

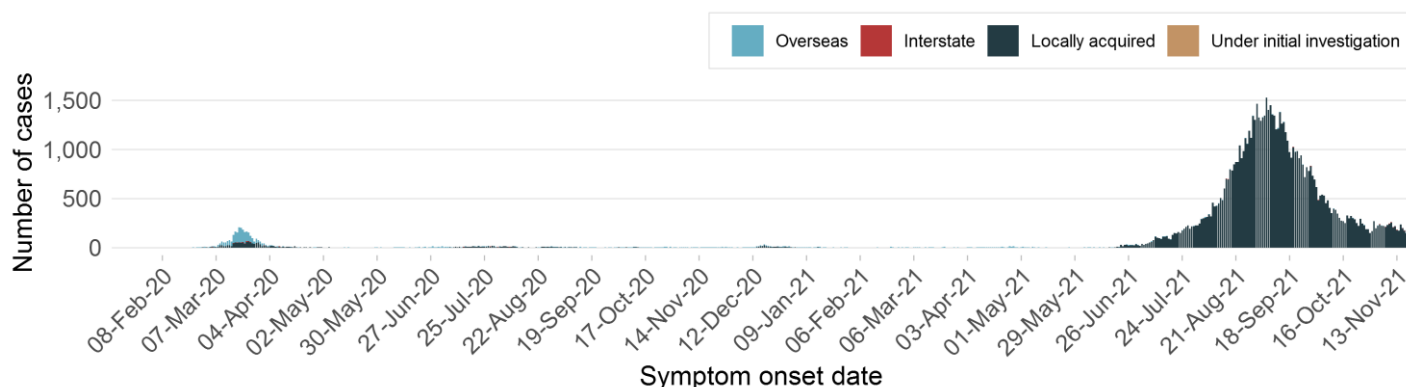
# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 46 ENDING 20 NOVEMBER 2021

Published 1 December 2021

### Summary for the week 14 November to 20 November 2021 (inclusive)

Figure 1. COVID-19 cases by likely infection source and reported illness onset, NSW, 13 January 2020 to 20 November 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 20 November 2021

	2020		2021			Total
	Jan – Jun	July – Dec	01 Jan - 15 Jun	16 Jun - 31 Oct	01 Nov - 20 Nov	
Locally acquired	1,236 (39 %)	807 (52 %)	51 (7 %)	69,507 (100 %)	4,342 (98 %)	75,943 (95 %)
Interstate acquired	67 (2 %)	23 (1 %)	0 (0 %)	28 (<1 %)	50 (1 %)	168 (<1 %)
Overseas acquired	1,892 (59 %)	714 (46 %)	641 (93 %)	240 (<1 %)	33 (1 %)	3,520 (4 %)
Under investigation	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	12 (<1 %)	12 (<1 %)
<b>Total</b>	<b>3,195 (100 %)</b>	<b>1,544 (100 %)</b>	<b>692 (100 %)</b>	<b>69,775 (100 %)</b>	<b>4,437 (100 %)</b>	<b>79,643 (100 %)</b>
Deaths	51	5	0	522	44	622

In the week ending 20 November 2021:

- There were 1,440 total cases reported, with 1,387 locally acquired
- The ten LGAs with the highest number of cases were:
  - Canterbury-Bankstown, 204 (15%) cases
  - Liverpool, 61 (4%) cases
  - Randwick, 36 (3%) cases
  - Cumberland, 132 (10%) cases
  - Blacktown, 55 (4%) cases
  - Albury, 36 (3%) cases
  - Mid-Coast, 98 (7%) cases
  - Newcastle, 48 (3%) cases
  - 650 (47%) cases were residents across 64 other LGAs
  - Fairfield, 74 (5%) cases
  - Penrith, 42 (3%) cases
- There were 15 cases in overseas returned travellers (compared with 14 the previous week).
- There were 10 deaths in people diagnosed with COVID.
- 45.6% of all cases, and 88.7% of the population, aged 12 and over were fully vaccinated.
- Testing rates decreased compared to the previous week (down 6%).
- 286 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 125 detections. Detections from Gerroa, Tumut, Eden, Jerilderie, West Wyalong, Young, Holbrook, Uralla, Mungindi, Narrabri, Denman, Gladstone/Smithtown, Wardell, Tweed - Kingscliff, Wauchope, Coonabarabran, Dareton, Grenfell and Lithgow occurred with no known or recent cases in the catchment.

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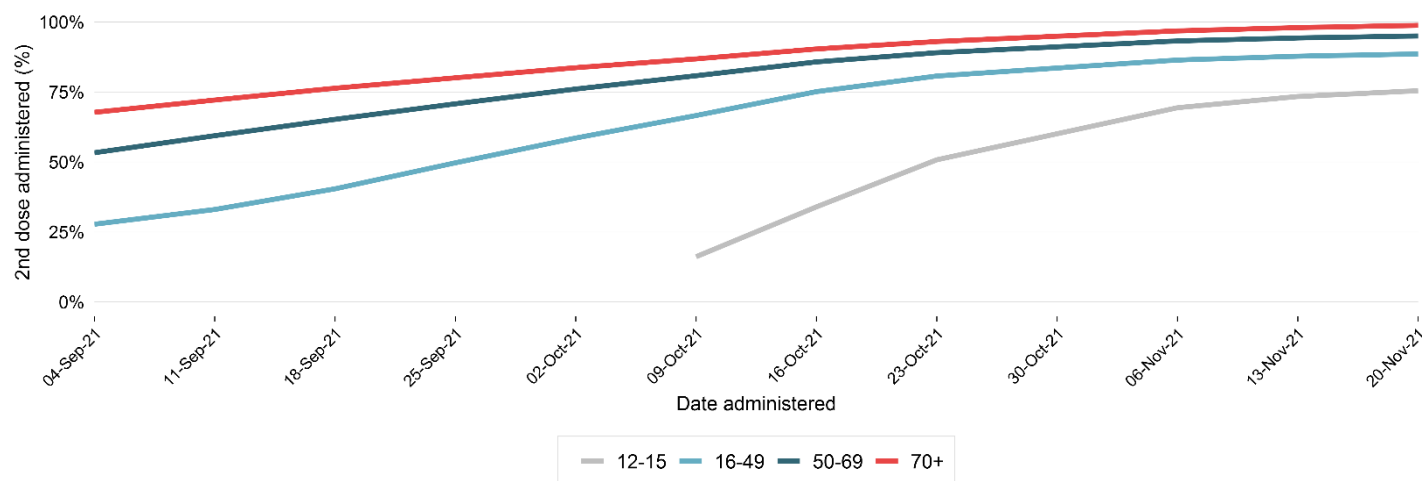
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**Table 2. Measures of public health action, NSW, for the period from 7 November to 20 November 2021**

	Week ending 20 Nov	Week ending 13 Nov
Proportion total cases notified to NSW Health by the laboratory within 1 day of specimen collection	88% (1,270/1,442)	84% (1,341/1,598)
Total cases contacted by text message within 1 day of notification to NSW Health	98% (1412/1440)	98% (1565/1599)
Number of high-risk cases fully interviewed by public health staff within 1 day of responding to the NSW Health text message	94% (407/433)	91% (477/523)
Total cases fully interviewed by public health staff within 1 day of notification to NSW Health	98% (1,418/1,442)	95% (1,519/1,598)

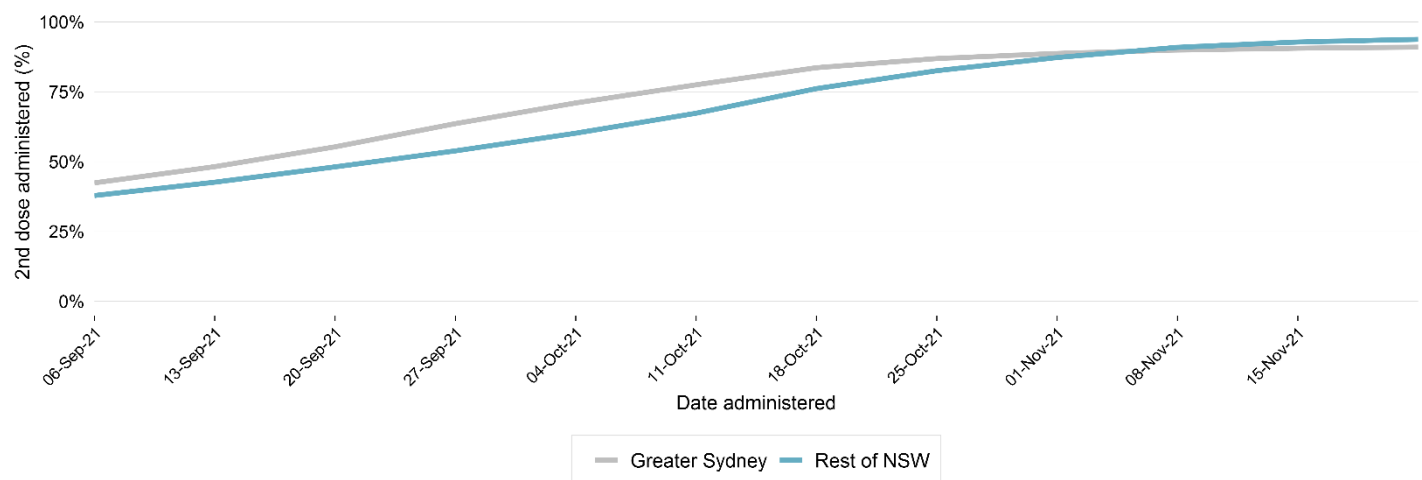
## Section 1: Vaccination coverage in NSW

Figure 2. Proportion who have received two doses of COVID-19 vaccine, by age range and time, NSW, 4 September to 20 November 2021.



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

Figure 3. Proportion who have received two doses, by region and time, for those aged 16 and over, NSW, 6 September to 22 November 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 91% of those aged 16 and over by 20 November 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>1</sup>.

<sup>1</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 2: Cases from 16 June 2021 to 20 November 2021

Figure 4. Source of infection, NSW from 16 June to 20 November 2021

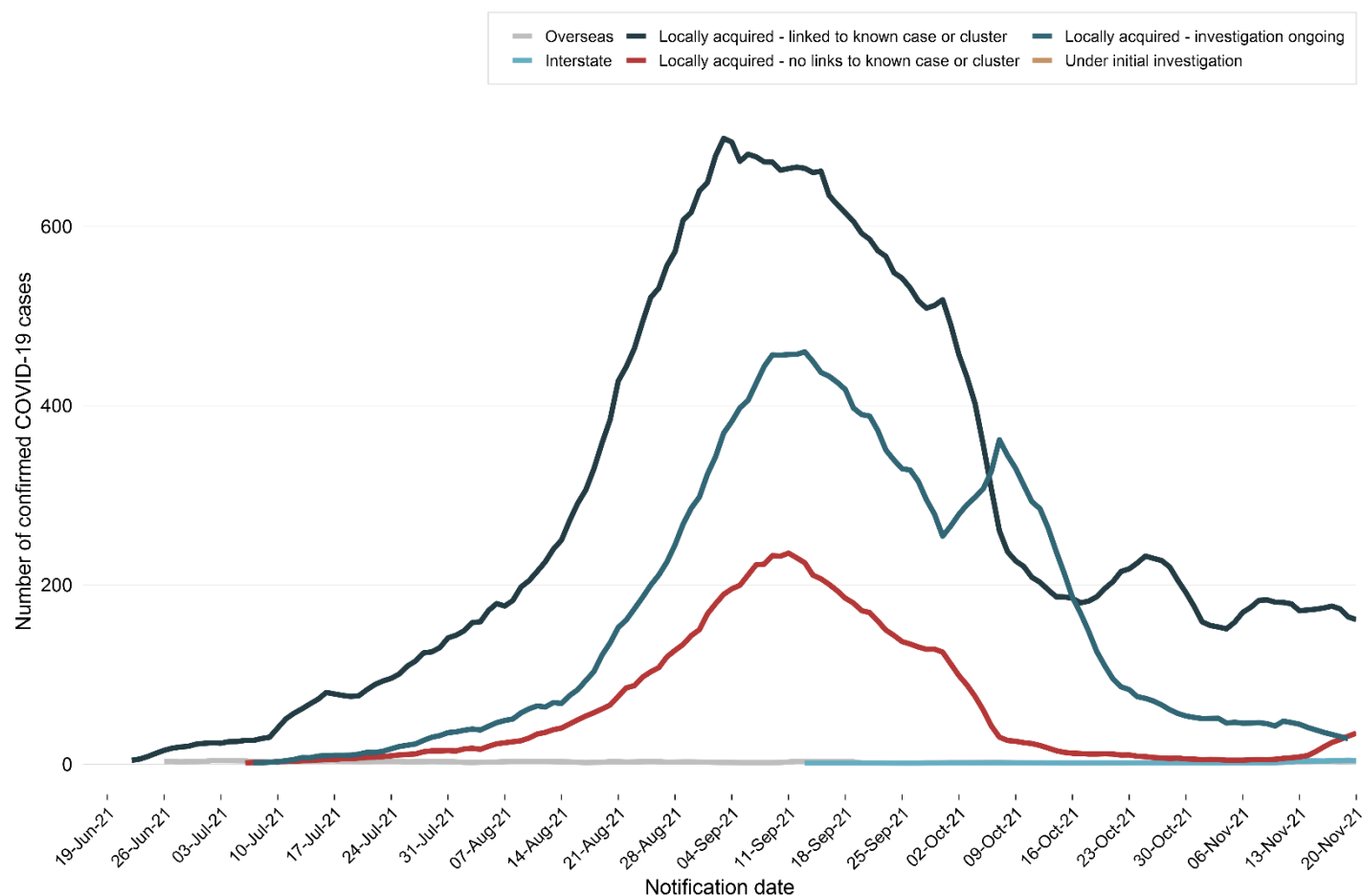


Table 3. COVID-19 cases and tests reported, NSW, from 16 June 2021 to 20 November 2021

