

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 47, ENDING 21 NOVEMBER 2020

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### SUMMARY FOR THE WEEK ENDING 21 NOVEMBER

- There were no new locally-acquired cases reported in NSW this week.
- The last locally-acquired case with an unknown source was reported in late October.
- Most locally-acquired cases reported in the four weeks up to 21 November were residents of South Western Sydney LHD (95%; 18/19).
- Testing numbers have decreased compared to the previous week (down 13%).
- The NSW Sewage Surveillance Program reported five detections of SARS-CoV-2 fragments. These samples were taken from the Bondi, North Head, Liverpool, Batemans Bay and Moss Vale treatment plants. All detections were in areas with recently diagnosed cases, including overseas-acquired cases in hotel quarantine.
- Emergency Department visits for bronchiolitis and pneumonia in children aged 0–4 years have escalated since October and remain above average for this time of year. RSV detections remain high and have been above seasonal average since early October.
- 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 21 November 2020

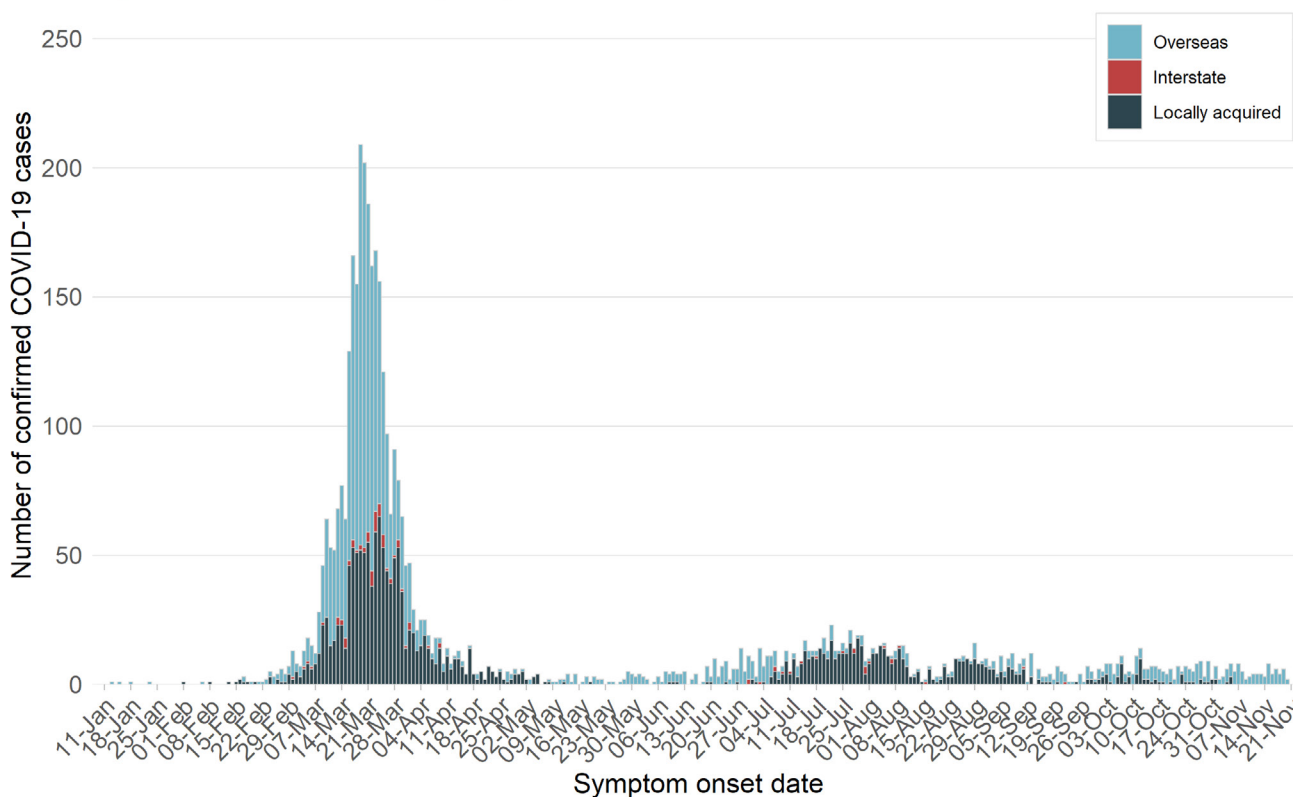
	Week ending 21 Nov	Week ending 14 Nov	% change	Total to 21 Nov
Number of cases	41	35	↑17%	4,349
Overseas acquired	41	34	↑21%	2,389
Interstate acquired	0	0	-	90
Locally acquired	0	1*	↓100%	1,870
No links to other cases or clusters	0	0	-	433
Number of deaths	0	0	-	55
Number of tests	98,651	113,346	↓13%	3,394,209

\*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



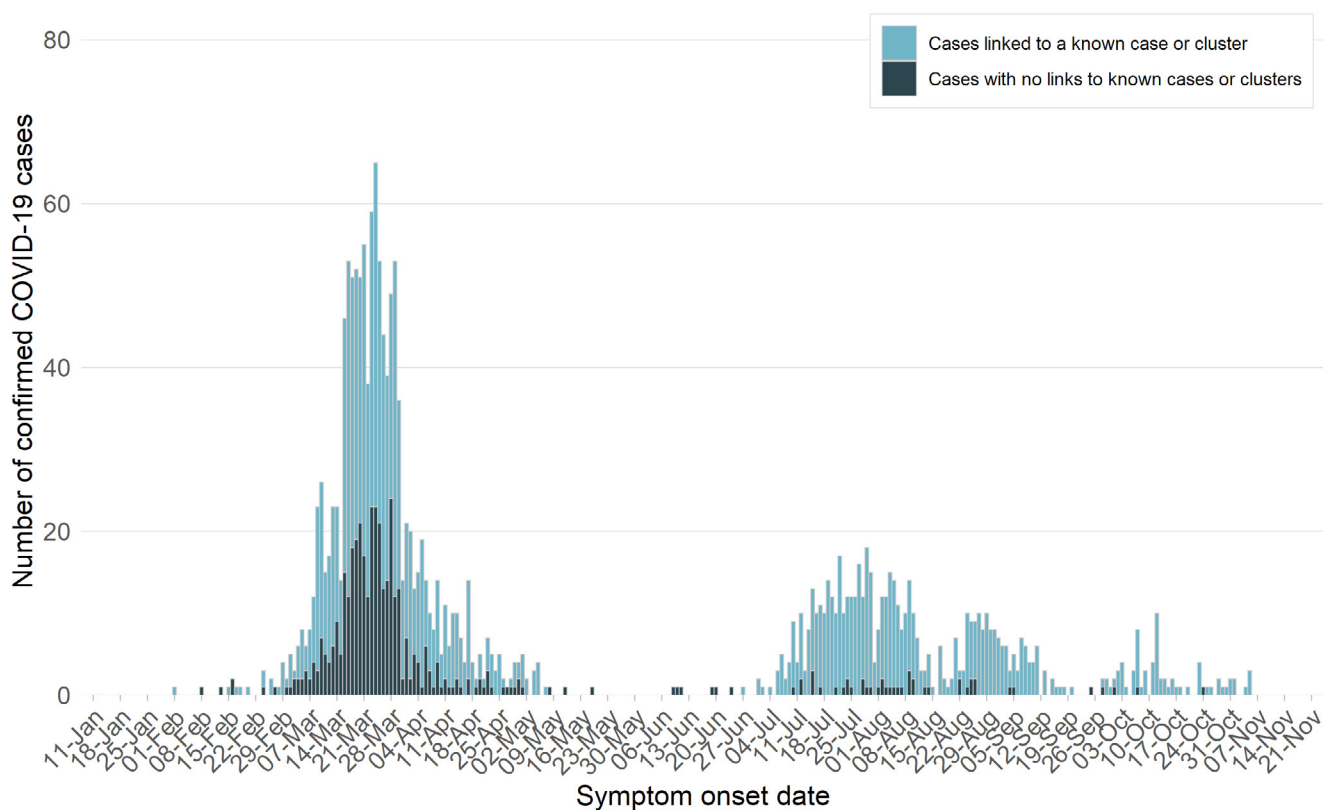
The date of the first positive test is used for cases who did not report symptoms.

**Interpretation:** All recent COVID-19 infections in NSW with an **onset of symptoms** 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.

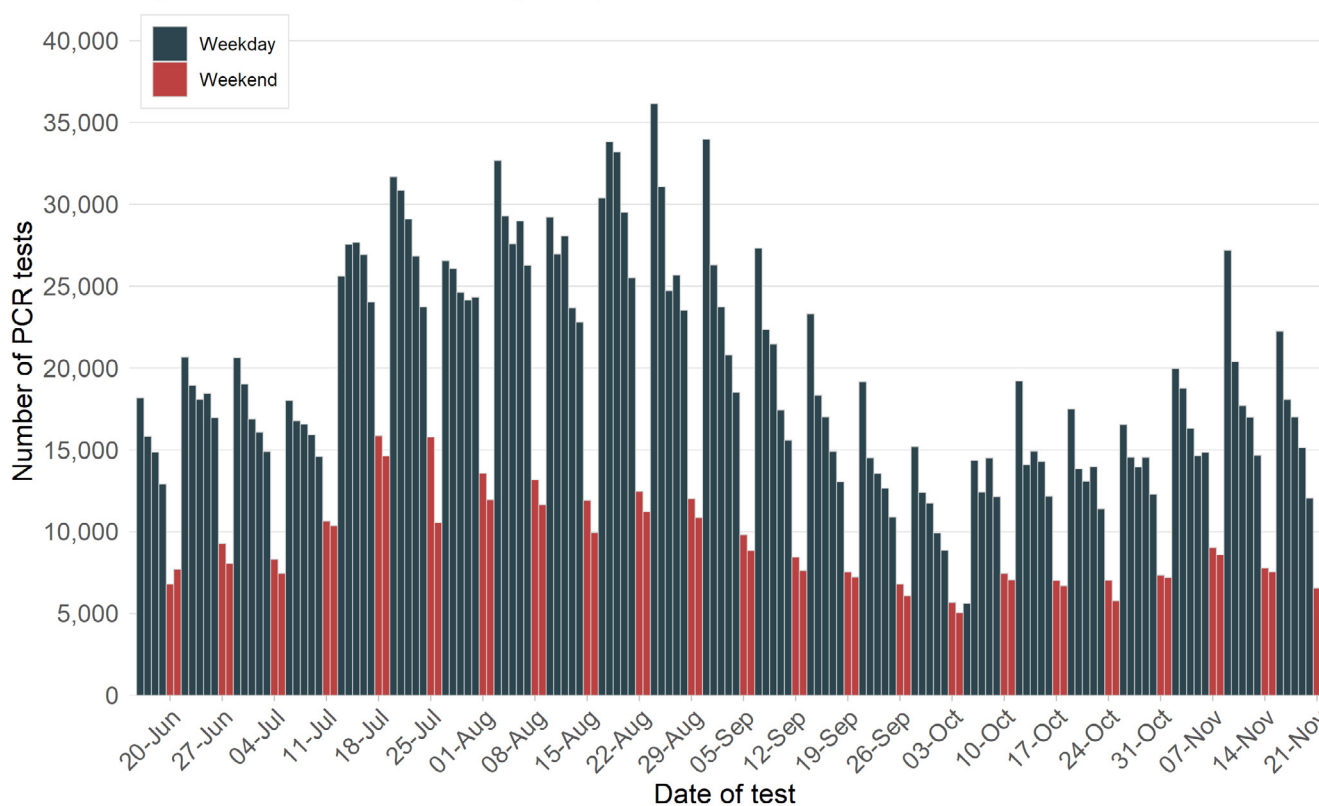
**Interpretation:** All locally-acquired cases with an **onset of symptoms** in the last four weeks were linked to known cases or clusters.

