, four females and two males in their 80s and two males in their 90s. Two people were partially vaccinated and 13 were unvaccinated.

Table 9. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 7 August 2021

Age group (years)	Current outbreak	Since January 2020		
	Number of deaths	Total number of deaths	Number of cases*	Case fatality rate*
0-4	0	0	470	0%
5-11	0	0	572	0%
12-17	0	0	637	0%
18-29	1	1	2,637	<0.1%
30-49	1	1	3,344	<0.1%
50-59	1	2	1,318	0.2%
60-69	6	10	986	1.0%
70-79	3	18	557	3.2%
80+	18	53	278	19.1%
Total	30	86	10,799	0.8%

Interpretation: Cases older than 80 years of age had both the highest number of deaths and the highest case fatality rate.

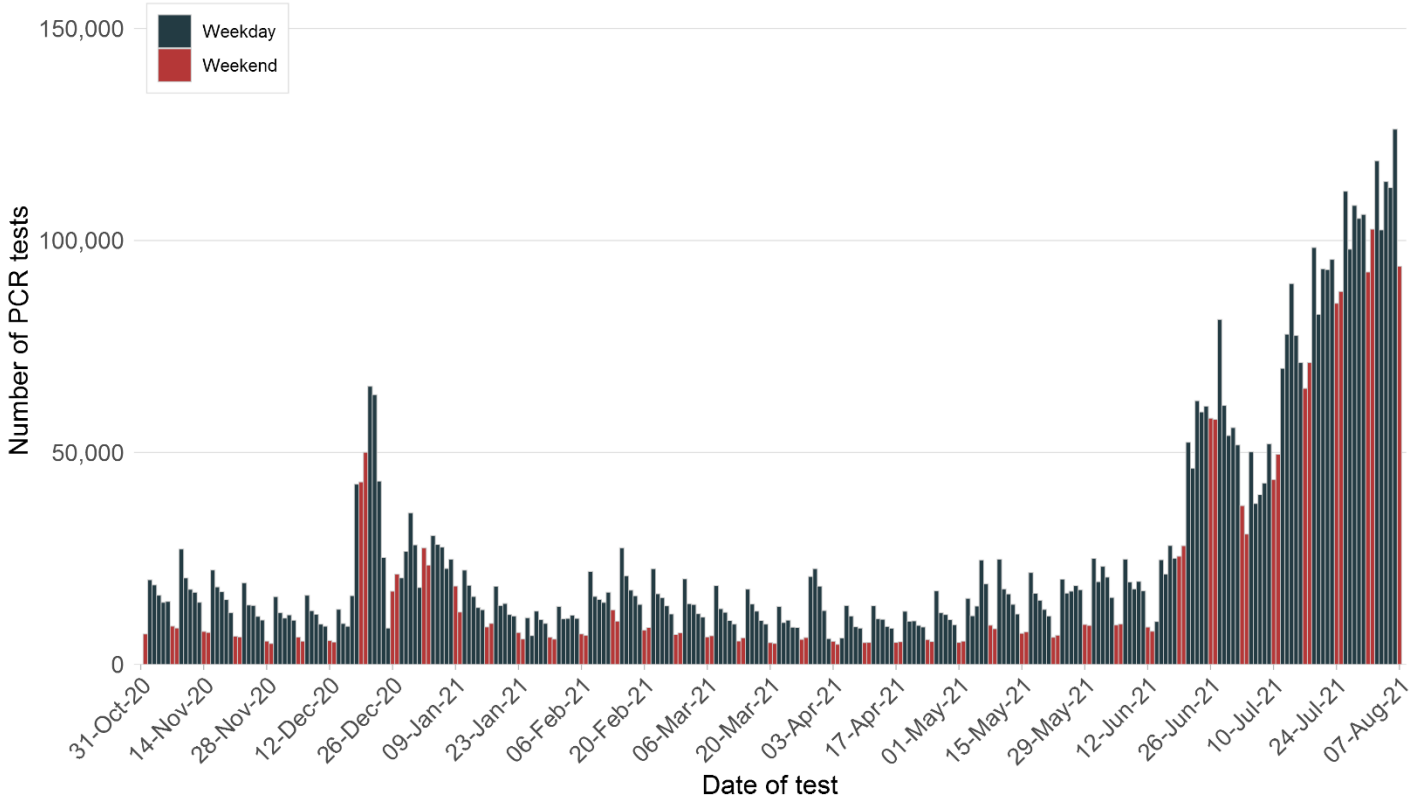
Section 7: COVID-19 testing in NSW

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 8. Number of PCR tests per day, NSW, 31 October 2020 to 7 August 2021



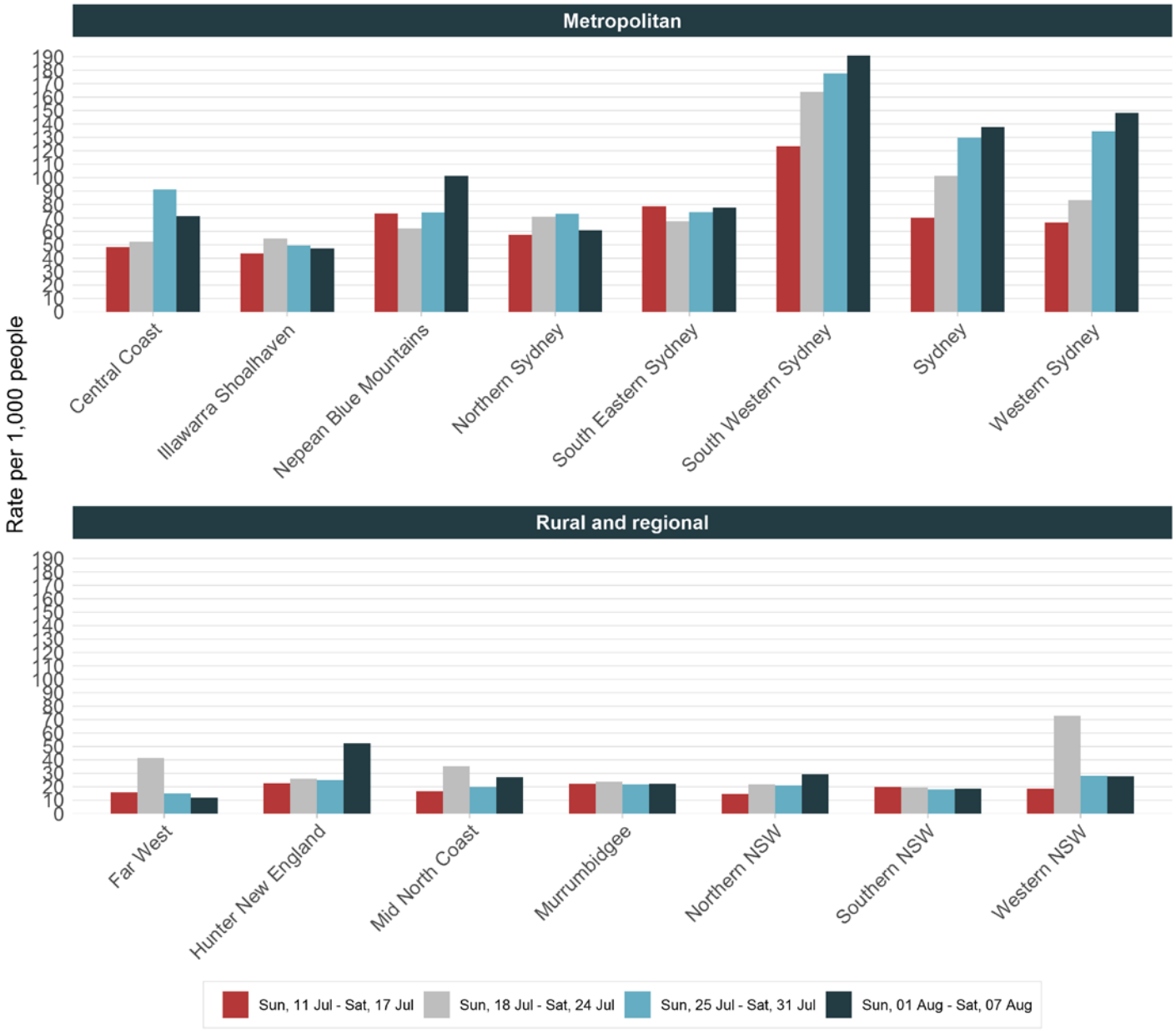
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers increased in the week ending 7 August 2021 (up 9%) compared to the previous week. The average daily testing rate of 13.6 per 1,000 people in NSW each day increased compared to the previous week of 12.5 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 Local Government Areas

