

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 49 ENDING 11 DECEMBER 2021

Published 17 December 2021

### Summary for the week 5 December to 11 December 2021 (inclusive)

Figure 1. COVID-19 cases by likely infection source and reported illness onset, NSW, 13 January 2020 to 11 December 2021

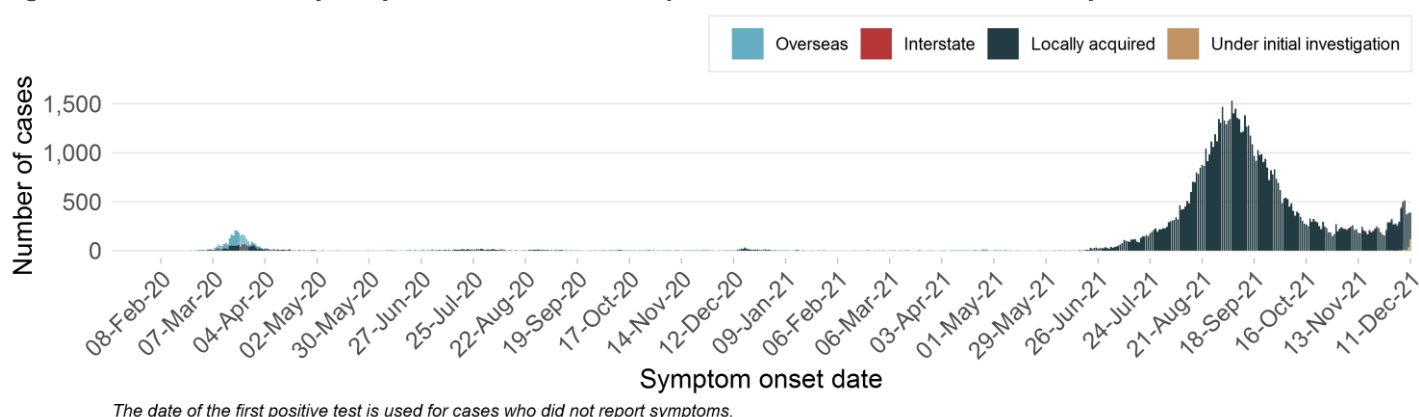


Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 11 December 2021

	2020		2021			Total
	Jan – Jun	July – Dec	01 Jan - 15 Jun	16 Jun - 31 Oct	01 Nov - 11 Dec	
Locally acquired	1,236 (39 %)	807 (52 %)	51 (7 %)	69,490 (100 %)	10,131 (96 %)	81,715 (95 %)
Interstate acquired	67 (2 %)	23 (1 %)	0 (0 %)	31 (<1 %)	160 (2 %)	281 (<1 %)
Overseas acquired	1,892 (59 %)	714 (46 %)	641 (93 %)	240 (<1 %)	1211 (2 %)	3,698 (4 %)
Under investigation	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	92 (1 %)	92 (<1 %)
<b>Total</b>	<b>3,195 (100 %)</b>	<b>1,544 (100 %)</b>	<b>692 (100 %)</b>	<b>69,761 (100 %)</b>	<b>10,594 (100 %)</b>	<b>86,786 (100 %)</b>
Deaths	51	5	0	522	64	642

In the week ending 11 December 2021:

- There were 2,846 total cases reported, with 2,669 (94%) locally acquired
- Of these cases, 34 cases have been confirmed as having the Omicron variant. Since 26 November 2021, 64 Omicron cases have been confirmed, with a further 78 probable Omicron cases pending genomic sequencing.
- The ten LGAs with the highest number of cases were:
  - Canterbury-Bankstown, 373 (14%) cases
  - Cumberland, 245 (9%) cases
  - Fairfield, 181 (7%) cases
  - Sydney, 166 (6%) cases
  - Liverpool, 161 (6%) cases
  - Blacktown, 144 (5%) cases
  - Randwick, 128 (5%) cases
  - Inner West, 112 (4%) cases
  - Waverley, 97 (4%) cases
  - Bayside, 81 (3%) cases
  - 1,145 (43%) cases were residents across 64 other LGAs
- There were 77 (3%) cases in overseas returned travellers (compared with 64 the previous week).
- There were 8 deaths in people diagnosed with COVID.
- Among those aged 12 and over, 62.3% of all cases, and 91.5% of the population were fully vaccinated.
- Testing rates increased compared to the previous week (up 14%).
- 227 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 92 detections. Detections from Wellington, Gulargambone, Cowra, Walgett, Blayney, Wilcannia, Wentworth, South West Rocks, Mannering Park, Raymond Terrace, Boulder Bay, Finley, Barooga, Tocumwal, Eden, Moruya, Narrandera, Tomakin, Lockhart, Goulburn, Temora, Young, Moss Vale, Uralla, and Bomaderry 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 28 November to 11 December 2021**

	Week ending 11 Dec	Week ending 4 Dec
Proportion total cases notified to NSW Health by the laboratory within 1 day of specimen collection	86% (2,451/2,844)	90% (1,586/1,770)
Total cases contacted by text message within 1 day of notification to NSW Health	93% (2,650/2,846)	98% (1,728/1,770)
Number of high-risk cases fully interviewed by public health staff within 1 day of responding to the NSW Health text message	94% (1,215/1,295)	95% (658/692)
Total cases fully interviewed by public health staff within 1 day of notification to NSW Health	96% (2,719/2,844)	98% (1,731/1,770)

## Section 1: Omicron variant in NSW

Table 3. Demographics of confirmed and probable Omicron infections by gender, age, vaccination status and source of infection, NSW, 26 November to 11 December, 2021

	Confirmed Omicron Cases					Probable Omicron Cases <sup>b</sup>
	Week ending				26 Nov to 11 Dec 2021	
	11 Dec 2021	04 Dec 2021	27 Nov 2021	21 Nov 2021		26 Nov to 11 Dec 2021
<b>Gender</b>						
Female	21 (61.8%)	13 (44.8%)	0 (0.0%)	-	34 (53.1%)	35 (44.9%)
Male	13 (38.2%)	16 (55.2%)	1 (100%)	-	30 (46.9%)	43 (55.1%)
<b>Age group</b>						
0-9	5 (14.7%)	3 (10.3%)	1 (100%)	-	9 (14.1%)	5 (6.4%)
10-19	5 (14.7%)	10 (34.5%)	0 (0.0%)	-	15 (23.4%)	14 (17.9%)
20-29	8 (23.5%)	2 (6.9%)	0 (0.0%)	-	10 (15.6%)	23 (29.5%)
30-39	6 (17.6%)	2 (6.9%)	0 (0.0%)	-	8 (12.5%)	17 (21.8%)
40-49	6 (17.6%)	8 (27.6%)	0 (0.0%)	-	14 (21.9%)	14 (17.9%)
50-59	1 (2.9%)	3 (10.3%)	0 (0.0%)	-	4 (6.2%)	3 (3.8%)
60-69	2 (5.9%)	1 (3.4%)	0 (0.0%)	-	3 (4.7%)	2 (2.6%)
70-79	1 (2.9%)	0 (0.0%)	0 (0.0%)	-	1 (1.6%)	0 (0.0%)
80-89	0 (0.0%)	0 (0.0%)	0 (0.0%)	-	0 (0.0%)	0 (0.0%)
90+	0 (0.0%)	0 (0.0%)	0 (0.0%)	-	0 (0.0%)	0 (0.0%)
<b>Vaccination status</b>						
Fully vaccinated	13 (38.2%)	19 (65.5%)	0 (0.0%)	-	32 (50.0%)	49 (62.8%)
Partially vaccinated	1 (2.9%)	3 (10.3%)	0 (0.0%)	-	4 (6.2%)	4 (5.1%)
No effective dose	8 (23.5%)	4 (13.8%)	0 (0.0%)	-	12 (18.8%)	6 (7.7%)
Under investigation <sup>a</sup>	7 (20.6%)	0 (0.0%)	0 (0.0%)	-	7 (10.9%)	13 (16.7%)
Not eligible (aged 0-11 years)	5 (14.7%)	3 (10.3%)	1 (100%)	-	9 (14.1%)	6 (7.7%)
<b>Source of infection</b>						
Overseas acquired	5 (14.7%)	9 (31.0%)	1 (100%)	-	15 (23.4%)	5 (6.4%)
Interstate	0 (0.0%)	1 (3.4%)	0 (0.0%)	-	1 (1.6%)	0 (0%)
Locally acquired	29 (85.3%)	19 (65.5%)	0 (0.0%)	-	48 (75.0%)	73 (93.6%)
<b>Clinical Severity</b>						
Hospitalised	1 (2.9%)	0 (0.0%)	0 (0.0%)	-	1 (1.6%)	0 (0.0%)
ICU	0 (0.0%)	0 (0.0%)	0 (0.0%)	-	0 (0.0%)	0 (0.0%)
Deaths	0 (0.0%)	0 (0.0%)	0 (0.0%)	-	0 (0.0%)	0 (0.0%)
<b>Total</b>	<b>34 (100%)</b>	<b>29 (100%)</b>	<b>1 (100%)</b>	<b>0</b>	<b>64 (100%)</b>	<b>78 (100%)</b>

<sup>a</sup> Vaccination status is updated regularly using both the Australian Immunisation Register and the patient's interview.

<sup>b</sup> Probable Omicron cases are confirmed cases that are yet to have genomic sequencing but have PCR results that show an S gene dropout, a feature caused by a mutation in the Omicron variant. Following genomic sequencing, these cases will be reported with their confirmed variant.

- On 26 November 2021, the World Health Organization designated a new variant, Omicron (B.1.1.529), as a variant of concern.
- The first Omicron case in NSW was identified on 28 November 2021. Genomic sequencing of older cases has since identified an Omicron case who was notified in the week ending 27 November 2021.
- Since 26 November 2021, 64 Omicron cases have been confirmed by genomic sequencing. Probable Omicron cases give a broader indication of the spread of Omicron in the community, with 78 probable Omicron cases (i.e., those with S-gene target failure on PCR testing) identified since 26 November 2021.
- There were two distinct clusters of the Omicron variant in NSW to 11 December 2021.
- The first cluster was linked to an international traveller who returned from Africa. This traveller likely transmitted to others in their household, with subsequent transmission at a children's party, two schools in western Sydney and a place of worship in south western Sydney. There was also transmission to an ACT resident, with onward transmission back to a NSW resident in the ACT.
- The second cluster has an unknown source. Omicron cases were identified in attendees at a party boat event on Sydney Harbour on 3 December 2021, and there was onward transmission to a pub in south eastern Sydney and a nightclub in Newcastle.

## Section 2: Cases from 16 June 2021 to 11 December 2021

Figure 2. Source of infection, NSW from 16 June to 11 December 2021

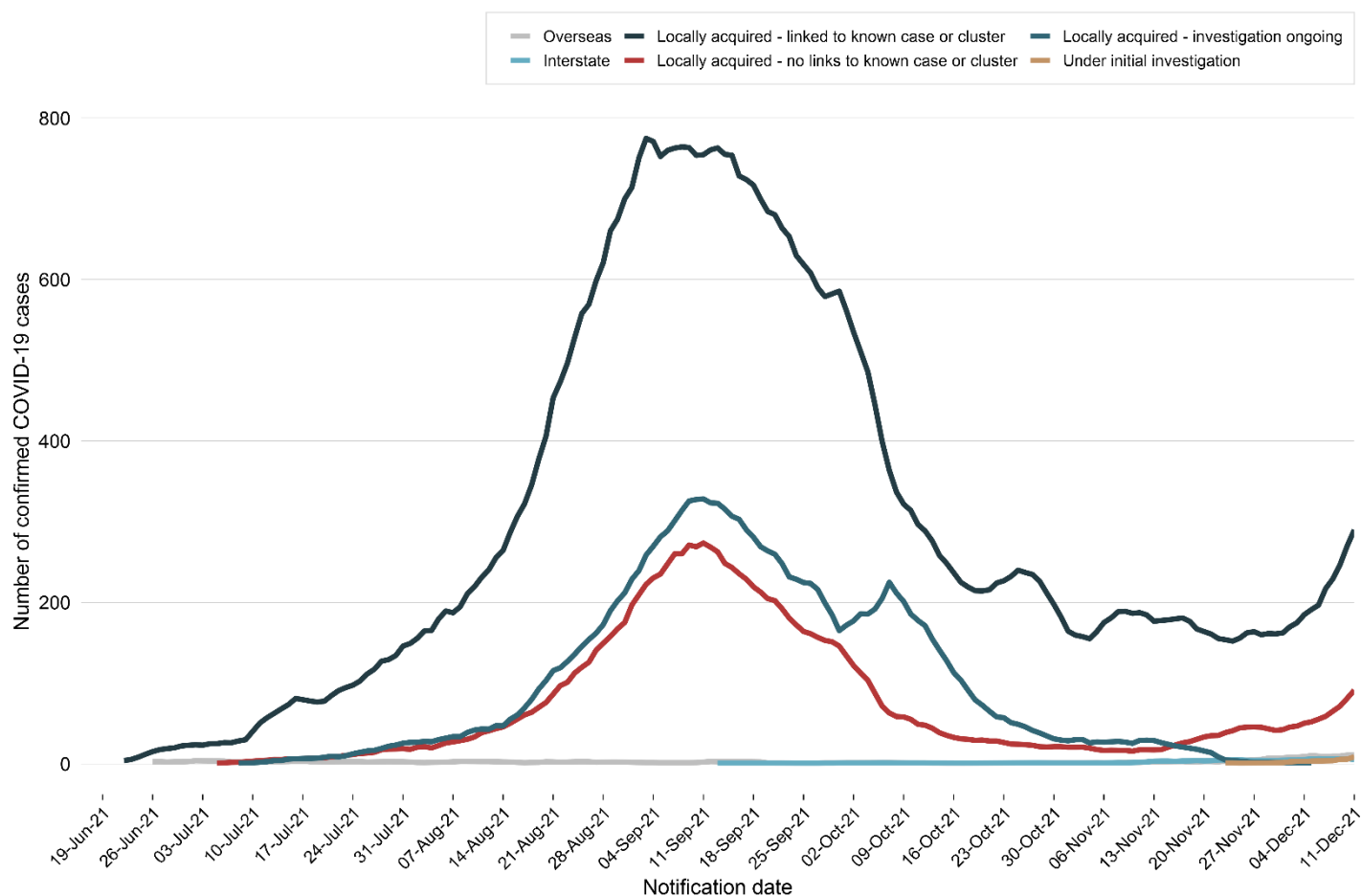


Table 4. COVID-19 cases and tests reported, NSW, from 16 June 2021 to 11 December 2021