	Week ending 20 Nov	Week ending 13 Nov	% change	16 Jun to 31 Oct 2021	Since 1 Nov 2021
Number of cases	1,440	1,599	-10 %	69,775	4,437
Locally acquired	1,387	1,564	-11 %	69,507	4,342
Known epidemiological links to other cases or clusters	1,128	1,197	-6 %	39,383	3,404
No epidemiological links to other cases or clusters	259	367	-29 %	30,124	938
Overseas acquired	15	14	7 %	240	33
Interstate acquired	27	21	29 %	28	50
Under investigation	11	0	-	0	11
Number of tests	462,894	491,335	-6 %	13,984,641	1,423,825

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

- All but 88 cases in the last two weeks were locally acquired.
- Cases assigned as locally acquired – investigation ongoing are subject to change over time as data cleaning is ongoing.
- Most cases in the outbreak since 16 June 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 5. 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 20 November 2021

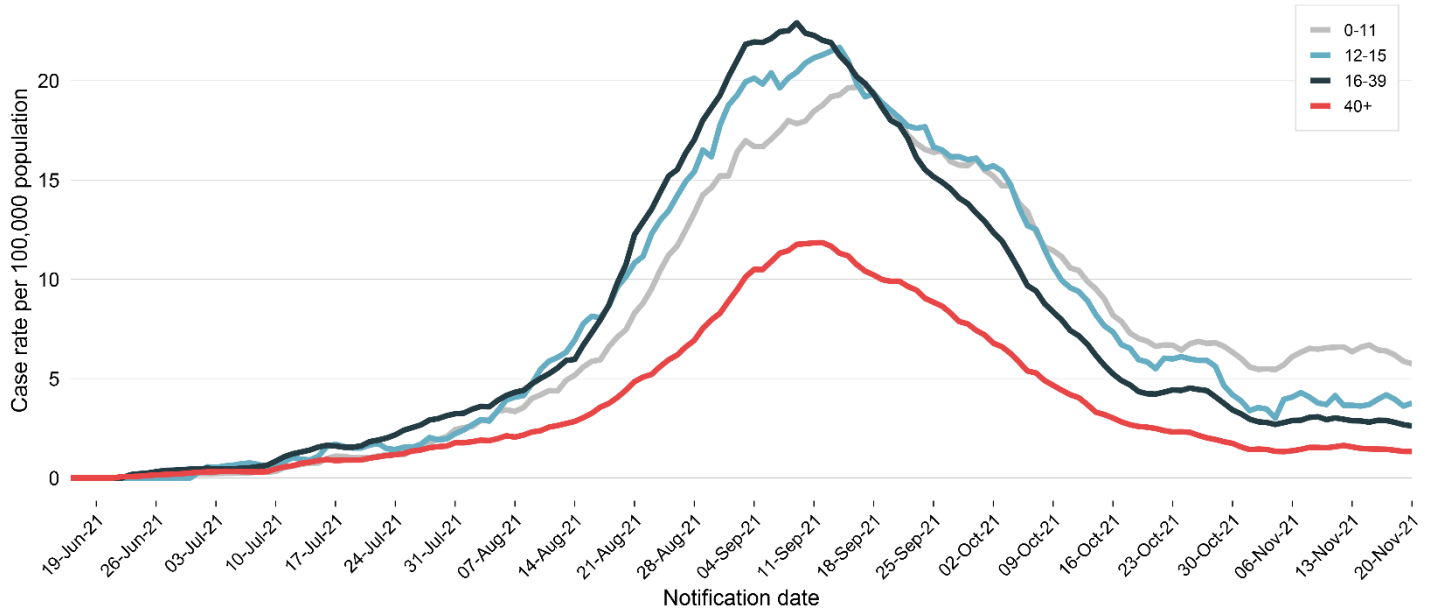
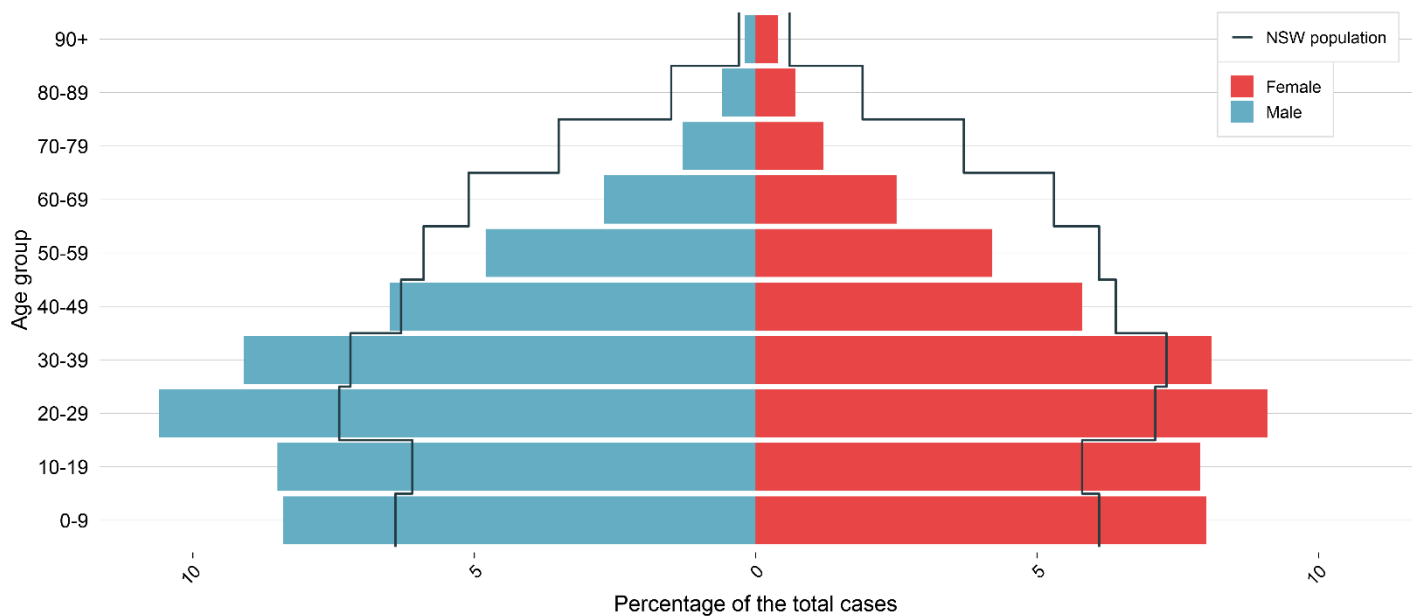


Figure 6. Current wave total case percentage (n = 74,168) by age and gender, NSW, from 16 June to 20 November 2021



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

- Case rates reached their peak in September
- The peak was slightly later for children aged 12-15 and 0-11 years
- Since that time case rates have decreased most for those aged over 16, for whom vaccination coverage is high
- Case rates have flattened in most age groups since mid-October.
- Cases since 16 June 2021 have been in a younger cohort (median age = 28 years, interquartile range (IQR) = 15-44 years) than cases before this date (median age = 37 years, IQR = 25-55 years).
- Since 16 June 2021, most cases are 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 7a. 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 20 November 2021

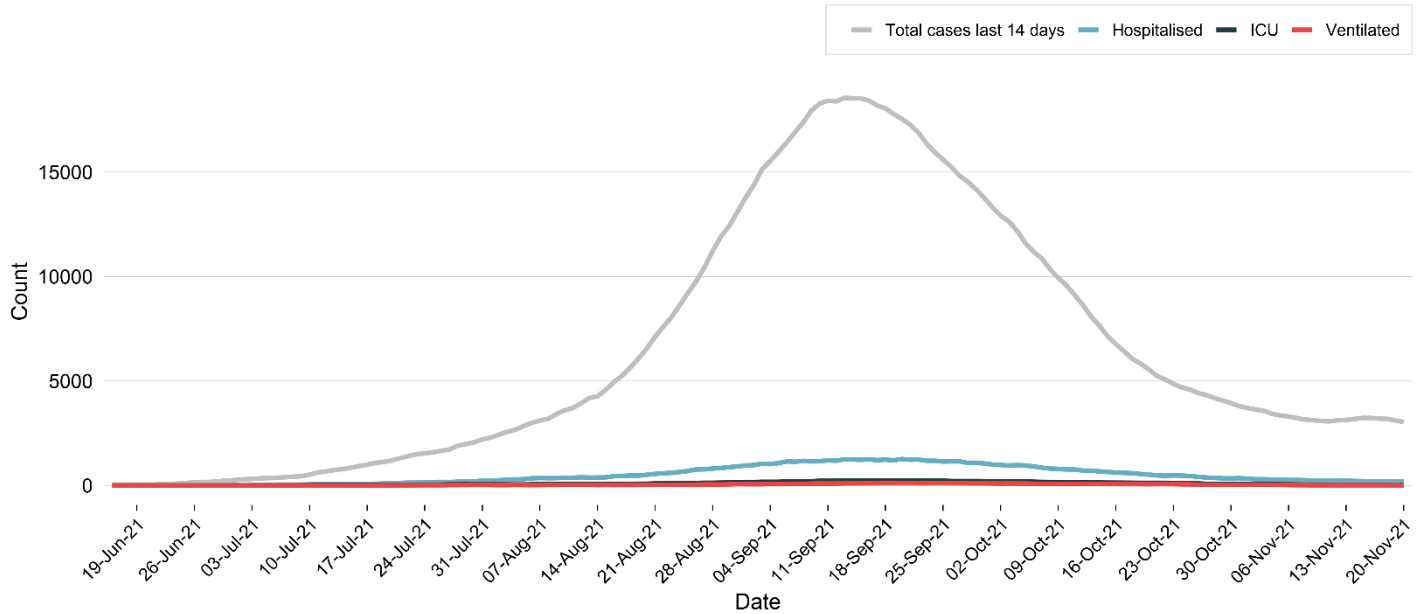
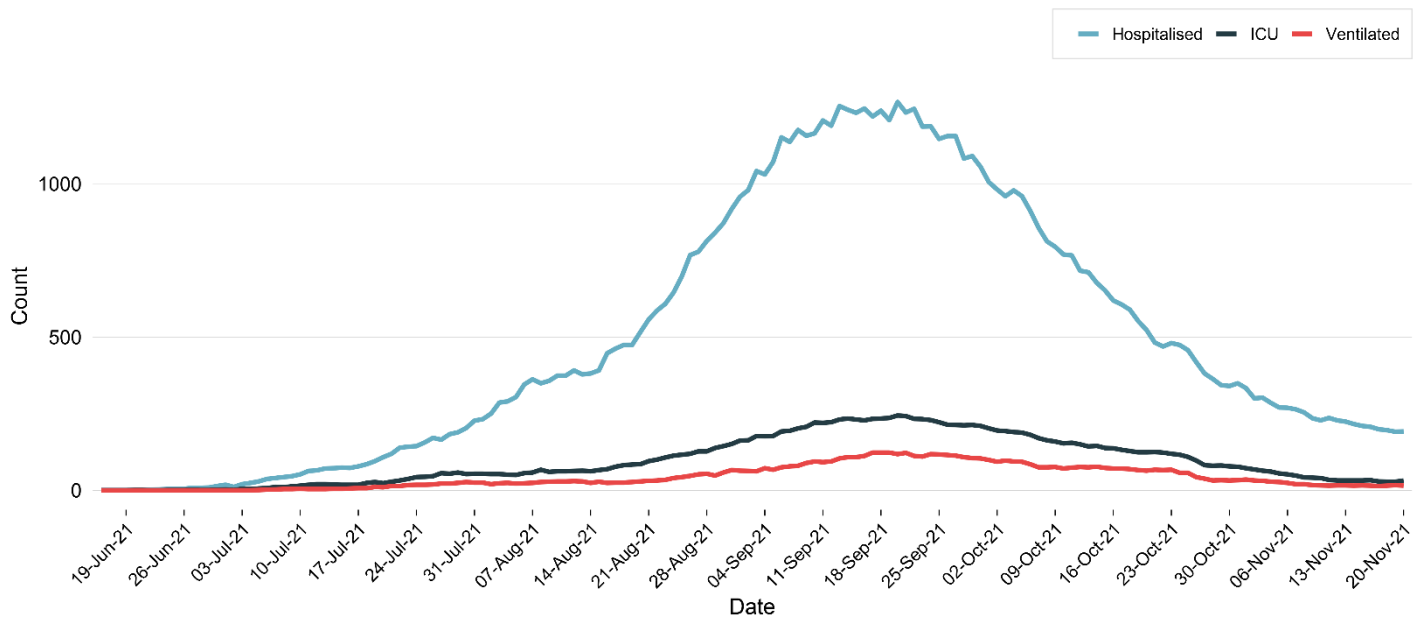


Figure 7b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 20 November 2021



- 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
- This is likely reflective of high vaccination coverage in the community being protective against hospitalisation.

