COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 25, ENDING 20 JUNE 2020

Published 23 June 2020

SUMMARY FOR THE WEEK ENDING 20 JUNE

- High test rates and low case counts continue this week indicating low levels of COVID-19 transmission in the community.
- Increases in COVID-19 testing rates were reported across all LHDs and all age groups but most notably in children, with approximately a third of tests in the week ending 20 June conducted in those aged less than 18 years.
- Testing rates in young adults (aged 18-29 years) and people aged over 50 years were consistently lower than other age groups throughout metropolitan Sydney.
- Data from sentinel laboratories indicates that influenza transmission is limited however rhinovirus is circulating in the community.
- Increasing rhinovirus transmission suggests increased mixing in the community. People are reminded of the importance of handwashing, covering coughs and staying home when unwell.
- NSW Health continues to strongly encourage all symptomatic people to seek COVID-19 testing, including young adults and people aged over 50 years.

In Focus – COVID-19 in pregnant women: 1 January to 21 June 2020

- Eighteen pregnant women have been diagnosed with COVID-19 in NSW including 11 (61%) locally acquired infections and seven (39%) overseas acquired cases.
- Data on testing rates amongst pregnant women are not available, however the low proportion of all females aged 15 to 45 years who have tested positive for COVID-19 suggests low rates of infection among women of child bearing age.
- There have been no COVID-19 related hospital admissions in pregnant women or deaths reported.
- All 15 cases with information available have recovered.

SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

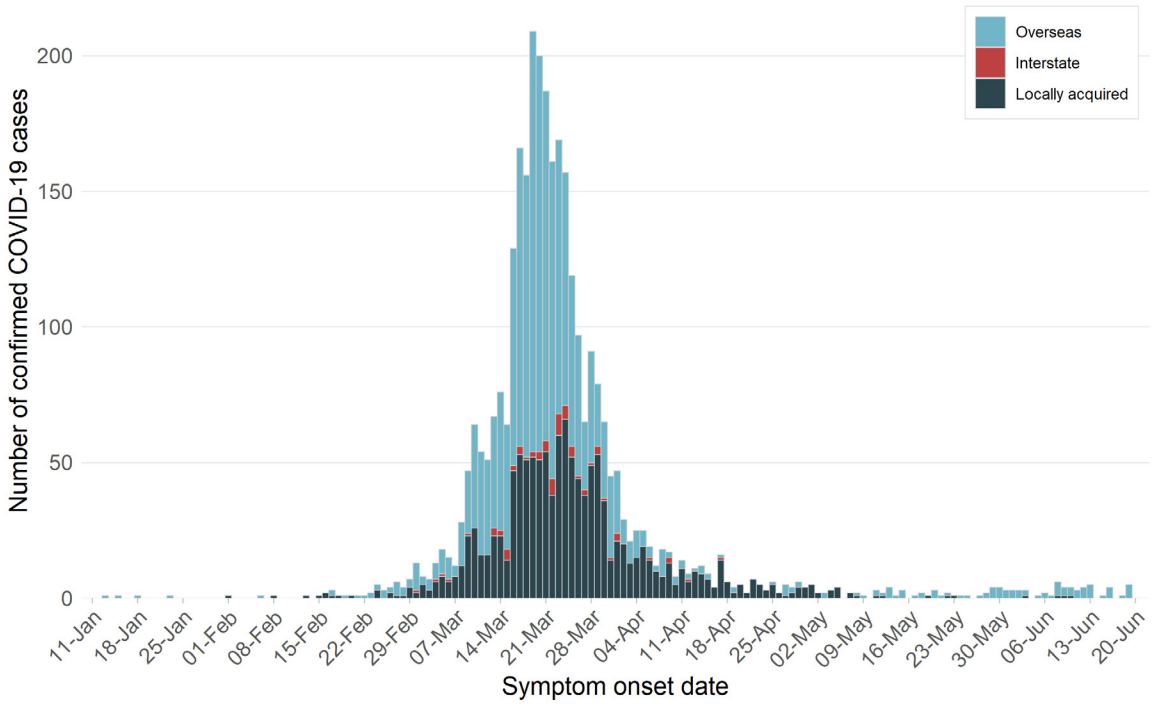
Table 1. COVID-19 cases and tests reported in NSW, up to 20 June 2020

	Week ending 20 June	Week ending 13 June	% change	Total to 20 June
Number of cases	22	22	-	3,148
Overseas acquired	*21*	*19*	*+10.5%*	*1,837*
Interstate acquired	*0*	*0*	-	*69*
Locally acquired	*1*	*3*	*-66.7%*	*1,242*
Number of deaths	0	0	-	50
Number of tests	90,238	72,615	+24.3%	739,330

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 onset of illness per day, NSW, 2020



Note: For asymptomatic cases or where symptom onset date is not available, the onset date is calculated from the earliest specimen collection date.