	Week ending 11 Dec	Week ending 4 Dec	% change	16 Jun to 31 Oct 2021	Since 1 Nov 2021
Number of cases	2,846	1,770	61 %	69,761	10,594
Locally acquired	2,669	1,647	62 %	69,490	10,131
Known epidemiological links to other cases or clusters	2,029	1,294	57 %	44,268	7,972
No epidemiological links to other cases or clusters	640	353	81 %	25,222	2,159
Overseas acquired	77	64	20 %	240	211
Interstate acquired	40	38	5 %	31	160
Number of tests	578,358	508,872	14 %	13,978,453	2,957,232

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 showed a large increase, and overseas and interstate acquired cases showed more modest increases.
- 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 11 December 2021

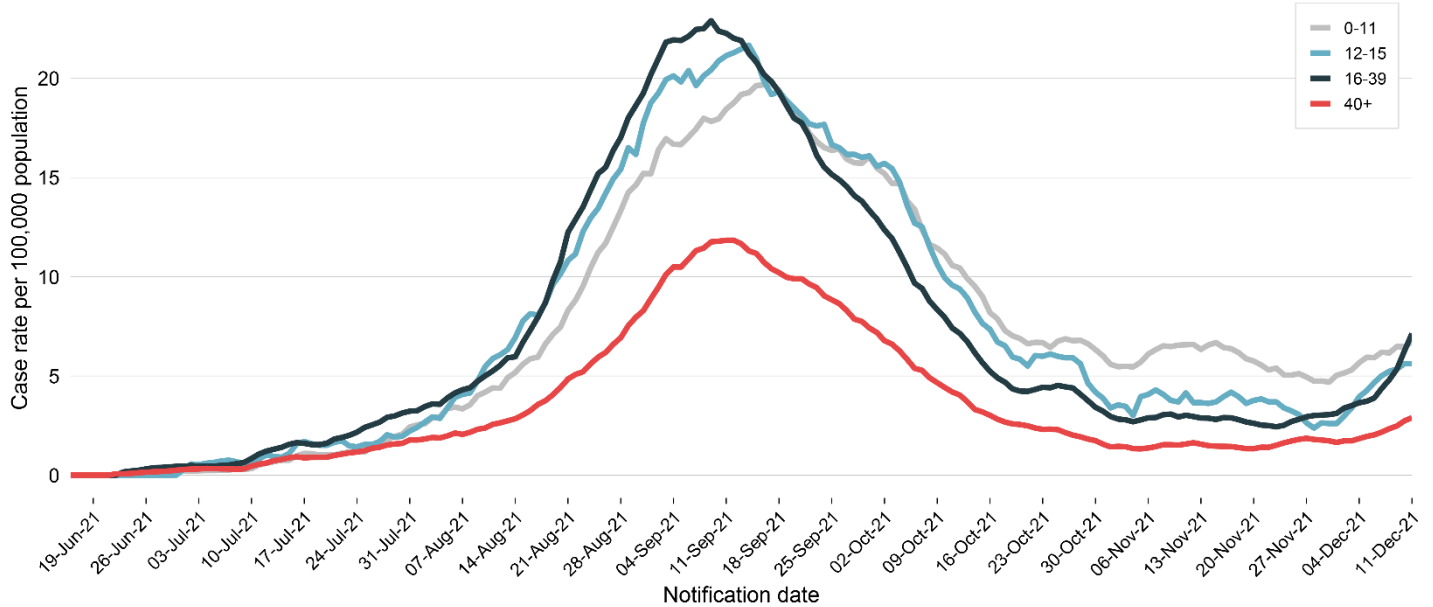
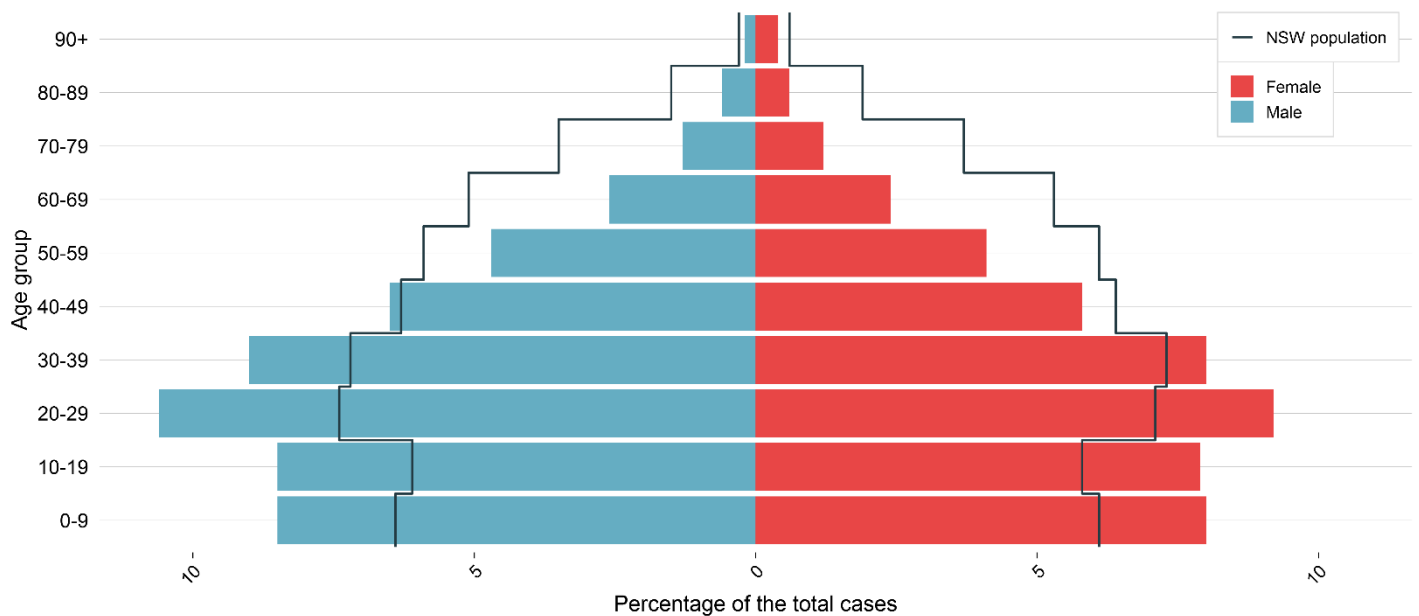


Figure 4. Current wave total case percentage (n = 80,311) by age and gender, NSW, from 16 June to 11 December 2021



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, increasing again since late November, principally in the 12-15 and 16-39 years age groups.
- Cases since 16 June 2021 have been younger (median age = 28 years, interquartile range (IQR) = 15-43 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. See Appendix E for further detail
- 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 11 December 2021

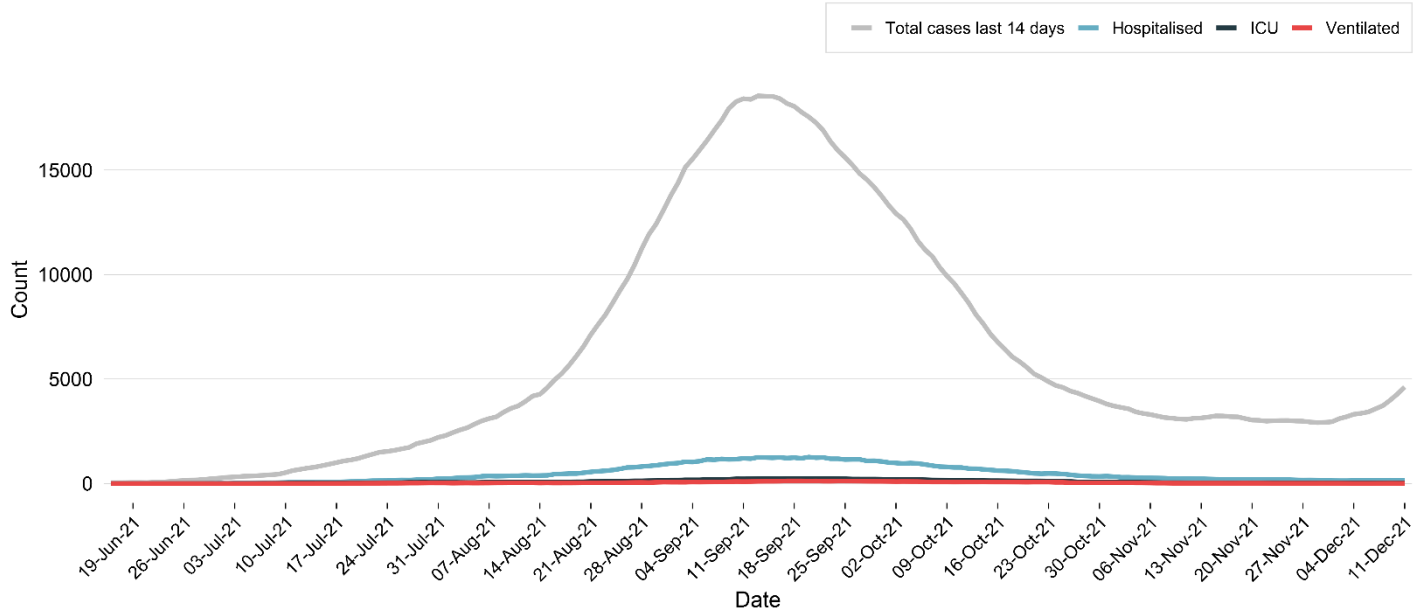
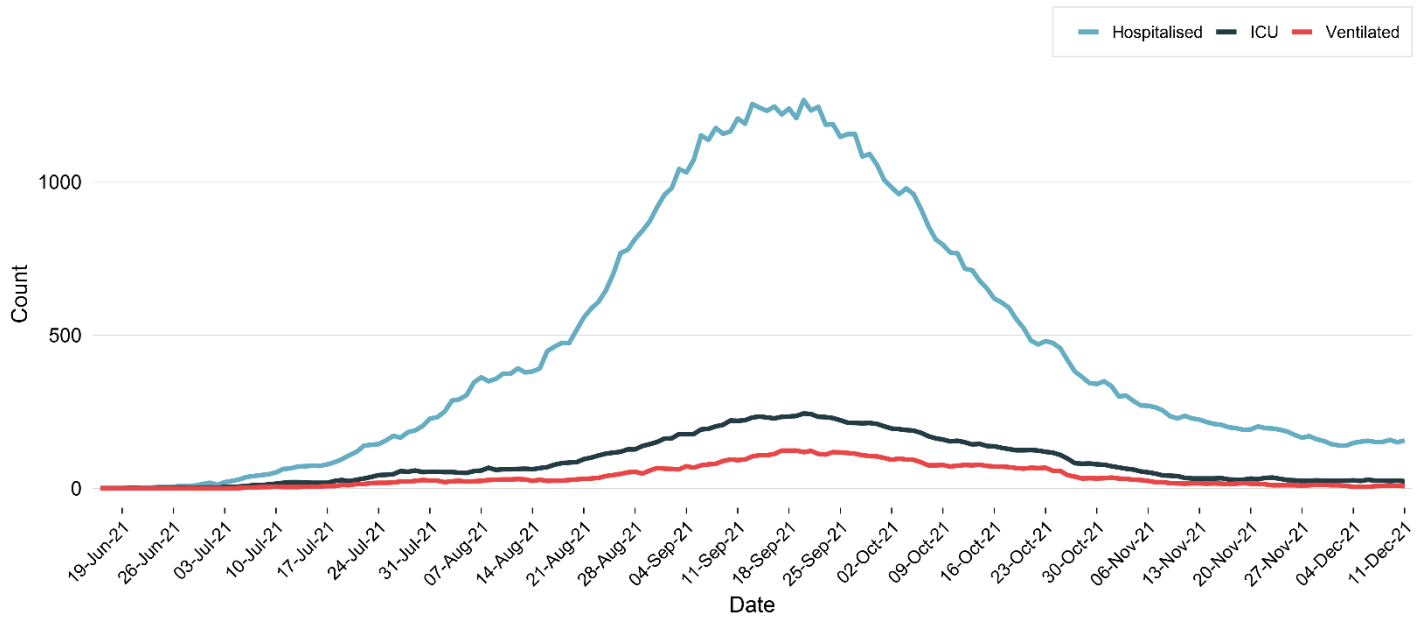


Figure 5b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 11 December 2021



- 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 flattened, but hospitalisations continued to decline, likely reflective of high vaccination coverage in the community being protective against hospitalisation
- Case rates increased in the week ending 11 December, but no increase in hospitalisations has occurred. This may be due to the 6-day delay between infection and requiring hospitalisation, as mentioned above.

