

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 46, ENDING 14 NOVEMBER 2020

Published 18 November 2020

SUMMARY FOR THE WEEK ENDING 14 NOVEMBER

- There were no new locally-acquired cases reported in NSW this week. There was one case of a past infection reported – the case was likely acquired earlier in October. Public health investigations have linked the case to a known source reported around the time.
- Most locally-acquired cases reported in the two weeks up to 14 November were residents of South Western Sydney LHD (91%, 10/11).
- Testing numbers have increased compared to the previous week (up 11%).
- Testing rates have increased for the fifth week in a row for children aged 0–17 years.
- Emergency Department visits for bronchiolitis (a common disease of infants often caused by respiratory syncytial virus (RSV)) continue to increase and remain above average for this time of year.
- The NSW Sewage Surveillance Program reported detections in Rouse Hill – not associated with known cases in that area. A detection was also reported in Bowral – likely associated with recent cases in the area.
- While there has been no recent community transmission of COVID-19 it is important to remain vigilant and get tested as soon as symptoms develop (even mild symptoms).

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SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

Table 1. COVID-19 cases and tests reported in NSW, up to 14 November 2020

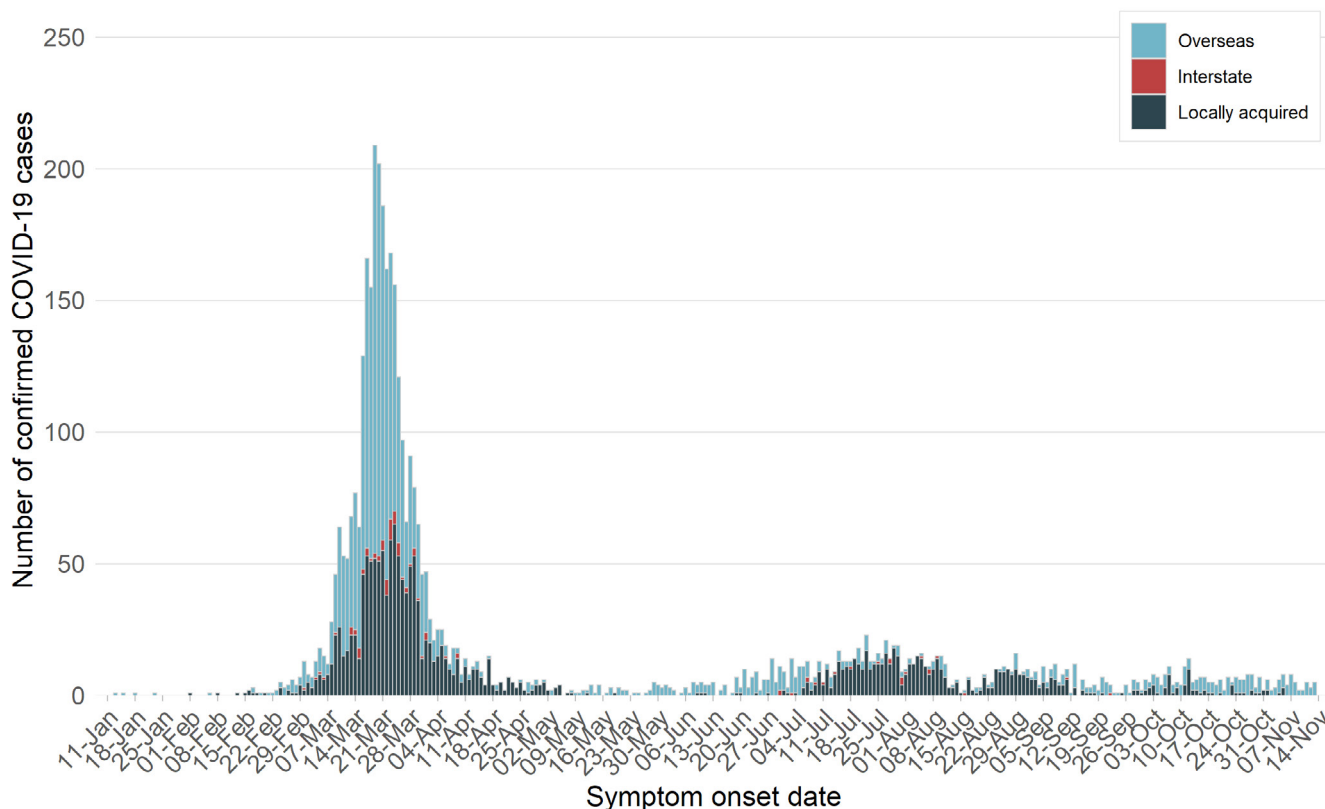
	Week ending 14 Nov	Week ending 7 Nov	% change	Total to 14 Nov
Number of cases	35	38	↓ 8%	4,308
Overseas acquired	34	28	↑ 21%	2,348
Interstate acquired	0	0	-	90
Locally acquired	1*	10	↓ 90%	1,870
No links to other cases or clusters	0	1	-	434
Number of deaths	0	0	-	55
Number of tests	112,260	100,776	↑ 11%	3,294,430

*Includes a past infection – a PCR negative IgG positive case, likely infected in October.

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

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

Figure 1. COVID-19 cases by likely infection source and illness onset, NSW, 2020



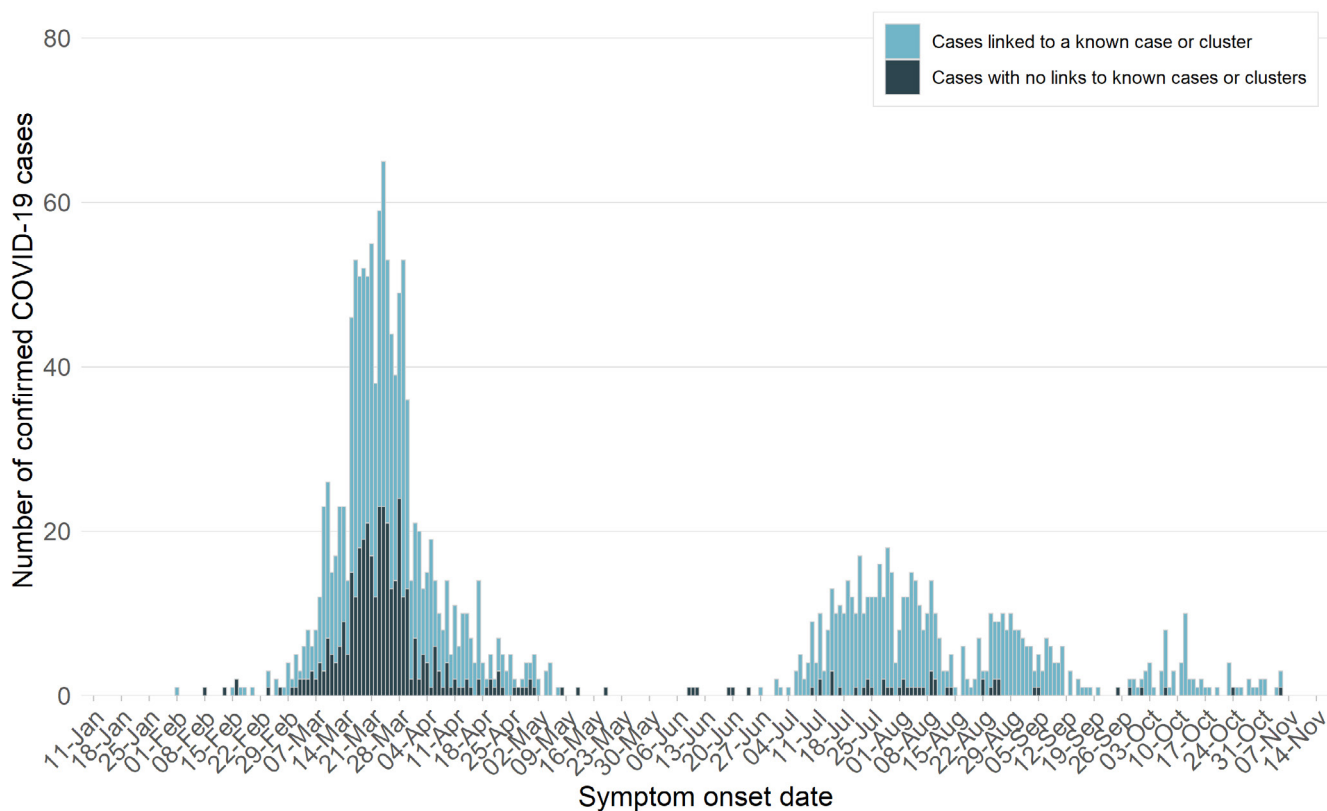
The date of the first positive test is used for cases who did not report symptoms.

Interpretation: The majority (85%) of COVID-19 infections diagnosed in NSW in the last two weeks have been overseas acquired.

How much local transmission is occurring in NSW?

Public health efforts are focused on contact tracing to limit further spread in the community, and identifying the source of infection for every case. To understand the extent of community transmission, locally-acquired cases who have had contact with a case or who are part of a known cluster are considered separately to those with an unidentified source of infection. Cases with no links to other cases or clusters suggest that there are people infected with COVID-19 in the community who have not been diagnosed.