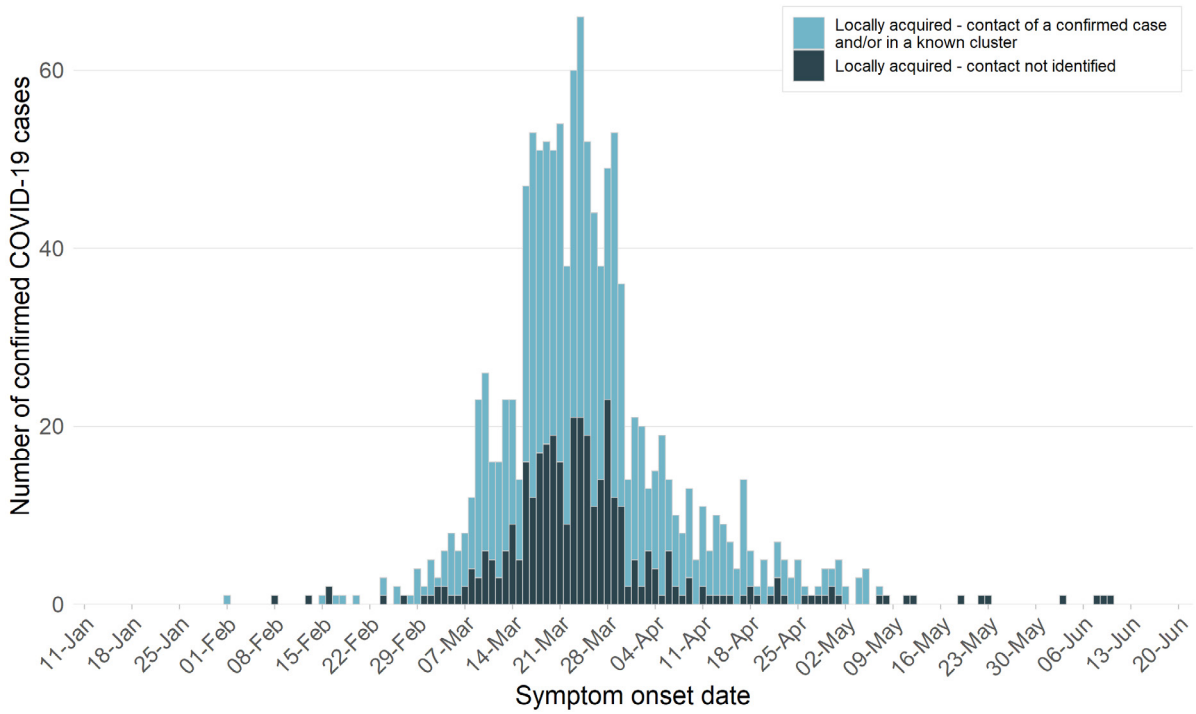
Interpretation: Approximately 60% of COVID-19 infections diagnosed in NSW to 20 June were acquired outside of NSW (almost all overseas) and the remaining 40% have been acquired locally (in NSW). The number of new cases reported in NSW has decreased significantly since the peak in mid-March. The number of cases with an overseas source in recent weeks is largely due to a program of screening all overseas travellers 10 days after arrival in NSW.

How much transmission is occurring in NSW?

All new cases who have not travelled outside of NSW 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 source identified suggest that there are people infected with COVID-19 in the community who have not been diagnosed.

In March, when the number of new cases diagnosed each day was high, public health efforts were focussed on contact tracing to limit further spread in the community. With a decline in cases, increased attention is given to identifying the source of infection for every case. High rates of testing are needed to ensure cases are identified as quickly as possible. Careful attention is given to understanding where transmission is occurring as social distancing measures are relaxed.

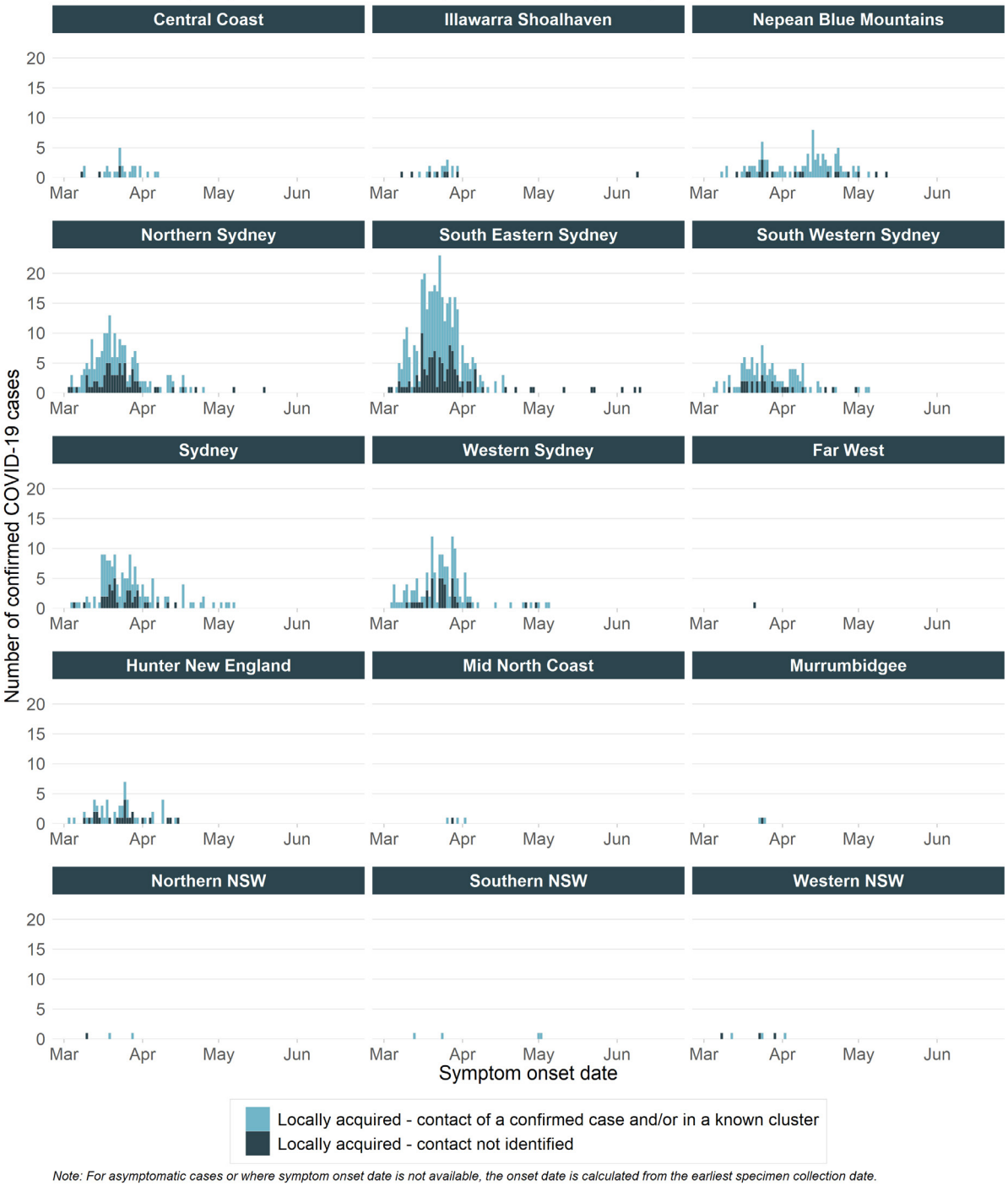
Figure 2. Locally acquired COVID-19 cases by onset of illness per day, NSW, 2020



Note: For asymptomatic cases or where symptom onset date is not available, the onset date is calculated from the earliest specimen collection date.

