

COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 34, ENDING 22 AUGUST 2020

Published 27 August 2020

SUMMARY FOR THE WEEK ENDING 22 AUGUST

- The number of locally-acquired COVID-19 cases in NSW decreased this week, most of which have been linked to new or known clusters.
- Investigations to date have been unable to link five cases reported this week with known cases or clusters.
- Two new small clusters have been identified in a quarantine hotel in Sydney and at Hornsby Hospital. An additional cluster has emerged at Liverpool Hospital.
- Overall testing rates have increased this week (up 12%), however almost half of the locally-acquired cases had a test more than three days from symptom onset.
- High rates of testing and low case numbers indicate low levels of transmission in the community.
- All people are reminded of the need to **isolate and seek testing as soon as any symptoms develop**, to limit spread to other people.

SECTION 1: PREVENTING THE SPREAD OF COVID-19 – WE ALL PLAY A ROLE

Everyone has an important role to play to prevent the spread of COVID-19. For the public health response to be effective, members of the community, laboratories, clinicians and public health staff all have to play their part.

The sooner we can diagnose cases, the faster we can identify other people who may have been infected, and the better we can limit the spread of infection across our community.

The roles we all play are outlined below.

Everyone

- Seek medical attention and get tested quickly every time you develop respiratory symptoms (even if mild) or unexplained fever.
- Stay at home to avoid spreading infection to others as soon as you:
 - develop symptoms and until you are told that you do not have COVID-19 and you are well
 - are told that you are a close contact of a COVID-19 case and until your quarantine period has ended (even if you test negative before then).
- Follow the advice given in public health alerts regarding the need to self-isolate and seek testing if you attended a location at a time where a cluster has been identified.

People who are diagnosed with COVID-19

- Provide information to public health staff at the time of interview on the locations visited and people you have been in contact with in your **incubation period** and while infectious.
- Stay at home until you are told your isolation period has ended.

Clinicians

- Promote COVID-19 testing amongst symptomatic people to ensure a COVID-19 diagnosis as close as possible to the time symptoms start.
- Encourage testing in people without symptoms when advised to do so for public health purposes.
- Support cases to self-isolate until their isolation period has ended.

Laboratories

- Notify NSW Health of new diagnoses promptly so public health staff can interview cases and identify people potentially infected by a case (close contacts).

Public health staff

- Interview cases as quickly as possible after diagnosis and collect information from cases to detect new clusters and enable contact tracing.
- Quarantine close contacts as quickly as possible.

Here is a snapshot of our locally-acquired cases to show how effective we've been in preventing the spread of COVID-19 in NSW in the past two weeks:

	Measure	Week of reporting	
		Week ending 22 August	Week ending 15 August
Cases with no links to known case or cluster	Proportion tested (swabbed) within:		
	• 1 day of symptom onset	0% (0/4)	40% (2/5)
	• 2 days of symptom onset	0% (0/4)	40% (2/5)
	• 3 days of symptom onset	25% (1/4)	60% (3/5)
	Proportion tested more than 3 days after symptom onset	75% (3/5)	40% (2/5)
	Proportion who entered isolation within:		
	• 1 day of symptom onset	0% (0/4)	60% (3/5)
	• 2 days of symptom onset	0% (0/4)	60% (3/5)
Cases linked to known case or cluster	• 3 days of symptom onset	25% (1/4)	60% (3/5)
	Proportion who entered isolation more than 3 days after symptom onset	75% (3/4)	40% (2/5)
	Proportion tested (swabbed) within:		
	• 1 day of symptom onset	36% (5/14)	37% (19/52)
	• 2 days of symptom onset	50% (7/14)	52% (27/52)
	• 3 days of symptom onset	57% (8/14)	67% (35/52)
	Proportion tested more than 3 days after symptom onset	43% (6/14)	33% (17/52)
	Proportion who entered isolation within:		
	• 1 day of symptom onset	57% (8/14)	50% (26/52)
	• 2 days of symptom onset	64% (9/14)	65% (34/52)
	• 3 days of symptom onset	64% (9/14)	75% (39/52)
	Proportion who entered isolation more than 3 days after symptom onset	36% (5/14)	25% (13/52)
	Number of tests conducted	169,123	149,801
	Proportion notified to NSW Health by the laboratory within:		
	• 1 day of swab collection	79% (19/24)	77% (53/69)
	• 2 days of swab collection	100% (24/24)	99% (68/69)
	• 3 days of swab collection	100% (24/24)	99% (68/69)
	Proportion notified to NSW Health by the laboratory more than 3 days after the swab collection	0% (0/24)	1% (1/69)
	Proportion of locally-acquired cases interviewed by public health staff within 1 day of notification to NSW Health	100% (24/24)	100% (66/66)

Interpretation: Only one of the four cases with no links to known clusters or cases sought testing and isolated within three days of developing symptoms. Furthermore, almost half of the cases linked to a known case or cluster were tested more than three days after symptom onset and 36% of these cases isolated more than three days after symptom onset. All people are reminded of the need to isolate and seek testing as soon as any symptoms develop, to limit spread to other people.

Despite the high volume of testing, the time taken to notify cases remains stable with most new cases in the week ending 22 August notified to NSW Health within two days of swab collection. One case was notified more than three days after the swab collection, however, NSW Health was notified of a preliminary result so public health action was undertaken prior to confirmation of the final diagnosis. Public health staff are responding quickly, with all cases interviewed within one day of notification.

SECTION 2: HOW IS THE OUTBREAK TRACKING IN NSW?

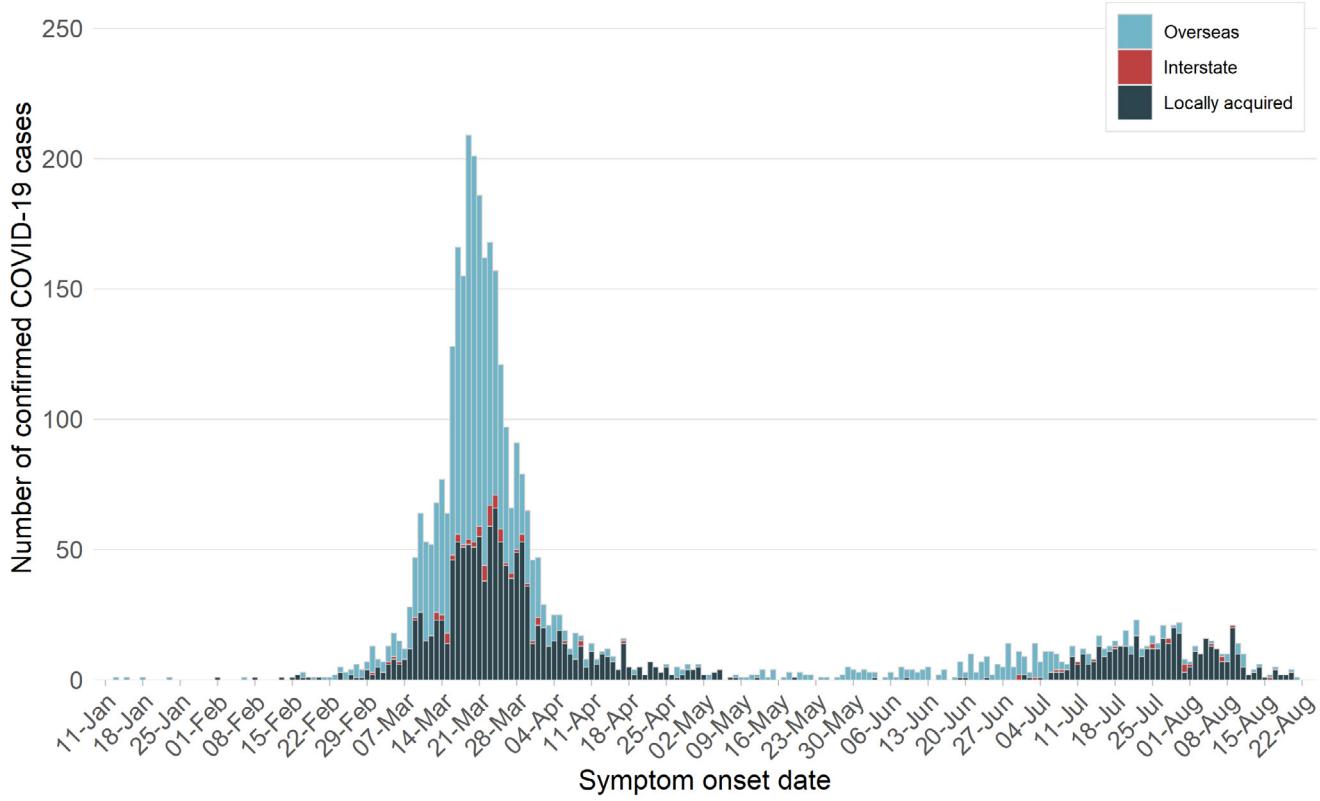
Table 1. COVID-19 cases and tests reported in NSW, up to 22 August 2020

	Week ending 22 August	Week ending 15 August	% change	Total to 22 August
Number of cases	32	86	↓ 63%	3,796
Overseas acquired	7	14	↓ 50%	2,061
Interstate acquired	1	3	↓ 67%	89
Locally acquired	24	69	↓ 66%	1,646
Number of deaths	0	2		54
Number of tests	169,123	149,801	↑ 13%	2,022,539

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: Approximately 54% of COVID-19 infections diagnosed in NSW to 22 August have been **overseas acquired** and the remaining 46% have been **locally acquired**. The number of new cases diagnosed in NSW decreased significantly following a peak in mid-March. The increase in overseas-acquired cases during June was largely due to a program of screening all overseas travellers two days and 10 days after arrival in NSW. In recent weeks, the number of overseas-acquired cases has decreased.

How many NSW cases were infected in Victoria?

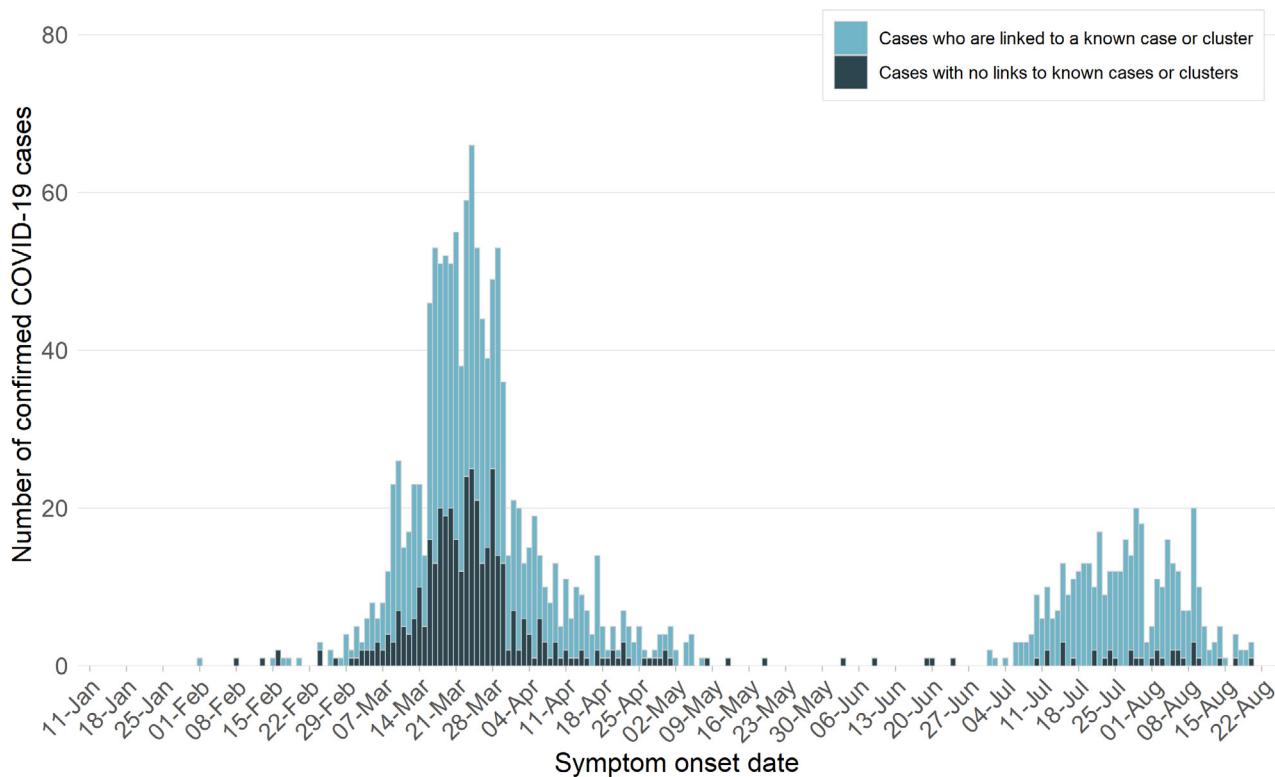
In response to the continued community transmission in Victoria, border measures have been introduced to limit the spread of infection into NSW. From 8 July, under the Public Health (COVID-19 Border Control) Order 2020, a person who has been in Victoria within the last 14 days must not travel to NSW. This was updated on 22 July to further restrict travel to NSW from Victoria and redefine border zone residents. Exceptions are only given in very limited circumstances and those authorised to enter NSW from Victoria must self-isolate for 14 days from arrival in NSW.