Figure 2. Locally acquired COVID-19 cases by likely infection source and illness onset, NSW, 2020



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

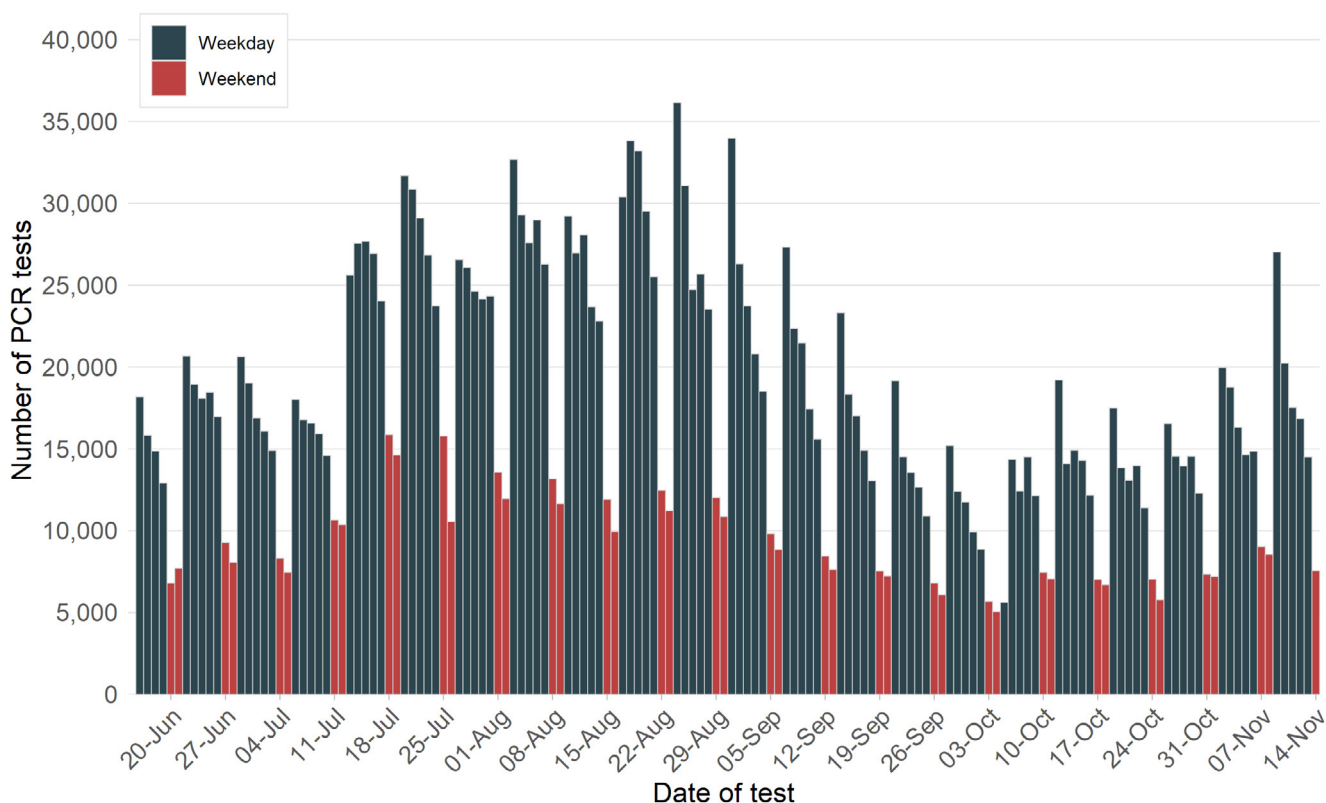
Interpretation: Of the locally-acquired cases with an onset in the last four weeks, 90% were linked to known cases or clusters.

SECTION 2: COVID-19 TESTING IN NSW

How much testing is happening?

The bars on the graph below show the number of tests by the date a person presented for the test.¹ While public health facilities are open seven days a week, less testing occurs through GPs and private collection centres on weekends and public holidays. This explains the lower number of tests on weekends.

Figure 3. Number of PCR tests per day, NSW, 2020



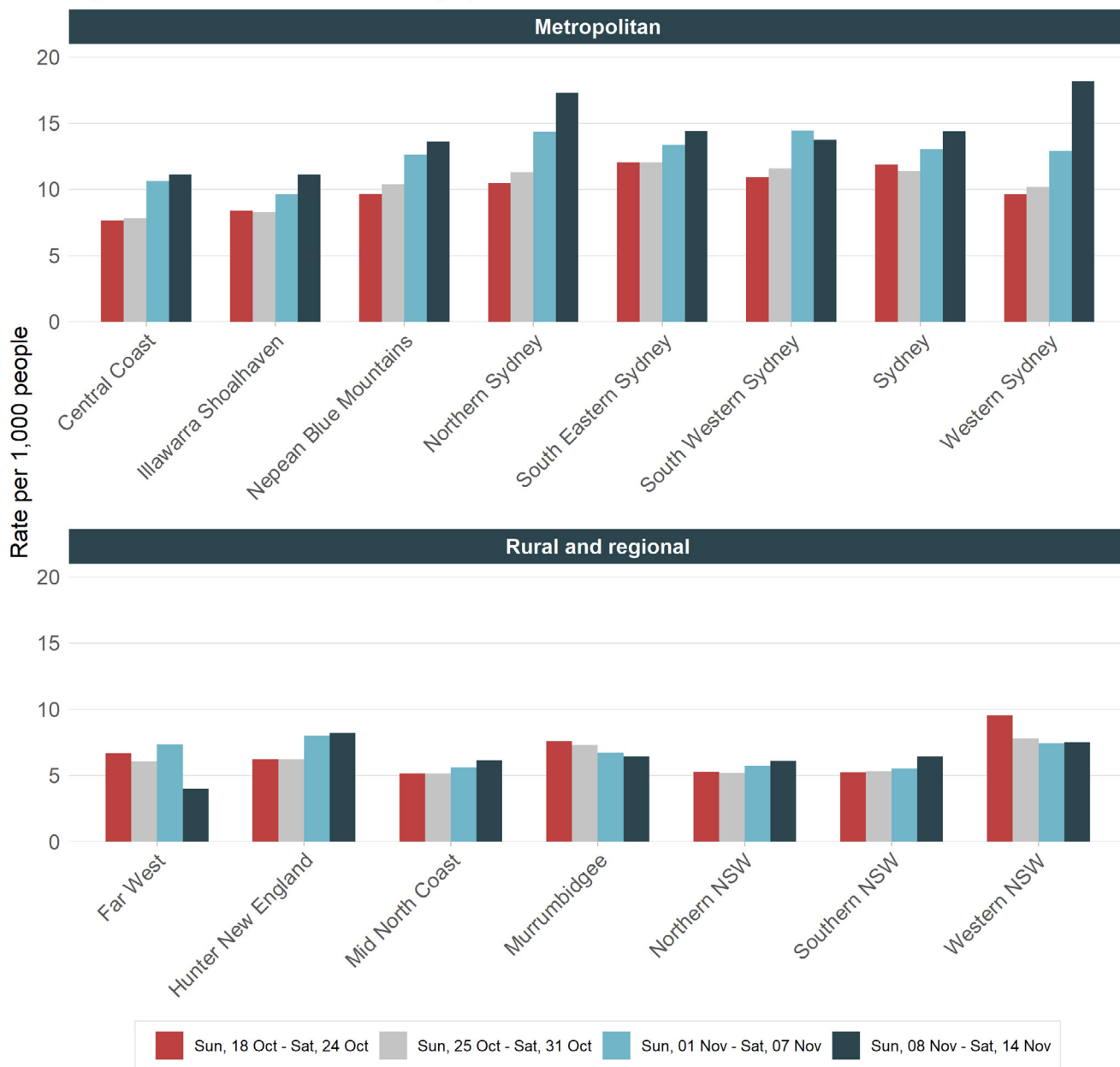
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing is recommended for anyone with even mild respiratory symptoms or unexplained fever. Testing numbers in the week ending 14 November were higher compared with the previous week. An average of 2.0 tests were conducted per 1,000 people in NSW each day in the week ending 14 November, compared to a daily average of 1.8 per 1,000 people in the previous week.

¹ The number of tests per day displayed below is different to the 24 hour increase in tests reported each day as there are delays in some laboratories providing negative results to NSW Health.

Testing by Local Health District

Figure 4. Rates of COVID-19 testing by LHD of residence and week

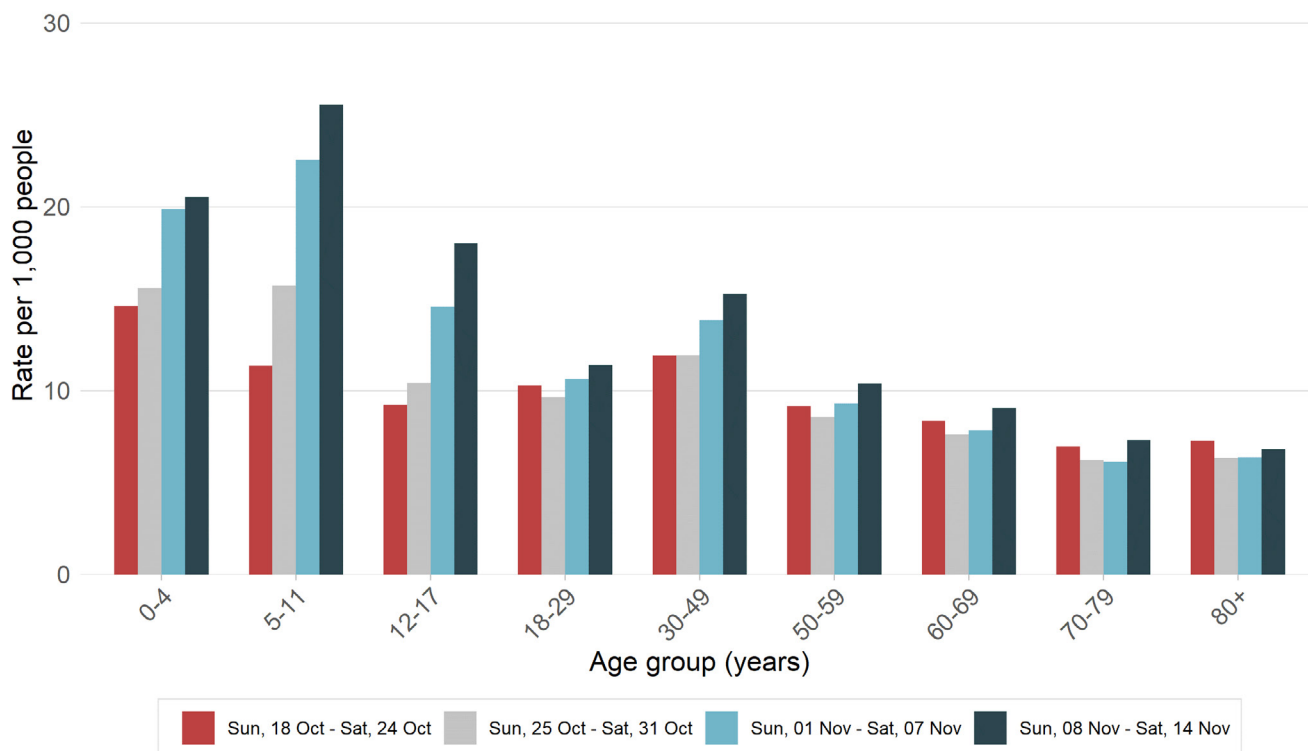


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: Statewide testing rates in the week ending 14 November were higher compared to the previous week (14 per 1,000 vs 12 per 1,000). Testing increased across most metropolitan LHDs, except South Western Sydney LHD which decreased slightly following a surge in testing related to cases reported in the previous week.