## 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 27 November 2021

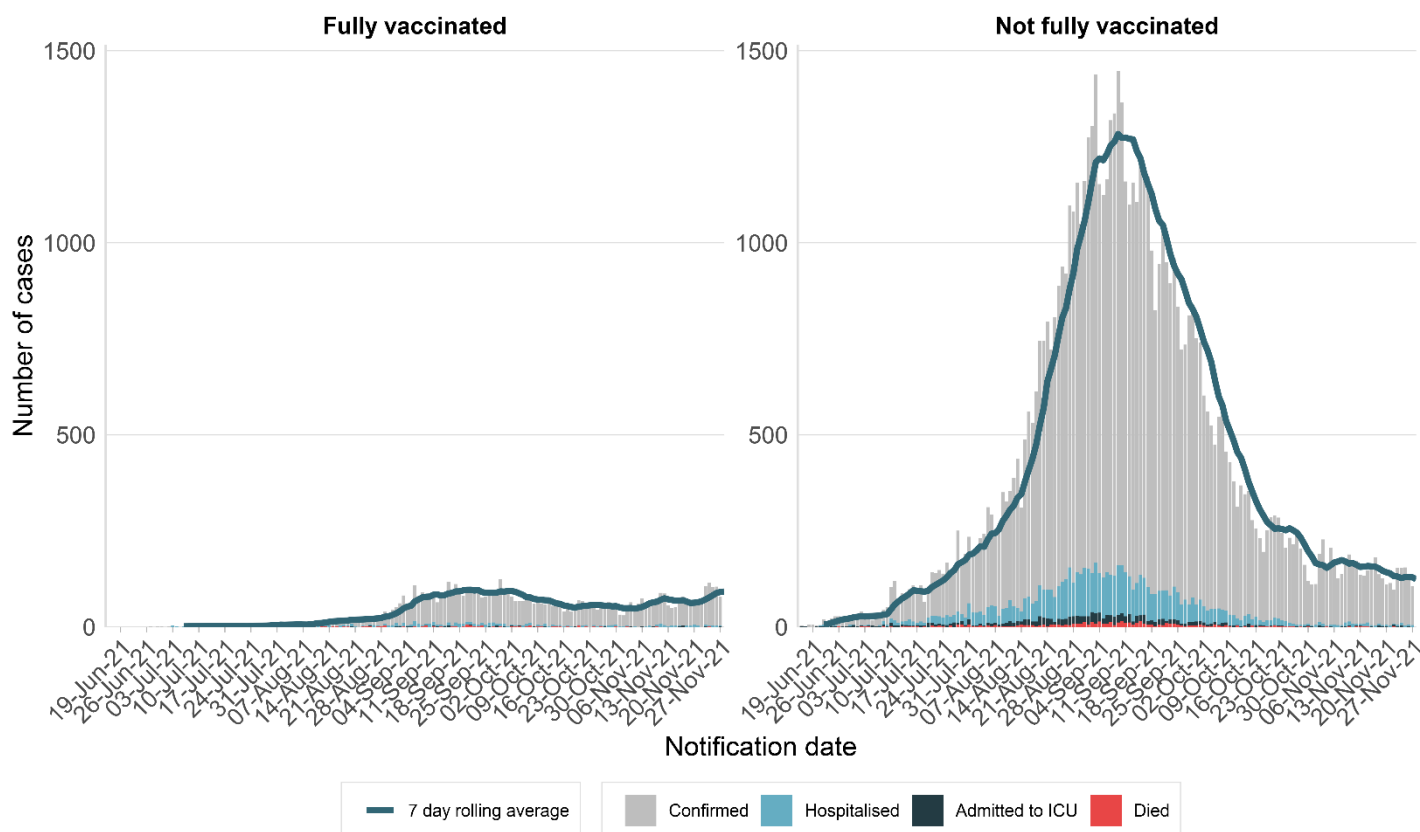


Table 5. Hospitalisations, ICU admissions and deaths among cases diagnosed with COVID-19, by vaccination status, NSW, from 16 June to 11 December 2021

Vaccination status	Total cases (%)	Hospitalised (%)	Hospitalised and in ICU (%)	Death (%)
Fully Vaccinated	9,169 (11.4%)	621 (7.7%)	75 (5.0%)	89 (15.2%)
Partially vaccinated	6,898 (8.6%)	594 (7.4%)	95 (6.3%)	75 (12.8%)
No effective dose	38,605 (48.0%)	5,178 (64.5%)	1,070 (71.2%)	414 (70.6%)
Under investigation	9,576 (11.9%)	1,292 (16.1%)	250 (16.6%)	8 (1.4%)
Not eligible for vaccination (aged 0-11 years)	16,107 (20.0%)	340 (4.2%)	12 (0.8%)	0 (0.0%)
<b>Total</b>	<b>80,355 (100.0%)</b>	<b>8,025<sup>1</sup> (100.0%)</b>	<b>1,502 (100.0%)</b>	<b>586 (100.0%)</b>

- 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 27 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, 1,418 (49.8%) of all cases were fully vaccinated (see Appendix E)
- This represents 62.3% of the 2,276 cases who were eligible for vaccination (aged 12 years and over). In comparison, 91.5% of the NSW population aged 12 and over were fully vaccinated (had completed their recommended vaccine schedule by 27 November)
- Since 16 June 2021, cases aged 12 years and over with no effective dose account for 48.0% of all cases, and as much as 64.5% of hospitalisations, 71.2% of ICU admissions, and 70.6% 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 4.2% of hospitalisations, 0.8% of ICU admissions, and no deaths.

<sup>1</sup> 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 11 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 <sup>2</sup>	Number of deaths	Case fatality rate <sup>2</sup>
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	104	3%	12.4	4	1%
70-79	135	7%	23.2	15	4%
80-89	168	17%	61.3	20	16%
90+	64	26%	92.3	16	38%
Total	586	1%	7.2	56	1%

Table 7. Deaths following recent infection with COVID-19, by age group and location, from 16 June to 11 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	92	1	11
70-79	126	6	3
80-89	151	10	7
90+	48	16	0
Total	511	33	42

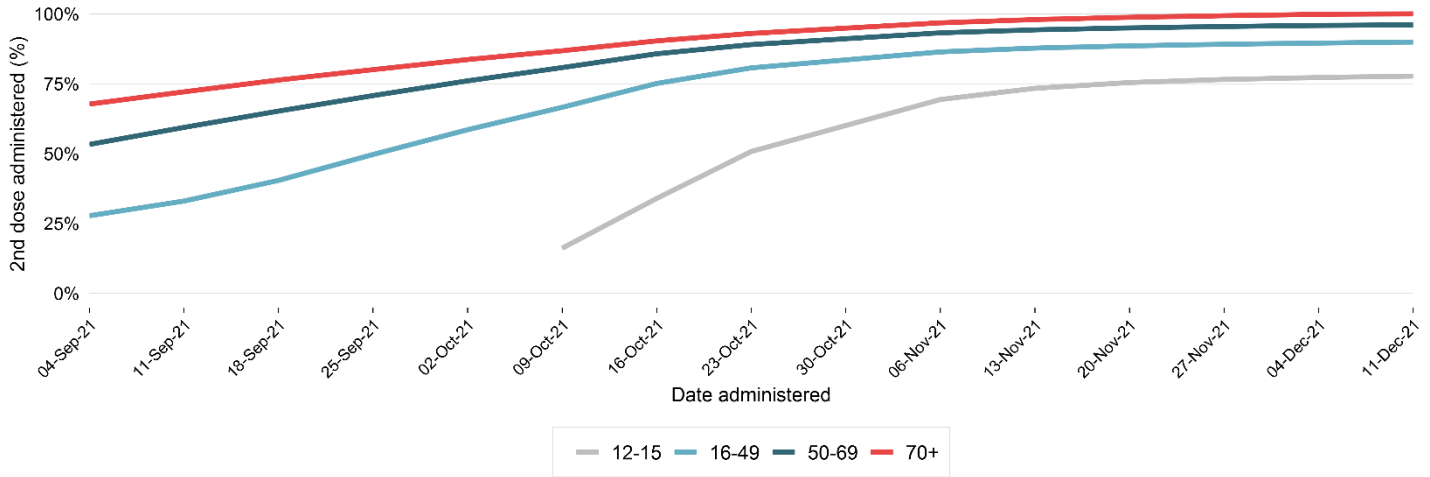
- Since the start of the pandemic, 0.7% of cases (642 people) have died
- This includes 100 residents of aged care facilities
- 2% (14/642) of the deaths were overseas acquired
- 70.6% of the deaths since 16 June 2021 have not received an effective vaccine dose (see Table 5)
- The median delay between a person becoming ill and death is 11 days
- In the week ending 11 December, there were 8 deaths in people diagnosed with COVID-19, including
  - 4 people who were fully vaccinated (one in their 70s, two in their 80s and 1 aged 90+ years),
  - 1 person who was partially vaccinated (in their 70s), and
  - 3 people who had received no effective dose (one in their 70s, one in their 80s and one aged 90+ years)
- The majority of deaths since 16 June 2021 have occurred in hospital (511/586, 87%)
- Among deaths occurring at home, the majority (26/42, 62%) were diagnosed after death

<sup>2</sup> 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.



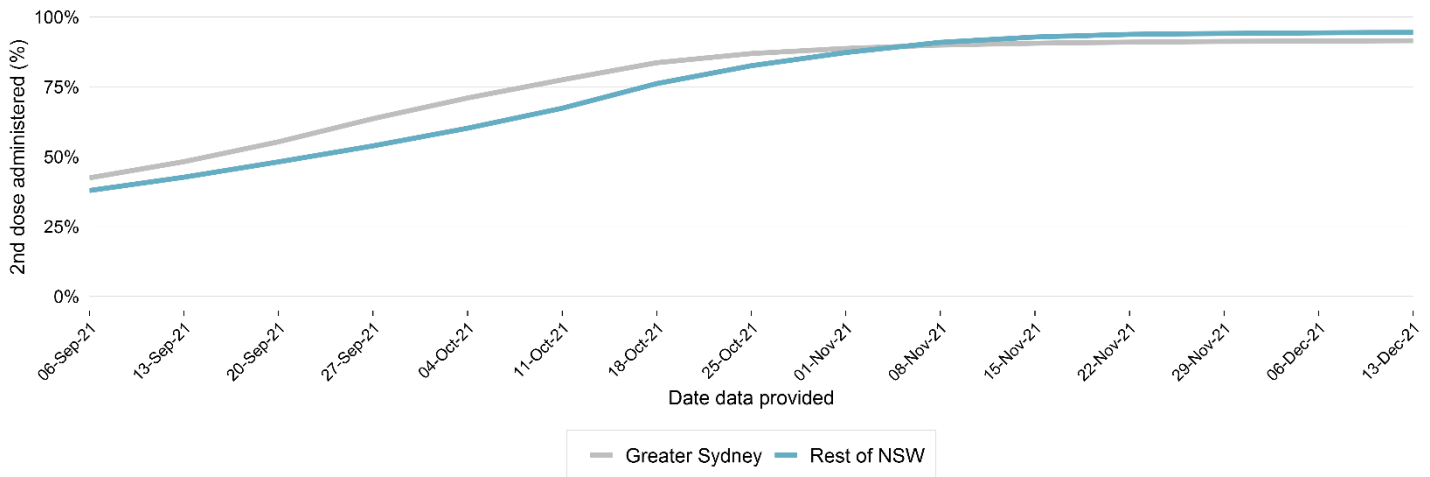
## Section 7: Vaccination coverage in NSW

Figure 7. Proportion who have received two doses of COVID-19 vaccine, by age range and time, NSW, 04 September to 11 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 13 December 2021