## Section 5: Clinical severity by vaccination status

Figure 8. COVID-19 cases by outcome, notification date and vaccination status with 7 day backward rolling average, NSW, from 16 June to 6 November 2021.

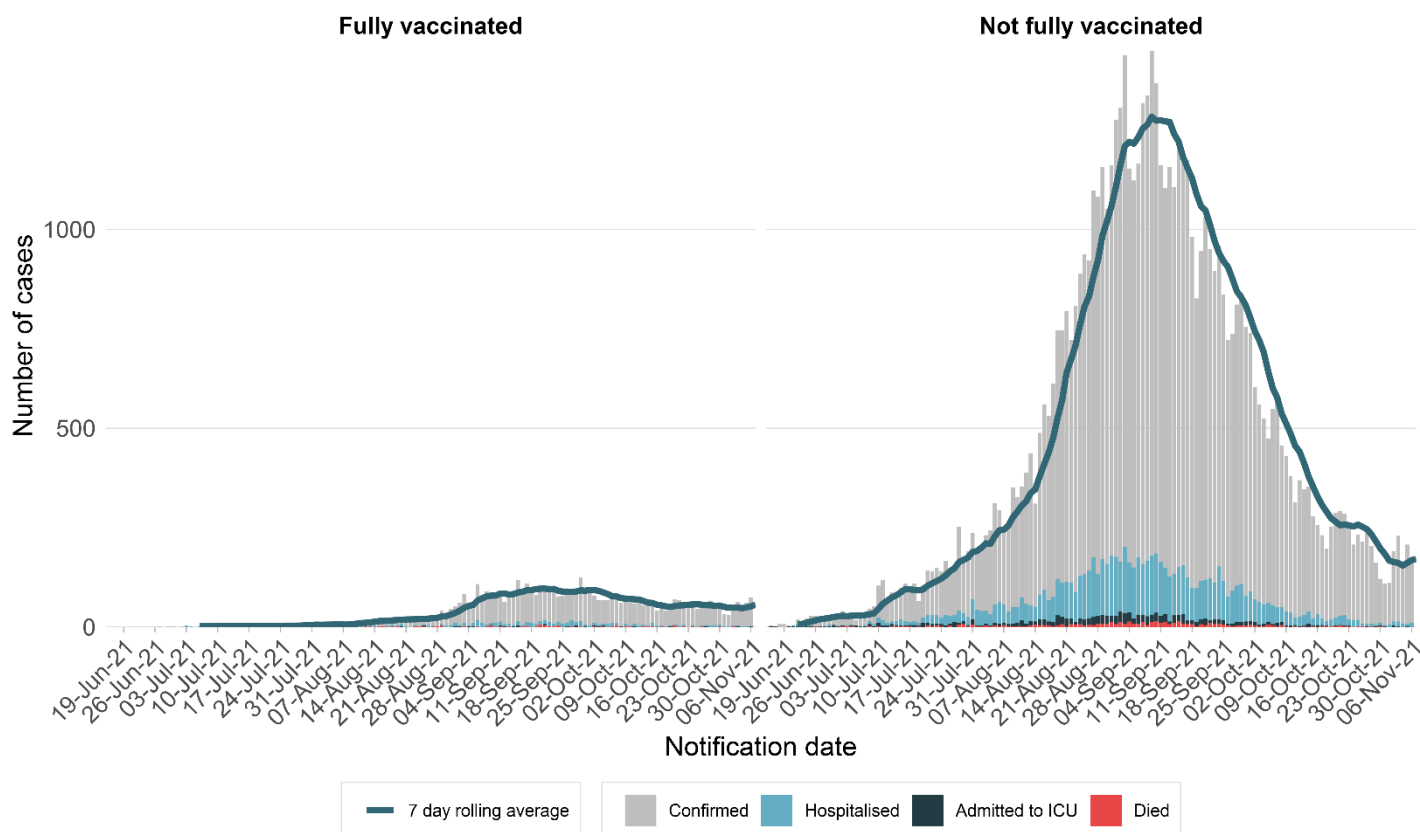


Table 4. Hospitalisations, ICU admissions and deaths among cases diagnosed with COVID-19, by vaccination status, NSW, from 16 June to 20 November 2021

Vaccination status	Total cases (%)	Hospitalised (%)	Hospitalised and in ICU (%)	Death (%)
Fully Vaccinated	6,339 (8.5%)	636 (6.9%)	60 (4.1%)	83 (14.7%)
Partially vaccinated	6,695 (9.0%)	732 (8.0%)	91 (6.3%)	70 (12.4%)
No effective dose	36,205 (48.8%)	5,722 (62.3%)	1,042 (71.6%)	403 (71.5%)
Under investigation	10,334 (13.9%)	1,635 (17.8%)	251 (17.3%)	8 (1.4%)
Not eligible for vaccination (aged 0-11 years)	14,639 (19.7%)	465 (5.1%)	11 (0.8%)	0 (0.0%)
<b>Total</b>	<b>74,212 (100.0%)</b>	<b>9,190<sup>2</sup> (100.0%)</b>	<b>1,455 (100.0%)</b>	<b>564 (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 6 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, 434 (30.1%) of all cases were fully vaccinated, representing 45.6% of all 952 cases who were eligible for vaccination (aged 12 years and over). In comparison, 88.7% of the NSW population aged 12 and over are fully vaccinated (had completed their recommended vaccine schedule by 6 November)
- Since 16 June 2021, cases aged 12 years and over with no effective dose account for 48.8% of all cases, and as much as 62.3% of hospitalisations, 71.6% of ICU admissions, and 71.5% of deaths.
- COVID-19 is relatively mild in most young children: children aged 0-11 years who are ineligible for vaccination account for 19.7% of cases, but only 5.1% of hospitalisations, 0.8% of ICU admissions, and no deaths.

<sup>2</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 5. Deaths following recent infection with COVID-19, by age group, from January 2020 to 20 November 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>3</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	26	<1%	2.5	0	0%
50-59	63	1%	6.5	1	<1%
60-69	100	3%	11.9	4	1%
70-79	132	7%	22.7	15	4%
80-89	161	17%	58.7	20	16%
90+	62	27%	89.4	16	38%
Total	566	1%	7.0	56	1%

Table 6. Deaths following recent infection with COVID-19, by age group and location, from 16 June to 20 November 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	20	0	6
50-59	54	0	9
60-69	88	1	11
70-79	123	6	3
80-89	144	10	7
90+	46	16	0
Total	491	33	42

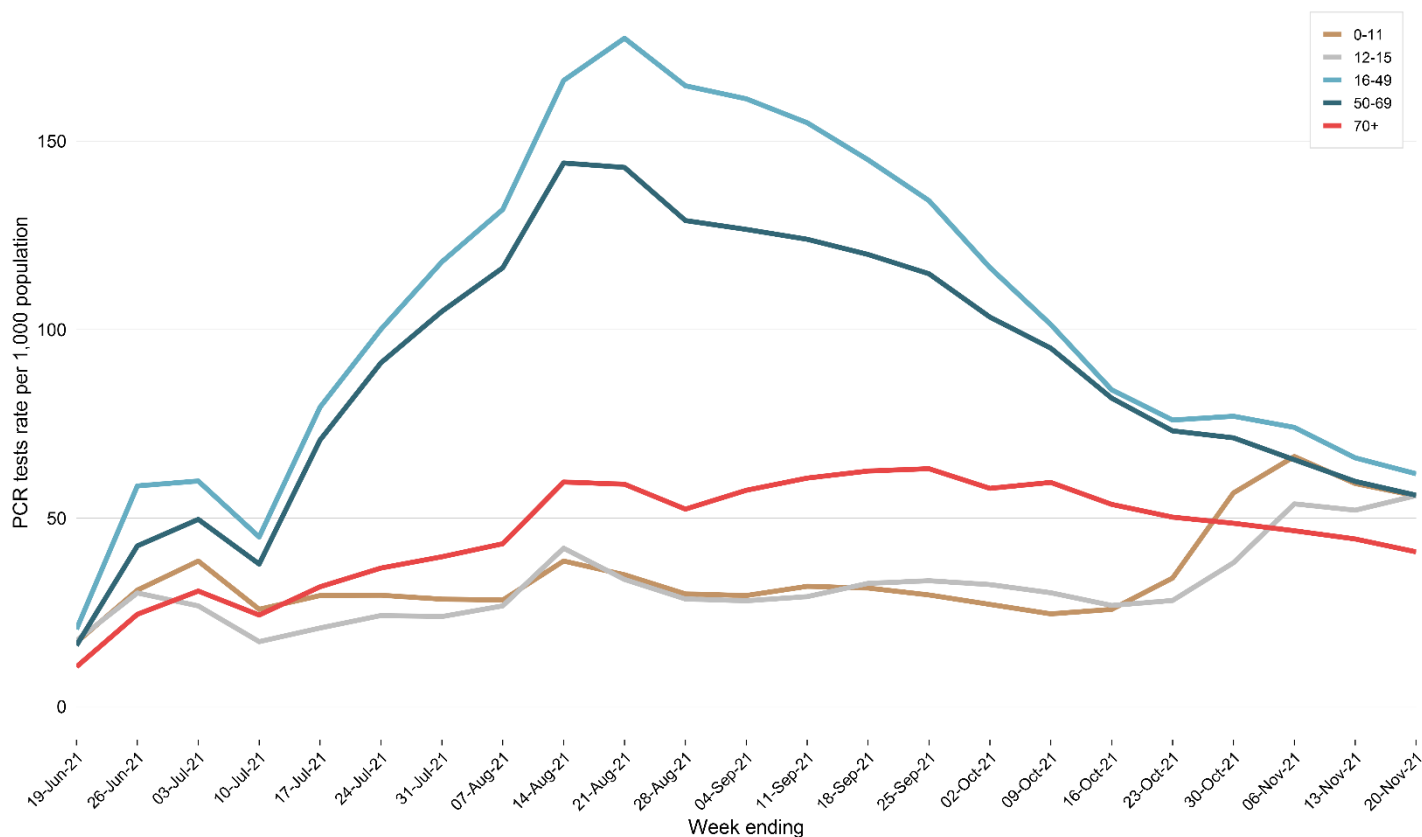
- Since the start of the pandemic, 1% of cases (622 people) have died
- This includes 97 residents of aged care facilities
- 2% (14/622) of the deaths were overseas acquired
- 72% of the deaths since 16 June 2021 have not received an effective vaccine dose (see Table 4)
- The median delay between a person becoming ill and death is 11 days
- In the week ending 20 November, there were 10 deaths in people diagnosed with COVID-19, including
  - 4 people who were fully vaccinated (one in their 70s, two in their 80s, and one aged 90+ years)
  - 1 person who was partially vaccinated (in their 70s), and
  - 5 people who had received no effective dose (one in their 40s, one in their 50s, two in their 60s, and one in their 80s)
- The majority of deaths since 16 June 2021 have occurred in hospital (491/566, 87%)
- Among deaths occurring at home, the majority (26/42, 62%) have been forensic swabs (i.e., COVID-19 was diagnosed after death)

<sup>3</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: 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 20 November 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