Testing by age group

Figure 5. Rates of COVID-19 testing by age group and week

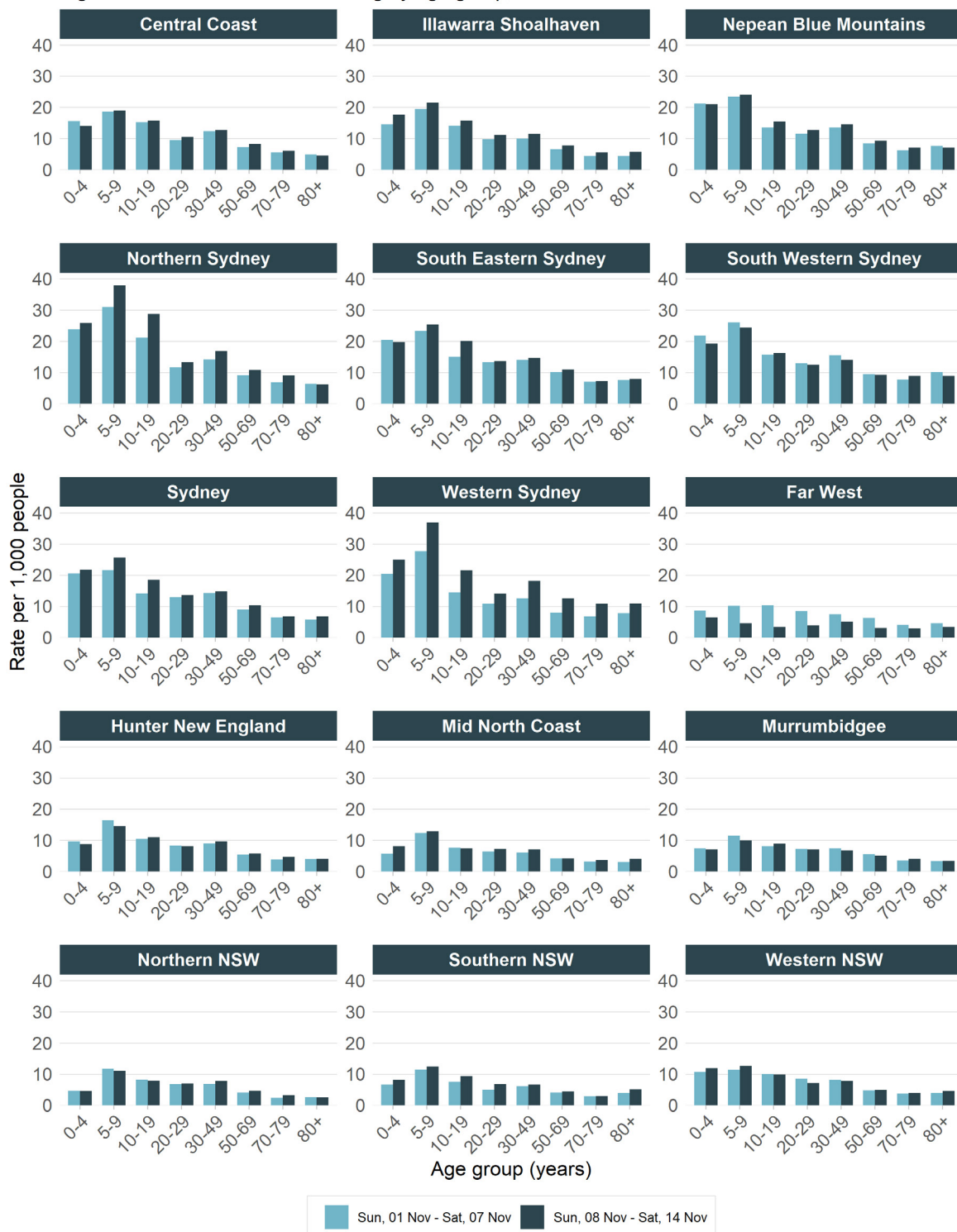


Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: For the week ending 14 November, testing rates increased for all age groups compared to the previous week. Testing rates increased for the fifth consecutive week for children aged 0–17 years.

Testing by LHD and age group

Figure 6. Rates of COVID-19 testing by age group, LHD of residence and week



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

Interpretation: Testing rates increased or remained stable for all age groups across most LHDs. Higher testing rates in young children reported this week correspond with elevated emergency presentations for bronchiolitis. In the last two weeks, the increased testing in children has been mainly driven by testing in Northern Sydney and Western Sydney LHDs.

SECTION 3: COVID-19 TRANSMISSION IN NSW IN THE LAST FOUR WEEKS

Information from locally-acquired cases who were diagnosed in the last four weeks is used to understand where COVID-19 is spreading in the community. This takes into account the **incubation period** and the time it takes for people to seek testing and for the laboratory to perform the test.

Table 2. Locally-acquired COVID-19 cases in NSW, by week and source of infection, 18 October to 14 November 2020

Locally-acquired cases	Week ending				Total
	14 Nov	7 Nov	31 Oct	24 Oct	
Cases who are linked to a known case or cluster	1	9	7	6	23
Cases with no links to other cases or clusters	0	1	1	0	2
Total	1*	10	8	6	25

*Includes a past infection – a PCR negative IgG positive case, likely infected in October.

Interpretation: The majority (92%) of cases in the four weeks ending 14 November were linked to known cases or clusters. In the week ending 14 November, one locally-acquired case was reported in a person from Western Sydney. The case was diagnosed after serological testing as part of an ongoing public health investigation into a previously reported case in October. Results have indicated that this person also likely acquired their infection in October.

Table 3. Locally-acquired COVID-19 cases by LHD of residence and week reported, 18 October to 14 November 2020

Local Health District	Week ending				Total	Days since last case reported
	14 Nov	7 Nov	31 Oct	24 Oct		
Central Coast	0	0	0	0	0	75
Illawarra Shoalhaven	0	0	0	0	0	71
Nepean Blue Mountains	0	0	0	0	0	60
Northern Sydney	0	0	0	0	0	32
South Eastern Sydney	0	0	0	0	0	31
South Western Sydney	0	10	8	6	24	8
Sydney	0	0	0	0	0	31
Western Sydney	1	0	0	0	1	1
Far West	0	0	0	0	0	226
Hunter New England	0	0	0	0	0	100
Mid North Coast	0	0	0	0	0	207
Murrumbidgee	0	0	0	0	0	68
Northern NSW	0	0	0	0	0	112
Southern NSW	0	0	0	0	0	96
Western NSW	0	0	0	0	0	74
Total	1*	10	8	6	25	

*Includes a past infection – a PCR negative IgG positive case, likely infected in October.

Interpretation: Most locally-acquired cases reported in the two weeks up to 14 November were residents of South Western Sydney LHD (91%, 10/11).

COVID-19 cases with no links to known cases or clusters

Cases with no identified links to known cases or clusters suggest that there are people infected with COVID-19 in the community who have not been diagnosed. Testing of people with whom they have been in contact in the 14 days prior to symptom onset, and more broadly in the local community, is important to identify the source of the infection, detect other cases and prevent further transmission in the community.

Table 4. Locally-acquired COVID-19 cases with no identified links to known cases or clusters or with source under ongoing investigation by LHD of residence, 18 October to 14 November 2020

Local Health District	Week ending				Total
	14 Nov	7 Nov	31 Oct	24 Oct	
Central Coast	0	0	0	0	0
Illawarra Shoalhaven	0	0	0	0	0
Nepean Blue Mountains	0	0	0	0	0
Northern Sydney	0	0	0	0	0
South Eastern Sydney	0	0	0	0	0
South Western Sydney	0	1	1	0	2
Sydney	0	0	0	0	0
Western Sydney	0	0	0	0	0
Far West	0	0	0	0	0
Hunter New England	0	0	0	0	0
Mid North Coast	0	0	0	0	0
Murrumbidgee	0	0	0	0	0
Northern NSW	0	0	0	0	0
Southern NSW	0	0	0	0	0
Western NSW	0	0	0	0	0
Total	0	1	1	0	2

Interpretation: There have been two locally-acquired cases in the last four weeks with no links to known cases or clusters confirmed. Both cases were residents of South Western Sydney LHD.

SECTION 4: CURRENT COVID-19 CLUSTERS IN NSW

Public health staff interview all new cases at the time of diagnosis to identify the likely source of their infection. Cases are also asked to report all the locations visited and people with whom they have been in contact within their infectious period (two days prior to symptom onset until the time of isolation). Close contacts are quarantined to limit the spread of infection to others and encouraged to seek testing.

Cases in community settings

There were no cases reported in the last week who were linked to recent clusters.

Previously reported active clusters with no new cases identified this week

Hoxton Park cluster

The last cases associated with this cluster were notified on 3 November, including one case in a patron of a trampoline park, one case in a household contact, and one case in a child that attended a kindergarten in South Western Sydney. Excluding the source, who is not linked to any known case or cluster, there are nine cases associated with this cluster. Six of the nine cases are linked to public exposure locations and three cases are linked to the source case and part of an extended family network.

Lakemba cluster

The last case associated with this cluster was notified on 27 October in a household contact of a previously reported case. Excluding the source, a healthcare worker that is linked to a known case, there are nine cases linked to this cluster.

Oran Park community cluster

The last cases associated with this cluster were notified on 26 October in two household contacts of previously reported cases. Excluding the source, a healthcare worker who may have acquired their infection at Liverpool Hospital, there are 17 cases associated with this cluster.

Oran Park childcare cluster

The last case associated with this cluster was notified on 20 October in a household contact of a child that attended childcare. Excluding the source, who is linked to the Oran Park community cluster, there are seven people linked to this cluster including three cases who attended the centre, three household contacts, and one social contact of these cases.

Private health clinic cluster – Bella Vista & Liverpool

This cluster was associated with a private health clinic across two locations. The last case associated with this cluster was notified on 19 October in a household contact of a healthcare worker who was exposed at the Liverpool clinic. Excluding the source, a healthcare worker that worked at both clinics, there are 10 cases linked to this cluster: three healthcare workers, one patient, one visitor accompanying a patient who attended the Liverpool clinic, one social contact, and four household contacts of cases from the clinic.

Table 5. Previously reported clusters with no new cases identified in the week ending 14 November 2020

Date cluster first identified	Cluster	Cases linked in the week ending 14 Nov	Date of last case
28 Oct	Hoxton Park cluster	0	3 Nov
10 Oct	Lakemba cluster	0	27 Oct
6 Oct	Oran Park community cluster	0	26 Oct
12 Oct	Oran Park childcare centre cluster	0	20 Oct
7 Oct	Private health clinic cluster	0	19 Oct

SECTION 5: COVID-19 IN SPECIFIC POPULATIONS

COVID-19 in healthcare workers

There have been no new COVID-19 cases in healthcare workers (HCW) reported for the last four weeks. The last case of COVID-19 reported in a HCW was notified on 13 October.