## 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.<sup>1</sup> 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



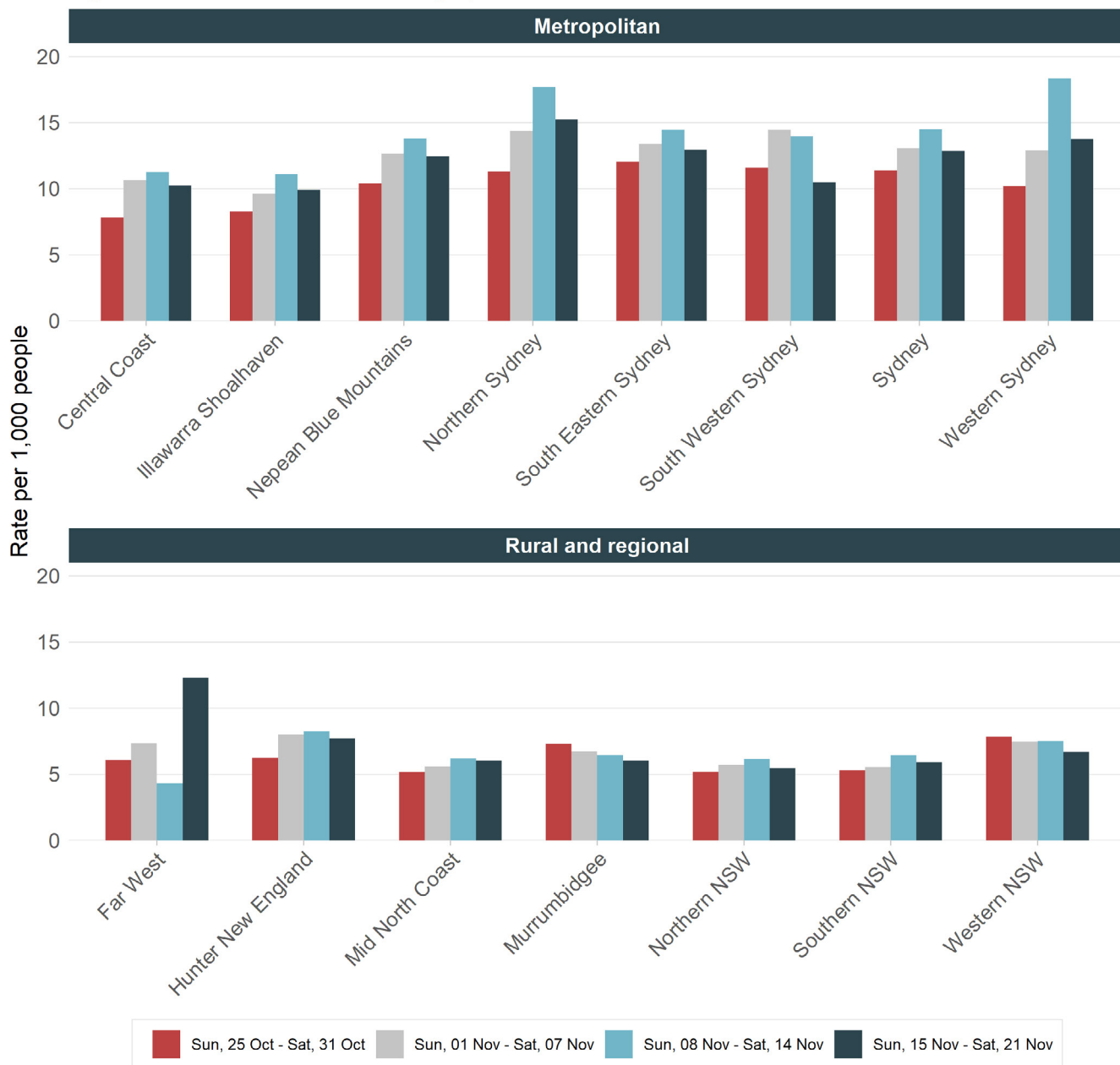
*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.*

**Interpretation:** Testing is recommended for anyone with even mild respiratory symptoms or unexplained fever. Testing numbers in the week ending 21 November were lower compared with the previous week. An average of 1.7 tests were conducted per 1,000 people in NSW each day in the week ending 21 November, compared to a daily average of 2.0 per 1,000 people in the previous week.

<sup>1</sup> 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

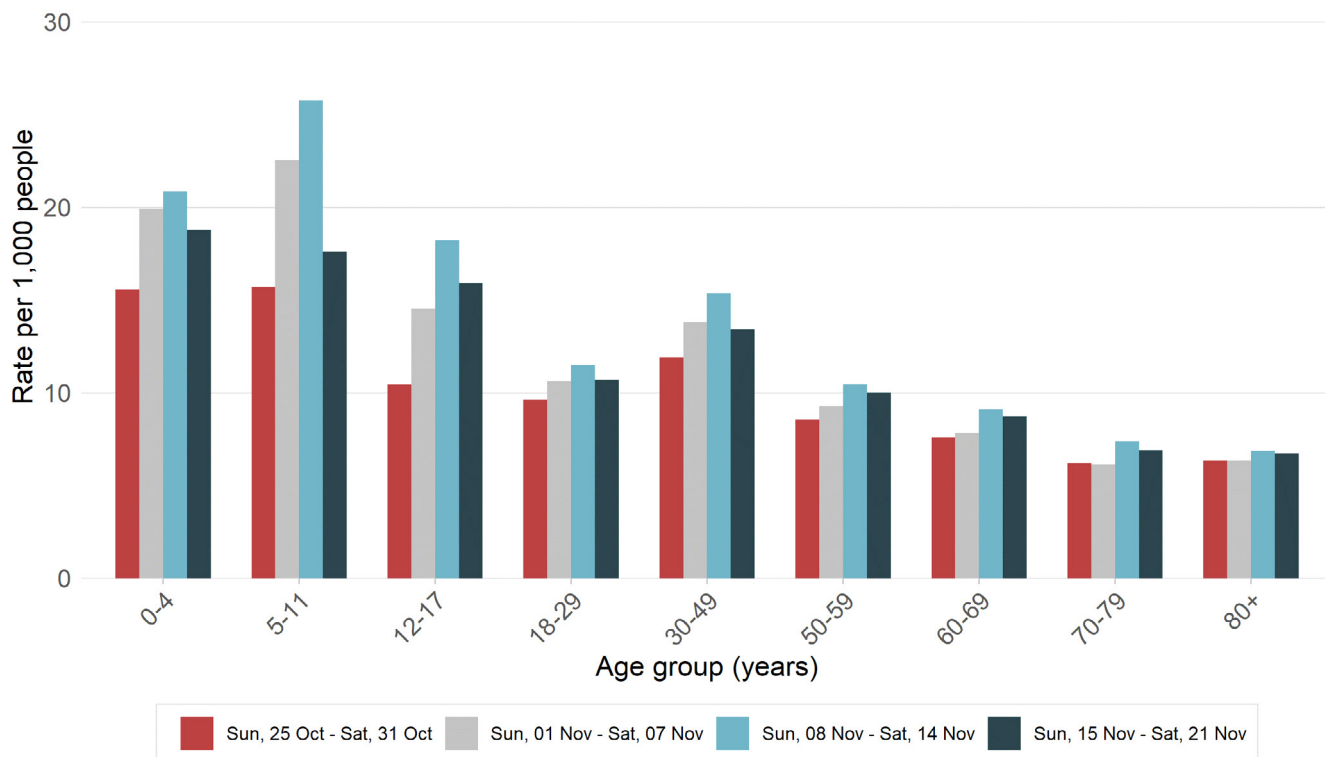


*Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.*

**Interpretation:** Statewide testing rates in the week ending 21 November were lower compared to the previous week (12 per 1,000 vs 14 per 1,000). Testing decreased across all LHDs, except Far West LHD where it more than doubled compared to the previous week. This was mainly driven by testing in Broken Hill which saw a major surge following news of a cluster in South Australia.

