

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 41 ENDING 16 October 2021

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### Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 16 October 2021

	2020		2021		Total
	Jan – Jun	Jul – Dec	01 Jan – 15 Jun	16 Jun – 16 Oct	
Locally acquired	1,236 (39 %)	807 (52 %)	51 (7 %)	65,559 (100 %)	67,653 (95 %)
Interstate acquired	67 (2 %)	23 (1 %)	0 (0%)	20 (<1 %)	110 (<1 %)
Overseas acquired	1,892 (59 %)	714 (46 %)	641 (93 %)	231 (<1 %)	3,478 (5 %)
Total	3,195 (100 %)	1,544 (100 %)	692 (100 %)	65,810 (100 %)	71,241 (100 %)
Deaths	51	5	0	472	528

### Summary for the week 10 October to 16 October 2021 (inclusive)

In the week ending 16 October 2021:

- There were 2,688 locally acquired cases reported.
- The ten LGAs with the highest number of cases were:
  - Canterbury-Bankstown LGA with 295 (11%) cases
  - Cumberland LGA with 213 (8%) cases
  - Liverpool LGA with 170 (6%) cases
  - Blacktown LGA with 167 (6%) cases
  - Fairfield LGA with 130 (5%) cases
  - Campbelltown LGA with 124 (5%) cases
  - Central Coast LGA with 115 (4%) cases
  - Newcastle LGA with 100 (4%) cases
  - Wollongong LGA with 98 (4%) cases
  - Lake Macquarie LGA with 89 (3%) cases
  - 1,168 (43%) cases were residents across 68 other LGAs
- There were 6 cases in overseas returned travellers (doubling from the week before).
- There were 31 deaths in people diagnosed with COVID.
- 19.5% of locally acquired cases aged 12 and over were fully vaccinated. This compares with around 63.7% of the NSW population aged 12 and over who had been fully vaccinated (that is, had completed their recommended vaccine schedule more than 2 weeks before, by 2 October).
- Testing rates decreased compared to the previous week (down 15%), with the highest testing rates in the Nepean Blue Mountains, South Western Sydney, and Western Sydney LHDs.
- 278 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 130 detections. Detections from Woolgoolga, Wauchope, Bowral, Armidale, Uralla, West Wyalong, Gulargambone, Brewarrina, Lightning Ridge, Lake Cargelligo, Wentworth, Jerilderie and Quirindi occurred with no known or recent cases in the catchment. Cases were also identified in Wauchope and Crescent Head following detections in recent weeks. Note that cases may have been identified in these catchments after 16 October.

## Indicators of effective prevention for COVID-19 in NSW for the week ending 16 October 2021

On receipt of a laboratory notification diagnosis of COVID-19, NSW Health now sends a text message to the case informing them that they and their close contacts are required to isolate and asking them to answer a short questionnaire.

Where a mobile number is not available, NSW Health works with the NSW Police to locate and inform the case as soon as possible.

**Table 2. Measures of public health action, NSW, for the period from 3 October to 16 October 2021**

	Week ending 16 Oct	Week ending 9 Oct
Proportion locally acquired cases notified to NSW Health by the laboratory within 1 day of specimen collection	83% (2,225/2,688)	82% (3,337/4,079)
Locally acquired cases contacted by text message within 1 day of notification to NSW Health	90% (2,408/2,688)	83% (3,400/4,079)
Number of high-risk cases fully interviewed by public health staff within 1 day of responding to the NSW Health text message	90% (478/532)	92% (687/744)
Locally acquired cases fully interviewed by public health staff within 1 day of notification to NSW Health	94% (2,538/2,688)	93% (3,797/4,079)

**Interpretation:** In the week ending 16 October, 83% of cases were notified to NSW Health within a day of test, 94% of cases were fully interviewed within one day of notification and 90% of cases were sent a text message to advise of their positive result, provide isolation requirements and to identify high risk exposure settings. Of those who responded to this message and were identified as high-risk cases, 90% were interviewed within one day of notification.

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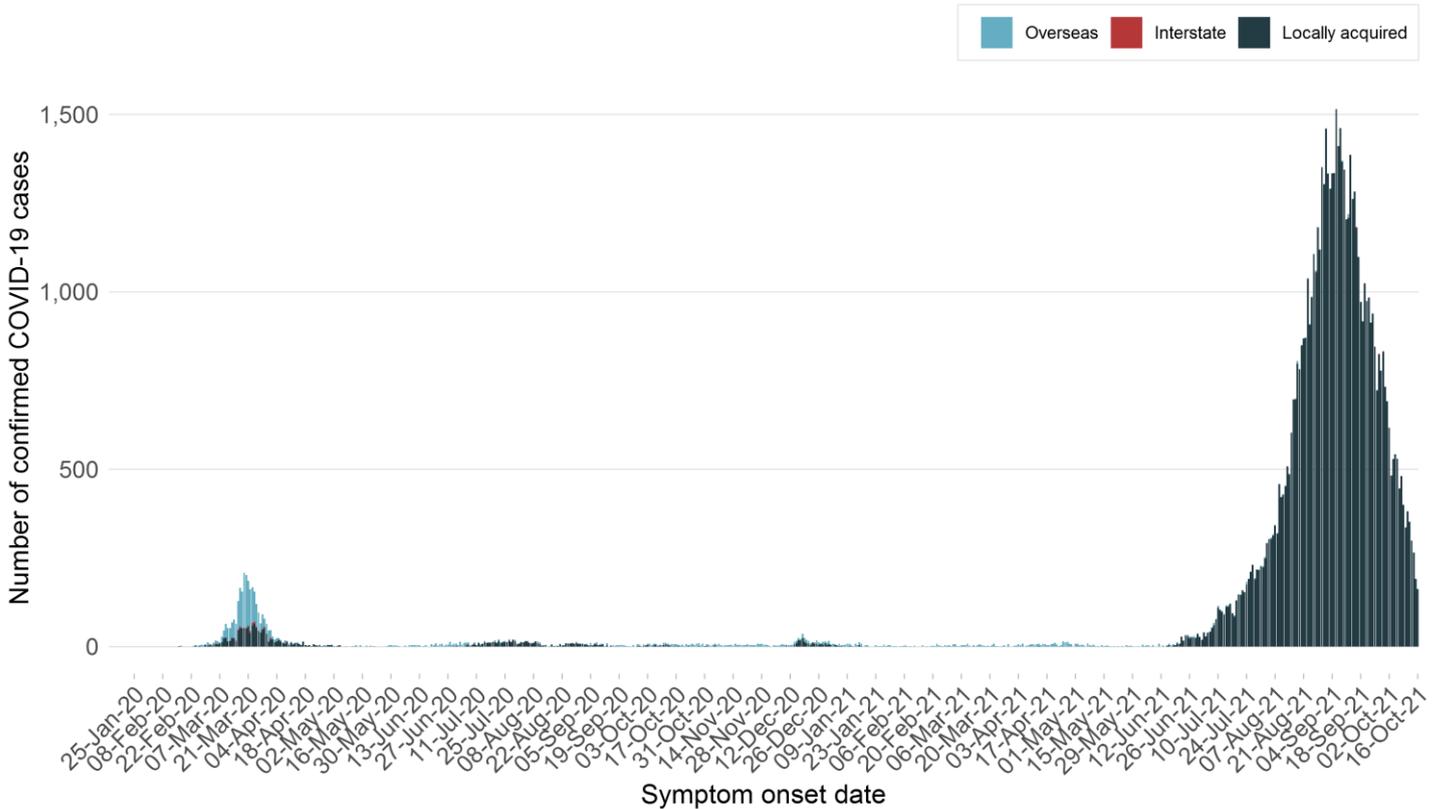
### COVID-19 Vaccination program

- Australian Government Department of Health reports the number of vaccine doses administered across Australia — [Daily COVID-19 vaccine rollout numbers](#)
- Australian Government Department of Health also reports the percentage of fully vaccinated individuals by LGA — [Vaccination rate by LGA](#)
- Therapeutic Goods Administration (TGA) report data on received reports of suspected side effects (also known as adverse events) and other safety information from Australia and overseas — [Weekly COVID-19 vaccine safety report](#)
- AusVaxSafety is conducting active vaccine safety surveillance of the vaccines in use. Surveillance data have been

## Section 1: How is the outbreak tracking in NSW?

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

Figure 1. COVID-19 cases by likely infection source and reported illness onset, NSW, from 13 January 2020 to 16 October 2021



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

**Interpretation:** Between 13 January 2020 and 16 October 2021, there were 71,241 confirmed COVID-19 cases in NSW. Of those, 3,478 (5%) were overseas acquired, 110 (<1%) were interstate acquired, and 67,653 (95%) were locally acquired. Cases who tested positive by 16 October are included, but are plotted by earliest symptom onset date. As cases typically develop symptoms prior to being notified, the number of cases reported by symptom onset date will appear to decline in more recent days, even if the total number of cases reported on that day does not.

### Four major waves of COVID-19 cases

The epidemiology of COVID-19 in NSW continued to evolve since the first three cases were reported in NSW on 25 January 2020 in people who acquired their infection in China. The first locally acquired COVID-19 case in NSW was reported on 2 March 2020 and by mid-March case numbers had increased rapidly in overseas returned travellers and their contacts and within localised community outbreaks. In NSW, the number of reported daily cases peaked on 27 March 2020 at 213 cases. Public health action and the introduction of a range of stringent control measures, including the closure of international borders, 14-day mandatory quarantine for returned travellers and restrictions of movement within NSW lead to a decline in cases. Community transmission was interrupted by the end of May 2020.

In early July seeding of SARS-CoV-2 into South Western Sydney from an outbreak in Melbourne led to a second wave of infection. Following intensive public health action community transmission was again interrupted by the end of November 2020.

In December 2020 two new introductions of SARS-CoV-2 caused outbreaks in Sydney’s Northern Beaches and Berala in Sydney’s West. Community transmission was again interrupted by the end of January 2021.

The current outbreak across NSW began in mid-June 2021 in Sydney’s east, and spread from there to West and South Western Sydney. Clusters have developed in the Central Coast, Hunter New England, Western NSW, Far Western NSW, and Southern NSW regions.

## Section 2: Locally acquired COVID-19 transmission in NSW in the last four weeks

Table 3. Locally acquired COVID-19 cases by LHD of residence and week reported, NSW, 19 September to 16 October 2021

	Local Health District	Week ending				Total	Days since last case reported
		16 Oct	9 Oct	2 Oct	25 Sep		
Metropolitan Local Health Districts	South Western Sydney	629	958	1,502	2,065	5,154	0
	Western Sydney	439	681	1,124	1,532	3,776	0
	Sydney	233	313	462	760	1,768	0
	South Eastern Sydney	199	340	558	766	1,863	0
	Illawarra Shoalhaven	196	381	537	474	1,588	0
	Central Coast	115	209	231	211	766	0
	Nepean Blue Mountains	105	203	287	427	1,022	0
	Northern Sydney	51	124	210	300	685	0
Rural and Regional Local Health Districts	Hunter New England	487	558	458	246	1,749	0
	Western NSW	83	89	210	114	496	0
	Murrumbidgee	46	10	10	15	81	0
	Southern NSW	30	118	139	41	328	0
	Northern NSW	29	40	25	0	94	1
	Mid North Coast	14	11	13	6	44	0
	Far West	13	17	33	45	108	0
	Correctional settings	13	21	37	48	119	0
	NSW*	2,688	4,079	5,847	7,062	19,676	

\*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.

**Interpretation:** There were 2,688 locally acquired cases reported in the week ending 16 October 2021. The largest proportion of cases were residents of South Western Sydney LHD (629, 23%) followed by Hunter New England LHD (487, 18%), and Western Sydney LHD (439, 16%). Correctional settings include all cases diagnosed while residing in NSW correctional facilities.

