

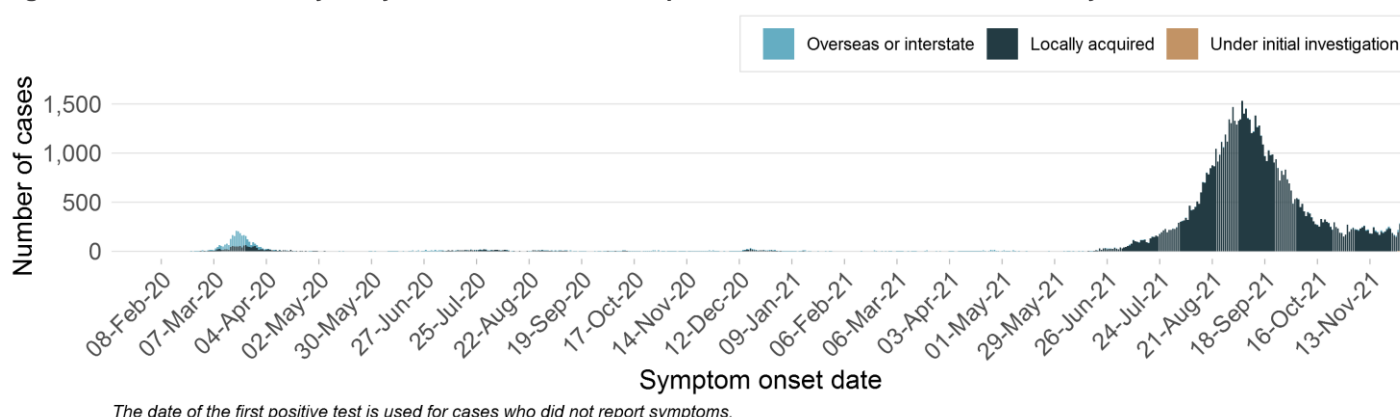
COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 48 ENDING 4 DECEMBER 2021

Published 15 December 2021

Summary for the week 28 November to 04 December 2021 (inclusive)

Figure 1. COVID-19 cases by likely infection source and reported illness onset, NSW, 13 January 2020 to 04 December 2021



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

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 04 December 2021

	2020		2021			Total
	Jan – Jun	July – Dec	01 Jan - 15 Jun	16 Jun - 31 Oct	01 Nov - 04 Dec	
Locally acquired	1,236 (39 %)	807 (52 %)	51 (7 %)	69,494 (100 %)	7,452 (96 %)	79,040 (95 %)
Interstate acquired	67 (2 %)	23 (1 %)	0 (0 %)	31 (<1 %)	120 (2 %)	241 (<1 %)
Overseas acquired	1,892 (59 %)	714 (46 %)	641 (93 %)	240 (<1 %)	135 (2 %)	3,622 (4 %)
Under investigation	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	46 (1 %)	46 (<1 %)
Total	3,195 (100 %)	1,544 (100 %)	692 (100 %)	69,765 (100 %)	7,753 (100 %)	82,949 (100 %)
Deaths	51	5	0	522	54	632

In the week ending 04 December 2021:

- There were 1,775 total cases reported, with 1,637 locally acquired
- The first Omicron case was confirmed on 28 November 2021, with 23 total Omicron cases reported this week.
- The ten LGAs with the highest number of cases were:
 - Canterbury-Bankstown, 257 (15%) cases
 - Blacktown, 85 (5%) cases
 - Cabonne, 52 (3%) cases
 - Cumberland, 143 (8%) cases
 - Randwick, 72 (4%) cases
 - Penrith, 52 (3%) cases
 - Liverpool, 141 (8%) cases
 - Sydney, 69 (4%) cases
 - 712 (40%) cases were residents across 64 other LGAs
 - Fairfield, 129 (7%) cases
 - Wollongong, 59 (3%) cases
- There were 65 cases in overseas returned travellers (compared with 36 the previous week).
- There were 4 deaths in people diagnosed with COVID.
- Among those aged 12 and over, 56.5% of all cases, and 90.9% of the population were fully vaccinated.
- Testing rates increased compared to the previous week (up 14%).
- 233 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 86 detections. Detections from Dungog, Curl Lewis, Quirindi, Murrurundi, Merriwa, Gerroa, Woolgoolga, Bellingen, Trangie, Young, Eden, Merimbula, Barooga, Finley, and West Wyalong occurred with no known or recent cases in the catchment.

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Table 2. Measures of public health action, NSW, for the period from 21 November to 04 December 2021

	Week ending 04 Dec	Week ending 27 Nov
Proportion total cases notified to NSW Health by the laboratory within 1 day of specimen collection	90% (1,590/1,775)	89% (1,370/1,543)
Total cases contacted by text message within 1 day of notification to NSW Health	98% (1,733/1,775)	98% (1,518/1,543)
Number of high-risk cases fully interviewed by public health staff within 1 day of responding to the NSW Health text message	95% (658/693)	95% (564/595)
Total cases fully interviewed by public health staff within 1 day of notification to NSW Health	98% (1,732/1,775)	97% (1,500/1,543)

Section 1: Omicron variant in NSW

- On 26 November 2021, the World Health Organization designated a new variant, Omicron (B.1.1.529), as a variant of concern.
- The first notification of the Omicron variant in NSW occurred on 28 November 2021. By 4 December 2021, 23 cases were reported in NSW.
- On 3 December 2021, three students at a school in western Sydney were notified as having the Omicron variant. These students did not report any links to recently returned international travellers.
- Further investigations led to the diagnosis of COVID-19 in the likely source case, a traveller who likely acquired the infection in Africa and transmitted the infection to a household member who attended an event with students from the school.
- All locally acquired cases notified as having the Omicron variant to 04 December 2021 are linked to this cluster.

Table 3. Demographics of confirmed Omicron infections by gender, age, vaccination status and source of infection, NSW, 26 November to 04 December, 2021

	Week ending		26 Nov to 04 Dec 2021
	04 Dec 2021	27 Nov 2021	
Gender			
Female	12 (52.2%)	–	12 (52.2%)
Male	11 (47.8%)	–	11 (47.8%)
Age group		–	
0-9	2 (8.7%)		2 (8.7%)
10-19	9 (39.1%)	–	9 (39.1%)
20-29	1 (4.3%)	–	1 (4.3%)
30-39	2 (8.7%)	–	2 (8.7%)
40-49	5 (21.7%)	–	5 (21.7%)
50-59	3 (13.0%)	–	3 (13.0%)
60-69	1 (4.3%)	–	1 (4.3%)
70-79	0	–	0
80-89	0	–	0
Vaccination status			
Fully vaccinated	14 (60.9%)	–	14 (60.9%)
Partially vaccinated	4 (17.4%)	–	4 (17.4%)
No effective dose	3 (13.0%)	–	3 (13.0%)
Under investigation*	0	–	0
Not eligible (aged 0-11 years)	2 (8.7%)	–	2 (8.7%)
Source of infection			
Overseas acquired	8 (34.8%)	–	8 (34.8%)
Locally acquired	15 (65.2%)	–	15 (65.2%)
Clinical Severity		–	
Hospitalised	0	–	0
ICU	0	–	0
Deaths	0	–	0
Total	23 (100%)	–	23 (100%)

* Vaccination status is updated regularly using both the Australian Immunisation Register and the patient's interview.

Section 2: Cases from 16 June 2021 to 04 December 2021

Figure 2. Source of infection, NSW from 16 June to 04 December 2021

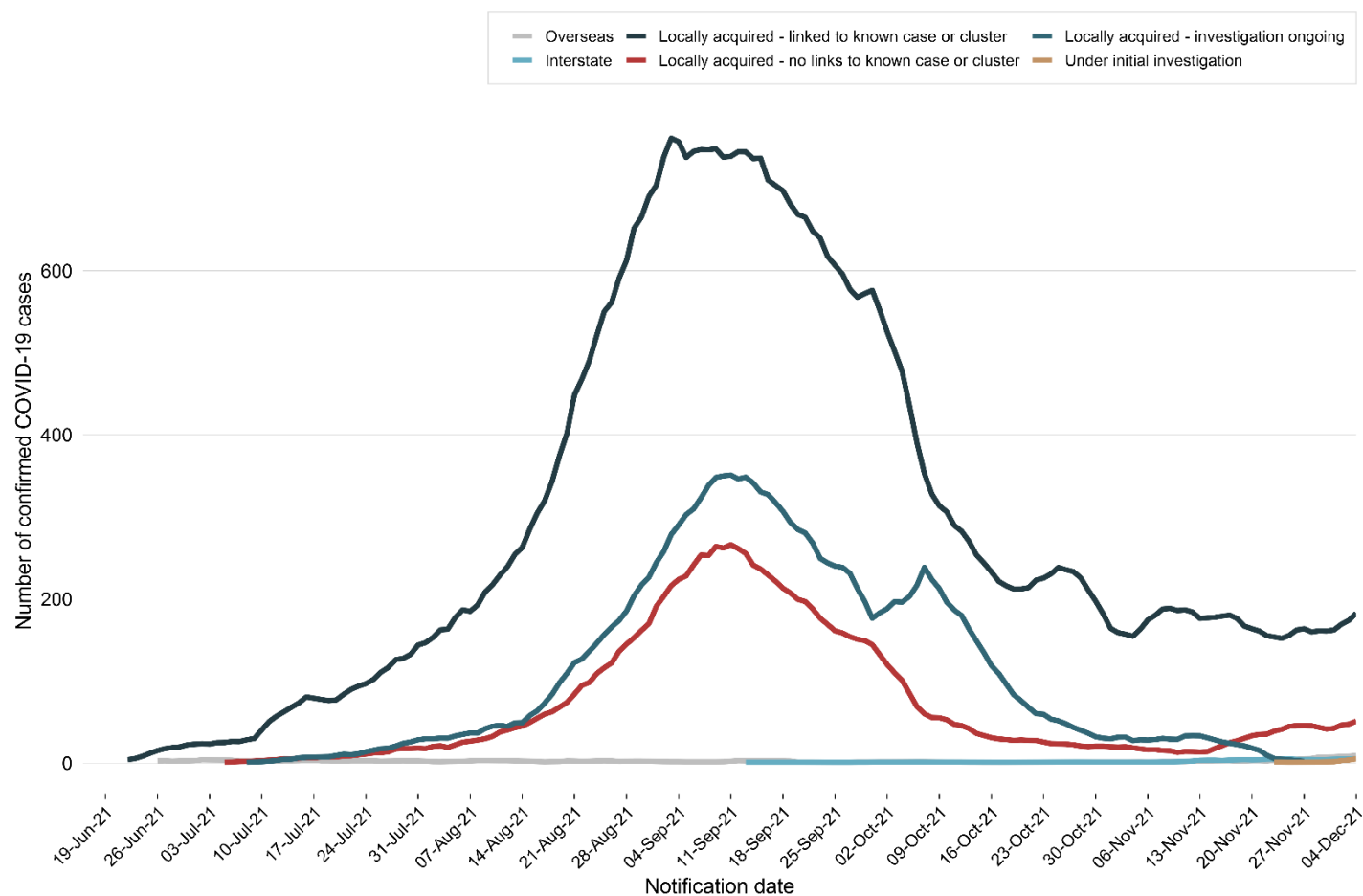


Table 4. COVID-19 cases and tests reported, NSW, from 16 June 2021 to 04 December 2021

	Week ending 04 Dec	Week ending 27 Nov	% change	16 Jun to 31 Oct 2021	Since 1 Nov 2021
Number of cases	1,775	1,543	15 %	69,765	7,753
Locally acquired	1,637	1,472	11 %	69,494	7,452
Known epidemiological links to other cases or clusters	1,279	1,146	12 %	43,540	5,917
No epidemiological links to other cases or clusters	358	326	10 %	25,954	1,535
Overseas acquired	65	36	81 %	240	135
Interstate acquired	38	30	27 %	31	120
Number of tests	507,080	445,535	14 %	13,978,818	2,377,309

Note: The case numbers reported for previous weeks is based on the most up to date information from public health investigations. Source of acquisition is subject to change as data are cleaned and updated.

- The number of reported cases acquired in NSW and interstate increased modestly, and overseas acquired cases nearly doubled in the last week.
- Most recent cases have been linked to a known case or cluster
- Unlinked cases are the minority for locally acquired cases, suggesting that contact tracing efforts are effectively identifying the source of infection for the majority of cases.

Section 3: Age and sex breakdown of cases

Figure 3. Seven day backward rolling average of COVID-19 cases rate per 100,000 population by age and notification date, NSW, from 16 June 2021 to 04 December 2021