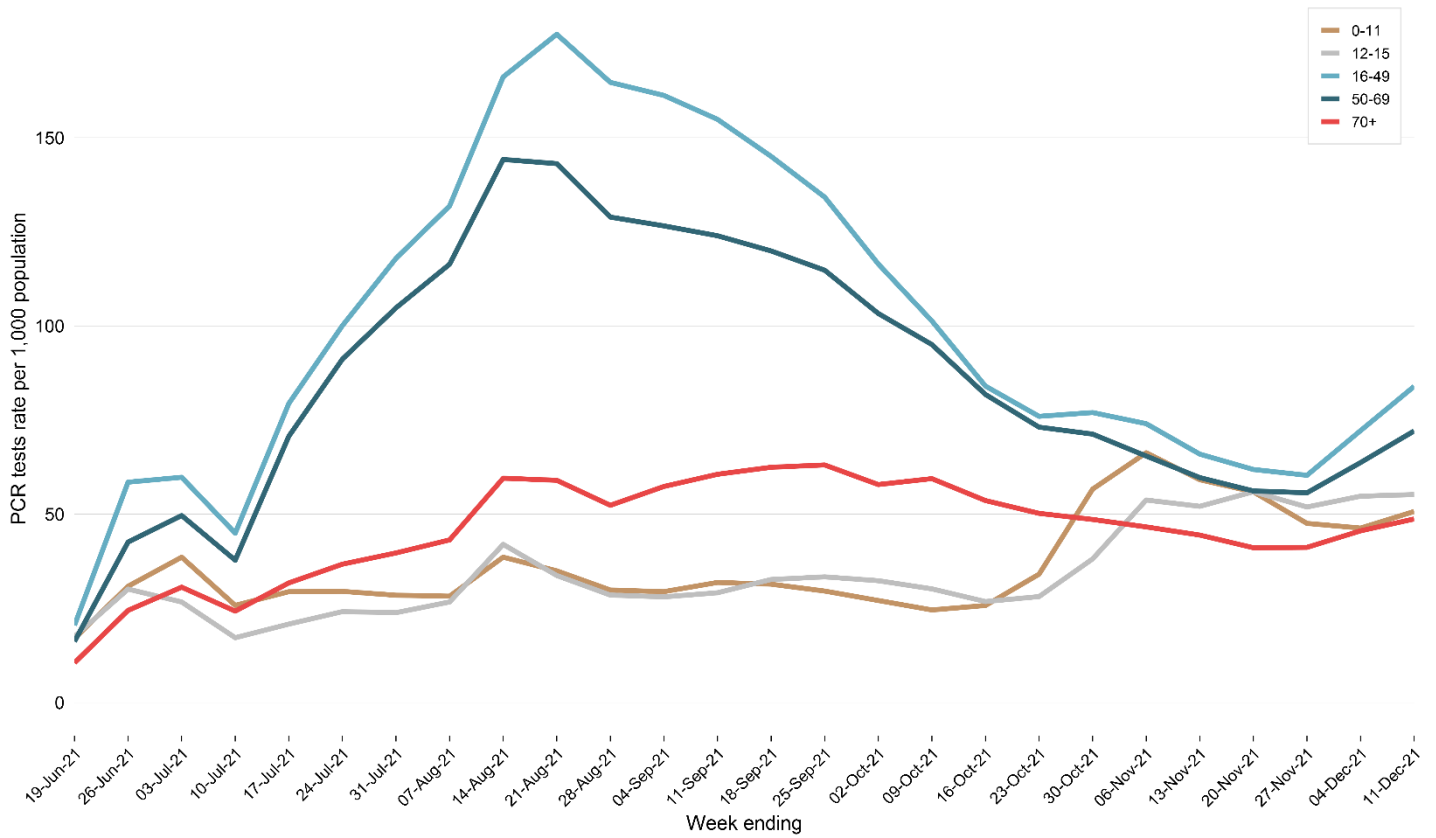
Source: <https://www.health.gov.au/resources/collections/covid-19-vaccination-geographic-vaccination-rates-sa4>

- The proportion of the NSW population who have received two vaccine doses has increased substantially in the last three months, reaching over 93% of those aged 16 and over by 11 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 Sydney<sup>3</sup>.

<sup>3</sup> 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 11 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.
- Throughout November 2021, testing rates increased among those aged 15 years and under
- Throughout December 2021, there was a sustained 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 11 December 2021

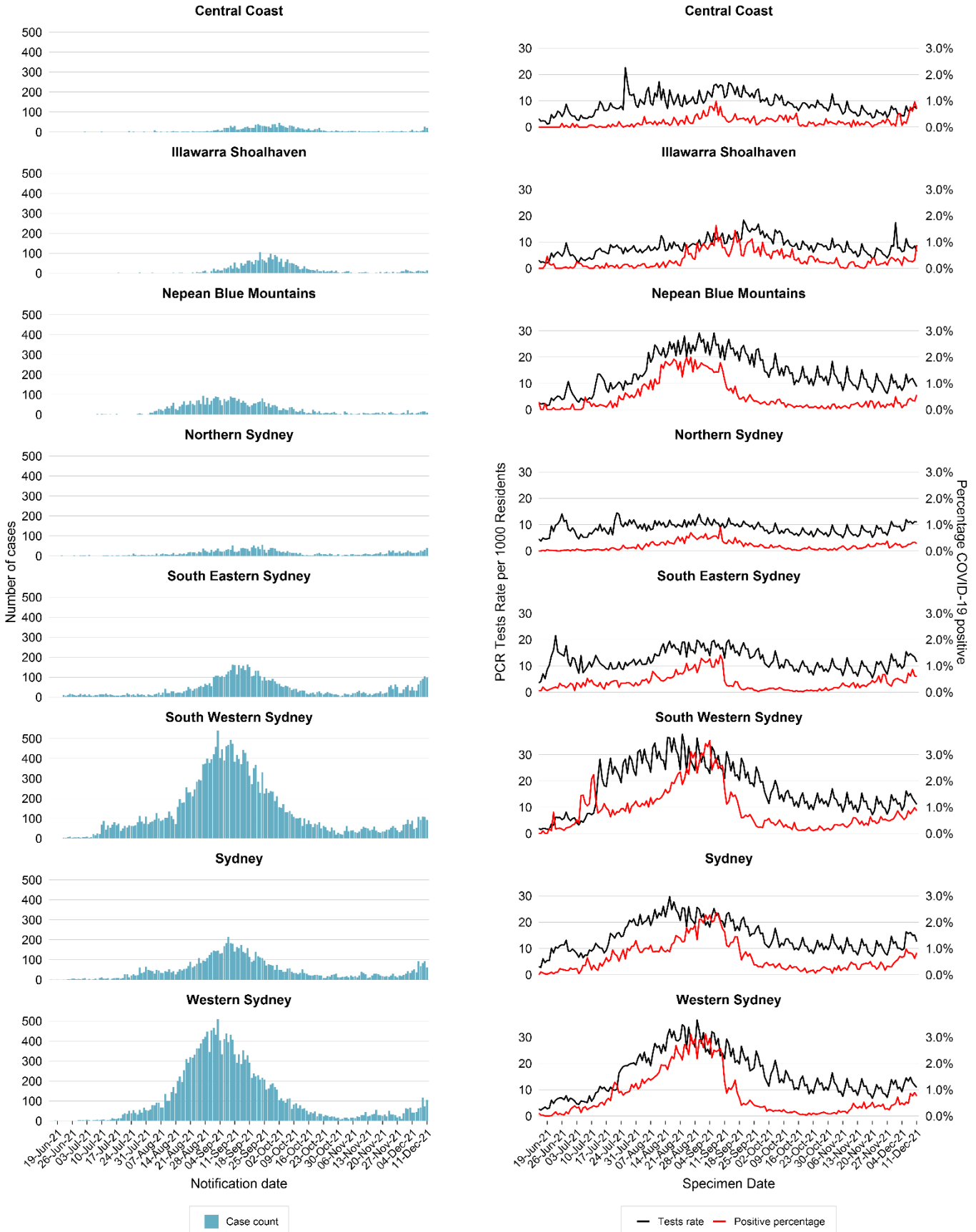
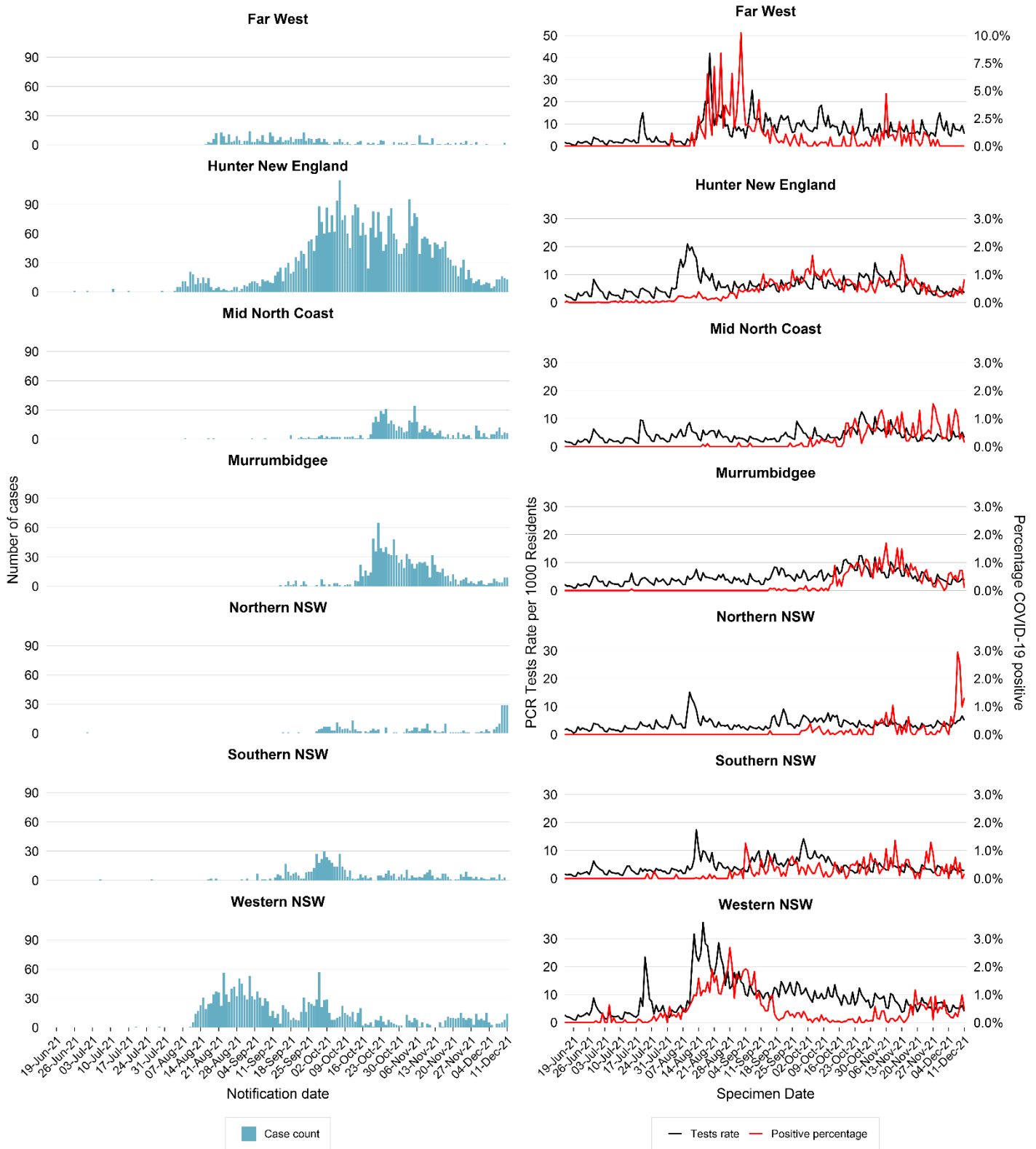


Figure 10b. Cases, testing rates per 1000 population, and percentage of tests which were positive for COVID-19, by LHD of residence, rural and regional LHDs, NSW, 16 June to 11 December 2021



- 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 11 December 2021

LGA name	Last 7 days		16 Jun-11 Dec 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Waverley	97	131	617	830
Cumberland	245	101	9,678	4,007
Canterbury-Bankstown	373	99	12,594	3,332
Fairfield	181	86	5,183	2,448
Randwick	128	82	1,651	1,061
Hunters Hill	11	73	116	774
Liverpool	161	71	6,215	2,731
Sydney	166	67	2,408	977
Strathfield	31	66	473	1,008
Woollahra	39	66	310	522
Inner West	112	56	1,136	566
Bayside	81	45	1,776	996
Camden	41	40	1,125	1,109
Blacktown	144	38	7,316	1,954
Georges River	57	36	1,468	921
Burwood	13	32	368	906
Campbelltown	55	32	2,941	1,720
Penrith	69	32	3,456	1,623
The Hills Shire	48	27	725	407
Sutherland Shire	60	26	847	367

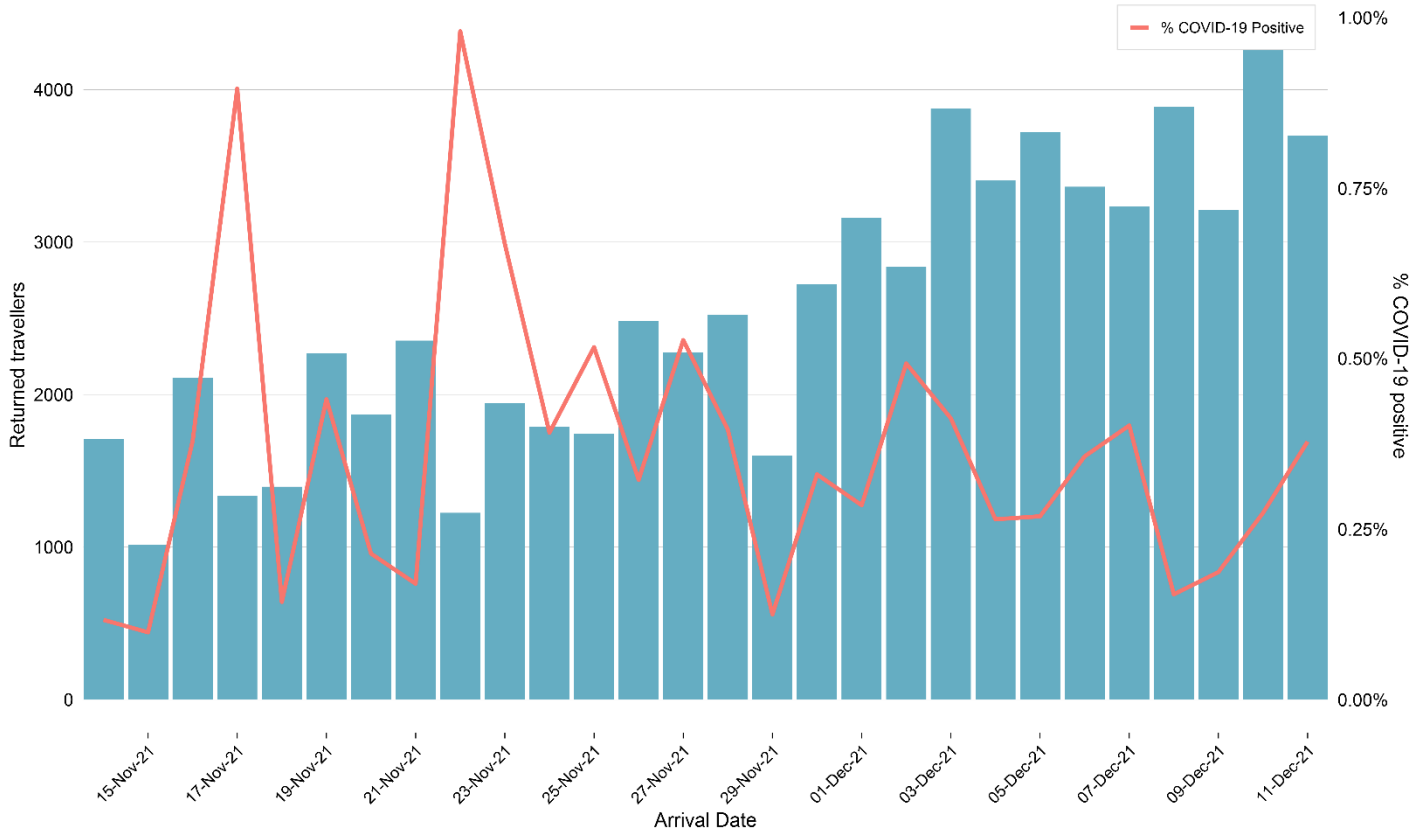
Table 8b. Top 20 regional and rural LGAs of residence, ordered by total COVID-19 cases in the last 7 days, per 100,000 population rate, NSW, 16 June to 11 December 2021