Interpretation: Larger clusters occurred in NSW before many of the strict social distancing rules were introduced. Since this time, there has been a decline in COVID-19 cases both with a known and unknown source.

Figure 3. Locally acquired COVID-19 cases by onset of illness per day, NSW, 2020



Note: For asymptomatic cases or where symptom onset date is not available, the onset date is calculated from the earliest specimen collection date.

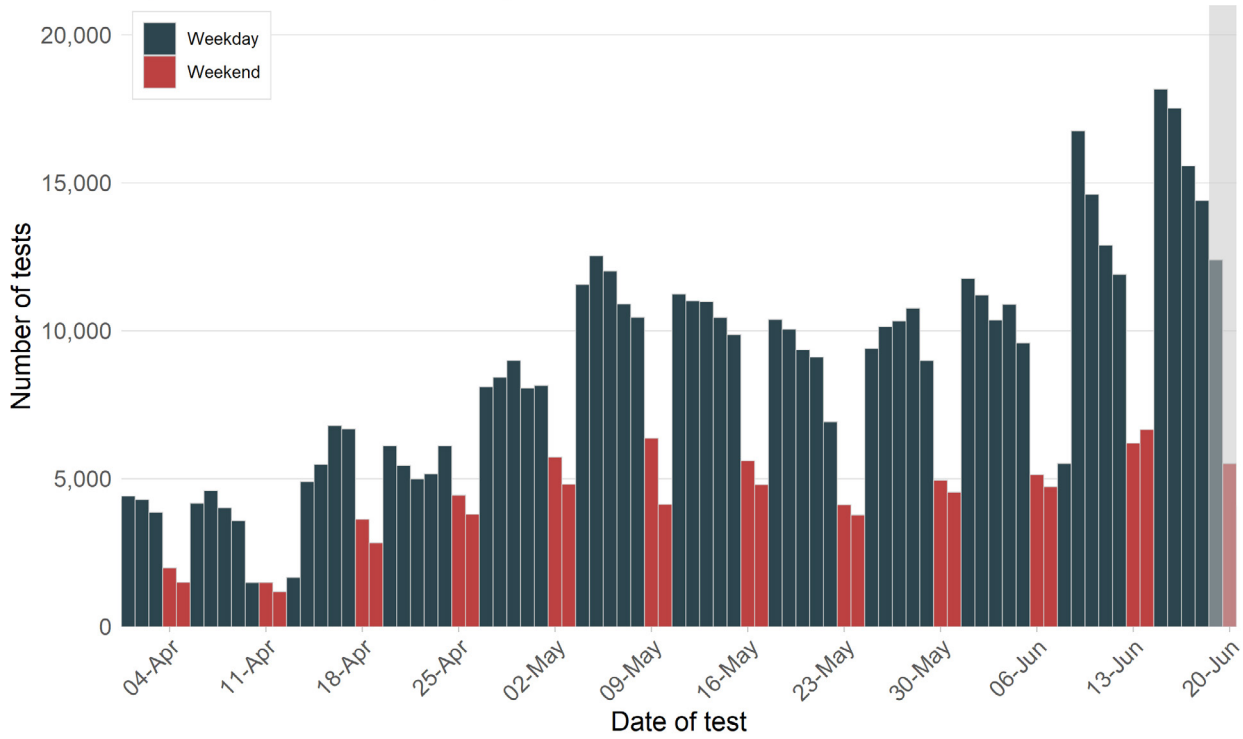
Interpretation: Early in the outbreak infection more commonly occurred in people living in metropolitan Sydney (particularly in South Eastern Sydney and Northern Sydney LHDs) and this likely reflected the residence of travellers who returned from countries with COVID-19 transmission. During April there was an increase in cases in Nepean Blue Mountains LHD, largely due to an outbreak in the Anglicare Newmarch House aged care facility which has ended (**symptom onset** of last case was 4 May). No cases have been diagnosed in residents of rural or regional LHDs since May. The small number of recent cases have been reported in residents of metropolitan Sydney.

How much testing is happening?

High rates of testing are essential to identify and isolate people who are infectious and to allow contact tracing (quarantining of all people potentially infected by a case) to limit the spread of infection. Testing is not recommended for those in the community without symptoms except in special settings when cases have been identified such as aged care, health care, disability homes and schools.

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 4. Number of tests per day, NSW, 2020