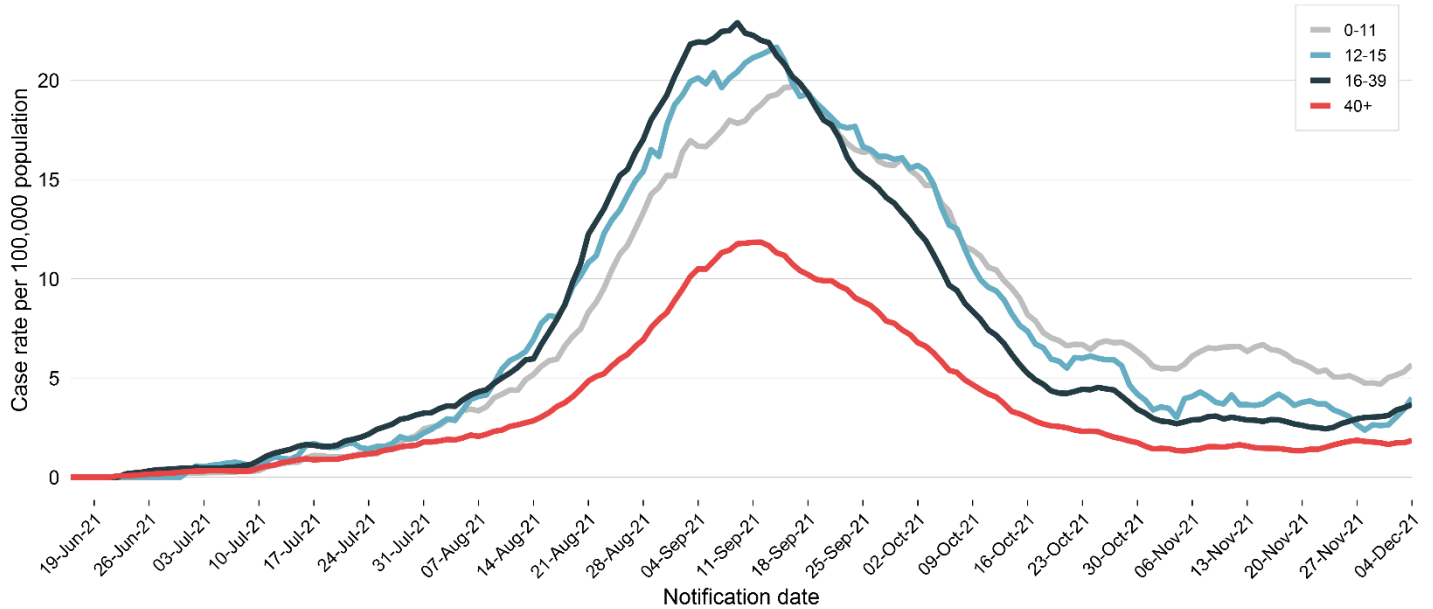
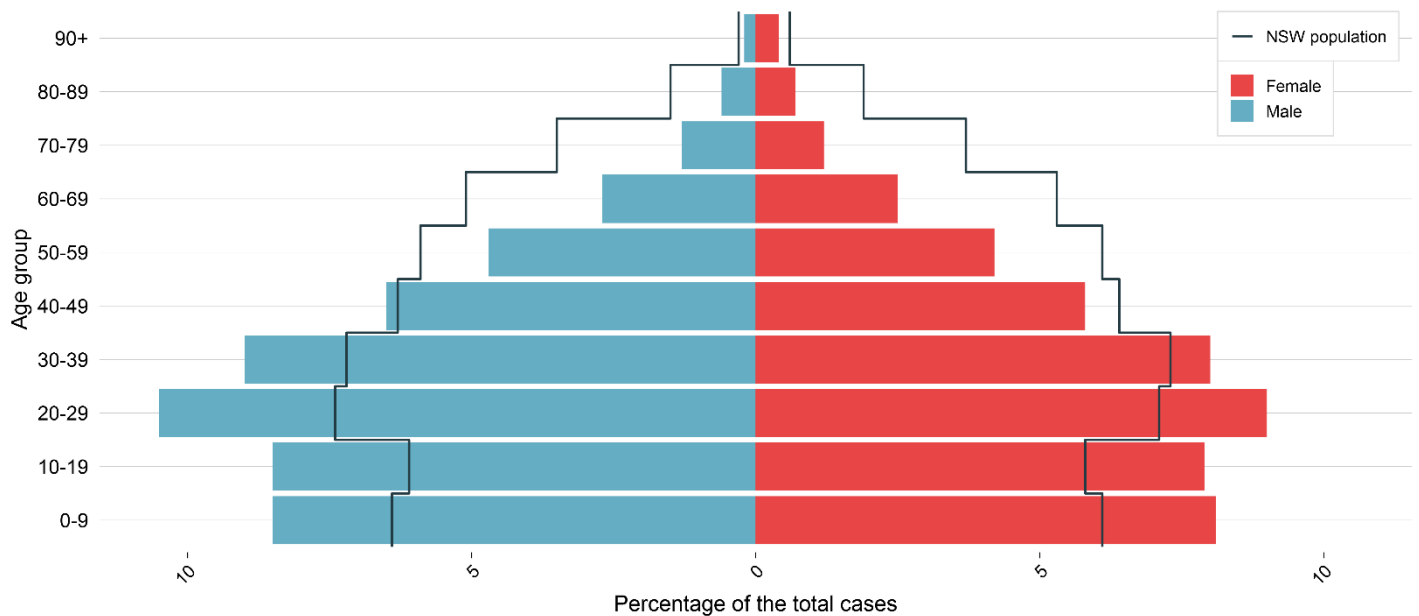


Figure 4. Current wave total case percentage (n = 77,474) by age and gender, NSW, from 16 June to 04 December 2021



Note that the figure does not include cases for whom gender is not specified or non-binary.

- Case rates peaked in September
- The peak was slightly later for children aged 12-15 and 0-11 years
- Case rates have since decreased, and were flat through mid-October and November, and have increased this week.
- Cases since 16 June 2021 have been younger (median age = 28 years, interquartile range (IQR) = 15-44 years) than cases before this date (median age = 37 years, IQR = 25-55 years).
- Most cases were aged 20-29 years, with all age groups under 40 over-represented among the cases, relative to their proportion in the NSW population.
- The over-representation of younger age group and under-representation among older groups may be due to increased social mixing amongst younger groups and higher vaccination rates in older groups.

Section 4: Cases in hospital each day with COVID-19

Figure 5a. Estimated active cases (number of cases notified last 14 days), number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 04 December 2021

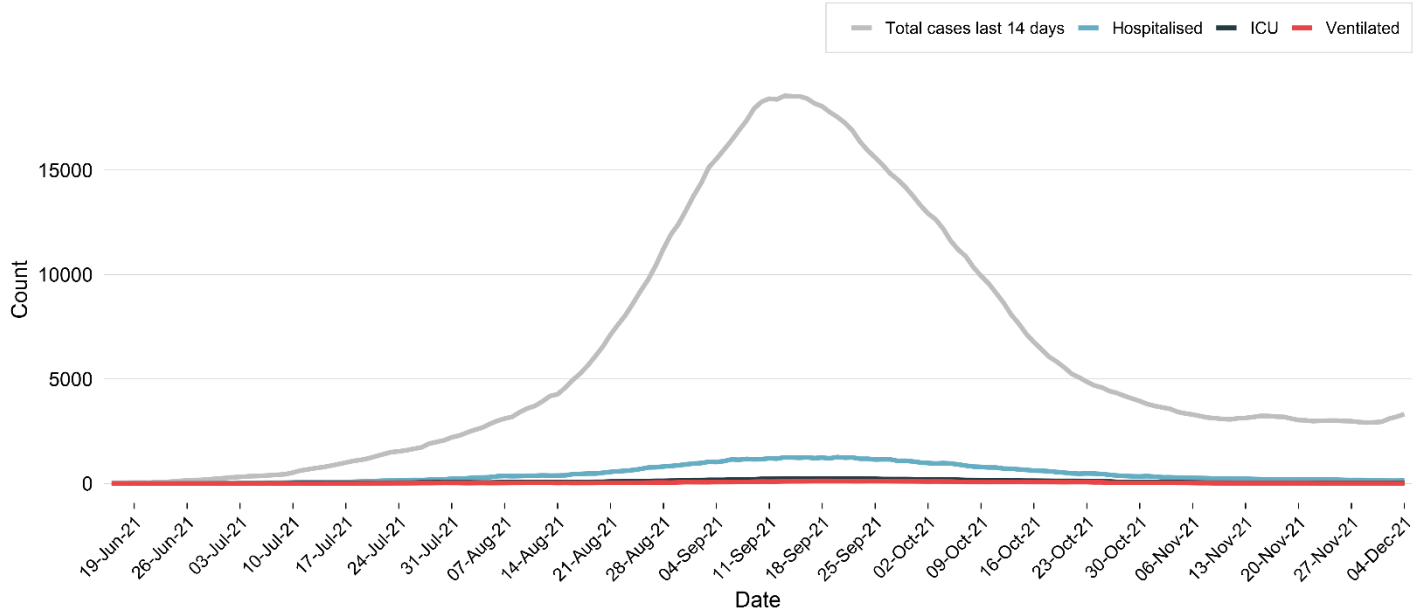
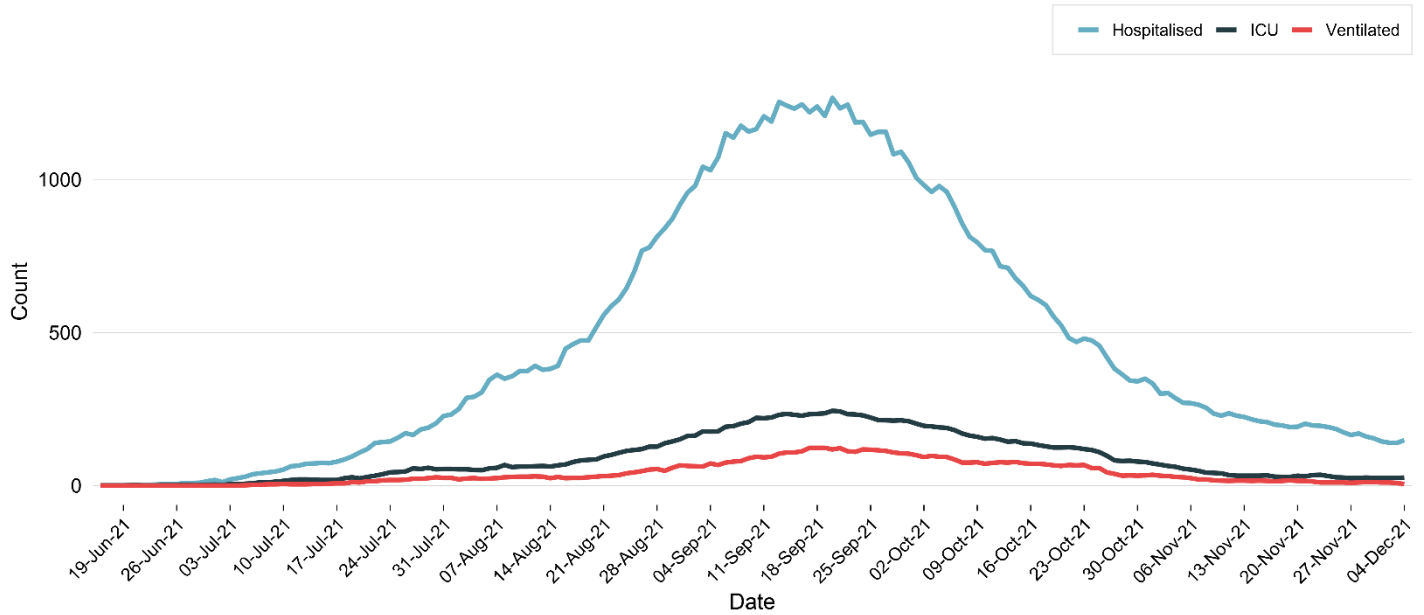


Figure 5b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 04 December 2021



- The graph shows the number of active cases and the number hospitalised, in ICU and ventilated
- The median delay between a person becoming ill with COVID-19 and requiring a hospitalisation is 6 days
- Throughout November, case rates have flattened, but hospitalisations have continued to decline, likely reflective of high vaccination coverage in the community being protective against hospitalisation
- A small increase in both case rates and hospitalisations was observed the week ending 04 December

Section 5: Clinical severity by vaccination status

Figure 6. COVID-19 cases by outcome, notification date and vaccination status with 7 day backward rolling average, NSW, from 16 June to 20 November 2021

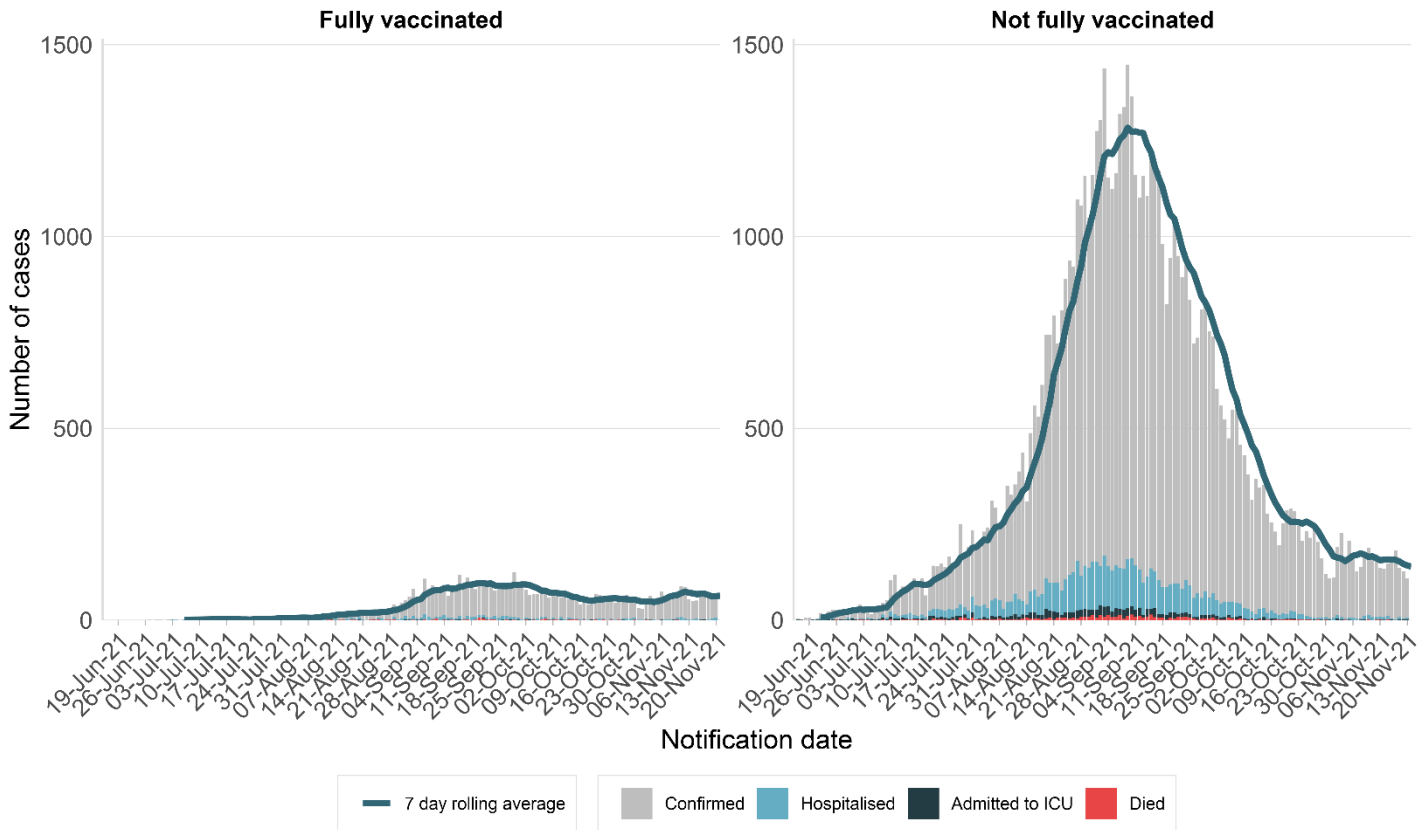


Table 5. Hospitalisations, ICU admissions and deaths among cases diagnosed with COVID-19, by vaccination status, NSW, from 16 June to 04 December 2021

Vaccination status	Total cases (%)	Hospitalised (%)	Hospitalised and in ICU (%)	Death (%)
Fully Vaccinated	7,724 (10.0%)	586 (7.4%)	66 (4.4%)	84 (14.6%)
Partially vaccinated	6,854 (8.8%)	592 (7.5%)	96 (6.4%)	74 (12.8%)
No effective dose	37,640 (48.6%)	5,064 (63.8%)	1,066 (71.5%)	410 (71.2%)
Under investigation	9,762 (12.6%)	1,361 (17.1%)	251 (16.8%)	8 (1.4%)
Not eligible for vaccination (aged 0-11 years)	15,538 (20.0%)	338 (4.3%)	12 (0.8%)	0 (0.0%)
Total	77,518 (100.0%)	7,841¹ (100.0%)	1,491 (100.0%)	576 (100.0%)

- Dates are based on the date of the case's notification rather than the date they were hospitalised, admitted to ICU, or died.
- Figure data is provided to 20 November, allowing sufficient time to capture the development of severe illness or death among the most recently notified cases
- The proportion of cases who are fully vaccinated has increased over time, as the proportion of the general population who are fully vaccinated has increased over the same period.
- In the past week, 731 (41.2%) of all cases were fully vaccinated
- This represents 56.5% of the 1,293 cases who were eligible for vaccination (aged 12 years and over). In comparison, 90.9% of the NSW population aged 12 and over were fully vaccinated (had completed their recommended vaccine schedule by 20 November)
- Since 16 June 2021, cases aged 12 years and over with no effective dose account for 48.6% of all cases, and as much as 63.8% of hospitalisations, 71.5% of ICU admissions, and 71.2% of deaths.
- COVID-19 is relatively mild in most young children: children aged 0-11 years who are ineligible for vaccination account for 20.0% of cases, but only 4.3% of hospitalisations, 0.8% of ICU admissions, and no deaths.