Healthcare workers 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 cases of COVID-19 infections in HCWs to identify ongoing risks in healthcare settings.

In total, there have been 37 cases of COVID-19 in HCWs since 1 August. Of these, 23 HCWs were potentially infected in healthcare settings. A further seven cases were household contacts of a known case, four were exposed in community settings, and for three cases the source of infection is unknown.

Clusters associated with healthcare-acquired infections in HCWs

Of the 23 potentially healthcare-acquired infections in HCWs reported since 1 August, 20 were associated with five clusters in healthcare settings: two from Hornsby Hospital, seven from Liverpool Hospital, seven from Concord Hospital, three from two related private health clinics in Bella Vista and Liverpool, and one case from a GP clinic in Lakemba.

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.

No cases in Aboriginal people were reported in the week ending 14 November. In total, 45 Aboriginal people have been diagnosed with COVID-19, representing 1% of all cases in NSW. The last case of COVID-19 in an Aboriginal person was reported on 6 September.

Pregnant women

No cases in pregnant women were reported in the week ending 14 November. In total, 32 pregnant women have been diagnosed with COVID-19 in NSW. As those who test negative are not interviewed, testing rates among pregnant women are not available.

SECTION 6: DEATHS

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

In total, 1.3% of cases (55 people) have died as a result of COVID-19 infection, most of whom were 70 years of age or older, including 28 residents of aged care facilities with known COVID-19 outbreaks. Approximately 22% (12/55) of the deaths were in overseas-acquired cases.

Table 6. Deaths as a result of COVID-19, by age group, NSW, 2020

Age group	Number of deaths	Number of cases	Case fatality rate
0-4 years	0	83	0%
5-11 years	0	80	0%
12-17 years	0	127	0%
18-29 years	0	972	0%
30-49 years	0	1337	0%
50-59 years	1	610	0.2%
60-69 years	4	577	0.7%
70-79 years	14	363	3.9%
80+ years	36	159	22.6%
Total	55	4308	1.3%

Interpretation: Cases older than 80 years of age had both the highest number of deaths and the highest case fatality rate. No cases below the 50-59 age group have died as a result of COVID-19 in NSW.

SECTION 7: 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. 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 any 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 how many cases can be detected per population. 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 14 November, 72 sewage samples were tested for fragments of SARS-CoV-2. Of these, seven detections were reported from five areas – these samples were taken from the Malabar, Rouse Hill, Liverpool, Bowral and Moss Vale treatment plants. The table below shows results for previous weeks from various sites across NSW. North Grafton, South Grafton and Yamba have commenced as new sites.

Table 7. Locations with positive SARS-CoV-2 detections in sewage samples since September for the week ending 14 November 2020

Pop.	Sewage treatment plant	LHD	12	19	26	3	10	17	24	31	7	14
			Sep	Sep	Sep	Oct	Oct	Oct	Oct	Oct	Nov	Nov
			Week									
			37	38	39	40	41	42	43	44	45	46
60,514	Blue Mountains (Winmalee)	NBMLHD	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green
4,681	North Richmond	NBMLHD	Green	Green	Green	Red	Green	Green	Green	Green	Green	Green
13,052	Richmond	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
110,114	Penrith	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
12,000	Lithgow	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
19,000	South Windsor	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
8,000	McGraths Hill	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
69,245	Warriewood	NSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
1,241	Brooklyn	NSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
31,924	Hornsby Heights	NSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
57,933	West Hornsby	NSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
318,810	Bondi	S&SESLHD	Red	Red	Red	Green	Red	Red	Red	Red	Green	Green
233,176	Cronulla	SESLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
1,857,740	Malabar 1	S&SES&SWSLHD	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Malabar 2	S&SES&SWSLHD	Green	Green	Green	Green	Green	Red	Green	Green	Green	Green
181,005	Liverpool	SWSLHD	Green	Green	Green	Red	Red	Red	Green	Red	Red	Red
98,743	West Camden	SWSLHD	Green	Green	Green	Red	Red	Red	Red	Red	Green	Green
6,882	Wallacia	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
14,600	Picton	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
161,200	Glenfield	SWSLHD	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
1,341,986	North Head	NS&WSLHD	Green	Green	Red	Green	Green	Green	Green	Green	Green	Green
26,997	Castle Hill Cattai	WSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Castle Hill Glenhaven	WSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

			12 Sep	19 Sep	26 Sep	3 Oct	10 Oct	17 Oct	24 Oct	31 Oct	7 Nov	14 Nov
			Week									
Pop.	Sewage treatment plant	LHD	37	38	39	40	41	42	43	44	45	46
163,374	Quakers Hill	WSLHD	Green	Green	Green	Green	Green	Red	Red	Red	Green	Green
119,309	Rouse Hill	WSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Red	Red
37,061	Riverstone	WSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
163,147	St Marys	NBM&WSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
73,686	Shellharbour	ISHLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
196,488	Wollongong	ISHLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Regional sites												
14,700	Bowral	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
14,000	Mittagong	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
9,000	Moss Vale	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Red	Red
1,000	Berrima	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
2,000	Bundanoon	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
900	Robertson	SWSLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
16,068	Bombo	ISHLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
32,000	Ulladulla	ISHLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
11,000	Culburra Beach	ISHLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
147,500	Gosford-Kincumber	CCLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
-	Wyong-Toukley	CCLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Bateau Bay	CCLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Woy Woy	CCLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
5,000	Perisher	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
8,400	Thredbo	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
3,000	Jindabyne	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
8,000	Cooma	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	p
500	Charlottes Pass	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Albury composite	M&SLHD	Green	Green	c	c	c	c	Green	c	c	Green
51,750	Albury Kremer St	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Albury Waterview	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
22,419	Goulburn	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
21,000	Batemans Bay	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
8,000	Eden	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
15,500	Merimbula	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
5,000	Bermagui	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
7,800	Deniliquin	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
48,000	Queanbeyan	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Wagga Wagga composite	M&SLHD	Green	Green	c	c	c	c	c	c	c	c
	Wagga Wagga - inlet 1	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Wagga Wagga - inlet 2	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Wagga Wagga - Koorringal STP	M&SLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
2,050	Bourke	W&FWLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
36,603	Bathurst	W&FWLHD	Green	Green	Green	Green	Green	Green	Red	Green	Green	Green
19,000	Broken Hill	W&FWLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

			12	19	26	3	10	17	24	31	7	14
			Sep	Sep	Sep	Oct	Oct	Oct	Oct	Oct	Nov	Nov
			Week									
Pop.	Sewage treatment plant	LHD	37	38	39	40	41	42	43	44	45	46
500	Dareton	W&FWLHD										
11,600	Parkes	W&FWLHD										
37,000	Dubbo	W&FWLHD										
24,000	Armidale	HNELHD										
45,000	Tamworth	HNELHD										
10,000	Moree	HNELHD										
12,000	Forster	HNELHD										
225,834	Hunter - Burwood Beach	HNELHD										
60,000	Hunter - Shortland	HNELHD										
115,000	Hunter - Belmont	HNELHD										
60,000	Hunter - Morpeth	HNELHD										
58,300	Hunter - Boulder Bay	HNELHD										
35,000	Hunter - Raymond Terrace	HNELHD										
2,500	Hunter - Karuah	HNELHD										
18,958 (both plants total)	Byron Bay - Ocean Shores	N&MNCLHD										
	Byron Bay	N&MNCLHD										
31,104	Ballina	N&MNCLHD										
72,000 (Tweed District)	Tweed - Kingscliff	N&MNCLHD										
	Tweed - Hastings Point	N&MNCLHD										
12,250	North Grafton	N&MNCLHD										
6,300	South Grafton	N&MNCLHD										
6,500	Yamba	N&MNCLHD										
54,370	Port Macquarie	N&MNCLHD										p
50,000	Coffs Harbour	N&MNCLHD										

- not sampled
- SARS-CoV-2 not detected
- SARS-CoV-2 detected
- site moved to composite sample or ceased

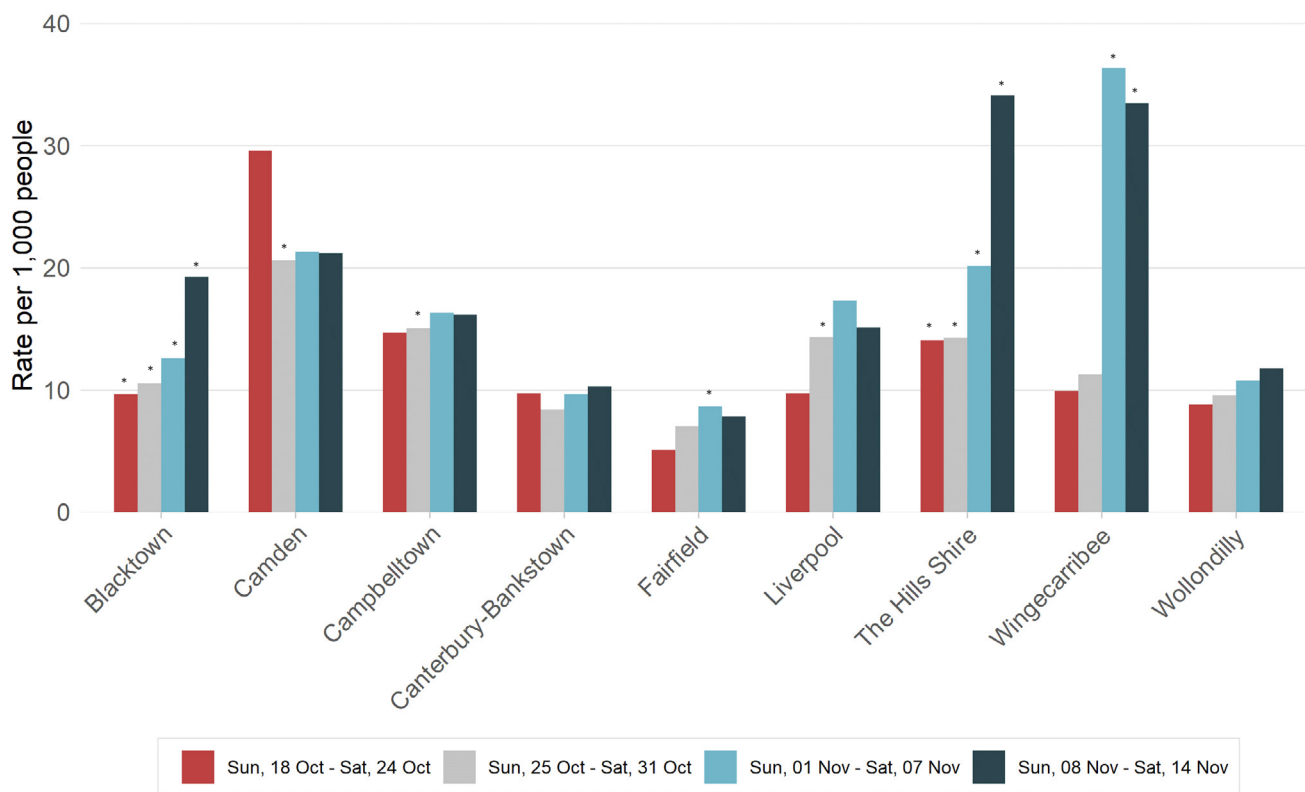
c composite of the separate influent samples
 l result from another laboratory
 p result pending, not available at time of reporting

Interpretation: In the last week there were seven detections of SARS-CoV-2 (two of the seven detections were from separate pumping stations in the Rouse Hill area). The detections in the Rouse Hill area were not associated with known locally-acquired cases. These detections prompted public health alerts to the local community to promote testing. A new detection was also reported in the Bowral sewage treatment plant, likely associated with recent cases in the surrounding area.