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

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

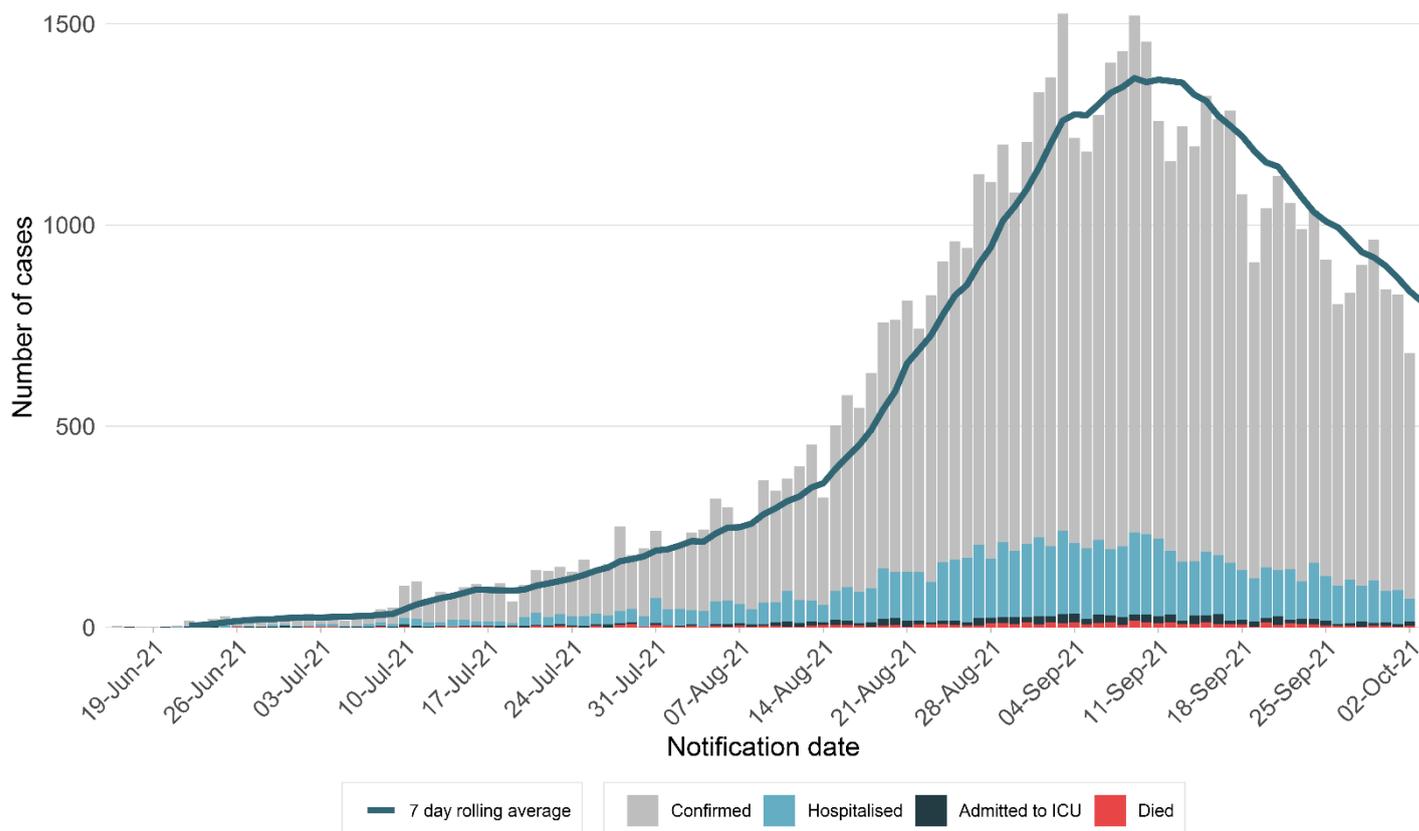
Table 4. COVID-19 cases and tests reported, NSW, from 16 June 2021 to 16 October 2021

	Week ending 16 Oct	Week ending 9 Oct	% change	Since 16 Jun
Number of cases	2,695	4,084	-34 %	65,810
Locally acquired	2,688	4,079	-34 %	65,559
Known epidemiological links to other cases or clusters	1,203	1,456	-17 %	24,293
No epidemiological links to other cases or clusters	1,485	2,623	-43 %	41,266
Overseas acquired	6	3	100 %	231
Interstate acquired	1	2	-50 %	20
Number of Tests	558,693	655,373	-15 %	12,909,652

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

**Interpretation:** Almost all cases reported in the last two weeks in NSW were locally acquired (6,767/6,779 cases, or 99.8%).

Figure 2. COVID-19 cases by outcome and notification date with 7 day backward rolling average, NSW, from 16 June 2021 to 2 October 2021



**Interpretation:** This graph shows the number of COVID-19 cases notified each day to NSW Health, as of 2 October and their outcome. All dates are based on the date of the case’s notification rather than the date they were hospitalised, admitted to ICU or died. Because there can be a delay between a person becoming ill with COVID-19 and when they may require hospitalisation (currently, a median of 5 days) or between becoming ill and dying (currently, a median of 11 days), data is provided to 2 October, allowing sufficient time to capture the development of severe illness or death among the most recently notified cases.

## Local Government Areas

Table 5a. Top 20 metropolitan LGAs of residence, ordered by locally acquired COVID-19 cases in the last 7 days, per 100,000 population rate, NSW, 16 June to 16 October 2021

LGA name	Last 7 days		Current NSW outbreak (16 Jun-16 Oct 2021)	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Cumberland	213	88	8,767	3,630
Shellharbour	58	79	503	687
Canterbury-Bankstown	295	78	10,969	2,902
Liverpool	170	75	5,403	2,374
Campbelltown	124	73	2,569	1,503
Fairfield	130	61	4,491	2,121
Hunters Hill	7	47	83	554
Blacktown	167	45	6,724	1,796
Wollongong	98	45	1,491	684
Camden	41	40	965	951
Georges River	60	38	1,282	804
Shoalhaven	40	38	247	234
Bayside	62	35	1,479	829
Penrith	75	35	3,116	1,463
Wollondilly	18	34	211	397
Central Coast	115	33	1,164	338
Lithgow	7	32	34	157
Hawkesbury	18	27	441	655
Sydney	46	19	1,905	773
Inner West	37	18	827	412

Table 5b. Top 20 regional and rural LGAs of residence, ordered by locally acquired COVID-19 cases in the last 7 days, per 100,000 population rate, NSW, 16 June to 16 October 2021

LGA name	Last 7 days		Current NSW outbreak (16 Jun-16 Oct 2021)	
	Cases	Cases per 100,000 population	Cases	Cases per 100,000 population
Walgett	30	504	77	1,293
Wentworth	11	156	25	354
Bourke	4	154	154	5,946
Cessnock	77	128	269	448
Maitland	76	89	351	412
Oberon	4	74	33	610
Tamworth Regional	46	74	78	125
Edward River	6	66	13	143
Albury	33	61	41	75
Narromine	4	61	51	783
Newcastle	100	60	537	324
Central Darling	1	54	150	8,157
Port Stephens	40	54	153	208
Mid-Coast	46	49	83	88
Dubbo Regional	25	47	950	1,768
Lake Macquarie	89	43	612	297
Clarence Valley	21	41	28	54
Kempsey	11	37	28	94
Snowy Monaro Regional	7	34	81	390
Gunnedah	4	32	17	134

**Interpretation:** The top 20 metropolitan LGAs contributed 66% of all locally acquired cases in the week ending 16 October. The four LGAs with the highest case rates per 100,000 population are in a rural and regional area and are associated with known clusters. 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.

Source of infection for locally acquired cases in NSW

Figure 3a. Source of infection for locally acquired cases, Metropolitan LHDs, from 16 June to 16 October 2021

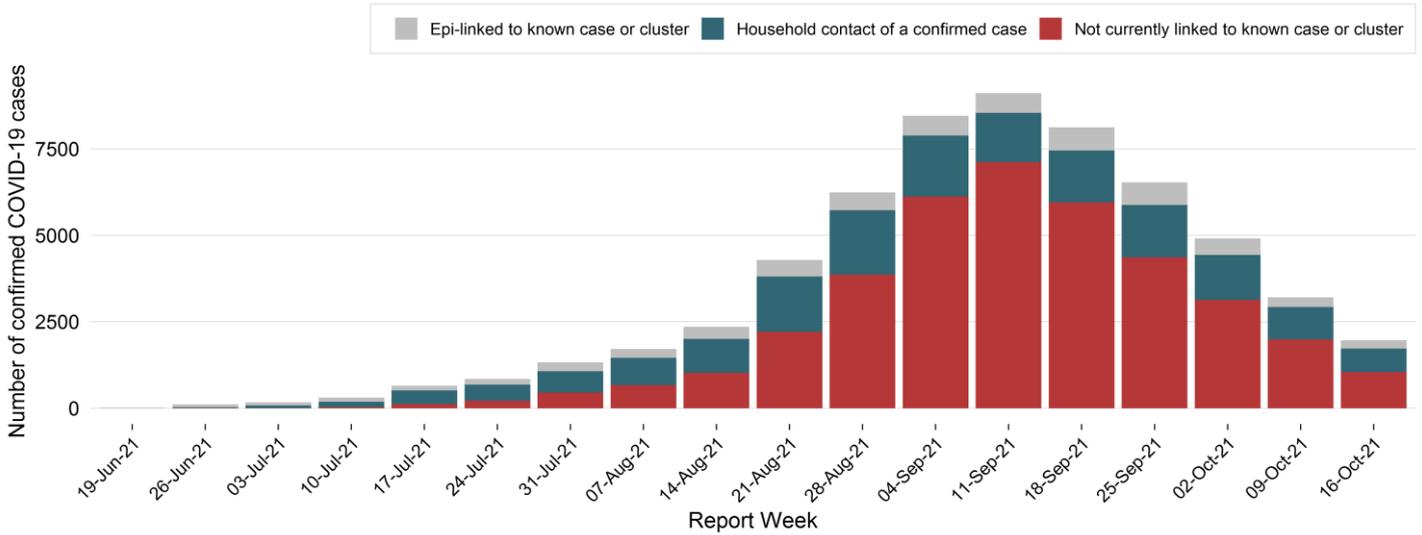
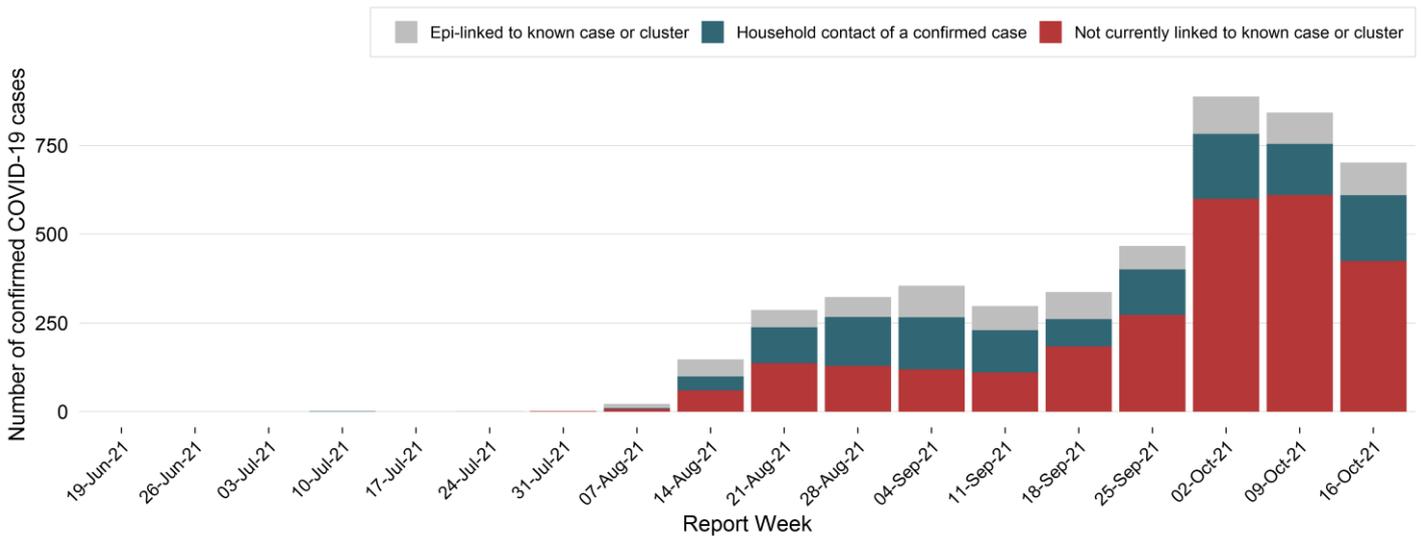


Figure 3b. Source of infection for locally acquired cases, rural and regional LHDs, from 16 June to 16 October 2021



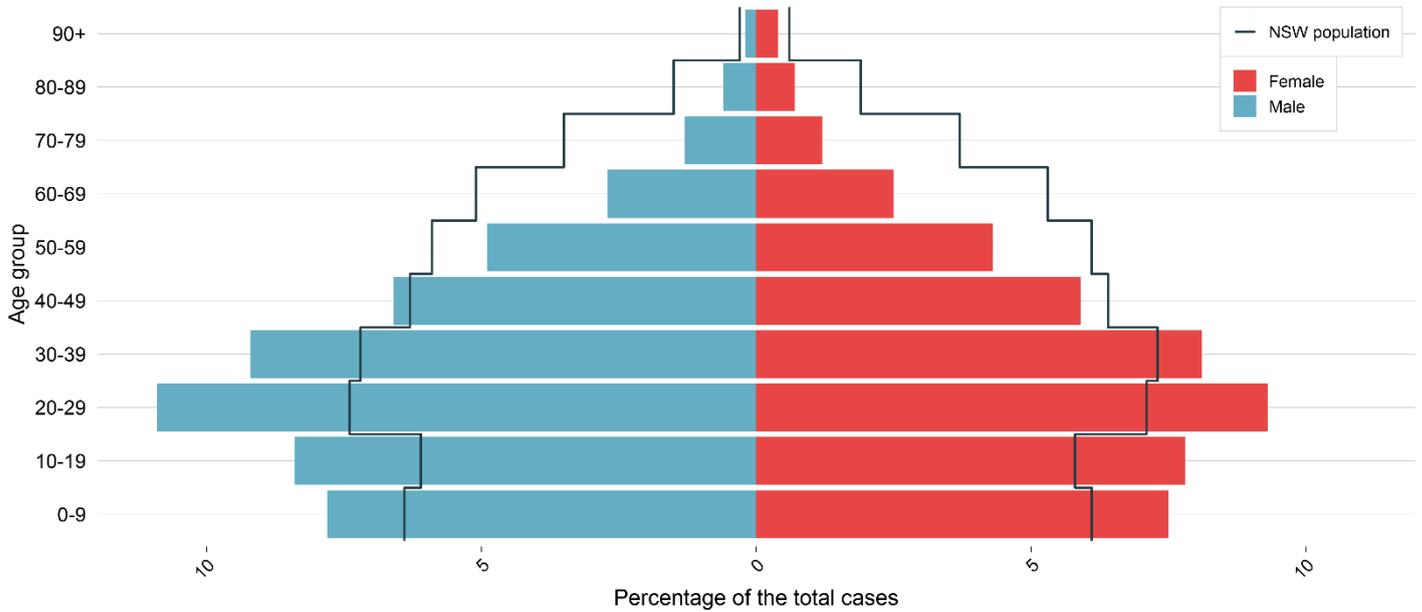
Note: This graph does not include cases in Justice Health and correctional facilities and those for whom LHD was not available at the time of data extraction.