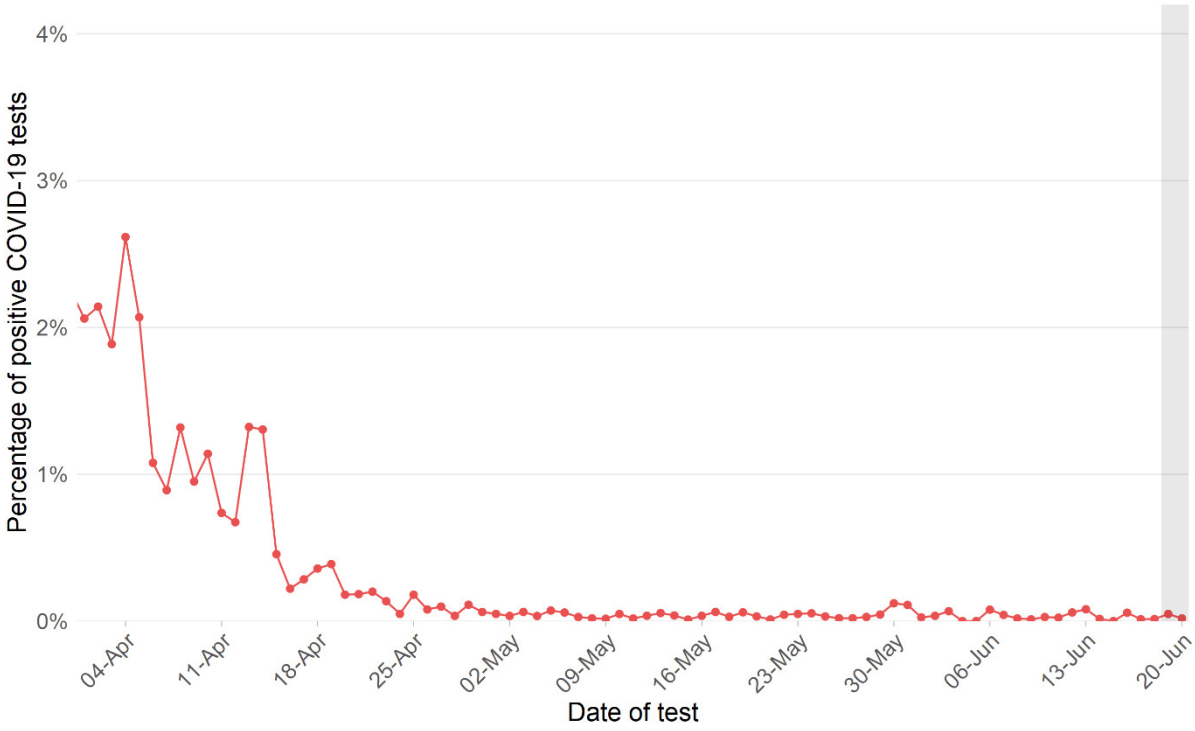


Note: PCR tests performed after becoming a confirmed case are excluded.
The shaded area shows dates where counts may be incomplete due to a delay in reporting negative results

Interpretation: COVID-19 testing increased significantly in April and early May in line with the 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. The highest number of tests ever reported in a single day was reported this week with 18,167 tests on Monday 15 June.

[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 5. Proportion of tests positive for COVID-19, NSW, 2020

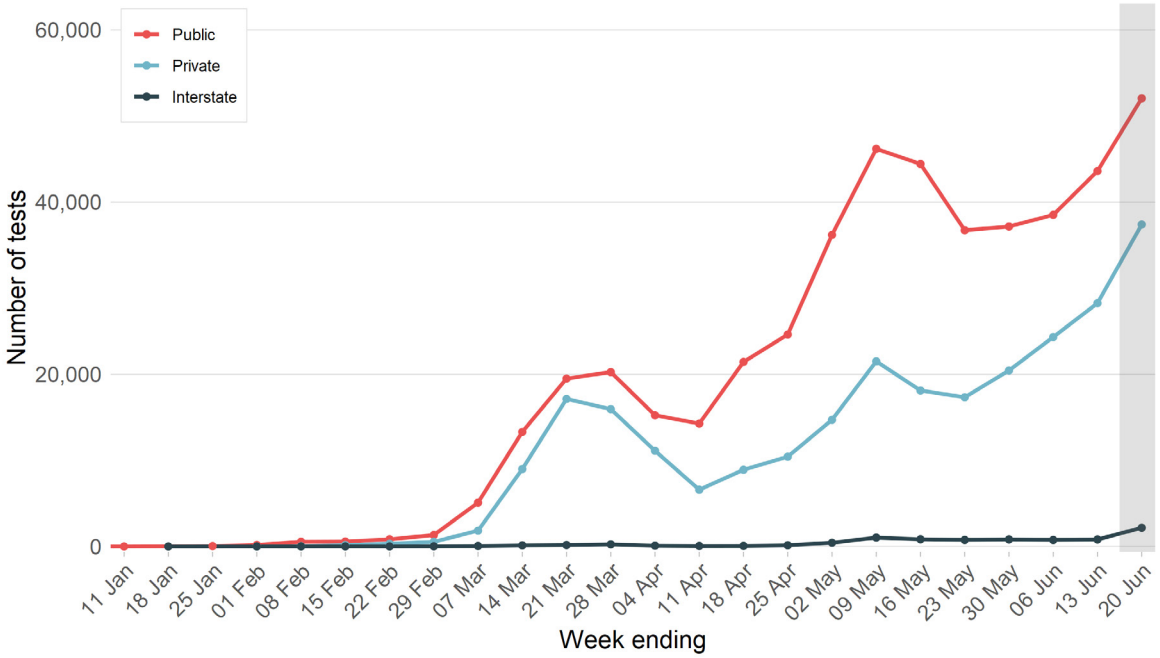


Note: PCR tests performed after becoming a confirmed case are excluded.

Interpretation: The number of people diagnosed and proportion of tests positive for COVID-19 in NSW declined since mid-March to early May, and has stabilised at very low levels since, despite the high rates of testing. This suggests there is currently limited transmission in the community.

Which laboratories are doing the testing?

Figure 6. Number of tests by week and facility type, NSW, 2020



Note: This includes retests and is not person unique.
Once confirmed as a case, a person's further tests are not counted
Shading indicates current week, which underestimates testing due to a delay in importation or receipt of negative results
Weeks with less than three cases by facility type have been excluded

Interpretation: In the week ending 20 June, approximately 60% of tests were done in public laboratories. The recent increases in testing occurred in both public and private laboratories.

SECTION 2: COVID-19 TRANSMISSION IN NSW IN THE LAST FOUR WEEKS

To understand the extent of COVID-19 transmission in the community, public health staff carefully consider information collected from each new case at the time of diagnosis. The following analysis is for people who acquired their infections locally and reported by the date of their onset of illness.[2]

Information from cases who became unwell in the last 28 days 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 the laboratory to perform the test. Some people who have tested positive to COVID-19 do not report having any symptoms despite thorough investigation. As it is not possible to determine when these cases were infected they are excluded in a review of recent transmission.

Table 2. Symptomatic locally acquired COVID-19 cases in NSW, by week of onset and source of infection, 24 May to 20 June 2020

Locally acquired cases	Week of onset			
	20 June	13 June	6 June	30 May
Contact of a confirmed case and/or part of a known cluster	0	0	0	0
Source not identified	0	3	1	0
Total	**0**	**3**	**1**	**0**

Interpretation: No links have been identified between the four cases with a symptom onset in the last four weeks. Two cases worked at schools during their infectious period. Both schools are in metropolitan Sydney and the cases were promptly isolated once their test results were known and close contacts were quarantined. Despite extensive testing, no additional cases have yet been identified.