Testing rates in areas associated with new cases or sewage detections

Public health alerts are routinely issued in relation to reported cases in the community and detections of SARS-CoV-2 in sewage. The following figure demonstrates the impact of messages on testing rates in areas with recent cases or detections of virus fragments in sewage.

Figure 7. COVID-19 testing by LGA with recent SARS-CoV-2 sewage detections or cases



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

*Case reported or sewage detection.

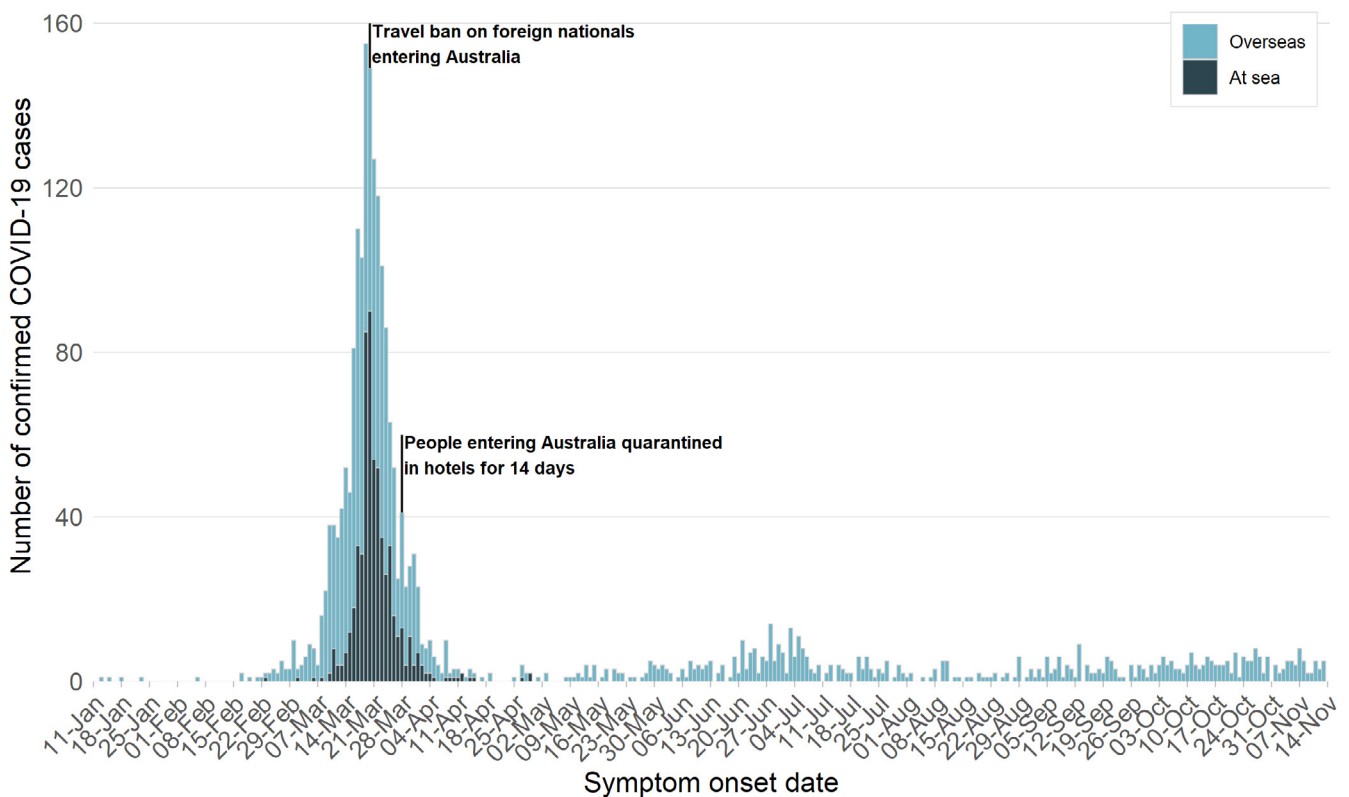
Interpretation: The significant increase in testing in Wingecarribee for the last two weeks was associated with recent locally-acquired cases residing in Moss Vale and a new sewage detection in the Bowral catchment area. There has been increased testing in Blacktown and The Hills Shire LGAs associated with the sewage detection in the Rouse Hill catchment.

SECTION 8: 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 addition, since 28 March returned travellers have been quarantined in hotels for a 14-day period and travellers who develop symptoms are isolated until no longer infectious.

The graph below shows the number of cases in returned travellers by the date of symptom onset. Cases acquired at sea refers to those cruise ship passengers who acquired their infection prior to disembarking in NSW.

Figure 8. Overseas acquired COVID-19 cases by infection source and illness onset, NSW, 2020



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

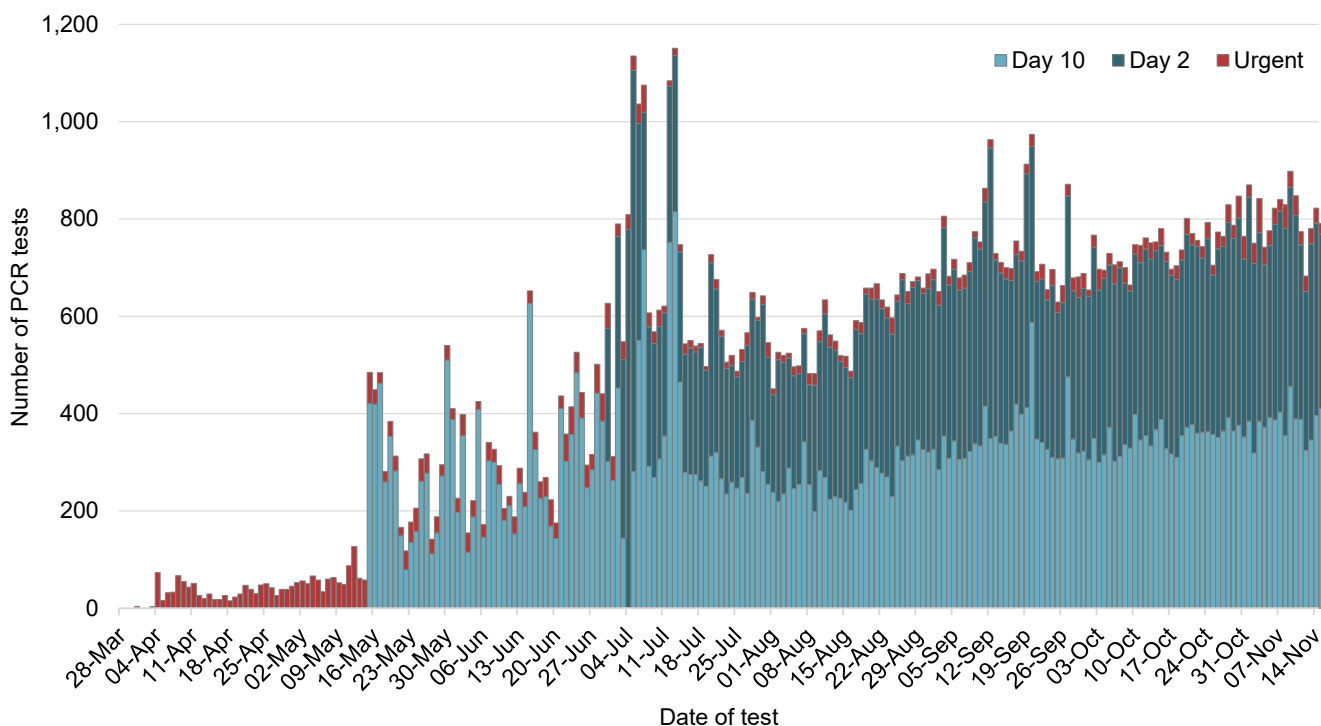
Interpretation: The number of new cases in returned travellers has decreased markedly since March in line with travel restrictions and declined further again since mid-July. There were 34 overseas-acquired cases reported in the week ending 14 November, 21% more than the previous week.

In the last four weeks there have been 136 COVID-positive travellers who have arrived in NSW – the majority have been returning Australian nationals. Travellers from India accounted for the largest number of overseas-acquired infections (19, 14%), followed by travellers from the United States (18, 13%), United Kingdom (10, 7%) and France (7, 5%).

Hotel quarantine

The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening on both day two and day 10 after arrival.

Figure 9. COVID-19 testing in returned travellers in hotel quarantine, reported from 29 March to 14 November, NSW, 2020



Interpretation: In the week ending 14 November, there were 5,634 tests conducted through the hotel quarantine screening programs. Of these, 7% were screening tests for domestic travellers from Victoria.

Since hotel quarantine began on 29 March, a total of 112,516 PCR tests have been conducted with 548 overseas-acquired cases and four interstate-acquired COVID-19 cases detected while in hotel quarantine. The percentage positivity rate for overseas travellers in hotel quarantine is approximately 1%.