## Section 8: 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 20 November 2021

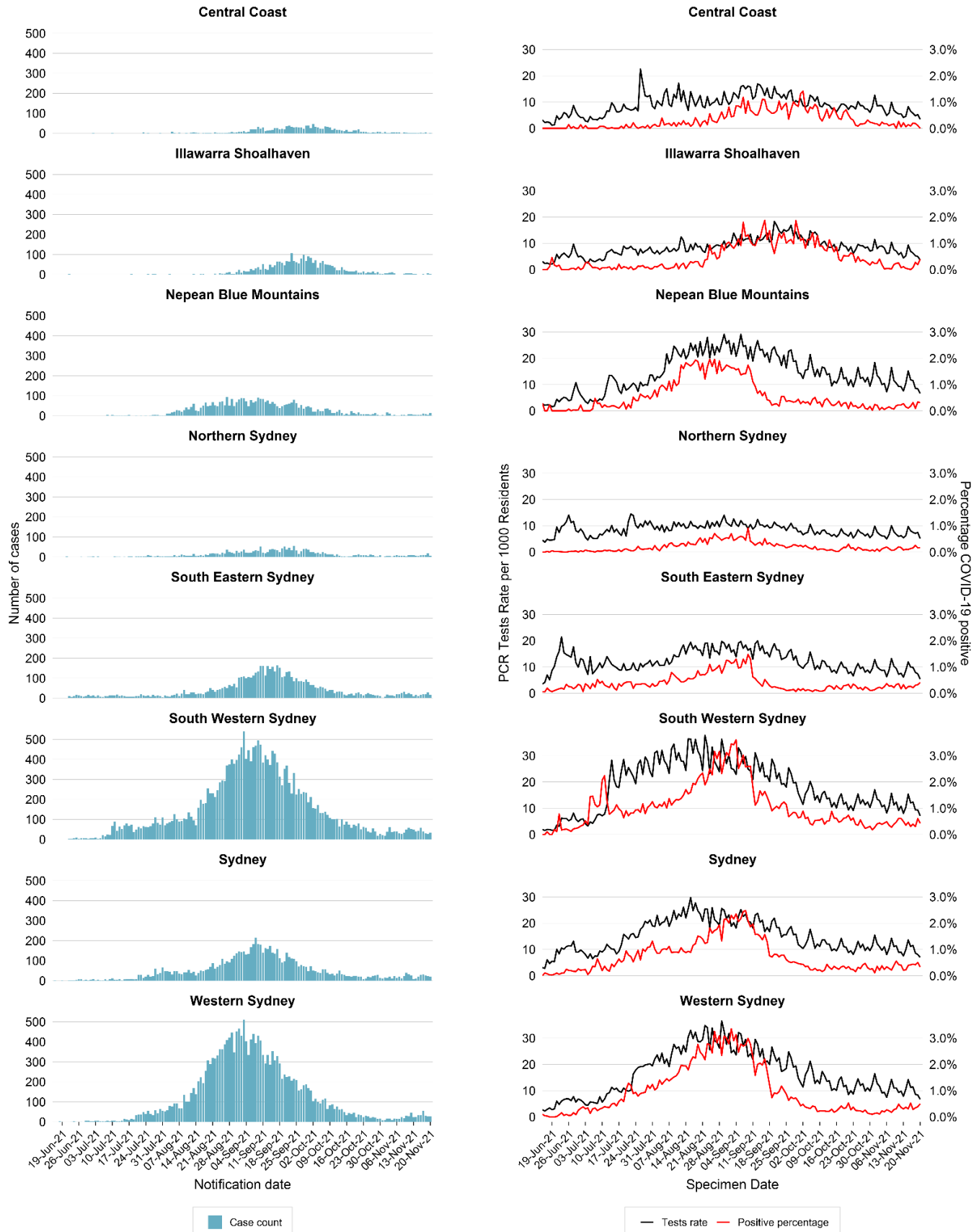
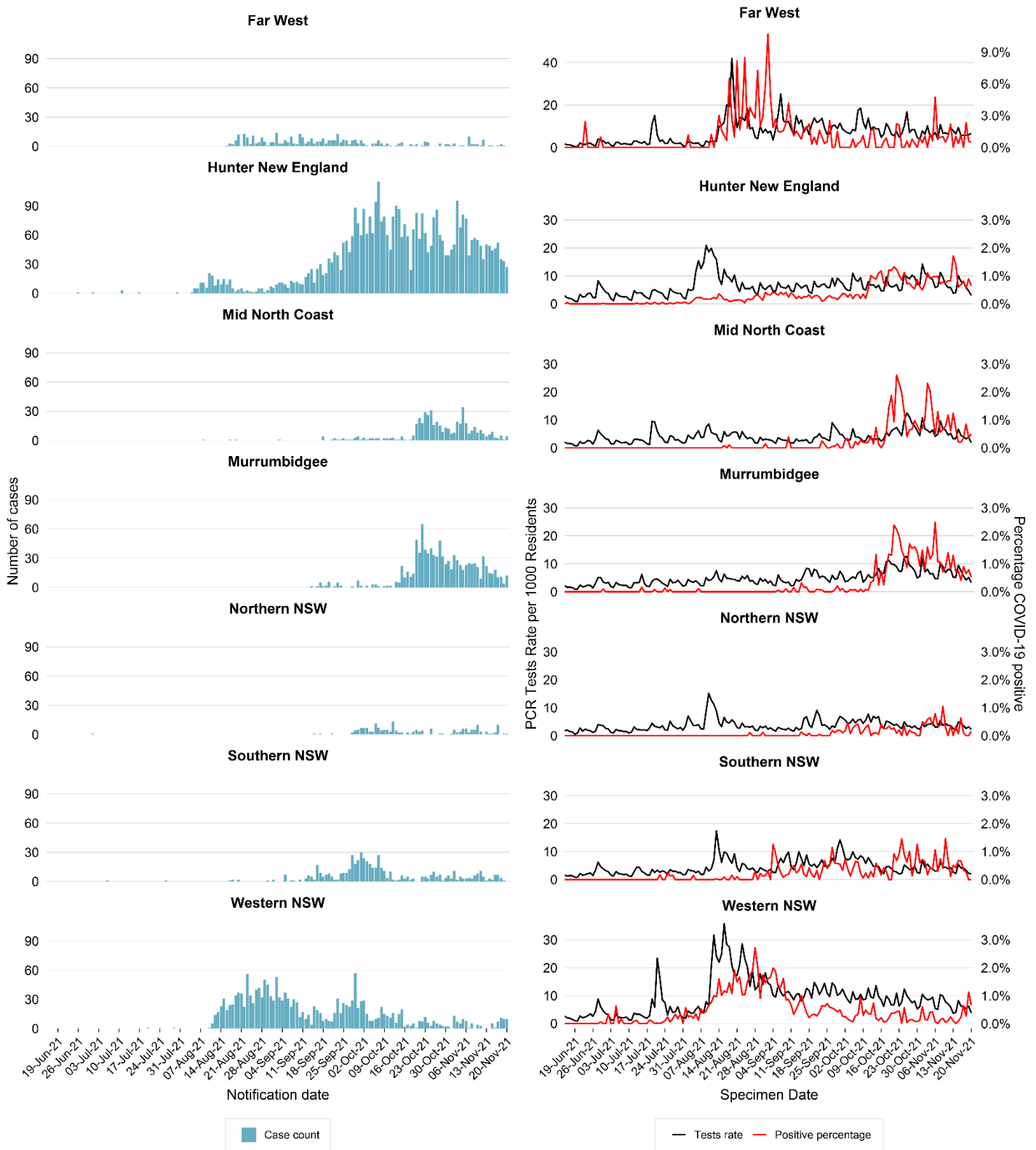


Figure 10b. Cases, testing rates per 1000 population, and percentage of tests which were positive for COVID-19, by LHD of residence, rural and regional LHDs, NSW, 16 June to 20 November 2021



- 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 9: Case rates in Local Government Areas

Table 7a. 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 20 November 2021

LGA name	Last 7 days		16 Jun-20 Nov 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Cumberland	132	55	9,190	3,805
Canterbury-Bankstown	204	54	11,822	3,128
Fairfield	74	35	4,785	2,260
Burwood	11	27	341	840
Liverpool	61	27	5,806	2,551
Waverley	19	26	423	569
Randwick	36	23	1,388	892
Penrith	42	20	3,295	1,547
Woollahra	10	17	216	364
Bayside	27	15	1,606	900
Blacktown	55	15	7,039	1,880
Lane Cove	6	15	116	289
Lithgow	3	14	42	194
Parramatta	35	14	2,026	788
Campbelltown	23	13	2,816	1,647
Hunters Hill	2	13	90	601
Inner West	25	12	959	478
Sydney	30	12	2,115	859
Canada Bay	11	11	382	398
Ryde	15	11	446	340

Table 7b. 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 20 November 2021

LGA name	Last 7 days		16 Jun-20 Nov 2021	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Moree Plains	33	249	185	1,395
Central Darling	4	218	173	9,407
Federation	21	169	50	402
Inverell	26	154	126	746
Warrumbungle Shire	13	140	17	183
Mid-Coast	98	104	415	442
Albury	36	66	703	1,293
Tenterfield	3	45	4	61
Orange	18	42	97	228
Kempsey	12	40	247	830
Tamworth Regional	25	40	226	361
Queanbeyan-Palerang Regional	23	38	289	473
Lachlan	2	33	2	33
Newcastle	48	29	884	534
Wagga Wagga	18	28	64	98
Bathurst Regional	11	25	129	296
Murray River	3	25	48	396
Kyogle	2	23	23	261
Cessnock	13	22	507	845
Port Macquarie-Hastings	16	19	151	179

- The top 20 metropolitan LGAs contributed 57% of all cases in the week ending 20 November
- The top 20 regional and rural LGAs contributed another 30% of cases.
- The 7 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 10: Aboriginal people

Figure 11. Number of confirmed COVID-19 infections among Aboriginal people by date, NSW, 16 June to 20 November 2021

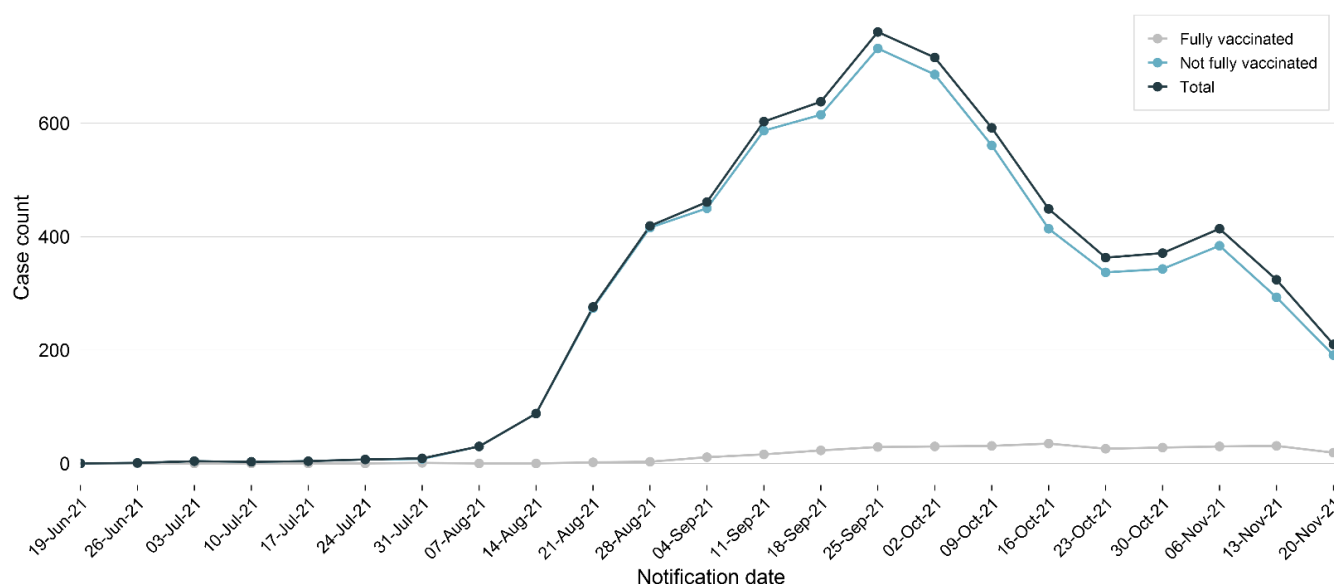


Table 8. Demographics of infections among Aboriginal people by gender, age, and vaccination status, NSW, 16 June to 20 November, 2021

	Week ending				16 Jun to 20 Nov 2021
	20 Nov 2021	13 Nov 2021	6 Nov 2021	30 Oct 2021	
<b>Gender</b>					
Female	117 (55.7%)	183 (56.5%)	223 (53.9%)	180 (48.5%)	3,437 (51.0%)
Male	93 (44.3%)	141 (43.5%)	191 (46.1%)	191 (51.5%)	3,305 (49.0%)
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	77 (36.7%)	120 (37.0%)	134 (32.4%)	122 (32.9%)	1,774 (26.3%)
10-19	63 (30.0%)	81 (25.0%)	113 (27.3%)	105 (28.3%)	1,574 (23.3%)
20-29	24 (11.4%)	40 (12.3%)	69 (16.7%)	43 (11.6%)	1,200 (17.8%)
30-39	19 (9.0%)	36 (11.1%)	53 (12.8%)	43 (11.6%)	944 (14.0%)
40-49	13 (6.2%)	18 (5.6%)	27 (6.5%)	31 (8.4%)	631 (9.4%)
50-59	10 (4.8%)	17 (5.2%)	6 (1.4%)	14 (3.8%)	380 (5.6%)
60+	4 (1.9%)	12 (3.7%)	12 (2.9%)	13 (3.5%)	240 (3.6%)
<b>Vaccination status</b>					
Fully vaccinated	19 (9.0%)	31 (9.6%)	30 (7.2%)	28 (7.5%)	315 (4.7%)
Partially vaccinated	5 (2.4%)	22 (6.8%)	25 (6.0%)	32 (8.6%)	463 (6.9%)
No effective dose	76 (36.2%)	108 (33.3%)	186 (44.9%)	149 (40.2%)	3,184 (47.2%)
Under investigation*	7 (3.3%)	15 (4.6%)	16 (3.9%)	16 (4.3%)	655 (9.7%)
Not eligible for vaccination (aged 0-11 years)	103 (49.0%)	148 (45.7%)	157 (37.9%)	146 (39.4%)	2,126 (31.5%)
<b>Total</b>	<b>210 (100%)</b>	<b>324 (100%)</b>	<b>414 (100%)</b>	<b>371 (100%)</b>	<b>6,743 (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 6,743 Aboriginal people diagnosed with COVID-19, representing 9.1% 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 11: Correctional settings