¹ The weekly report relies on public health surveillance data which is continually cleaned and updated during an investigation. The number of cases hospitalised has reduced in recent weeks due to removing cases who were hospitalised but unlikely to have been hospitalised because of experiencing illness due to COVID (for example emergency department presentations without admission). These types of data cleaning activities have occurred throughout the pandemic and the differences are most noticeable when case numbers are declining or stable.

Section 6: Deaths following recent infection with COVID-19

Table 6. Deaths following recent infection with COVID-19, by age group, from January 2020 to 04 December 2021

Age-group (years)	Since 16 Jun 2021			Jan 2020 – 15 Jun 2021	
	Number of deaths	Case fatality rate	Fatality rate per 100,000 population ²	Number of deaths	Case fatality rate ²
0-9	0	0%	0.0	0	0%
10-19	1	<1%	0.1	0	0%
20-29	6	<1%	0.5	0	0%
30-39	15	<1%	1.3	0	0%
40-49	27	<1%	2.6	0	0%
50-59	66	1%	6.8	1	<1%
60-69	103	3%	12.3	4	1%
70-79	132	7%	22.7	15	4%
80-89	164	17%	59.8	20	16%
90+	62	25%	89.4	16	38%
Total	576	1%	7.1	56	1%

Table 7. Deaths following recent infection with COVID-19, by age group and location, from 16 June to 04 December 2021

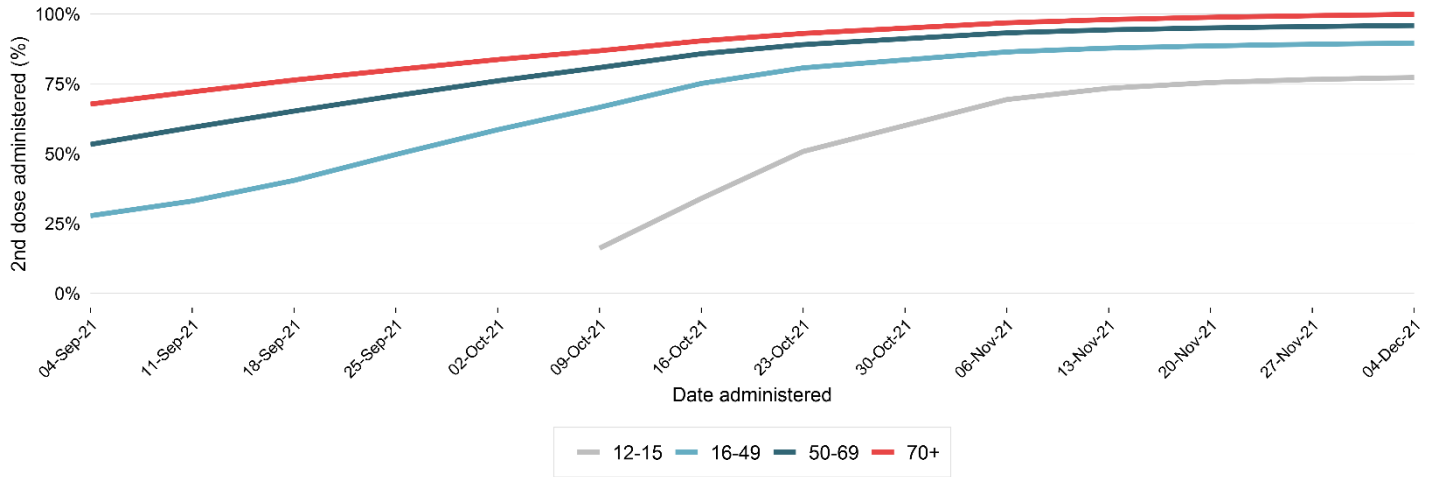
Age-group (years)	Health care facility	Aged care facility	Home
0-9	0	0	0
10-19	1	0	0
20-29	4	0	2
30-39	11	0	4
40-49	21	0	6
50-59	57	0	9
60-69	91	1	11
70-79	123	6	3
80-89	147	10	7
90+	46	16	0
Total	501	33	42

- Since the start of the pandemic, 0.8% of cases (632 people) have died
- This includes 98 residents of aged care facilities
- 2% (14/632) of the deaths were overseas acquired
- 71% of the deaths since 16 June 2021 have not received an effective vaccine dose (see Table 5)
- The median delay between a person becoming ill and death is 11 days
- In the week ending 04 December, there were 4 deaths in people diagnosed with COVID-19, including
 - 1 person who was fully vaccinated (in their 60s), and
 - 3 people who were partially vaccinated (two in their 50s, and one in their 60s)
- The majority of deaths since 16 June 2021 have occurred in hospital (501/576, 87%)
- Among deaths occurring at home, the majority (26/42, 62%) were diagnosed after death

² There is often a delay between a person becoming ill with COVID-19 and subsequently requiring a hospitalisation or dying. In the current outbreak the median time between onset and hospitalisation is 6 days and between onset and death is 11 days. Therefore hospitalisations and deaths are under-reported for the most recently notified cases.

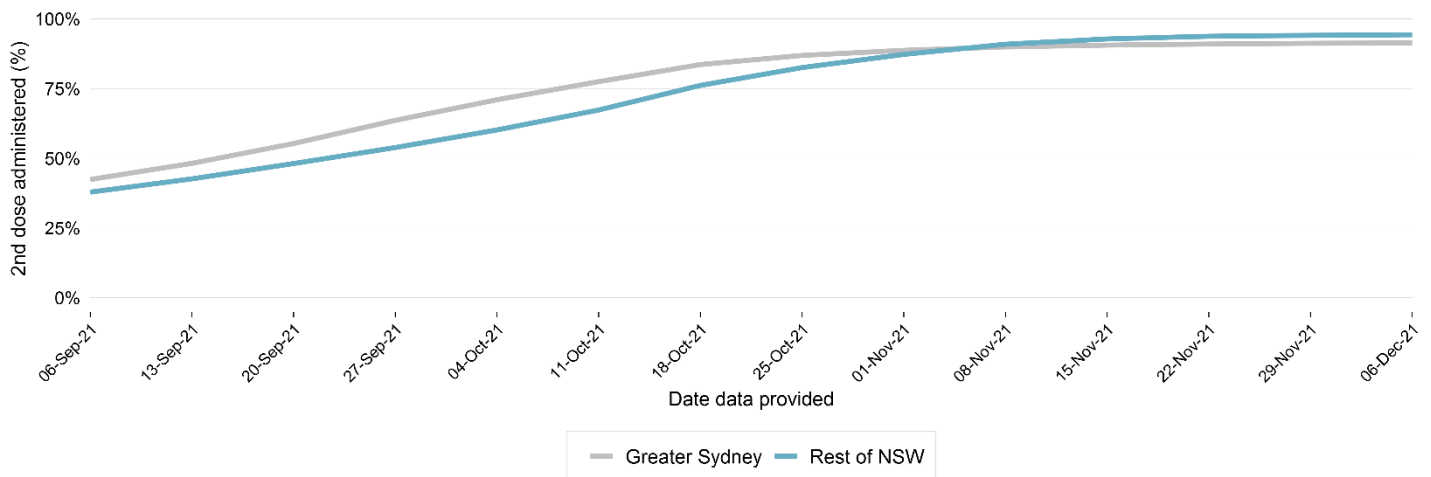
Section 7: Vaccination coverage in NSW

Figure 7. Proportion who have received two doses of COVID-19 vaccine, by age range and time, NSW, 04 September to 04 December 2021.



Sources: <https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update>

Figure 8. Proportion who have received two doses, by region and time, for those aged 15 and over, NSW, 06 September to 06 December 2021.



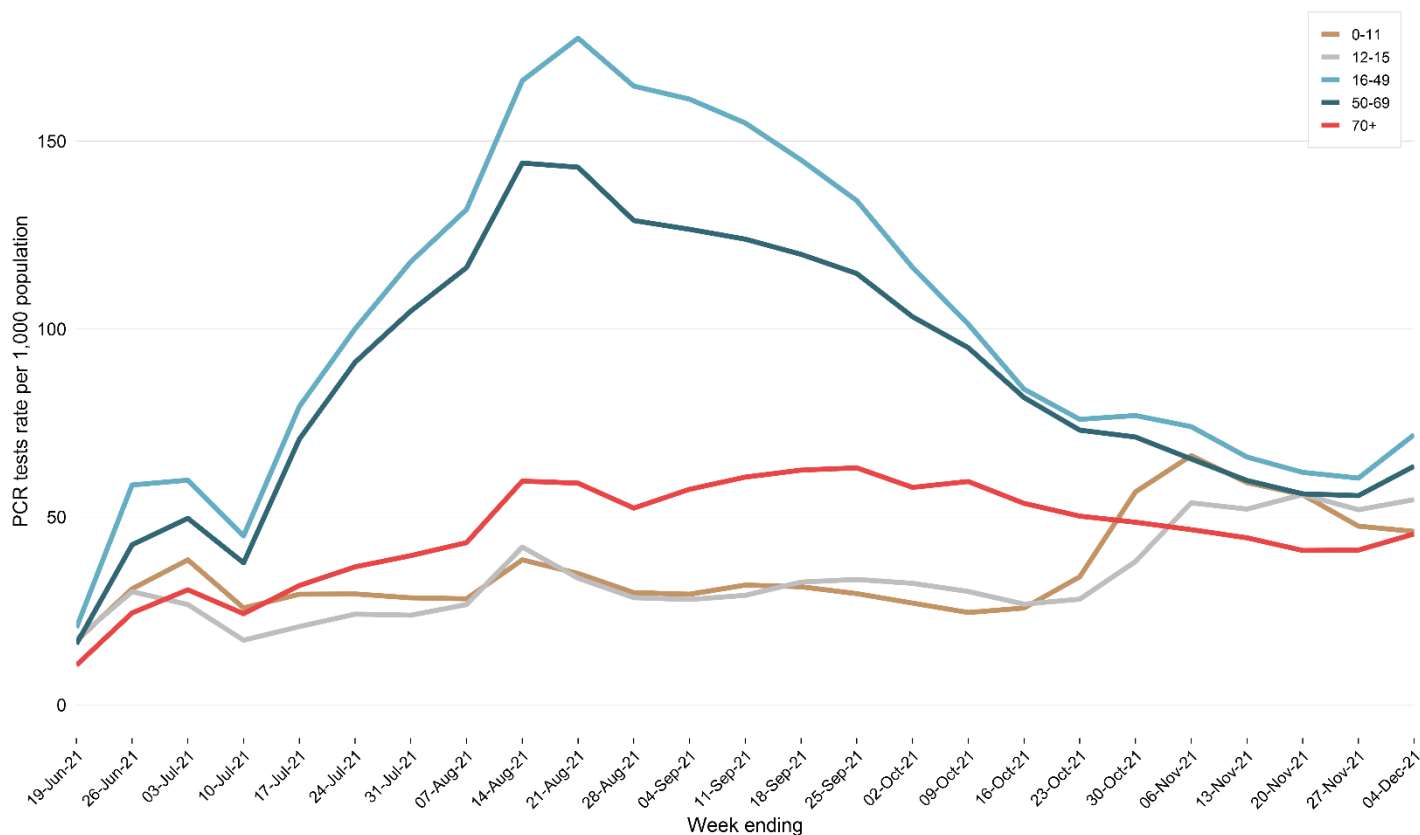
Source: <https://www.health.gov.au/resources/collections/covid-19-vaccination-geographic-vaccination-rates-sa4>

- The proportion of the NSW population who have received two vaccine doses has increased substantially in the last three months, reaching over 92% of those aged 16 and over by 04 December 2021.
- Children aged 12-15 years became eligible for vaccination from mid-September 2021, and showed strong uptake of vaccination immediately.
- The highest vaccination rates have been achieved among those aged 70+, who have been eligible for vaccination for the longest period.
- Vaccination rates in Greater Sydney were higher than those in the Rest of NSW to early November 2021, and since then have been higher outside Greater Sydney³.

³ Federal geographic vaccination data is provided publicly at the level of 28 geographic regions (Australian Bureau of Statistics Statistical Area Level 4, or SA4), designated as Greater Sydney or Rest of NSW. The total population and proportion with two vaccine doses (truncated at > 95%) is provided. Data presented in the graph are calculated as a weighted average across SA4s within each designation. Due to the truncation of the source data at 95%, the maximum vaccination rate over time will also be 95%. Other geographic representations of NSW vaccination data use other sources and will not exactly correspond to this figure.