## Testing by age group

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

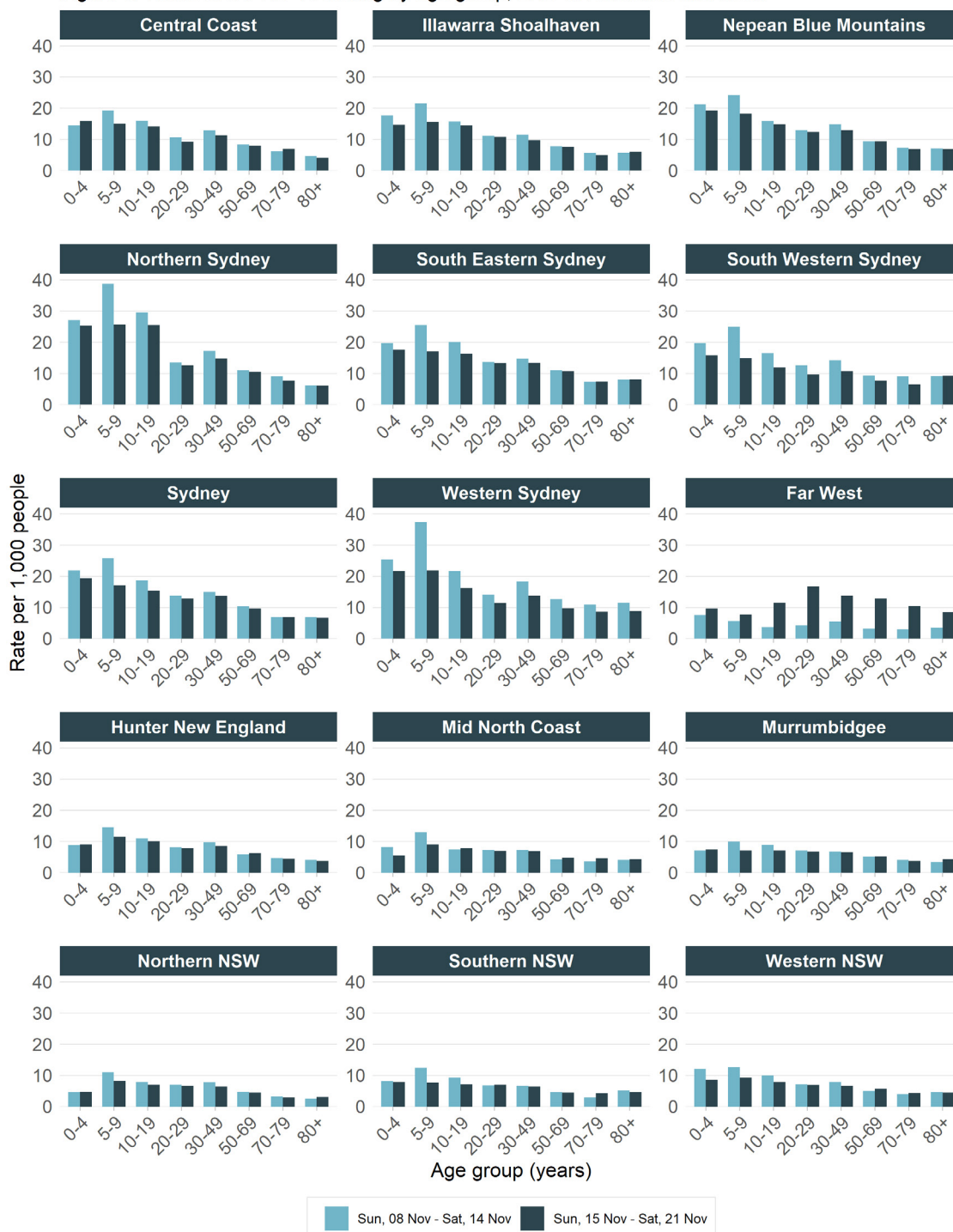


*Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.*

**Interpretation:** For the week ending 21 November, testing rates decreased for all age groups compared to the previous week.

### 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 decreased or remained stable for all age groups across all LHDs for the week ending 21 November, except for Far West LHD which experienced increased testing across all age groups. Testing rates remain high in young children, which corresponds with elevated emergency presentations for bronchiolitis since early November. In the last two weeks, high testing rates in children have been mainly driven by testing in metropolitan areas, particularly 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, 25 October to 21 November 2020

Locally-acquired cases	Week ending				Total
	21 Nov	14 Nov	7 Nov	31 Oct	
Cases who are linked to a known case or cluster	0	1*	10	7	<b>18</b>
Cases with no links to other cases or clusters	0	0	0	1	<b>1</b>
<b>Total</b>	<b>0</b>	<b>1*</b>	<b>10</b>	<b>8</b>	<b>19</b>

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

**Interpretation:** The majority (95%) of cases in the four weeks ending 21 November were linked to known cases or clusters. There were no locally-acquired cases notified in the week ending 21 November.

Table 3. Locally-acquired COVID-19 cases by LHD of residence and week reported, 25 October to 21 November 2020

Local Health District	Week ending				Total	Days since last case reported
	21 Nov	14 Nov	7 Nov	31 Oct		
Central Coast	0	0	0	0	<b>0</b>	<b>82</b>
Illawarra Shoalhaven	0	0	0	0	<b>0</b>	<b>78</b>
Nepean Blue Mountains	0	0	0	0	<b>0</b>	<b>67</b>
Northern Sydney	0	0	0	0	<b>0</b>	<b>39</b>
South Eastern Sydney	0	0	0	0	<b>0</b>	<b>38</b>
South Western Sydney	0	0	10	8	<b>18</b>	<b>15</b>
Sydney	0	0	0	0	<b>0</b>	<b>38</b>
Western Sydney	0	1*	0	0	<b>1*</b>	<b>8</b>
Far West	0	0	0	0	<b>0</b>	<b>233</b>
Hunter New England	0	0	0	0	<b>0</b>	<b>107</b>
Mid North Coast	0	0	0	0	<b>0</b>	<b>214</b>
Murrumbidgee	0	0	0	0	<b>0</b>	<b>75</b>
Northern NSW	0	0	0	0	<b>0</b>	<b>119</b>
Southern NSW	0	0	0	0	<b>0</b>	<b>33</b>
Western NSW	0	0	0	0	<b>0</b>	<b>81</b>
<b>Total</b>	<b>0</b>	<b>1*</b>	<b>10</b>	<b>8</b>	<b>19</b>	<b>8*</b>

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

**Interpretation:** There were no locally-acquired cases reported in the week ending 21 November.

### 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, 25 October to 21 November 2020**

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

**Interpretation:** There has been one locally-acquired case in the last four weeks with no links to known cases or clusters confirmed. This case was reported on 28 October and is a resident 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.

#### **Private health clinic cluster – Bella Vista & Liverpool**

On 7 October, Western Sydney Public Health Unit was notified of a case in a healthcare worker at a private health clinic in Bella Vista. On the same day, a second case was reported in a resident of South Western Sydney. The second case was a household contact of another staff member (who subsequently tested positive) who worked at both the clinic in Bella Vista and a related private clinic in Liverpool. In total, excluding the source, 10 cases were associated with this cluster including 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.

In the week ending 21 November, further public health investigations revealed that five closely linked cases detected in the Moss Vale area were linked to a previously reported case from the Liverpool private health clinic cluster. Whole genome sequencing of a sample of the virus collected from a case from Moss Vale matched with the private health clinic cluster.

These investigations also identified two people that linked the Moss Vale cases to the clinic cluster. However, due to the timing of the investigation, neither person recorded a positive COVID-19 PCR test or met the case definition, and are not included in the case numbers. Excluding the source, a healthcare worker that worked at both clinics, there are now 17 cases linked to this cluster.

### **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.

Table 5. Previously reported clusters with no new cases identified in the week ending 21 November 2020

Date cluster first identified	Cluster	Cases linked in the week ending 21 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

### **Clusters with no ongoing public health risk**

There have been no new cases associated with the Oran Park childcare centre cluster for more than four weeks. At least two incubation periods have passed since the last notified case and there is no ongoing public health risk. This cluster is now closed.

## **SECTION 5: COVID-19 IN SPECIFIC POPULATIONS**

### **COVID-19 in healthcare workers**

There have been no new COVID-19 cases in healthcare workers (HCWs) 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.

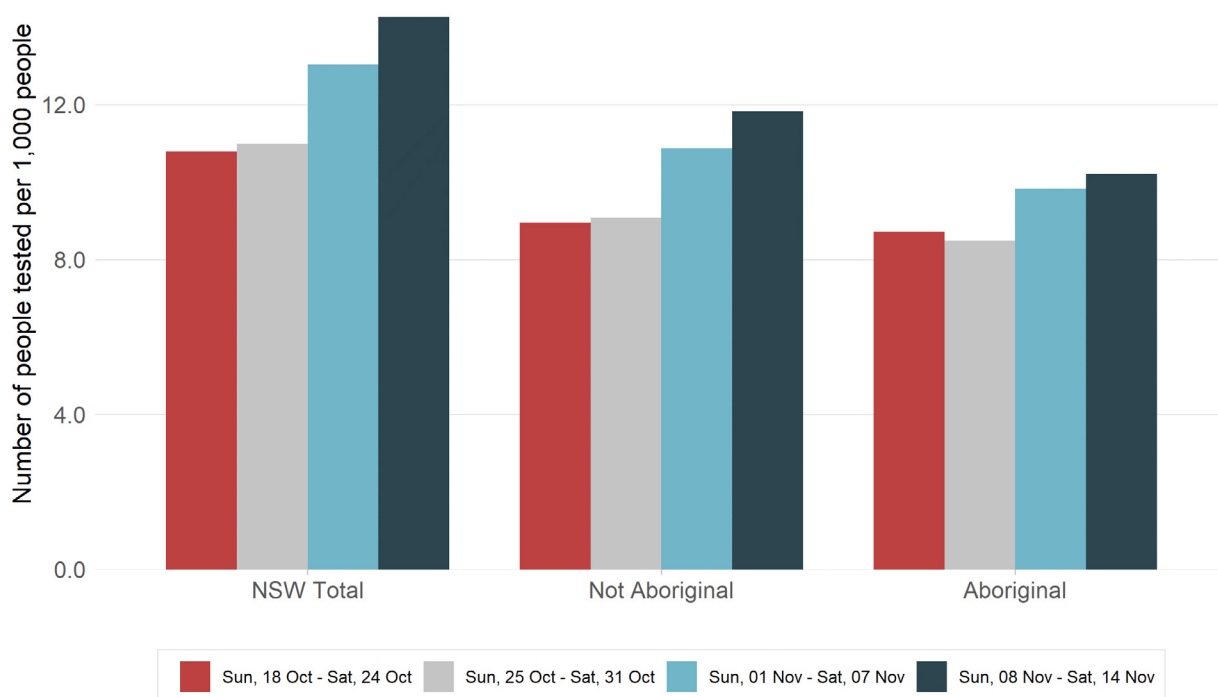
## Aboriginal people

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 21 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.

While Aboriginal status is collected by public health staff on interview with the case at the time of diagnosis, those who test negative are not interviewed. Aboriginal status for those tested can be ascertained through linkage with other health information systems but there is a delay in getting this information. Results of the most recent linkage are available for people tested up to 14 November 2020, with Aboriginal status ascertained for approximately 90% of all COVID-19 test records.

Figure 7. Testing Rate per 1,000 by Aboriginality and week, NSW



Note: NSW Total includes persons tested in NSW without Aboriginality recorded.

**Interpretation:** Testing rates increased in the week ending 14 November compared to previous weeks for Aboriginal and non-Aboriginal people.

## Pregnant women

There was one overseas-acquired case in a pregnant woman reported in the week ending 21 November. In total, 33 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	85	0%
5-11 years	0	81	0%
12-17 years	0	126	0%
18-29 years	0	984	0%
30-49 years	0	1354	0%
50-59 years	1	615	0.2%
60-69 years	4	581	0.7%
70-79 years	14	364	3.8%
80+ years	36	159	22.6%
<b>Total</b>	<b>55</b>	<b>4349</b>	<b>1.3%</b>

**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 21 November, 73 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were five detections – these samples were taken from the Liverpool, Bondi, North Head, Batemans Bay and Moss Vale treatment plants. The table below shows results for previous weeks from various sites across NSW.