SECTION 9: OTHER RESPIRATORY INFECTIONS IN NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 8 November 2020

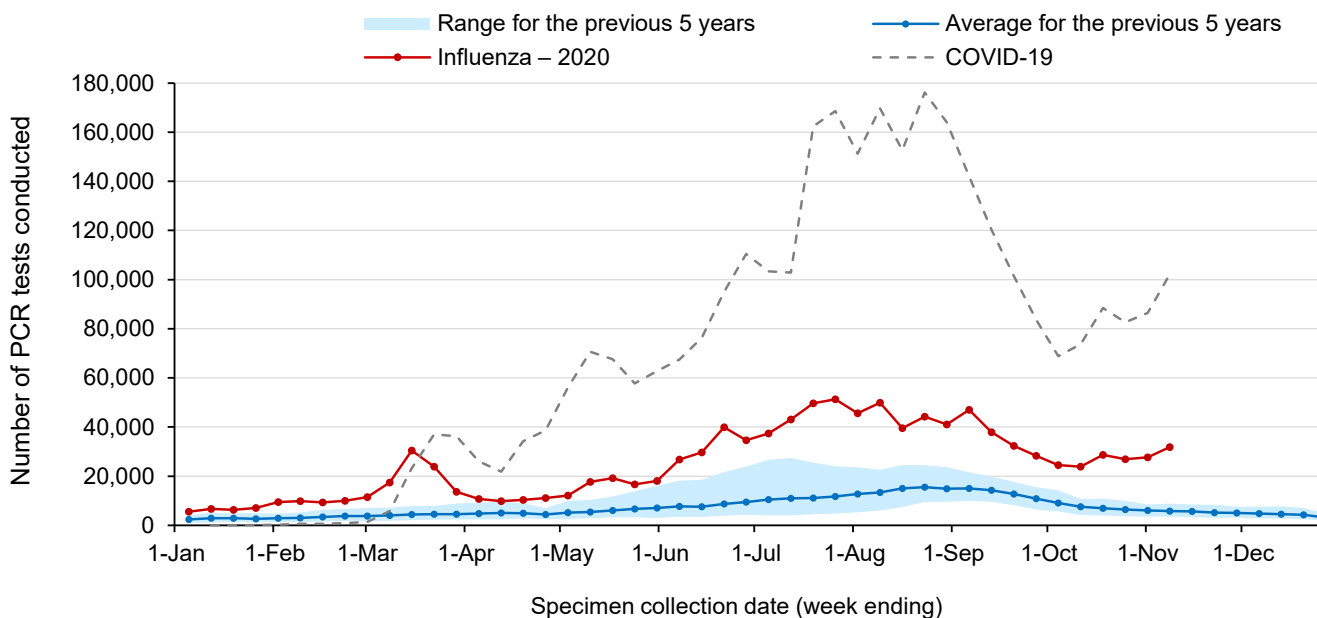
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted; not all samples are tested for all respiratory viruses.

The most recent data available is for testing carried out to 8 November. A total of 1,128,145 influenza tests have been performed at participating laboratories to 8 November, with 31,883 tests conducted in the most recent week. Refer to Appendix B for PCR testing results for a range of respiratory viruses.

How much influenza testing is happening?

The red line in the figure below shows the number of PCR tests for influenza carried out each week. The blue line shows the average number of tests carried out for the same week in the last five years and the shaded area shows the range of counts reported in the previous five years. The grey line shows the number of COVID-19 tests.

Figure 10. Testing for influenza and COVID-19 by week, to 8 November 2020

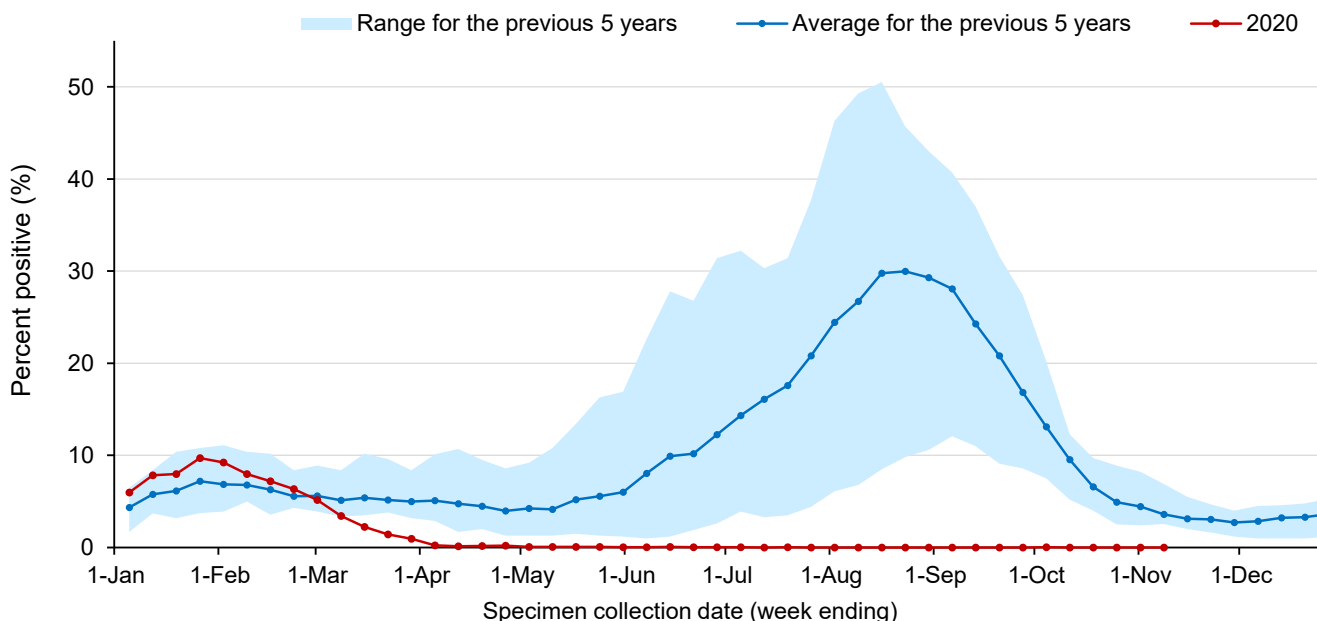


Interpretation: In every week this year, the number of influenza tests performed has exceeded the previous five-year average.

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 2020, the blue line showing the average for the past five years and the shaded area showing the range recorded in the previous five years.

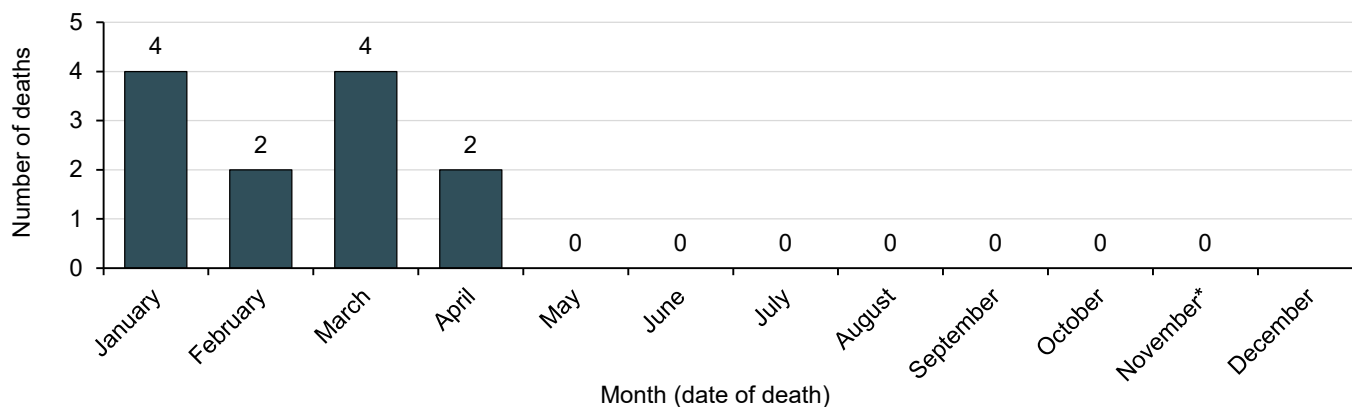
Figure 11. Proportion of tests positive for influenza, to 8 November 2020



Interpretation: In the week ending 8 November, 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, this percentage has remained far lower than the usual range for the time of year.

How many people have died as a result of influenza?

Figure 12. Laboratory-confirmed influenza deaths by month of death, to 8 November 2020



Note: *month to date.

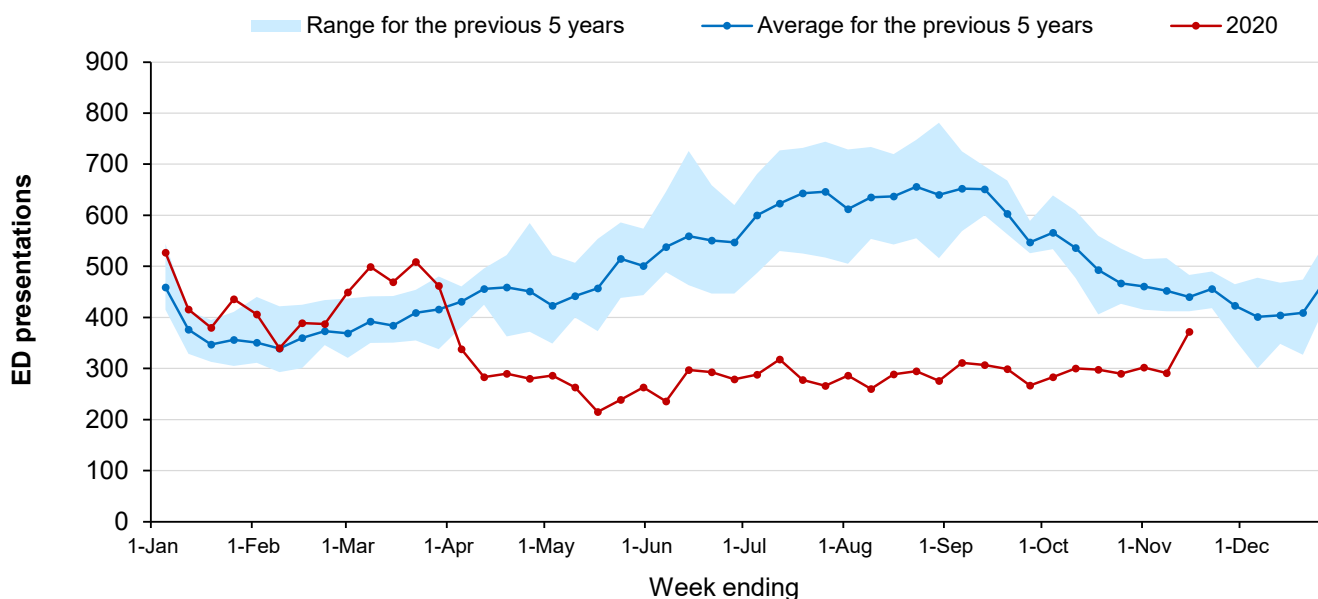
Interpretation: No influenza deaths have been reported in NSW since April 2020. The number of influenza-related deaths identified via coroner’s reports and death registrations from 1 January to 8 November 2020 is lower than the same period last year (12 deaths in 2020 compared with 320 in 2019).² Two-thirds of the deaths were in people aged 65 years and over.