Section 8: COVID-19 testing in NSW by age group

Figure 9. Number of negative PCR tests per 1,000 population, by age group, NSW, 16 June to 04 December 2021



- Since 16 June 2021, there was a sustained increase in the number of tests performed for people aged 16 years and over, which peaked in August
- The increase was greatest among those aged 16-49 years.
- Since late October 2021, testing rates have increased among those aged 15 years and under
- In the week ending 4 December, there was an increase in testing for most age groups

Section 9: Testing and positivity rates by Local Health District

Figure 10a. Cases, testing rates per 1000 population, and percentage of tests which were positive for COVID-19, by LHD of residence, metropolitan LHDs, NSW, 16 June to 04 December 2021

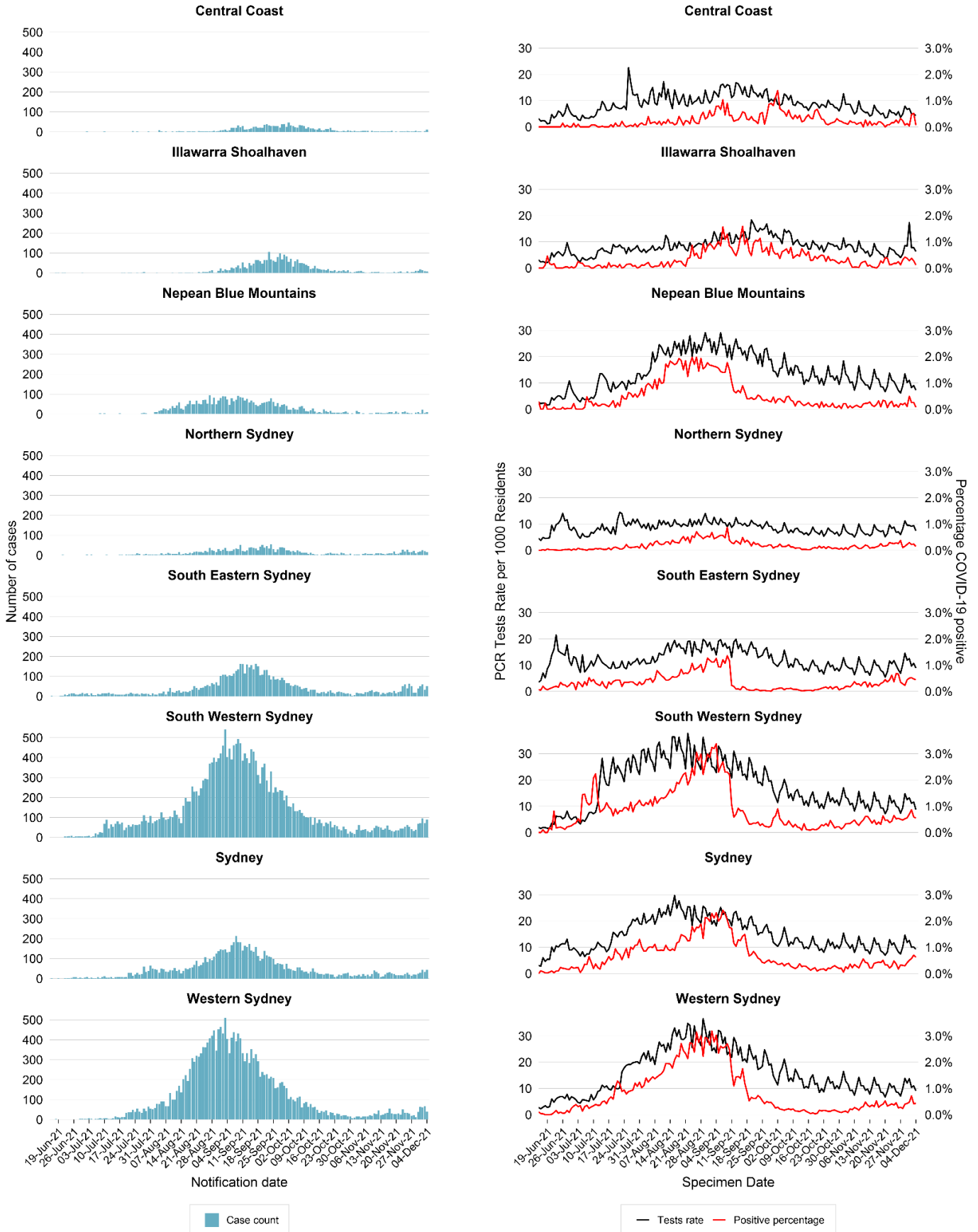
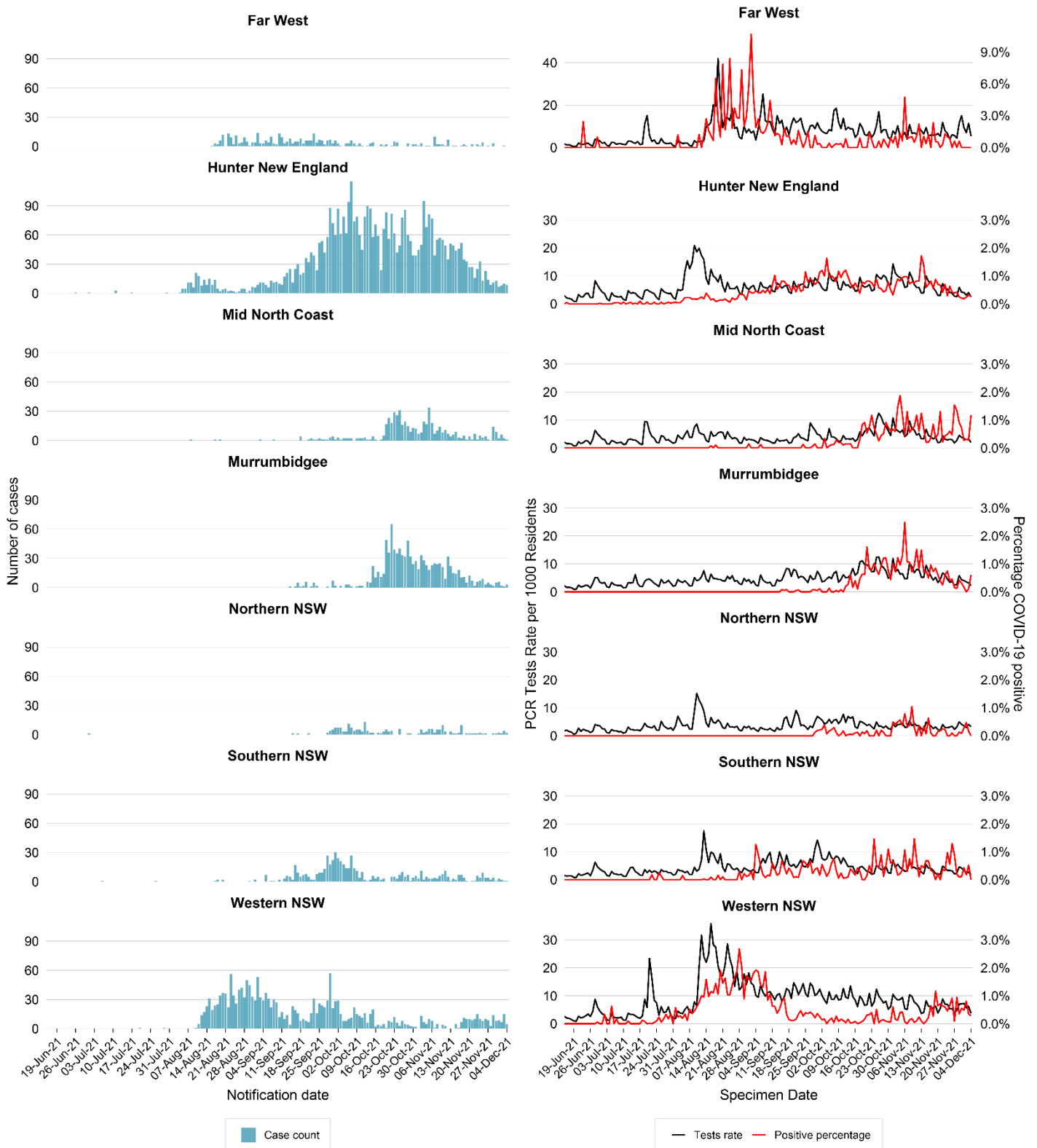


Figure 10b. Cases, testing rates per 1000 population, and percentage of tests which were positive for COVID-19, by LHD of residence, rural and regional LHDs, NSW, 16 June to 04 December 2021



- Note that the axes differ within and between figures
- Percent positivity has generally been well below 3%, reflecting high surveillance capacity and rapid case identification
- Testing rates and positivity rates appear to show larger deviations in rural compared to metropolitan LHDs because their population is small

Section 10: Case rates in Local Government Areas

Table 8a. Top 20 metropolitan LGAs of residence, ordered by total COVID-19 cases in the last 7 days, per 100,000 population rate, NSW, 16 June to 04 December 2021

LGA name	Last 7 days		16 Jun-04 Dec 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Canterbury-Bankstown	257	68	12,223	3,234
Liverpool	141	62	6,054	2,660
Fairfield	129	61	5,002	2,363
Waverley	45	61	520	700
Cumberland	143	59	9,437	3,907
Hunters Hill	8	53	105	701
Randwick	72	46	1,523	978
Woollahra	21	35	271	456
Lane Cove	12	30	138	344
Sydney	69	28	2,243	911
Wollongong	59	27	1,703	781
Bayside	46	26	1,695	950
Mosman	8	26	44	142
Burwood	10	25	355	874
Penrith	52	24	3,387	1,590
Blacktown	85	23	7,172	1,915
Kiama	5	21	42	180
Georges River	32	20	1,411	885
Parramatta	52	20	2,135	830
Campbelltown	33	19	2,886	1,688

Table 8b. Top 20 regional and rural LGAs of residence, ordered by total COVID-19 cases in the last 7 days, per 100,000 population rate, NSW, 16 June to 04 December 2021

LGA name	Last 7 days		16 Jun-04 Dec 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Cabonne	52	381	55	403
Kempsey	33	111	287	965
Moree Plains	9	68	226	1,704
Snowy Monaro Regional	7	34	103	495
Edward River	3	33	20	220
Mid-Coast	23	25	474	505
Gilgandra	1	24	11	259
Warrumbungle Shire	2	22	55	593
Albury	9	17	724	1,332
Broken Hill	3	17	149	852
Murray River	2	17	51	421
Wentworth	1	14	43	610
Byron	4	11	16	46
Wagga Wagga	7	11	80	123
Orange	4	9	127	299
Federation	1	8	54	434
Gunnedah	1	8	19	150
Newcastle	13	8	923	557
Queanbeyan-Palerang Regional	5	8	306	501
Lismore	3	7	45	103

- The top 20 metropolitan LGAs contributed 72% of all cases in the week ending 04 December
- The top 20 regional and rural LGAs contributed another 12% of cases.
- The three LGAs with the highest case rates per 100,000 population are in rural and regional areas.
- Although case numbers in most regional LGAs are relatively small, because the population is also small, the case rate is substantially higher than observed in some metropolitan LGAs.

Section 11: Aboriginal people

Figure 11. Number of confirmed COVID-19 infections among Aboriginal people by date, NSW, 16 June to 04 December 2021

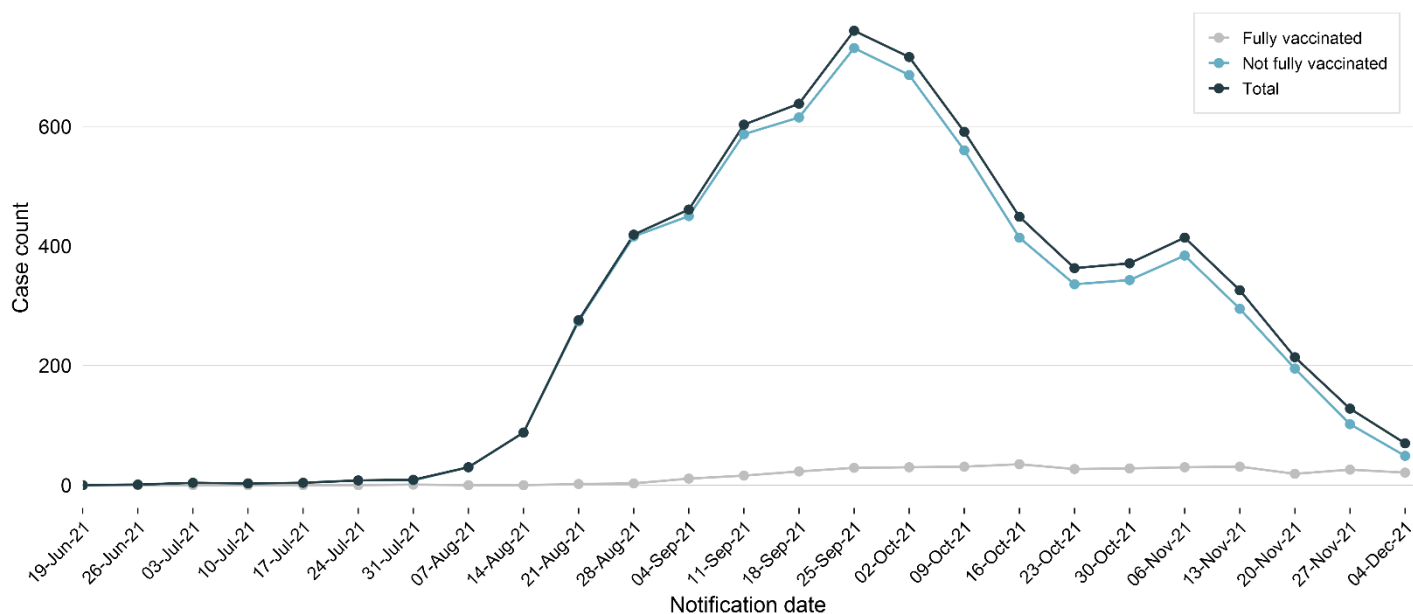


Table 9. Demographics of infections among Aboriginal people by gender, age, and vaccination status, NSW, 16 June to 04 December, 2021

	Week ending				16 Jun to 04 Dec 2021
	04 Dec 2021	27 Nov 2021	20 Nov 2021	13 Nov 2021	
Gender					
Female	40 (57.1%)	70 (54.7%)	118 (55.1%)	183 (56.1%)	3,548 (51.1%)
Male	30 (42.9%)	58 (45.3%)	96 (44.9%)	143 (43.9%)	3,397 (48.9%)
Non-specified or non-binary	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (<0.1%)
Age group					
0-9	26 (37.1%)	35 (27.3%)	77 (36.0%)	120 (36.8%)	1,834 (26.4%)
10-19	10 (14.3%)	26 (20.3%)	65 (30.4%)	80 (24.5%)	1,611 (23.2%)
20-29	16 (22.9%)	19 (14.8%)	25 (11.7%)	42 (12.9%)	1,239 (17.8%)
30-39	9 (12.9%)	18 (14.1%)	20 (9.3%)	37 (11.3%)	972 (14.0%)
40-49	3 (4.3%)	15 (11.7%)	13 (6.1%)	18 (5.5%)	649 (9.3%)
50-59	3 (4.3%)	8 (6.3%)	10 (4.7%)	17 (5.2%)	391 (5.6%)
60+	3 (4.3%)	7 (5.5%)	4 (1.9%)	12 (3.7%)	250 (3.6%)
Vaccination status					
Fully vaccinated	21 (30.0%)	26 (20.3%)	19 (8.9%)	31 (9.5%)	363 (5.2%)
Partially vaccinated	5 (7.1%)	5 (3.9%)	5 (2.3%)	24 (7.4%)	482 (6.9%)
No effective dose	12 (17.1%)	44 (34.4%)	80 (37.4%)	110 (33.7%)	3,314 (47.7%)
Under investigation*	3 (4.3%)	7 (5.5%)	6 (2.8%)	13 (4.0%)	586 (8.4%)
Not eligible for vaccination (aged 0-11 years)	29 (41.4%)	46 (35.9%)	104 (48.6%)	148 (45.4%)	2,201 (31.7%)
Total	70 (100%)	128 (100%)	214 (100%)	326 (100%)	6,946 (100%)

* Vaccination status is updated regularly using both the Australian Immunisation Register and the patient's interview.