In the week ending 22 August, one person who acquired their infection in Victoria was confirmed to have COVID-19. This case entered hotel quarantine upon arrival in NSW.

How much transmission is occurring in NSW?

All new cases are investigated by public health staff to determine the likely source of infection and identify **clusters**. 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. Currently, public health efforts are focussed on contact tracing to limit further spread in the community, and identifying the source of infection for every case.

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



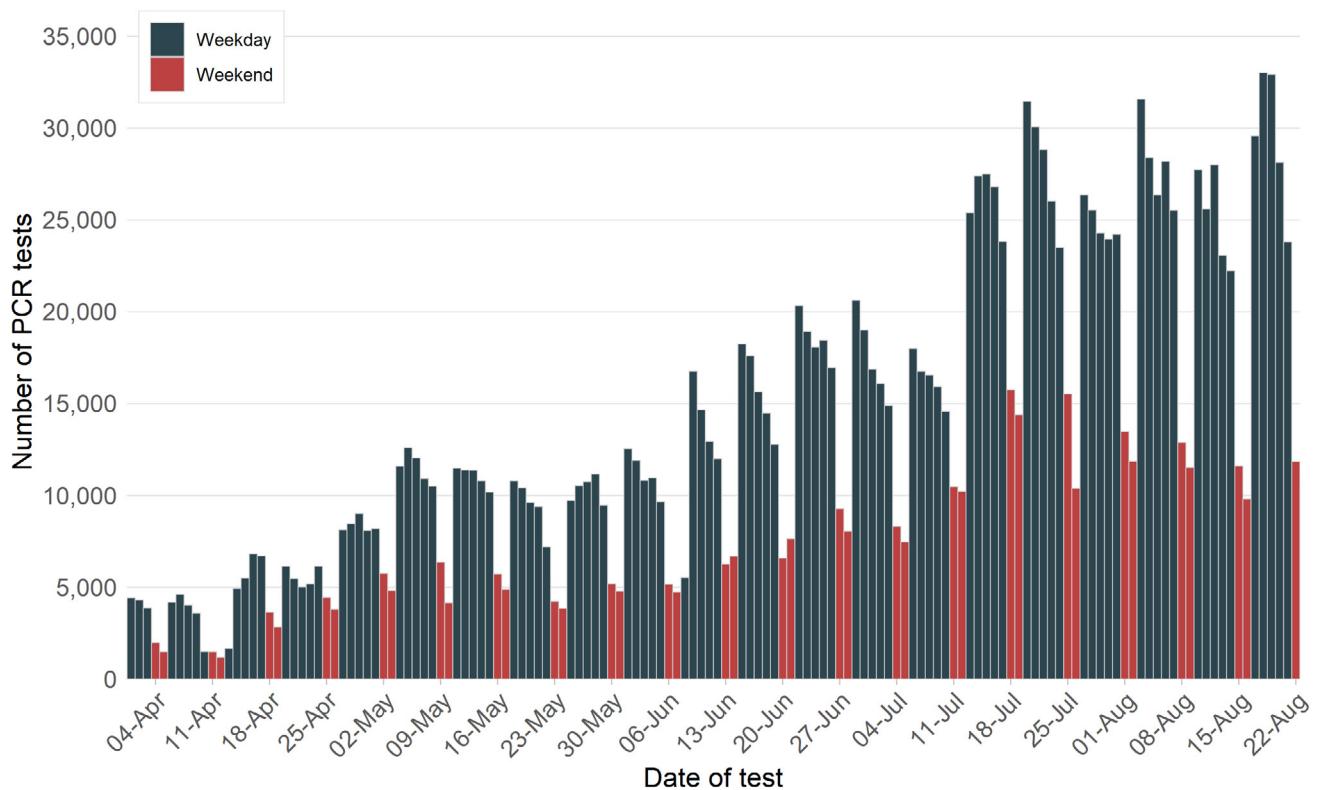
The date of the first positive test is used for cases who did not report symptoms.

Interpretation: Of the locally-acquired cases with an onset in the last four weeks, 96% (200/208) were linked to known cases or clusters.

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

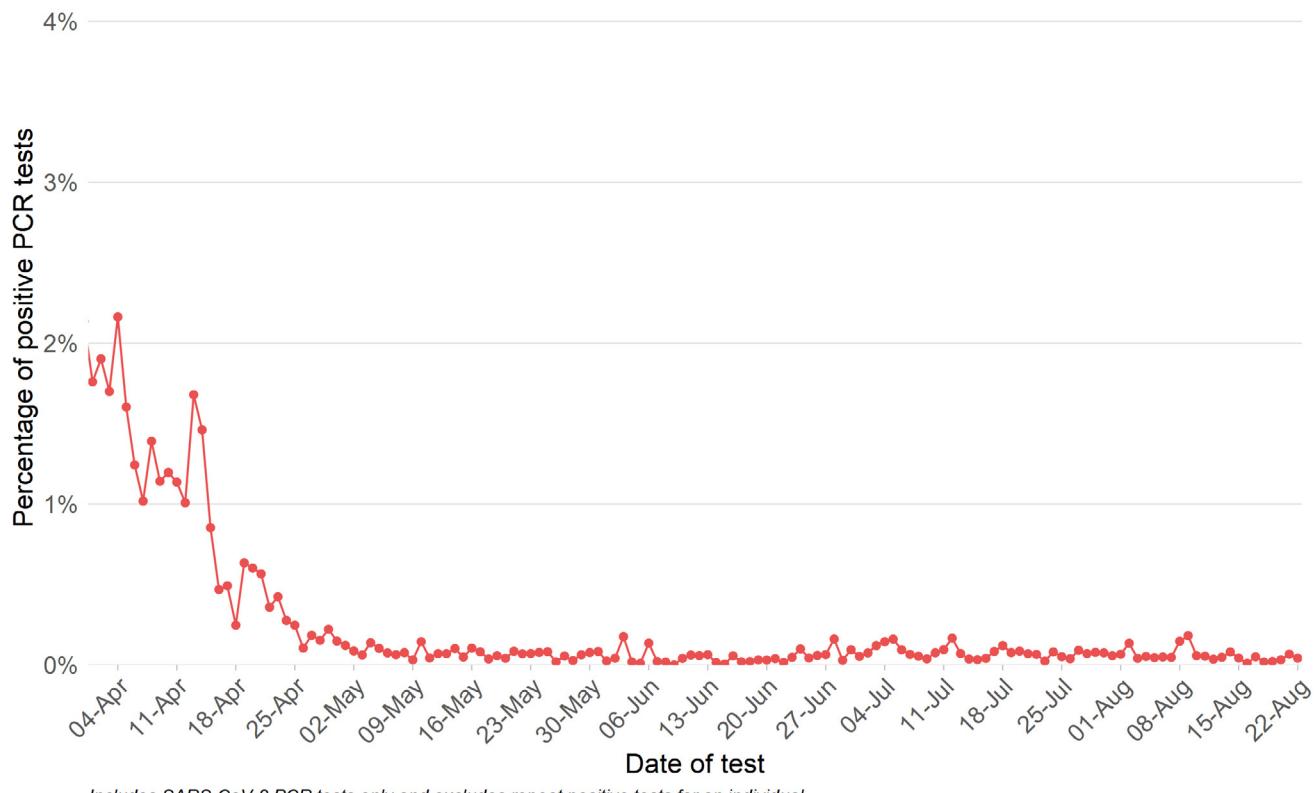


Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: COVID-19 testing increased significantly in April and again during July in line with changes in testing criteria and increased availability of testing. Early in the outbreak the focus was on returned travellers and close contacts of confirmed cases, whereas now testing is recommended for anyone with even mild respiratory symptoms or unexplained fever. A 12% increase in testing was reported in the week ending 22 August compared with the previous week. The trend of considerably higher testing in July and August compared to previous months continues, with the highest number of tests on a day recorded on 18 August with 33,016. An average of 3.0 tests were conducted per 1,000 people in NSW each day in the week ending 22 August.

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.

Figure 4. Proportion of PCR tests positive for COVID-19, NSW, 2020

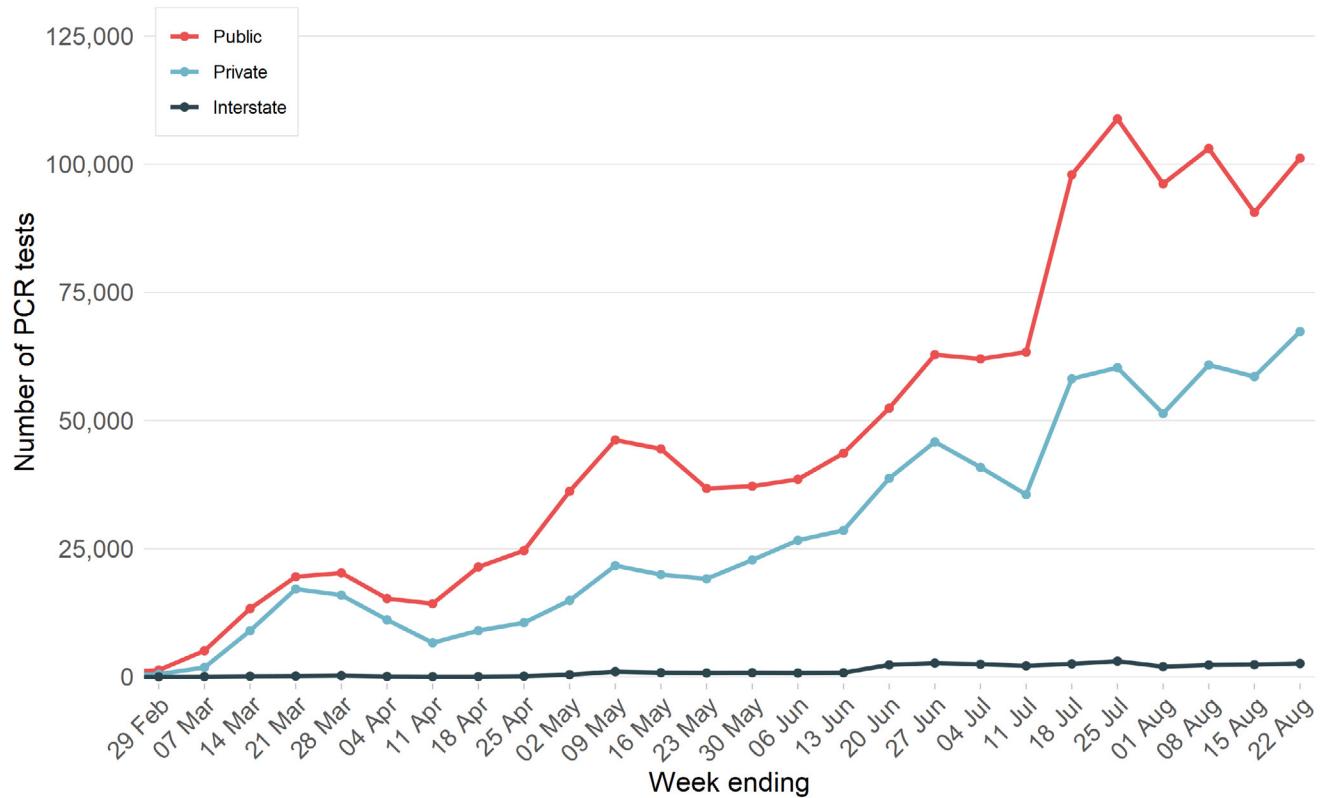


Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: The proportion of tests positive for COVID-19 in NSW declined in mid-March to early May, and then stabilised at very low levels. Despite high rates of testing, the overall proportion of tests found to be positive indicate low levels of transmission in the community.