Figure 12. Number of confirmed COVID-19 infections among people residing in correctional settings by date, NSW, 16 June to 20 November 2021

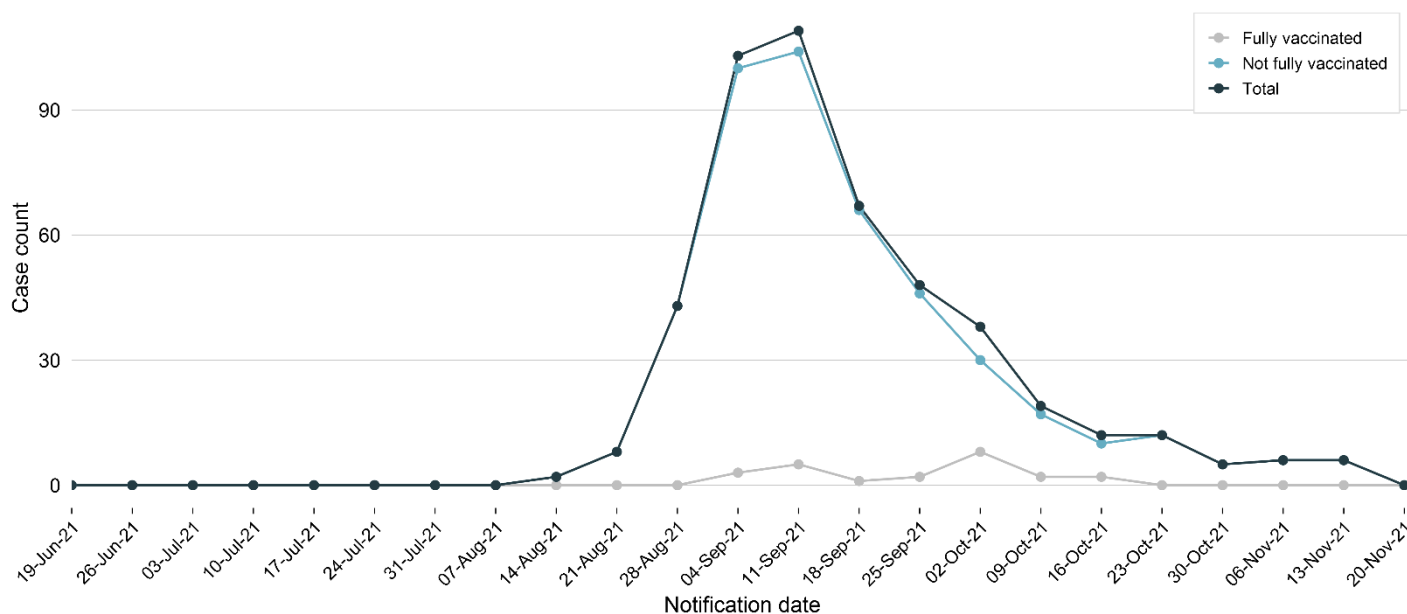


Table 9. Demographics of infections in correctional settings by gender, age, and vaccination status, NSW, 16 June to 20 November, 2021

	Week ending				16 Jun to 20 Nov 2021
	20 Nov 2021	13 Nov 2021	6 Nov 2021	30 Oct 2021	
<b>Gender</b>					
Female	0 (0.0%)	2 (33.3%)	0 (0.0%)	1 (20.0%)	27 (5.6%)
Male	0 (0.0%)	4 (66.7%)	6 (100.0%)	4 (80.0%)	451 (94.4%)
<b>Age group</b>					
10-19	0 (0.0%)	0 (0.0%)	1 (16.7%)	1 (20.0%)	28 (5.9%)
20-29	0 (0.0%)	3 (50.0%)	3 (50.0%)	3 (60.0%)	141 (29.5%)
30-39	0 (0.0%)	1 (16.7%)	1 (16.7%)	0 (0.0%)	169 (35.4%)
40-49	0 (0.0%)	2 (33.3%)	1 (16.7%)	1 (20.0%)	95 (19.9%)
50-59	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	34 (7.1%)
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%)
<b>Vaccination status</b>					
Fully vaccinated	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	23 (4.8%)
Partially vaccinated	0 (0.0%)	1 (16.7%)	2 (33.3%)	0 (0.0%)	58 (12.1%)
No effective dose	0 (0.0%)	1 (16.7%)	1 (16.7%)	2 (40.0%)	250 (52.3%)
Under investigation*	0 (0.0%)	4 (66.7%)	3 (50.0%)	3 (60.0%)	147 (30.8%)
<b>Total</b>	<b>0</b>	<b>6 (100%)</b>	<b>6 (100%)</b>	<b>5 (100%)</b>	<b>478 (100%)</b>

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

- Since 16 June, there have been 478 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 12: Health care workers

Figure 13. Number of confirmed COVID-19 infections among healthcare workers by date, NSW, 16 June to 20 November 2021

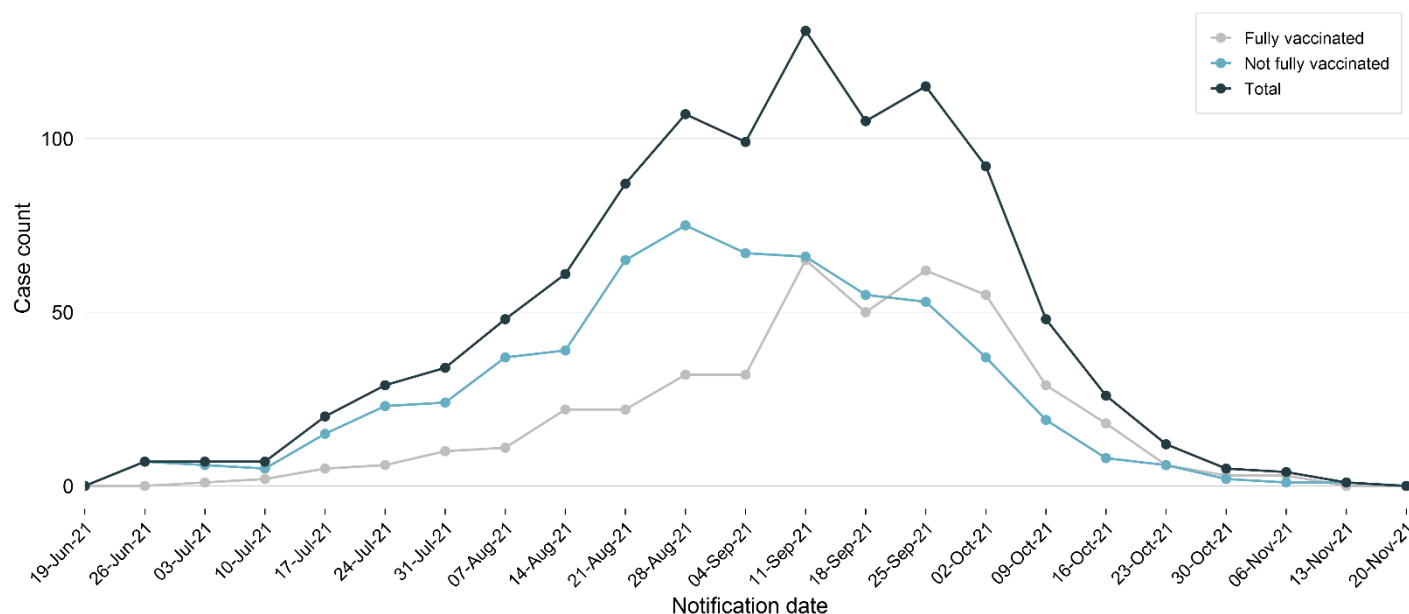


Table 10. Number of healthcare worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 20 November, 2021

Healthcare workers	Last 7 days			Current NSW outbreak (16 Jun-20 Nov 2021)		
	Number of HCWs	Fully vaccinated	Partially vaccinated	Number of HCWs	Fully vaccinated	Partially vaccinated
Healthcare acquired	0	-	-	200	80 (40%)	22 (11%)
Community acquired	0	-	-	419	171 (41%)	52 (12%)
Not currently linked	0	-	-	426	183 (43%)	46 (11%)
<b>Total</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>1045</b>	<b>434 (42%)</b>	<b>120 (11%)</b>

- 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 13: Aged care workers

Figure 14. Number of confirmed COVID-19 infections among aged care workers by date, NSW, 16 June to 20 November 2021

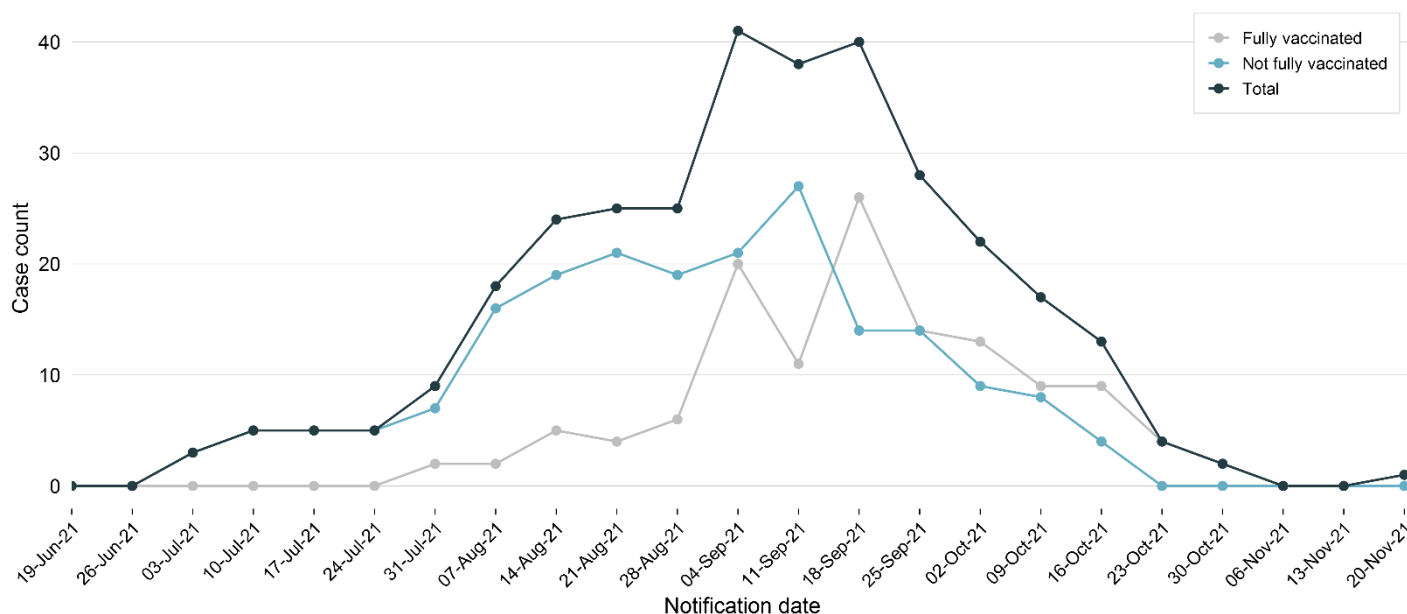


Table 11. Number of aged care worker infections by source of infection and proportion fully vaccinated, NSW, 16 June to 20 November 2021

Aged care workers	Last 7 days			Current NSW outbreak (16 Jun-20 Nov 2021)		
	Number of ACWs	Fully vaccinated	Partially Vaccinated	Number of ACWs	Fully vaccinated	Partially Vaccinated
Acquired at aged care facility	0	-	-	71	23 (32%)	18 (25%)
Community acquired	1	1 (100%)	0 (0%)	137	60 (44%)	24 (18%)
Not currently linked	0	-	-	117	45 (38%)	25 (21%)
<b>Total</b>	<b>1</b>	<b>1 (100%)</b>	<b>0 (0%)</b>	<b>325</b>	<b>128 (39%)</b>	<b>67 (21%)</b>

- 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 14: Variants of Concern (VoC)

**Table 12. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 20 November 2021**

Variant	Week ending				29 Nov 2020 to 23 Oct 2021	Total since 29 Nov 2020
	20 Nov*	13 Nov*	6 Nov	30 Oct		
Total variants identified	312	729	672	623	13,334	15,670
Alpha (B.1.1.7)	0	0	0	0	6	6
Beta (B.1.351)	0	0	0	0	1	1
Gamma (P.1)	0	0	0	0	0	0
Kappa (B.1.617.1)	0	0	0	0	0	0
Delta (B.1.617.2)	312	729	672	623	13,341	15,677

\*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 acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 20 November 2021**

Variant	Week ending				29 Nov 2020 to 23 Oct 2021	Total since 29 Nov 2020
	20 Nov*	13 Nov*	6 Nov	30 Oct		
Total variants identified	5	12	2	2	412	433
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
Kappa (B.1.617.1)	0	0	0	0	9	9
Delta (B.1.617.2)	5	12	2	2	170	191

\*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.