LGA name	Last 7 days		16 Jun-11 Dec 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Byron	68	194	85	242
Cabonne	12	88	67	491
Orange	23	54	150	353
Moree Plains	6	45	232	1,749
Port Macquarie-Hastings	37	44	200	237
Ballina	18	40	37	83
Federation	5	40	59	474
Snowy Monaro Regional	8	38	111	534
Warren	1	37	9	334
Mid-Coast	34	36	508	541
Albury	16	29	740	1,361
Lismore	11	25	56	128
Murray River	3	25	54	446
Wagga Wagga	15	23	95	146
Oberon	1	18	36	665
Kempsey	5	17	292	982
Wentworth	1	14	44	624
Tamworth Regional	8	13	242	387
Dungog	1	11	20	212
Griffith	3	11	20	74

- The top 20 metropolitan LGAs contributed 74% of all cases in the week ending 11 December
- The top 20 regional and rural LGAs contributed another 10% of cases.
- The LGA with the highest case rate per 100,000 population is in a rural and regional area.
- 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: Returned travellers

Figure 11. Number of returned travellers, and percent who test COVID-19 positive within 14 days of arrival, NSW, 14 November 2021 to 11 December 2021



- Since 1 November 2021, fully vaccinated international arrivals are no longer required to enter mandatory 14-day hotel quarantine. Rather, they must isolate at home for 72 hours after arrival and be tested on day 1 and day 6, with an additional test recommended on day 12.
- The number of daily international arrivals has increased from an average 595 in the week ending October 31, to over 3000 in the week ending 11 December.
- Because fully vaccinated returned travellers no longer need to isolate after the first three days, cases reported here may include some returned travellers with locally-acquired infections.
- Although the number of returned travellers arriving each day has increased over the past month, the proportion testing positive has remained relatively stable over the same time.

## Section 12: Aboriginal people

Figure 12. Number of confirmed COVID-19 infections among Aboriginal people by date, NSW, 16 June to 11 December 2021

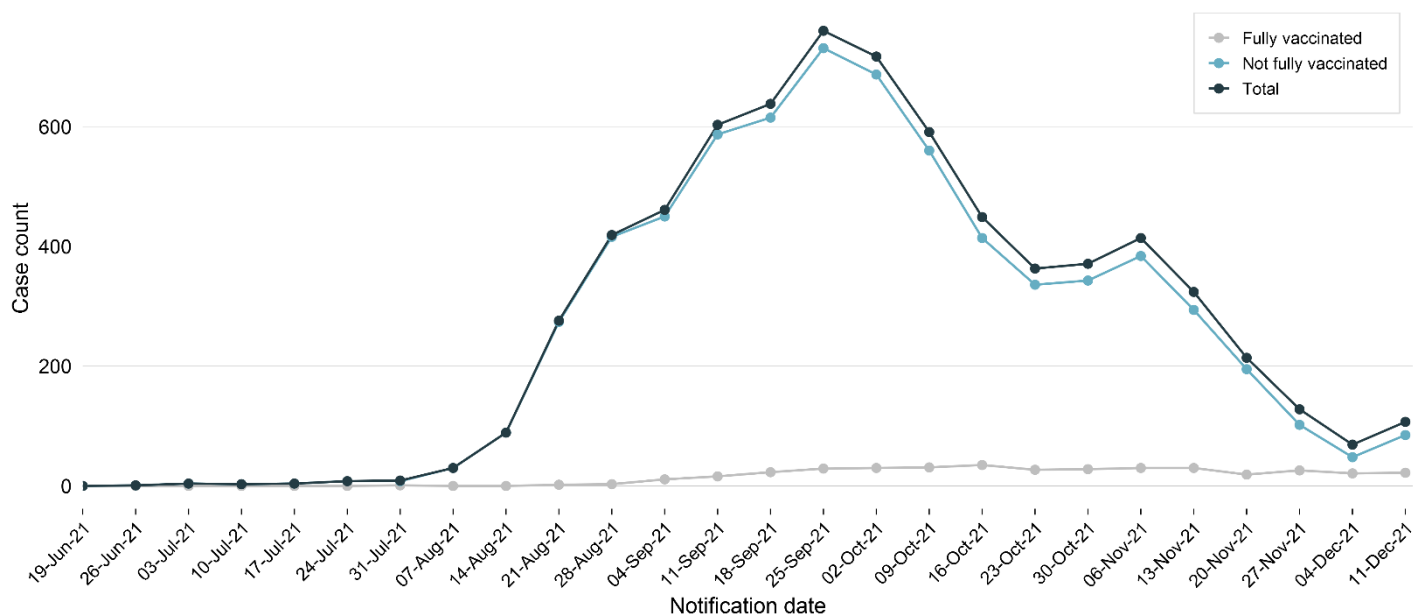


Table 9. Demographics of infections among Aboriginal people by gender, age, and vaccination status, NSW, 16 June to 11 December, 2021

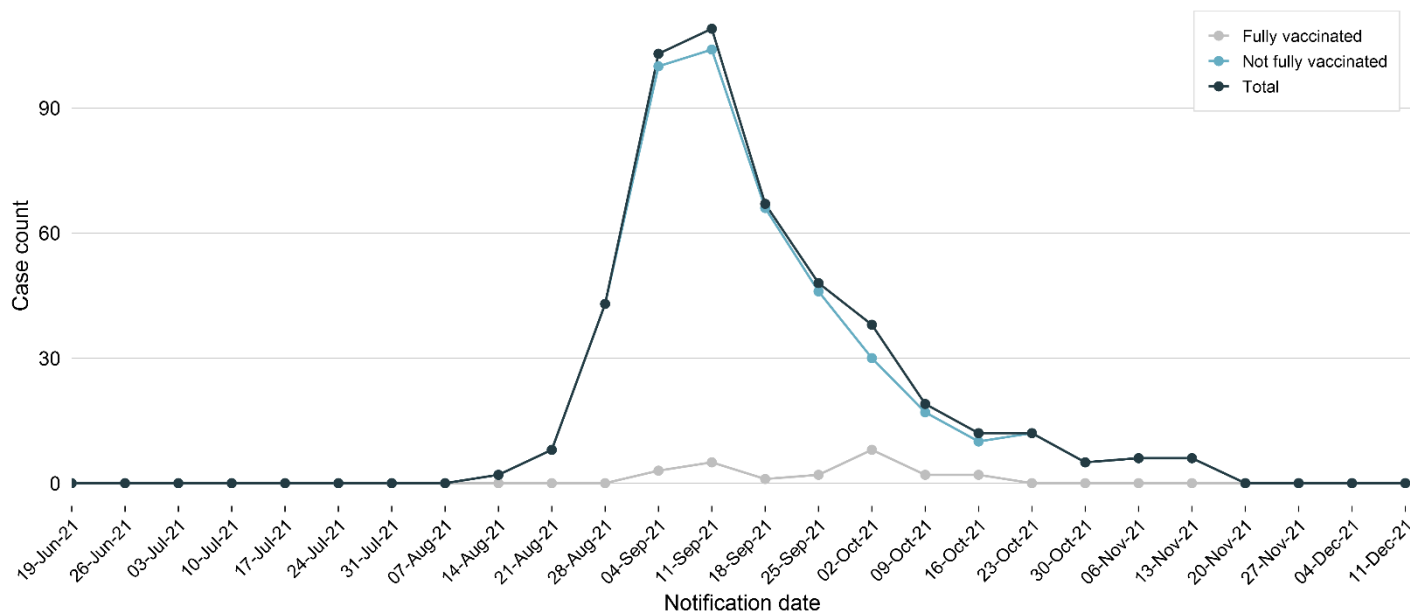
	Week ending				16 Jun to 11 Dec 2021
	11 Dec 2021	4 Dec 2021	27 Nov 2021	20 Nov 2021	
<b>Gender</b>					
Female	44 (41.1%)	39 (56.5%)	70 (54.7%)	118 (55.1%)	3,589 (50.9%)
Male	63 (58.9%)	30 (43.5%)	58 (45.3%)	96 (44.9%)	3,462 (49.1%)
Non-specified or non-binary	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (<0.1%)
<b>Age group</b>					
0-9	32 (29.9%)	26 (37.7%)	35 (27.3%)	77 (36.0%)	1,866 (26.5%)
10-19	29 (27.1%)	9 (13.0%)	26 (20.3%)	65 (30.4%)	1,639 (23.2%)
20-29	27 (25.2%)	16 (23.2%)	19 (14.8%)	25 (11.7%)	1,267 (18.0%)
30-39	8 (7.5%)	9 (13.0%)	18 (14.1%)	20 (9.3%)	979 (13.9%)
40-49	6 (5.6%)	3 (4.3%)	15 (11.7%)	13 (6.1%)	655 (9.3%)
50-59	2 (1.9%)	3 (4.3%)	8 (6.2%)	10 (4.7%)	393 (5.6%)
60+	3 (2.8%)	3 (4.3%)	7 (5.5%)	4 (1.9%)	253 (3.6%)
<b>Vaccination status</b>					
Fully vaccinated	22 (20.6%)	21 (30.4%)	26 (20.3%)	19 (8.9%)	384 (5.4%)
Partially vaccinated	1 (0.9%)	5 (7.2%)	6 (4.7%)	5 (2.3%)	483 (6.8%)
No effective dose	27 (25.2%)	12 (17.4%)	44 (34.4%)	80 (37.4%)	3,364 (47.7%)
Under investigation*	11 (10.3%)	3 (4.3%)	6 (4.7%)	6 (2.8%)	575 (8.2%)
Not eligible for vaccination (aged 0-11 years)	46 (43.0%)	28 (40.6%)	46 (35.9%)	104 (48.6%)	2,246 (31.8%)
<b>Total</b>	<b>107 (100%)</b>	<b>69 (100%)</b>	<b>128 (100%)</b>	<b>214 (100%)</b>	<b>7,052 (100%)</b>

\* 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 7,052 Aboriginal people diagnosed with COVID-19, representing 8.8% 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 13: Correctional settings

Figure 13. Number of confirmed COVID-19 infections among people residing in correctional settings by date, NSW, 16 June to 11 December 2021



- 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 14: Health care workers

Figure 14. Number of confirmed COVID-19 infections among healthcare workers by date, NSW, 16 June to 11 December 2021

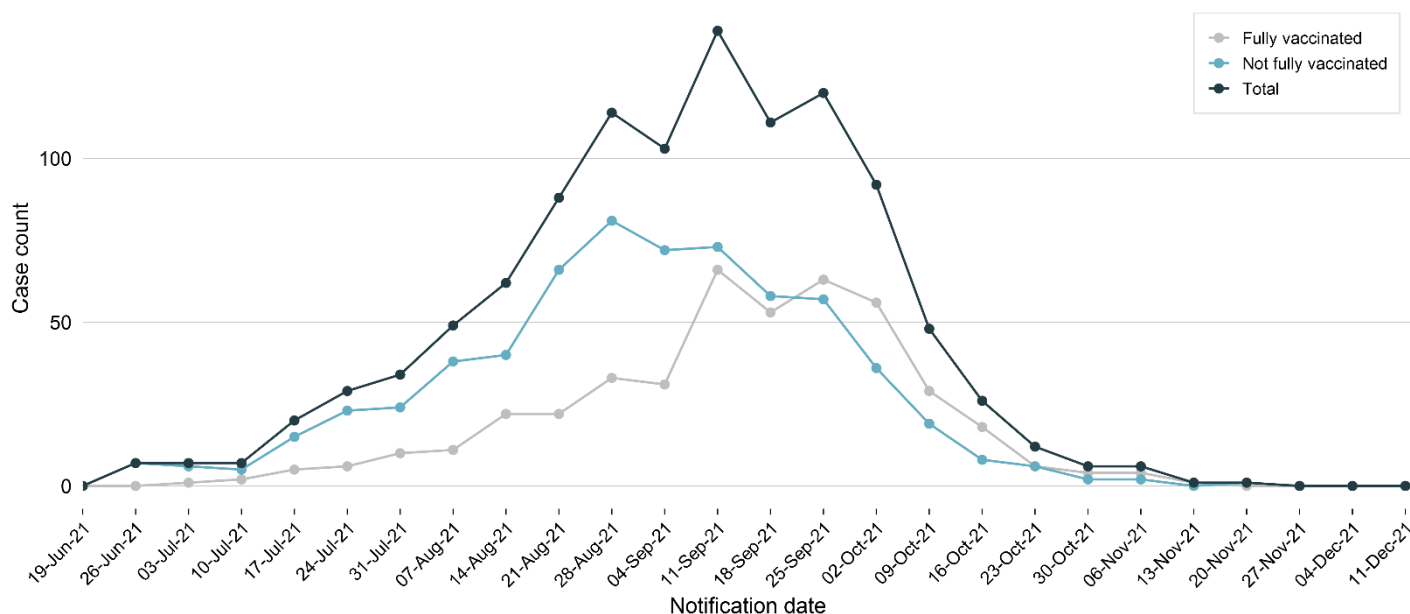


Table 10. Number of healthcare worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 11 December, 2021