Figure 9. Rates of COVID-19 testing by LHD of residence, NSW, 11 July to 7 August 2021

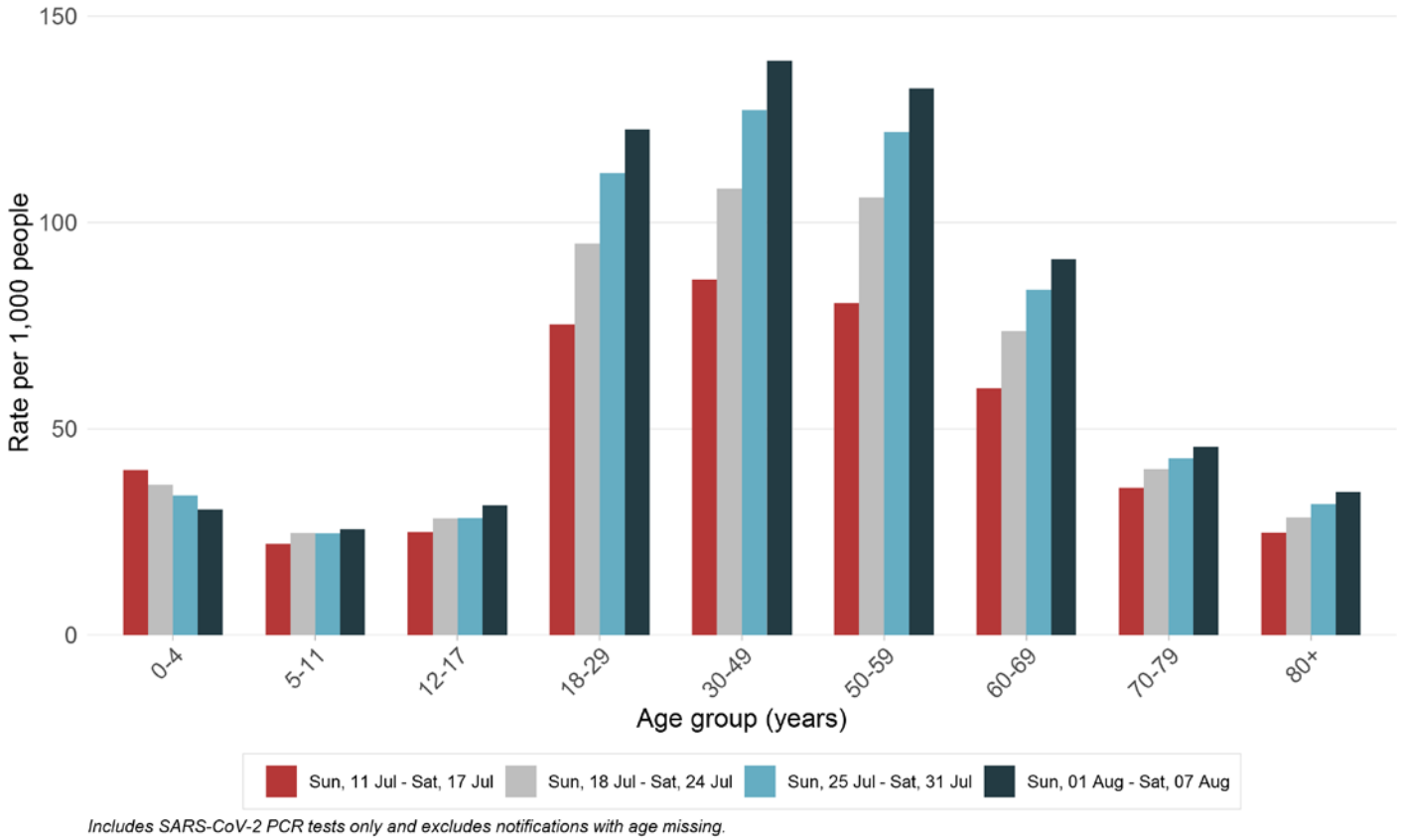


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 7 August increased or remained steady across most LHDs compared to the previous week (95.3 per 1,000 people compared to 87.7 per 1,000 people). Testing rates more than doubled in Hunter New England LHD in response to targeted public health messaging urging residents to get tested (52.4 per 1,000 people compared to 25.0 per 1,000 the previous week). This followed reports of several COVID-19 exposure sites in the area and a positive sewage detection in Newcastle reported on 2 August. Increased rates of testing were also seen in Nepean Blue Mountains and Northern NSW LHDs.

Testing by age group

Figure 10. Rates of COVID-19 testing by age group and week, NSW, 11 July to 7 August 2021



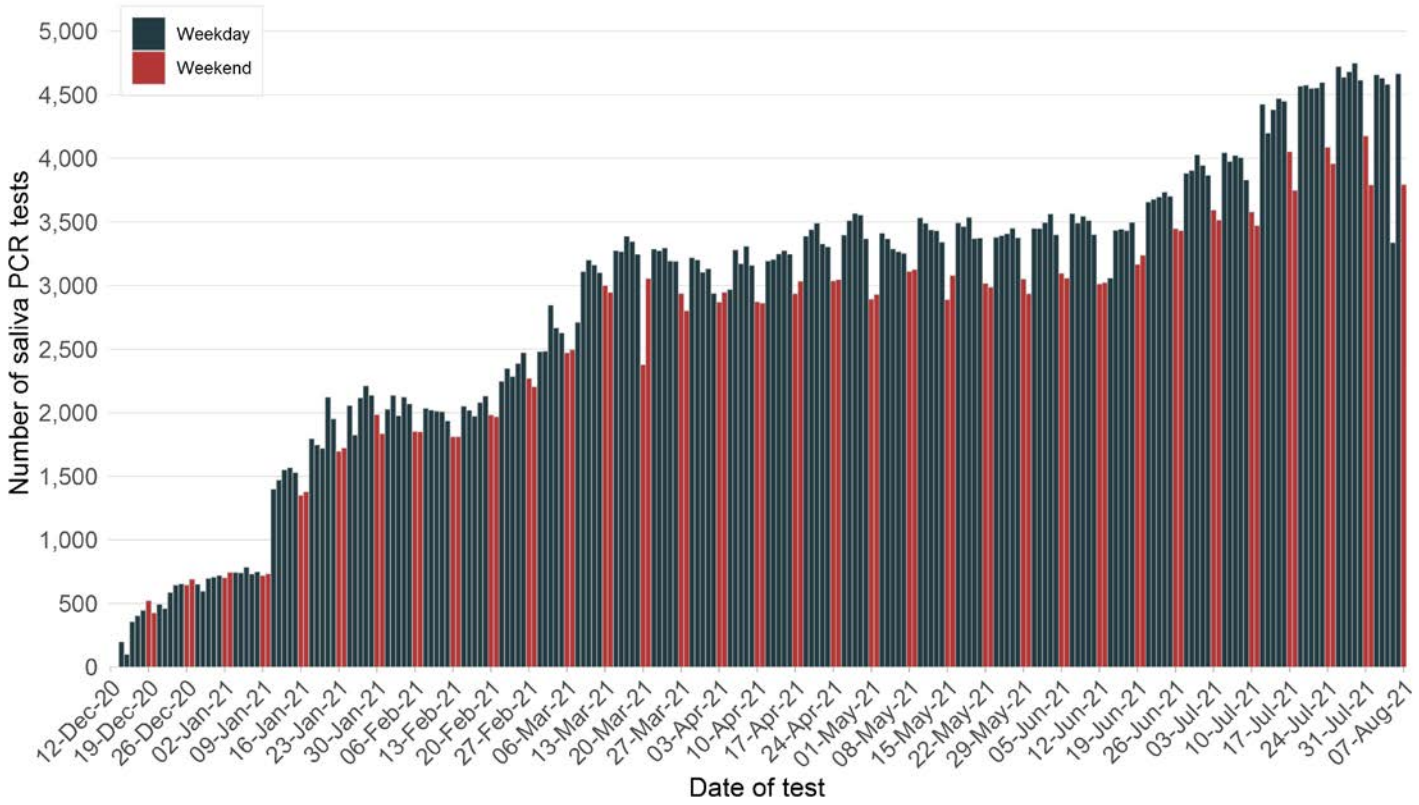
Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: In the week ending 7 August 2021, testing rates increased or remained steady across most age groups with the greatest increase seen in adults aged 18-69.