Table 7. Locations with positive SARS-CoV-2 detections in sewage samples since September for the week ending 21 November 2020

Pop.	Sewage treatment plant	LHD	19	26	3	10	17	24	31	7	14	21
			Sep	Sep	Oct	Oct	Oct	Oct	Oct	Nov	Nov	Nov
			Week									
			38	39	40	41	42	43	44	45	46	47
60,514	Blue Mountains (Winmalee)	NBMLHD	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
4,681	North Richmond	NBMLHD	Green	Green	Red	Green	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	Green	Red	Red	Red	Red	Green	Green	Red
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	Green
	Malabar 2	S&SES&SWSLHD	Green	Green	Green	Green	Red	Green	Green	Green	Green	Green
181,005	Liverpool	SWSLHD	Green	Green	Red	Red	Red	Green	Red	Red	Red	Red
98,743	West Camden	SWSLHD	Green	Green	Red	Red	Red	Red	Red	Green	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	Red	Green	Green	Green	Green	Green
1,341,986	North Head	NS&WSLHD	Green	Red	Green	Green	Green	Green	Green	Green	Green	Red
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



			19 Sep	26 Sep	3 Oct	10 Oct	17 Oct	24 Oct	31 Oct	7 Nov	14 Nov	21 Nov
			Week									
Pop.	Sewage treatment plant	LHD	38	39	40	41	42	43	44	45	46	47
163,374	Quakers Hill	WSLHD										
119,309	Rouse Hill	WSLHD										
37,061	Riverstone	WSLHD										
163,147	St Marys	NBM&WSLHD										
73,686	Shellharbour	ISHLHD										
196,488	Wollongong	ISHLHD										
<b>Regional sites</b>												
14,700	Bowral	SWSLHD										
14,000	Mittagong	SWSLHD										
9,000	Moss Vale	SWSLHD										
1,000	Berrima	SWSLHD										
2,000	Bundanoon	SWSLHD										
900	Robertson	SWSLHD										
16,068	Bombo	ISHLHD										
32,000	Ulladulla	ISHLHD										
11,000	Culburra Beach	ISHLHD										
147,500	Gosford-Kincumber	CCLHD										
-	Wyong-Toukley	CCLHD										
	Bateau Bay	CCLHD										
	Woy Woy	CCLHD										
5,000	Perisher	M&SLHD										
8,400	Thredbo	M&SLHD										
3,000	Jindabyne	M&SLHD										
8,000	Cooma	M&SLHD										
500	Charlottes Pass	M&SLHD										
	Albury composite	M&SLHD										
51,750	Albury Kremer St	M&SLHD										
	Albury Waterview	M&SLHD										
22,419	Goulburn	M&SLHD										
21,000	Batemans Bay	M&SLHD										
8,000	Eden	M&SLHD										
15,500	Merimbula	M&SLHD										
5,000	Bermagui	M&SLHD										
7,800	Deniliquin	M&SLHD										
48,000	Queanbeyan	M&SLHD										
	Wagga Wagga composite	M&SLHD										
50,000	Wagga Wagga - inlet 1	M&SLHD										
	Wagga Wagga - inlet 2	M&SLHD										
	Wagga Wagga - Koorinal STP	M&SLHD										
2,050	Bourke	W&FWLHD										
36,603	Bathurst	W&FWLHD										
19,000	Broken Hill	W&FWLHD										

			19 Sep	26 Sep	3 Oct	10 Oct	17 Oct	24 Oct	31 Oct	7 Nov	14 Nov	21 Nov
			Week									
Pop.	Sewage treatment plant	LHD	38	39	40	41	42	43	44	45	46	47
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										
50,000	Coffs Harbour	N&MNCLHD										

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

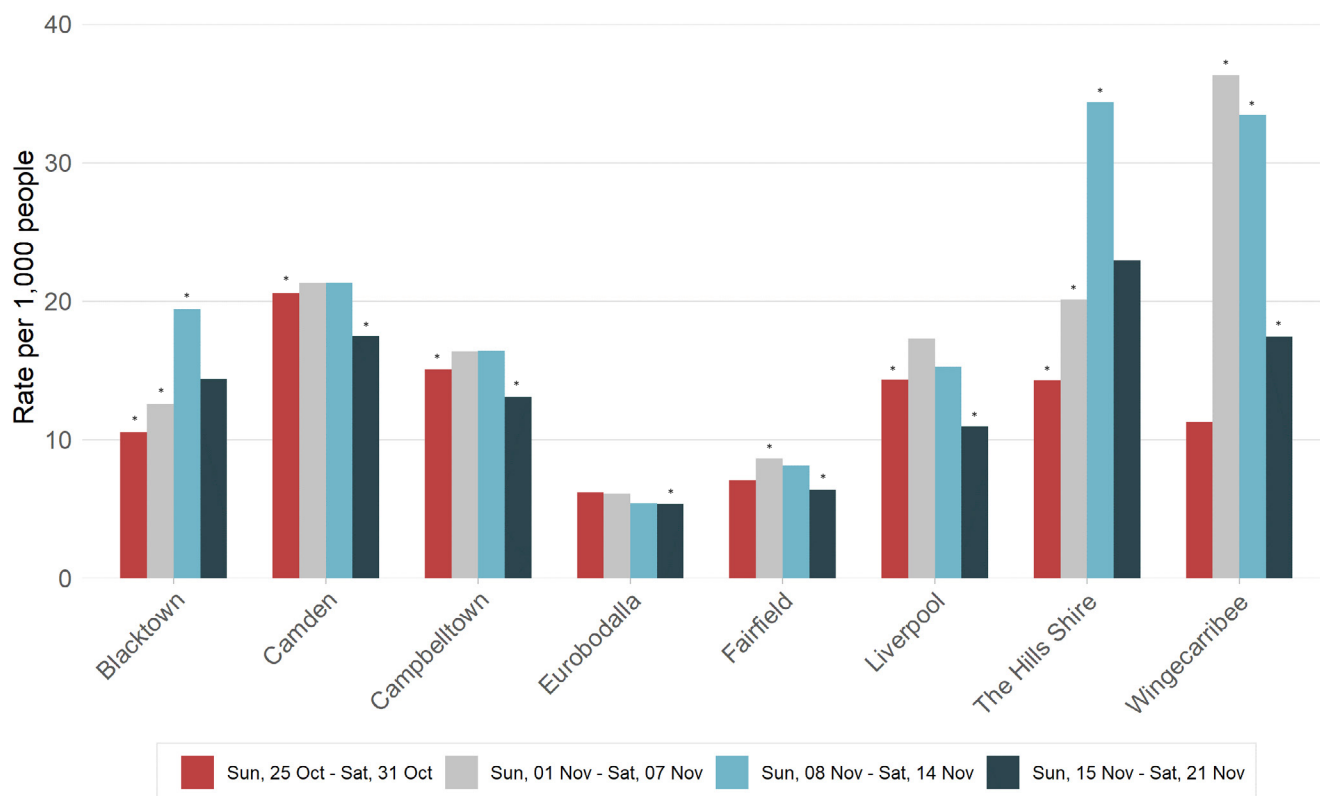
c composite of the separate influent samples  
 l result from another laboratory

**Interpretation:** In the last week there were five detections of SARS-CoV-2. The Bondi and North Head plants serve over 1.5 million people, including Sydney city and quarantine hotels, while the fragments detected in Liverpool, Moss Vale and Batemans Bay may be from previously identified cases in the 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 8. 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.

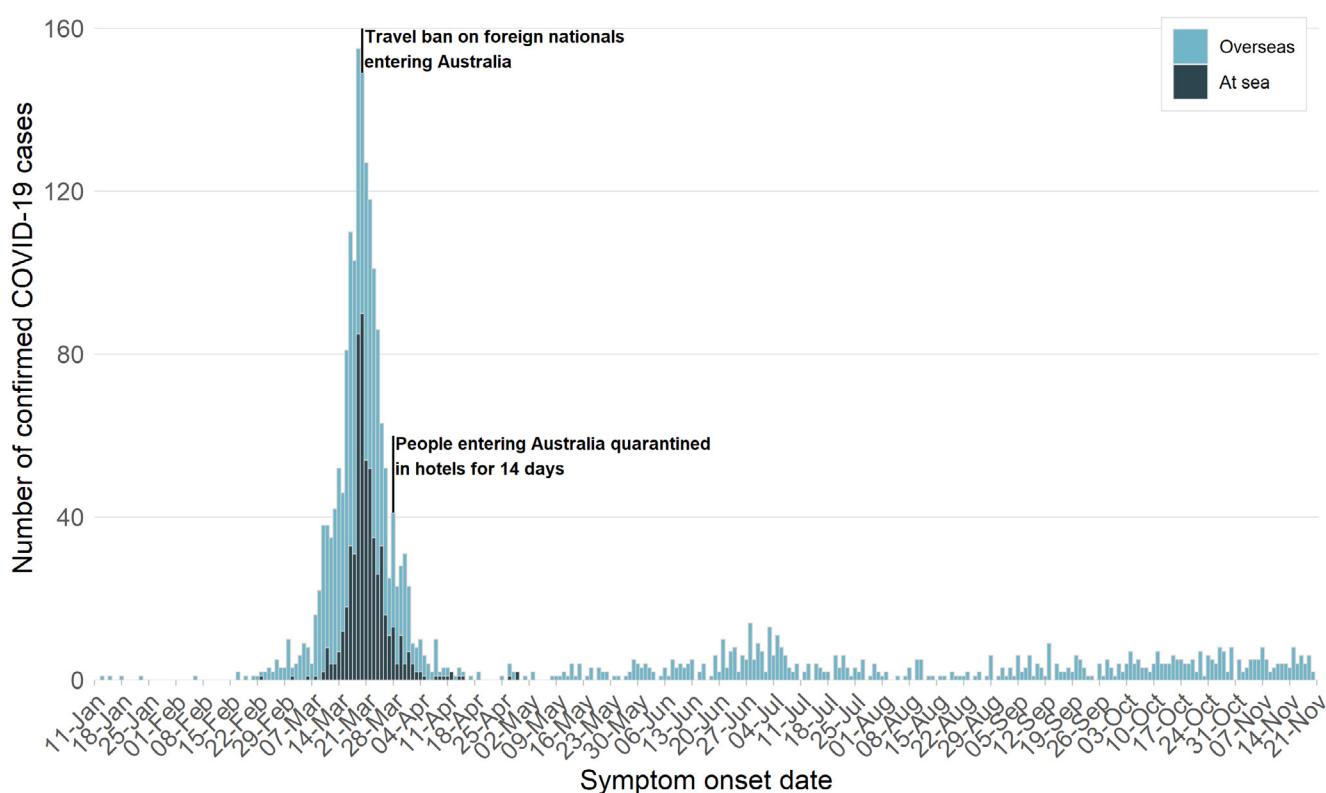
**Interpretation:** There has been a decrease in testing across all Local Government Areas (LGAs) that have had a recent case or sewage detection in the last four weeks. The recent detection in Batemans Bay, Eurobodalla LGA, prompted public health alerts to the local community to promote testing; the response to this alert will likely be reflected in next week’s testing numbers.

## 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 9. 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 41 overseas-acquired cases reported in the week ending 21 November, 21% more than the previous week.

### Country of acquisition of COVID-19 for overseas travellers

In the last four weeks there have been 138 COVID-positive travellers who have arrived in NSW. The table below lists the top 10 countries of origin for travellers diagnosed in NSW.