- Only the delta variant has been detected in recent weeks among both overseas and locally acquired cases.

## Section 15: Other respiratory infections in NSW

Figure 15. Proportion of tests positive for influenza, NSW, 1 January 2016 to 14 November 2021

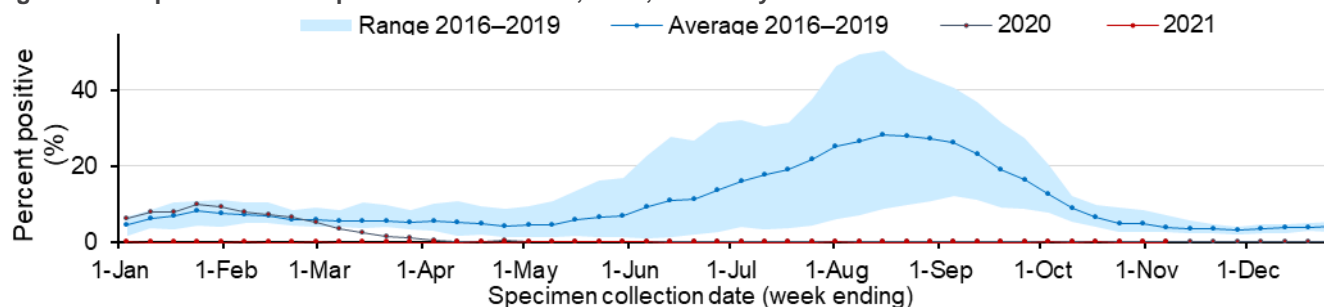


Figure 16. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 14 November 2021

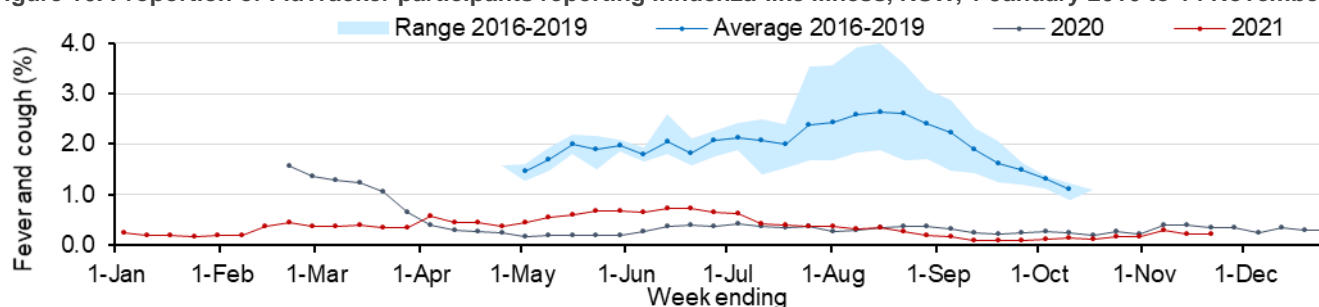


Figure 17. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 21 November 2021

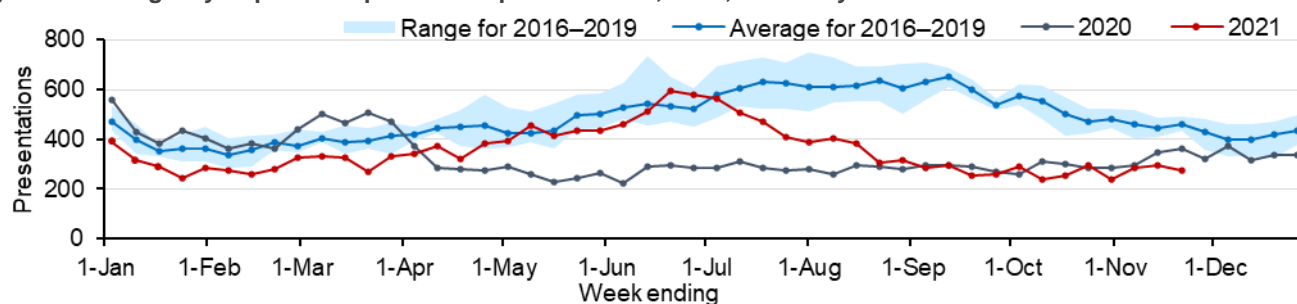
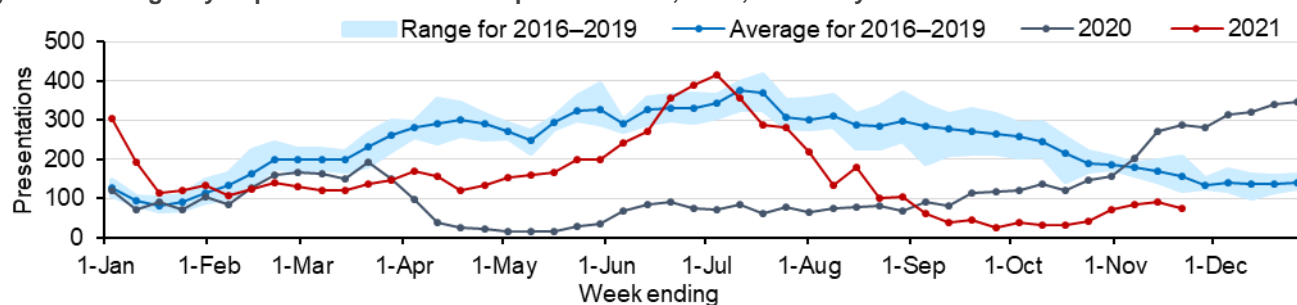


Figure 18. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 21 November 2021



- 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 20 influenza cases reported in 2021
- In the week ending 14 November, 17,049 people were surveyed, and 40 people (0.2%) reported flu-like symptoms
- In the last four weeks, 75% (126/168) 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	
		20 Nov		13 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
<b>Central Coast</b>	<i>LHD Total<sup>2</sup></i>	13,604	5.5	15,446	6.3	579,340	234.6
	Kiama	947	5.8	932	5.7	31,475	192.3
<b>Illawarra Shoalhaven</b>	Shellharbour	3,017	5.9	3,368	6.6	133,763	260.9
	Shoalhaven	3,454	4.7	4,368	5.9	110,434	149.3
	Wollongong	10,044	6.6	11,371	7.5	381,180	249.7
	<i>LHD Total<sup>2</sup></i>	17,462	5.9	20,039	6.8	656,852	223.6
<b>Nepean Blue Mountains</b>	Blue Mountains	4,477	8.1	4,652	8.4	145,597	262.9
	Hawkesbury	5,238	11.1	6,350	13.5	188,955	401.1
	Lithgow	774	5.1	541	3.6	18,812	124.4
	Penrith	18,088	12.1	17,921	12.0	626,296	420.1
	<i>LHD Total<sup>2</sup></i>	28,292	10.3	29,181	10.7	967,782	353.6
<b>Northern Sydney</b>	Hornsby	6,691	6.3	6,431	6.0	200,675	188.5
	Hunters Hill	1,549	14.8	1,303	12.4	49,223	469.4
	Ku-ring-gai	7,239	8.1	7,151	8.0	218,382	245.4
	Lane Cove	3,222	11.5	3,086	11.0	111,318	396.0
	Mosman	1,182	5.5	1,341	6.2	43,696	201.5
	North Sydney	2,567	4.9	2,781	5.3	90,276	171.9
	Northern Beaches	13,334	7.0	12,685	6.6	514,678	268.8
	Parramatta <sup>1</sup>	14,115	7.8	13,236	7.4	530,576	294.7
	Ryde	7,349	8.0	6,830	7.4	270,613	294.5
	<i>LHD Total<sup>2</sup></i>	48,797	7.3	46,638	7.0	1,670,300	249.6
<b>South Eastern Sydney</b>	Bayside	10,428	8.4	11,079	8.9	437,938	350.7
	Georges River	9,270	8.3	9,262	8.3	372,471	333.7
	Randwick	11,900	10.9	12,039	11.1	398,646	365.9
	Sutherland Shire	13,157	8.2	13,696	8.5	438,311	271.5
	Sydney <sup>1</sup>	13,525	7.8	14,652	8.5	547,992	317.8
	Waverley	5,852	11.3	5,303	10.2	188,743	362.9
	<i>LHD Total<sup>2</sup></i>	58,437	8.7	60,012	8.9	2,154,400	320.9
<b>South Western Sydney</b>	Camden	8,267	11.6	8,182	11.5	310,424	437.2
	Campbelltown	12,700	10.6	13,508	11.3	501,092	418.8
	Canterbury-Bankstown <sup>1</sup>	33,091	12.5	33,201	12.6	1,351,393	510.8
	Fairfield	16,477	11.1	17,843	12.0	765,903	516.9
	Liverpool	18,855	11.8	19,033	12.0	735,125	461.4
	Wingecarribee	2,076	5.8	2,143	6.0	67,963	189.9
	<i>LHD Total<sup>2</sup></i>	78,414	10.8	80,598	11.1	3,149,784	433.3
<b>Sydney</b>	Burwood	1,912	6.7	2,301	8.1	79,815	280.8
	Canada Bay	5,973	8.9	6,339	9.4	194,497	289.2
	Canterbury-Bankstown <sup>1</sup>	33,091	12.5	33,201	12.6	1,351,393	510.8
	Inner West	12,265	8.7	12,426	8.8	396,632	282.2
	Strathfield	4,000	12.2	4,272	13.0	172,089	523.9

		Week ending				Total since January 2021		
		20 Nov		13 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 <sup>1</sup>	13,525	7.8	14,652	8.5	547,992	317.8	
	<i>LHD Total<sup>2</sup></i>	48,447	9.9	50,306	10.3	1,855,585	380.5	
<b>Western Sydney</b>	Blacktown	29,171	11.1	31,893	12.2	1,124,301	428.9	
	Cumberland	20,901	12.4	21,091	12.5	936,266	553.8	
	Parramatta <sup>1</sup>	14,115	7.8	13,236	7.4	530,576	294.7	
	The Hills Shire	12,678	10.2	12,683	10.2	434,968	349.2	
	<i>LHD Total<sup>2</sup></i>	74,638	10.1	77,616	10.5	2,984,106	404.7	
	<b>Far West</b>	Balranald	46	2.8	78	4.8	1,870	114.3
		Broken Hill	784	6.4	713	5.8	25,075	204.9
Central Darling		239	18.6	365	28.4	4,229	328.5	
Wentworth		286	5.8	380	7.7	8,251	167.1	
<i>LHD Total<sup>2</sup></i>		1,355	6.4	1,536	7.3	39,425	186.8	
<b>Hunter New England</b>	Armidale Regional	987	4.6	1,332	6.2	29,879	138.7	
	Cessnock	2,521	6.0	2,905	6.9	58,993	140.5	
	Dungog	180	2.7	180	2.7	6,777	102.7	
	Glen Innes Severn	150	2.4	243	3.9	5,253	84.6	
	Gunnedah	183	2.1	207	2.3	9,971	112.3	
	Gwydir	96	2.6	139	3.7	2,463	65.7	
	Inverell	897	7.6	2,478	21.0	14,389	121.7	
	Lake Macquarie	8,124	5.6	9,792	6.8	292,156	202.7	
	Liverpool Plains	186	3.4	169	3.1	5,611	101.4	
	Maitland	4,806	8.1	5,440	9.1	149,078	250.1	
	Mid-Coast	7,833	11.9	4,477	6.8	76,764	116.9	
	Moree Plains	1,024	11.0	1,994	21.5	15,435	166.3	
	Muswellbrook	266	2.3	263	2.3	11,995	104.6	
	Narrabri	226	2.5	224	2.4	7,112	77.4	
	Newcastle	7,218	6.2	8,148	7.0	248,219	214.2	
	Port Stephens	2,145	4.2	3,745	7.3	83,205	161.8	
	Singleton	742	4.5	885	5.4	27,672	168.5	
	Tamworth Regional	2,660	6.1	3,300	7.5	74,811	170.9	
	Tenterfield	150	3.3	135	2.9	3,219	69.7	
	Upper Hunter Shire	289	2.9	275	2.8	9,707	97.8	
Uralla	115	2.7	164	3.9	3,738	88.8		
Walcha	58	2.6	67	3.1	2,350	107.1		
	<i>LHD Total<sup>2</sup></i>	40,819	6.1	46,524	7.0	1,138,225	170.7	
<b>Mid North Coast</b>	Bellingen	195	2.1	225	2.5	8,324	91.5	
	Coffs Harbour	1,257	2.3	1,585	2.9	48,246	89.2	
	Kempsey	1,157	5.6	1,281	6.2	36,978	177.6	
	Nambucca	275	2.0	338	2.4	11,570	83.5	
	Port Macquarie-Hastings	3,188	5.4	5,635	9.5	71,640	121.1	
	<i>LHD Total<sup>2</sup></i>	6,072	3.8	9,064	5.7	176,758	111.9	
<b>Murrumbidgee</b>	Albury	2,803	7.4	4,100	10.8	71,075	186.8	
	Berrigan	101	1.7	157	2.6	4,003	65.4	
	Bland	121	2.9	105	2.5	3,682	88.1	
	Carrathool	23	1.2	58	3.0	1,013	51.7	