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 11. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 7 August 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 662,046 saliva PCR tests have been conducted to 7 August 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 8: 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 week ending 7 August 2021, there have been:

- 157 locally acquired cases diagnosed with a VOC. All of these cases have been diagnosed with infection by the Delta variant.
- 3 returned travellers diagnosed with a VoC. Of these:
  - 1 (33%) with the alpha variant
  - 2 (67%) with the delta variant.
- In the four weeks ending 7 August The countries of likely acquisition of the 30 returned travellers diagnosed with a VoC are: UAE (4), Fiji (3), France (3), India (3), China (2), Lebanon (2), UK (2) and 11 from 11 other countries.

Table 10a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 7 August 2021

Variant	Week ending				29 Nov to 10 Jul	Total since 29 November
	7 Aug*	31 July*	24 Jul	17 Jul		
Total variants identified	157	993	565	478	525	2,718
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)	157	993	565	478	518	2,711

***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 7 August have been the Delta variant of concern.

Interpretation: Only the delta variant has been detected in recent weeks among locally acquired cases, and this is associated with the cluster that emerged in Sydney from 16 June 2021.

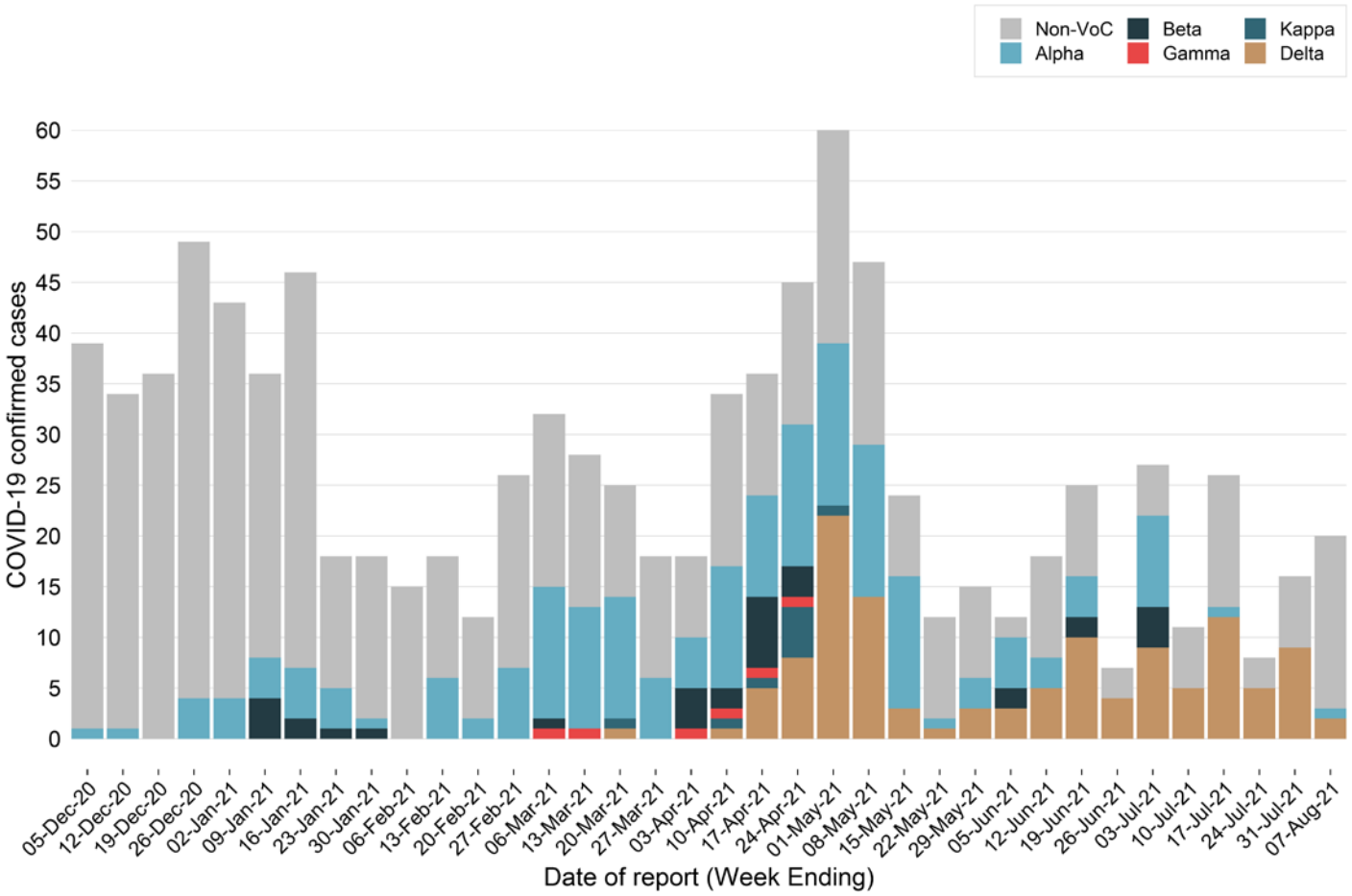
Table 10b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 7 August 2021

Variant	Week ending				29 Nov to 10 Jul	Total since 29 November
	7 Aug*	31 July*	24 Jul	17 Jul		
Total variants identified	3	9	5	13	334	364
Alpha (B.1.1.7)	1	0	0	1	192	194
Beta (B.1.351)	0	0	0	0	33	33
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)	2	9	5	12	94	122

***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: In the last four weeks, the delta variant has been the most commonly detected variant among cases who acquired a variant infection overseas (28/30, 93%). These results are consistent with the increasing incidence of infections caused by the delta variant in many countries.

Figure 12. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 7 August 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 364 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 7 August 2021, 43% (30/70) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 9: NSW Sewage Surveillance Program

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. 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 11. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, week ending 5 Jun to 7 August 2021

		5 June	12 June	19 June	26 June	3 July	10 July	17 July	24 July	31 July	7 August
Pop.	**Location**	22	23	24	25	26	27	28	29	30	31
60,514	Blue Mountains (Winmalee)										
110,114	Penrith										
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										
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										

(Continued). Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 5 Jun to 7 Aug 2021

		5 June	12 June	19 June	26 June	3 July	10 July	17 July	24 July	31 July	7 August
Catchment	**Location**	22	23	24	25	26	27	28	29	30	31
Bondi	Paddington										
Bondi	Rozelle										
Cronulla	Caringbah										
Cronulla	Miranda										
Malabar	Earlwood										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
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	Northmead										
North Head	Tunks Park										
North Head	Vineyard Creek										
North Head	Boronia										
North Head	West Lindfield										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights										
North Head	Buffalo Creek Reserve										
Glenfield	Minto										
Liverpool	Ireland Park										
Quakers Hill	Eastern Creek										
St Marys	Ropes Creek										
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
18,000	Bomaderry										
59,060	Charmhaven										
29,300	Wyong-Toukley										
	Mannering Park										
38,900	Bateau Bay										
41,300	Woy Woy										
2,050	Bourke										

12,000	Mudgee										
1,700	Molong										
37,000	Dubbo										
24,000	Armidale										
225,834	Hunter - Burwood Beach										
60,000	Hunter - Shortland										
115,000	Hunter - Belmont										
21,500	Hunter - Kurri Kurri										
	Byron Bay										
7,010	Bonny Hills										
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 sample or ceased
SPS	Sewage Pumping Station
p	result pending, not available at time of reporting

Interpretation: In the week ending 7 August, 184 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 77 detections. The sewage treatment plants at Woolgoolga and Moama were added as new sites. There were 28 detections outside Sydney taken from the Armidale, Bomaderry, Bonny Hills, Bowral (2), Charmhaven (2), Coffs Harbour, Dubbo (2), Burwood Beach (4), Shortland (4), Belmont, Kurri Kurri, Mannering Park, Mittagong, Mudgee (2), Woy Woy and Toukley (3) sewage treatment plants.