Which laboratories are doing the testing?

Figure 5. Number of PCR tests by week and facility type, NSW, 2020



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

Interpretation: In the week ending 22 August, testing in both public and private facilities increased compared to the previous week. Approximately 60% of PCR tests were conducted at public laboratories during this period.

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

Information from cases 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, 26 July to 22 August 2020

Locally-acquired cases	Week ending				Total
	22 August	15 August	8 August	1 August	
Cases who are linked to a known case or cluster	19	62	62	85	228
Cases with no links to other cases or clusters	5	7	5	6	23
Total	24	69	67	91	251

Interpretation: The majority (91%) of cases in the four weeks ending 22 August were linked to known cases or clusters.

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 3. Locally-acquired COVID-19 cases with no identified links to known cases or clusters by LHD of residence and week of onset, 26 July to 22 August 2020

Local Health District	Week ending				Total
	22 August	15 August	8 August	1 August	
Central Coast	0	0	0	0	0
Far West	0	0	0	0	0
Hunter New England	0	0	1	0	1
Illawarra Shoalhaven	0	0	0	0	0
Mid North Coast	0	0	0	0	0
Murrumbidgee	0	0	0	0	0
Nepean Blue Mountains	0	0	0	0	0
Northern NSW	0	0	0	0	0
Northern Sydney	0	0	0	0	0
South Eastern Sydney	0	0	0	0	0
South Western Sydney	4	3	2	1	10
Southern NSW	0	0	0	0	0
Sydney	1	0	1	0	2
Western NSW	0	0	0	0	0
Western Sydney	0	4	1	5	10
Total	5	7	5	6	23

Interpretation: Extensive public health investigations were unable to identify a source of infection for five cases in the week ending 22 August. In total, 23 cases were reported in the last four weeks with no links to known cases. Among the 23 cases there were three family groups (total of eight cases) who had similar onsets, suggesting a common exposure. Of the remaining 15 cases with an unknown source, seven went on to be the source of infection for 12 people in their household. This indicates that there were at least 18 transmission events not linked to a known case or cluster in the last four weeks.

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. Information on all cases with no obvious source of infection is compared to identify new clusters. 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 high-risk settings

In the week ending 22 August there were public health investigations following cases from two separate health care settings. A total of five cases are reported in staff members from Liverpool Hospital, following one additional case reported during the week ending 22 August. All close contacts of the staff members have been identified and advised to isolate for 14 days and get tested for COVID-19.

Cases in community settings

Of the 19 people diagnosed with COVID-19 who were linked to known cases or clusters in the week ending 22 August, 12 cases were linked to cases in public settings. A further seven cases were reported as contacts of known cases: exposed in their own home or the home of a friend. In order to describe settings of transmission in the community, we report the groups of cases who were infected at each location and subsequent cases in contacts of households or other residential settings.

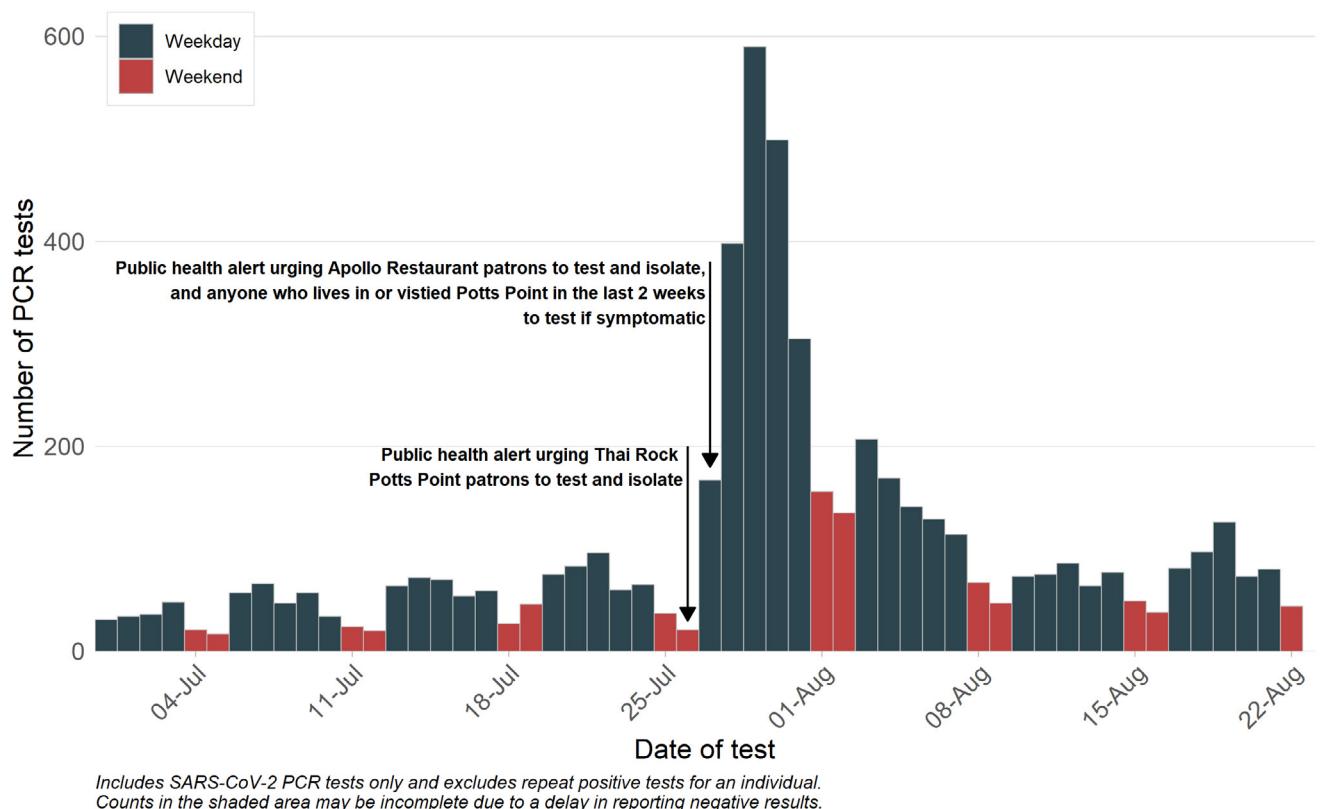
Table 4. COVID-19 community clusters, 1 July to 22 August 2020

Date cluster first identified	Cluster	Cases reported in the week ending 22 August	Date of last case	Source of cluster
10 July	Crossroads Hotel and linked clusters	0	1 August	Victorian-acquired case
17 July	Thai Rock Restaurant Wetherill Park and linked clusters	0	11 August	Source not identified
18 July	Batemans Bay club	0	10 August	Source not identified
24 July	Bankstown area funeral services and linked clusters	2	21 August	Source not identified
27 July	Thai Rock Restaurant Potts Point and linked clusters	1	21 August	Thai Rock Wetherill Park case
2 August	Tangara School	1	21 August	Linked to a case with unknown source
3 August	Our Lady of Mercy School in Western Sydney	5	24 August	Source not identified
5 August	Smithfield club	0	15 August	Source not identified
9 August	Hornsby Hospital	1	20 August	Linked to a case with known source
9 August	Lidcombe club	0	13 August	Source not identified
10 August	Liverpool Hospital	1	18 August	Linked to a case with known source
18 August	Sydney hotel	1	18 August	Under investigation
	Total	12		

Thai Rock Restaurant Potts Point and linked clusters

In response to the two restaurant clusters, NSW Health issued a public health alert on 28 July to encourage testing in residents and recent visitors to Potts Point with even mild respiratory symptoms. In the week ending 22 August, one additional case was reported in a household contact of a patron who attended the Apollo Restaurant.

Figure 6. COVID-19 PCR tests in Potts Point and surrounding suburbs, NSW, 2020

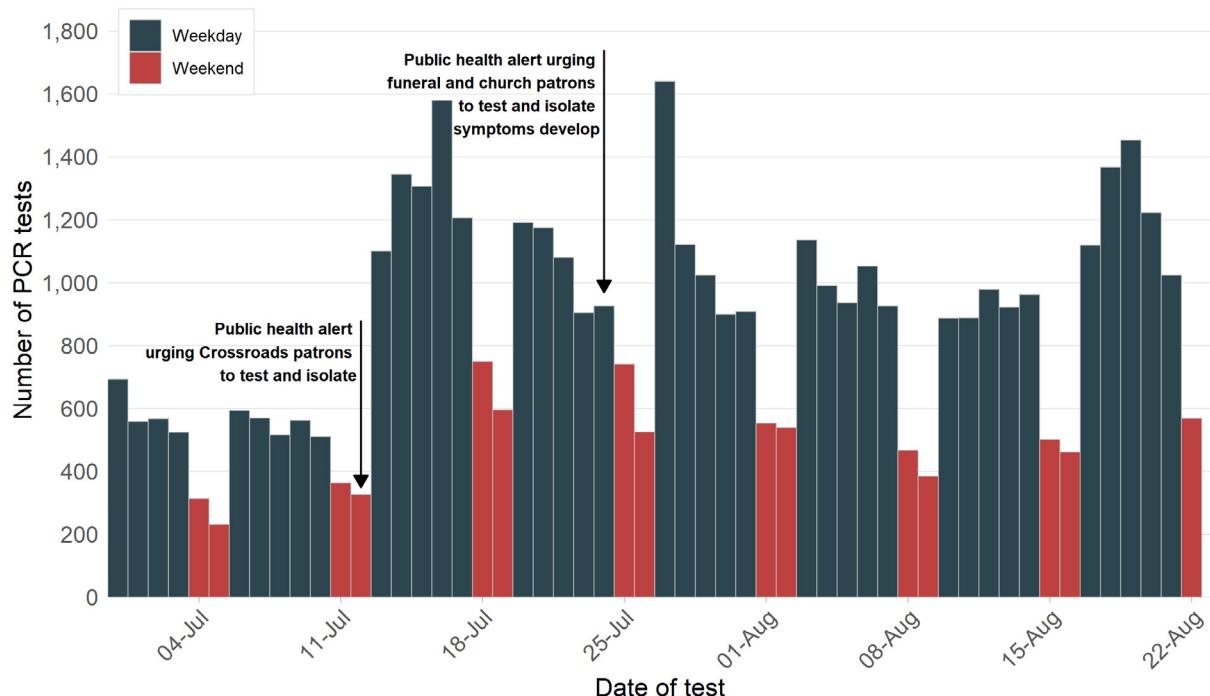


Interpretation: A marked increase in the number of tests conducted in residents of Sydney LGA was observed following the public health alerts and information given to those who had attended Thai Rock and Apollo restaurants at the date and time of the outbreaks. Testing numbers in the area have since returned to levels reported prior to the alerts being issued.

Bankstown area funeral services and linked clusters

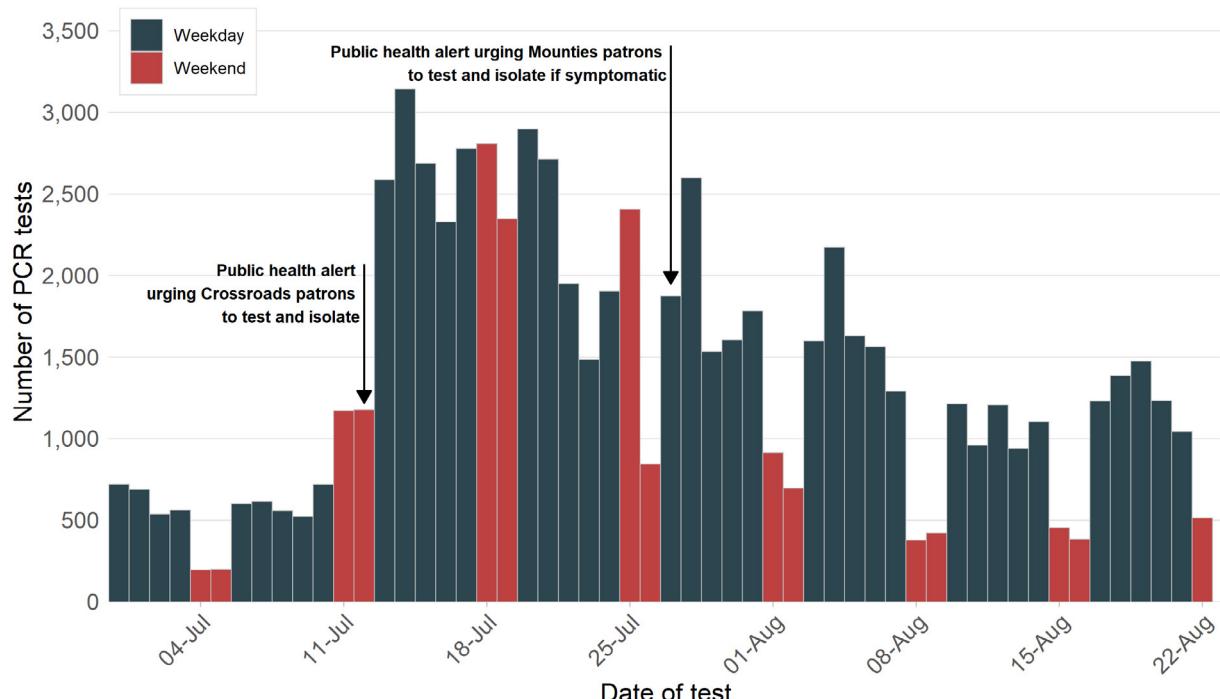
A case, whose source of infection is not known, attended multiple events in their exposure and infectious period in the week ending 25 July, including services at St Brendan's Catholic Church Bankstown. A public health investigation identified that one of the funeral attendees attended a club in Mt Pritchard on multiple occasions while infectious. One of the cases – a patron from the club – had driven several farm workers from South Western Sydney to the Central Coast during their infectious period. Further cases have been reported in close contacts and household contacts who were exposed in residential settings.