		Week ending				Total since January 2021	
		20 Nov		13 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	130	4.3	171	5.6	3,486	114.7
	Cootamundra-Gundagai Regional	223	2.8	279	3.6	8,207	104.4
	Edward River	208	3.3	336	5.3	7,842	123.3
	Federation	979	11.3	779	9.0	10,694	122.8
	Greater Hume Shire	363	4.8	417	5.5	11,269	149.6
	Griffith	831	4.4	1,507	8.0	19,140	101.2
	Hay	49	2.4	164	7.9	1,523	73.8
	Hilltops	434	3.3	521	4.0	21,690	165.7
	Junee	109	2.3	142	3.0	4,272	91.3
	Lachlan <sup>1</sup>	78	1.8	84	2.0	3,407	80.1
	Leeton	189	2.4	226	2.8	6,140	76.6
	Lockhart	108	4.7	121	5.3	2,722	118.4
	Murray River	407	4.8	526	6.2	4,368	51.5
	Murrumbidgee	72	2.6	103	3.8	2,283	83.3
	Narrandera	85	2.1	169	4.1	2,626	63.6
	Snowy Valleys	221	2.2	262	2.6	8,223	81.1
	Temora	229	5.2	147	3.3	3,613	81.8
	Wagga Wagga	4,211	9.2	4,969	10.9	74,224	162.5
	<i>LHD Total<sup>2</sup></i>	11,923	5.7	15,285	7.3	273,198	130.9
<b>Northern NSW</b>	Ballina	960	3.1	1,128	3.6	47,540	152.2
	Byron	723	2.9	735	3.0	35,248	143.5
	Clarence Valley	1,362	3.8	1,887	5.2	35,337	97.7
	Kyogle	104	1.7	127	2.1	5,455	88.6
	Lismore	1,121	3.7	1,392	4.6	41,664	136.2
	Richmond Valley	685	4.2	882	5.4	22,926	139.6
	Tenterfield	150	3.3	135	2.9	3,219	69.7
	Tweed	2,033	3.0	1,956	2.9	64,920	95.6
	<i>LHD Total<sup>2</sup></i>	7,025	3.2	8,145	3.8	253,874	116.9
<b>Southern NSW</b>	Bega Valley	599	2.5	719	3.0	21,794	90.3
	Eurobodalla	517	1.9	603	2.2	26,125	97.0
	Goulburn Mulwaree	846	3.9	887	4.1	36,383	167.0
	Queanbeyan-Palerang Regional	2,179	5.1	2,835	6.6	55,818	130.5
	Snowy Monaro Regional	360	2.5	413	2.8	22,981	157.9
	Upper Lachlan Shire	170	3.0	155	2.8	6,250	110.8
	Yass Valley	378	3.2	676	5.7	13,882	116.1
<i>LHD Total<sup>2</sup></i>	5,053	3.3	6,288	4.1	183,350	120.7	
<b>Western NSW</b>	Bathurst Regional	2,363	7.7	2,614	8.6	68,702	225.0
	Blayney	255	4.9	268	5.2	9,991	193.4
	Bogan	32	1.8	55	3.1	2,535	140.4
	Bourke	143	7.9	211	11.6	6,606	364.4
	Brewarrina	15	1.3	41	3.6	2,352	208.6
	Cabonne	207	2.2	249	2.6	11,618	121.7
	Cobar	83	2.6	122	3.7	3,950	121.1

Local Health District	Local Government Area	Week ending				Total since January 2021	
		20 Nov		13 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	44	1.6	50	1.8	3,515	126.9
	Cowra	253	2.8	512	5.7	18,884	211.7
	Dubbo Regional	3,805	10.1	6,334	16.8	155,953	414.7
	Forbes	115	1.7	147	2.1	6,998	100.9
	Gilgandra	74	2.5	105	3.5	4,728	159.3
	Lachlan <sup>1</sup>	78	1.8	84	2.0	3,407	80.1
	Mid-Western Regional	487	2.8	499	2.8	29,577	167.3
	Narromine	190	4.2	311	6.8	11,141	244.2
	Oberon	206	5.4	206	5.4	7,773	205.2
	Orange	2,137	7.2	1,500	5.1	76,103	256.1
	Parkes	243	2.3	277	2.7	13,129	126.4
	Walgett	106	2.5	132	3.2	8,331	199.9
	Warren	126	6.7	155	8.2	6,458	342.1
	Warrumbungle Shire	298	4.6	193	3.0	7,705	118.6
	Weddin	68	2.7	65	2.6	2,721	107.6
	<i>LHD Total<sup>2</sup></i>	11,301	5.7	14,104	7.1	461,182	231.2
<b>NSW Total</b>	<b>NSW Total<sup>3</sup></b>	<b>451,639</b>	<b>8.0</b>	<b>480,782</b>	<b>8.5</b>	<b>16,544,818</b>	<b>292.2</b>

Source - Notifiable Condition Information Management System, accessed as at 8pm 22 Nov 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 14 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– 14 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
<b>Total</b>	740,001	10	<0.01%	10	<0.01%	7,755	18,623	17,555	60,241	5,564	6,530
<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	93
<b>Week ending</b>											
3 October	20,048	1	< 0.01%	0	-	56	11	14	176	44	16
10 October	17,657	0	-	0	-	60	13	8	221	34	13
17 October	15,687	5	0.03%	0	-	57	17	6	239	35	10
24 October	16,284	0	-	0	-	63	7	6	434	37	18
31 October	18,892	0	-	0	-	68	11	6	828	38	25
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

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

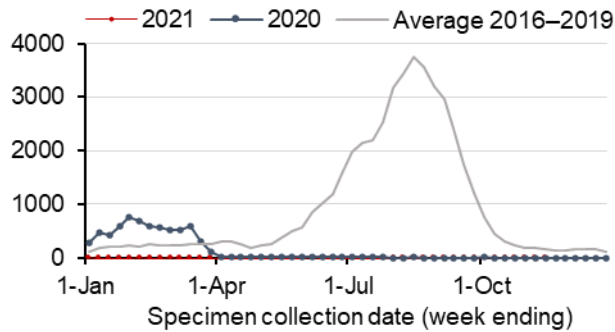
RSV - Respiratory syncytial virus

\*Five-week period

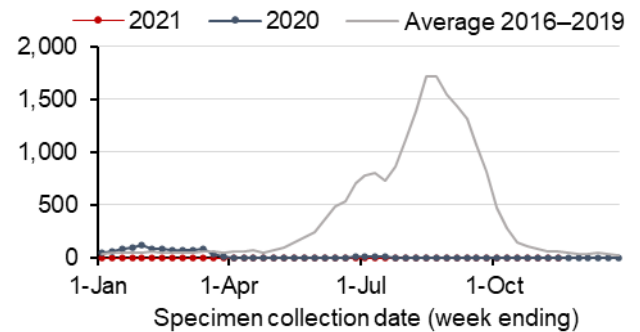
## Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 14 November 2021

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

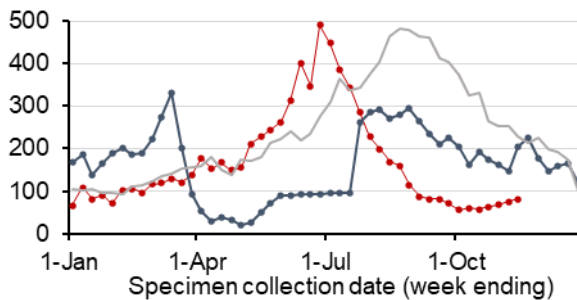
### Influenza A



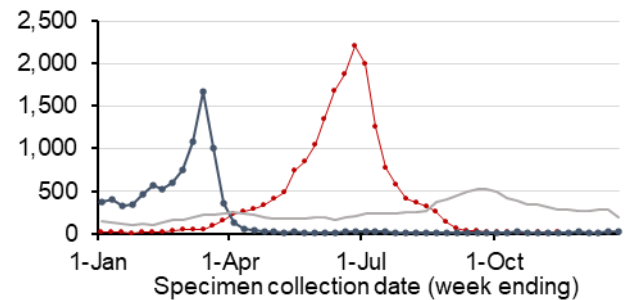
### Influenza B



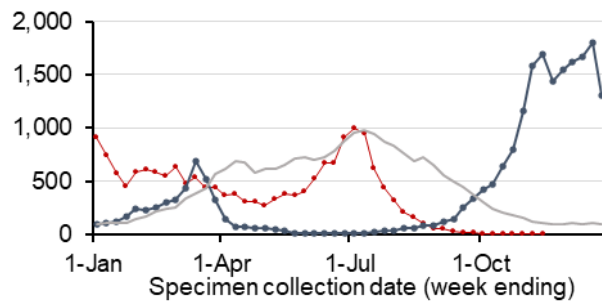
### Adenovirus



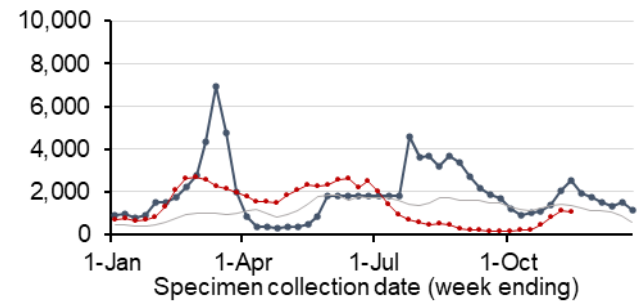
### Parainfluenza



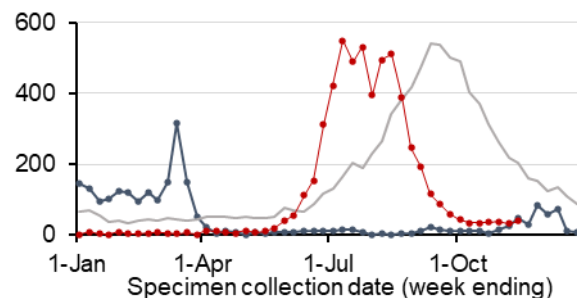
### Respiratory Syncytial Virus



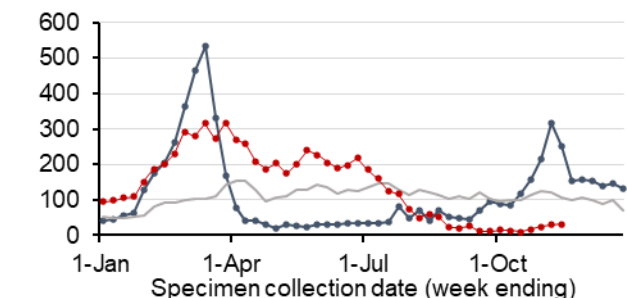
### Rhinovirus



### 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 20 November, 286 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 125 detections:

- Detections outside Sydney

There were 111 detections outside Sydney taken from the sewage treatment plants at Albury (2), Alstonville, Armidale, Ballina, Barooga, Bateau Bay, Bathurst, Boggabilla, Bonny Hills (2), Bourke, Broken Hill (2), Broken Hill South (2), Byron Bay (2), Casino, Charmhaven, Coffs Harbour, Coonabarabran, Corowa, Cowra, Dareton, Deniliquin, Denman, Dubbo, Dunbogan, East Lismore, Eden, Finley, Forster, Gerroa, Gilgandra, Gladstone/Smithtown, Gosford – Kincumber, Grenfell, Gwandalan, Hallidays Point, Harrington, Hawks Nest, Holbrook, Hunter - Boulder Bay, Branxton, Burwood Beach, Dora Creek, Edgeworth, Morpeth, Raymond Terrace, Shortland, Toronto, Belmont, Cessnock, Farley, Kurri Kurri and Tanilba Bay, Inverell, Jerilderie, Jindabyne, Kew Kendall (2), Macksville, Merimbula, Moama, Moree, Mulwala, Mungindi, Muswellbrook, Nambucca Heads, Narrabri, Narromine, North Grafton, Old Bar, Port Macquarie, Queanbeyan, Singleton, South Grafton, South Kempsey, South Lismore, South West Rocks, St Georges Basin, Tamworth, Taree, Tumut, Tweed - Banora Point (2) and Kingscliff, Uralla (2), Wagga Wagga - Koorinal (2), Narrung SBR (2) and Narrung Orbal (2), Walgett, Wardell (2), Wauchope, Wellington, West Kempsey, West Wyalong, Wingham, Woolgoolga (2), Woy Woy, Wyong – Toukley, Yass, 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 Lithgow, McGraths Hill and South Windsor. There were also detections from the sewage networks and pumping stations at Caringbah (2), Eastern Creek (2), Fairfield 1, Miranda (2) and Padstow 1 (2).