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

- Bondi (2), Castle Hill-Cattai, Cronulla (2), Glenfield, Liverpool, Malabar (4), McGraths Hill, North Head (2), Penrith, Quakers Hill, Riverstone, Rouse Hill, St Marys, Warriewood (2), West Camden, West Hornsby, Wilmalee and Wollongong.

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

- the Cronulla catchment including Miranda
- the Malabar catchment including Arncliffe 1, Blakehurst, Croydon, Dulwich Hill, Earlwood, Fairfield 1&2, Maroubra, Marrickville 2 and Padstow 1.
- the North Head catchment including Buffalo Creek Reserve, Camellia North & South, Lane Cove West, Tunks Park and West Lindfield.
- the Quakers Hill catchment including Eastern Creek
- the Glenfield catchment including Minto
- the St Marys catchment including Ropes Creek
- Port Kembla (2)
- Bellambi (2)

Detections from Armidale, Bomaderry, Bonny Hills, Castle Hill-Cattai, Charmhaven, Coffs Harbour, Dubbo, Burwood Beach, Shortland, Mudgee, Woy Woy and West Lindfield occurred with no known or recent cases in the catchment. Subsequently cases were identified in all these catchments except Bombaderry, Bonny Hills, Coffs Harbour, and Woy Woy.

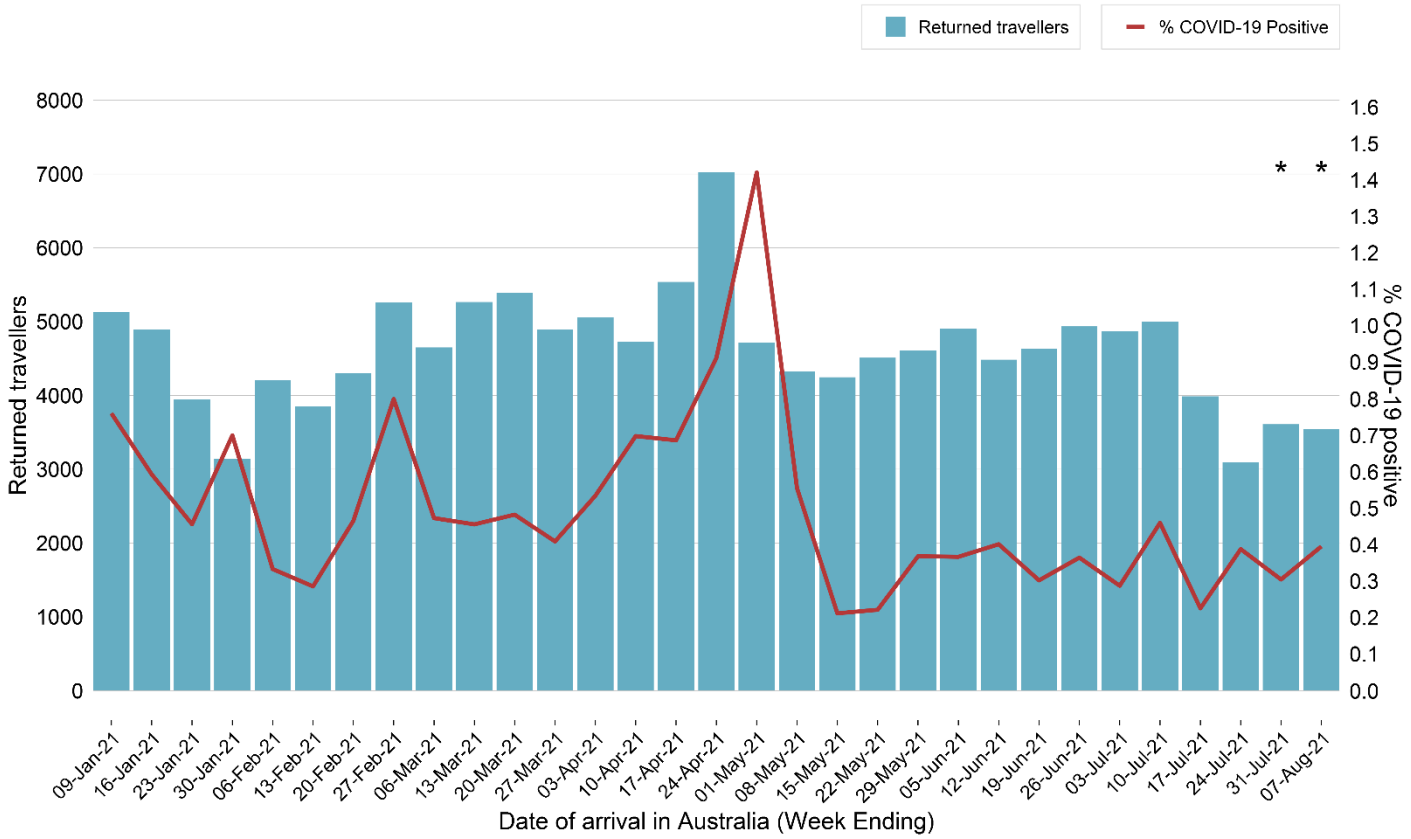
Section 10: COVID-19 in returned travellers

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 13. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 7 August 2021



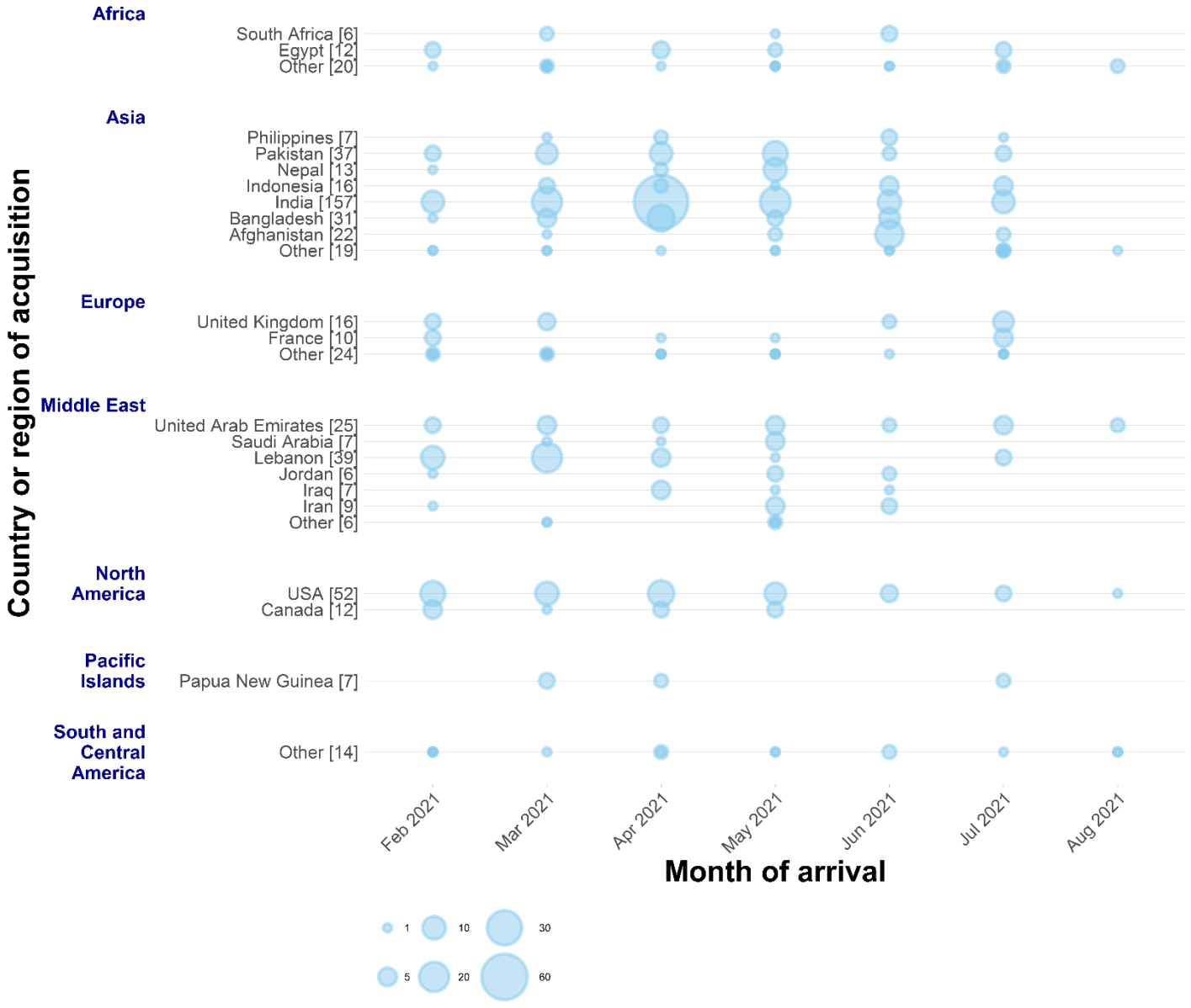
***Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.**