Healthcare workers	Last 7 days			Current NSW outbreak (16 Jun-11 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	-	-	461	184 (40%)	57 (12%)
Not currently linked	0	-	-	409	173 (42%)	43 (11%)
<b>Total</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>1082</b>	<b>443 (41%)</b>	<b>123 (11%)</b>

- 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 15: Aged care workers

Figure 15. Number of confirmed COVID-19 infections among aged care workers by date, NSW, 16 June to 11 December 2021

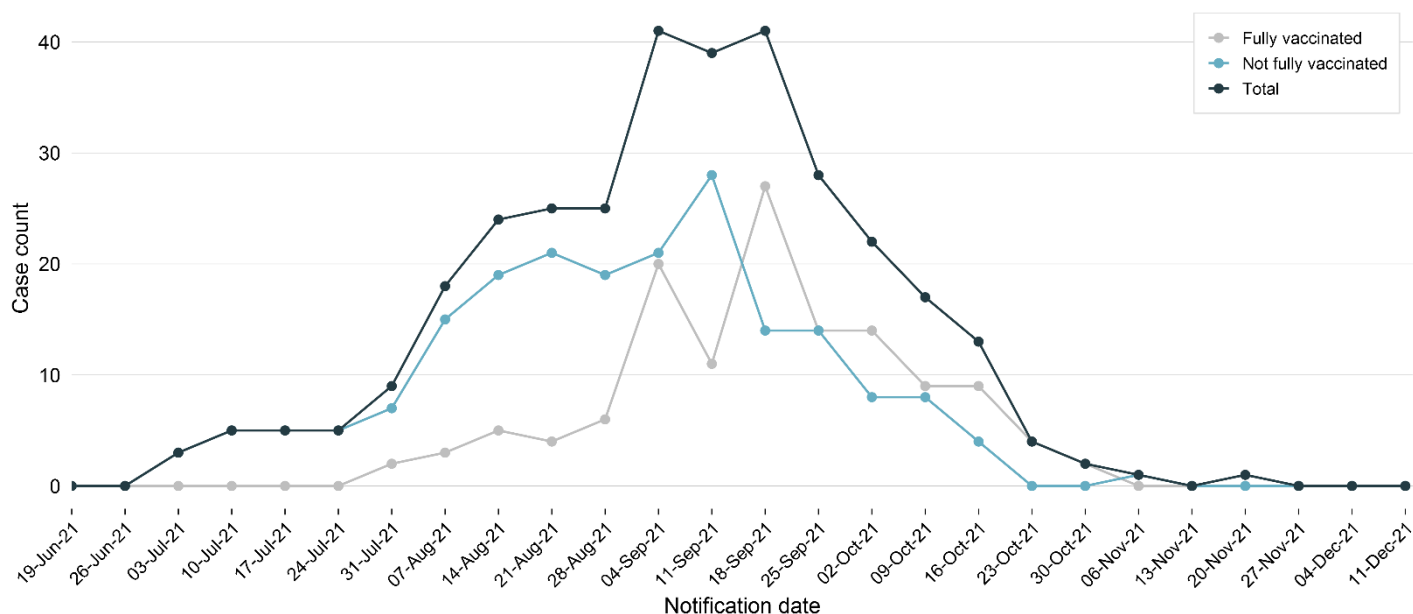


Table 11. Number of aged care worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 11 December 2021

Aged care workers	Last 7 days			Current NSW outbreak (16 Jun-11 Dec 2021)		
	Number of ACWs	Fully vaccinated	Partially Vaccinated	Number of ACWs	Fully vaccinated	Partially Vaccinated
Acquired at aged care facility	0	-	-	73	24 (33%)	18 (25%)
Community acquired	0	-	-	149	67 (45%)	27 (18%)
Not currently linked	0	-	-	106	40 (38%)	23 (22%)
<b>Total</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>328</b>	<b>131 (40%)</b>	<b>68 (21%)</b>

- 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 16: Variants of Concern (VoC)

**Table 12. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 11 December 2021**

Variant	Week ending				29 Nov 2020 to 13 Nov 2021	Total since 29 Nov 2020
	11 Dec*	4 Dec*	27 Nov	20 Nov		
Total variants identified	44	599	689	430	15,431	17,193
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)	15	580	689	430	15,424	17,139
Omicron (B.1.1.529)	29	19	-	-	-	48

**\*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.

**Table 13. Variants identified among overseas and interstate acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 11 December 2021**

Variant	Week ending				29 Nov 2020 to 13 Nov 2021	Total since 29 Nov 2020
	11 Dec*	4 Dec*	27 Nov	20 Nov		
Total variants identified	5	37	25	10	419	496
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)	0	27	24	10	186	247
Omicron (B 1.1.529)	5	10	1	-	-	16

**\*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.

## Section 17: Other respiratory infections in NSW

Figure 16. Proportion of tests positive for influenza, NSW, 1 January 2016 to 5 December 2021

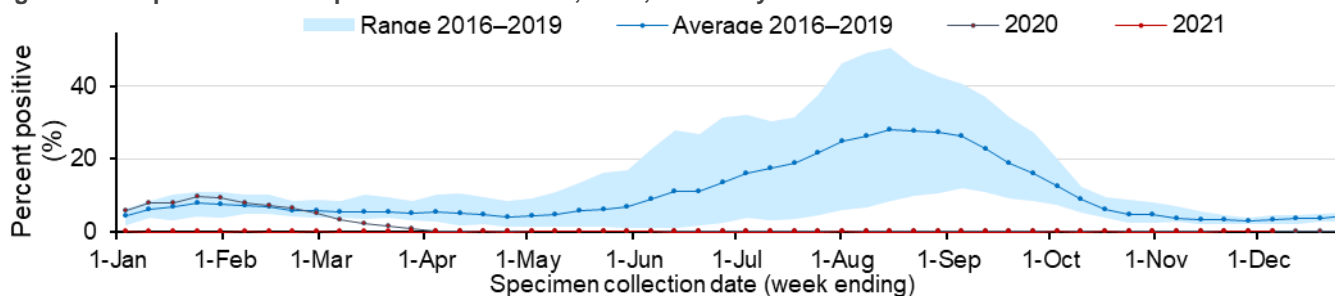


Figure 17. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 5 December 2021

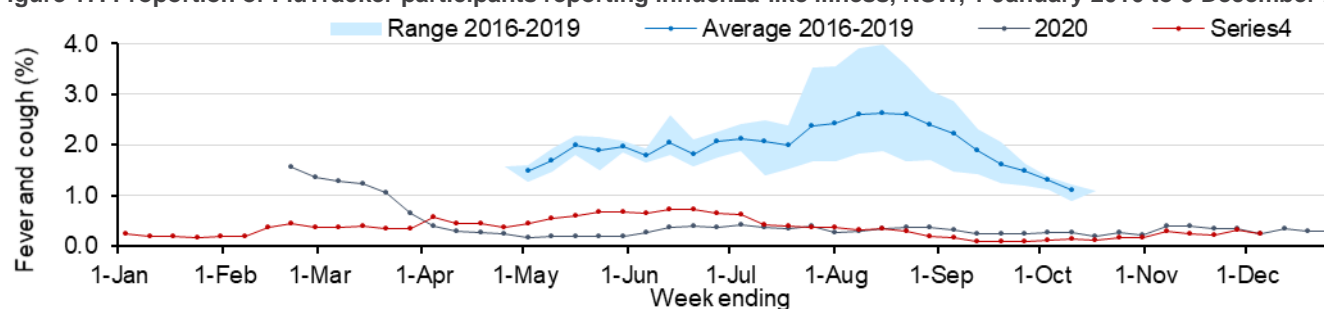


Figure 18. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 12 December 2021

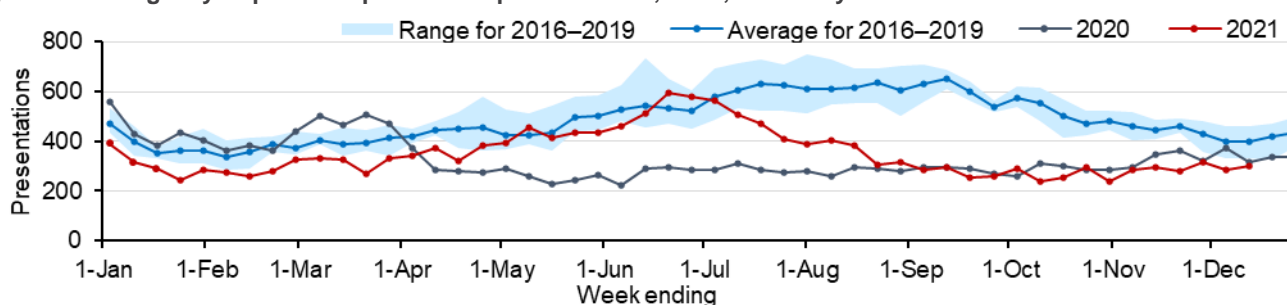
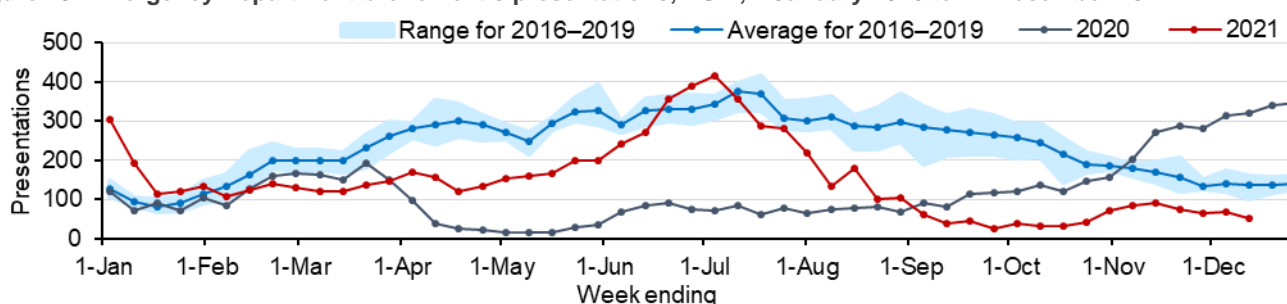


Figure 19. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 12 December 2021



- 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 26 influenza cases reported in 2021
- In the week ending 5 December, 14,971 people were surveyed, and 38 people (0.3%) reported flu-like symptoms
- In the last four weeks, 68% (116/170) 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	
		11 Dec		4 Dec		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
<b>Central Coast</b>	<i>LHD Total<sup>2</sup></i>	16,378	6.6	14,388	5.8	622,650	252.1
	Kiama	1,303	8.0	1,322	8.1	34,939	213.4
<b>Illawarra Shoalhaven</b>	Shellharbour	3,774	7.4	3,933	7.7	144,402	281.7
	Shoalhaven	3,611	4.9	3,199	4.3	120,165	162.5
	Wollongong	15,203	10.0	17,314	11.3	423,879	277.6
	<i>LHD Total<sup>2</sup></i>	23,891	8.1	25,768	8.8	723,385	246.3
<b>Nepean Blue Mountains</b>	Blue Mountains	4,639	8.4	4,362	7.9	159,710	288.4
	Hawkesbury	5,351	11.4	4,947	10.5	204,047	433.2
	Lithgow	523	3.5	475	3.1	20,317	134.3
	Penrith	19,075	12.8	17,110	11.5	678,297	455.0
	<i>LHD Total<sup>2</sup></i>	29,205	10.7	26,507	9.7	1,049,445	383.4
<b>Northern Sydney</b>	Hornsby	8,629	8.1	6,621	6.2	221,948	208.5
	Hunters Hill	2,211	21.1	1,863	17.8	54,770	522.3
	Ku-ring-gai	11,146	12.5	9,064	10.2	245,925	276.3
	Lane Cove	5,560	19.8	5,011	17.8	125,445	446.3
	Mosman	2,318	10.7	1,797	8.3	49,285	227.3
	North Sydney	4,462	8.5	3,713	7.1	101,333	193.0
	Northern Beaches	19,065	10.0	17,735	9.3	566,630	296.0
	Parramatta <sup>1</sup>	18,160	10.1	16,574	9.2	579,478	321.9
	Ryde	9,348	10.2	8,542	9.3	295,564	321.7
	<i>LHD Total<sup>2</sup></i>	71,125	10.6	61,468	9.2	1,853,548	277.0
<b>South Eastern Sydney</b>	Bayside	15,655	12.5	13,550	10.9	478,198	382.9
	Georges River	13,037	11.7	10,199	9.1	404,067	362.0
	Randwick	17,765	16.3	14,702	13.5	444,432	407.9
	Sutherland Shire	17,203	10.7	16,433	10.2	486,964	301.7
	Sydney <sup>1</sup>	25,440	14.8	18,718	10.9	606,836	351.9
	Waverley	9,772	18.8	7,744	14.9	212,482	408.6
	<i>LHD Total<sup>2</sup></i>	88,342	13.2	74,968	11.2	2,381,154	354.7
<b>South Western Sydney</b>	Camden	10,687	15.1	8,382	11.8	337,366	475.1
	Campbelltown	14,716	12.3	12,794	10.7	541,301	452.4
	Canterbury-Bankstown <sup>1</sup>	39,107	14.8	31,470	11.9	1,451,196	548.6
	Fairfield	20,709	14.0	19,474	13.1	822,000	554.7
	Liverpool	24,078	15.1	22,278	14.0	800,922	502.8
	Wingecarribee	2,542	7.1	2,194	6.1	74,806	209.0
	<i>LHD Total<sup>2</sup></i>	95,420	13.1	84,002	11.6	3,405,243	468.4
<b>Sydney</b>	Burwood	2,426	8.5	2,248	7.9	86,334	303.7
	Canada Bay	8,231	12.2	6,754	10.0	215,666	320.7
	Canterbury-Bankstown <sup>1</sup>	39,107	14.8	31,470	11.9	1,451,196	548.6
	Inner West	19,060	13.6	14,594	10.4	443,145	315.3
	Strathfield	5,118	15.6	4,812	14.7	186,576	568.0