**Interpretation:** In the week ending 16 October, cases decreased by 39% in metropolitan LHDs (1,967 compared to 3,209 the previous week), and decreased by 17% in rural and regional LHDs (702 compared to 843 the previous week). Of the 1,967 cases reported this week in metropolitan LHDs, 677 (34%) were household contacts, 245 (12%) were epidemiologically linked but not household contacts and 1,045 (53%) were not currently linked to a case or cluster. There were 702 cases reported this week in rural and regional LHDs. Of these, 185 (26%) are household contacts, 92 (13%) are epidemiologically linked but not household contacts and 425 (61%) have not currently been linked to a case or cluster.

### Age breakdown of locally acquired cases, NSW, from 16 June - 16 October 2021

The median age of cases between 1 January 2020 and 15 June 2021 was 37 years (interquartile range (IQR) = 25-55 years). By contrast, between 16 June and 16 October 2021, there have been 65,559 locally acquired cases. The median age was 29 years (IQR = 16-44 years).

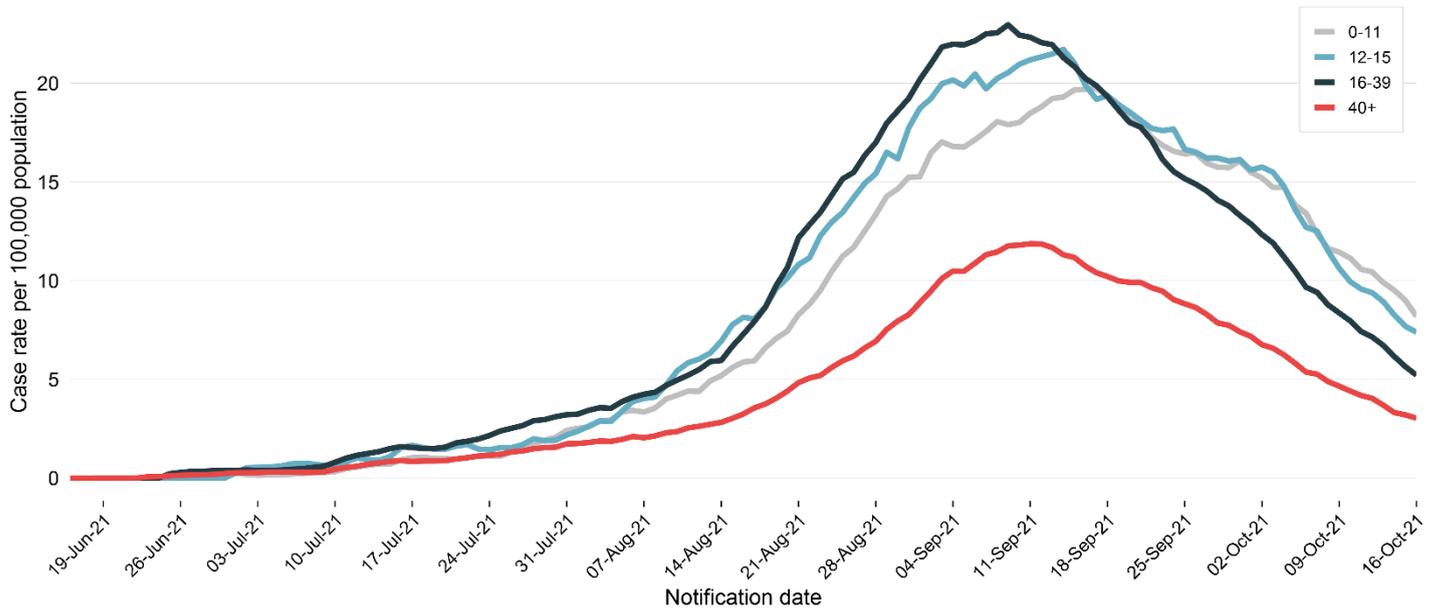
Figure 4. Current wave locally acquired case percentage (n = 65,422) by age and gender, NSW, from 16 June to 16 October 2021



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

**Interpretation:** In the current outbreak from 16 June 2021, people aged under 40 are over-represented among the cases, relative to their proportion in the NSW population. Under-representation among older groups may be due to vaccination programs targeted towards elderly and aged care residents.

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 16 October 2021



**Interpretation:** The graph shows the rolling average of the rate of cases notified per day by age group. The peak of infections per day for those aged 40+ and those aged 16-39 occurs around 10 September and has steadily declined since that time. People aged 12-15 became eligible for vaccination from 13 September and children aged 11 years and under are not yet eligible for vaccination in Australia. Rates of cases in both groups peaked in mid-September and have been decreasing at similar rates.

## Section 4: COVID-19 in specific populations

### Aboriginal people

Aboriginal and Torres Strait Islander communities are recognised as a priority group due to key drivers of increased risk of transmission and severity of COVID-19 which include mobility, remoteness, barriers to access including institutional racism and mistrust of mainstream health services, crowded and inadequate housing, and burden of disease.

In the week ending 16 October 2021 there were 440 locally acquired cases of COVID-19 reported in Aboriginal people. Of the 440 cases, 33 (7.5%) were fully vaccinated (see Section 5 for a full description of vaccination status). Since 16 June 2021 there have been 4,714 Aboriginal people diagnosed with COVID-19, representing 7.2% of all locally acquired 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.

**Table 6. Demographics of infections among Aboriginal people by gender, age, and vaccination status, NSW, 16 June to 16 October, 2021**

Aboriginal people		Number of cases
Gender		
Female		2,375 (50.4%)
Male		2,332 (49.5%)
Not stated/inadequately described		7 (0.1%)
Age group		
0-9		1,155 (24.5%)
10-19		1,025 (21.7%)
20-29		885 (18.8%)
30-39		699 (14.8%)
40-49		478 (10.1%)
50-59		305 (6.5%)
60-69		129 (2.7%)
70-79		32 (0.7%)
80-89		6 (0.1%)
90+		0 (0.0%)
Vaccination status		
Fully vaccinated		164 (3.5%)
Partially vaccinated		303 (6.4%)
Un-vaccinated		2,271 (48.2%)
Under investigation*		610 (12.9%)
Not eligible for vaccination (aged 0-11 years)		1,366 (29.0%)
<b>Total</b>		<b>4,714 (100.0%)</b>

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

**Interpretation:** Since 16 June, 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.

### Pregnant women

In the week ending 16 October 2021 there were 32 locally acquired cases of COVID-19 reported in pregnant women. Of the 32 cases, 2 (6%) were fully vaccinated. Since 16 June 2021 there have been 670 pregnant women have been diagnosed with COVID-19, representing 1% of all locally acquired cases in that time.

## Correctional settings

In the week ending 16 October there were 13 locally acquired cases of COVID-19 reported in people residing in correctional settings. Of the 13 cases, 2 (15%) were fully vaccinated. Since 16 June 2021 there have been 458 people residing in correctional settings diagnosed with COVID-19, representing 0.7% of all locally acquired cases.

**Table 7. Demographics of infections in correctional settings by gender, age, and vaccination status, NSW, 16 June to 16 October, 2021**

Cases residing in correctional settings		Number of cases	
Gender			
	Female	22	(4.8%)
	Male	436	(95.2%)
Age group			
	0-9	0	(0.0%)
	10-19	24	(5.2%)
	20-29	134	(29.3%)
	30-39	167	(36.5%)
	40-49	88	(19.2%)
	50-59	33	(7.2%)
	60-69	7	(1.5%)
	70-79	4	(0.9%)
	80-89	1	(0.2%)
	90+	0	(0.0%)
Vaccination status			
	Fully vaccinated	19	(4.1%)
	Partially vaccinated	47	(10.3%)
	Un-vaccinated	105	(22.9%)
	Under investigation*	287	(62.7%)
Total		458	(100.0%)

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

**Interpretation:** Since 16 June, 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.

## Healthcare workers

The following describes infections of COVID-19 in healthcare workers (HCWs). HCWs in this section includes roles such as doctor, nurse, orderly, paramedic, laboratory technician, pharmacist, administrative staff, cleaners, and other support staff. Public health units routinely undertake investigations of COVID-19 cases in healthcare workers to identify ongoing risks in healthcare settings.

In the week ending 16 October, there were 23 healthcare workers diagnosed with COVID-19. Of these, 4 (17%) were potentially infected in a healthcare setting, 8 (35%) were social or household contacts of previously reported cases and 11 (48%) are currently not linked. Sixteen (70%) cases were fully vaccinated and 2 (9%) were partially vaccinated.

In total there have been 1060 cases of COVID-19 in health care workers since August 2020. Of these, 191 were potentially infected in healthcare settings. A further 292 cases were linked to social or household contacts, and for 577 cases the source of infection is either unknown or under investigation. Prior to August 2020, there were 35 cases identified in HCWs who had worked in a health facility in the 14 days prior to symptom onset or date of testing (see [COVID-19 in healthcare workers in NSW](#)).

**Table 8. Number of healthcare worker infections by source of infection and proportion fully vaccinated**

Healthcare workers	Last 7 days			Current NSW outbreak (16 Jun-16 Oct 2021)		
	Number of HCWs	Fully vaccinated	Partially vaccinated	Number of HCWs	Fully vaccinated	Partially vaccinated
Healthcare acquired	4	3 (75%)	0 (0%)	166	66 (40%)	16 (10%)
Community acquired	8	6 (75%)	1 (12%)	275	111 (40%)	34 (12%)
Not currently linked	11	7 (64%)	1 (9%)	559	233 (42%)	58 (10%)
Total	23	16 (70%)	2 (9%)	1,000	410 (41%)	108 (11%)

**Interpretation:** Since 16 June, most healthcare workers associated with the current NSW outbreak have been infected in the community and outside of a healthcare setting (831/1000, 83%). Of the 1000 healthcare workers that have been diagnosed with COVID-19 in the current outbreak, 410 (41%) have been fully vaccinated and 108 (11%) have been partially vaccinated.

### Aged care workers

Since 16 June 2021, there have been 306 cases reported in aged care workers. Of these, 63 (21%) people have reported being vaccinated with one effective dose, and 113 (37%) were fully vaccinated.

**Table 9. Number of aged care worker infections by source of infection and proportion fully vaccinated**

Aged care workers	Last 7 days			Current NSW outbreak (16 Jun-16 Oct 2021)		
	Number of ACWs	Fully vaccinated	Partially Vaccinated	Number of ACWs	Fully vaccinated	Partially Vaccinated
Acquired at aged care facility	2	1 (50%)	0 (0%)	59	18 (31%)	16 (27%)
Community acquired	5	5 (100%)	0 (0%)	90	34 (38%)	11 (12%)
Not currently linked	6	4 (67%)	1 (17%)	157	61 (39%)	36 (23%)
<b>Total</b>	<b>13</b>	<b>10 (77%)</b>	<b>1 (8%)</b>	<b>306</b>	<b>113 (37%)</b>	<b>63 (21%)</b>

**Interpretation:** In the week ending 16 October there were 13 aged care workers diagnosed with COVID-19. Of these, 2 (15%) were infected in an aged care facility, 5 (38%) were social or household contacts of previously reported cases and 6 (46%) are not currently linked.

## Section 5: COVID-19 vaccination status

COVID-19 vaccinations began in Australia on 22 February 2021. The first people to receive the COVID-19 vaccines were priority groups at a higher risk of COVID-19 infection, including quarantine and border workers, frontline healthcare workers, and aged and disability care residents and staff. People receiving vaccines are considered fully vaccinated two weeks after they complete the recommended course for that vaccine. All the vaccines being administered in Australia, and most from overseas, recommend a two-dose course.

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

- Cases reported as **fully vaccinated** completed the recommended vaccine course at least 14 days prior to known exposure to COVID-19 or arrival in Australia.
- Cases reported as **partially vaccinated** (one effective dose):
  - received their first dose of a two-dose vaccination course at least 21 days prior to known exposure to COVID-19 or arrival in Australia, or
  - received their second dose of a two-dose vaccination course less than 14 days prior to known exposure to COVID-19 or arrival in Australia, or
  - received a single-dose vaccination course (currently only Johnson & Johnson vaccine) less than 14 days prior to known exposure to COVID-19 or arrival in Australia.
- Cases reported as **no effective dose**:
  - received their first dose of a two-dose vaccination course less than 21 days prior to known exposure to COVID-19 or arrival in Australia, or
  - have not received any vaccine dose.

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.

**Table 10. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 16 June to 16 October 2021**

Vaccination Status	Week ending				16 Jun to 18 Sep 2021	Total from 16 Jun 2021
	16 Oct 21	9 Oct 21	2 Oct 21	25 Sep 21		
Fully Vaccinated	389 (14.5%)	495 (12.1%)	648 (11.1%)	618 (8.8%)	2,070 (4.5%)	4,220 (6.4%)
Partially Vaccinated	342 (12.7%)	658 (16.1%)	924 (15.8%)	1,036 (14.7%)	2,920 (6.4%)	5,880 (9%)
No effective dose	984 (36.6%)	1,653 (40.5%)	2,357 (40.3%)	2,512 (35.6%)	25,987 (56.6%)	33,493 (51.1%)
Under investigation*	278 (10.3%)	302 (7.4%)	628 (10.7%)	1,503 (21.3%)	7,268 (15.8%)	9,979 (15.2%)
Not eligible for vaccination (aged 0-11 years)	695 (25.9%)	971 (23.8%)	1,290 (22.1%)	1,393 (19.7%)	7,638 (16.6%)	11,987 (18.3%)
<b>Total</b>	<b>2,688</b>	<b>4,079</b>	<b>5,847</b>	<b>7,062</b>	<b>45,883</b>	<b>65,559</b>

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

**Interpretation:** In the past week 389 locally acquired cases were fully vaccinated. This represents 14.5% of all cases, and 19.5% of all 1,993 cases who were eligible for vaccination (aged 12 years and over). This compares with around 63.7% of the NSW population aged 12 and over who had been fully vaccinated (that is, had completed their recommended vaccine schedule by 2 October). The proportion of cases who are fully or partially vaccinated will continue to increase as the rates of vaccination continue to increase in the community.