Interpretation: Since 3 January 2021, there has been on average 658 people screened on arrival through Sydney International Airport daily. In the last four weeks, 31 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 14. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 February 2022 to 7 August 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 12. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 11 July 2021 to 7 August 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
India	6 (9%)
United Arab Emirates	6 (9%)
France	5 (7%)
Indonesia	5 (7%)
United Kingdom	5 (7%)
Egypt	3 (4%)
Fiji	3 (4%)
China (excludes SARs and Taiwan)	2 (3%)
Colombia	2 (3%)
Kenya	2 (3%)
Lebanon	2 (3%)
Thailand	2 (3%)
USA	2 (3%)
Zimbabwe	2 (3%)
Other	23 (33%)
Total	70 (100%)

Interpretation: In the four weeks to 7 August 2021, travellers returning from India and the United Arab Emirates accounted for the largest number of overseas acquired cases (6, 9%).

Cases among returned travellers in quarantine

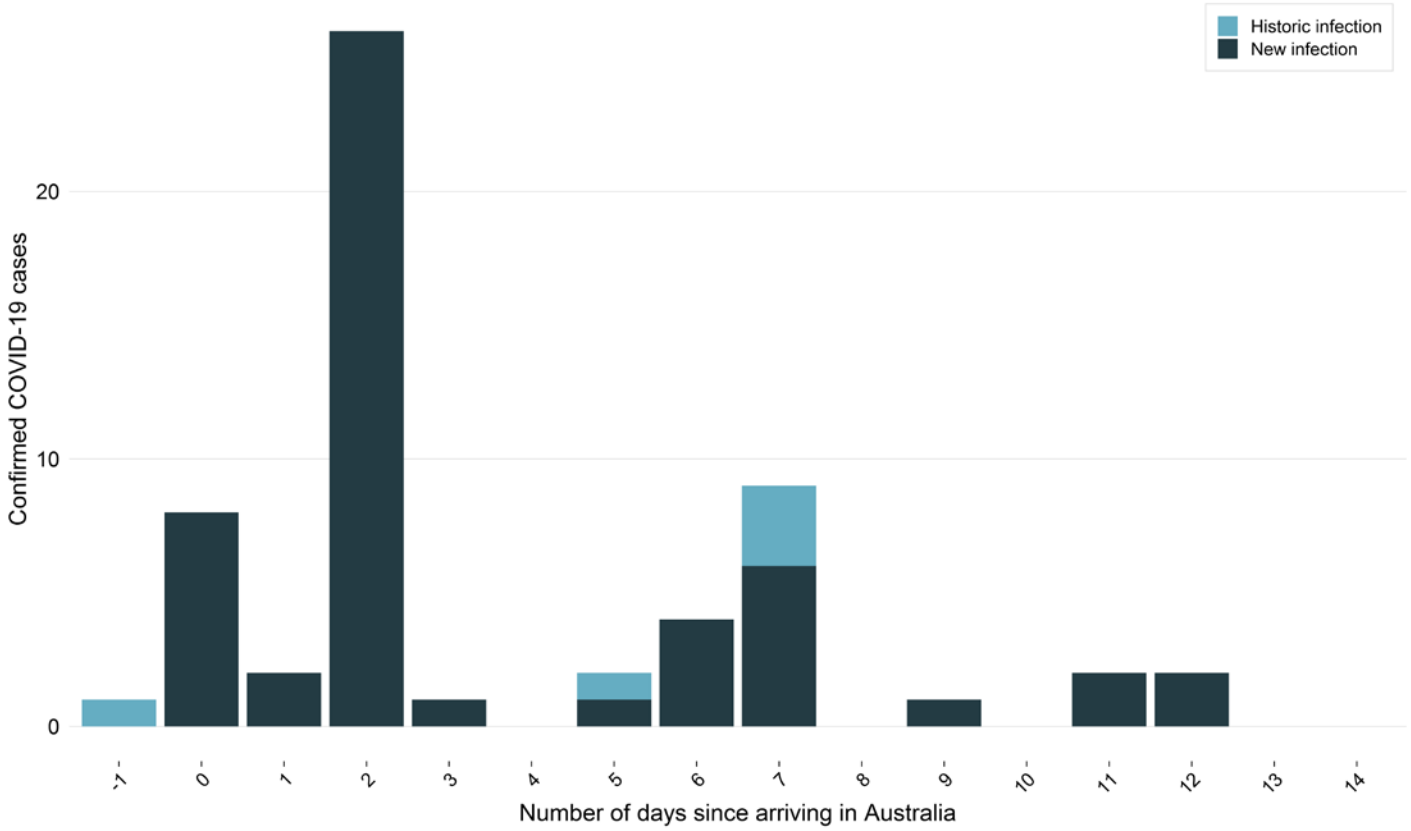
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved 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 15. 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, 11 Jul to 7 August 2021



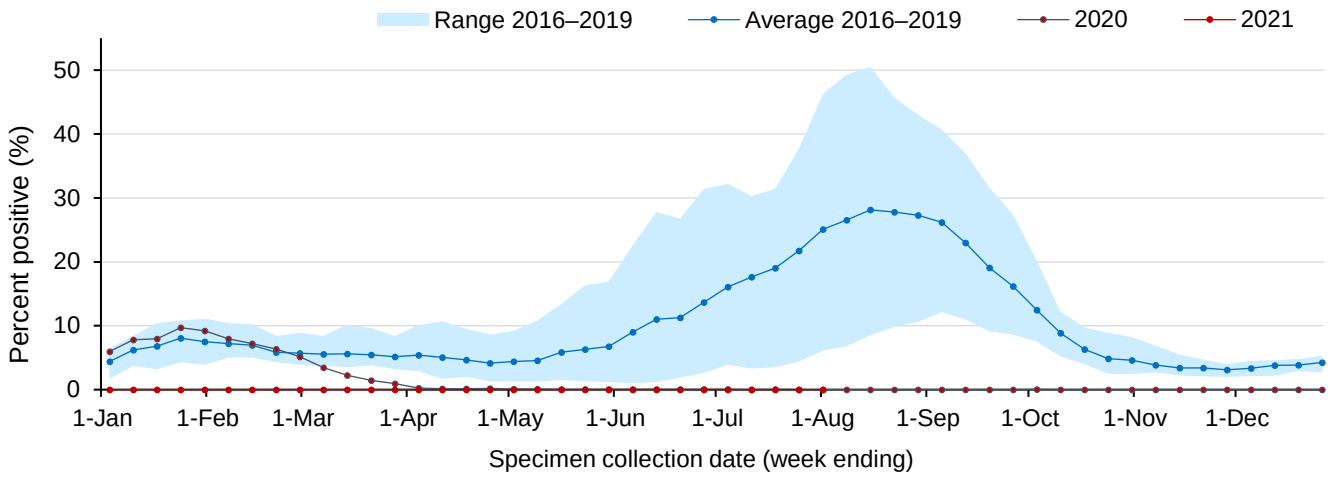
Interpretation: In the four weeks ending 7 August 2021, 51.4% of overseas acquired COVID-19 cases have tested positive within two days of arriving to Australia, with most people testing positive on day two screening.