Table 8. Top 10 countries of acquisition for overseas travellers that have tested positive in the last four weeks

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
United States	24 (17%)
India	17 (12%)
United Kingdom	7 (5%)
Indonesia	6 (4%)
Turkey	6 (4%)
Afghanistan	5 (4%)
Bangladesh	5 (4%)
France	5 (4%)
Germany	5 (4%)
Iran	5 (4%)
Other	53 (38%)
<b>Total</b>	<b>138 (100%)</b>

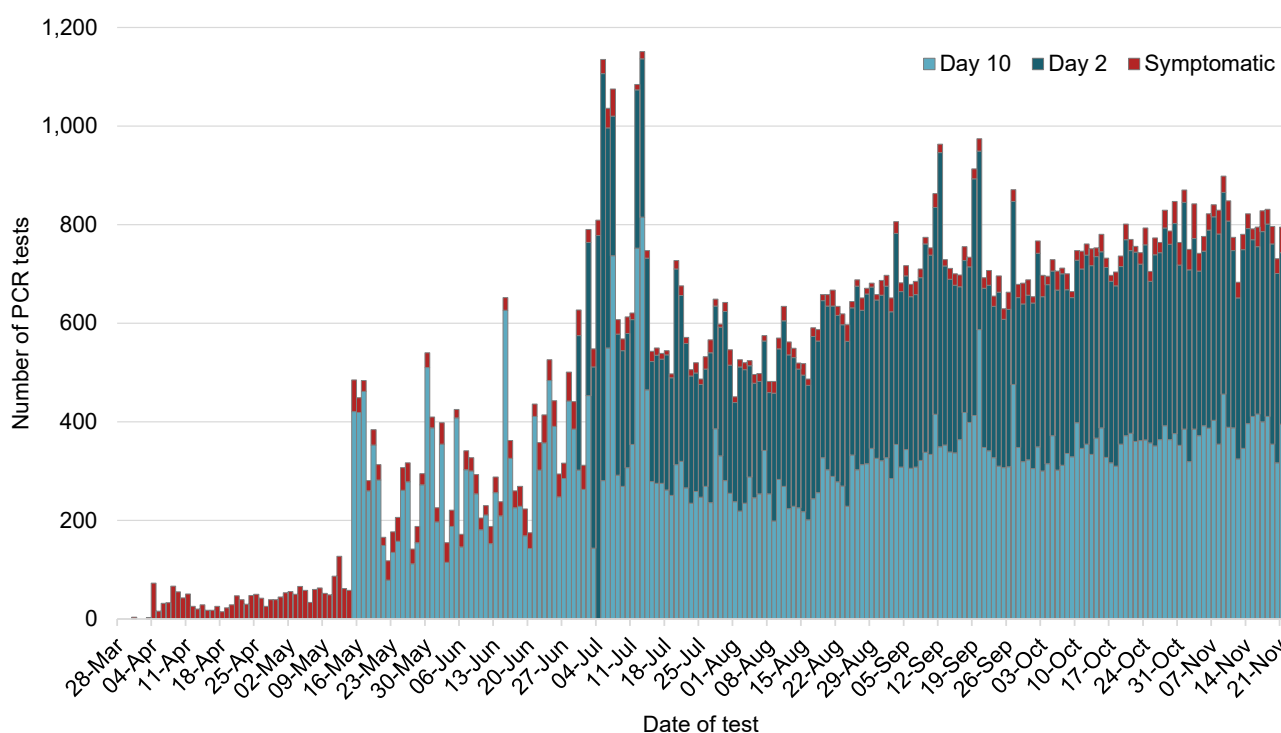
**Interpretation:** In the last four weeks, travellers returning from the United States accounted for the largest number of overseas-acquired infections (24; 17%), followed by travellers from India (17; 12%), and the United Kingdom (7; 5%).

### 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.

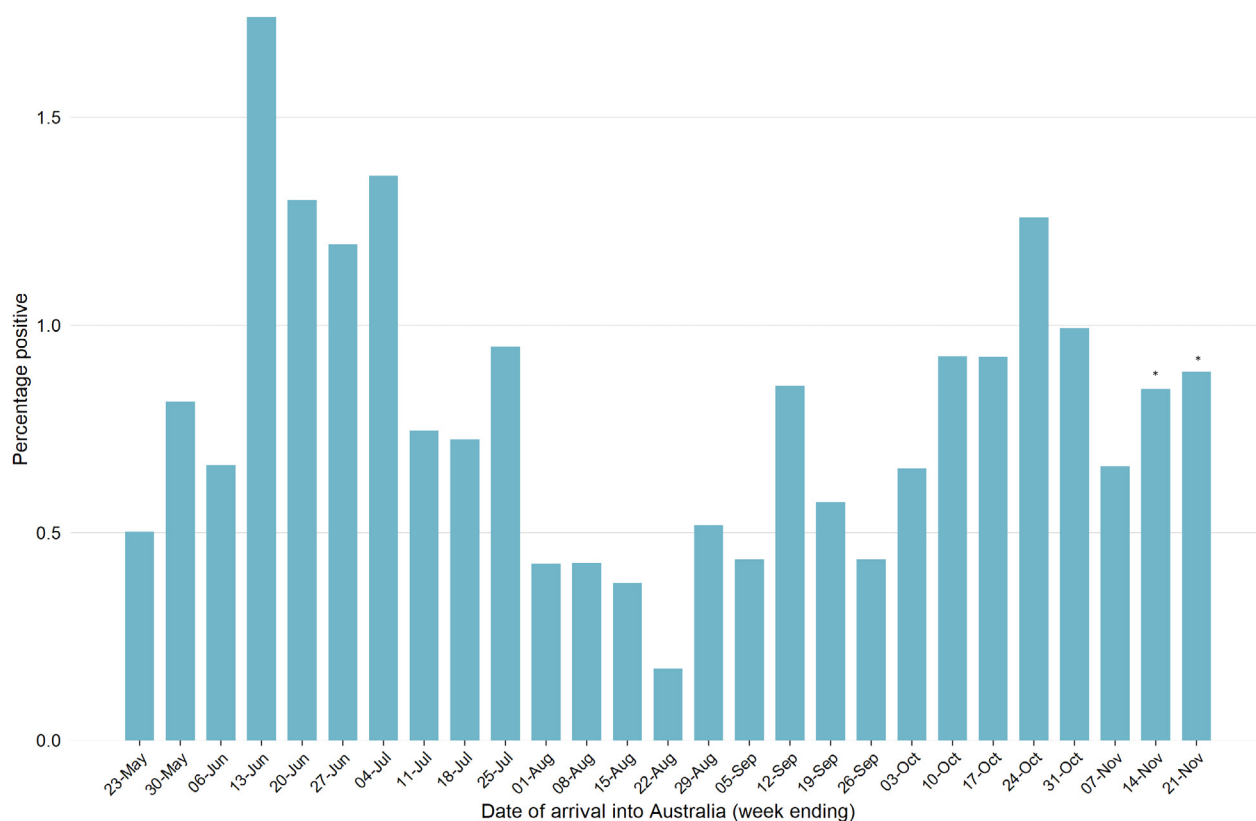
Since hotel quarantine began on 29 March, a total of 118,061 PCR tests have been conducted with 581 overseas-acquired cases and four interstate-acquired COVID-19 cases detected while in hotel quarantine.

Figure 10. COVID-19 testing in returned travellers in hotel quarantine, reported from 29 March to 21 November, NSW, 2020



**Interpretation:** In the week ending 21 November, there were 5,567 tests conducted through the hotel quarantine screening programs. Of these, 3% were screening tests for domestic travellers from Victoria.

Figure 11. COVID-19 percentage positive in returned travellers in hotel quarantine by week of arrival in Australia, reported from week ending 23 May to week ending 21 November, NSW, 2020



\*Returned travellers in the past 14 days are still in hotel quarantine and may return a positive result

**Interpretation:** Percentages are calculated by week of arrival in Australia. Data is likely incomplete for returned travellers who have arrived within the last two weeks as they are still in hotel quarantine. In the last four weeks the percentage positivity rate for overseas travellers in hotel quarantine was 0.9%.

## SECTION 9: OTHER RESPIRATORY INFECTIONS IN NSW

### Influenza and other respiratory virus cases and tests reported in NSW, up to 15 November 2020

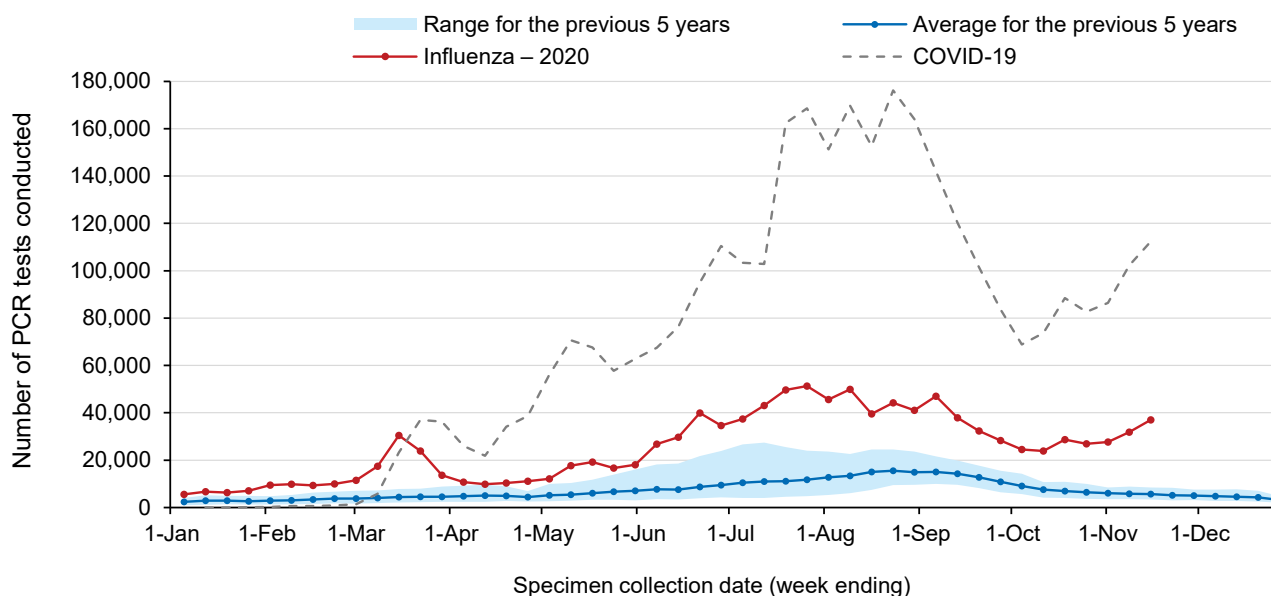
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 15 November. A total of 1,165,155 influenza tests have been performed at participating laboratories to 15 November, with 37,010 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 12. Testing for influenza and COVID-19 by week, to 15 November 2020