Figure 7. COVID-19 PCR tests in Canterbury-Bankstown LGA, NSW, 2020



*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.
Counts in the shaded area may be incomplete due to a delay in reporting negative results.
Areas included: Canterbury-Bankstown LGA.*

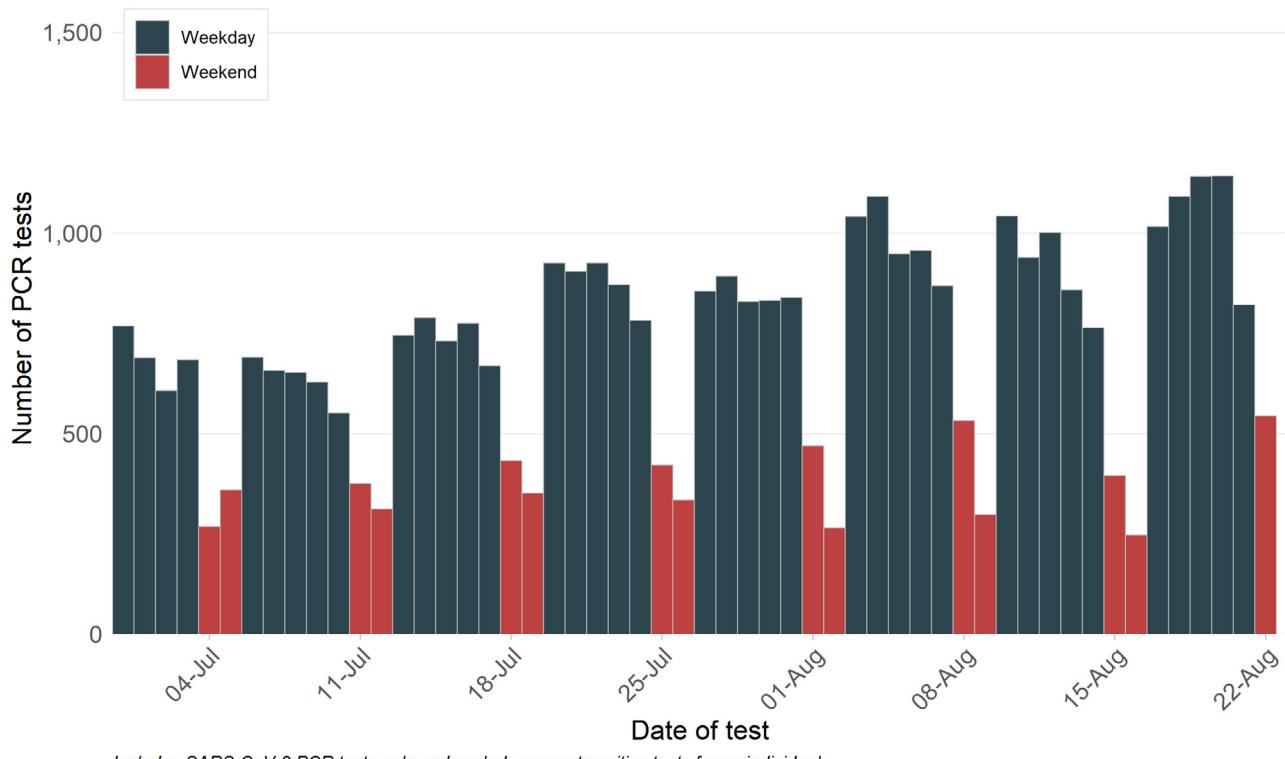
Figure 8. COVID-19 PCR tests in areas associated with the Mounties cluster, NSW, 2020



*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.
Counts in the shaded area may be incomplete due to a delay in reporting negative results.
Areas included: Fairfield and Liverpool LGAs.*

Interpretation: Testing rates increased markedly in mid-July following the media alerts and calls to close contacts of the identified clusters. Test numbers have trended downward in the recent week but remain higher than prior to the public health alerts.

Figure 9. COVID-19 PCR tests in areas associated with the farm cluster, NSW, 2020



*Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.
Counts in the shaded area may be incomplete due to a delay in reporting negative results.
Areas included: Central Coast LGA.*

Interpretation: The high rates of testing in the Central Coast LHD and low case counts suggests limited transmission into the community following the recent cluster identified in farm workers.

Tangara School

On 7 August the Public Health Unit was notified of a student from a school who had tested positive to SARS-CoV-2. Contact tracing and further testing among other students subsequently identified several additional cases, including five students who attended a non-school retreat the previous weekend. Further transmission occurred in the setting of the school which led to six cases in students and other close contacts.

In the week ending 22 August, one additional case was reported in a household contact of a school student who had been isolating during their infectious period.

Hornsby Hospital

On 8 August a case of COVID-19 was notified in a staff member from Hornsby Hospital who was a close contact of a known case. The staff member had worked prior to onset of symptoms – before they were identified as a close contact. Two further cases have been reported in workers who were identified as close contacts of the first case and were in home isolation prior to their onset of illness.

Our Lady of Mercy School in Western Sydney

On 8 August a case of COVID-19 was notified in a student that attends a school in Parramatta. Close contacts at the school were identified and asked to quarantine, and the school was planned to be non-operational on 10 and 11 August. On 10 August, two further cases were reported in students from the school. Following the third case all staff and students were considered close contacts and were asked to have a test for COVID-19, regardless of symptoms. In this reporting week there were five additional cases associated with the school who were household contacts of confirmed cases from two separate households. The school reopened on Monday 24 August.

Quarantine hotel in Sydney LHD

On 15 August the Western Sydney Public Health Unit was notified of a case in a security guard who had worked at a Sydney COVID-19 quarantine hotel. Whole genome sequencing indicates that the likely source of the infection was a returned traveller in hotel quarantine who was staying at the hotel. On 22 August the Sydney Public Health Unit was notified of a second case in a security guard who had also worked at the COVID-19 quarantine hotel and one other quarantine hotel; links to the first case are under investigation. Despite widespread testing, no other cases have been identified among people who worked at the hotel.

SECTION 5: COVID-19 IN SPECIFIC POPULATIONS

Aboriginal people

Aboriginal people are considered to be a vulnerable group for serious COVID-19 disease due to their high burden of chronic disease. Additionally, transmission within Aboriginal communities is likely to be high due to factors such as high number of people per household and barriers to accessing health care.

No Aboriginal cases were notified in the week ending 22 August. In total, 41 Aboriginal people have been diagnosed with COVID-19, representing 1% of all cases in NSW.

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 1 August 2020, with Aboriginal status ascertained for approximately 90% of all COVID-19 test records.

Pregnant women

One case in a pregnant woman was reported in the week ending 22 August; she was associated with the farm in Central Coast LHD. 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, 1.4% of cases (54 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 one-quarter of the deaths were in overseas-acquired cases.

Table 5. Deaths as a result of COVID-19, by age group, NSW, 2020

Age group	Number of deaths	Proportion
0-4 years	0	0%
5-11 years	0	0%
12-17 years	0	0%
18-29 years	0	0%
30-49 years	0	0%
50-59 years	1	2%
60-69 years	4	7%
70-79 years	13	24%
80+ years	36	67%
Total	54	100%

Internationally it is estimated that 3.5% of COVID-19 cases are reported to have died as a result of their infection.² Countries such as Italy, the United Kingdom and Spain have reported higher mortality rates (13.7%, 12.8% and 7.5%), while NSW reports similar rates to South Korea (1.8%) and New Zealand (1.7%). Mortality rates are heavily influenced by the testing criteria, with lower rates of COVID-19-related deaths reported in countries where testing is recommended for all cases, including those with mild illness.

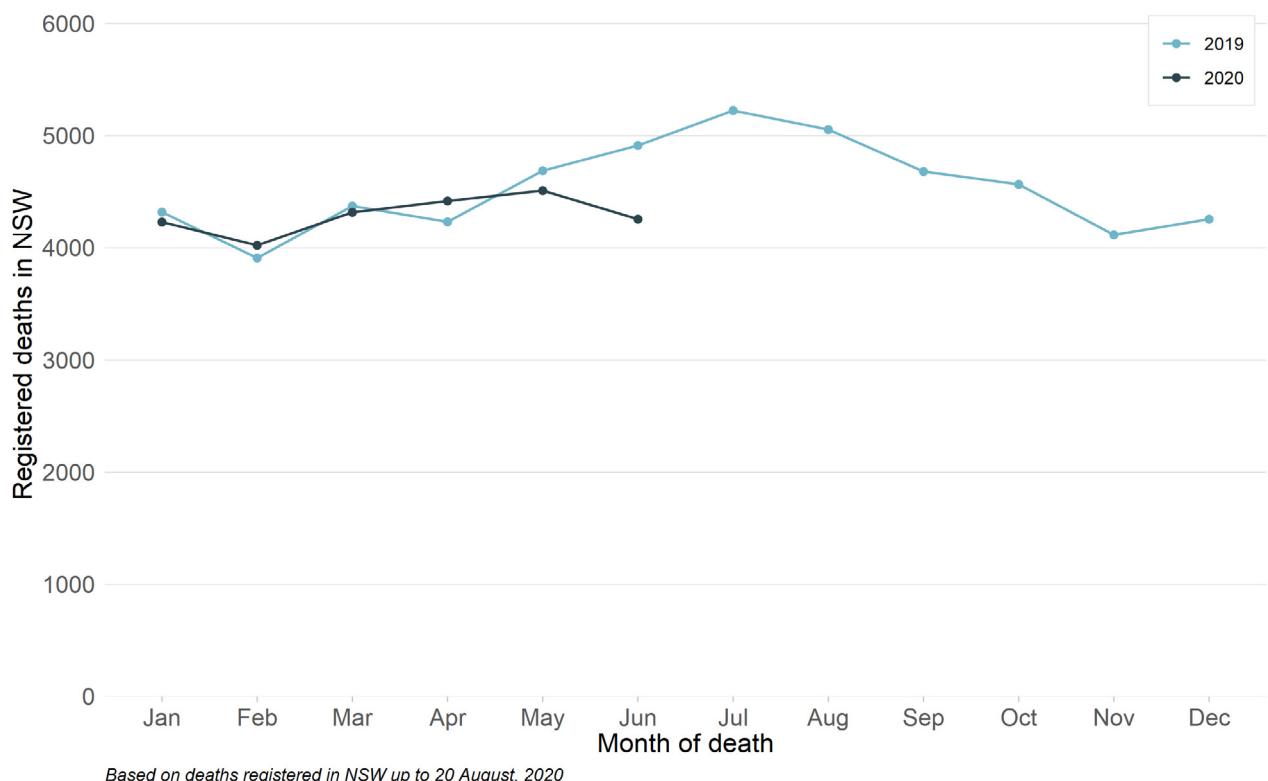
² WHO Coronavirus disease (COVID-19) Weekly Epidemiological Update – 24 August 2020
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>

How many people have died in NSW from any cause of death?

NSW Health receives notifications of all deaths notified to the NSW Registry of Births Deaths and Marriages. Deaths from any cause are seasonal, increasing in winter and decreasing in summer. On average, there is a delay of about 14 days for a death to be registered and notified to NSW Health, and deaths referred to a coroner may take longer to register.