Section 11: Other respiratory infections in NSW

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 01 August 2021

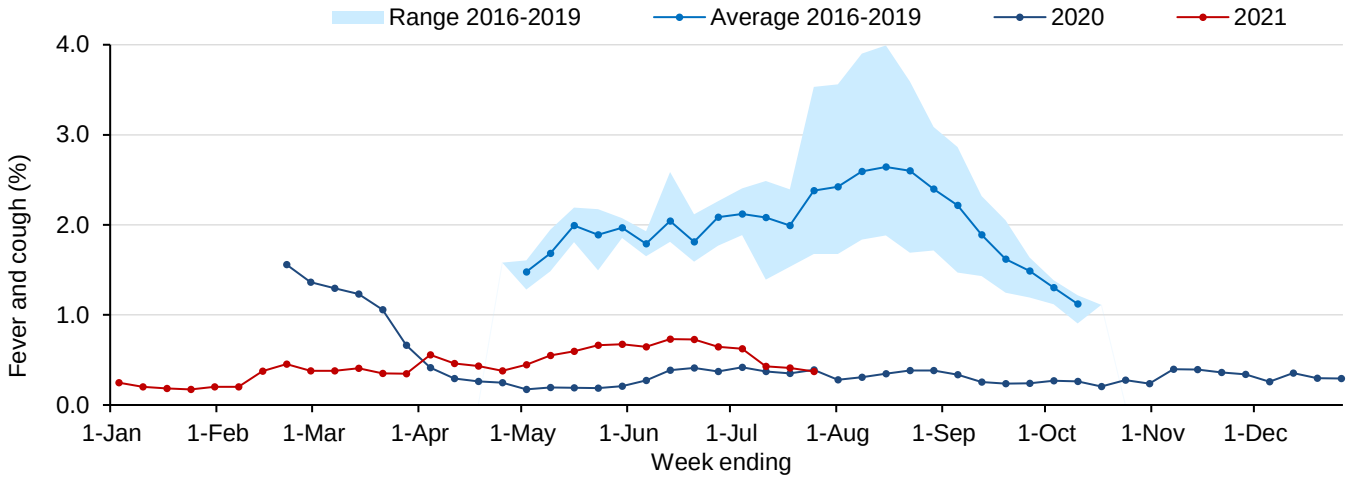


Interpretation: In the week ending 1 August, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 13 influenza cases reported in 2021 and none were reported in the week ending 1 August.

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 08 August 2021



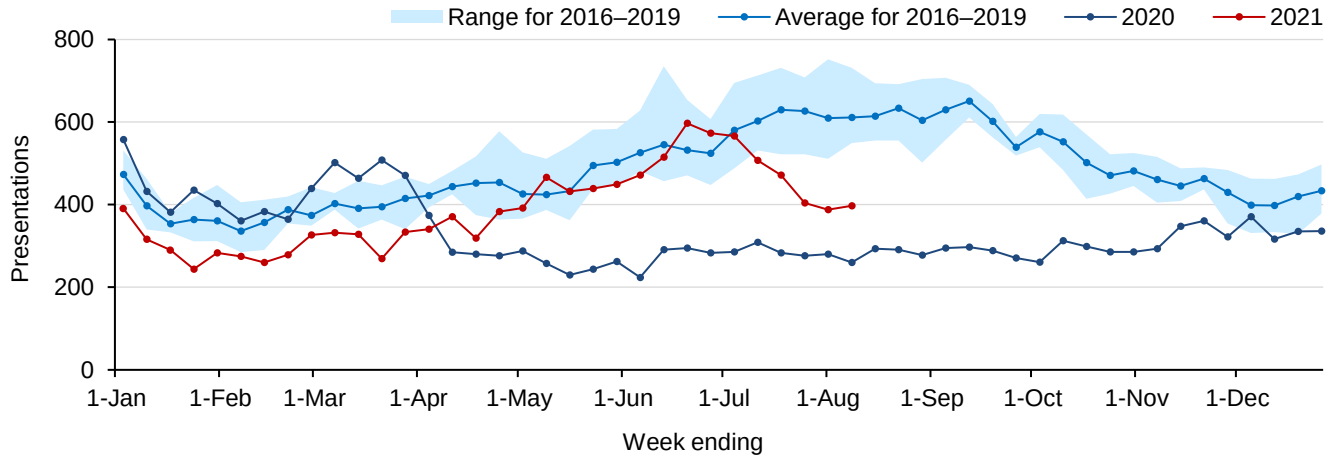
Interpretation: In NSW in the week ending 8 August July 2021, of the 23,823 people surveyed, 79 people (0.33%) reported flu-like symptoms. In the last four weeks, 50% (172/347) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people with flu-like symptoms being tested 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.

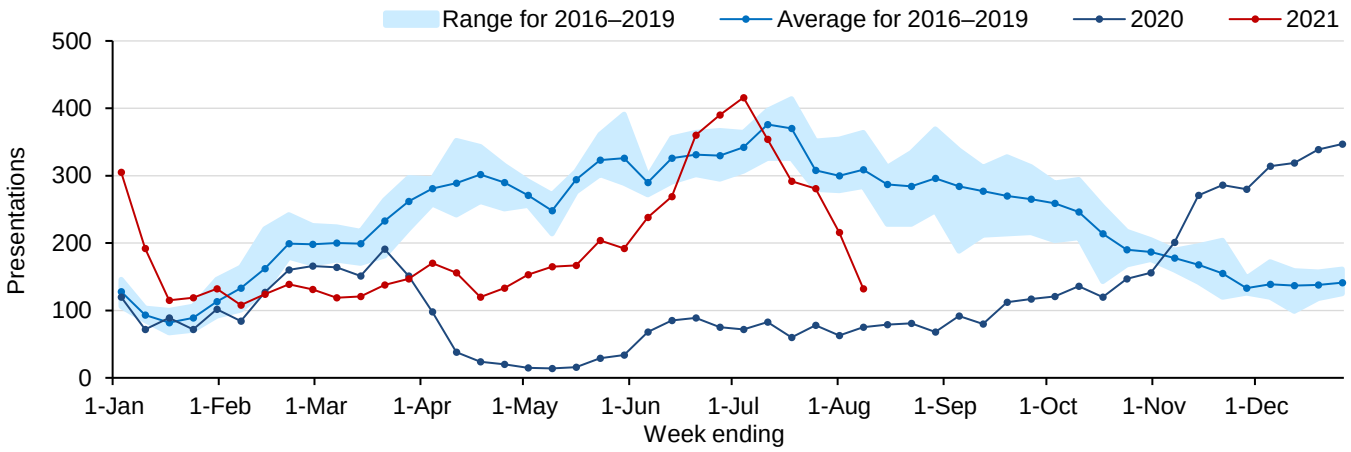
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the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

Figure 18. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 08 August 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 8 August, pneumonia presentations increased very slightly following a six week decline and remain significantly below the seasonal range for this time of year.

Figure 19. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 08 August 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 8 August 2021, bronchiolitis presentations continue to decrease and 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	
		07-Aug		31-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]	25213	71.45	32235	91.35	360921	1022.84
Far West	Balranald	32	13.69	36	15.40	1106	473.05
	Broken Hill	252	14.42	279	15.96	12346	706.33
	Central Darling	14	7.61	17	9.24	754	410.01
	Wentworth	57	8.08	125	17.72	4956	702.68
	LHD Total[2]	355	11.78	457	15.16	19162	635.68
Hunter New England	Armidale Regional	1534	49.84	847	27.52	22054	716.53
	Cessnock	2091	34.86	1158	19.30	31595	526.72
	Dungog	246	26.11	153	16.24	5167	548.34
	Glen Innes Severn	208	23.45	102	11.50	3674	414.16
	Gunnedah	391	30.83	230	18.14	6701	528.43
	Gwydir	93	17.37	59	11.02	1597	298.34
	Inverell	511	30.25	216	12.79	8793	520.60
	Lake Macquarie	16379	79.55	6817	33.11	200838	975.41
	Liverpool Plains	256	32.39	137	17.34	4225	534.61
	Maitland	6537	76.76	2917	34.25	89217	1047.57
	Mid-Coast	2772	29.54	1731	18.45	49787	530.57
	Moree Plains	320	24.13	185	13.95	8067	608.33
	Muswellbrook	559	34.13	326	19.91	9497	579.90
	Narrabri	278	21.16	170	12.94	5127	390.33
	Newcastle	10753	64.94	4849	29.29	182727	1103.62
	Port Stephens	2748	37.40	1521	20.70	56389	767.40
	Singleton	1141	48.63	624	26.60	18937	807.17
	Tamworth Regional	2239	35.80	1331	21.28	46623	745.48
	Tenterfield	113	17.14	77	11.68	2225	337.43
	Upper Hunter Shire	516	36.39	230	16.22	8389	591.61
	Uralla	156	25.95	123	20.46	2695	448.27
	Walcha	64	20.42	44	14.04	1831	584.24
	LHD Total[2]	49890	52.38	23829	25.02	765677	803.96
Illawarra Shoalhaven	Kiama	928	39.68	1009	43.15	23676	1012.40
	Shellharbour	4071	55.59	4373	59.71	74956	1023.53
	Shoalhaven	3558	33.68	2817	26.66	77377	732.40
	Wollongong	11293	51.78	12535	57.47	234212	1073.81
	LHD Total[2]	19850	47.31	20734	49.41	410221	977.62
Mid North Coast	Bellingen	311	23.93	246	18.93	8309	639.35
	Coffs Harbour	1757	22.74	1553	20.10	45374	587.16
	Kempsey	861	28.95	601	20.21	18647	626.90
	Nambucca	366	18.48	290	14.64	10294	519.77
	Port Macquarie-Hastings	2847	33.68	1761	20.83	56075	663.41
	LHD Total[2]	6142	27.22	4451	19.72	138699	614.62
Murrumbidgee	Albury	1384	25.46	1484	27.30	39288	722.83
	Berrigan	125	14.29	125	14.29	3339	381.60
	Bland	94	15.74	75	12.56	2835	474.72