While it is encouraging that the number of cases remains low, high rates of testing are required to rapidly identify cases to prevent the spread of infection. This is especially important as social distancing rules relax. Maintaining 1.5 m distance between people outside the household limits the opportunity for transmission.

[2] This analysis differs from Table 1, which is presented by date of report.

Cases and testing by gender

The four recent cases included two males and two females.

Table 3. Rates of COVID-19 testing by gender, up to 20 June 2020*

Gender	Week ending 20 June		Week ending 13 June		Total to 20 June	
	No. tests	No. tests per 1,000 population	No. tests	No. tests per 1,000 population	No. tests	No. tests per 1,000 population
Female	49,392	12.1	39,868	9.8	417,327	102.0
Male	40,638	10.1	32,628	8.1	319,214	79.5

*Excludes cases with unavailable information on gender.

Interpretation: Testing increased by approximately the same rate for both males and females in the week ending 20 June. Women continue to have higher rates of testing compared to men.

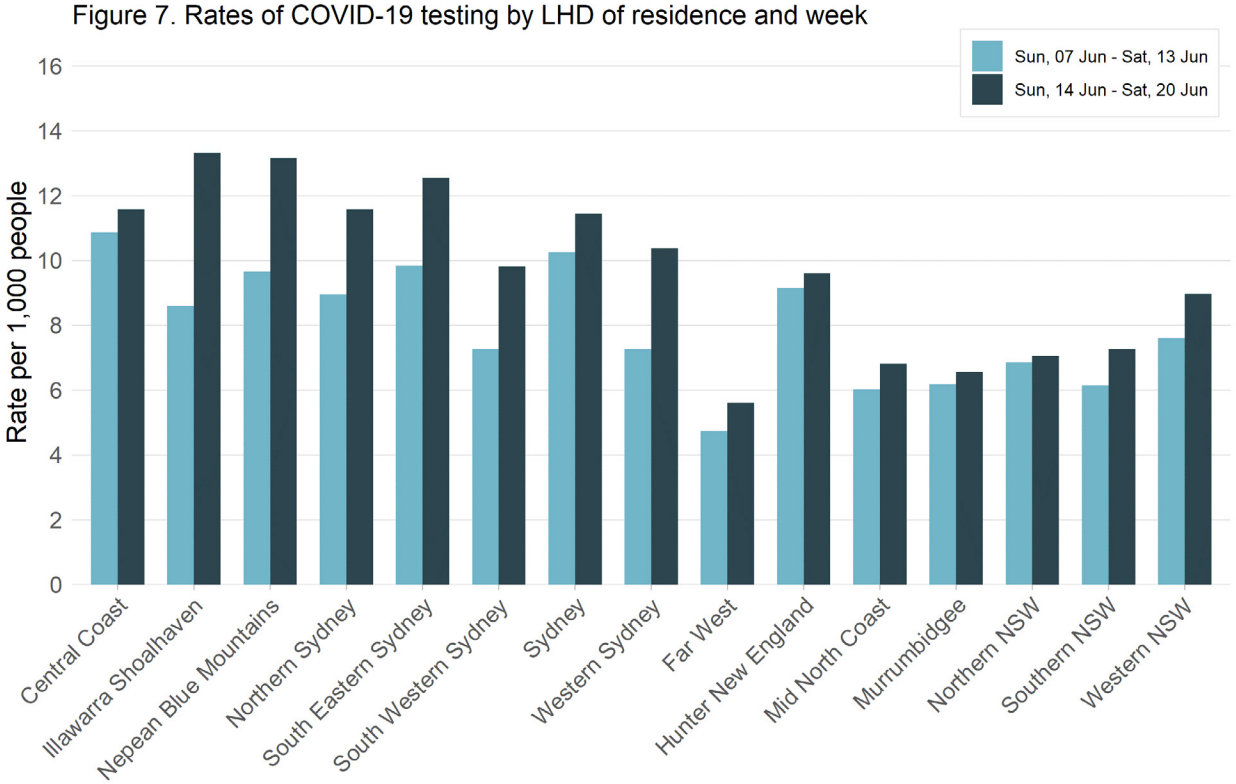
Cases and testing by Local Health District of residence

Table 4. Symptomatic locally acquired COVID-19 cases by Local Health District of residence and week of onset, 24 May to 20 June 2020

Local Health District	Week of onset				Total
	20 June	13 June	6 June	30 May	
Central Coast	0	0	0	0	**0**
Far West	0	0	0	0	**0**
Hunter New England	0	0	0	0	**0**
Illawarra Shoalhaven	0	1	0	0	**1**
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	2	1	0	**3**
South Western Sydney	0	0	0	0	**0**
Southern NSW	0	0	0	0	**0**
Sydney	0	0	0	0	**0**
Western NSW	0	0	0	0	**0**
Western Sydney	0	0	0	0	**0**
Grand Total	**0**	**3**	**1**	**0**	**4**

Interpretation: Three cases with symptom onset in the last four weeks included three residents of South Eastern Sydney LHD and one resident from Illawarra Shoalhaven LHD.

Figure 7. Rates of COVID-19 testing by LHD of residence and week



Overall, testing rates were higher in the week ending 20 June compared to the previous week (11 per 1,000 vs 9 per 1,000).

Interpretation: Almost all LHDs reported higher rates of testing in the week ending 20 June when compared to the previous week with the highest rates reported in Illawarra Shoalhaven, Nepean Blue Mountains and South Eastern Sydney LHDs. Refer to Appendix A for testing rates by LGA.