### Clinical severity and COVID-19 vaccination

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.

Of the 10,099 people hospitalised, 569 (5.6%) were too young to be vaccinated, 611 (6.1%) had received two effective doses, 788 (7.8%) had received one effective dose, and 8,131 (80.5%) had either received no effective doses or vaccination status has not yet been determined.

Of the 10,099 people hospitalised with COVID-19 in the current outbreak, 1,195 (11.8%) people were in ICU. Of these, 9 (0.8%) were too young to be vaccinated, 781 (65.4%) had not received an effective dose, and 82 (6.9%) were partially vaccinated. There were 43 (3.6%) fully vaccinated cases in ICU. For the remaining 280 (23.4%) people in ICU, 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.

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

Vaccination status	Hospitalised (%)	Hospitalised and in ICU (%)	Death (%)
Fully Vaccinated	611 (6.1%)	43 (3.6%)	60 (12.8%)
Partially vaccinated	788 (7.8%)	82 (6.9%)	58 (12.3%)
No effective dose	6,152 (60.9%)	781 (65.4%)	340 (72.3%)
Under investigation	1,979 (19.6%)	280 (23.4%)	12 (2.6%)
Not eligible for vaccination (aged 0-11 years)	569 (5.6%)	9 (0.8%)	0 (0.0%)
Total	10,099 (100.0%)	1,195 (100.0%)	470 (100.0%)

## Section 6: COVID-19 hospitalisations and deaths

### How many people were in hospital each day with COVID-19?

Figure 6a. 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 16 October 2021

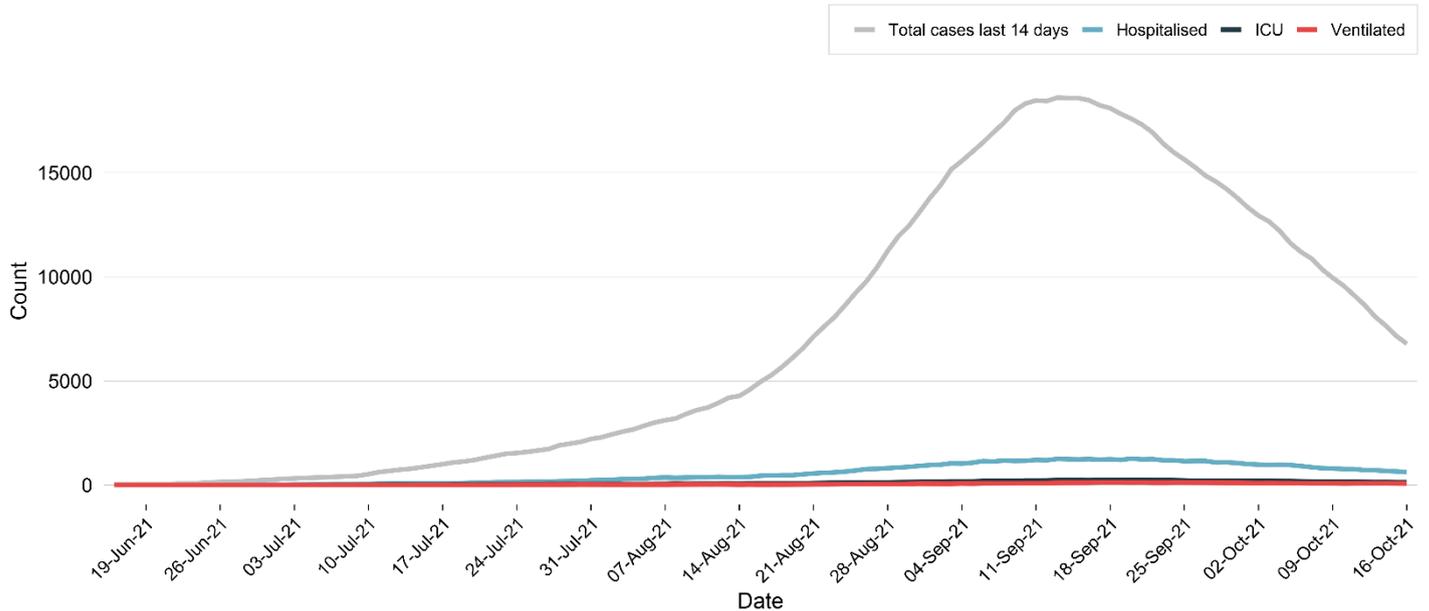
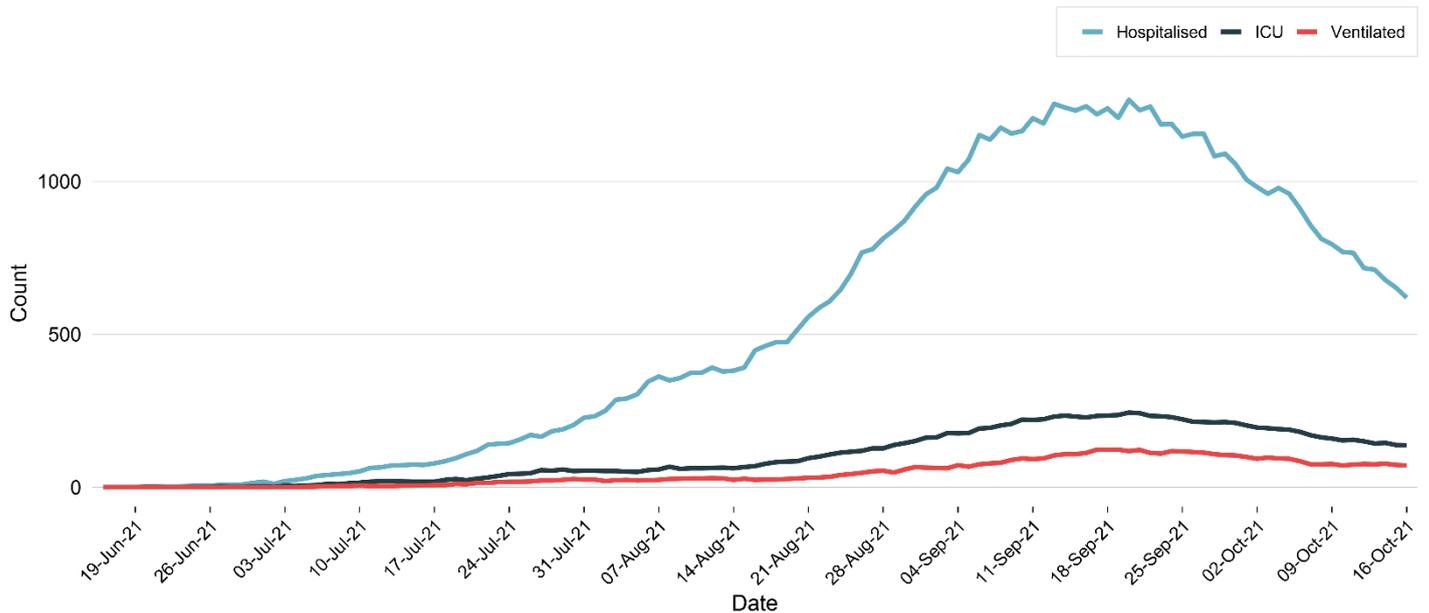


Figure 6b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 16 October 2021



**Interpretation:** Cases are considered active for 14 days from symptom onset; during this time a person may become increasingly ill and require hospitalisation. The top panel shows the total number of COVID-19 cases in the last 14 days, the number currently hospitalised, the number in ICU and the number ventilated. The bottom panel shows the number of COVID-19 cases in hospital each day, the number of cases in ICU each day and the number requiring ventilation each day. There can be a delay between a person becoming ill with COVID-19 and subsequently requiring a hospitalisation and people may be hospitalised before becoming cases. Additionally, people may require hospitalisation for long periods of time therefore reporting the number of cases hospitalised on any given date does not reflect the true proportion that will require hospitalisation. Currently there is a median delay of 5 days between a person becoming ill with COVID-19 and being admitted to hospital, and 11 days between becoming ill and dying.

## How many people with a COVID-19 diagnosis were admitted to hospital wards?

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).

In the week ending 16 October 2021, of the 2,688 locally acquired cases, there were 212 people who had a diagnosis of COVID-19 who were also admitted to a hospital ward, and 18 of those were admitted to ICU. In total, there have been 10,099 people with COVID-19 who were also hospitalised since the beginning of the current NSW outbreak.

**Table 12. Hospitalisations among people diagnosed with COVID-19, by age group, NSW**

Age-group (years)	Current outbreak since 16 June (Locally acquired only)			Total since January 2020	
	Hospitalised	Percentage of cases hospitalised <sup>1</sup>	Hospitalised per 100,000 population	Hospitalised	Percentage of cases hospitalised <sup>1</sup>
0-9	500	5%	49.5	507	5%
10-19	604	6%	62.6	616	6%
20-29	1,563	12%	133.3	1,592	11%
30-39	1,736	15%	148.3	1,785	14%
40-49	1,616	20%	156.5	1,666	19%
50-59	1,493	25%	153.6	1,575	23%
60-69	1,141	33%	135.8	1,264	31%
70-79	791	47%	135.7	883	43%
80-89	522	62%	190.3	575	59%
90+	133	66%	191.8	149	61%
Total	10,099	15%	124.8	10,612	15%

**Interpretation:** The highest number of cases hospitalised are aged 30-39 years (1,736, 15% of cases in that age range), followed by those aged 40-49 years (1,616, 20%). In NSW, cases aged 90 years and over have the highest rate of hospitalisation (191.8 per 100,000 people), followed by those aged 80-89 years (190.3 per 100,000 people).

## How many people with a COVID-19 diagnosis admitted to ICU wards?

**Table 13. ICU hospitalisations among people diagnosed with COVID-19, by age group, NSW**

Age-group (years)	Current outbreak since 16 June (Locally acquired only)			Total since January 2020	
	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	7	<1%	0.7	7	<1%
10-19	27	<1%	2.8	28	<1%
20-29	78	1%	6.7	82	1%
30-39	128	1%	10.9	143	1%
40-49	168	2%	16.3	180	2%
50-59	256	4%	26.3	284	4%
60-69	218	6%	25.9	260	6%
70-79	150	9%	25.7	184	9%
80-89	39	5%	14.2	52	5%
90+	0	0%	0.0	0	0%
Total	1,071	2%	13.2	1,220	2%

**Interpretation:** The highest number of cases in ICU are aged 50-59 years (256, 4%). The highest rate of admission to ICU is also for those aged 50-59 years (256 cases, 26.3 per 100,000 people).

<sup>1</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 5 days and between onset and death is 11 days. Therefore hospitalisations and deaths are under-reported for the most recently notified cases.

## How many people have died following recent infection with COVID-19?

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.

Since the start of the pandemic, 1% of cases (528 people) have died following a recent infection with COVID-19, most of whom were 80 years of age or older, including 79 residents of aged care facilities with known COVID-19 outbreaks. Approximately 3% (14/528) of the deaths were in overseas acquired cases.

There were 31 deaths in people diagnosed with COVID-19 reported this week including 9 people who were fully vaccinated, 6 people who were partially vaccinated, 15 who were unvaccinated, and one whose vaccination status was unknown (see Section 5 for the definitions of vaccination status).

**Table 14. Deaths following recent infection with COVID-19, by age group**

Age-group (years)	Current outbreak since 16 June (Locally acquired only)			Total since January 2020	
	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	1	<1%
20-29	6	<1%	0.5	6	<1%
30-39	9	<1%	0.8	9	<1%
40-49	21	<1%	2.0	21	<1%
50-59	52	1%	5.3	53	1%
60-69	79	2%	9.4	84	2%
70-79	112	7%	19.2	127	6%
80-89	139	16%	50.7	160	17%
90+	51	25%	73.5	67	27%
Total	470	1%	5.8	528	1%

**Interpretation:** Cases aged 80-89 years of age had the highest number of deaths, while those aged over 90 had the highest case fatality rate.

**Table 15. Deaths following recent locally acquired infection with COVID-19, by age group and location, from 16 June to 16 October 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	5	0	4
40-49	15	0	6
50-59	45	0	7
60-69	68	0	11
70-79	107	2	3
80-89	124	8	7
90+	43	8	0
Total	412	18	40

**Interpretation:** The majority of deaths following recent locally acquired COVID-19 infection have occurred in hospital (412/470, 88%). Eighteen deaths in aged care facilities have been among people aged 70 years and over, while 40 deaths occurring at home have been in a younger cohort aged 20-89, and 24 (60%) of the deaths at home were tested forensically for infection (following death).