Of deaths registered in each month of January to April 2020, 95% were registered within 6-7 weeks, and almost all (99% of deaths) were registered within 10-14 weeks. To ensure reasonable completeness of mortality data, monthly deaths are reported seven weeks after the end of the month.

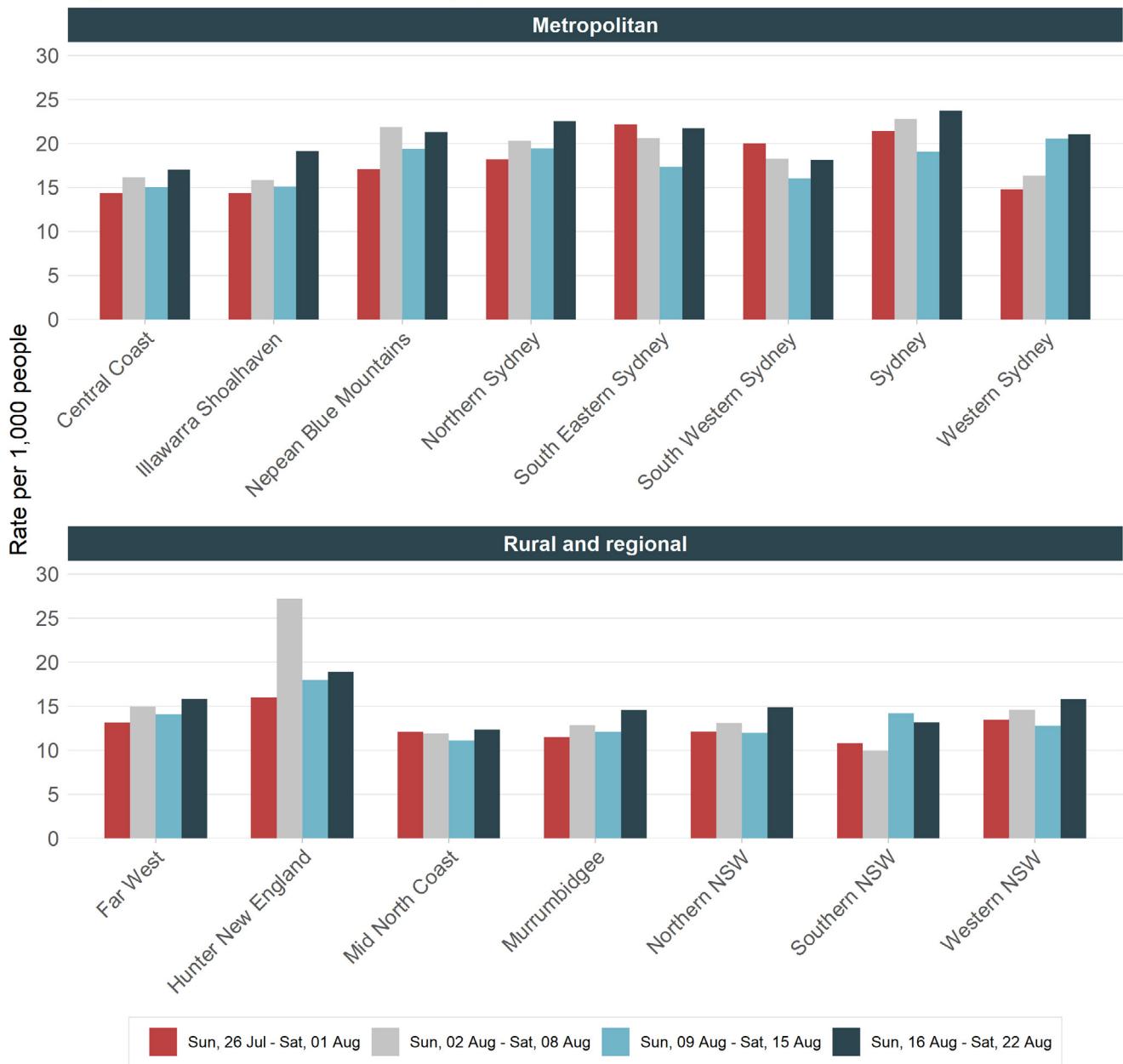
Figure 10. Deaths from any cause registered in NSW from January 2019 to June 2020



Interpretation: When compared to the same period in 2019, the numbers of registered deaths were lower in May and June. While there is a lag in notification of deaths, there is no indication to date that the COVID-19 pandemic in NSW is causing an overall increase in mortality.

SECTION 7: COVID-19 TESTING IN NSW

Figure 11. Rates of COVID-19 testing by LHD of residence and week

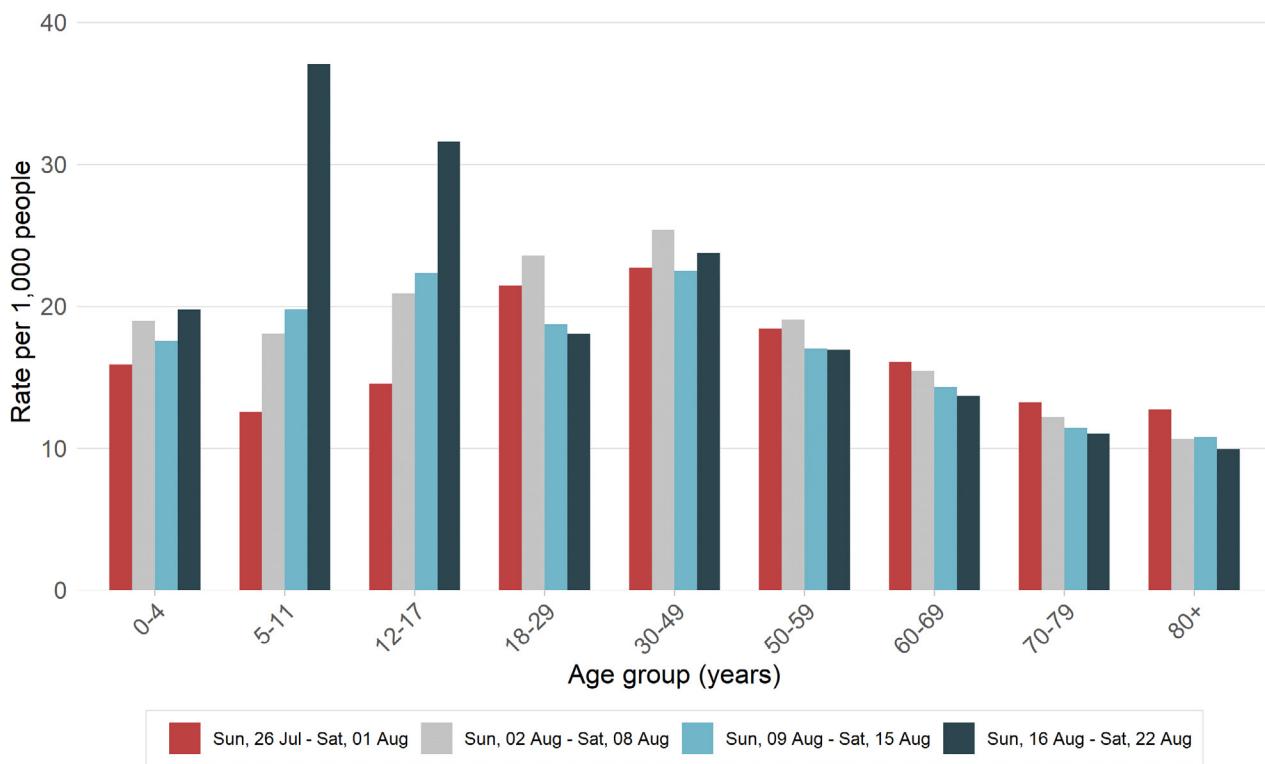


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: Statewide testing rates in the week ending 22 August were higher compared to the previous week (21 per 1,000 vs 19 per 1,000). Testing rates increased in almost all LHDs and, though there was a slight decline in Southern NSW LHD, testing remains high compared to the last four weeks.

Testing by age group

Figure 12. Rates of COVID-19 testing by age group and week

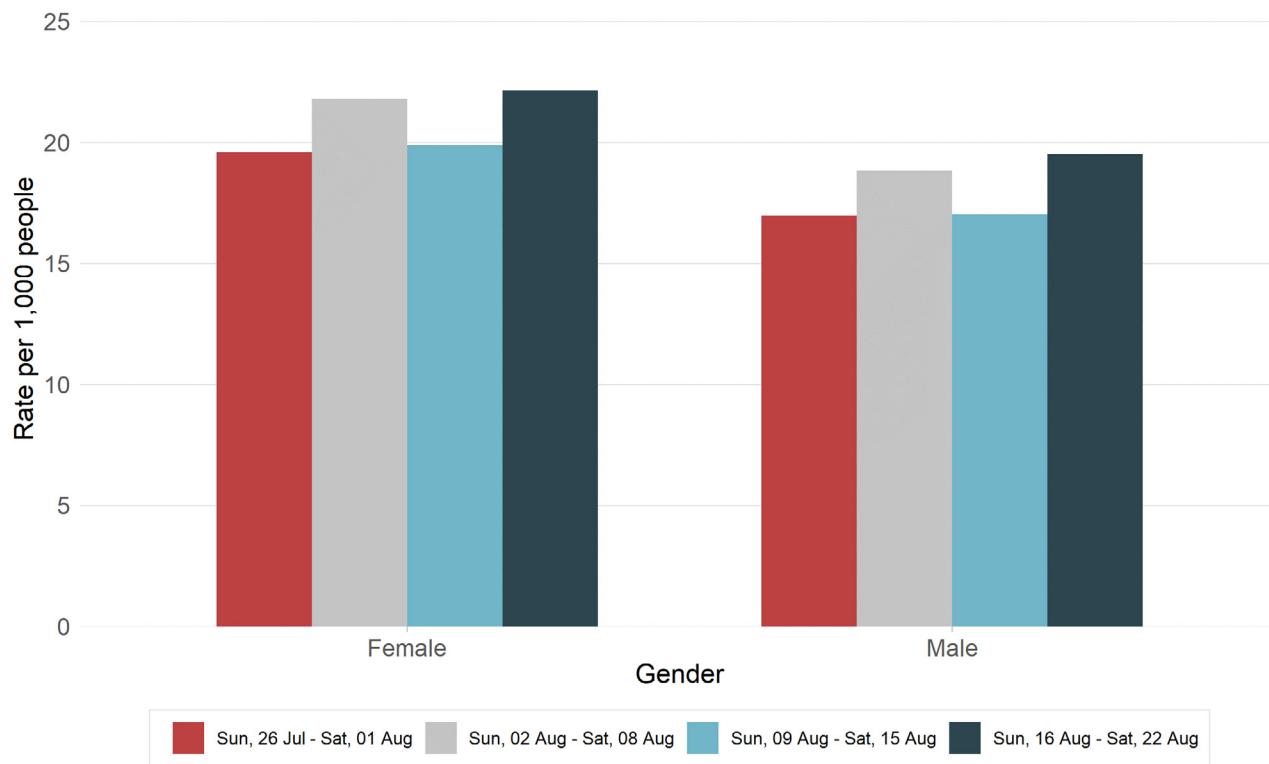


Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: Testing rates decreased in most adult age groups in the week ending 22 August. However, testing in children increased significantly for those in primary and high school age groups.