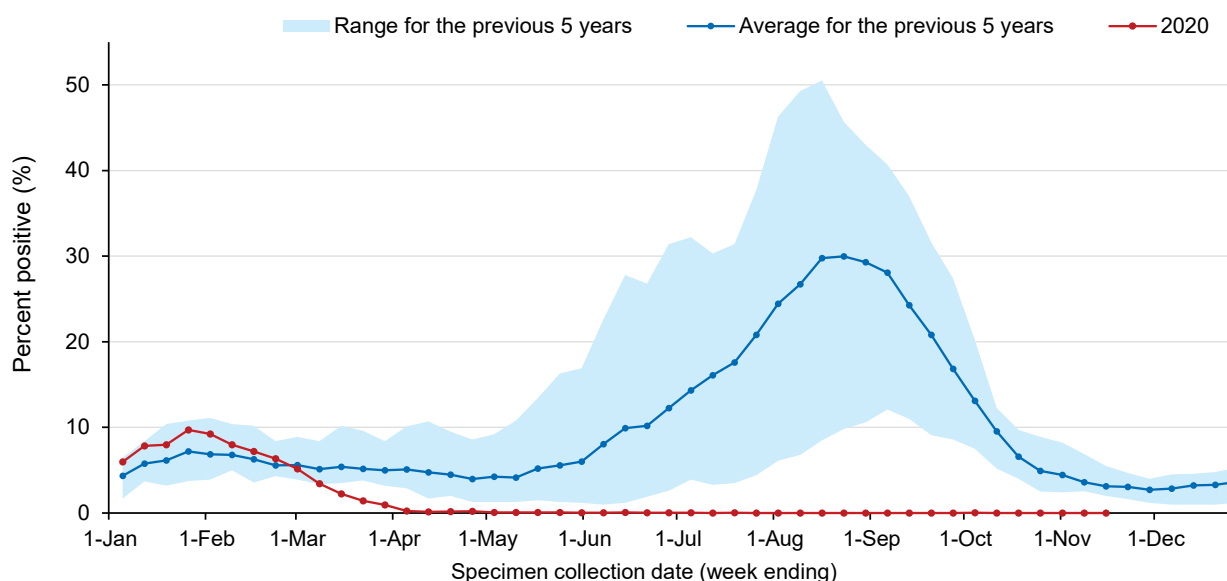
**Interpretation:** In every week this year, the number of influenza tests performed has exceeded the previous five-year average.



### 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.

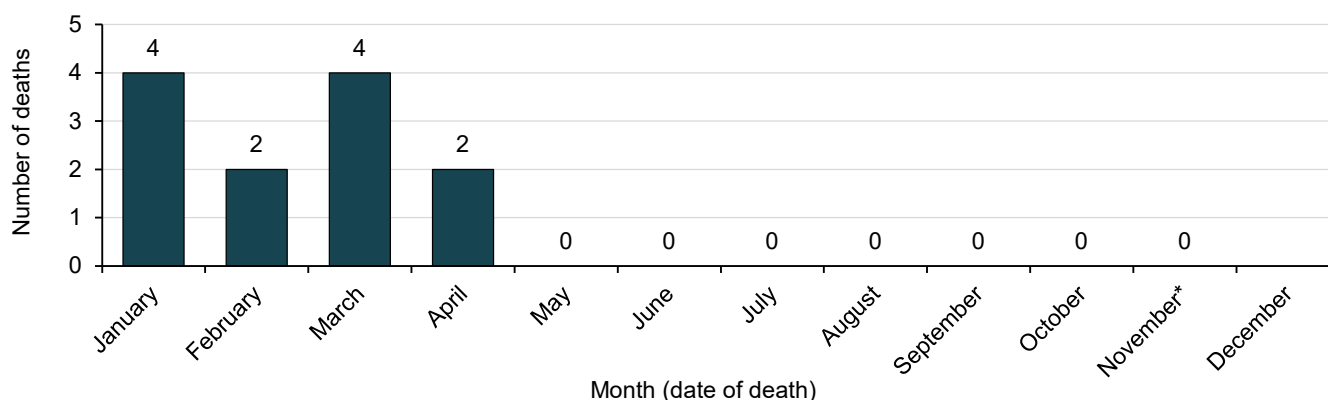
Figure 13. Proportion of tests positive for influenza, to 15 November 2020



**Interpretation:** In the week ending 15 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 14. Laboratory-confirmed influenza deaths by month of death, to 15 November 2020



Note: \*month to date.

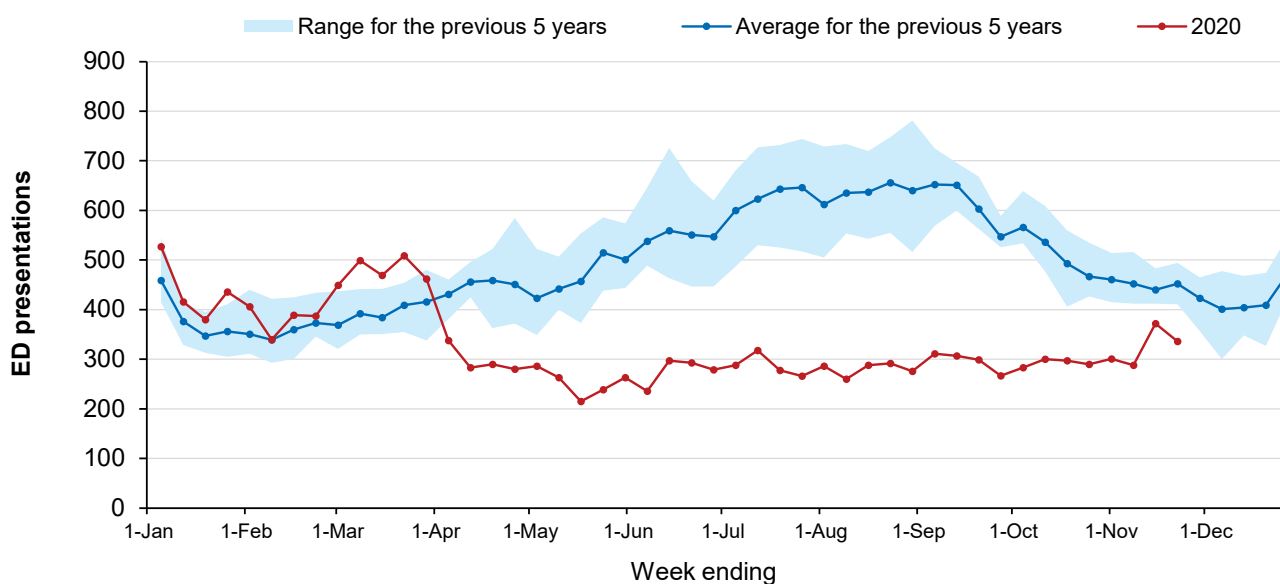
**Interpretation:** No influenza deaths have been reported in NSW since April 2020. The number of influenza-related deaths identified via coroner’s reports and death registrations from 1 January to 15 November 2020 is lower than the same period last year (12 deaths in 2020 compared with 325 in 2019).<sup>2</sup> Two-thirds of the deaths were in people aged 65 years and over.

<sup>2</sup> 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.<sup>3</sup> 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 15. Emergency Department pneumonia presentations in NSW by week, to 22 November 2020

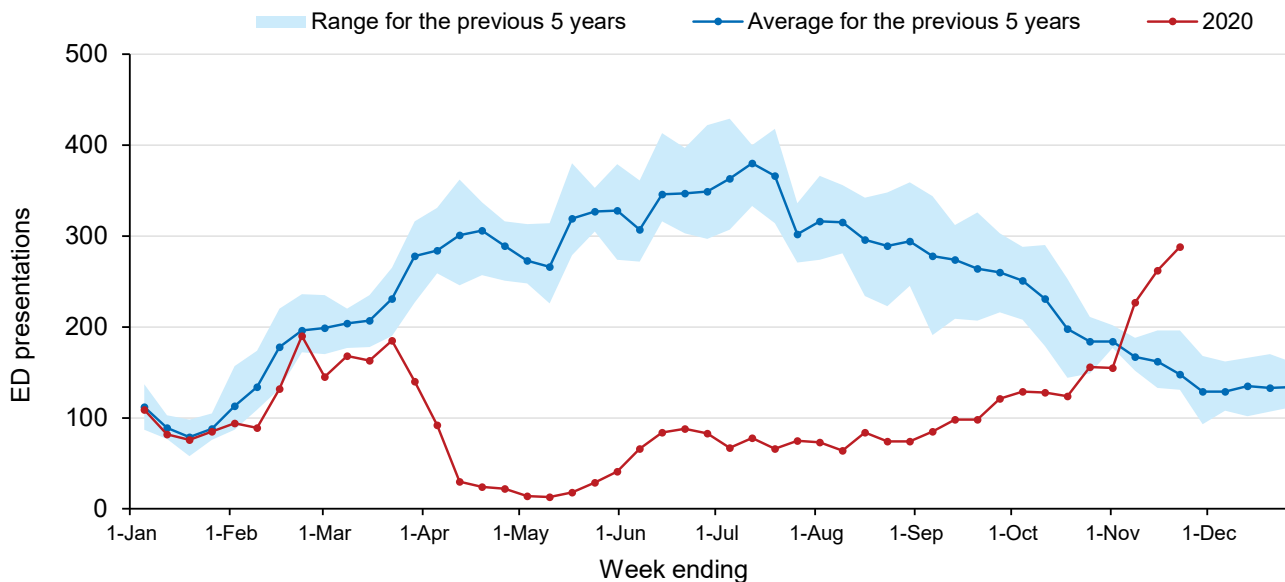


**Interpretation:** Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires’ disease, but excludes ‘pneumonia with influenza’ and provides an indicator of more severe respiratory conditions.

In the week ending 22 November, pneumonia presentations decreased and remain below the usual range for this time of year.

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

Figure 16. Emergency Department bronchiolitis presentations in NSW by week, to 22 November 2020



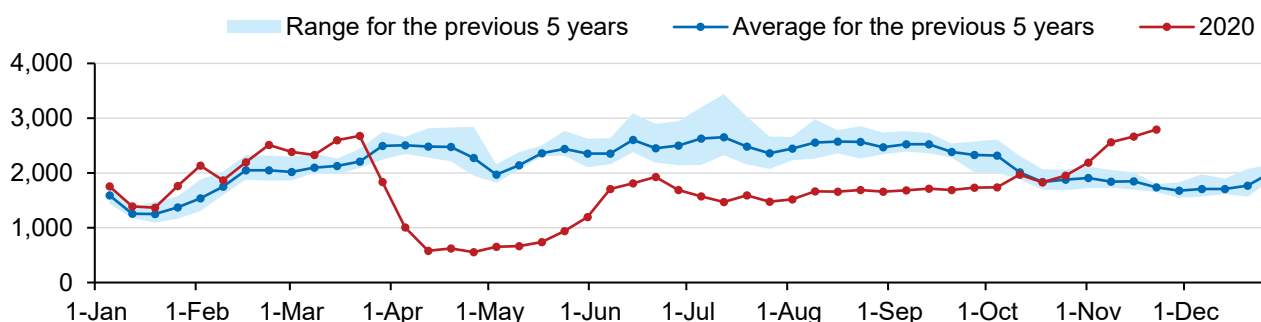
**Interpretation:** Bronchiolitis is a common disease of infants often caused by respiratory syncytial virus (RSV). Bronchiolitis presentations continue to increase above the usual five-year average range for November. This increase corresponds to an increase in RSV detections (see Appendix C).