² Includes deaths in people with laboratory-confirmed influenza.

How are emergency department presentations for respiratory infections tracking?

The two figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS.³ The red line shows the weekly counts for 2020, the blue line shows the average for the same week for the past five years, and the shaded area shows the range recorded in the previous five years.

Figure 13. Emergency Department pneumonia presentations in NSW by week, to 15 November 2020

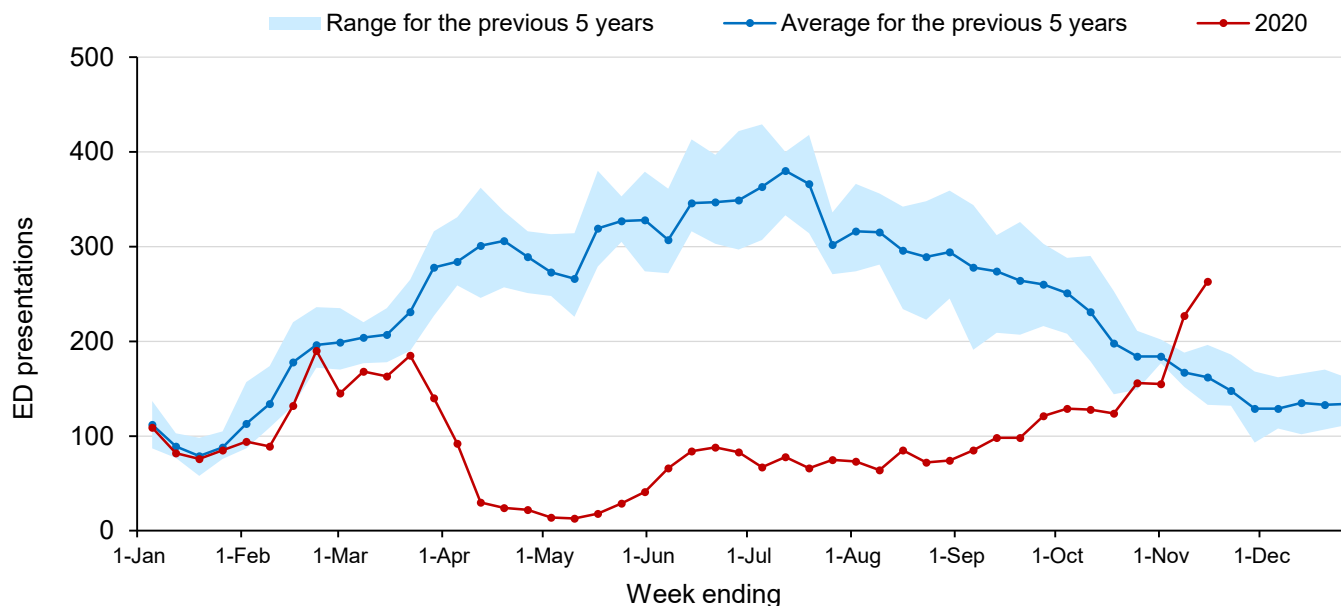


Interpretation: Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires’ disease, but excludes ‘pneumonia with influenza’ and provides an indicator of more severe respiratory conditions.

In the week ending 15 November, pneumonia presentations sharply increased but remain below the usual range for this time of year. Pneumonia presentations for children aged under 5 was the main driver of the increase; this age group recorded higher than usual presentations for this time of year.

³ 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 five years. Includes unplanned presentations to 67 NSW emergency departments (accounts for 87% of total public ED activity).

Figure 14. Emergency Department bronchiolitis presentations in NSW by week, to 15 November 2020



Interpretation: Bronchiolitis is a common disease of infants often caused by respiratory syncytial virus (RSV). Bronchiolitis presentations continue to increase above the usual five-year average range. This increase corresponds to an increase in RSV detections (see Appendix C).

APPENDIX A: COVID-19 PCR TESTS IN NSW

Local Health District	Local Government Area	Week ending				Total	
		14 November		7 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Central Coast	Central Coast / LHD Total ²	3929	11.1	3758	10.7	121471	344.2
Far West	Balranald	2	0.9	22	9.4	479	204.9
	Broken Hill	73	4.2	125	7.2	4717	269.9
	Central Darling	4	2.2	13	7.1	363	197.4
	Wentworth	42	6.0	62	8.8	2131	302.1
	LHD Total ²	121	4.0	222	7.4	7690	255.1
Hunter New England	Armidale Regional	230	7.5	243	7.9	9278	301.4
	Cessnock	327	5.5	331	5.5	15091	251.6
	Dungog	71	7.5	74	7.9	2349	249.3
	Glen Innes Severn	25	2.8	16	1.8	1741	196.3
	Gunnedah	59	4.7	53	4.2	3111	245.3
	Gwydir	13	2.4	18	3.4	670	125.2
	Inverell	63	3.7	55	3.3	3992	236.4
	Lake Macquarie	2131	10.4	2094	10.2	81171	394.2
	Liverpool Plains	33	4.2	37	4.7	2003	253.5
	Maitland	999	11.7	952	11.2	37243	437.3
	Mid-Coast	393	4.2	364	3.9	21587	230.1
	Moree Plains	56	4.2	56	4.2	2894	218.2
	Muswellbrook	102	6.2	73	4.5	4339	264.9
	Narrabri	33	2.5	36	2.7	2601	198.0
	Newcastle	1943	11.7	1950	11.8	80484	486.1
	Port Stephens	544	7.4	458	6.2	27189	370.0
	Singleton	214	9.1	222	9.5	8982	382.9
	Tamworth Regional	441	7.1	473	7.6	21046	336.5
	Tenterfield	17	2.6	29	4.4	1041	157.9
	Upper Hunter Shire	83	5.9	64	4.5	3858	272.1
	Uralla	22	3.7	18	3.0	1176	195.6
Walcha	32	10.2	36	11.5	874	278.9	
LHD Total ²	7826	8.2	7640	8.0	332445	349.1	
Illawarra Shoalhaven	Kiama	319	13.6	251	10.7	8973	383.7
	Shellharbour	847	11.6	776	10.6	27915	381.2
	Shoalhaven	866	8.2	786	7.4	31553	298.7
	Wollongong	2633	12.1	2223	10.2	74939	343.6
	LHD Total ²	4665	11.1	4036	9.6	143380	341.7
Mid North Coast	Bellingen	101	7.8	125	9.6	3385	260.5
	Coffs Harbour	415	5.4	387	5.0	18669	241.6
	Kempsey	171	5.8	182	6.1	8399	282.4
	Nambucca	71	3.6	102	5.2	4515	228.0
	Port Macquarie-Hastings	631	7.5	471	5.6	23773	281.3
	LHD Total ²	1389	6.2	1267	5.6	58741	260.3

Local Health District	Local Government Area	Week ending				Total	
		14 November		7 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Murrumbidgee	Albury	421	7.8	495	9.1	16025	294.8
	Berrigan	47	5.4	34	3.9	1895	216.6
	Bland	23	3.9	37	6.2	1443	241.6
	Carrathool	14	5.0	8	2.9	315	112.5
	Coolamon	24	5.5	46	10.6	1155	266.1
	Cootamundra-Gundagai Regional	70	6.2	56	5.0	2694	239.8
	Edward River	48	5.3	61	6.7	2477	272.7
	Federation	62	5.0	91	7.3	2670	214.7
	Greater Hume Shire	76	7.1	98	9.1	2975	276.4
	Griffith	204	7.6	174	6.4	7863	290.9
	Hay	10	3.4	12	4.1	496	168.2
	Hilltops	126	6.7	127	6.8	4819	257.7
	Junee	18	2.7	17	2.5	1150	172.1
	Lachlan ¹	18	3.0	11	1.8	890	146.5
	Leeton	74	6.5	60	5.2	2400	209.7
	Lockhart	14	4.3	12	3.7	731	222.5
	Murray River	10	0.8	22	1.8	764	63.1
	Murrumbidgee	11	2.8	14	3.6	733	187.1
	Narrandera	20	3.4	24	4.1	1034	175.3
	Snowy Valleys	64	4.4	70	4.8	3981	275.0
	Temora	33	5.2	19	3.0	1206	191.2
	Wagga Wagga	544	8.3	517	7.9	22994	352.4
LHD Total ²	1922	6.5	2000	6.7	80118	268.8	
Nepean Blue Mountains	Blue Mountains	1266	16.0	1165	14.7	39561	500.0
	Hawkesbury	1008	15.0	928	13.8	28368	421.5
	Lithgow	166	7.7	134	6.2	6008	278.1
	Penrith	2908	13.7	2751	12.9	99363	466.5
	LHD Total ²	5312	13.6	4944	12.6	171901	439.7
Northern NSW	Ballina	270	6.1	304	6.8	13077	293.0
	Byron	331	9.4	294	8.4	12196	347.7
	Clarence Valley	254	4.9	202	3.9	10400	201.3
	Kyogle	50	5.7	34	3.9	1655	188.2
	Lismore	351	8.0	341	7.8	13643	312.3
	Richmond Valley	120	5.1	119	5.1	6301	268.5
	Tenterfield	17	2.6	29	4.4	1041	157.9
	Tweed	521	5.4	479	4.9	22528	232.3
	LHD Total ²	1902	6.1	1784	5.8	80061	258.0