Testing by gender

Figure 13. Rates of COVID-19 testing by gender and week



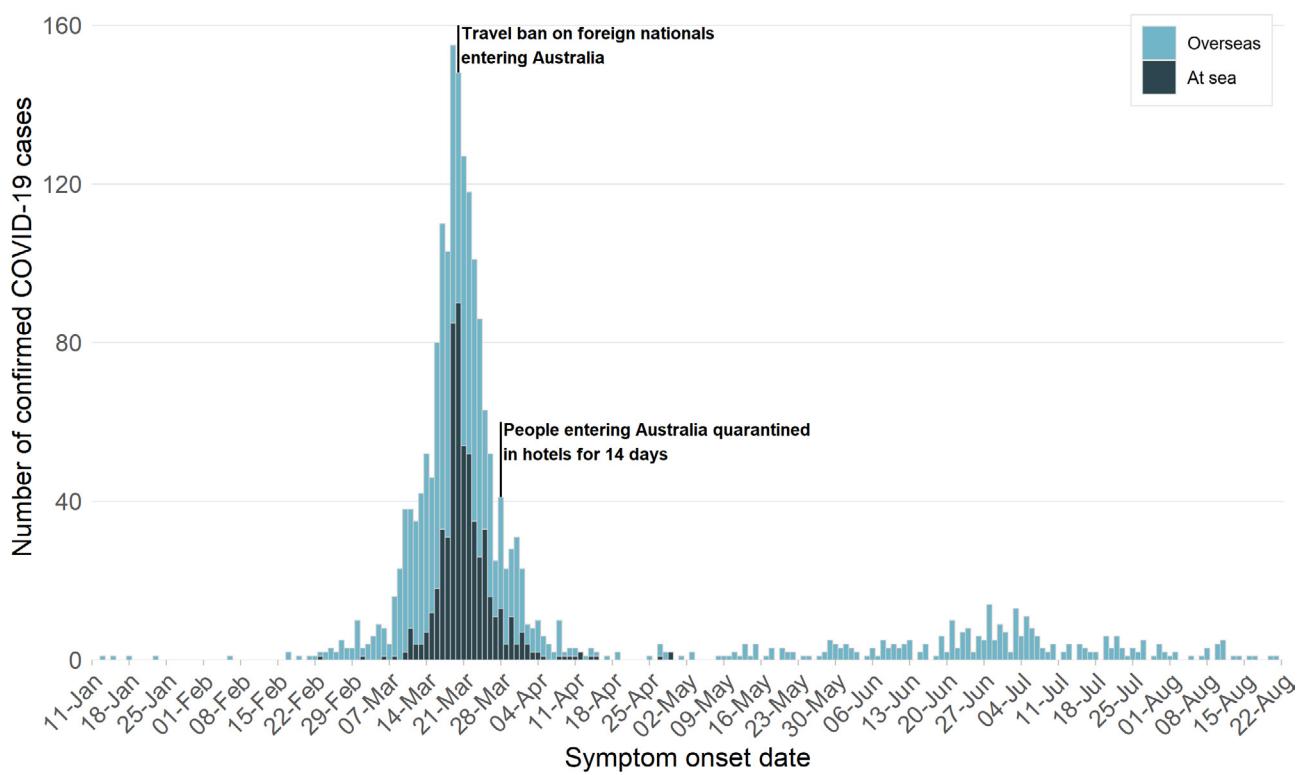
Interpretation: Testing rates are consistently higher in females compared with males. In both groups, rates increased in the week ending 22 August compared with the previous week.

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 14. 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.

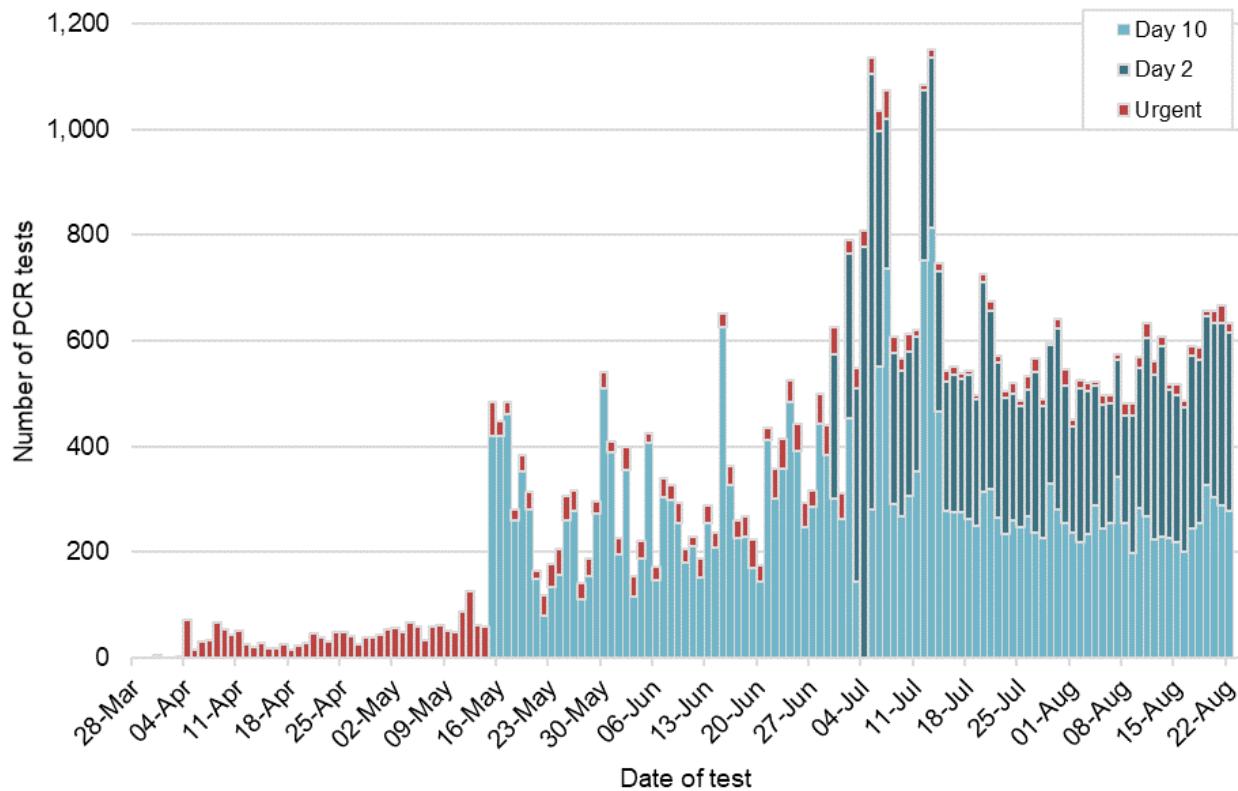
Interpretation: The number of new cases in returned travellers has decreased markedly since March in line with travel restrictions and declined further again since mid-July. The recent decline is related to a reduction in the number of returning travellers due to the introduction of paid hotel quarantine on 18 July and a limit of 350 passengers per day arriving into Sydney from 20 July following a new agreement with the Commonwealth Government.

There were seven overseas-acquired cases reported in the week ending 22 August, half as many as the previous week.

Hotel quarantine

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

Figure 15. COVID-19 testing in returned travellers in hotel quarantine, reported from 28 March to 22 August, NSW, 2020



Interpretation: There were 4,282 tests conducted through the hotel quarantine screening programs in the week ending 22 August. Since screening began on 28 March, a total of 50,006 PCR tests have been conducted and 326 COVID-19 cases have been detected.

Airport screening

Health screening of returning travellers was introduced for people returning from particular countries early in the outbreak but was expanded to all returning travellers on 21 March 2020. As part of the health screening passengers are asked to complete a questionnaire about their health upon arrival into Sydney International Airport. People with symptoms are assessed by an onsite health team and tested for COVID-19.

During the week ending 22 August, a total of 3,638 people were screened at Sydney International Airport and 14 were referred for testing. Since screening began on 2 February, a total of 115,939 people have been screened with 1,262 referred for onsite health assessment and testing.

SECTION 9: OTHER RESPIRATORY INFECTIONS IN NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 16 August 2020

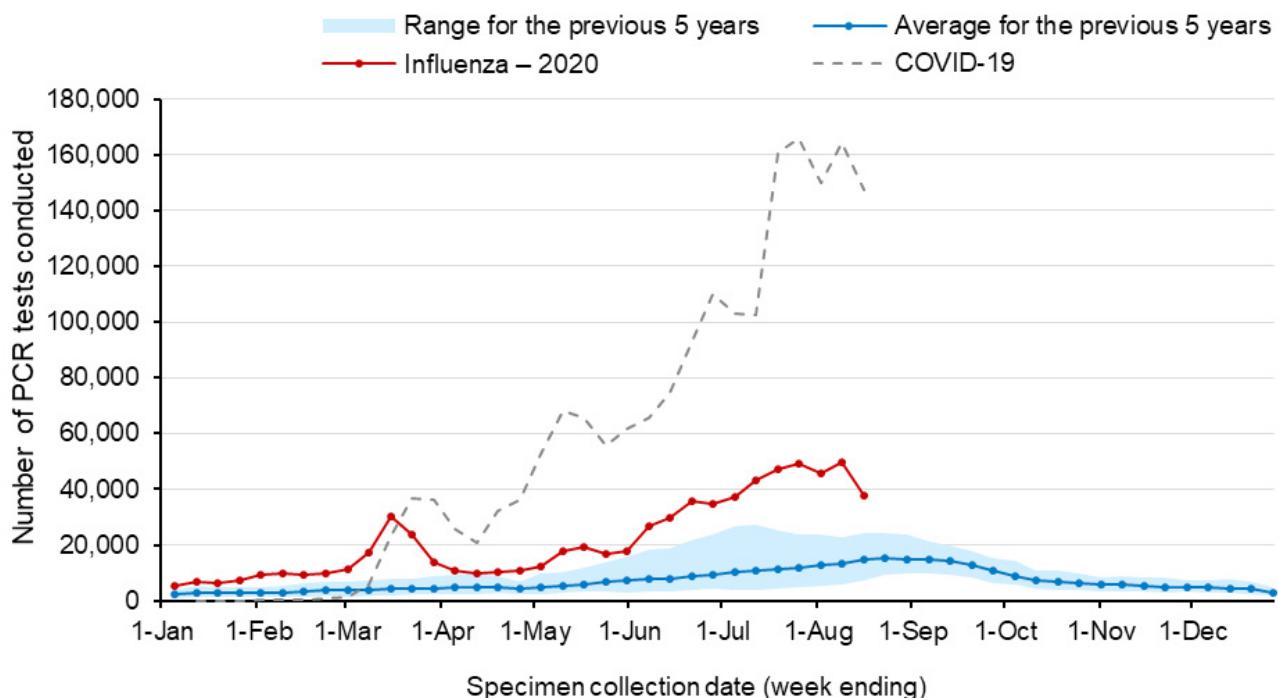
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 16 August. A total of 722,974 influenza tests have been performed at participating laboratories to 16 August, with 37,718 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 16. Testing for influenza and COVID-19 by week, to 16 August 2020

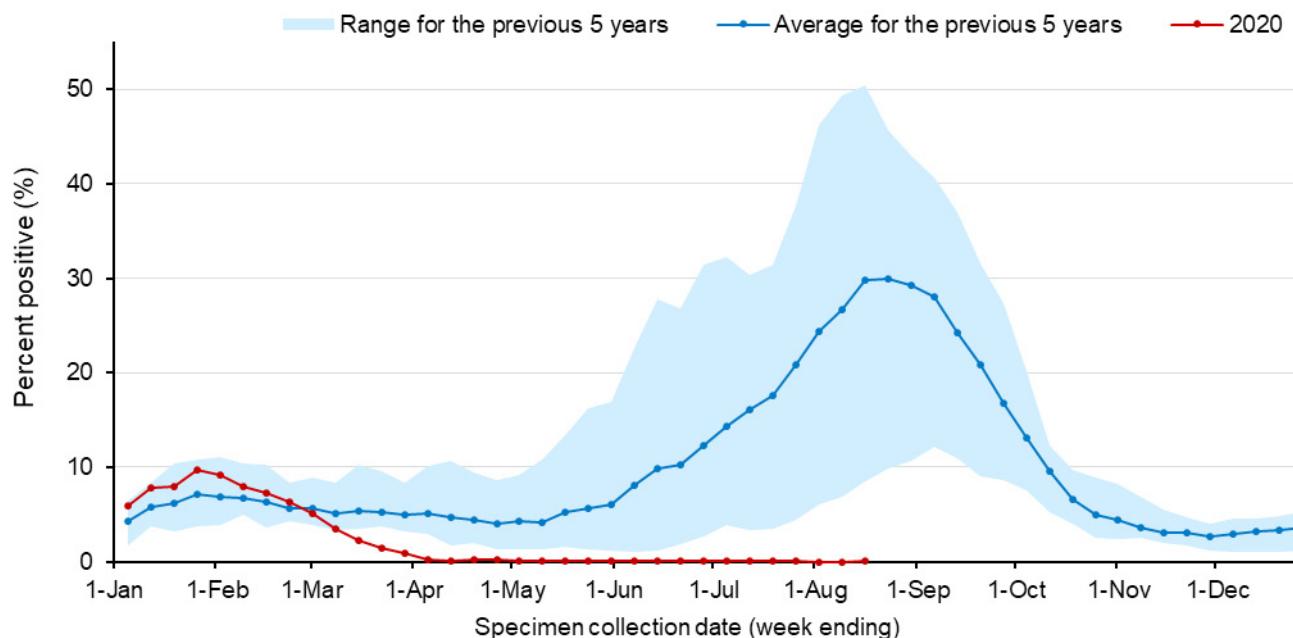


Interpretation: The number of influenza tests performed has exceeded the previous five-year average every week this year.