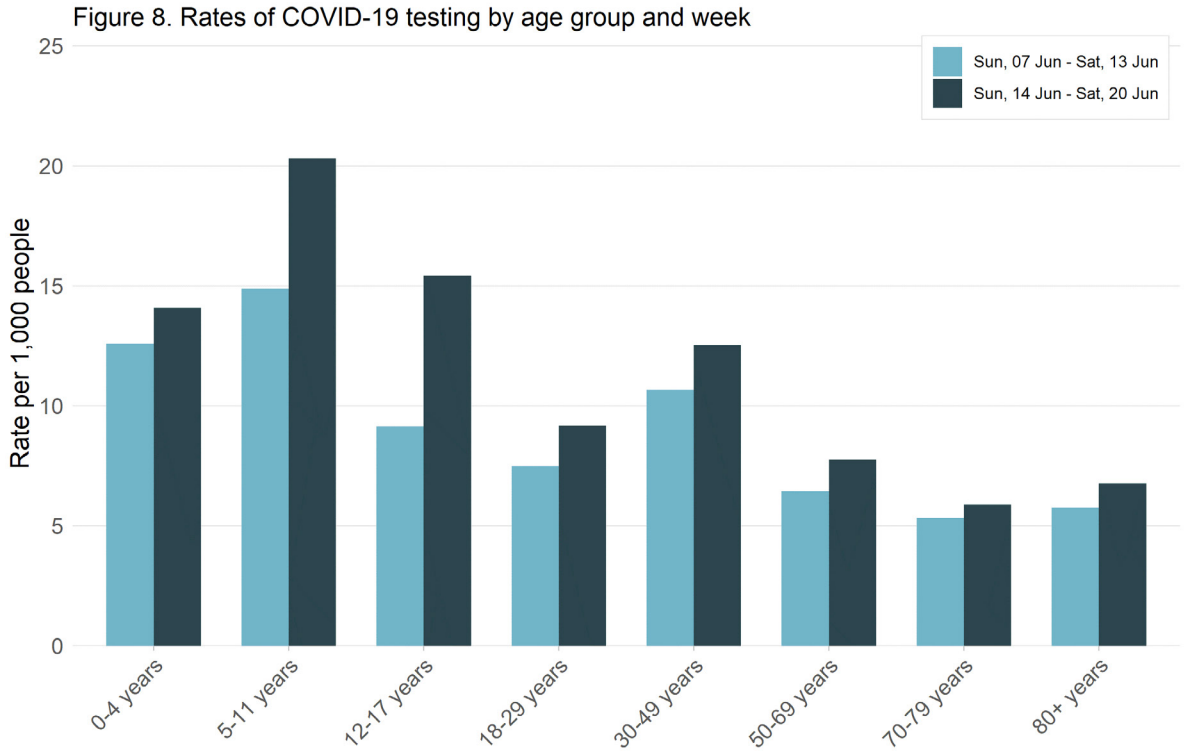
Cases and testing by age group

Table 5. Symptomatic locally acquired COVID-19 cases by age group and week of onset, 24 May to 20 June 2020

Age group	Week ending				Total
	20 June	13 June	6 June	30 May	
0-4 years	0	0	0	0	**0**
5-11 years	0	0	0	0	**0**
12-17 years	0	0	0	0	**0**
18-29 years	0	2	1	0	**3**
30-49 years	0	1	0	0	**1**
50-69 years	0	0	0	0	**0**
70-79 years	0	0	0	0	**0**
80+ years	0	0	0	0	**0**
All ages	**0**	**0**	**0**	**0**	**4**

Interpretation: All four recent cases were adults aged less than 50 years.

Figure 8. Rates of COVID-19 testing by age group and week



Interpretation: Testing rates increased in the week ending 20 June in all age groups but primarily in children. This trend was observed across all metropolitan LHDs. Lower rates of testing continue to be observed in young adults (18-29 years) and those aged over 50 years.

How long does it take to get a positive COVID-19 test result?

To enable prompt public health action, laboratories prioritise the notification of positive COVID-19 test results to NSW Health. In certain circumstances, NSW Health may be informed of a potential positive result in samples undergoing further laboratory investigation prior to the final diagnosis.

Despite marked increases in testing since January, the time from testing to notification of a positive result (measured in whole days) has remained stable at one day from test to notification for cases reported each week in the period 28 March to 16 May. The time taken to receive a negative result is typically longer.

Table 6. Time from testing to notification for locally acquired COVID-19 cases reported from 24 May to 20 June 2020

Time from test to notification	Cases
Same day	1
1 day	1
2 days	2

Interpretation: Two of the four newly diagnosed cases diagnosed in the four weeks ending 20 June were notified to NSW Health within one day of the test being conducted.

Areas with COVID-19 cases (by report date) where no source was identified

Cases with no source identified suggest that there may be people infected with COVID-19 in the community who have not been diagnosed. High rates of testing are necessary to identify other cases and enable public health action to limit the spread of infection. The following analysis is based on the date that the case was reported to NSW Health.

Table 7. Testing in areas for locally acquired cases where no source was identified, reported from 24 May to 20 June 2020

LGA	Cases				Tests				Tests per 1,000 population			
	20 June	13 June	6 June	30 May	20 June	13 June	6 June	30 May	20 June	13 June	6 June	30 May
Shellharbour	1	0	0	0	1,354	759	582	485	18.5	10.4	8.0	6.6

Interpretation: Rates of testing in Shellharbour exceeded the state rate each week for the last two weeks and only a single case was identified, indicating low rates of illness in the community.

How quickly are locally acquired cases getting tested after symptoms begin?

All people who undergo testing are advised to isolate themselves while they are waiting for test results to avoid spreading infection to others should they be confirmed to have COVID-19. Diagnosis as close as possible to the time symptoms develop is important as it enables close contacts to be quarantined early, which reduces the risk of further transmission. The case reported in the week ending 20 June was tested five days after onset of symptoms.

Cases in pregnant women

One case diagnosed in the week ending 20 June was in a returned traveller who was pregnant. Refer to this week's In Focus for an in-depth review of COVID-19 in pregnant women.