Local Health District	Local Government Area	Week ending				Total	
		14 November		7 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Northern Sydney	Hornsby	2267	14.9	1883	12.4	54681	359.6
	Hunters Hill	437	29.2	363	24.2	12752	851.3
	Ku-ring-gai	2933	23.1	2425	19.1	67740	532.7
	Lane Cove	1271	31.7	1051	26.2	35047	872.8
	Mosman	532	17.2	441	14.2	13645	440.4
	North Sydney	895	11.9	776	10.3	25737	343.1
	Northern Beaches	4345	15.9	3715	13.6	109959	402.1
	Parramatta ¹	3650	14.2	3078	12.0	84413	328.2
	Ryde	1956	14.9	1606	12.2	49466	376.8
	Willoughby	1143	14.1	885	10.9	26666	328.4
	LHD Total ²	16539	17.3	13738	14.4	411715	430.7
South Eastern Sydney	Bayside	2001	11.2	1928	10.8	57007	319.6
	Georges River	1686	10.6	1484	9.3	49458	310.1
	Randwick	2531	16.3	2240	14.4	78229	502.6
	Sutherland Shire	3648	15.8	3359	14.6	105323	456.7
	Sydney ¹	3856	15.7	3719	15.1	120012	487.2
	Waverley	1326	17.9	1210	16.3	44441	598.2
	Woollahra	1190	20.0	1113	18.7	36624	616.7
	LHD Total ²	13852	14.4	12838	13.4	414798	432.5
South Western Sydney	Camden	2153	21.2	2165	21.3	61207	603.4
	Campbelltown	2771	16.2	2797	16.4	81248	475.3
	Canterbury-Bankstown ¹	3904	10.3	3649	9.7	129108	341.6
	Fairfield	1664	7.9	1831	8.7	66056	312.0
	Liverpool	3446	15.1	3941	17.3	100972	443.7
	Wingecarribee	1712	33.5	1860	36.4	24713	483.3
	Wollondilly	628	11.8	573	10.8	17639	331.9
	LHD Total ²	14302	13.8	15022	14.5	416363	400.9
Southern NSW	Bega Valley	227	6.6	170	4.9	8672	251.5
	Eurobodalla	209	5.4	236	6.1	14215	369.5
	Goulburn Mulwaree	346	11.1	233	7.5	9344	300.1
	Queanbeyan-Palerang Regional	350	5.7	324	5.3	12843	210.2
	Snowy Monaro Regional	139	6.7	129	6.2	5576	268.1
	Upper Lachlan Shire	56	7.0	56	7.0	1989	246.8
	Yass Valley	68	4.0	60	3.5	3096	181.2
	LHD Total ²	1395	6.4	1208	5.6	55762	256.9
Sydney	Burwood	348	8.6	313	7.7	10553	259.9
	Canada Bay	1422	14.8	1237	12.9	43203	449.7
	Canterbury-Bankstown ¹	3904	10.3	3649	9.7	129108	341.6
	Inner West	3297	16.4	2961	14.8	103170	513.8
	Strathfield	645	13.8	638	13.6	19774	421.4
	Sydney ¹	3856	15.7	3719	15.1	120012	487.2
	LHD Total ²	10030	14.4	9110	13.1	316155	453.7

Local Health District	Local Government Area	Week ending				Total	
		14 November		7 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Western NSW	Bathurst Regional	489	11.2	503	11.5	16179	370.9
	Blayney	62	8.4	85	11.5	2625	355.7
	Bogan	15	5.8	7	2.7	554	214.7
	Bourke	5	1.9	6	2.3	428	165.3
	Brewarrina	4	2.5	2	1.2	281	174.4
	Cabonne	63	4.6	53	3.9	2614	191.7
	Cobar	30	6.4	43	9.2	848	182.1
	Coonamble	12	3.0	11	2.8	802	202.6
	Cowra	79	6.2	61	4.8	2870	225.2
	Dubbo Regional	462	8.6	448	8.3	15477	288.1
	Forbes	42	4.2	47	4.7	1856	187.4
	Gilgandra	17	4.0	21	5.0	823	194.2
	Lachlan ¹	18	3.0	11	1.8	890	146.5
	Mid-Western Regional	179	7.1	159	6.3	6931	274.5
	Narromine	48	7.4	48	7.4	1461	224.2
	Oberon	40	7.4	42	7.8	1467	271.1
	Orange	431	10.2	418	9.9	16843	396.8
	Parkes	57	3.8	73	4.9	3575	241.0
	Walgett	14	2.4	17	2.9	1383	232.3
	Warren	23	8.5	28	10.4	1113	412.7
	Warrumbungle Shire	46	5.0	39	4.2	2336	251.8
Weddin	10	2.8	8	2.2	709	196.2	
LHD Total ²	2137	7.5	2125	7.5	81799	287.0	
Western Sydney	Blacktown	7218	19.3	4715	12.6	149987	400.6
	Cumberland	2895	12.0	2728	11.3	87583	362.6
	Parramatta ¹	3650	14.2	3078	12.0	84413	328.2
	The Hills Shire	6072	34.1	3587	20.2	93691	526.5
	LHD Total ²	19155	18.2	13598	12.9	402526	382.1
NSW Total³		112,260	13.9	100,776	12.5	3,294,430	407.2

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

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

³NSW Total counts and rates 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, 1 JANUARY TO 8 NOVEMBER 2020

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.

Specimen collection date	Total PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhinovirus	HMPV	Enterovirus
		No.	%Pos.	No.	%Pos.						
1 Jan—8 Nov 2020											
Total	1,128,145	6,624	0.59%	954	0.08%	7,949	9,090	11,012	127,048	2,118	5,313
Month ending											
3 February*	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,036	599	335
1 March	40,575	2,363	5.82%	315	0.78%	798	2,435	1,118	8,245	437	1,007
29 March	85,238	1,549	1.82%	200	0.23%	898	4,117	1,977	18,088	664	1,502
3 May*	54,128	70	0.13%	13	0.02%	175	273	410	2,250	48	210
31 May	71,525	35	0.05%	6	0.01%	237	62	115	3,511	27	112
28 June	130,922	42	0.03%	11	0.01%	629	83	178	28,321	112	246
2 August*	227,152	34	0.01%	2	0.00%	1,251	89	209	31,589	79	427
30 August	174,594	9	0.01%	2	0.00%	1,137	37	299	13,926	14	235
27 September	145,489	6	0.00%	1	0.00%	938	35	866	8,416	61	259
1 November	131,686	7	0.01%	1	0.00%	894	56	3,508	5,632	51	662
Week ending											
8 November	31,883	1	0.00%	2	0.01%	146	3	1,580	2,034	26	318

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

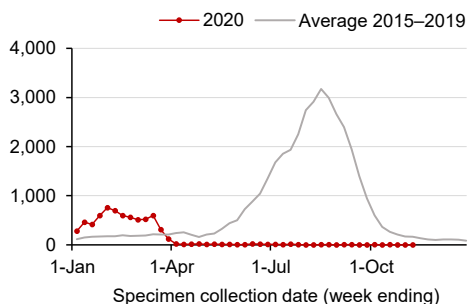
RSV - Respiratory syncytial virus

*Five-week period

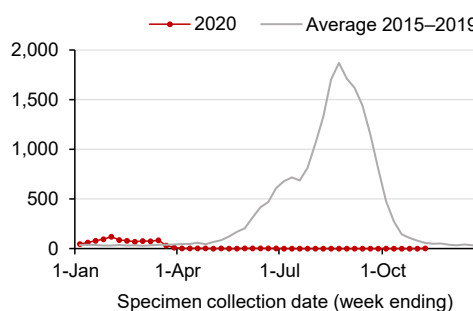
APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, 1 JANUARY TO 8 NOVEMBER 2020

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

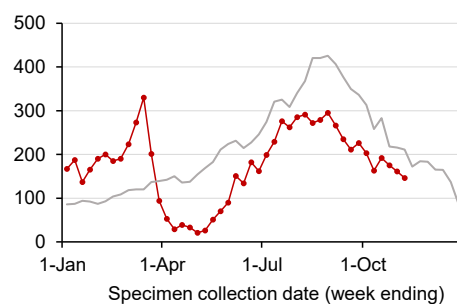
Influenza A



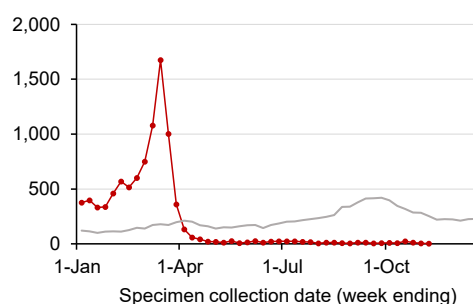
Influenza B



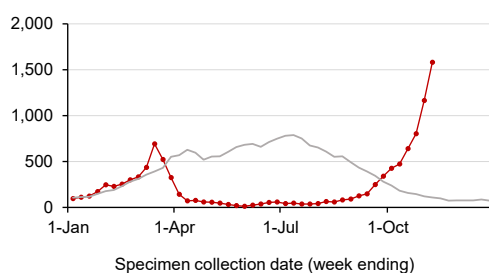
Adenovirus



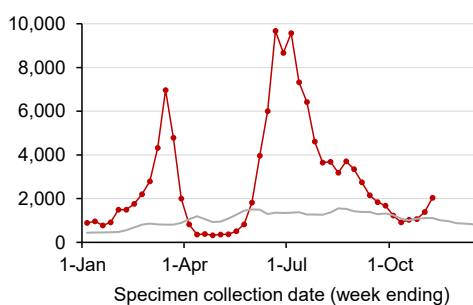
Parainfluenza



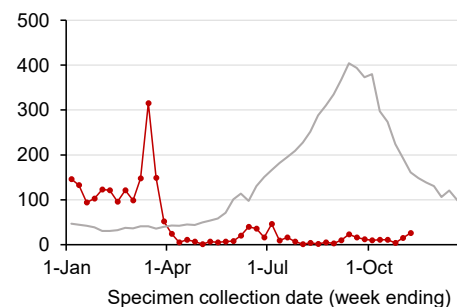
Respiratory syncytial virus (RSV)



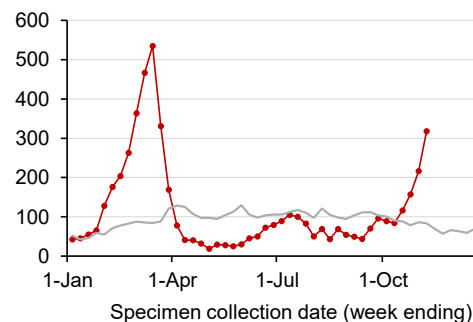
Rhinovirus



Human metapneumovirus (HPMV)



Enterovirus



Notes: 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	<p>A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases).</p> <p>Case counts include:</p> <ul style="list-style-type: none"> - NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and - interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis.
Healthcare 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 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	<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>