- 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 16 June 2021 there have been 6,946 Aboriginal people diagnosed with COVID-19, representing 9.0% of all cases in that time
- This is an over-representation among Aboriginal and Torres Strait Islander people, who represent 3.4% of the NSW population, according to the Australian Bureau of Statistics.
- More than a quarter of cases of COVID-19 among Aboriginal people have been in children aged 0-9 years
- The Aboriginal population in NSW is younger than the non-Aboriginal population, and therefore a higher proportion of the Aboriginal population are too young to be eligible for vaccination.

Section 12: Correctional settings

Figure 12. Number of confirmed COVID-19 infections among people residing in correctional settings by date, NSW, 16 June to 04 December 2021

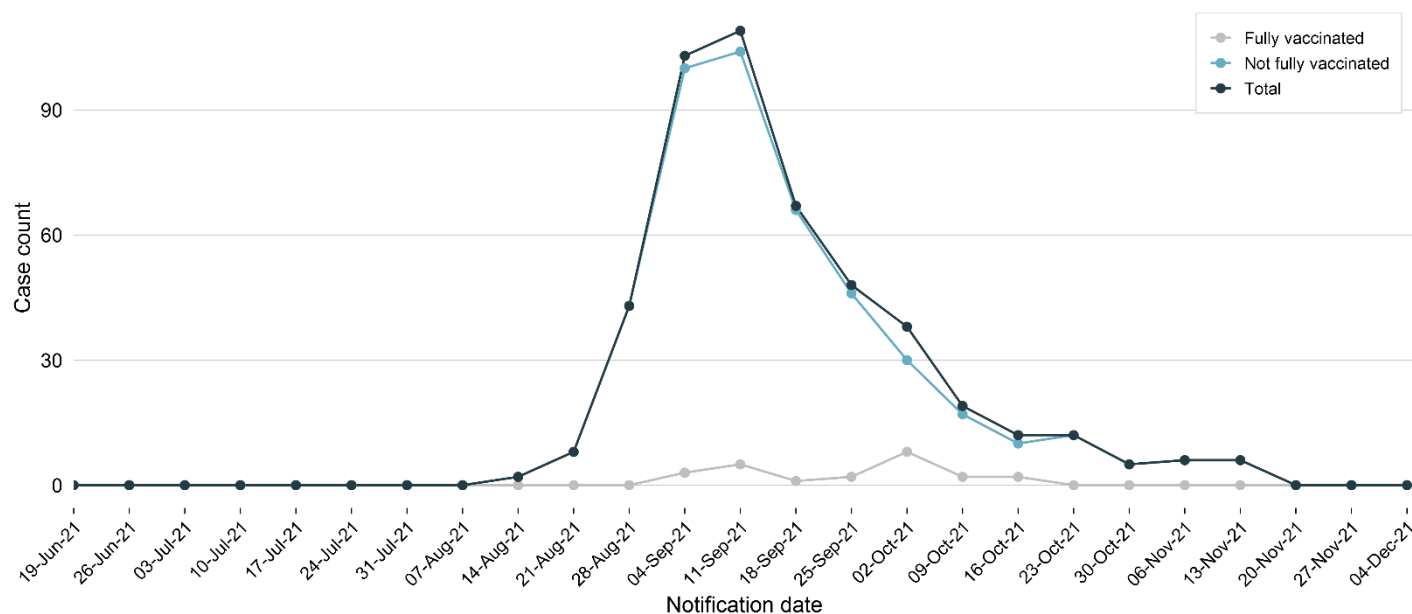


Table 10. Demographics of infections in correctional settings by gender, age, and vaccination status, NSW, 16 June to 04 December, 2021

	Week ending				16 Jun to 04 Dec 2021
	04 Dec 2021	27 Nov 2021	20 Nov 2021	13 Nov 2021	
Gender					
Female	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	27 (5.6%)
Male	1 (100%)	1 (100%)	1 (100%)	6 (100%)	454 (94.4%)
Age group					
10-19	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	28 (5.8%)
20-29	1 (100%)	0 (0.0%)	1 (100%)	3 (50.0%)	143 (29.7%)
30-39	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	169 (35.1%)
40-49	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (33.3%)	95 (19.8%)
50-59	0 (0.0%)	1 (100%)	0 (0.0%)	0 (0.0%)	35 (7.3%)
60-69	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (1.5%)
70-79	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (0.6%)
80-89	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.2%)
Vaccination status					
Fully vaccinated	0 (0.0%)	0 (0.0%)	1 (100%)	0 (0.0%)	24 (5.0%)
Partially vaccinated	1 (100%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	61 (12.7%)
No effective dose	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (66.7%)	267 (55.5%)
Under investigation*	0 (0.0%)	1 (100%)	0 (0.0%)	1 (16.7%)	129 (26.8%)
Total	1 (100%)	1 (100%)	1 (100%)	6 (100%)	481 (100%)

* Vaccination status is updated regularly using both the Australian Immunisation Register and the patient's interview.

- One case was reported in correctional settings in the last week.
- Since 16 June, there have been 481 people residing in correctional settings diagnosed with COVID-19, representing 0.6% of all cases.
- Note that cases in correctional settings may have acquired their infection prior to entry into the setting.
- Most cases of COVID-19 among people residing in correctional settings were male and aged 30-39 years, consistent with the demographics of correctional populations generally.

Section 13: Health care workers

Figure 13. Number of confirmed COVID-19 infections among healthcare workers by date, NSW, 16 June to 04 December 2021

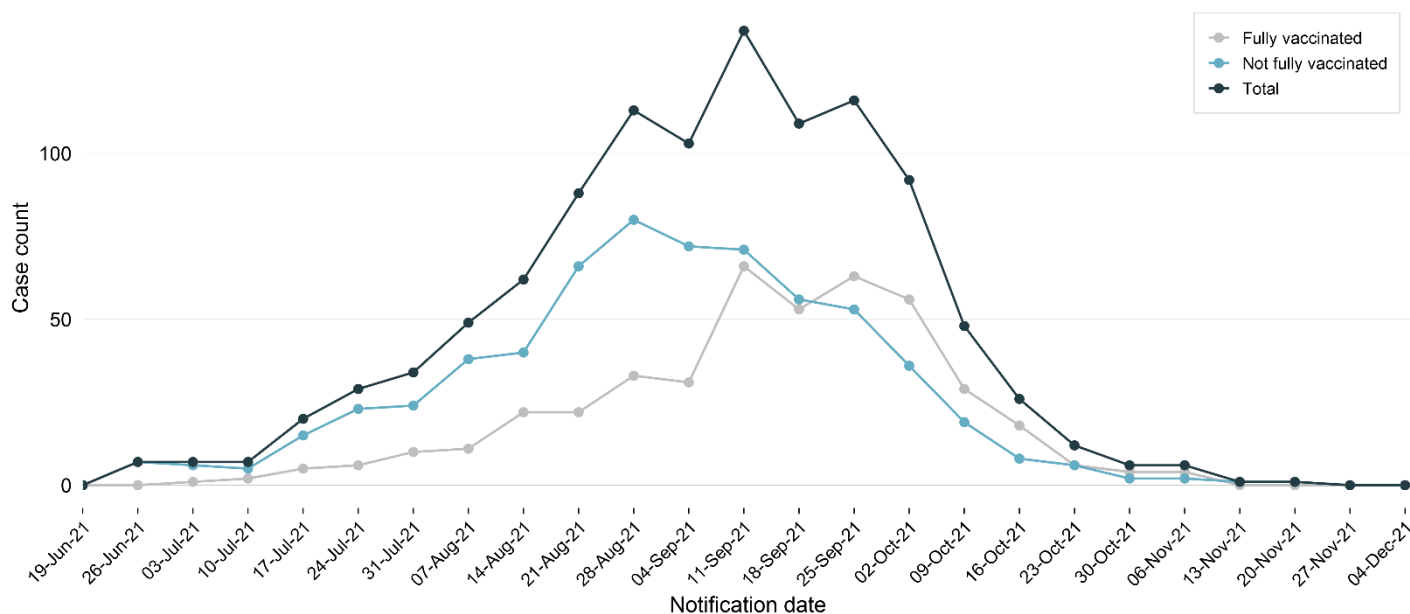


Table 11. Number of healthcare worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 04 December, 2021

Healthcare workers	Last 7 days			Current NSW outbreak (16 Jun-04 Dec 2021)		
	Number of HCWs	Fully vaccinated	Partially vaccinated	Number of HCWs	Fully vaccinated	Partially vaccinated
Healthcare acquired	0	-	-	212	86 (41%)	23 (11%)
Community acquired	0	-	-	453	182 (40%)	57 (13%)
Not currently linked	0	-	-	408	174 (43%)	43 (11%)
Total	0	-	-	1073	442 (41%)	123 (11%)

- No cases were reported in health care workers in the last week.
- Since 16 June, most healthcare workers associated with the current NSW outbreak have been infected in the community and outside of a healthcare setting.
- The majority of infected healthcare workers have been fully vaccinated.
- These indicate that efforts to stop transmission within health care facilities, including high vaccination rates among staff, have been successful.

Section 14: Aged care workers

Figure 14. Number of confirmed COVID-19 infections among aged care workers by date, NSW, 16 June to 04 December 2021

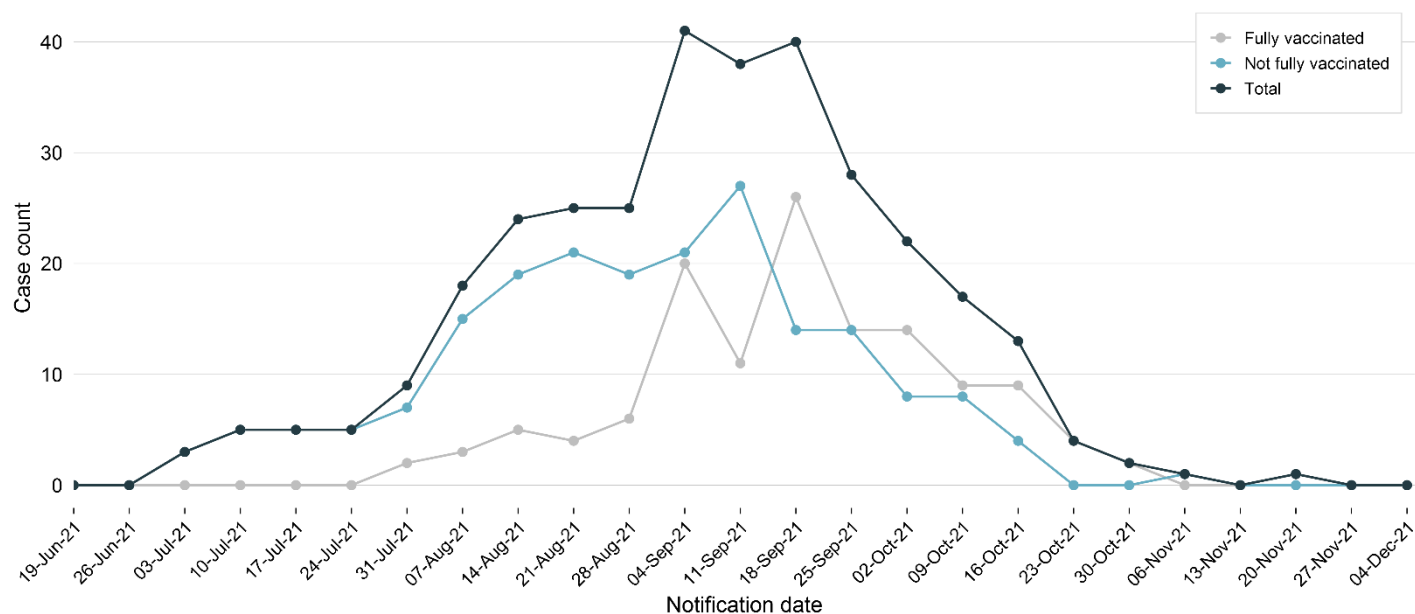


Table 12. Number of aged care worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 04 December 2021

Aged care workers	Last 7 days			Current NSW outbreak (16 Jun-04 Dec 2021)		
	Number of ACWs	Fully vaccinated	Partially Vaccinated	Number of ACWs	Fully vaccinated	Partially Vaccinated
Acquired at aged care facility	0	-	-	72	23 (32%)	18 (25%)
Community acquired	0	-	-	148	67 (45%)	27 (18%)
Not currently linked	0	-	-	106	40 (38%)	23 (22%)
Total	0	-	-	326	130 (40%)	68 (21%)

- No cases were reported in aged care workers in the last week.
- Since 16 June, most aged care workers associated with the current NSW outbreak have been infected in the community and outside of an aged care setting.
- The majority of infected aged care workers have been fully vaccinated.
- These indicate that efforts to stop transmission within aged care facilities, including high vaccination rates among staff, have been successful.

Section 15: Variants of Concern (VoC)

Table 13. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 04 December 2021

Variant	Week ending				29 Nov 2020 to 6 Nov 2021	Total since 29 Nov 2020
	04 Dec*	27 Nov*	20 Nov	13 Nov		
Total variants identified	22	479	413	733	14,684	16,331
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
Delta (B.1.617.2)	9	479	413	733	14,677	16,311
Omicron (B.1.1.529)	15	-	-	-	-	15

***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent weeks may not be available at the time of reporting. The Kappa variant has been removed as it is not considered a variant of concern.

Table 14. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 04 December 2021

Variant	Week ending				29 Nov 2020 to 6 Nov 2021	Total since 29 Nov 2020
	04 Dec*	27 Nov*	20 Nov	13 Nov		
Total variants identified	10	19	10	12	407	458
Alpha (B.1.1.7)	0	0	0	0	194	194
Beta (B.1.351)	0	0	0	0	33	33
Gamma (P.1)	0	0	0	0	6	6
Delta (B.1.617.2)	2	18	10	12	174	216
Omicron (B.1.1.529)	8	-	-	-	-	8

***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent weeks may not be available at the time of reporting. The kappa variant has been removed as it is not considered a variant of concern.