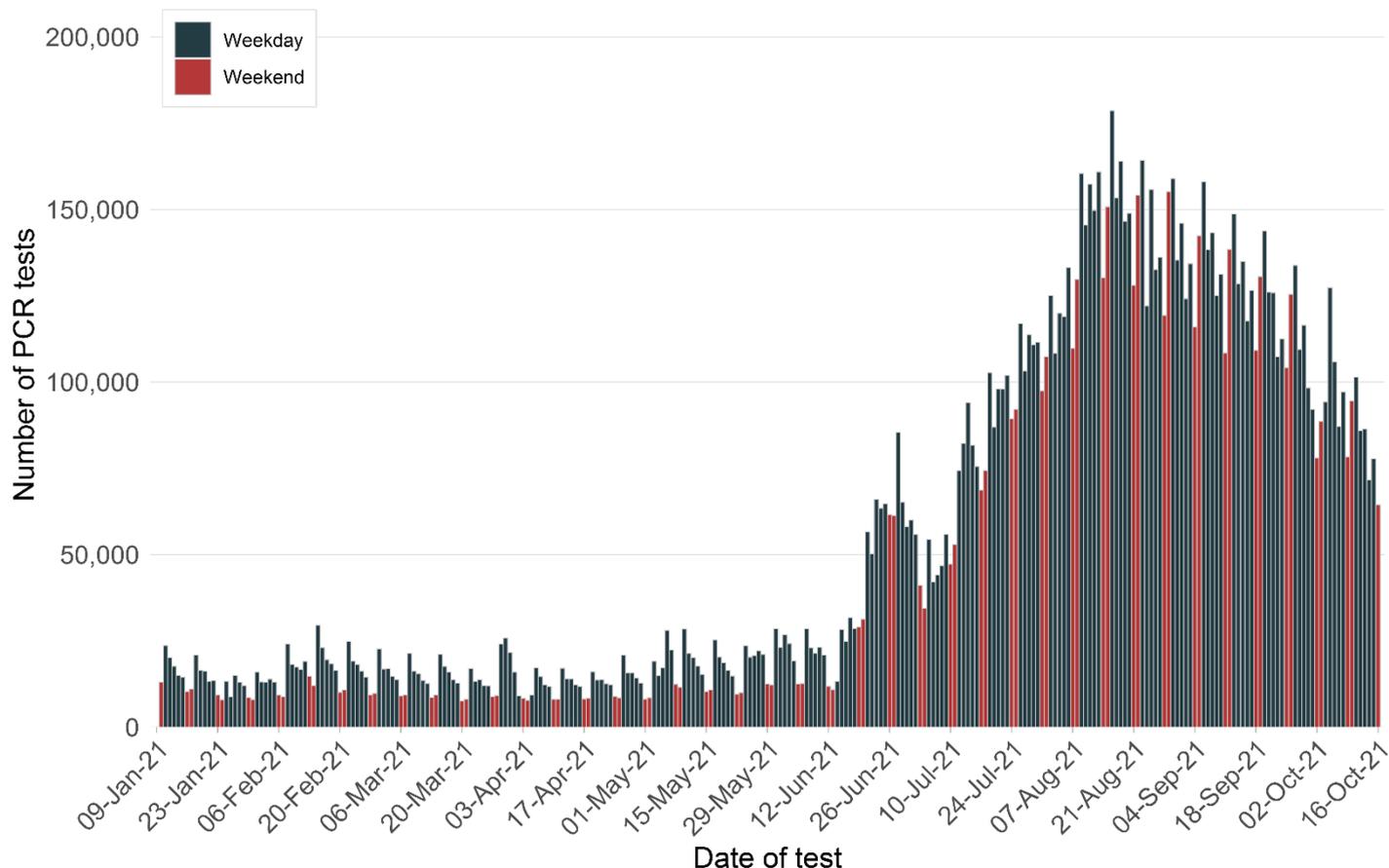
<sup>2</sup> There is often a delay between a person becoming ill with COVID-19 and subsequently requiring a hospitalisation or dying. In the current outbreak the median time between onset and hospitalisation is 5 days and between onset and death is 11 days. Therefore hospitalisations and deaths are under-reported for the most recently notified cases.

## Section 7: COVID-19 testing in NSW

### How much testing is happening?

The bars on the graph below show the number of negative tests by the date a person presented for the test.<sup>3</sup> While public health facilities are generally open seven days a week, there may be less demand and availability for testing through GPs and private collection centres on weekends and public holidays. This likely explains lower testing numbers on weekends.

Figure 7. Number of negative PCR tests per day, NSW, 9 January 2021 to 16 October 2021



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

**Interpretation:** Testing numbers decreased in the week ending 16 October 2021 (down 15%) compared to the previous week. The average daily testing rate of 9.6 per 1,000 people in NSW each day decreased compared to the previous week of 11.2 per 1,000 people.

<sup>3</sup> The number of tests per day displayed is different to the 24 hour increase in tests reported each day as there are delays in some laboratories providing negative results to NSW Health.

### Testing and positivity rates by Local Health District

Figure 8a. 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 16 October 2021

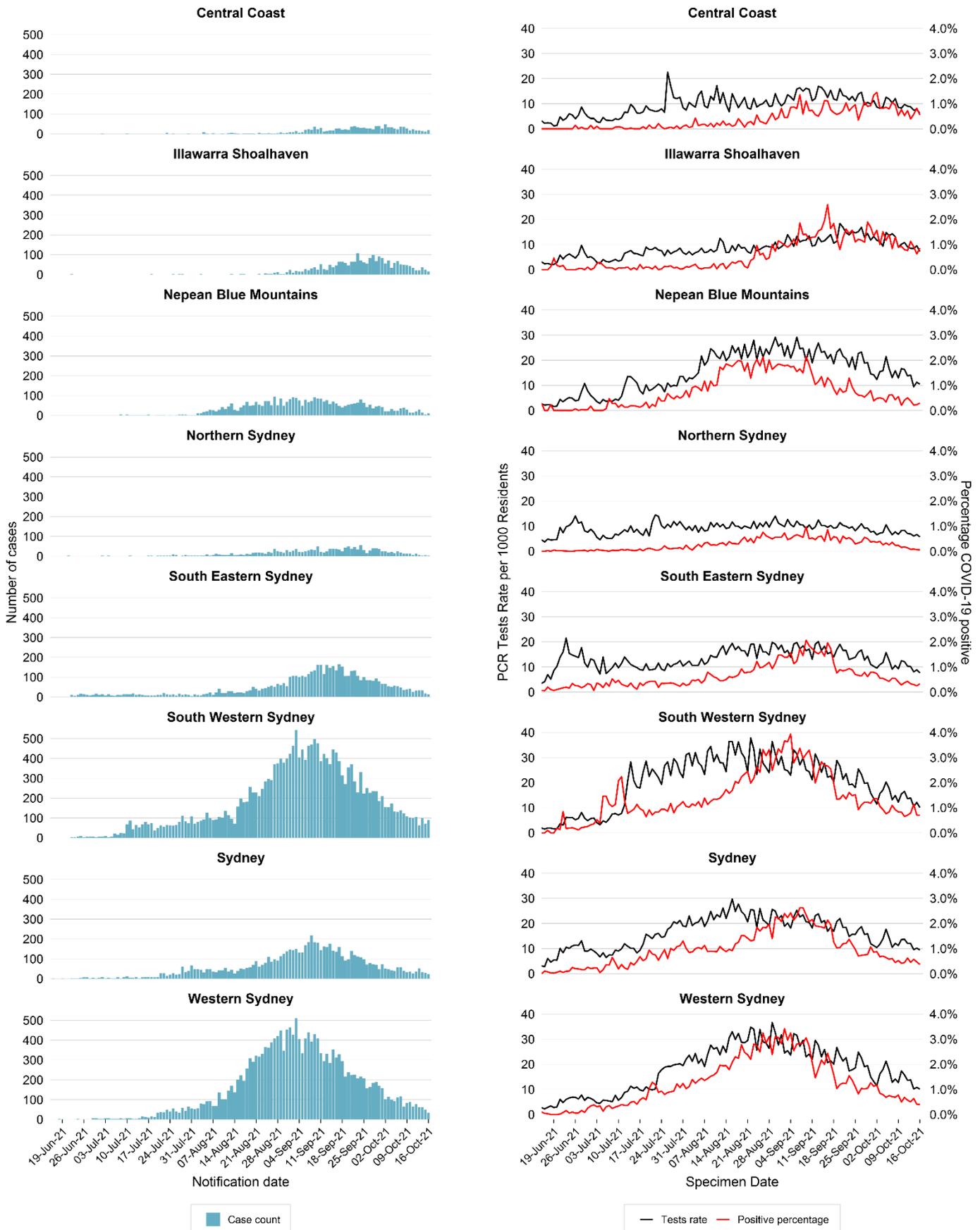
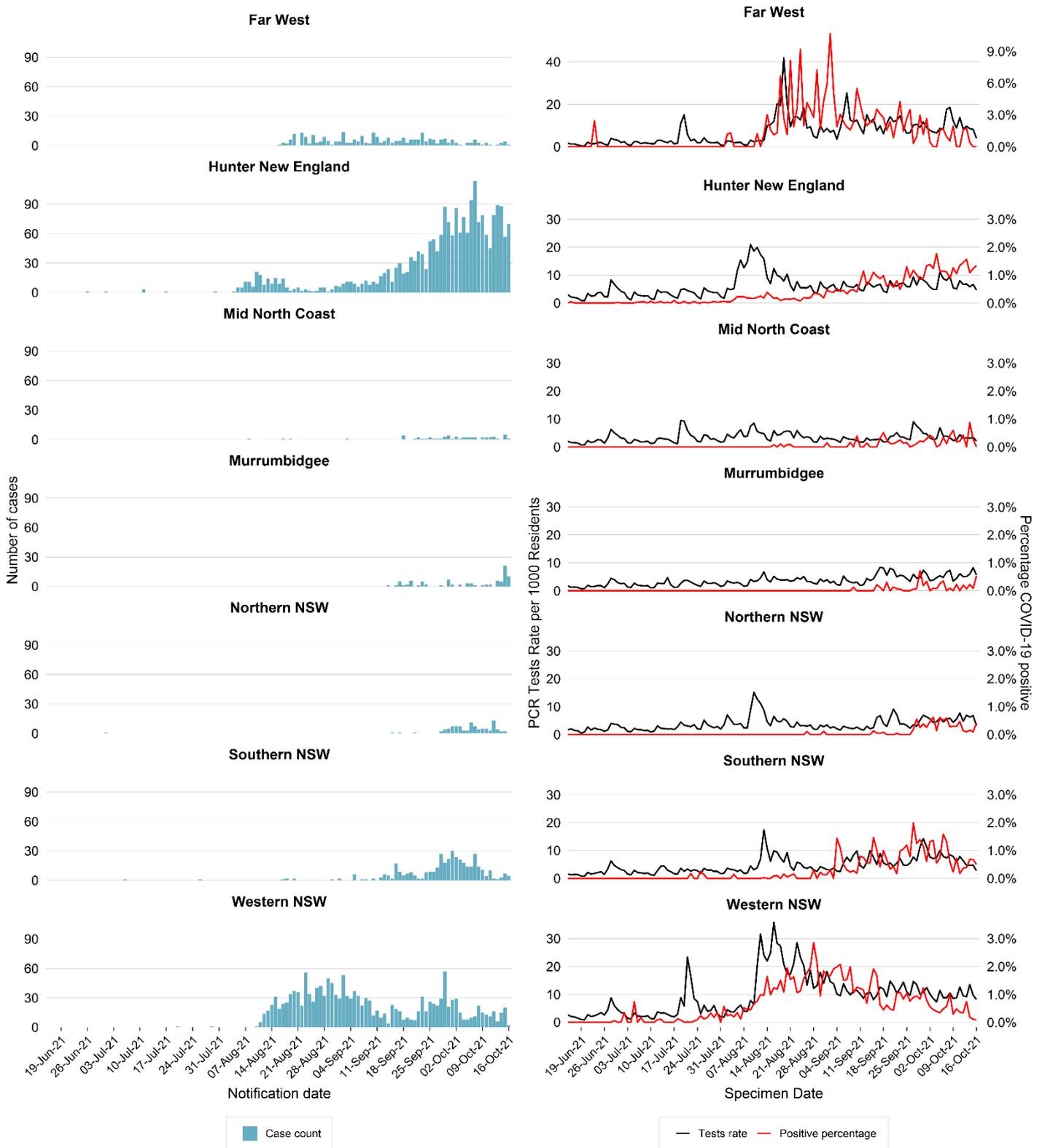