Cases in Aboriginal people

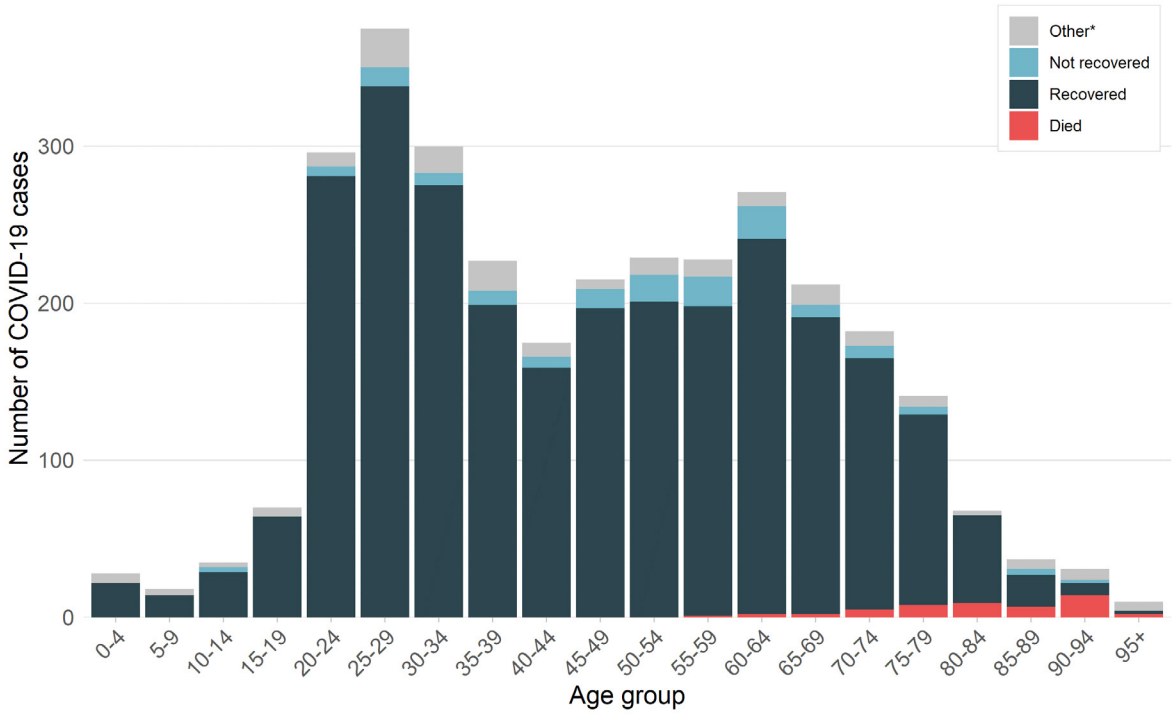
No new cases among Aboriginal people were reported in the week ending 20 June. The most recent COVID-19 case in an Aboriginal person was reported in the week ending 30 May, who acquired their infection overseas.

SECTION 3: RECOVERY AND DEATHS

How many cases have recovered?

In NSW, recovery status for COVID-19 is assessed three weeks after the onset of illness by interviewing the case. Cases reporting resolution of all COVID-19 symptoms are considered to have recovered. Cases who have not recovered at three weeks are called in the following weeks until recovery. The bars on the figure below show the total number of cases by age group and health status up to 20 June. This includes all cases reported in NSW (acquired locally and overseas).

Figure 9. Total number of COVID-19 cases by age group and health status, NSW, 2020



*Less than 3 weeks from symptom onset and/or recovery data not available

Interpretation: Overall, more than 85% of cases have recovered.

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

In total, 1.6% of cases (50 people) have died as a result of COVID-19 infection, most of whom were 70 years of age or older including 27 residents of aged care facilities with known COVID-19 outbreaks. Approximately one-quarter of the deaths were in people who acquired COVID-19 overseas.

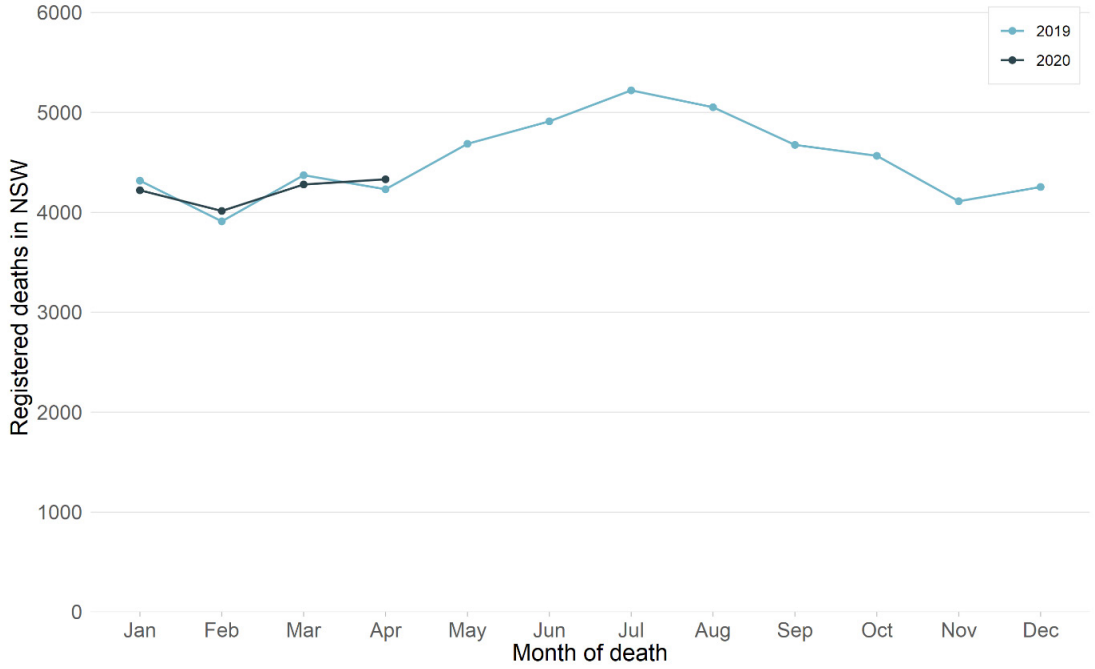
Internationally it is estimated that 5.3% of COVID-19 cases are reported to have died as a result of their infection.[3] Countries such as Italy, the United Kingdom and Spain have reported higher mortality rates (14.5%, 14.0% and 11.5%), while NSW reports similar rates to South Korea (2.3%) and New Zealand (1.9%).

[3] WHO Coronavirus disease (COVID-19) Situation Report – 154
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.