### Respiratory infections in children aged 0–4 years

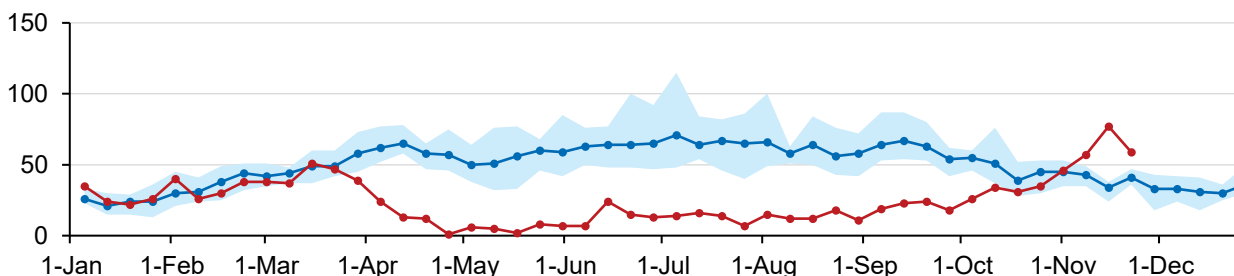
The figures below show weekly respiratory, pneumonia and bronchiolitis presentations to Emergency Departments in NSW for children under five, using PHREDSS data. Also shown are weekly laboratory notifications for respiratory syncytial virus (RSV) from laboratory sentinel surveillance.

Figure 17. Emergency Department presentations in children 0–4 years, for all respiratory problems/fever and unspecified infection, pneumonia and bronchiolitis in NSW by week to 22 November 2020

#### All respiratory problems/fever and unspecified infection - total



#### Pneumonia



#### Bronchiolitis

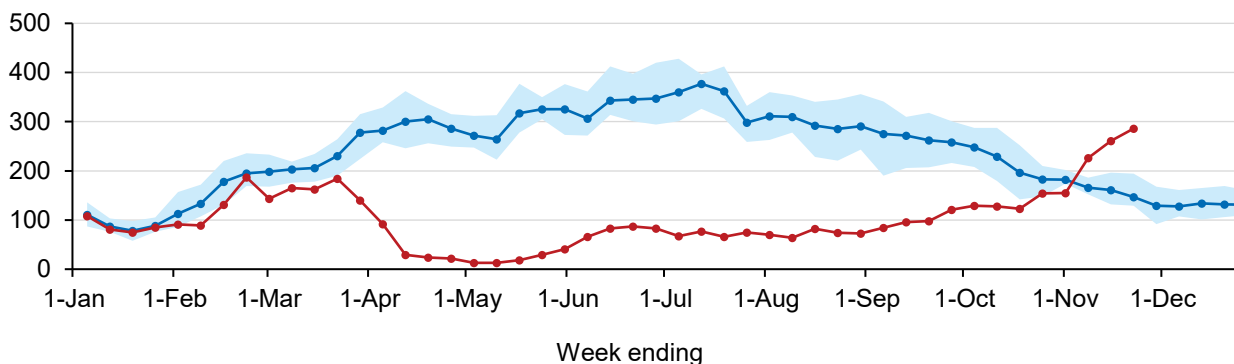
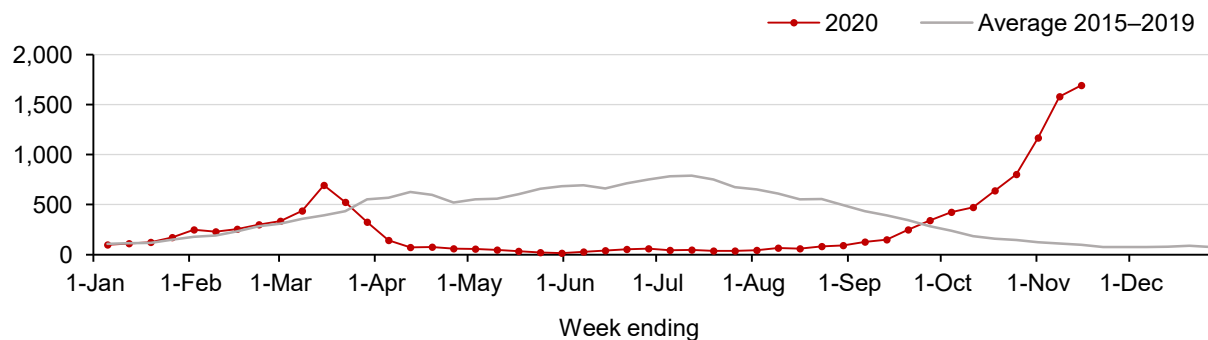


Figure 18. Number of positive PCR test results for all ages, for respiratory syncytial virus (RSV) at sentinel NSW laboratories, 1 January to 15 November 2020



**Interpretation:**

- Emergency presentations for any respiratory illness among those aged 0–4 years is steadily increasing and has been above the five-year mean since early November.
- Pneumonia presentations have increased in recent weeks, mainly driven by an increase in children aged 0–4 years. All other age groups have remained steady since late August. Overall, pneumonia presentations remain below the usual range for this time of year.
- RSV detections, across all age groups, have steadily increased and been above the five-year mean since early October. The age breakdown of RSV detections from sentinel NSW laboratories data was available for one lab; this showed that three-quarters of all detections were in children under 5, and 9 out of 10 were in children under 10. The previous three weeks have shown the steepest increase in reported cases. This corresponds to a sharp increase in emergency presentations for bronchiolitis, which has been above the usual range since early November.

**APPENDIX A: COVID-19 PCR TESTS IN NSW**

Local Health District	Local Government Area	Week ending				Total	
		21 November		14 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
<b>Central Coast</b>	Central Coast/LHD Total <sup>2</sup>	3619	10.3	3973	11.3	125131	354.6
<b>Far West</b>	Balranald	11	4.7	2	0.9	490	209.6
	Broken Hill	280	16.0	82	4.7	5006	286.4
	Central Darling	14	7.6	5	2.7	378	205.6
	Wentworth	66	9.4	42	6.0	2197	311.5
	LHD Total <sup>2</sup>	371	12.3	131	4.4	8071	267.8
<b>Hunter New England</b>	Armidale Regional	199	6.5	230	7.5	9477	307.9
	Cessnock	339	5.7	327	5.5	15429	257.2
	Dungog	36	3.8	71	7.5	2385	253.1
	Glen Innes Severn	27	3.0	26	2.9	1769	199.4
	Gunnedah	60	4.7	59	4.7	3171	250.1
	Gwydir	17	3.2	13	2.4	687	128.3
	Inverell	66	3.9	64	3.8	4059	240.3
	Lake Macquarie	2110	10.3	2137	10.4	83287	404.5
	Liverpool Plains	40	5.1	33	4.2	2043	258.5
	Maitland	871	10.2	1000	11.7	38117	447.6
	Mid-Coast	376	4.0	394	4.2	21965	234.1
	Moree Plains	30	2.3	58	4.4	2926	220.7
	Muswellbrook	76	4.6	105	6.4	4418	269.8
	Narrabri	37	2.8	34	2.6	2639	200.9
	Newcastle	1818	11.0	1946	11.8	82306	497.1
	Port Stephens	498	6.8	543	7.4	27688	376.8
	Singleton	180	7.7	216	9.2	9164	390.6
	Tamworth Regional	399	6.4	447	7.2	21451	343.0
	Tenterfield	15	2.3	17	2.6	1056	160.2
	Upper Hunter Shire	89	6.3	84	5.9	3948	278.4
Uralla	34	5.7	22	3.7	1210	201.3	
Walcha	13	4.2	32	10.2	887	283.0	
LHD Total <sup>2</sup>	7327	7.7	7853	8.3	339804	356.8	
<b>Illawarra Shoalhaven</b>	Kiama	266	11.4	319	13.6	9239	395.1
	Shellharbour	776	10.6	848	11.6	28692	391.8
	Shoalhaven	771	7.3	867	8.2	32325	306.0
	Wollongong	2344	10.8	2634	12.1	77286	354.3
	LHD Total <sup>2</sup>	4157	9.9	4668	11.1	147542	351.6
<b>Mid North Coast</b>	Bellingen	92	7.1	101	7.8	3477	267.5
	Coffs Harbour	412	5.3	425	5.5	19089	247.0
	Kempsey	167	5.6	171	5.8	8566	288.0
	Nambucca	118	6.0	71	3.6	4633	233.9
	Port Macquarie-Hastings	575	6.8	633	7.5	24353	288.1
	LHD Total <sup>2</sup>	1364	6.0	1401	6.2	60118	266.4

Local Health District	Local Government Area	Week ending				Total	
		21 November		14 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Murrumbidgee	Albury	432	8.0	421	7.8	16457	302.8
	Berrigan	30	3.4	48	5.5	1926	220.1
	Bland	24	4.0	23	3.9	1467	245.7
	Carrathool	12	4.3	14	5.0	327	116.8
	Coolamon	22	5.1	24	5.5	1177	271.1
	Cootamundra-Gundagai Regional	69	6.1	70	6.2	2763	245.9
	Edward River	37	4.1	48	5.3	2514	276.8
	Federation	59	4.7	62	5.0	2729	219.4
	Greater Hume Shire	54	5.0	76	7.1	3030	281.5
	Griffith	193	7.1	204	7.6	8057	298.1
	Hay	13	4.4	10	3.4	509	172.6
	Hilltops	113	6.0	128	6.8	4934	263.8
	Junee	18	2.7	18	2.7	1168	174.8
	Lachlan <sup>1</sup>	9	1.5	18	3.0	899	148.0
	Leeton	66	5.8	75	6.6	2467	215.6
	Lockhart	15	4.6	14	4.3	746	227.1
	Murray River	13	1.1	10	0.8	777	64.1
	Murrumbidgee	13	3.3	11	2.8	746	190.5
	Narrandera	17	2.9	20	3.4	1051	178.2
	Snowy Valleys	76	5.3	64	4.4	4057	280.2
	Temora	14	2.2	33	5.2	1221	193.6
Wagga Wagga	510	7.8	546	8.4	23505	360.2	
LHD Total <sup>2</sup>	1805	6.1	1928	6.5	81931	274.8	
Nepean Blue Mountains	Blue Mountains	1201	15.2	1270	16.1	40766	515.3
	Hawkesbury	846	12.6	1015	15.1	29221	434.2
	Lithgow	164	7.6	166	7.7	6172	285.7
	Penrith	2695	12.7	2973	14.0	102123	479.5
	LHD Total <sup>2</sup>	4877	12.5	5386	13.8	176852	452.3
Northern NSW	Ballina	230	5.2	270	6.1	13307	298.2
	Byron	313	8.9	331	9.4	12544	357.6
	Clarence Valley	226	4.4	255	4.9	10630	205.8
	Kyogle	40	4.6	50	5.7	1695	192.7
	Lismore	296	6.8	351	8.0	13939	319.0
	Richmond Valley	109	4.7	122	5.2	6412	273.3
	Tenterfield	15	2.3	17	2.6	1056	160.2
	Tweed	480	5.0	521	5.4	23008	237.2
LHD Total <sup>2</sup>	1697	5.5	1905	6.1	81799	263.6	