Section 16: Other respiratory infections in NSW

Figure 15. Proportion of tests positive for influenza, NSW, 1 January 2016 to 28 November 2021

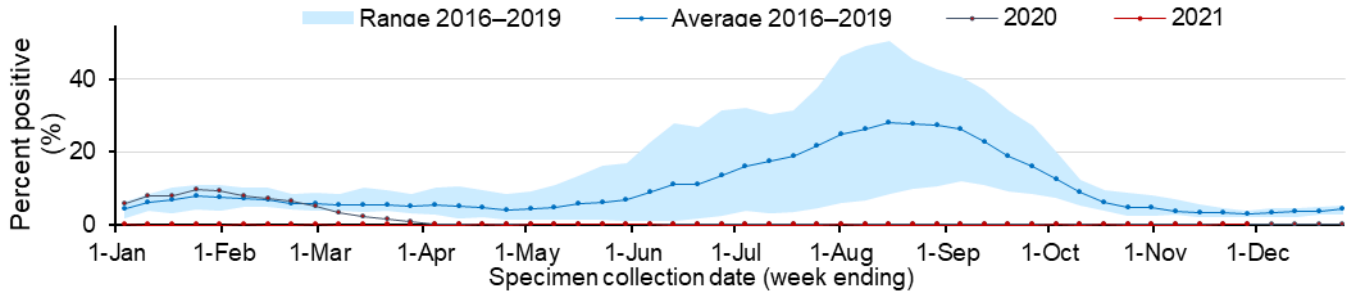


Figure 16. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 28 November 2021

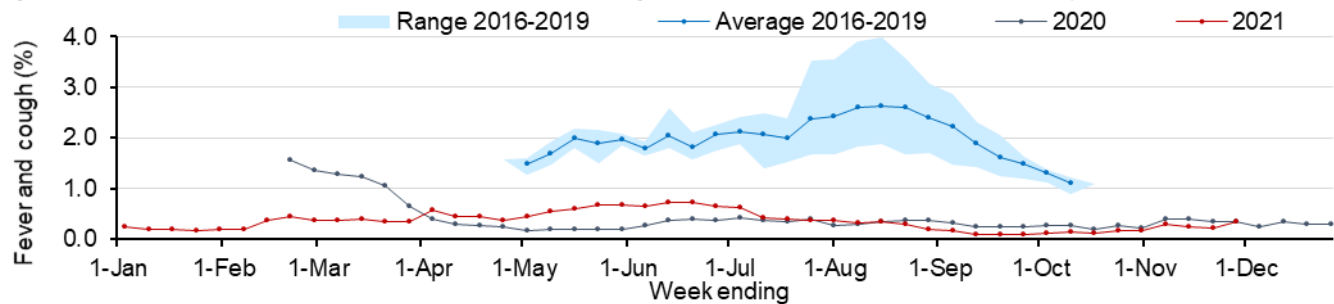


Figure 17. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 05 December 2021

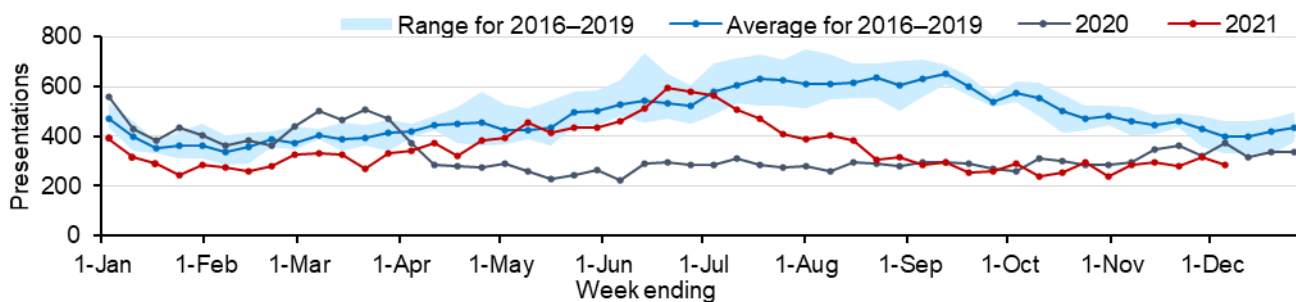
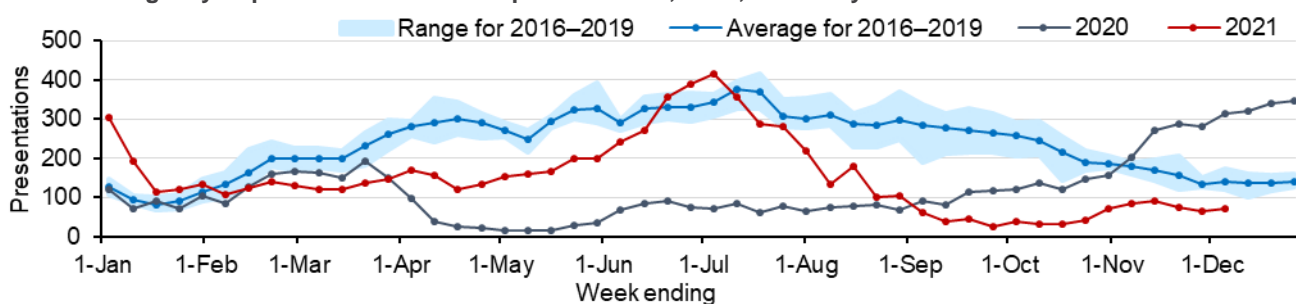


Figure 18. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 05 December 2021



- The percentage of influenza tests that were positive has been very low (<0.01%) relative to the usual seasonal range, indicating limited influenza transmission in the community
- There have been 23 influenza cases reported in 2021
- In the week ending 28 November, 15,802 people were surveyed, and 52 people (0.3%) reported flu-like symptoms
- In the last four weeks, 71% (134/188) of new cases of flu-like illness reported having a COVID-19 test
- Improved hygiene and social distancing measures implemented during the COVID-19 pandemic have impacts on a broad range of other viral and bacterial infections.
- Both pneumonia presentations and bronchiolitis presentations to emergency departments decreased in March 2020 and again in June 2021 to remain well below the seasonal range for this time of year.

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

Local Health District	Local Government Area	Week ending				Total since January 2021	
		04 Dec		20 Nov		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Central Coast	<i>LHD Total²</i>	14,357	5.81	12,303	4.98	606,235	245.44
	Kiama	1,320	8.06	840	5.13	33,634	205.46
Illawarra Shoalhaven	Shellharbour	3,926	7.66	2,927	5.71	140,620	274.31
	Shoalhaven	3,186	4.31	2,907	3.93	116,541	157.59
	Wollongong	17,283	11.32	10,178	6.67	408,646	267.65
	<i>LHD Total²</i>	25,715	8.75	16,852	5.74	699,441	238.12
Nepean Blue Mountains	Blue Mountains	4,360	7.87	5,100	9.21	155,069	280.00
	Hawkesbury	4,946	10.50	4,789	10.17	198,695	421.79
	Lithgow	475	3.14	507	3.35	19,794	130.88
	Penrith	17,090	11.46	15,742	10.56	659,204	442.17
	<i>LHD Total²</i>	26,484	9.68	25,861	9.45	1,020,218	372.76
Northern Sydney	Hornsby	6,615	6.21	6,015	5.65	213,313	200.40
	Hunters Hill	1,863	17.77	1,471	14.03	52,559	501.23
	Ku-ring-gai	9,052	10.17	7,301	8.20	234,767	263.76
	Lane Cove	5,001	17.79	3,545	12.61	119,874	426.47
	Mosman	1,791	8.26	1,463	6.75	46,961	216.54
	North Sydney	3,707	7.06	2,870	5.47	96,864	184.45
	Northern Beaches	17,696	9.24	15,114	7.89	547,526	285.99
	Parramatta ¹	16,523	9.18	14,143	7.86	561,272	311.75
	Ryde	8,495	9.24	7,037	7.66	286,165	311.42
	<i>LHD Total²</i>	61,334	9.17	50,500	7.55	1,782,283	266.35
South Eastern Sydney	Bayside	13,523	10.83	11,041	8.84	462,515	370.38
	Georges River	10,179	9.12	8,327	7.46	391,010	350.27
	Randwick	14,667	13.46	13,290	12.20	426,629	391.57
	Sutherland Shire	16,415	10.17	15,007	9.30	469,743	290.99
	Sydney ¹	18,664	10.82	14,646	8.49	581,341	337.13
	Waverley	7,732	14.87	6,219	11.96	202,698	389.76
	<i>LHD Total²</i>	74,817	11.14	63,274	9.42	2,292,656	341.49
South Western Sydney	Camden	8,370	11.79	7,807	10.99	326,665	460.05
	Campbelltown	12,762	10.67	12,680	10.60	526,552	440.04
	Canterbury-Bankstown ¹	31,416	11.88	29,159	11.02	1,412,034	533.77
	Fairfield	19,432	13.11	15,806	10.67	801,246	540.70
	Liverpool	22,235	13.96	19,250	12.08	776,800	487.60
	Wingecarribee	2,185	6.10	2,095	5.85	72,255	201.86
	<i>LHD Total²</i>	83,833	11.53	75,619	10.40	3,309,648	455.26
Sydney	Burwood	2,241	7.88	1,841	6.48	83,901	295.13
	Canada Bay	6,739	10.02	6,175	9.18	207,420	308.42
	Canterbury-Bankstown ¹	31,416	11.88	29,159	11.02	1,412,034	533.77
	Inner West	14,570	10.37	12,839	9.13	424,061	301.68
	Strathfield	4,800	14.61	4,551	13.85	181,445	552.37

		Week ending				Total since January 2021	
		04 Dec		20 Nov			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Sydney ¹	18,664	10.82	14,646	8.49	581,341	337.13
	<i>LHD Total²</i>	54,564	11.19	48,168	9.88	1,958,415	401.53
Western Sydney	Blacktown	30,306	11.56	25,770	9.83	1,180,550	450.39
	Cumberland	24,347	14.40	19,548	11.56	980,347	579.86
	Parramatta ¹	16,523	9.18	14,143	7.86	561,272	311.75
	The Hills Shire	14,192	11.39	12,207	9.80	461,390	370.36
	<i>LHD Total²</i>	83,894	11.38	69,671	9.45	3,138,076	425.56
Far West	Balranald	55	3.36	72	4.40	2,001	122.27
	Broken Hill	1,461	11.94	954	7.80	27,520	224.92
	Central Darling	81	6.29	149	11.57	4,460	346.46
	Wentworth	327	6.62	240	4.86	8,838	179.01
	<i>LHD Total²</i>	1,924	9.12	1,415	6.71	42,819	202.93
Hunter New England	Armidale Regional	655	3.04	566	2.63	31,103	144.36
	Cessnock	1,170	2.79	1,521	3.62	61,688	146.91
	Dungog	137	2.08	130	1.97	7,044	106.79
	Glen Innes Severn	168	2.71	144	2.32	5,565	89.62
	Gunnedah	141	1.59	195	2.20	10,308	116.12
	Gwydir	70	1.87	79	2.11	2,613	69.73
	Inverell	299	2.53	722	6.11	15,410	130.34
	Lake Macquarie	5,839	4.05	6,675	4.63	304,734	211.43
	Liverpool Plains	109	1.97	129	2.33	5,849	105.73
	Maitland	3,030	5.08	3,309	5.55	155,426	260.71
	Mid-Coast	2,682	4.08	4,479	6.82	83,937	127.79
	Moree Plains	660	7.11	829	8.93	16,952	182.62
	Muswellbrook	215	1.88	248	2.16	12,458	108.67
	Narrabri	160	1.74	511	5.56	7,784	84.66
	Newcastle	5,520	4.76	6,280	5.42	260,040	224.37
	Port Stephens	1,691	3.29	1,757	3.42	86,654	168.47
	Singleton	615	3.74	619	3.77	28,908	176.02
	Tamworth Regional	1,398	3.19	1,658	3.79	77,878	177.89
	Tenterfield	130	2.82	162	3.51	3,511	76.06
	Upper Hunter Shire	292	2.94	268	2.70	10,270	103.47
Uralla	62	1.47	68	1.62	3,868	91.91	
Walcha	55	2.51	48	2.19	2,453	111.82	
	<i>LHD Total²</i>	25,153	3.77	30,371	4.56	1,193,910	179.09
Mid North Coast	Bellingen	230	2.53	209	2.30	8,763	96.33
	Coffs Harbour	1,222	2.26	1,164	2.15	50,637	93.61
	Kempsey	1,426	6.85	871	4.18	39,284	188.67
	Nambucca	255	1.84	238	1.72	12,063	87.01
	Port Macquarie-Hastings	1,863	3.15	2,012	3.40	75,527	127.65
	<i>LHD Total²</i>	4,996	3.16	4,494	2.84	186,274	117.92
Murrumbidgee	Albury	1,552	4.08	1,932	5.08	74,581	196.02
	Berrigan	125	2.04	84	1.37	4,212	68.77
	Bland	73	1.75	92	2.20	3,848	92.05
	Carrathool	24	1.22	21	1.07	1,058	54.00

		Week ending				Total since January 2021	
		04 Dec		20 Nov			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Coolamon	97	3.19	111	3.65	3,694	121.57
	Cootamundra-Gundagai Regional	228	2.90	232	2.95	8,669	110.23
	Edward River	578	9.09	196	3.08	8,616	135.50
	Federation	285	3.27	430	4.94	11,413	131.10
	Greater Hume Shire	236	3.13	280	3.72	11,788	156.45
	Griffith	608	3.21	648	3.42	20,397	107.80
	Hay	56	2.71	61	2.95	1,640	79.45
	Hilltops	355	2.71	464	3.54	22,509	171.92
	Junee	110	2.35	141	3.01	4,552	97.30
	Lachlan ¹	83	1.95	76	1.79	3,566	83.86
	Leeton	199	2.48	215	2.68	6,554	81.81
	Lockhart	82	3.57	85	3.70	2,889	125.64
	Murray River	199	2.35	325	3.83	4,892	57.67
	Murrumbidgee	33	1.20	69	2.52	2,385	86.98
	Narrandera	48	1.16	90	2.18	2,764	66.94
	Snowy Valleys	249	2.46	307	3.03	8,779	86.62
	Temora	90	2.04	111	2.51	3,815	86.41
	Wagga Wagga	2,420	5.30	3,340	7.31	79,987	175.10
	<i>LHD Total²</i>	7,672	3.68	9,259	4.44	290,195	139.06
Northern NSW	Ballina	1,158	3.71	944	3.02	49,644	158.91
	Byron	1,386	5.64	925	3.77	37,564	152.97
	Clarence Valley	923	2.55	836	2.31	37,097	102.58
	Kyogle	128	2.08	121	1.97	5,704	92.64
	Lismore	1,550	5.07	950	3.11	44,164	144.40
	Richmond Valley	693	4.22	599	3.65	24,219	147.45
	Tenterfield	130	2.82	162	3.51	3,511	76.06
	Tweed	2,212	3.26	2,011	2.96	69,145	101.83
	<i>LHD Total²</i>	8,071	3.72	6,416	2.95	268,372	123.53
Southern NSW	Bega Valley	479	1.98	436	1.81	22,709	94.10
	Eurobodalla	673	2.50	567	2.11	27,368	101.62
	Goulburn Mulwaree	655	3.01	658	3.02	37,698	172.99
	Queanbeyan-Palerang Regional	1,525	3.57	1,944	4.55	59,288	138.62
	Snowy Monaro Regional	1,022	7.02	877	6.02	24,880	170.92
	Upper Lachlan Shire	131	2.32	108	1.91	6,489	115.03
	Yass Valley	197	1.65	363	3.03	14,442	120.74
<i>LHD Total²</i>	4,685	3.08	4,955	3.26	192,996	127.01	
Western NSW	Bathurst Regional	1,511	4.95	1,715	5.62	71,931	235.59
	Blayney	275	5.32	222	4.30	10,488	203.05
	Bogan	32	1.77	30	1.66	2,599	143.91
	Bourke	106	5.85	105	5.79	6,821	376.23
	Brewarrina	29	2.57	35	3.10	2,417	214.33
	Cabonne	1,783	18.68	256	2.68	13,657	143.10
	Cobar	140	4.29	112	3.43	4,207	129.03