		Week ending				Total since January 2021	
		07-Aug		31-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	14	5.00	39	13.93	705	251.88
	Coolamon	113	26.03	86	19.81	2611	601.47
	Cootamundra-Gundagai Regional	241	21.45	271	24.12	6695	595.91
	Edward River	173	19.04	134	14.75	4595	505.83
	Federation	249	20.02	264	21.23	6378	512.82
	Greater Hume Shire	300	27.87	290	26.94	7224	671.13
	Griffith	475	17.57	560	20.72	18226	674.31
	Hay	41	13.90	33	11.19	1065	361.14
	Hilltops	395	21.12	343	18.34	10899	582.71
	Junee	138	20.65	133	19.90	3036	454.29
	Lachlan[1]	68	11.19	83	13.66	1893	311.60
	Leeton	172	15.03	176	15.38	5386	470.60
	Lockhart	106	32.27	96	29.22	1736	528.46
	Murray River	53	4.37	44	3.63	1689	139.38
	LHD Total[2]	63	16.08	64	16.34	1631	416.39
	Narrandera	82	13.90	65	11.02	2147	363.96
	Snowy Valleys	222	15.33	214	14.78	7903	545.82
	Temora	101	16.01	103	16.33	2432	385.60
	Wagga Wagga	2067	31.67	1915	29.35	55089	844.17
	LHD Total[2]	6627	22.23	6535	21.92	185518	622.32
Nepean Blue Mountains	Blue Mountains	4937	62.40	3996	50.51	99080	1252.31
	Hawkesbury	5578	82.89	5093	75.68	76490	1136.62
	Lithgow	475	21.99	430	19.90	12521	579.54
	Penrith	29245	137.32	19954	93.69	268462	1260.52
	LHD Total[2]	39663	101.44	28920	73.97	451707	1155.30
Northern NSW	Ballina	1647	36.91	1040	23.30	40934	917.23
	Byron	1249	35.60	946	26.97	32762	933.90
	Clarence Valley	1148	22.22	836	16.18	23913	462.87
	Kyogle	162	18.42	104	11.82	3759	427.35
	Lismore	1414	32.36	983	22.50	32666	747.64
	Richmond Valley	691	29.45	701	29.87	15196	647.60
	Tenterfield	113	17.14	77	11.68	2225	337.43
	Tweed	2789	28.75	1858	19.15	55155	568.60
	LHD Total[2]	9117	29.38	6489	20.91	204879	660.13
Northern Sydney	Hornsby	7014	46.13	6474	42.58	160628	1056.35
	Hunters Hill	1506	100.53	1482	98.93	37544	2506.28
	Ku-ring-gai	6827	53.69	7981	62.77	207981	1635.68
	Lane Cove	3533	87.98	3859	96.10	101868	2536.87
	Mosman	1279	41.28	1360	43.90	42553	1373.52
	North Sydney	2559	34.11	2820	37.59	81563	1087.20
	Northern Beaches	15607	57.06	30184	110.36	524990	1919.53
	Parramatta[1]	26763	104.06	22428	87.20	281043	1092.71
	Ryde	13532	103.08	10055	76.60	174531	1329.55
	Willoughby	2781	34.25	2938	36.19	82494	1016.07
	LHD Total[2]	58010	60.69	69813	73.03	1465766	1533.36

		Week ending				Total since January 2021	
		07-Aug		31-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
South Eastern Sydney	Bayside	14665	82.20	13670	76.63	199349	1117.45
	Georges River	20015	125.51	16617	104.20	182781	1146.17
	Randwick	10196	65.51	10586	68.01	265532	1705.97
	Sutherland Shire	16039	69.55	15625	67.75	302014	1309.63
	Sydney[1]	17807	72.29	18551	75.31	393367	1596.83
	Waverley	4913	66.13	5141	69.20	155547	2093.64
	Woollahra	3644	61.36	3794	63.89	124431	2095.26
	LHD Total[2]	74768	77.96	71389	74.43	1369837	1428.25
South Western Sydney	Camden	14601	143.94	14708	145.00	170723	1683.04
	Campbelltown	29542	172.82	22561	131.98	234915	1374.23
	Canterbury-Bankstown[1]	104153	275.60	89658	237.24	573764	1518.23
	Fairfield	52174	246.46	57320	270.77	353763	1671.10
	Liverpool	43174	189.70	42089	184.94	336960	1480.59
	Wingecarribee	2425	47.42	2742	53.62	58225	1138.67
	Wollondilly	4168	78.42	4613	86.79	47277	889.52
	LHD Total[2]	198117	190.77	184388	177.55	1478338	1423.49
Southern NSW	Bega Valley	514	14.91	463	13.43	19316	560.27
	Eurobodalla	737	19.16	619	16.09	27633	718.24
	Goulburn Mulwaree	879	28.23	1031	33.12	23264	747.27
	Queanbeyan-Palerang Regional	1035	16.94	981	16.06	29413	481.39
	Snowy Monaro Regional	442	21.26	398	19.14	13021	626.16
	Upper Lachlan Shire	194	24.07	193	23.95	5000	620.42
	Yass Valley	272	15.92	224	13.11	7170	419.62
	LHD Total[2]	4077	18.78	3915	18.04	124890	575.34
Sydney	Burwood	3422	84.26	2898	71.36	37790	930.51
	Canada Bay	7293	75.91	5837	60.76	128661	1339.19
	Canterbury-Bankstown[1]	104153	275.60	89658	237.24	573764	1518.23
	Inner West	14680	73.10	14530	72.36	292226	1455.23
	Strathfield	7891	168.16	6666	142.05	71143	1516.07
	LHD Total[2]	17807	72.29	18551	75.31	393367	1596.83
	LHD Total[2]	95884	137.61	90334	129.65	1070555	1536.45
Western NSW	Bathurst Regional	1226	28.11	1384	31.73	37589	861.78
	Blayney	181	24.53	243	32.93	6944	941.05
	Bogan	37	14.34	25	9.69	1383	536.05
	Bourke	40	15.44	36	13.90	1186	457.92
	Brewarrina	16	9.93	10	6.21	525	325.88
	Cabonne	331	24.28	431	31.61	7681	563.37
	Cobar	59	12.67	34	7.30	1968	422.50
	Coonamble	92	23.24	67	16.93	1733	437.85
	Cowra	209	16.40	262	20.56	6975	547.36
	Dubbo Regional	1618	30.12	1200	22.34	37915	705.80
	Forbes	178	17.97	169	17.06	4907	495.36
	Gilgandra	74	17.46	50	11.80	1793	422.98
	Lachlan[1]	68	11.19	83	13.66	1893	311.60
	Mid-Western Regional	1358	53.78	553	21.90	17439	690.63