		Week ending				Total since January 2021		
		11 Dec		4 Dec				
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 <sup>1</sup>	25,440	14.8	18,718	10.9	606,836	351.9	
	<i>LHD Total<sup>2</sup></i>	69,577	14.3	54,672	11.2	2,028,103	415.8	
<b>Western Sydney</b>	Blacktown	34,141	13.0	30,363	11.6	1,214,750	463.4	
	Cumberland	26,611	15.7	24,388	14.4	1,007,005	595.6	
	Parramatta <sup>1</sup>	18,160	10.1	16,574	9.2	579,478	321.9	
	The Hills Shire	17,052	13.7	14,220	11.4	478,471	384.1	
	<i>LHD Total<sup>2</sup></i>	94,130	12.8	84,070	11.4	3,232,385	438.4	
	<b>Far West</b>	Balranald	49	3.0	57	3.5	2,052	125.4
		Broken Hill	1,133	9.3	1,462	12.0	28,654	234.2
Central Darling		73	5.7	81	6.3	4,533	352.1	
Wentworth		287	5.8	328	6.6	9,127	184.9	
<i>LHD Total<sup>2</sup></i>		1,542	7.3	1,928	9.1	44,366	210.3	
<b>Hunter New England</b>	Armidale Regional	710	3.3	684	3.2	31,847	147.8	
	Cessnock	1,159	2.8	1,171	2.8	62,848	149.7	
	Dungog	129	2.0	138	2.1	7,174	108.8	
	Glen Innes Severn	145	2.3	170	2.7	5,712	92.0	
	Gunnedah	206	2.3	141	1.6	10,514	118.4	
	Gwydir	71	1.9	70	1.9	2,684	71.6	
	Inverell	338	2.9	334	2.8	15,784	133.5	
	Lake Macquarie	5,943	4.1	5,845	4.1	310,685	215.6	
	Liverpool Plains	118	2.1	110	2.0	5,968	107.9	
	Maitland	3,036	5.1	3,034	5.1	158,466	265.8	
	Mid-Coast	2,718	4.1	2,685	4.1	86,658	131.9	
	Moree Plains	586	6.3	667	7.2	17,545	189.0	
	Muswellbrook	234	2.0	215	1.9	12,692	110.7	
	Narrabri	181	2.0	165	1.8	7,970	86.7	
	Newcastle	6,039	5.2	5,523	4.8	266,085	229.6	
	Port Stephens	1,744	3.4	1,694	3.3	88,401	171.9	
	Singleton	618	3.8	615	3.7	29,526	179.8	
	Tamworth Regional	1,325	3.0	1,415	3.2	79,225	181.0	
	Tenterfield	147	3.2	132	2.9	3,660	79.3	
	Upper Hunter Shire	243	2.5	293	3.0	10,514	105.9	
	Uralla	84	2.0	64	1.5	3,954	94.0	
Walcha	59	2.7	55	2.5	2,512	114.5		
<i>LHD Total<sup>2</sup></i>	25,906	3.9	25,275	3.8	1,219,954	183.0		
<b>Mid North Coast</b>	Bellingen	264	2.9	230	2.5	9,027	99.2	
	Coffs Harbour	1,544	2.9	1,223	2.3	52,182	96.5	
	Kempsey	1,098	5.3	1,429	6.9	40,386	194.0	
	Nambucca	315	2.3	255	1.8	12,377	89.3	
	Port Macquarie-Hastings	2,791	4.7	1,877	3.2	78,333	132.4	
	<i>LHD Total<sup>2</sup></i>	6,012	3.8	5,014	3.2	192,305	121.7	
<b>Murrumbidgee</b>	Albury	1,480	3.9	1,557	4.1	76,066	199.9	
	Berrigan	88	1.4	126	2.1	4,301	70.2	
	Bland	62	1.5	75	1.8	3,907	93.5	
	Carrathool	26	1.3	24	1.2	1,084	55.3	

		Week ending				Total since January 2021	
		11 Dec		4 Dec			
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	82	2.7	97	3.2	3,776	124.3
	Cootamundra-Gundagai Regional	175	2.2	228	2.9	8,844	112.5
	Edward River	260	4.1	578	9.1	8,876	139.6
	Federation	449	5.2	285	3.3	11,862	136.3
	Greater Hume Shire	216	2.9	236	3.1	12,004	159.3
	Griffith	681	3.6	614	3.3	21,084	111.4
	Hay	56	2.7	57	2.8	1,697	82.2
	Hilltops	378	2.9	355	2.7	22,887	174.8
	Junee	103	2.2	121	2.6	4,669	99.8
	Lachlan <sup>1</sup>	92	2.2	84	2.0	3,659	86.0
	Leeton	154	1.9	199	2.5	6,708	83.7
	Lockhart	98	4.3	82	3.6	2,987	129.9
	Murray River	298	3.5	199	2.4	5,190	61.2
	Murrumbidgee	62	2.3	34	1.2	2,448	89.3
	Narrandera	77	1.9	48	1.2	2,841	68.8
	Snowy Valleys	249	2.5	251	2.5	9,030	89.1
	Temora	84	1.9	91	2.1	3,900	88.3
	Wagga Wagga	2,258	4.9	2,421	5.3	82,246	180.1
	<i>LHD Total<sup>2</sup></i>	7,362	3.5	7,703	3.7	297,586	142.6
<b>Northern NSW</b>	Ballina	1,543	4.9	1,162	3.7	51,191	163.9
	Byron	2,360	9.6	1,396	5.7	39,934	162.6
	Clarence Valley	928	2.6	926	2.6	38,028	105.2
	Kyogle	130	2.1	128	2.1	5,834	94.8
	Lismore	1,468	4.8	1,552	5.1	45,634	149.2
	Richmond Valley	683	4.2	693	4.2	24,903	151.6
	Tenterfield	147	3.2	132	2.9	3,660	79.3
	Tweed	2,771	4.1	2,220	3.3	71,924	105.9
	<i>LHD Total<sup>2</sup></i>	9,909	4.6	8,098	3.7	278,309	128.1
<b>Southern NSW</b>	Bega Valley	445	1.8	482	2.0	23,157	96.0
	Eurobodalla	668	2.5	676	2.5	28,039	104.1
	Goulburn Mulwaree	672	3.1	657	3.0	38,372	176.1
	Queanbeyan-Palerang Regional	1,724	4.0	1,527	3.6	61,014	142.7
	Snowy Monaro Regional	618	4.3	1,023	7.0	25,499	175.2
	Upper Lachlan Shire	132	2.3	132	2.3	6,622	117.4
	Yass Valley	196	1.6	197	1.7	14,638	122.4
<i>LHD Total<sup>2</sup></i>	4,460	2.9	4,697	3.1	197,468	130.0	
<b>Western NSW</b>	Bathurst Regional	2,005	6.6	1,511	5.0	73,936	242.2
	Blayney	253	4.9	276	5.3	10,742	208.0
	Bogan	30	1.7	32	1.8	2,629	145.6
	Bourke	90	5.0	123	6.8	6,928	382.1
	Brewarrina	16	1.4	31	2.8	2,435	215.9
	Cabonne	1,058	11.1	1,784	18.7	14,716	154.2
	Cobar	98	3.0	140	4.3	4,305	132.0

Local Health District	Local Government Area	Week ending				Total since January 2021	
		11 Dec		4 Dec		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	63	2.3	73	2.6	3,723	134.4
	Cowra	197	2.2	220	2.5	19,514	218.8
	Dubbo Regional	2,304	6.1	2,459	6.5	163,920	435.9
	Forbes	165	2.4	128	1.9	7,420	107.0
	Gilgandra	71	2.4	64	2.2	4,982	167.9
	Lachlan <sup>1</sup>	92	2.2	84	2.0	3,659	86.0
	Mid-Western Regional	492	2.8	438	2.5	30,891	174.8
	Narrromine	171	3.8	141	3.1	11,617	254.7
	Oberon	188	5.0	157	4.1	8,272	218.4
	Orange	2,125	7.2	2,716	9.1	83,517	281.1
	Parkes	227	2.2	253	2.4	13,836	133.2
	Walgett	108	2.6	138	3.3	8,789	210.9
	Warren	63	3.3	88	4.7	6,716	355.7
	Warrumbungle Shire	290	4.5	984	15.2	11,030	169.8
	Weddin	45	1.8	63	2.5	2,882	114.0
	<i>LHD Total<sup>2</sup></i>	10,126	5.1	11,883	6.0	495,398	248.3
<b>NSW Total</b>	<b>NSW Total<sup>3</sup></b>	553,385	9.8	490,443	8.7	18,021,971	318.3

Source - Notifiable Condition Information Management System, accessed as at 8pm 13 Dec 2021

<sup>1</sup> Local Government Area (LGA) spans multiple Local Health Districts.

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

<sup>3</sup> 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 5 December 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 – 5 December 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
<b>Total</b>	774,951	16	<0.01%	10	<0.01%	7,984	18,675	17,578	62,968	5,853	6,653
<b>Month ending</b>											
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
<b>Week ending</b>											
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
5 December	10,593	3	0.03%	0	-	72	24	9	791	129	49

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

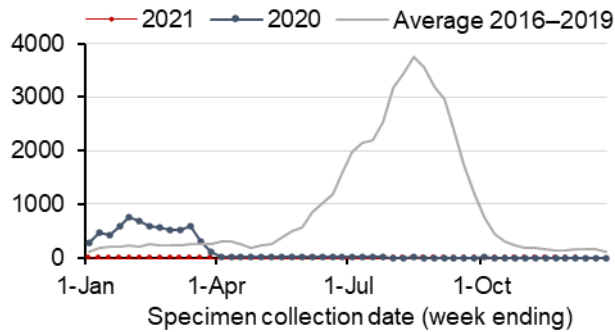
RSV - Respiratory syncytial virus

\*Five-week period

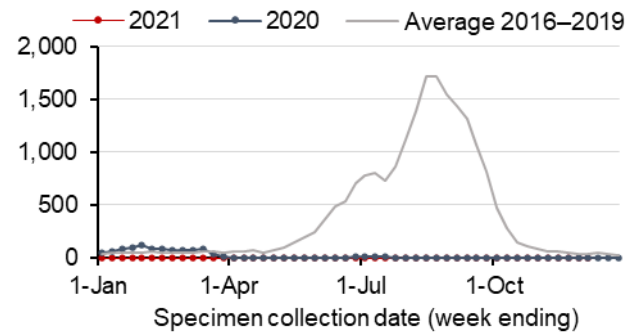
## Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 5 December 2021