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.

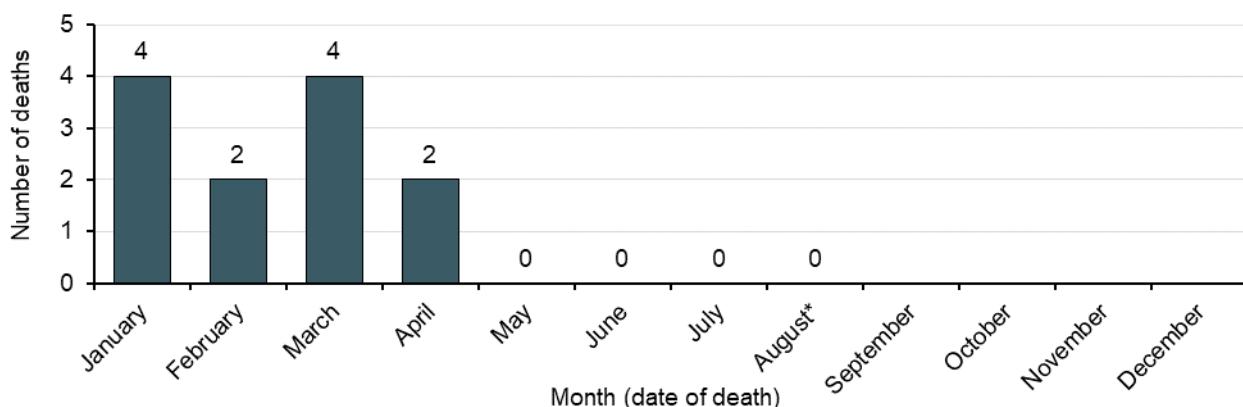
Figure 17. Proportion of tests positive for influenza, to 16 August 2020



Interpretation: The percent of influenza tests that were positive in the week ending 16 August continues to be very low (less than 0.1%), indicating limited influenza transmission in the community.

How many people have died as a result of influenza?

Figure 18. Laboratory-confirmed influenza deaths by month of death, to 16 August 2020



Interpretation: No influenza deaths were reported in the week ending 16 August. The number of influenza-related deaths identified via Coroner's reports and death registrations from 1 January to 16 August 2020 is lower than the same period last year (12 deaths in 2020 compared with 168 in 2019).³ Two-thirds of the deaths were in people aged 65 years and over.

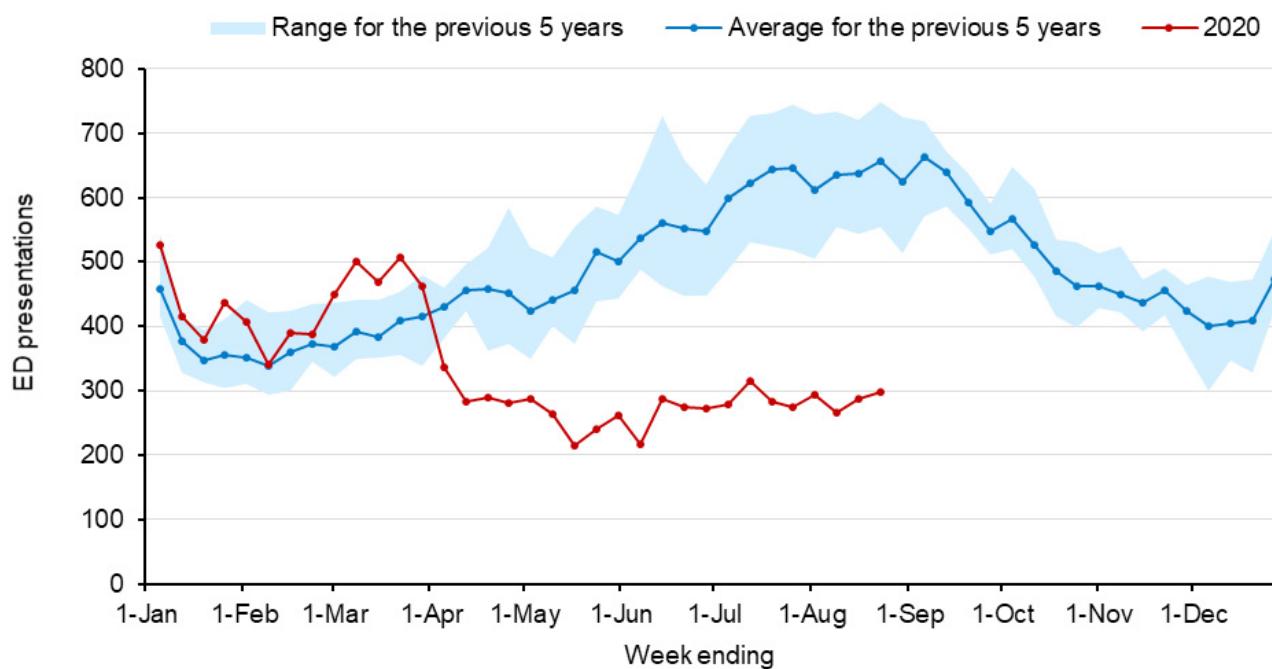
³ Includes deaths in people with laboratory-confirmed influenza.

How are emergency department presentations for pneumonia tracking?

The figure below shows weekly pneumonia presentations to Emergency Departments in NSW. This includes presentations 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 using PHREDSS.⁴

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 19. Emergency Department pneumonia presentations in NSW by week, to 23 August 2020



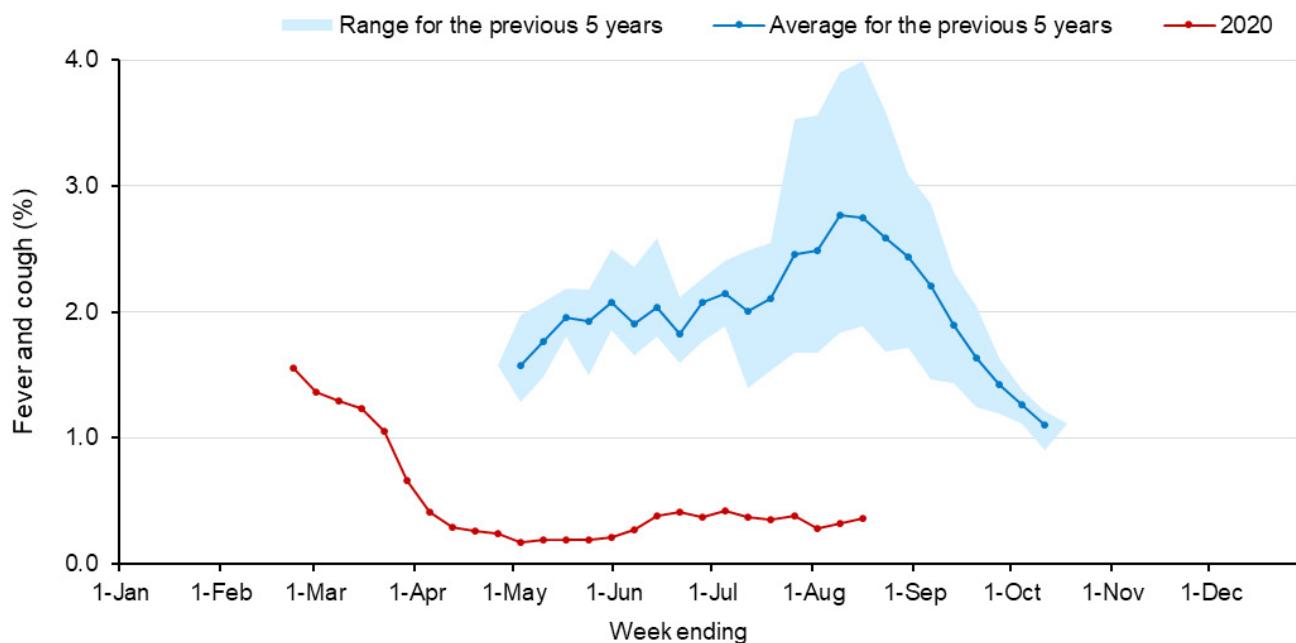
Interpretation: Pneumonia presentations decreased from the end of March and have continued to remain well below the usual range for this time of year.

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

How many people have flu-like symptoms in the community?

FluTracking is an online survey that asks participants to report flu-like symptoms, such as fever or cough, in the last week. Across NSW approximately 25,000-30,000 people participate each week. The survey usually commences at the beginning of May in line with the flu season but commenced at the end of February this year given the COVID-19 outbreak.

Figure 20. Proportion of FluTracker participants in NSW reporting influenza-like illness, to 16 August 2020



Interpretation: In NSW in the week ending 16 August, of the 24,075 people surveyed, 87 people (0.4%) reported flu-like symptoms. The proportion of people reporting symptoms remains well below the usual range for this time of year.

APPENDIX A: COVID-19 PCR TESTS IN NSW

Local Health District	Local Government Area	Week ending				Total	
		22 August		15 August			
		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	6009	17.0	5304	15.0	77608	219.9
Far West	Balranald	36	15.4	9	3.9	274	117.2
	Broken Hill	340	19.5	281	16.1	3172	181.5
	Central Darling	8	4.4	15	8.2	220	119.6
	Wentworth	94	13.3	120	17.0	1293	183.3
	LHD Total ²	478	15.9	425	14.1	4959	164.5
Hunter New England	Armidale Regional	471	15.3	453	14.7	6331	205.7
	Cessnock	968	16.1	787	13.1	10597	176.7
	Dungog	138	14.7	120	12.7	1514	160.7
	Glen Innes Severn	116	13.1	63	7.1	1289	145.3
	Gunnedah	139	11.0	104	8.2	1654	130.4
	Gwydir	27	5.0	19	3.6	416	77.7
	Inverell	192	11.4	193	11.4	2796	165.5
	Lake Macquarie	4623	22.5	4591	22.3	54171	263.1
	Liverpool Plains	138	17.5	86	10.9	1323	167.4
	Maitland	2252	26.4	2060	24.2	25815	303.1
	Mid-Coast	1113	11.9	949	10.1	14514	154.7
	Moree Plains	133	10.0	107	8.1	1834	138.3
	Muswellbrook	304	18.6	218	13.3	2998	183.1
	Narrabri	116	8.8	105	8.0	1704	129.7
Illawarra Shoalhaven	Newcastle	3932	23.8	4377	26.4	55606	335.8
	Port Stephens	1255	17.1	1203	16.4	20261	275.7
	Singleton	619	26.4	505	21.5	6352	270.8
	Tamworth Regional	1017	16.3	837	13.4	13616	217.7
	Tenterfield	77	11.7	57	8.6	723	109.7
	Upper Hunter Shire	252	17.8	213	15.0	2685	189.4
	Uralla	81	13.5	55	9.2	796	132.4
	Walcha	47	15.0	33	10.5	497	158.6
	LHD Total ²	17984	18.9	17117	18.0	227313	238.7
	Kiama	501	21.4	352	15.1	5803	248.1
Illawarra Shoalhaven	Shellharbour	1447	19.8	1189	16.2	18233	249.0
	Shoalhaven	1904	18.0	1648	15.6	20657	195.5
	Wollongong	4181	19.2	3166	14.5	47558	218.0
	LHD Total ²	8033	19.1	6355	15.1	92251	219.9