		Week ending				Total since January 2021	
		07-Aug		31-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
	Narromine	172	26.39	125	19.18	3454	530.00
	Oberon	136	25.13	139	25.69	3147	581.59
	Orange	1345	31.68	2611	61.51	49320	1161.81
	Parkes	284	19.14	287	19.34	8411	566.89
	Walgett	104	17.47	80	13.44	2639	443.31
	Warren	132	48.94	61	22.62	2471	916.20
	Warrumbungle Shire	231	24.90	151	16.28	5028	541.93
	Weddin	67	18.54	85	23.53	1682	465.54
	LHD Total[2]	7941	27.86	8070	28.31	205584	721.32
Western Sydney	Blacktown	56448	150.75	55357	147.84	491477	1312.53
	Cumberland	56000	231.86	45891	190.01	355929	1473.70
	Parramatta[1]	26763	104.06	22428	87.20	281043	1092.71
	The Hills Shire	17744	99.70	18471	103.79	281877	1583.85
	LHD Total[2]	156210	148.29	141547	134.37	1373571	1303.90
NSW Total[3]		770553	95.25	709819	87.74	5958867	736.59

Source - Notifiable condition information management System, accessed as at 8pm10 Aug 2021

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

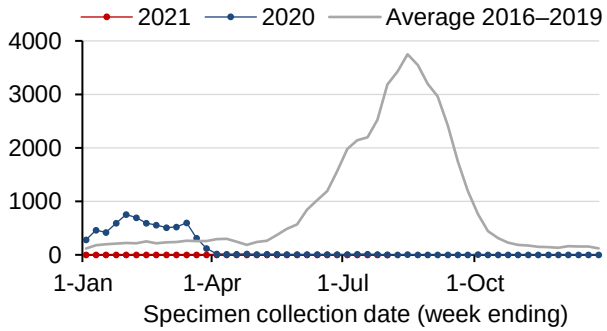
2 Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.

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.

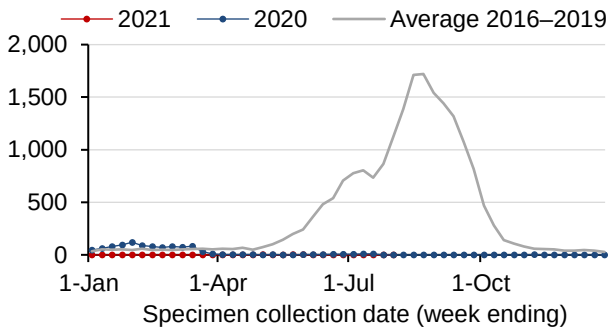
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 08 August 2021

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.

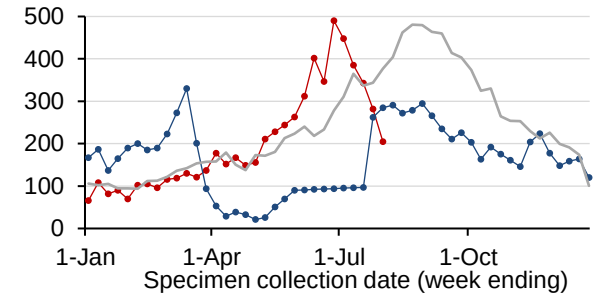
Influenza A



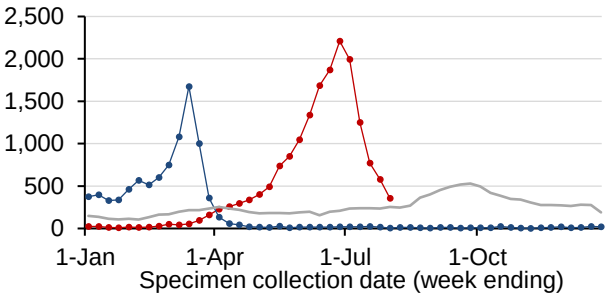
Influenza B



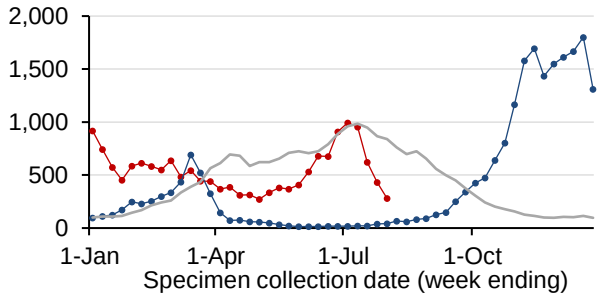
Adenovirus



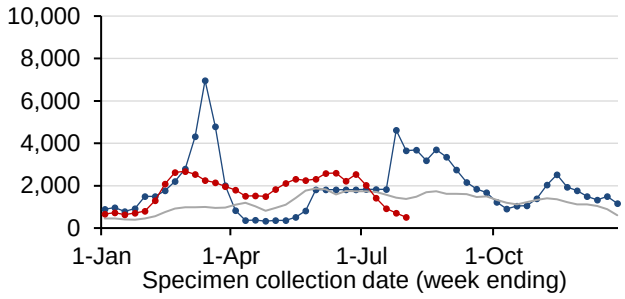
Parainfluenza



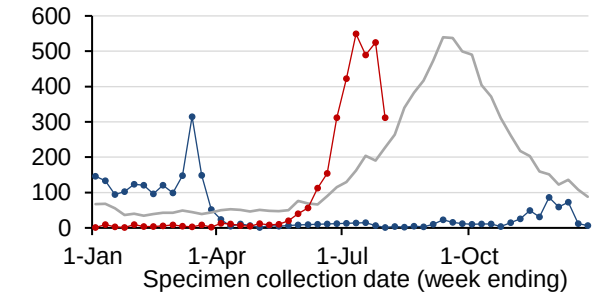
Respiratory syncytial virus (RSV)



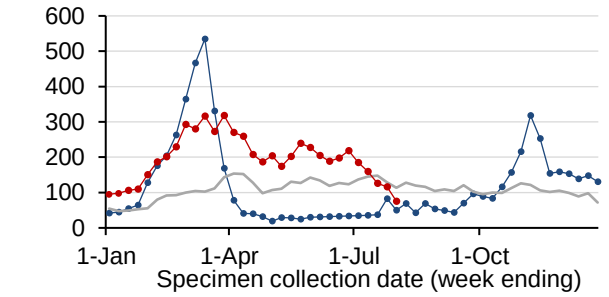
Rhinovirus



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 7 Aug 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		5-Jun	12-Jun	19-Jun	26-Jun	3-Jul	10-Jul	17-Jul	24-Jul	31-Jul	7-Aug
Pop.	Location	22	23	24	25	26	27	28	29	30	31
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		5-June	12-June	19-June	26-June	3-July	10-July	17-July	24-July	31-July	7-Aug
Network	Location	22	23	24	25	26	27	28	29	30	31
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		5-June	12-June	19-June	26-June	3-July	10-July	17-July	24-July	31-July	7-Aug
Pop.	Location	22	23	24	25	26	27	28	29	30	31
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	Cullburra Beach										
139,500	Gosford-Kincumber										
59,60	Charmhaven										
29,300	Wyong-Toukley										
15,800	Gwandalan-Mannering										
	Mannering Park										
40,500	Wyong South										
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	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										
5,600	Moama										
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										
2,300	Gundagai										
2,800	Hay										
5,000	Narrandera										

Regional Sites (con't)		5-June	12-June	19-June	26-June	3-July	10-July	17-July	24-July	31-July	7-Aug
Pop.	Location	22	23	24	25	26	27	28	29	30	31
2,050	Griffith										
2,050	Bourke										
2,500	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,603	Bathurst										
3,700	Blayney										
1,700	Molong										
8,000	Forbes										
2,500	Coonabarabran										
1,100	Balranald										
19,000	Broken Hill										
500	Dareton										
1,100	Buronga										
1,200	Wentworth										
11,600	Parkes										
37,000	Dubbo										
24,000	Armidale										
45,000	Tamworth										
11,000	Muswellbrook										
7,400	Narrabri										
3,300	Tenterfield										
750	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)		5-June	12-June	19-June	26-June	3-July	10-July	17-July	24-July	31-July	7-Aug
Pop.	Location	22	23	24	25	26	27	28	29	30	31
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										
14,000	Woolgoolga										
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.