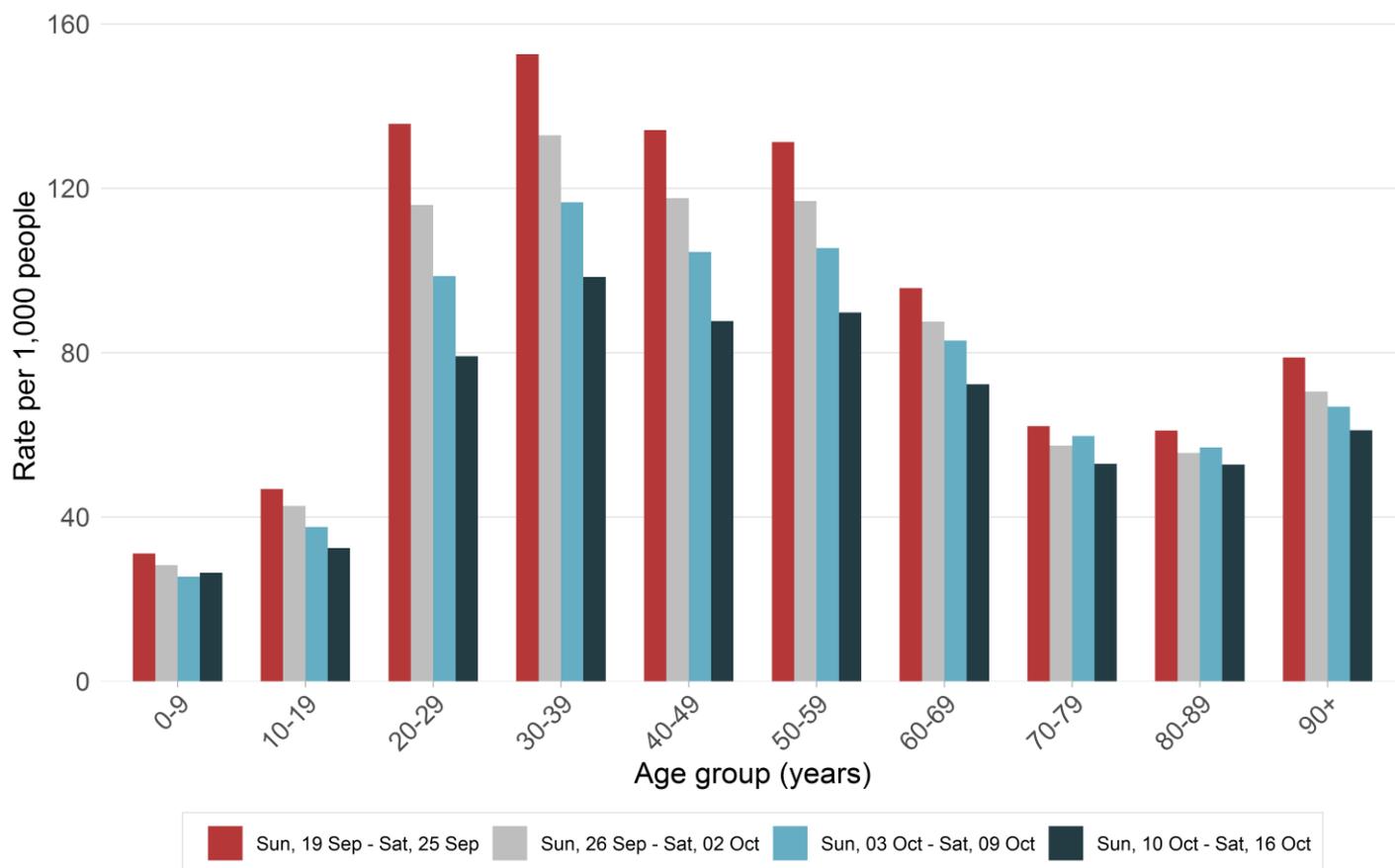
Figure 8b. Cases, testing rates per 1000 population, and percentage of tests which were positive for COVID-19, by LHD of residence, rural and regional LHDs, NSW, 16 June to 16 October 2021



**Interpretation:** The left panel shows the number of cases by notification date for each LHD, while the right panel shows the testing rate per 1,000 population (black line and left axis) and the percentage of tests which were positive (red line and right axis) for each LHD, from 16 June to 16 October 2021. Note that the axes differ within and between Figure 8a (metropolitan LHDs) and 8b (rural and regional LHDs). Percent positivity has generally been well below 3%, reflecting a high surveillance capacity and rapid case identification. Positivity generally follows the same trend as testing rates however where testing rates decrease and positivity remains stable or increases it may indicate higher number of cases in the community or be a result of more specific and targeted testing programs. Although case numbers in most regional LHDs are relatively small, because the population is also small, testing rates and positivity rates appear to show larger deviations than observed in some metropolitan LHDs.

### Testing by age group

Figure 9. Rates of COVID-19 testing by age group and week, NSW, 19 September to 16 October 2021



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

**Interpretation:** In the week ending 16 October 2021, testing rates remained highest overall among those aged 20-59. All age groups showed a steady decrease in testing rates over the past month.

## Section 8: Variants of Concern (VoC)

Global surveillance monitors the prevalence of mutations in the SARS-CoV-2 virus, focusing particularly on mutations that may reduce vaccine effectiveness or enable re-infection. This report reflects the recommendations of [Australia's Communicable Diseases Genomics Network \(CDGN\)](#) for reporting of Variants of Concern (VoC) in NSW.

The CDGN reports on the Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), 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 locally acquired cases in the NSW outbreak from 16 June 2021.

**Table 16. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 16 October 2021**

Variant	Week ending				29 Nov 2020 to 18 Sep 2021	Total since 29 Nov 2020
	16 Oct*	9 Oct*	2 Oct	25 Sep		
Total variants identified	105	566	682	693	9,626	11,672
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)	105	566	682	693	9,619	11,665

**\*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. All locally acquired cases sequenced in the week ending 16 October have been the Delta variant of concern.

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

**Table 17. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 16 October 2021**

Variant	Week ending				29 Nov 2020 to 18 Sep 2021	Total since 29 Nov 2020
	16 Oct*	9 Oct*	2 Oct	25 Sep		
Total variants identified	1	0	2	1	403	407
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)	1	0	2	1	161	165

**\*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.

**Interpretation:** Only the delta variant has been detected in recent weeks among overseas acquired cases.

## Section 9: NSW Sewage Surveillance Program

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

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

In the week ending 16 October, 278 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 130 detections:

- Detections outside Sydney

There were 116 detections outside Sydney taken from the sewage treatment plants at Albury composite, Alstonville (2), Armidale, Ballina (2), Bateau Bay, Batemans Bay, Bathurst, Bega (2), Bermagui, Blayney, Bomaderry, Bombo, Bourke, Bowral, Brewarrina, Broken Hill (2), Buronga (2), Byron Bay, Casino, Charmhaven, Coffs Harbour, Cooma, Cowra, Crescent Head, Culburra Beach, Dareton (2), Dubbo, Dunbogan (2), Forster, Gerroa (2), Googong, Gosford – Kincumber, Goulburn, Gulargambone, Gulgong, Gunnedah, Gwandalan, Hallidays Point, Hunter – Branxton, Boulder Bay, Burwood Beach, Dora Creek, Edgeworth, Morpeth, Raymond Terrace, Shortland, Toronto, Belmont, Cessnock, Farley, Kurri Kurri and Tanilba Bay, Jerilderie, Jindabyne, Lake Cargelligo, Lightning Ridge, Mannering Park, Mittagong, Moruya (2), Moss Vale, Muswellbrook, Narooma (2), Narromine, North Grafton, Nowra, Oberon, Orange, Port Macquarie (2), Queanbeyan, Quirindi, Singleton, South Grafton, South Kempsey, South West Rocks (2), St Georges Basin, Tamworth (2), Taree, Thredbo, Ulladulla, Uralla (2), Vincentia, Wagga Wagga - Narrung Orbal (2) and Narrung SBR (2), Walgett, Wauchope (2), Wellington, Wentworth, West Kempsey (3), Wilcannia, Woolgoolga (2), Woy Woy, Wyong – Toukley, Wyong South, 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 Brooklyn, 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), Padstow 1 and Rozelle (2).

- Detections with no known cases

Detections from Woolgoolga, Wauchope, Bowral, Armidale, Uralla, West Wyalong, Gulargambone, Brewarrina, Lightning Ridge, Lake Cargelligo, Wentworth, Jerilderie and Quirindi occurred with no known or recent cases in the catchment. Cases were also identified in Wauchope and Crescent Head following detections in recent weeks.

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

There were no detections in the following catchments: Balranald, Bangalow, Baradine, Bellingen, Bodalla, Bonny Hills, Boorowa, Bowraville, Broken Hill South, Ocean Shores, Canowindra, Cobar, Collarenebri, Condobolin, Coolah, Coonabarabran, Coonamble, Cootamundra, Coraki, Corowa, Crookwell, Denman, Dunedoo, East Lismore, Eden, Evans Head, Forbes, Frederickton, Gilgandra, Glen Innes, Grenfell, Gundagai, Guyra, Harden, Hawkes Nest, Hay, Holbrook, Hunter - Boulder Bay, Karuah and Dungog, Inverell, Junee, Kyogle, Leeton, Lennox Head, Lockhart, Merimbula, Molong, Moree, Mullumbimby, Mulwala, Mungindi, Nambucca Heads, Narrabri, Narrandera, Nyngan, Parkes, Scone, South Lismore, Temora, Tenterfield, Tocumwal, Tomakin, Trangie, Tumut, Tuross, Tweed - Banora Point, Hastings Point and Kingscliff, Wagga Wagga Koorringal, Walcha, Wardell, Warren, Wee Waa and Woodenbong.

- New collection sites

The sewage treatment plant at Tocumwal was added as a new site.

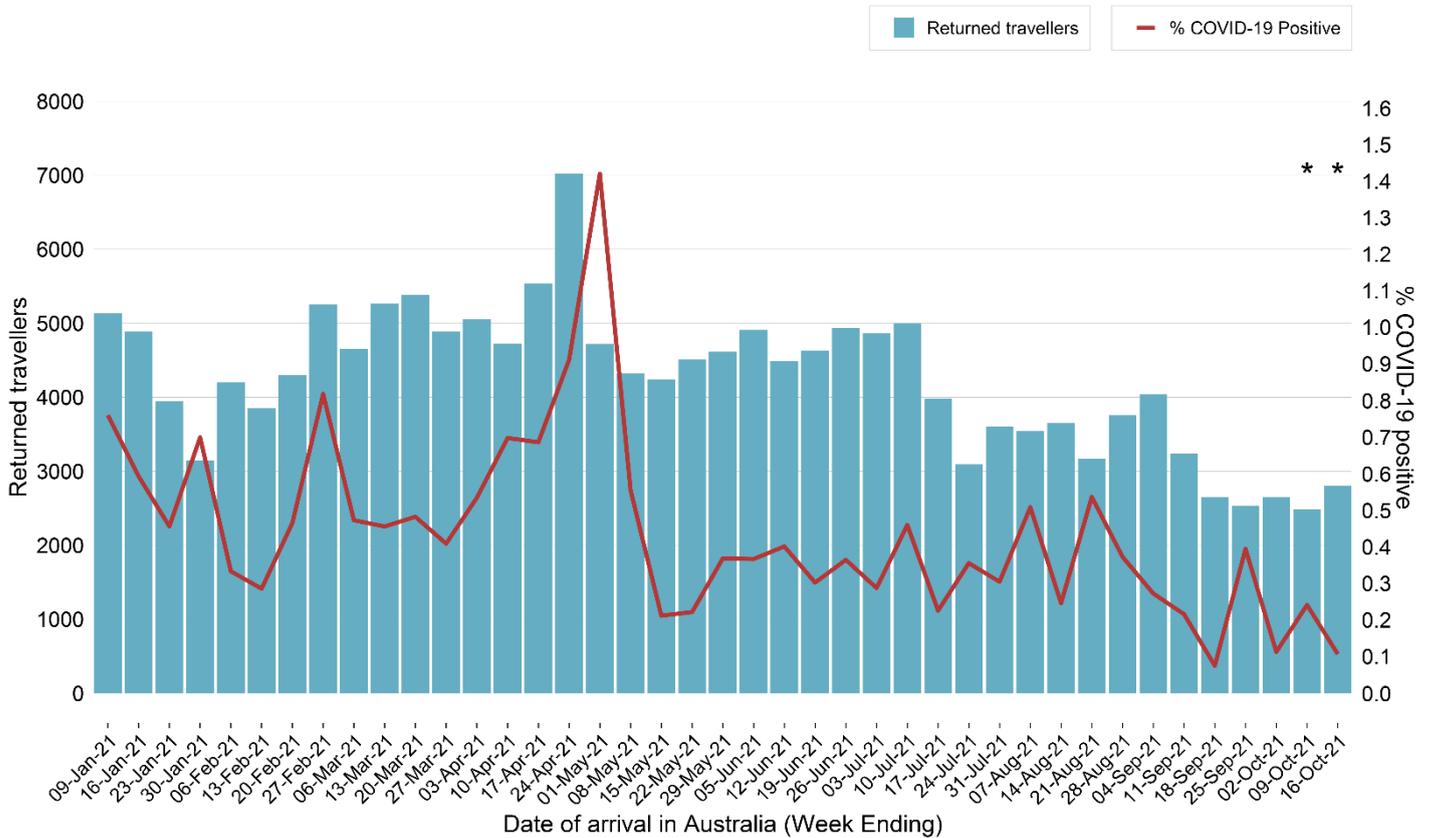
## Section 10: COVID-19 in returned travellers

To limit the spread of COVID-19 into NSW, travel restrictions were introduced for all non-Australian citizens and permanent residents in mid-March 2020. In addition:

- From 29 March 2020 returned travellers have been quarantined in hotels for a 14-day period and travellers who develop symptoms are isolated until no longer infectious. Returned travellers are screened on entry and exit from quarantine and following release from quarantine.
- From 22 January 2021 (local time at departure point) all people travelling to Australia on flights must provide proof of a negative COVID-19 PCR test result at the time of check-in.

The figure below shows the number of returned travellers screened at Sydney International Airport during 2021. Returned travellers include international flight crew who are required to be tested before leaving the airport.

**Figure 10. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 16 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.