Local Health District	Local Government Area	Week ending				Total	
		21 November		14 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Northern Sydney	Hornsby	2025	13.3	2286	15.0	56725	373.1
	Hunters Hill	393	26.2	462	30.8	13170	879.2
	Ku-ring-gai	2472	19.4	2989	23.5	70272	552.7
	Lane Cove	1179	29.4	1306	32.5	36261	903.0
	Mosman	472	15.2	533	17.2	14118	455.7
	North Sydney	825	11.0	900	12.0	26567	354.1
	Northern Beaches	3811	13.9	4352	15.9	113780	416.0
	Parramatta <sup>1</sup>	3035	11.8	3736	14.5	87534	340.3
	Ryde	1764	13.4	2132	16.2	51407	391.6
	Willoughby	987	12.2	1143	14.1	27654	340.6
	LHD Total <sup>2</sup>	14571	15.2	16918	17.7	426675	446.4
South Eastern Sydney	Bayside	1754	9.8	2006	11.2	58767	329.4
	Georges River	1463	9.2	1690	10.6	50925	319.3
	Randwick	2264	14.6	2532	16.3	80495	517.2
	Sutherland Shire	3273	14.2	3650	15.8	108596	470.9
	Sydney <sup>1</sup>	3750	15.2	3868	15.7	123777	502.5
	Waverley	1211	16.3	1324	17.8	45590	613.6
	Woollahra	979	16.5	1192	20.1	37604	633.2
	LHD Total <sup>2</sup>	12441	13.0	13869	14.5	427197	445.4
South Western Sydney	Camden	1774	17.5	2167	21.4	62995	621.0
	Campbelltown	2242	13.1	2805	16.4	83524	488.6
	Canterbury-Bankstown <sup>1</sup>	3394	9.0	3994	10.6	132588	350.8
	Fairfield	1356	6.4	1721	8.1	67469	318.7
	Liverpool	2491	11.0	3476	15.3	103492	454.7
	Wingecarribee	892	17.4	1712	33.5	25599	500.6
	Wollondilly	488	9.2	630	11.9	18126	341.0
	LHD Total <sup>2</sup>	10880	10.5	14512	14.0	427442	411.6
Southern NSW	Bega Valley	202	5.9	227	6.6	8874	257.4
	Eurobodalla	207	5.4	209	5.4	14420	374.8
	Goulburn Mulwaree	290	9.3	347	11.2	9638	309.6
	Queanbeyan-Palerang Regional	353	5.8	350	5.7	13196	216.0
	Snowy Monaro Regional	114	5.5	139	6.7	5690	273.6
	Upper Lachlan Shire	52	6.5	56	7.0	2041	253.3
	Yass Valley	67	3.9	68	4.0	3163	185.1
	LHD Total <sup>2</sup>	1286	5.9	1396	6.4	57050	262.8
Sydney	Burwood	331	8.2	349	8.6	10890	268.2
	Canada Bay	1303	13.6	1439	15.0	44523	463.4
	Canterbury-Bankstown <sup>1</sup>	3394	9.0	3994	10.6	132588	350.8
	Inner West	2797	13.9	3303	16.5	105968	527.7
	Strathfield	578	12.3	653	13.9	20360	433.9
	Sydney <sup>1</sup>	3750	15.2	3868	15.7	123777	502.5
LHD Total <sup>2</sup>	8965	12.9	10088	14.5	325176	466.7	



Local Health District	Local Government Area	Week ending				Total	
		21 November		14 November		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Western NSW	Bathurst Regional	435	10.0	490	11.2	16615	380.9
	Blayney	58	7.9	62	8.4	2683	363.6
	Bogan	15	5.8	15	5.8	569	220.5
	Bourke	12	4.6	5	1.9	440	169.9
	Brewarrina	6	3.7	4	2.5	287	178.2
	Cabonne	63	4.6	64	4.7	2678	196.4
	Cobar	23	4.9	30	6.4	871	187.0
	Coonamble	6	1.5	12	3.0	808	204.1
	Cowra	67	5.3	78	6.1	2936	230.4
	Dubbo Regional	331	6.2	464	8.6	15810	294.3
	Forbes	28	2.8	43	4.3	1885	190.3
	Gilgandra	13	3.1	17	4.0	837	197.5
	Lachlan <sup>1</sup>	9	1.5	18	3.0	899	148.0
	Mid-Western Regional	178	7.1	180	7.1	7110	281.6
	Narromine	28	4.3	48	7.4	1489	228.5
	Oberon	56	10.4	41	7.6	1524	281.7
	Orange	412	9.7	432	10.2	17256	406.5
	Parkes	73	4.9	57	3.8	3648	245.9
	Walgett	12	2.0	17	2.9	1460	245.3
	Warren	19	7.0	23	8.5	1132	419.7
Warrumbungle Shire	53	5.7	46	5.0	2389	257.5	
Weddin	10	2.8	10	2.8	719	199.0	
LHD Total <sup>2</sup>	1906	6.7	2147	7.5	83778	294.0	
Western Sydney	Blacktown	5396	14.4	7273	19.4	155440	415.1
	Cumberland	2524	10.5	2921	12.1	90134	373.2
	Parramatta <sup>1</sup>	3035	11.8	3736	14.5	87534	340.3
	The Hills Shire	4092	23.0	6118	34.4	97829	549.7
	LHD Total <sup>2</sup>	14488	13.8	19313	18.3	417174	396.0
<b>NSW Total<sup>3</sup></b>		<b>98,651</b>	<b>12.2</b>	<b>113,346</b>	<b>14.0</b>	<b>3,394,209</b>	<b>419.6</b>

<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 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 15 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.						
<b>1 Jan–15 Nov 2020</b>											
Total	1,165,155	6,627	0.57%	954	0.08%	8,153	9,097	12,705	129,571	2,167	5,566
<b>Month ending</b>											
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
<b>Week ending</b>											
8 November	31,883	1	0.00%	2	0.01%	146	3	1,580	2,034	26	318
15 November	37,010	3	0.01%	0	0.00%	204	7	1,693	2,523	49	253

**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

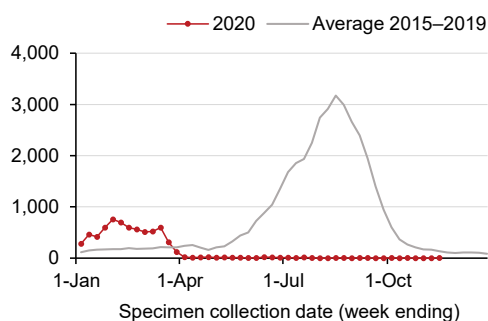
RSV - Respiratory syncytial virus

\*Five-week period

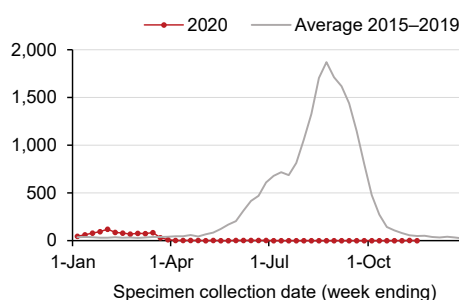
## APPENDIX C: NUMBER OF POSITIVE PCR TEST RESULTS FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES AT SENTINEL NSW LABORATORIES, 1 JANUARY TO 15 NOVEMBER 2020

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.

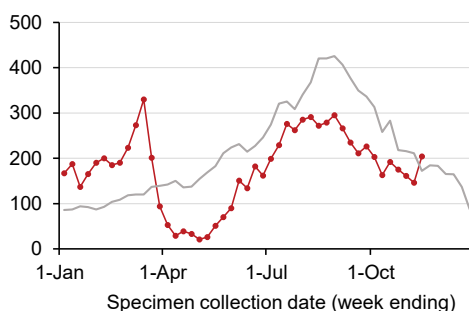
**Influenza A**



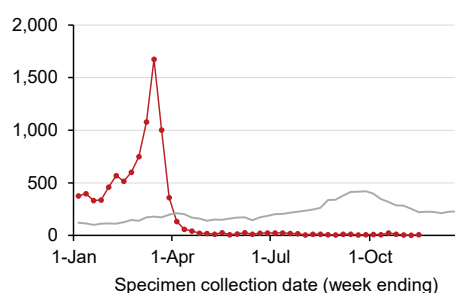
**Influenza B**



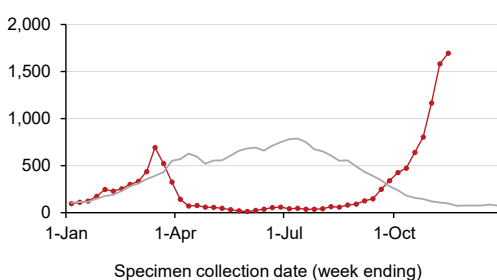
**Adenovirus**



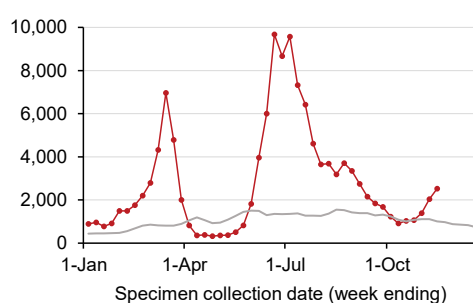
**Parainfluenza**



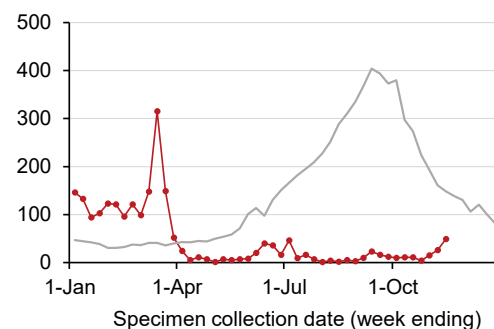
**Respiratory syncytial virus (RSV)**



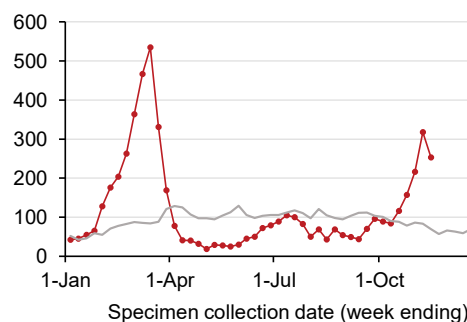
**Rhinovirus**



**Human metapneumovirus (HMPV)**



**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"> <li>- NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and</li> <li>- interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis.</li> </ul>
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>