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

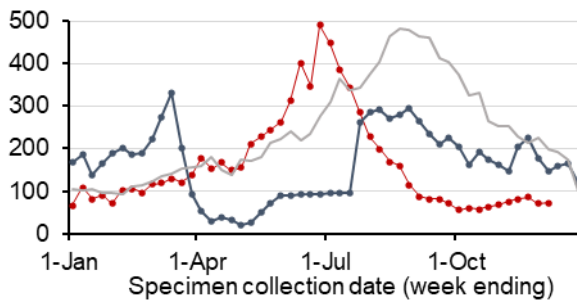
### Influenza A



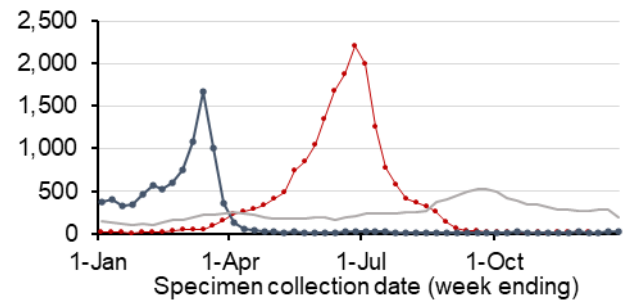
### Influenza B



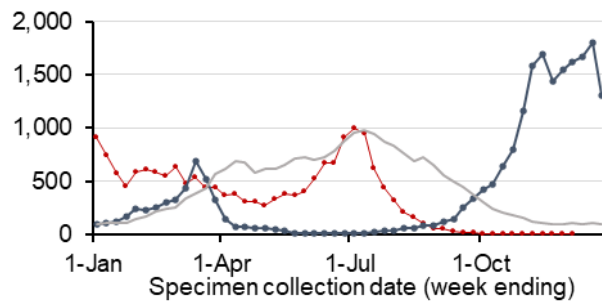
### Adenovirus



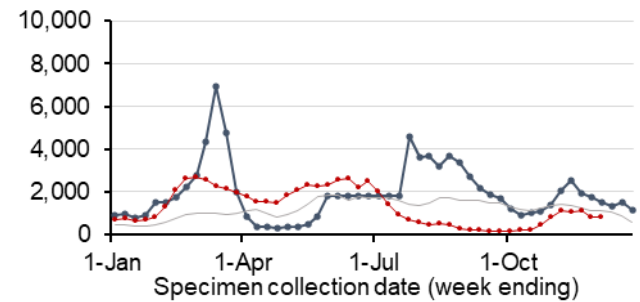
### Parainfluenza



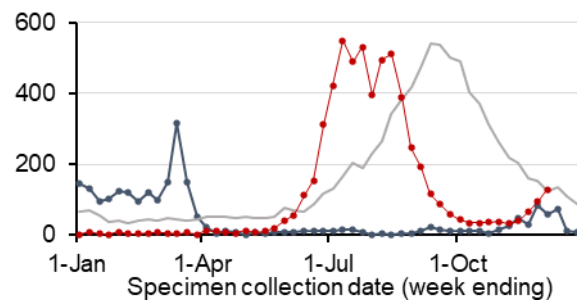
### Respiratory Syncytial Virus



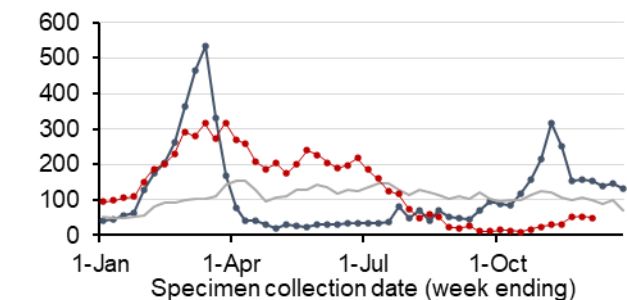
### Rhinovirus



### 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 11 December, 227 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 92 detections:

- Detections outside Sydney

There were 81 detections outside Sydney taken from the sewage treatment plants at Albury, Armidale, Ballina, Barooga, Bateau Bay, Bathurst, Blayney, Bomaderry, Bonny Hills, Bowral, Broken Hill, Buronga, Byron Bay, Casino, Charmhaven, Coonabarabran, Cowra, Crescent Head, Culburra Beach, Dubbo, Eden, Finley, Forster, Gerroa, Gladstone, Googong, Gosford – Kincumber, Goulburn, Gulargambone, Gwandalan, Hallidays Point, Harrington, Hunter - Boulder Bay, Morpeth, Raymond Terrace, Toronto, Belmont, Cessnock, Farley and Kurri Kurri, Inverell, Jindabyne, Kew Kendall, Lennox Head, Lismore composite, Lockhart, Mannering Park, Mittagong, Moama, Moree, Moruya, Moss Vale, Mungindi, Narrandera, Narromine, Ocean Shores, Orange, Port Macquarie, Queanbeyan, Scone, South Kempsey, South West Rocks, Tamworth, Taree, Temora, Tocomwal, Tomakin, Tweed - Banora Point and Kingscliff, Uralla, Vincentia, Wagga Wagga composite, Walgett, Wellington, Wentworth, West Kempsey, Wilcannia, Wingham, Woy Woy, Wyong- Toukley, 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 Bondi (2), Liverpool, Quakers Hill (3) and South Windsor and from the sewage network at Caringbah (2), and Miranda (2).

- Detections with no known cases

Detections from Wellington, Gulargambone, Cowra, Walgett, Blayney, Wilcannia, Wentworth, South West Rocks, Mannering Park, Raymond Terrace, Boulder Bay, Finley, Barooga, Tocomwal, Eden, Moruya, Narrandera, Tomakin, Lockhart, Goulburn, Temora, Young, Moss Vale, Uralla, and Bomaderry occurred with no known or recent cases in the catchment. Cases were also identified in Woolgoolga and Bomaderry following recent sewage detections.

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

There were no detections in the following catchments: Aberdeen, Alstonville, Balranald, Bangalow, Baradine, Barraba, Batemans Bay, Bega, Bellingen, Bermagui, Bingara, Bodalla, Boggabilla, Boorowa, Bourke, Bowraville, Broken Hill South, Bulahdelah, Cobar, Coffs Harbour, Coolah, Coolamon, Coonamble, Cootamundra, Coraki, Curlewis, Daretton, Darlington Point, Delungra, Deniliquin, Denman, Dorrigo, Dunbogan, Dunedoo, Evans Head, Forbes, Frederickton, Gilgandra, Glen Innes, Gloucester, Grafton composite, Grenfell, Griffith, Gulgong, Gundagai, Gunnedah, Guyra, Harden, Hawkes Nest, Holbrook, Hunter - Branxton, Burwood Beach, Dora Creek, Edgeworth, Karuah, Shortland, Dungog and Tanilba Bay, Jerilderie, Junee, Kyogle, Leeton, Lightning Ridge, Lithgow, Macksville, Manilla, Mcgraths Hill, Merimbula, Merriwa, Moonee, Mudgee, Mullumbimby, Murrurundi, Muswellbrook, Nambucca Heads, Narooma, Nowra, Oberon, Old Bar, Parkes, Quirindi, Scotts Head, Singleton, St Georges Basin, Tenterfield, Trangie, Tumut, Tuross, Tweed - Hastings Point and Murwillumbah, Ulladulla, Urunga, Walcha, Wardell, Warialda, Warren, Wauchope, Werris Creek, West Wyalong, Woodenbong, Woolgoolga, Wyong South, and Yass.

## Appendix E: Additional tables and figures

Total COVID-19 cases by LHD of residence and week reported, NSW, 14 November to 11 December 2021

	Local Health District	Week ending				Total
		11 Dec	4 Dec	27 Nov	20 Nov	
Metropolitan Local Health Districts	South Western Sydney	610	468	333	276	1,687
	Western Sydney	517	308	222	235	1,282
	South Eastern Sydney	506	274	310	128	1,218
	Sydney	488	216	132	159	995
	Northern Sydney	164	128	124	65	481
	Illawarra Shoalhaven	73	74	30	15	192
	Nepean Blue Mountains	71	60	46	51	228
	Central Coast	71	27	11	14	123
Rural and Regional Local Health Districts	Northern NSW	108	11	8	16	143
	Hunter New England	79	67	151	286	583
	Mid North Coast	47	34	22	30	133
	Murrumbidgee	42	22	39	85	188
	Western NSW	38	61	71	44	214
	Southern NSW	17	14	29	24	84
	Far West	2	4	10	6	22
	Correctional settings	2	1	1	1	5
Hotel Quarantine <sup>#</sup>	1	0	4	0	5	
NSW*	2,846	1,770	1,543	1,439	7,598	

<sup>#</sup>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 11 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	9,169 (11.4%)	6,898 (8.6%)	38,605 (48.0%)	9,576 (11.9%)	16,107 (20.0%)	80,355 (100%)
<b>Month</b>						
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%)	2,665 (80.6%)	42 (1.3%)	434 (13.1%)	3,307 (100%)
August 2021	552 (2.9%)	808 (4.3%)	13,389 (70.5%)	1,098 (5.8%)	3,134 (16.5%)	18,981 (100%)
September 2021	2,601 (7.5%)	3,875 (11.1%)	15,429 (44.2%)	6,575 (18.9%)	6,395 (18.3%)	34,875 (100%)
October 2021	1,869 (15.1%)	1,706 (13.8%)	4,773 (38.6%)	875 (7.1%)	3,138 (25.4%)	12,361 (100%)
November 2021	2,143 (32.8%)	323 (4.9%)	1,500 (22.9%)	480 (7.3%)	2,095 (32.0%)	6,541 (100%)
<b>Week ending</b>						
20 Nov 2021	442 (30.7%)	66 (4.6%)	330 (22.9%)	113 (7.9%)	488 (33.9%)	1,439 (100%)
27 Nov 2021	638 (41.3%)	42 (2.7%)	295 (19.1%)	148 (9.6%)	420 (27.2%)	1,543 (100%)
04 Dec 2021	741 (41.9%)	38 (2.1%)	339 (19.2%)	171 (9.7%)	481 (27.2%)	1,770 (100%)
11 Dec 2021	1,418 (49.8%)	48 (1.7%)	426 (15.0%)	384 (13.5%)	570 (20.0%)	2,846 (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 11 December 2021

	Week ending				16 Jun to 11 Dec 2021
	11 Dec 2021	4 Dec 2021	27 Nov 2021	20 Nov 2021	
<b>Gender</b>					
Female	1,322 (46.5%)	919 (51.9%)	697 (45.2%)	680 (47.3%)	38,217 (47.6%)
Male	1,522 (53.5%)	851 (48.1%)	846 (54.8%)	759 (52.7%)	42,094 (52.4%)
Non-specified or non-binary	2 (<0.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	44 (0.1%)
<b>Age group</b>					
0-9	411 (14.4%)	362 (20.5%)	303 (19.6%)	383 (26.6%)	13,260 (16.5%)
10-19	477 (16.8%)	339 (19.2%)	243 (15.7%)	277 (19.2%)	13,191 (16.4%)
20-29	700 (24.6%)	332 (18.8%)	251 (16.3%)	211 (14.7%)	15,853 (19.7%)
30-39	493 (17.3%)	250 (14.1%)	255 (16.5%)	216 (15.0%)	13,702 (17.1%)
40-49	342 (12.0%)	219 (12.4%)	199 (12.9%)	139 (9.7%)	9,880 (12.3%)
50-59	210 (7.4%)	114 (6.4%)	137 (8.9%)	99 (6.9%)	7,102 (8.8%)
60-69	126 (4.4%)	72 (4.1%)	78 (5.1%)	69 (4.8%)	4,091 (5.1%)
70-79	60 (2.1%)	53 (3.0%)	55 (3.6%)	34 (2.4%)	2,037 (2.5%)
80-89	26 (0.9%)	19 (1.1%)	16 (1.0%)	11 (0.8%)	989 (1.2%)
90+	1 (<0.1%)	10 (0.6%)	6 (0.4%)	0 (0.0%)	250 (0.3%)
<b>Total</b>	<b>2,846, (100%)</b>	<b>1,770 (100%)</b>	<b>1,543 (100%)</b>	<b>1,439 (100%)</b>	<b>80,355 (100%)</b>

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 11 December 2021

Age-group (years)	% cases with severe outcomes (ICU and/or death)			
	Jan 2020 - 15 Jun 2021	16 Jun - 11 Dec 2021: Fully vaccinated		16 Jun - 11 Dec 2021: Un-vaccinated
0-9	0% (0 / 251)	-	-	<1% (10 / 13,260)
10-19	<1% (1 / 325)	0%	(0 / 379)	<1% (29 / 10,600)
20-29	<1% (4 / 1,115)	<1%	(3 / 1,760)	1% (98 / 10,266)
30-39	1% (15 / 1,098)	<1%	(5 / 1,898)	2% (157 / 8,123)
40-49	2% (12 / 718)	<1%	(6 / 1,669)	3% (181 / 5,653)
50-59	4% (30 / 710)	1%	(16 / 1,401)	7% (268 / 3,849)
60-69	7% (44 / 656)	2%	(18 / 957)	13% (232 / 1,799)
70-79	12% (46 / 394)	6%	(39 / 648)	22% (163 / 732)
80-89	21% (26 / 122)	11%	(38 / 333)	36% (131 / 365)
90+	38% (16 / 42)	20%	(25 / 124)	45% (29 / 65)
<b>Total</b>	<b>4% (194 / 5,431)</b>	<b>2%</b>	<b>(150 / 9,169)</b>	<b>2% (1,298 / 54,712)</b>

\* 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 <sup>4</sup>	Hospitalised per 100,000 population	Hospitalised	Percentage of cases hospitalised <sup>1</sup>
0-9	291	2%	28.8	4	2%
10-19	363	3%	37.7	10	3%
20-29	987	6%	84.2	27	2%
30-39	1267	9%	108.2	46	4%
40-49	1315	13%	127.3	48	7%
50-59	1281	18%	131.8	78	11%
60-69	1055	26%	125.5	117	18%
70-79	784	39%	134.5	92	23%
80-89	523	53%	190.7	52	43%
90+	131	52%	188.9	16	38%
Total	7,997	10%	98.9	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 <sup>1</sup>	ICU admission per 100,000 population	Admitted to ICU	Percentage of cases admitted to ICU <sup>1</sup>
0-9	10	0%	1.0	0	0%
10-19	36	0%	3.7	1	0%
20-29	121	1%	10.3	4	0%
30-39	192	1%	16.4	15	1%
40-49	232	2%	22.5	12	2%
50-59	342	5%	35.2	29	4%
60-69	290	7%	34.5	43	7%
70-79	213	11%	36.6	39	10%
80-89	61	6%	22.2	13	11%
90+	1	0%	1.4	0	0%
Total	1498	2%	18.5	156	3%

<sup>4</sup> 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.

## 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"> <li>- NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and</li> <li>- interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis</li> </ul>
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 <a href="#">COVID-19 in healthcare workers in NSW</a> 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"> <li>• 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</li> <li>• 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</li> <li>• received a single-dose vaccination course (currently only Johnson &amp; Johnson vaccine) less than 14 days prior to known exposure to COVID-19 or arrival in Australia.</li> </ul>
No effective dose	<p>Cases reported as no effective dose:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• have not received any vaccine dose.</li> </ul> <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 <a href="#">Australia's Communicable Diseases Genomics Network (CDGN)</a> 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>