Local Health District	Local Government Area	Week ending				Total since January 2021	
		04 Dec		20 Nov		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Coonamble	73	2.63	71	2.56	3,660	132.10
	Cowra	219	2.46	213	2.39	19,316	216.54
	Dubbo Regional	2,457	6.53	3,198	8.50	161,614	429.79
	Forbes	127	1.83	128	1.85	7,254	104.61
	Gilgandra	64	2.16	119	4.01	4,911	165.50
	Lachlan ¹	83	1.95	76	1.79	3,566	83.86
	Mid-Western Regional	438	2.48	383	2.17	30,399	171.98
	Narromine	141	3.09	166	3.64	11,446	250.90
	Oberon	155	4.09	152	4.01	8,082	213.37
	Orange	2,710	9.12	2,562	8.62	81,386	273.88
	Parkes	252	2.43	225	2.17	13,608	131.02
	Walgett	137	3.29	204	4.90	8,680	208.30
	Warren	88	4.66	107	5.67	6,653	352.40
	Warrumbungle Shire	983	15.14	2,050	31.56	10,739	165.35
	Weddin	63	2.49	53	2.10	2,837	112.17
	<i>LHD Total²</i>	11,846	5.94	12,161	6.10	485,235	243.22
NSW Total	NSW Total³	489,347	8.64	431,319	7.62	17,467,445	308.46

Source - Notifiable Condition Information Management System, accessed as at 8pm 6 Decs 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 2021 to 28 November 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– 28 November 2021

Specimen collection date	PCR tests conducted	Influenza A No.	Influenza A %Pos.	Influenza B No.	Influenza B %Pos.	Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV	Entero-virus
Total	764,358	13	<0.01%	10	<0.01%	7,912	18,651	17,569	62,177	5,724	6,604
Month ending											
31 January*	63,814	1	<0.01%	0	-	416	88	3,275	3,541	23	560
28 February	54,010	2	<0.01%	0	-	419	106	2,386	8,667	22	910
28 March	42,760	0	-	0	-	507	354	1,909	8,891	18	1,187
2 May*	53,506	0	-	3	<0.01%	802	1,515	1,653	8,141	48	1,128
30 May	52,445	0	-	6	<0.01%	946	3,129	1,491	8,982	78	843
27 June	73,605	1	< 0.01%	0	-	1,551	7,104	2,794	9,915	635	811
26 July	78,704	0	-	0	-	1,463	4,603	3,014	5,089	1,991	587
29 August*	126,147	0	-	1	< 0.01%	869	1,497	852	2,252	2,035	259
26 September	75,074	0	-	0	-	321	151	124	715	454	70
31 October*	88,568	6	< 0.01%	0	-	304	59	40	1,898	188	82
Week ending											
7 November	16,747	0	-	0	-	76	5	5	1,113	32	30
14 November	14,621	0	-	0	-	81	12	12	1,037	40	31
21 November	12,920	1	< 0.01%	0	-	86	12	6	1,108	65	52
28 November	11,437	2	0.02%	0	-	71	16	8	828	95	54

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

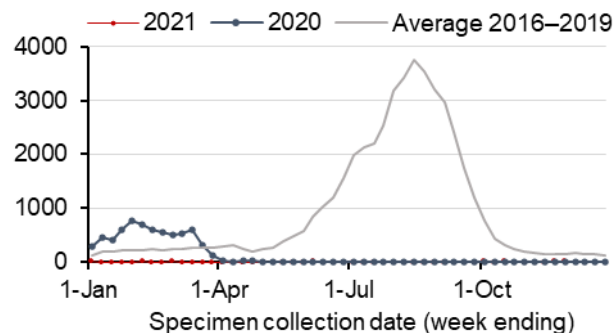
RSV - Respiratory syncytial virus

*Five-week period

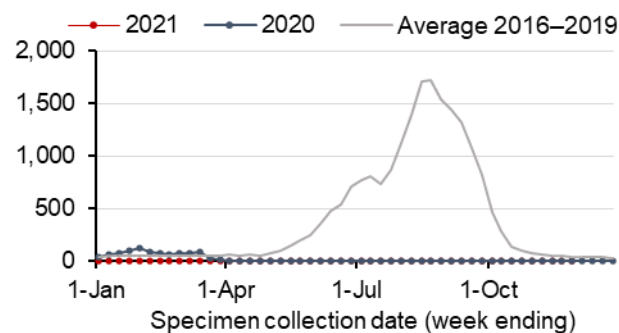
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 28 November 2021

Not all samples are tested for all respiratory viruses. Therefore, data presented may tend to under-represent current respiratory virus activity in NSW.

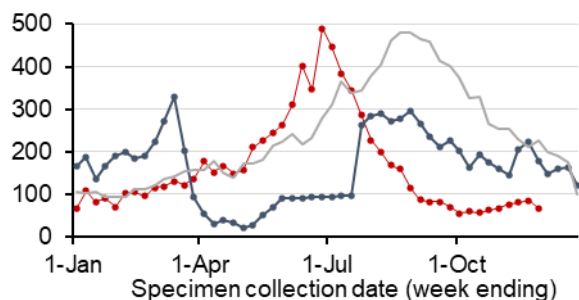
Influenza A



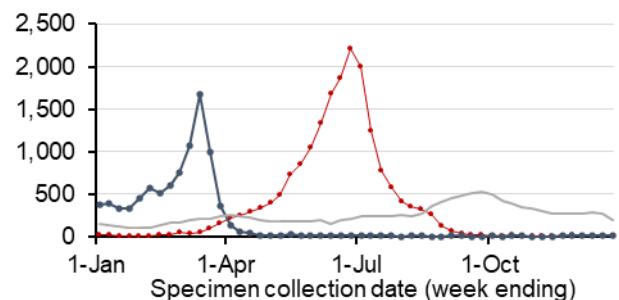
Influenza B



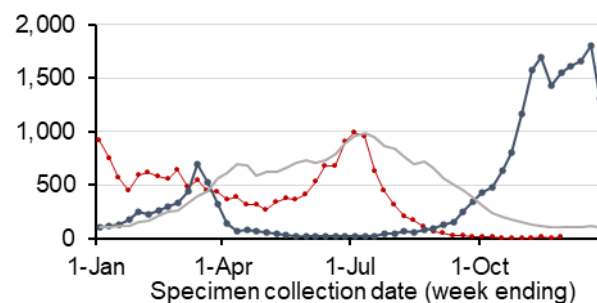
Adenovirus



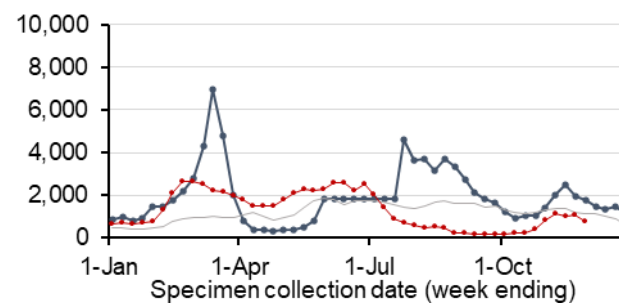
Parainfluenza



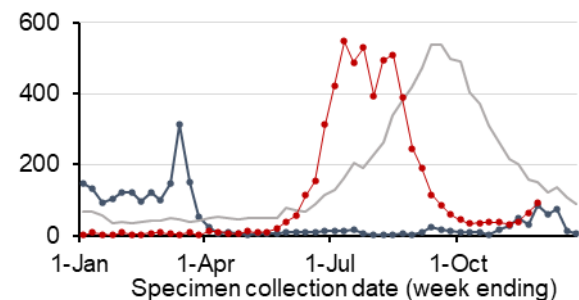
Respiratory Syncytial Virus



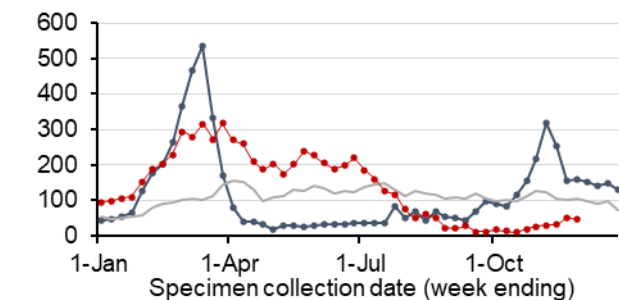
Rhinovirus



Human metapneumovirus



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: NSW Sewage Surveillance Program

In the week ending 04 December, 233 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 86 detections:

- Detections outside Sydney

There were 83 detections outside Sydney taken from the sewage treatment plants at Albury, Armidale, Ballina, Barooga, Bateau Bay, Bathurst, Bellingen, Bonny Hills (2), Bourke, Buronga, Byron Bay (2), Cobar, Coffs Harbour, Coonabarabran, Crescent Head, Curlewis, Deniliquin, Eden, Finley, Forster, Gerroa, Gilgandra, Googong, Gosford – Kincumber, Griffith, Gunnedah, Gwandalan, Hallidays Point, Harrington, Hunter - Boulder Bay, Burwood Beach, Edgeworth, Morpeth, Shortland, Toronto, Belmont, Cessnock, Dungog, Farley, Kurri Kurri and Tanilba Bay, Inverell, Jindabyne, Kew Kendall, Lennox Head, Merimbula, Merriwa, Mittagong, Moama, Molong, Moree, Mungindi, Murrurundi, Muswellbrook, Nambucca Heads, Narromine, North Grafton, Ocean Shores (2), Old Bar, Orange, Port Macquarie, Queanbeyan, Quirindi, South Kempsey, South West Rocks, Tamworth, Taree, Trangie, Tumut, Tuross, Tweed - Kingscliff, Wagga Wagga composite, Warialda, Wellington, West Kempsey, West Wyalong, Wingham, Woolgoolga (2), and Young.

- Sydney detections

Results for Sydney sites may be delayed to prioritise analysis of regional sites. In Sydney there were detections from the sewage treatment plants at Liverpool, Quakers Hill and South Windsor.

- Detections with no known cases

Detections from Dungog, Curlewis, Quirindi, Murrurundi, Merriwa, Gerroa, Woolgoolga, Bellingen, Trangie, Young, Eden, Merimbula, Barooga, Finley, and West Wyalong occurred with no known or recent cases in the catchment. Cases were also identified in Gladstone, Crescent Head, Gerroa, Mungindi, Deniliquin, Cobar, and Molong following sewage detections in recent weeks.

- Sampled sites with no SARS-CoV-2 fragment detections

There were no detections in the following catchments: Aberdeen, Alstonville, Ashford, Bangalow, Baradine, Barraba, Batemans Bay, Bega, Bermagui, Bingara, Blayney, Bodalla, Boggabilla, Boggabri, Boorowa, Bowral, Bowraville, Canowindra, Casino, Charmhaven, Collarenebri, Condobolin, Coolah, Coraki, Cowra, Crookwell, Dareton, Darlington Point, Delungra, Denman, Dorrigo, Dubbo, Dunbogan, Dunedoo, Evans Head, Forbes, Frederickton, Gladstone, Glen Innes, Gloucester, Goulburn, Grenfell, Gulgong, Gundagai, Guyra, Harden, Hunter - Branxton, Dora Creek, Karuah and Raymond Terrace, Jerilderie, Junee, Kyogle, Lake Cargelligo, Lightning Ridge, Macksville, Manilla, Mannering Park, Moonee, Moruya, Moss Vale, Mudgee, Mullumbimby, Narooma, Narrabri, Oberon, Scone, Scotts Head, Singleton, South Grafton, Temora, Tenterfield, Tocumwal, Tomakin, Tweed - Hastings Point, Banora Point and Murwillumbah, Uralla, Urunga, Walcha, Wardell, Warren, Wauchope, Wentworth, Werris Creek, Wilcannia, Woodenbong, Woy Woy, Wyong - Toukley, Wyong South, and Yass.

- New collection sites

No sewage treatment plants were added as new sites.

Appendix E: Additional tables and figures

Total COVID-19 cases by LHD of residence and week reported, NSW, 7 November to 04 December 2021

	Local Health District	Week ending				Total
		04 Dec	27 Nov	20 Nov	13 Nov	
Metropolitan Local Health Districts	South Western Sydney	469	333	276	299	1,377
	Western Sydney	310	222	235	186	953
	South Eastern Sydney	275	310	128	153	866
	Sydney	217	132	159	162	670
	Northern Sydney	128	124	65	50	367
	Illawarra Shoalhaven	74	30	15	24	143
	Nepean Blue Mountains	60	46	51	33	190
	Central Coast	27	11	14	16	68
Rural and Regional Local Health Districts	Hunter New England	67	151	286	341	845
	Western NSW	61	71	44	13	189
	Mid North Coast	34	22	30	61	147
	Murrumbidgee	22	39	85	158	304
	Southern NSW	14	29	24	38	105
	Northern NSW	11	7	16	28	62
	Far West	4	10	6	24	44
	Correctional settings	1	1	1	6	9
Hotel Quarantine [#]	0	4	0	0	4	
NSW*	1,775	1,543	1,439	1,598	6,355	

[#]Includes people who were placed into Hotel Quarantine after time in the community.

*Includes people with a usual place of residence outside of NSW, and those for whom LHD was not available at the time of data extraction.