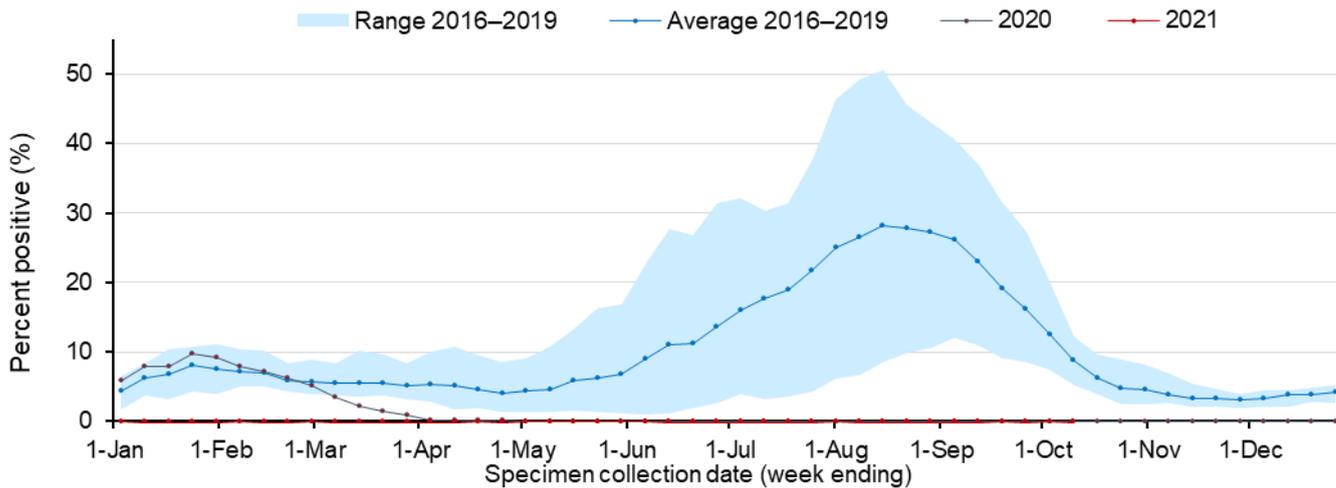
**Interpretation:** Since 3 January 2021, there has been on average 605 people screened on arrival through Sydney International Airport daily. In the last four weeks, 22 returned travellers have subsequently tested positive for COVID-19 while completing quarantine. The proportion of returned travellers who test positive for COVID-19 has been low. In the week ending 1 May 2021 the proportion increased to over 1% (1.4%) of returned travellers testing positive, but this has subsequently fallen back to lower levels.

## Section 11: Other respiratory infections in NSW

### How much influenza is circulating?

The graph below shows the proportion of tests found to be positive for influenza with the red line showing weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 11. Proportion of tests positive for influenza, NSW, 1 January 2016 to 10 October 2021



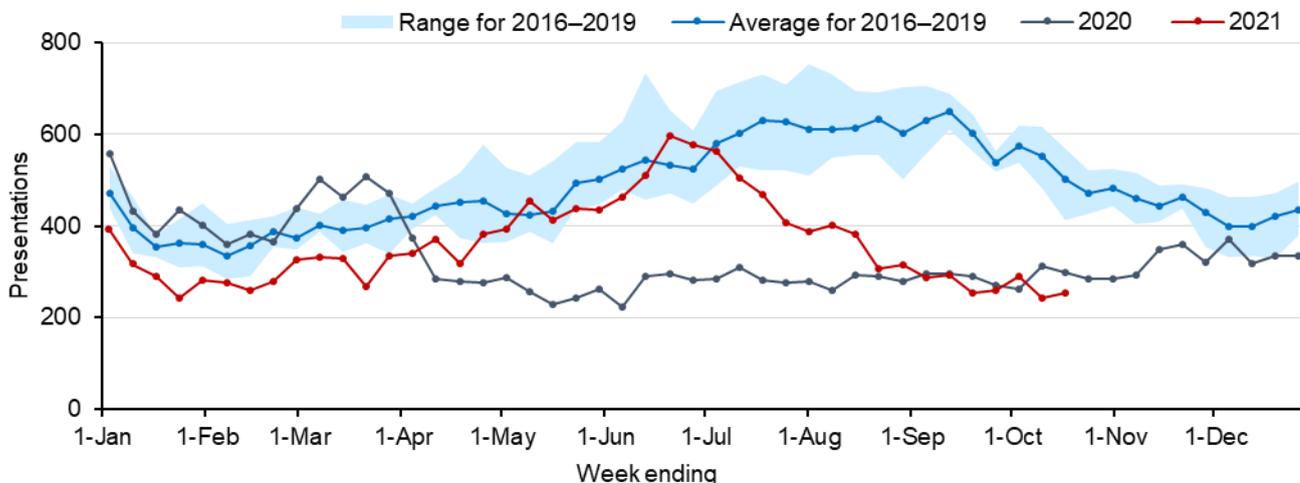
**Interpretation:** In the week ending 10 October, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 16 influenza cases reported in 2021.

### How are emergency department presentations tracking?

Improved hygiene and social distancing measures implemented during the COVID-19 pandemic have impacts on a broad range of other viral and bacterial infections.

The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS<sup>4</sup>. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

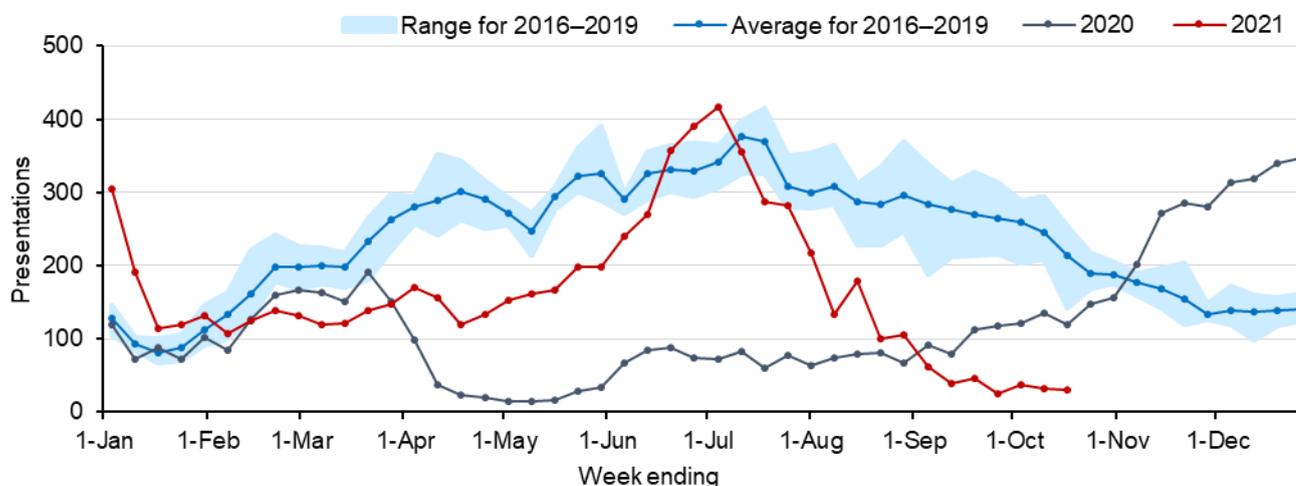
Figure 12. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 17 October 2021



**Interpretation:** Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. Since the beginning of the current outbreak from 16 June 2021, there has been a steady decline in pneumonia presentations, with the number of presentations in the week ending 17 October remaining significantly below the seasonal range for this time of year.

<sup>4</sup> NSW Health Public Health Rapid, Emergency Disease and Syndromic Surveillance (PHREDSS) system, CEE, NSW Ministry of Health. Comparisons are made with data for the preceding 4 years. Includes unplanned presentations to 67 NSW emergency departments (accounts for 87% of total public ED activity).

Figure 13. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 17 October 2021



**Interpretation:** Bronchiolitis is a common disease of infants often caused by respiratory syncytial virus (RSV). Public health measures introduced last year around social distancing and improved hygiene practices coincided with a large decrease in bronchiolitis presentations for the majority of 2020. A rise in bronchiolitis presentations in the later part of 2020 corresponds to an increase in RSV detections (see Appendix C). Since the beginning of the current outbreak from 16 June 2021, there has again been a steady decrease in bronchiolitis presentations, with the number of presentations in the week ending 17 October remaining well below the seasonal range for this time of year.

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

		Week ending				Total since January 2021	
		16 Oct		9 Oct			
Local Health District	Local Government Area	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>	20022	56.7	25278	71.6	489558	1387.4
	Kiama	1061	45.4	1203	51.4	26533	1134.6
	Shellharbour	5644	77.1	6983	95.4	113146	1545.0
<b>Illawarra Shoalhaven</b>	Shoalhaven	5139	48.6	5534	52.4	88866	841.2
	Wollongong	14618	67.0	21583	99.0	317370	1455.1
	<i>LHD Total<sup>2</sup></i>	26462	63.1	35303	84.1	545915	1301.0
<b>Nepean Blue Mountains</b>	Blue Mountains	5086	64.3	6216	78.6	121552	1536.3
	Hawkesbury	7869	116.9	8780	130.5	156579	2326.7
	Lithgow	641	29.7	912	42.2	15234	705.1
	Penrith	22655	106.4	27832	130.7	527551	2477.0
	<i>LHD Total<sup>2</sup></i>	35838	91.7	43277	110.7	810646	2073.3
<b>Northern Sydney</b>	Hornsby	5972	39.3	6949	45.7	169776	1116.5
	Hunters Hill	1414	94.4	1561	104.2	41693	2783.2
	Ku-ring-gai	5967	46.9	6404	50.4	185320	1457.5
	Lane Cove	3297	82.1	3251	81.0	95549	2379.5
	Mosman	1193	38.5	1849	59.7	37597	1213.6
	North Sydney	2503	33.4	2691	35.9	77526	1033.4
	Northern Beaches	14037	51.3	15775	57.7	448479	1639.8
	Parramatta <sup>1</sup>	16125	62.7	19067	74.1	459286	1785.7
	Ryde	7537	57.4	8154	62.1	235045	1790.5
	Willoughby	2508	30.9	2560	31.5	78386	965.5
<i>LHD Total<sup>2</sup></i>	46787	48.9	52032	54.4	1436983	1503.3	
<b>South Eastern Sydney</b>	Bayside	14244	79.8	17127	96.0	379248	2125.9
	Georges River	11699	73.4	13407	84.1	322817	2024.3
	Randwick	12977	83.4	14908	95.8	338438	2174.4
	Sutherland Shire	14310	62.1	16237	70.4	370479	1606.5
	Sydney <sup>1</sup>	16551	67.2	18006	73.1	472257	1917.1
	Waverley	4985	67.1	5479	73.8	162917	2192.8
	Woollahra	3295	55.5	3765	63.4	121726	2049.7
	<i>LHD Total<sup>2</sup></i>	66515	69.4	76344	79.6	1850320	1929.2
<b>South Western Sydney</b>	Camden	9830	96.9	11848	116.8	260461	2567.7
	Campbelltown	15307	89.5	20828	121.8	426269	2493.6
	Canterbury-Bankstown <sup>1</sup>	37148	98.3	45268	119.8	1185935	3138.1
	Fairfield	21940	103.6	24853	117.4	677643	3201.0
	Liverpool	23305	102.4	27269	119.8	634403	2787.5
	Wingecarribee	2519	49.3	2845	55.6	57643	1127.3
	Wollondilly	3095	58.2	3585	67.5	73409	1381.2
	<i>LHD Total<sup>2</sup></i>	94934	91.4	114283	110.0	2726721	2625.6
<b>Sydney</b>	Burwood	2350	57.9	2949	72.6	68834	1694.9
	Canada Bay	6182	64.4	6128	63.8	162250	1688.8
	Canterbury-Bankstown <sup>1</sup>	37148	98.3	45268	119.8	1185935	3138.1
	Inner West	13001	64.7	13822	68.8	333539	1661.0
	Strathfield	5220	111.2	6514	138.8	149343	3182.5
	Sydney <sup>1</sup>	16551	67.2	18006	73.1	472257	1917.1

		Week ending				Total since January 2021	
		16 Oct		9 Oct			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	<i>LHD Total</i>	55882	80.2	63336	90.9	1598027	2293.5
<b>Western Sydney</b>	Blacktown	38583	103.0	47564	127.0	961103	2566.7
	Cumberland	28294	117.2	35524	147.1	823628	3410.2
	Parramatta <sup>1</sup>	16125	62.7	19067	74.1	459286	1785.7
	The Hills Shire	14250	80.1	17106	96.1	368789	2072.2
	<i>LHD Total</i>	95945	91.1	117766	111.8	2578348	2447.6
<b>Far West</b>	Balranald	185	79.1	72	30.8	1537	657.4
	Broken Hill	629	36.0	962	55.0	21226	1214.4
	Central Darling	128	69.6	251	136.5	3303	1796.1
	Wentworth	897	127.2	1038	147.2	5685	806.0
	<i>LHD Total</i>	1839	61.0	2323	77.1	31751	1053.3
<b>Hunter New England</b>	Armidale Regional	524	17.0	651	21.2	23985	779.3
	Cessnock	2638	44.0	3560	59.4	42642	710.9
	Dungog	189	20.1	263	27.9	5509	584.6
	Glen Innes Severn	130	14.7	142	16.0	4406	496.7
	Gunnedah	505	39.8	1490	117.5	8666	683.4
	Gwydir	76	14.2	95	17.8	1916	357.9
	Inverell	282	16.7	262	15.5	8695	514.8
	Lake Macquarie	8682	42.2	10465	50.8	235841	1145.4
	Liverpool Plains	227	28.7	448	56.7	4549	575.6
	Maitland	6033	70.8	6264	73.6	115830	1360.1
	Mid-Coast	3131	33.4	4557	48.6	50330	536.4
	Moree Plains	369	27.8	352	26.5	8881	669.7
	Muswellbrook	426	26.0	689	42.1	10342	631.5
	Narrabri	269	20.5	518	39.4	5996	456.5
	Newcastle	7193	43.4	8974	54.2	201344	1216.1
	Port Stephens	2687	36.6	2634	35.9	64632	879.6
	Singleton	1291	55.0	2054	87.6	22207	946.6
	Tamworth Regional	5548	88.7	5352	85.6	57578	920.6
	Tenterfield	113	17.1	139	21.1	2486	377.0
	Upper Hunter Shire	468	33.0	397	28.0	8282	584.1
	Uralla	98	16.3	100	16.6	3089	513.8
Walcha	68	21.7	68	21.7	2011	641.7	
<i>LHD Total</i>	40923	43.0	49512	52.0	888777	933.2	
<b>Mid North Coast</b>	Bellingen	198	15.2	222	17.1	7049	542.4
	Coffs Harbour	1202	15.6	1243	16.1	39014	504.9
	Kempsey	1467	49.3	1498	50.4	21758	731.5
	Nambucca	227	11.5	338	17.1	8795	444.1
	Port Macquarie-Hastings	1802	21.3	2502	29.6	52959	626.6
	<i>LHD Total</i>	4896	21.7	5803	25.7	129575	574.2
<b>Murrumbidgee</b>	Albury	2959	54.4	1470	27.1	38433	707.1
	Berrigan	155	17.7	175	20.0	2965	338.9
	Bland	142	23.8	128	21.4	3127	523.6
	Carrathool	39	13.9	42	15.0	864	308.7
	Coolamon	133	30.6	174	40.1	2805	646.2