- Detections with no known cases

Detections from Gerroa, Tumut, Eden, Jerilderie, West Wyalong, Young, Holbrook, Uralla, Mungindi, Narrabri, Denman, Gladstone/Smithtown, Wardell, Tweed - Kingscliff, Wauchope, Coonabarabran, Dareton, Grenfell and Lithgow occurred with no known or recent cases in the catchment. Cases were also identified in Coonabarabran, Narromine and Wilcannia following sewage detections in recent weeks.

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

There were no detections in the following catchments: Aberdeen, Ashford, Balranald, Bangalow, Baradine, Barraba, Batemans Bay, Bega, Bellingen, Bermagui, Bingara, Blayney, Bodalla, Boggabri, Bomaderry, Bombala, Bombo, Boorowa, Bowral, Bowraville, Brooklyn, Bulahdelah, Buronga, Ocean Shores, Cobar, Collarenebri, Condobolin, Coolah, Coolamon, Cooma, Coonamble, Cootamundra, Coraki, Crescent Head, Crookwell, Culburra Beach, Curlewis, Darlington Point, Delungra, Dorrigo, Dunedoo, Evans Head, Forbes, Frederickton, Glen Innes, Gloucester, Googong, Goulburn, Griffith, Gulargambone, Gulgong, Gunnedah, Guyra, Harden, Hay, Hunter – Dungog and Karuah, Junee, Kyogle, Lake Cargelligo, Leeton, Lennox Head, Lightning Ridge, Lockhart, Manilla, Mannering Park, Merriwa, Mittagong, Molong, Moonee, Moruya, Moss Vale, Mullumbimby, Murrurundi, Narooma, Narrandera, Nowra, Nyngan, Oberon, Orange, Parkes, Quirindi, Scone, Scotts Head, Temora, Tenterfield, Tocumwal, Tomakin, Trangie, Tumut, Tuross, Tweed - Hastings Point and Murwillumbah, Ulladulla, Urunga, Vincentia, Walcha, Warialda, Warren, Wee Waa, Wentworth, Werris Creek, Wilcannia, Woodenbong, and Wyong South.

- 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, 24 October to 20 November 2021

	Local Health District	Week ending				Total
		20 Nov	13 Nov	06 Nov	30 Oct	
Metropolitan Local Health Districts	South Western Sydney	276	299	255	276	1,106
	Western Sydney	236	187	94	154	671
	Sydney	160	162	106	138	566
	South Eastern Sydney	129	153	91	122	495
	Northern Sydney	65	50	30	47	192
	Nepean Blue Mountains	51	33	40	53	177
	Illawarra Shoalhaven	15	24	40	64	143
	Central Coast	14	16	26	32	88
Rural and Regional Local Health Districts	Hunter New England	286	340	455	408	1,489
	Murrumbidgee	84	158	171	244	657
	Western NSW	44	13	45	31	133
	Mid North Coast	30	61	115	129	335
	Southern NSW	24	38	33	37	132
	Northern NSW	16	28	23	8	75
	Far West	6	24	8	9	47
	Correctional settings	0	6	6	5	17
NSW*	1,440	1,599	1,540	1,761	6,340	

\*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 20 November 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	6,339 (8.5%)	6,695 (9.0%)	36,205 (48.8%)	10,334 (13.9%)	14,639 (19.7%)	74,212 (100%)
<b>Month ending</b>						
26 Jun 2021	0 (0.0%)	9 (6.6%)	111 (81.6%)	1 (0.7%)	15 (11.0%)	136 (100%)
31 Jul 2021 <sup>#</sup>	72 (2.1%)	99 (2.9%)	2,749 (80.6%)	47 (1.4%)	443 (13.0%)	3,410 (100%)
28 Aug 2021	431 (2.8%)	614 (4.0%)	11,166 (72.1%)	728 (4.7%)	2,558 (16.5%)	15,497 (100%)
25 Sep 2021	2,226 (6.5%)	3,313 (9.7%)	14,826 (43.6%)	7,638 (22.5%)	6,019 (17.7%)	34,022 (100%)
30 Oct 2021 <sup>#</sup>	2,311 (13.9%)	2,402 (14.5%)	6,232 (37.6%)	1,564 (9.4%)	4,059 (24.5%)	16,568 (100%)
<b>Week ending</b>						
6 Nov 2021	363 (23.6%)	107 (6.9%)	449 (29.2%)	103 (6.7%)	518 (33.6%)	1,540 (100%)
13 Nov 2021	502 (31.4%)	88 (5.5%)	347 (21.7%)	123 (7.7%)	539 (33.7%)	1,599 (100%)
20 Nov 2021	434 (30.1%)	63 (4.4%)	325 (22.6%)	130 (9.0%)	488 (33.9%)	1,440 (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.

<sup>#</sup> Five-week period

Demographics of infections among total cases by gender and age, NSW, 16 June to 20 November 2021

	Week ending				16 Jun to 20 Nov 2021
	20 Nov 2021	13 Nov 2021	6 Nov 2021	30 Oct 2021	
<b>Gender</b>					
Female	678 (47.1%)	796 (49.8%)	785 (51.0%)	858 (48.7%)	35,280 (47.5%)
Male	762 (52.9%)	799 (50.0%)	755 (49.0%)	903 (51.3%)	38,888 (52.4%)
Non-specified or non-binary	0 (0.0%)	4 (0.3%)	0 (0.0%)	0 (0.0%)	44 (0.1%)
<b>Age group</b>					
0-9	384 (26.7%)	425 (26.6%)	418 (27.1%)	454 (25.8%)	12,187 (16.4%)
10-19	276 (19.2%)	291 (18.2%)	291 (18.9%)	297 (16.9%)	12,135 (16.4%)
20-29	211 (14.7%)	234 (14.6%)	236 (15.3%)	261 (14.8%)	14,571 (19.6%)
30-39	217 (15.1%)	236 (14.8%)	233 (15.1%)	289 (16.4%)	12,709 (17.1%)
40-49	139 (9.7%)	194 (12.1%)	178 (11.6%)	194 (11.0%)	9,120 (12.3%)
50-59	99 (6.9%)	104 (6.5%)	81 (5.3%)	121 (6.9%)	6,643 (9.0%)
60-69	69 (4.8%)	62 (3.9%)	57 (3.7%)	84 (4.8%)	3,817 (5.1%)
70-79	34 (2.4%)	34 (2.1%)	32 (2.1%)	36 (2.0%)	1,869 (2.5%)
80-89	11 (0.8%)	16 (1.0%)	12 (0.8%)	14 (0.8%)	928 (1.3%)
90+	0 (0.0%)	3 (0.2%)	2 (0.1%)	11 (0.6%)	233 (0.3%)
<b>Total</b>	<b>1,440 (100%)</b>	<b>1,599 (100%)</b>	<b>1,540 (100%)</b>	<b>1,761 (100%)</b>	<b>74,212 (100%)</b>

Proportion of cases with a severe outcome (ICU and/or death) amongst all cases, by age, time of infection, and vaccination status

Age-group (years)	% cases with severe outcomes (ICU and/or death)				
	Jan 2020 - 15 Jun 2021		16 Jun - 20 Nov 2021: Fully vaccinated		16 Jun - 20 Nov 2021: Un-vaccinated
0-9	0%	(0 / 251)	-	-	<1% (9 / 12,187)
10-19	<1%	(1 / 325)	0%	(0 / 137)	<1% (27 / 9,487)
20-29	<1%	(4 / 1,115)	<1%	(2 / 940)	1% (98 / 9,692)
30-39	1%	(15 / 1,098)	<1%	(4 / 1,285)	2% (154 / 7,709)
40-49	2%	(12 / 718)	<1%	(4 / 1,198)	3% (176 / 5,298)
50-59	4%	(30 / 710)	1%	(15 / 1,078)	7% (258 / 3,647)
60-69	7%	(44 / 656)	2%	(17 / 768)	13% (228 / 1,730)
70-79	12%	(46 / 394)	6%	(33 / 532)	24% (161 / 683)
80-89	21%	(26 / 122)	11%	(33 / 288)	36% (126 / 349)
90+	38%	(16 / 42)	21%	(24 / 113)	45% (28 / 62)
<b>Total</b>	<b>4%</b>	<b>(194 / 5,431)</b>	<b>2%</b>	<b>(132 / 6,339)</b>	<b>2%</b> (1,265 / 50,844)

\* 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	402	3%	39.8	4	2%
10-19	503	4%	52.2	10	3%
20-29	1,293	9%	110.3	27	2%
30-39	1,558	12%	133.1	46	4%
40-49	1,485	16%	143.8	48	7%
50-59	1,411	21%	145.1	78	11%
60-69	1,113	29%	132.4	117	18%
70-79	782	42%	134.2	92	23%
80-89	518	56%	188.9	52	43%
90+	125	54%	180.2	16	38%
Total	9,190	12%	113.6	490	9%

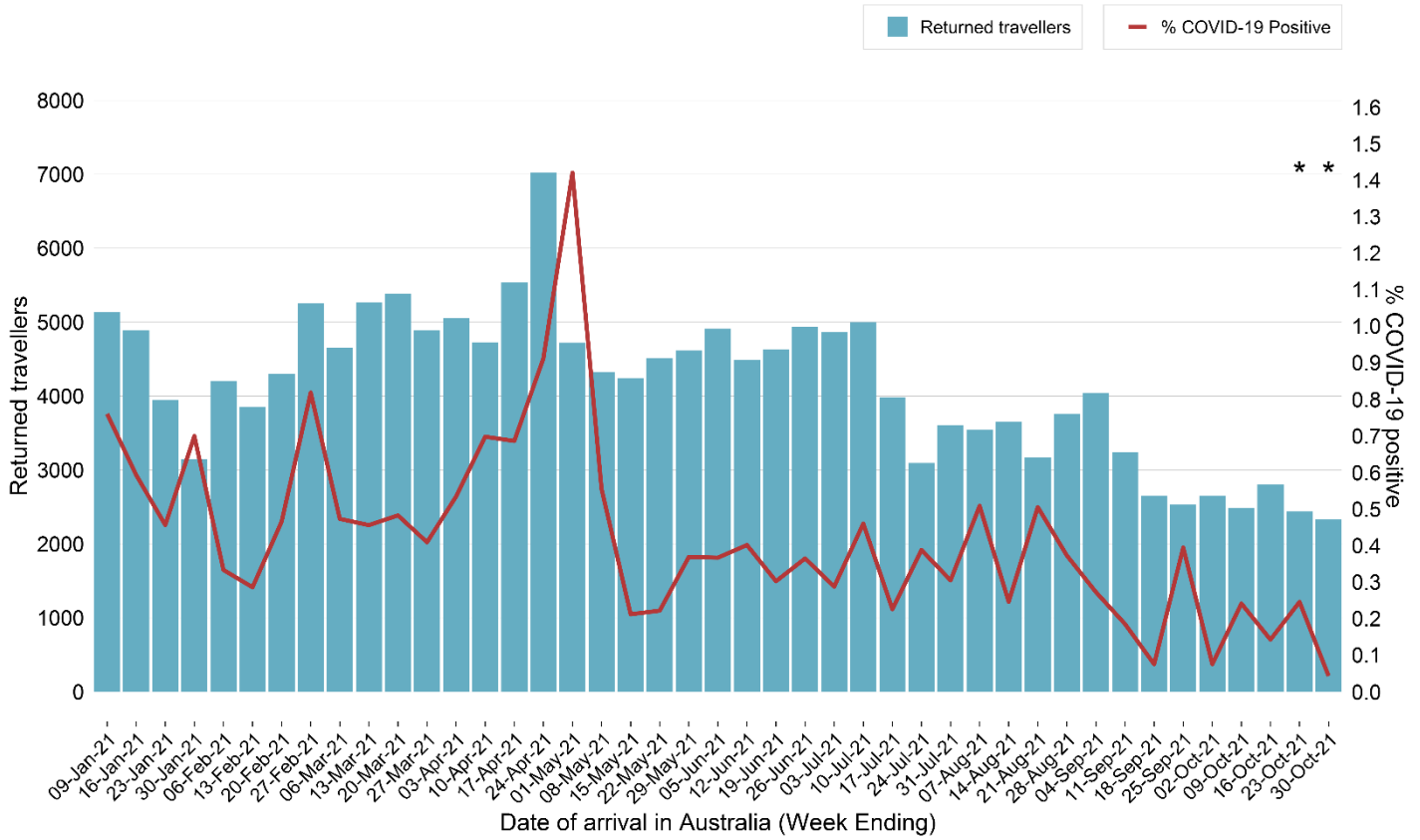
ICU hospitalisations among people diagnosed with COVID-19, by age group, NSW

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	9	<1%	0.9	0	0%
10-19	34	<1%	3.5	1	<1%
20-29	121	1%	10.3	4	<1%
30-39	187	1%	16.0	15	1%
40-49	228	3%	22.1	12	2%
50-59	330	5%	33.9	29	4%
60-69	285	8%	33.9	43	7%
70-79	203	11%	34.8	39	10%
80-89	57	6%	20.8	13	11%
90+	1	<1%	1.4	0	0%
Total	1,455*	2%	18.0	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.

Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 30 October 2021



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

## 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), Kappa (B.1.617.1) 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.
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>