Total COVID-19 cases by vaccination status and week reported, NSW, 16 June to 04 December 2021

	Fully vaccinated	Partially vaccinated	No effective dose	Under investigation*	Not eligible for vaccination (aged 0-11 years)	Total
Total cases since 16 June 2021	7,724 (10.0%)	6,854 (8.8%)	37,640 (48.6%)	9,762 (12.6%)	15,538 (20.0%)	77,518 (100%)
Month						
June 2021	3 (1.3%)	11 (4.6%)	197 (83.1%)	2 (0.8%)	24 (10.1%)	237 (100%)
July 2021	69 (2.1%)	97 (2.9%)	2,666 (80.6%)	42 (1.3%)	434 (13.1%)	3,308 (100%)
August 2021	550 (2.9%)	807 (4.3%)	13,338 (70.3%)	1,152 (6.1%)	3,134 (16.5%)	18,981 (100%)
September 2021	2,598 (7.4%)	3,870 (11.1%)	14,945 (42.9%)	7,069 (20.3%)	6,395 (18.3%)	34,877 (100%)
October 2021	1,865 (15.1%)	1,707 (13.8%)	4,769 (38.6%)	883 (7.1%)	3,138 (25.4%)	12,362 (100%)
November 2021	2,133 (32.6%)	326 (5.0%)	1,501 (22.9%)	486 (7.4%)	2,095 (32.0%)	6,541 (100%)
Week ending						
13 Nov 2021	502 (31.4%)	99 (6.2%)	359 (22.5%)	100 (6.3%)	538 (33.7%)	1,598 (100%)
20 Nov 2021	440 (30.6%)	65 (4.5%)	331 (23.0%)	115 (8.0%)	488 (33.9%)	1,439 (100%)
27 Nov 2021	634 (41.1%)	43 (2.8%)	295 (19.1%)	151 (9.8%)	420 (27.2%)	1,543 (100%)
04 Dec 2021	731 (41.2%)	45 (2.5%)	337 (19.0%)	180 (10.1%)	482 (27.2%)	1,775 (100%)

* Vaccination status is updated regularly using both the Australian Immunisation Register and the patient's interview. See Glossary for details of vaccination status categories.

Demographics of infections among total cases by gender and age, NSW, 16 June to 04 December 2021

	Week ending				16 Jun to 04 Dec 2021
	04 Dec 2021	27 Nov 2021	20 Nov 2021	13 Nov 2021	
Gender					
Female	919 (51.8%)	697 (45.2%)	680 (47.3%)	796 (49.8%)	36,896 (47.6%)
Male	856 (48.2%)	846 (54.8%)	759 (52.7%)	798 (49.9%)	40,578 (52.3%)
Non-specified or non-binary	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (0.3%)	44 (0.1%)
Age group					
0-9	363 (20.5%)	303 (19.6%)	383 (26.6%)	424 (26.5%)	12,850 (16.6%)
10-19	340 (19.2%)	243 (15.7%)	277 (19.2%)	290 (18.1%)	12,716 (16.4%)
20-29	332 (18.7%)	251 (16.3%)	211 (14.7%)	235 (14.7%)	15,153 (19.5%)
30-39	251 (14.1%)	255 (16.5%)	216 (15.0%)	236 (14.8%)	13,211 (17.0%)
40-49	219 (12.3%)	199 (12.9%)	139 (9.7%)	194 (12.1%)	9,538 (12.3%)
50-59	115 (6.5%)	137 (8.9%)	99 (6.9%)	104 (6.5%)	6,894 (8.9%)
60-69	72 (4.1%)	78 (5.1%)	69 (4.8%)	62 (3.9%)	3,966 (5.1%)
70-79	54 (3.0%)	55 (3.6%)	34 (2.4%)	34 (2.1%)	1,978 (2.6%)
80-89	19 (1.1%)	16 (1.0%)	11 (0.8%)	16 (1.0%)	963 (1.2%)
90+	10 (0.6%)	6 (0.4%)	0 (0.0%)	3 (0.2%)	249 (0.3%)
Total	1,775 (100%)	1,543 (100%)	1,439 (100%)	1,598 (100%)	77,518 (100%)

Proportion of cases with a severe outcome (ICU and/or death) amongst all cases, by age, time of infection, and vaccination status, NSW, 1 January 2020 to 04 December 2021

Age-group (years)	% cases with severe outcomes (ICU and/or death)			
	Jan 2020 - 15 Jun 2021	16 Jun - 04 Dec 2021: Fully vaccinated		16 Jun - 04 Dec 2021: Un-vaccinated
0-9	0% (0 / 251)	-	-	<1% (10 / 12,850)
10-19	<1% (1 / 325)	0%	(0 / 238)	<1% (28 / 10,216)
20-29	<1% (4 / 1,115)	<1%	(2 / 1,298)	1% (98 / 10,050)
30-39	1% (15 / 1,098)	<1%	(5 / 1,582)	2% (155 / 7,930)
40-49	2% (12 / 718)	<1%	(4 / 1,455)	3% (180 / 5,486)
50-59	4% (30 / 710)	1%	(15 / 1,245)	7% (266 / 3,750)
60-69	7% (44 / 656)	2%	(17 / 861)	13% (230 / 1,768)
70-79	12% (46 / 394)	6%	(37 / 606)	23% (163 / 707)
80-89	21% (26 / 122)	11%	(34 / 316)	37% (130 / 356)
90+	38% (16 / 42)	21%	(24 / 123)	44% (28 / 65)
Total	4% (194 / 5,431)	2%	(138 / 7,724)	2% (1,288 / 53,178)

* For this table, un-vaccinated includes those with no effective dose, and those who are ineligible for vaccination (aged 0-11 years).

Hospitalisations among people diagnosed with COVID-19, by age group, NSW

Age-group (years)	Since 16 Jun 2021			Jan 2020 – 15 Jun 2021	
	Hospitalised	Percentage of cases hospitalised ⁴	Hospitalised per 100,000 population	Hospitalised	Percentage of cases hospitalised ¹
0-9	289	2%	28.6	4	2%
10-19	362	3%	37.5	10	3%
20-29	980	7%	83.6	27	2%
30-39	1,258	10%	107.4	46	4%
40-49	1,293	14%	125.2	48	7%
50-59	1,271	19%	130.7	78	11%
60-69	1,046	27%	124.5	117	18%
70-79	773	40%	132.7	92	23%
80-89	514	53%	187.4	52	43%
90+	129	52%	186.0	16	38%
Total	7,915	10%	97.8	490	9%

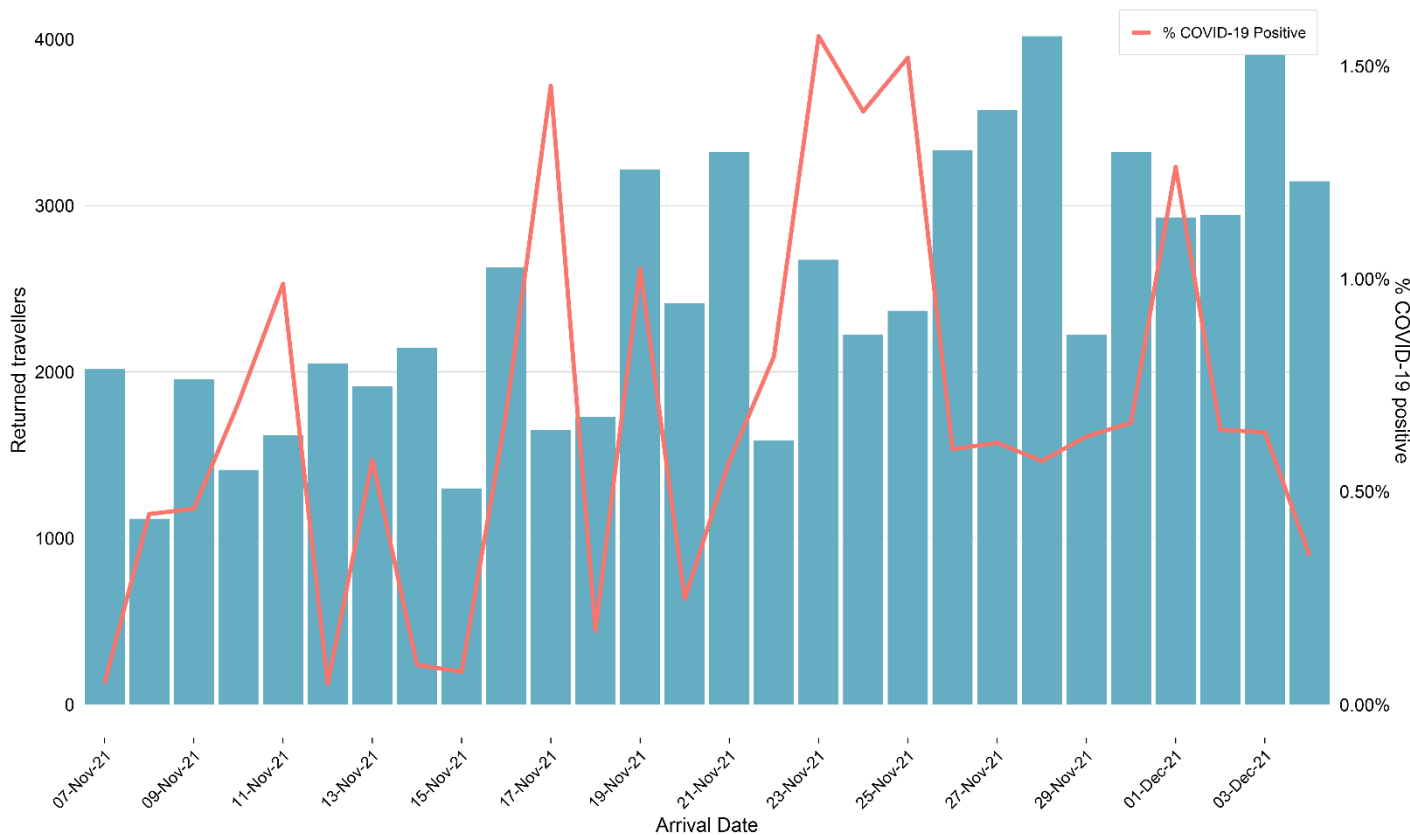
ICU hospitalisations among people diagnosed with COVID-19, by age group, NSW

Age-group (years)	Since 16 Jun 2021			Jan 2020 – 15 Jun 2021	
	Admitted to ICU	Percentage of cases admitted to ICU ¹	ICU admission per 100,000 population	Admitted to ICU	Percentage of cases admitted to ICU ¹
0-9	10	0%	1.0	0	0%
10-19	35	0%	3.6	1	0%
20-29	121	1%	10.3	4	0%
30-39	190	1%	16.2	15	1%
40-49	229	2%	22.2	12	2%
50-59	339	5%	34.9	29	4%
60-69	288	7%	34.3	43	7%
70-79	211	11%	36.2	39	10%
80-89	60	6%	21.9	13	11%
90+	1	0%	1.4	0	0%
Total	1484	2%	18.3	156	3%

⁴ There is often a delay between a person becoming ill with COVID-19 and subsequently requiring a hospitalisation or dying. In the current outbreak the median time between onset and hospitalisation is 6 days and between onset and death is 11 days. Therefore hospitalisations and deaths are under-reported for the most recently notified cases.

*Note: The weekly report relies on public health surveillance data which is continually cleaned and updated during an investigation. The number of cases hospitalised has reduced in recent weeks due to removing cases who were hospitalised but unlikely to have been hospitalised because of experiencing illness due to COVID (for example emergency department presentations without admission). These types of data cleaning activities have occurred throughout the pandemic and the differences are most noticeable when case numbers are declining or stable.

Number of returned travellers, and percent who test positive within 14 days of arrival, 7 November 2021 to 04 December 2021



Glossary

Term	Description
Case	<p>A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases).</p> <p>Case counts include:</p> <ul style="list-style-type: none"> - NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and - interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis
Health care workers	<p>Individuals who work within a hospital or other healthcare settings, including staff in direct or indirect contact with patients or infectious materials. HCWs 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. See COVID-19 in healthcare workers in NSW for a detailed report on infections to August 2020 in 35 HCWs who had worked in a health facility in the 14 days prior to symptom onset or date of testing.</p>
Incubation period	<p>The time in which the case was infected. The incubation period for COVID-19 is between 1 and 14 days prior to symptom onset.</p>
Overseas acquired case	<p>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.</p>
Interstate acquired case	<p>Case who travelled interstate during their infection and the public health investigation concludes the infection was likely acquired interstate.</p>
Cluster	<p>Group of cases sharing a common source of infection or are linked to each other in some way.</p>
Fully vaccinated	<p>Cases reported as fully vaccinated completed the recommended vaccine course at least 14 days prior to known exposure to COVID-19 or arrival in Australia.</p> <p>The COVID-19 vaccines available in Australia are very effective with evidence showing that people who are fully vaccinated are 70–95% less likely to get sick with COVID-19 compared with those who are not vaccinated. However, a small proportion of fully vaccinated people may still get the disease. As the proportion of the population who are vaccinated increases, the numbers of cases who are fully vaccinated will increase but this does not mean the vaccines are not working.</p>
Partially vaccinated	<p>Cases reported as partially vaccinated (one effective dose):</p> <ul style="list-style-type: none"> • received their first dose of a two-dose vaccination course at least 21 days prior to known exposure to COVID-19 or arrival in Australia, or • received their second dose of a two-dose vaccination course less than 14 days prior to known exposure to COVID-19 or arrival in Australia, or • received a single-dose vaccination course (currently only Johnson & Johnson vaccine) less than 14 days prior to known exposure to COVID-19 or arrival in Australia.
No effective dose	<p>Cases reported as no effective dose:</p> <ul style="list-style-type: none"> • received their first dose of a two-dose vaccination course less than 21 days prior to known exposure to COVID-19 or arrival in Australia, or • have not received any vaccine dose. <p>Using the phrase “no effective dose” indicates that an insufficient period of time has elapsed to allow for maximal immune response provided by the vaccine. It does not indicate that vaccines are ineffective.</p>
Under investigation	<p>For cases reported as under investigation, vaccination status could not be determined, either through interview or searching the Australian Immunisation Register, suggesting they were unlikely to have been vaccinated in Australia, or that their Medicare registration is outside NSW.</p>

Hospitalisation	People with COVID-19 can be hospitalised because of the disease but may also be hospitalised for other reasons not related to their COVID-19 diagnosis. For the purposes of surveillance, reported hospitalisation counts include all people who were admitted to any hospital ward, including emergency departments, around the time of their COVID-19 diagnosis. This does not mean that all the hospitalisations reported are due to a worsening of COVID-19 symptoms. The count does not include people managed in the community (e.g. including Hospital in the Home schemes).
Death	A COVID-19 death is defined for surveillance purposes as a death in a confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID-19 (e.g., trauma). There should be no period of complete recovery from COVID-19 between illness and death.
Variants of concern	Global surveillance monitors the prevalence of mutations in the SARS-CoV-2 virus, focusing particularly on mutations 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 the Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), and Delta (B.1.617.2) internationally recognised VoCs. The first recognised VoC was the Alpha variant, in December 2020. The Delta lineage (B.1.617.2) was internationally recognised as a VoC on 11 May 2021 and is responsible for almost all cases in the NSW outbreak from 16 June 2021. A new variant, Omicron (B.1.1.529) was recognised internationally on 26 November 2021 and the first notification of a case in NSW occurred on 28 November 2021.
Pneumonia presentations	Pneumonia presentations to Emergency Departments 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.
Bronchiolitis presentations	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 (see Appendix C). Since 16 June 2021, there has again been a steady decrease in bronchiolitis presentations.
FluTracking	FluTracking is an online weekly survey asking participants to report flu-like symptoms. It usually runs only between May and October in line with flu season but has continued every week since the start of the pandemic.

Dates used in COVID-19 reporting

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