		Week ending				Total since January 2021	
		16 Oct		9 Oct			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Cootamundra-Gundagai Regional	296	26.4	260	23.1	6924	616.3
	Edward River	835	91.9	1067	117.5	6146	676.6
	Federation	656	52.8	322	25.9	6922	556.6
	Greater Hume Shire	695	64.6	326	30.3	7647	710.4
	Griffith	591	21.9	552	20.4	14713	544.3
	Hay	70	23.7	64	21.7	1141	386.9
	Hilltops	682	36.5	711	38.0	18933	1012.2
	Junee	153	22.9	210	31.4	3532	528.5
	Lachlan <sup>1</sup>	140	23.1	135	22.2	2953	486.1
	Leeton	246	21.5	251	21.9	5019	438.5
	Lockhart	137	41.7	147	44.8	2089	635.9
	Murray River	431	35.6	135	11.1	2185	180.3
	Murrumbidgee	92	23.5	93	23.7	1630	416.1
	Narrandera	111	18.8	120	20.3	2027	343.6
	Snowy Valleys	389	26.9	322	22.2	6809	470.3
	Temora	121	19.2	136	21.6	2897	459.3
	Wagga Wagga	3095	47.4	3985	61.1	55876	856.2
	<i>LHD Total<sup>2</sup></i>	12059	40.5	10714	35.9	193664	649.6
<b>Northern NSW</b>	Ballina	2998	67.2	1726	38.7	42278	947.3
	Byron	885	25.2	812	23.2	31770	905.6
	Clarence Valley	4418	85.5	1675	32.4	26746	517.7
	Kyogle	148	16.8	517	58.8	4825	548.5
	Lismore	1596	36.5	2100	48.1	35106	803.5
	Richmond Valley	850	36.2	1429	60.9	18522	789.4
	Tenterfield	113	17.1	139	21.1	2486	377.0
	Tweed	1835	18.9	2551	26.3	55095	568.0
		<i>LHD Total<sup>2</sup></i>	12752	41.1	10848	35.0	214957
<b>Southern NSW</b>	Bega Valley	1244	36.1	1230	35.7	18700	542.4
	Eurobodalla	778	20.2	914	23.8	23353	607.0
	Goulburn Mulwaree	1805	58.0	2251	72.3	31639	1016.3
	Queanbeyan-Palerang Regional	2184	35.7	3223	52.8	43009	703.9
	Snowy Monaro Regional	1498	72.0	3935	189.2	20619	991.5
	Upper Lachlan Shire	192	23.8	198	24.6	5466	678.3
	Yass Valley	294	17.2	325	19.0	11783	689.6
		<i>LHD Total<sup>2</sup></i>	7998	36.9	12096	55.7	154676
<b>Western NSW</b>	Bathurst Regional	1767	40.5	2205	50.6	51660	1184.4
	Blayney	433	58.7	289	39.2	8377	1135.3
	Bogan	53	20.5	52	20.2	2277	882.6
	Bourke	321	123.9	453	174.9	5545	2140.9
	Brewarrina	123	76.4	51	31.7	2073	1286.8
	Cabonne	524	38.4	331	24.3	10113	741.8
	Cobar	194	41.7	164	35.2	3221	691.5
	Coonamble	163	41.2	163	41.2	3104	784.2
	Cowra	968	76.0	694	54.5	15906	1248.2

		Week ending				Total since January 2021	
		16 Oct		9 Oct			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Dubbo Regional	5935	110.5	6531	121.6	131443	2446.9
	Forbes	179	18.1	214	21.6	6203	626.2
	Gilgandra	125	29.5	165	38.9	4128	973.8
	Lachlan <sup>1</sup>	140	23.1	135	22.2	2953	486.1
	Mid-Western Regional	624	24.7	583	23.1	26676	1056.4
	Narromine	441	67.7	664	101.9	9564	1467.6
	Oberon	321	59.3	1102	203.7	6439	1190.0
	Orange	5772	136.0	2481	58.4	64562	1520.9
	Parkes	383	25.8	491	33.1	11740	791.3
	Walgett	1259	211.5	494	83.0	7052	1184.6
	Warren	238	88.3	214	79.4	5658	2097.9
	Warrumbungle Shire	254	27.4	488	52.6	6428	692.8
	Weddin	87	24.1	116	32.1	2359	652.9
	<i>LHD Total<sup>2</sup></i>	20276	71.1	18059	63.4	386598	1356.4
<b>NSW Total</b>	<b>NSW Total<sup>3</sup></b>	<b>543128</b>	<b>67.1</b>	<b>636974</b>	<b>78.7</b>	<b>14037075</b>	<b>1735.2</b>

Source - Notifiable Condition Information Management System, accessed as at 8pm 18 Oct 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 10 October 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 2020–10 October 2021

Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV	Entero-virus
		No.	%Pos.	No.	%Pos.						
<b>Total</b>	1,634,439	5	<0.01%	10	<0.01%	7,224	18,528	17,481	56,035	5,244	6,344
<b>Month ending</b>											
31 January*	168,596	1	<0.01%	0	-	416	88	3,275	3,541	23	560
28 February	125,718	2	<0.01%	0	-	419	106	2,386	8,667	22	910
28 March	95,458	0	-	0	-	507	354	1,909	8,891	18	1,187
2 May*	112,962	0	-	3	<0.01%	802	1,515	1,653	8,141	48	1,128
30 May	131,316	0	-	6	<0.01%	946	3,129	1,491	8,982	78	843
27 June	243,351	1	<0.01%	0	-	1,551	7,104	2,794	9,915	635	811
26 July	530,698	0	-	0	-	1,463	4,603	3,014	5,089	1,991	587
29 August*	157,063	0	-	1	<0.01%	869	1,497	852	2,252	2,035	259
<b>Week ending</b>											
5 September	23,303	0	-	0	-	87	68	54	212	192	20
12 September	23,446	0	-	0	-	82	37	28	183	115	27
19 September	22,528	1	<0.01%	0	-	82	27	25	162	87	12
26 September	25,659	0	-	0	-	70	19	17	158	60	11
3 October	24,430	1	< 0.01%	0	-	53	11	14	171	44	16
10 October	17,657	0	-	0	-	60	13	8	217	34	17

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

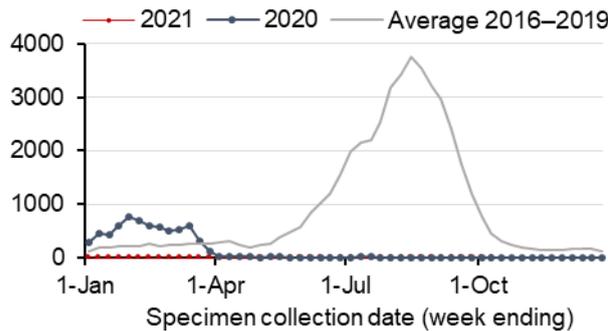
RSV - Respiratory syncytial virus

\*Five-week period

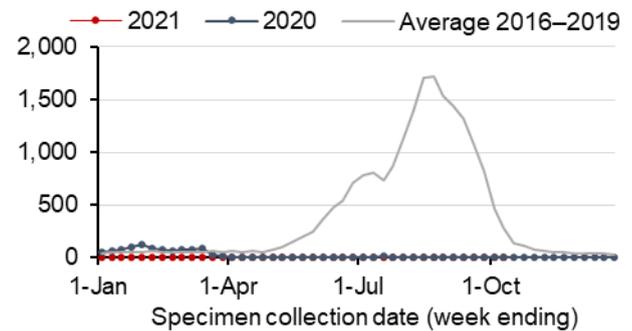
## Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 10 October 2021

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

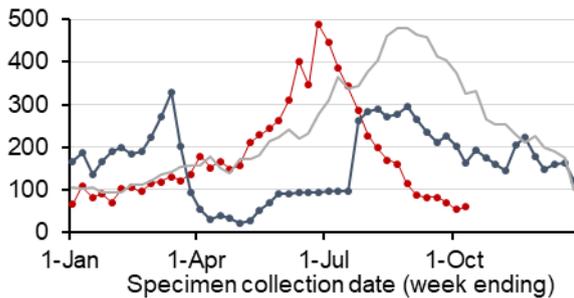
### Influenza A



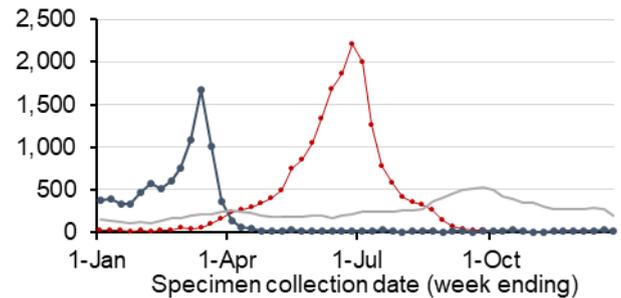
### Influenza B



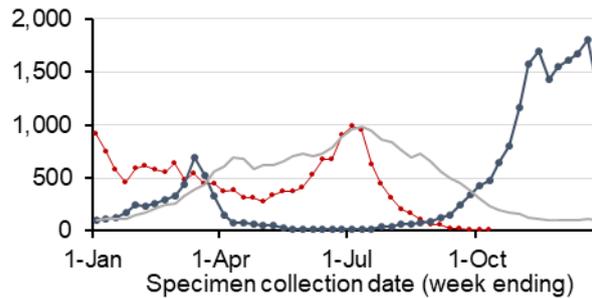
### Adenovirus



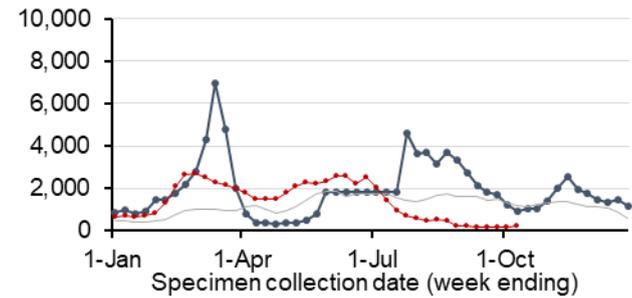
### Parainfluenza



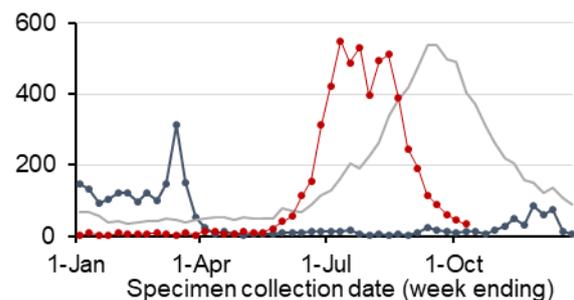
### Respiratory Syncytial Virus



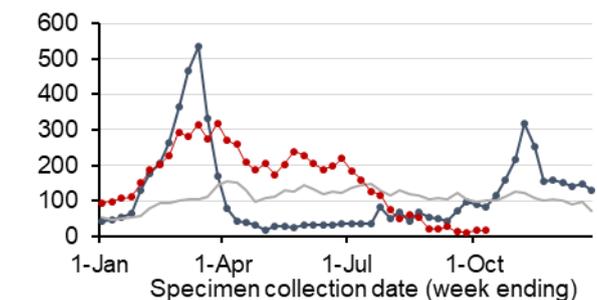
### Rhinovirus



### 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.

## Glossary

Term	Description
Case	A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases). Case counts include: - NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and - interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis
Health care workers	Individuals who work within a hospital or other healthcare settings, including staff in direct or indirect contact with patients or infectious materials.
Incubation period	The time in which the case was infected. The incubation period for COVID-19 is between 1 and 14 days prior to symptom onset.
Overseas acquired case	Case who travelled overseas during their incubation period. While testing rates in NSW are high and case counts are low, cases who have travelled overseas in their incubation period are considered to have acquired their infection overseas.
Interstate acquired case	Case who travelled interstate during their infection and the public health investigation concludes the infection was likely acquired interstate.
Cluster	Group of cases sharing a common source of infection or are linked to each other in some way.

## Dates used in COVID-19 reporting

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