Local Health District	Local Government Area	Week ending				Total	
		22 August		15 August			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Mid North Coast	Bellingen	184	14.2	141	10.9	2171	167.1
	Coffs Harbour	925	12.0	848	11.0	12151	157.2
	Kempsey	531	17.9	440	14.8	5463	183.7
	Nambucca	274	13.8	212	10.7	3014	152.2
	Port Macquarie-Hastings	872	10.3	867	10.3	13591	160.8
	LHD Total ²	2786	12.4	2508	11.1	36390	161.3
Murrumbidgee	Albury	787	14.5	661	12.2	8763	161.2
	Berrigan	93	10.6	71	8.1	1163	132.9
	Bland	90	15.1	53	8.9	915	153.2
	Carrathool	10	3.6	13	4.6	162	57.9
	Coolamon	66	15.2	61	14.1	734	169.1
	Cootamundra-Gundagai Regional	125	11.1	129	11.5	1757	156.4
	Edward River	142	15.6	123	13.5	1620	178.3
	Federation	133	10.7	113	9.1	1565	125.8
	Greater Hume Shire	213	19.8	117	10.9	1785	165.8
	Griffith	376	13.9	359	13.3	4630	171.3
	Hay	27	9.2	11	3.7	287	97.3
	Hilltops	203	10.9	199	10.6	2606	139.3
	Junee	59	8.8	69	10.3	726	108.6
	Lachlan ¹	80	13.2	54	8.9	592	97.5
	Leeton	150	13.1	113	9.9	1425	124.5
	Lockhart	48	14.6	49	14.9	505	153.7
	Murray River	50	4.1	57	4.7	431	35.6
	Murrumbidgee	39	10.0	24	6.1	464	118.5
	Narrandera	60	10.2	51	8.7	654	110.9
	Snowy Valleys	264	18.2	248	17.1	2514	173.6
	Temora	61	9.7	63	10.0	813	128.9
	Wagga Wagga	1295	19.8	1008	15.5	14376	220.3
	LHD Total ²	4338	14.6	3598	12.1	48122	161.4
Nepean Blue Mountains	Blue Mountains	1787	22.6	1676	21.2	24944	315.3
	Hawkesbury	1437	21.4	1314	19.5	17655	262.4
	Lithgow	348	16.1	289	13.4	3992	184.8
	Penrith	4825	22.7	4342	20.4	65264	306.4
	LHD Total ²	8336	21.3	7581	19.4	110954	283.8

COVID-19 WEEKLY SURVEILLANCE IN NSW
Epidemiological week 34, ending 22 August 2020

www.health.nsw.gov.au/coronavirus

Local Health District	Local Government Area	Week ending				Total	
		22 August		15 August			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Northern NSW	Ballina	714	16.0	598	13.4	9037	202.5
	Byron	689	19.6	550	15.7	7817	222.8
	Clarence Valley	646	12.5	507	9.8	7049	136.4
	Kyogle	112	12.7	66	7.5	1043	118.6
	Lismore	902	20.6	638	14.6	8839	202.3
	Richmond Valley	377	16.1	320	13.6	4211	179.5
	Tenterfield	77	11.7	57	8.6	723	109.7
	Tweed	1161	12.0	1026	10.6	14945	154.1
	LHD Total ²	4625	14.9	3722	12.0	53122	171.2
Northern Sydney	Hornsby	3458	22.7	3656	24.0	32341	212.7
	Hunters Hill	618	41.3	531	35.5	7613	508.2
	Ku-ring-gai	3791	29.8	3116	24.5	37527	295.1
	Lane Cove	1671	41.6	1362	33.9	21749	541.6
	Mosman	673	21.7	560	18.1	8489	274.0
	North Sydney	1220	16.3	1008	13.4	16128	215.0
	Northern Beaches	5718	20.9	4495	16.4	66941	244.8
	Parramatta ¹	4904	19.1	4880	19.0	47850	186.0
	Ryde	2145	16.3	1980	15.1	27790	211.7
South Eastern Sydney	Willoughby	1394	17.2	994	12.2	15042	185.3
	LHD Total ²	21551	22.5	18576	19.4	242560	253.8
	Bayside	2978	16.7	2328	13.1	33338	186.9
	Georges River	2743	17.2	1940	12.2	29650	185.9
	Randwick	3893	25.0	3062	19.7	46201	296.8
	Sutherland Shire	5117	22.2	4129	17.9	64420	279.3
	Sydney ¹	6053	24.6	5158	20.9	70953	288.0
	Waverley	2166	29.2	1852	24.9	28060	377.7
	Woollahra	1747	29.4	1493	25.1	22744	383.0
South Western Sydney	LHD Total ²	20843	21.7	16641	17.4	248614	259.2
	Camden	2679	26.4	2286	22.5	35491	349.9
	Campbelltown	3696	21.6	3730	21.8	48268	282.4
	Canterbury-Bankstown ¹	7221	19.1	5529	14.6	78332	207.3
	Fairfield	3050	14.4	2693	12.7	44096	208.3
	Liverpool	4081	17.9	3523	15.5	61580	270.6
	Wingecarribee	1040	20.3	770	15.1	14705	287.6
	Wollondilly	636	12.0	663	12.5	10793	203.1
	LHD Total ²	18798	18.1	16638	16.0	255002	245.5

Local Health District	Local Government Area	Week ending				Total	
		22 August		15 August			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Southern NSW	Bega Valley	498	14.4	376	10.9	5963	173.0
	Eurobodalla	557	14.5	1303	33.9	10091	262.3
	Goulburn Mulwaree	482	15.5	374	12.0	6089	195.6
	Queanbeyan-Palerang Regional	638	10.4	541	8.9	8455	138.4
	Snowy Monaro Regional	398	19.1	252	12.1	3734	179.6
	Upper Lachlan Shire	115	14.3	100	12.4	1287	159.7
	Yass Valley	172	10.1	143	8.4	2096	122.7
	LHD Total ²	2860	13.2	3090	14.2	37734	173.8
Sydney	Burwood	634	15.6	435	10.7	6158	151.6
	Canada Bay	2396	24.9	1802	18.8	26441	275.2
	Canterbury-Bankstown ¹	7221	19.1	5529	14.6	78332	207.3
	Inner West	4983	24.8	4413	22.0	65705	327.2
	Strathfield	1195	25.5	900	19.2	11134	237.3
	Sydney ¹	6053	24.6	5158	20.9	70953	288.0
	LHD Total ²	16551	23.8	13296	19.1	193669	278.0
	Bathurst Regional	866	19.9	615	14.1	9149	209.8
Western NSW	Blayney	159	21.6	120	16.3	1656	224.4
	Bogan	16	6.2	28	10.9	367	142.3
	Bourke	26	10.0	19	7.3	285	110.0
	Brewarrina	10	6.2	14	8.7	219	135.9
	Cabonne	144	10.6	115	8.4	1622	119.0
	Cobar	32	6.9	42	9.0	462	99.2
	Coonamble	63	15.9	33	8.3	561	141.7
	Cowra	185	14.5	123	9.7	1828	143.5
	Dubbo Regional	911	17.0	651	12.1	9302	173.2
	Forbes	107	10.8	78	7.9	1013	102.3
	Gulgandra	60	14.2	37	8.7	527	124.3
	Lachlan ¹	80	13.2	54	8.9	592	97.5
	Mid-Western Regional	329	13.0	251	9.9	4400	174.3
	Narromine	93	14.3	84	12.9	900	138.1
	Oberon	66	12.2	54	10.0	881	162.8
	Orange	867	20.4	876	20.6	10270	241.9
	Parkes	184	12.4	185	12.5	1927	129.9
	Walgett	67	11.3	82	13.8	1019	171.2
	Warren	78	28.9	57	21.1	693	257.0
	Warrumbungle Shire	162	17.5	97	10.5	1560	168.1
	Weddin	44	12.2	35	9.7	483	133.7
	LHD Total ²	4502	15.8	3644	12.8	49515	173.7

Local Health District	Local Government Area	Week ending				Total	
		22 August		15 August			
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Western Sydney	Blacktown	7387	19.7	6540	17.5	88767	237.1
	Cumberland	5151	21.3	5214	21.6	51227	212.1
	Parramatta ¹	4904	19.1	4880	19.0	47850	186.0
	The Hills Shire	5398	30.3	5736	32.2	52476	294.9
	LHD Total ²	22157	21.0	21672	20.6	233085	221.3
NSW Total³		169,123	20.9	149,801	18.5	2,022,539	250.0

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 16 AUGUST 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—16 August 2020											
Total	722,974	6,605	0.91%	946	0.13%	5,224	8,982	4,881	101,160	1,972	3,946
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	126,768	48	0.04%	10	0.01%	628	81	178	28,191	112	241
2 August*	222,327	37	0.02%	2	<0.01%	1,146	89	209	29,688	79	427
Week ending											
9 August	49,742	1	0.00%	0	-	289	12	64	3,666	4	69
16 August	37,718	4	0.01%	0	-	207	13	60	2,487	2	43

Notes: Preliminary laboratory data is provided by participating sentinel laboratories on a weekly basis and are subject to change. Serological diagnoses are not included.

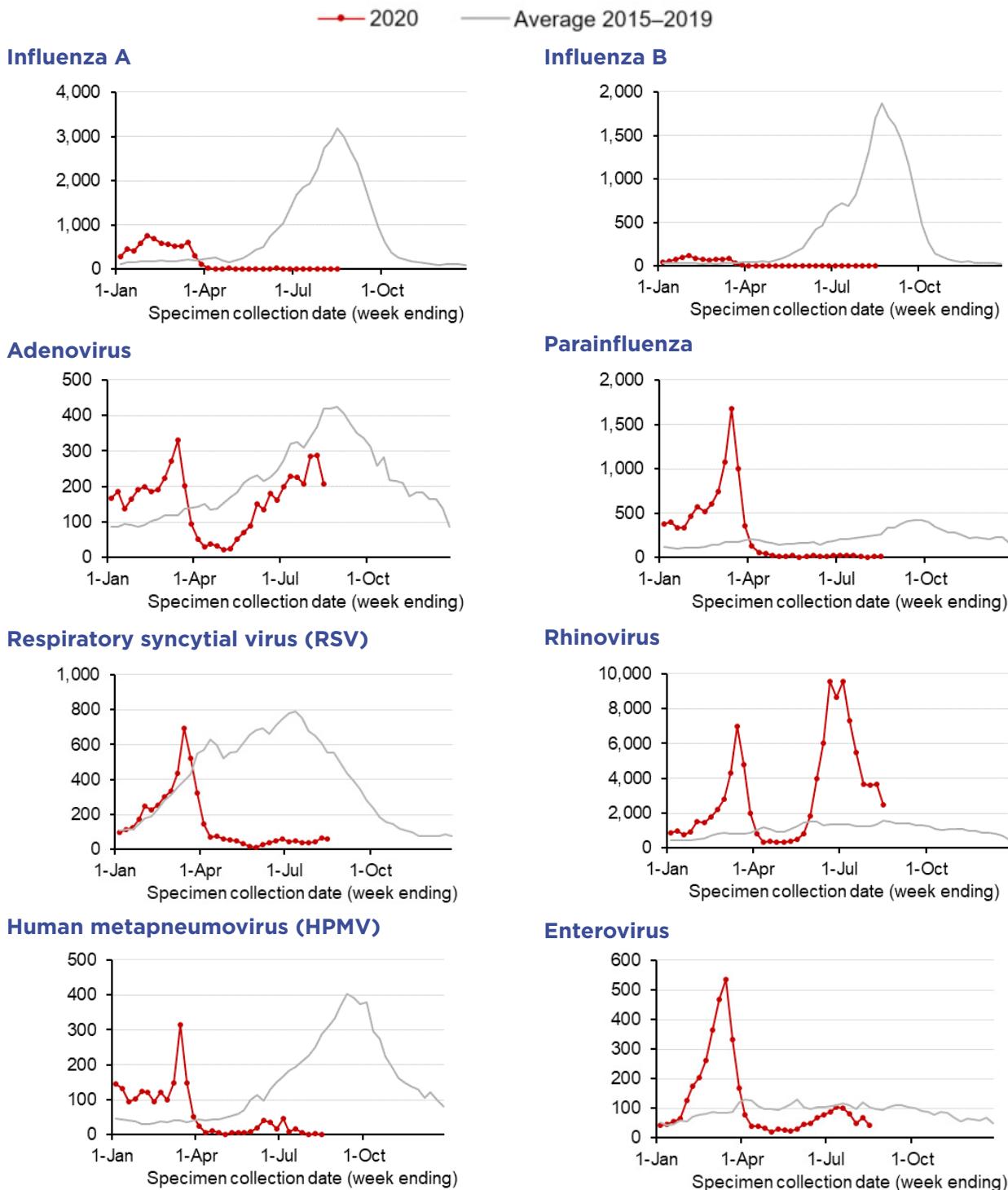
HMPV - Human metapneumovirus

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 16 AUGUST 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.



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	A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases). Case counts include: <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.
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	This date is provided to NSW Health by the laboratory. Laboratories prioritise notification of positive results to allow prompt public health action. Positive cases: The date of notification is collected by NSW Health on the day of notification. Cases are informed of their diagnosis by their doctor or public health staff as soon as the result is available. The date of notification to NSW Health is usually the same day as the date the case finds out about the result. Negative cases: Some laboratories notify NSW Health of negative results in batches at regular intervals. For these laboratories the date of notification to NSW Health does not reflect the date the negative result was available at the laboratory. NSW Health does not collect information on the date the person was informed of the result.