Figure 10. Deaths from any cause registered in NSW up to 18 June, 2020



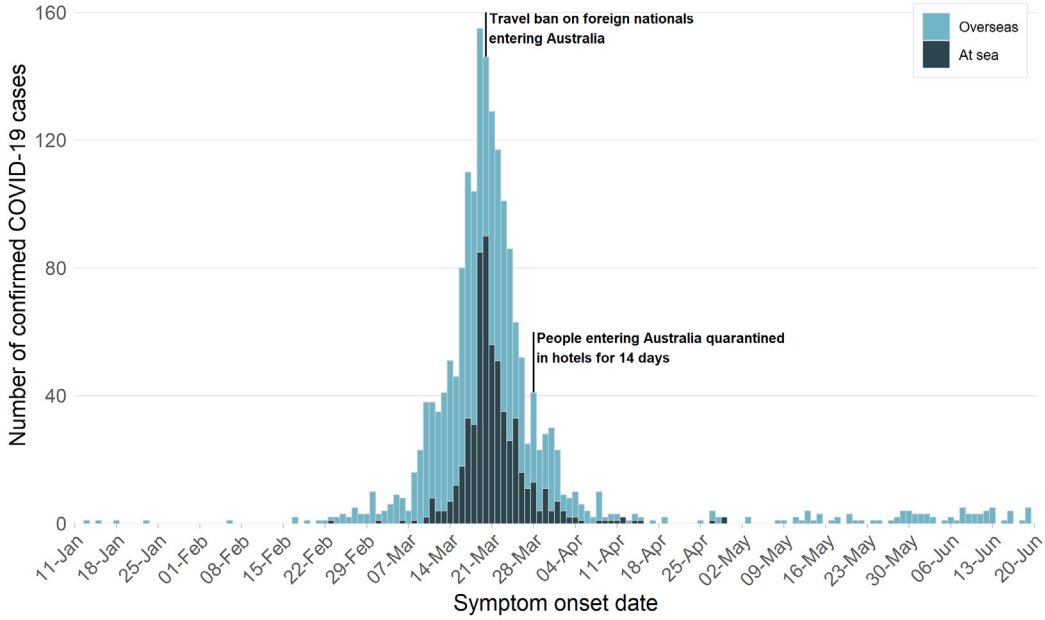
Interpretation: When compared to the same period in 2019, the numbers of registered deaths were slightly lower in March and slightly higher in April. While there is a lag in notification of deaths, there is no indication to date that the COVID-19 pandemic in NSW is causing an overall increase in mortality.

SECTION 4: 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 11. Number of overseas acquired COVID-19 cases reported per day, NSW, 2020



Note: For asymptomatic cases or where symptom onset is unavailable, the onset date is calculated from the earliest specimen collection date.

Interpretation: Overall the number of new cases in returned travellers has decreased markedly in line with travel restrictions. However, given the low level of community transmission, returned travellers account for almost all cases (90%, n=65) reported in NSW in the last four weeks (n=72). In this time period, most had returned from Pakistan (n=39), followed by Brazil (n=4) and India (n=3).

Most travellers diagnosed in quarantine are returning Australian nationals and the country where people acquired their infection in recent weeks can be influenced by the numbers and size of arriving repatriation flights. These people pose no threat of transmission to the community, highlighting the effectiveness of the hotel quarantine program.

To 20 June, cruise ship passengers accounted for the largest number of overseas acquired infections (582 cases). Following this, cases were most commonly returning from the United Kingdom (323 cases), United States (272 cases) and New Zealand (54 cases).

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 of Sunday 14 June to Saturday 20 June, 4,681 people were screened at Sydney International Airport and 39 were referred for testing. Since screening began on 2 February, a total of 82,868 people have been screened and 922 were referred for onsite health assessment and testing.

SECTION 5: OTHER RESPIRATORY INFECTIONS IN NSW

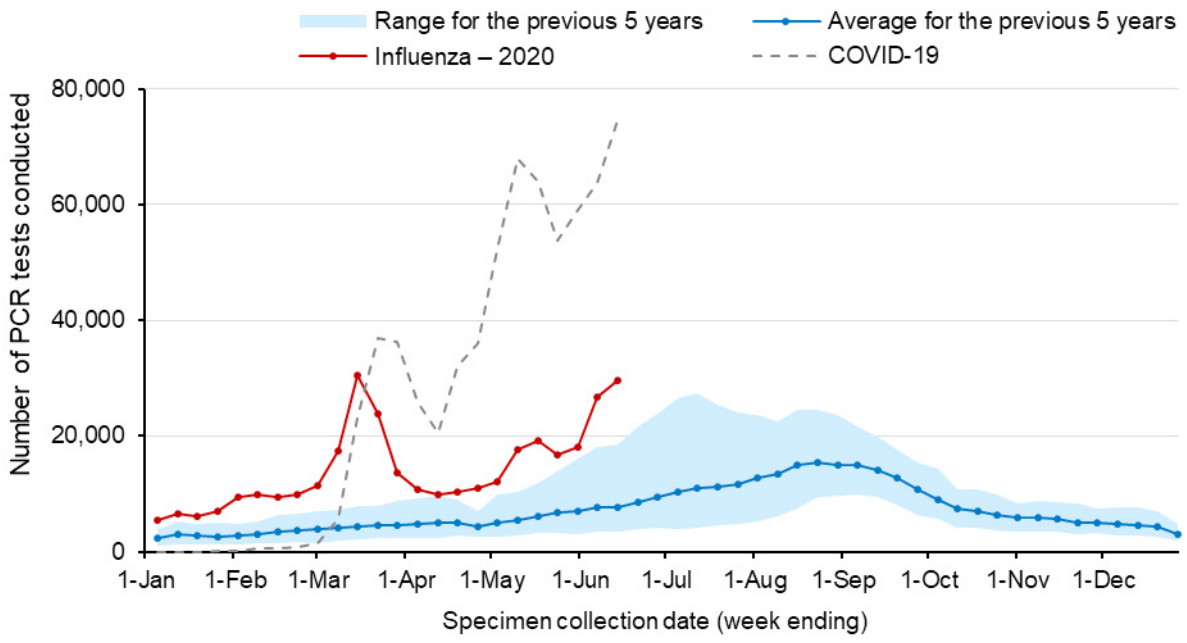
Influenza and other respiratory virus surveillance in NSW to 14 June 2020

In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories throughout the year. 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.

A total of 342,133 tests for influenza have been performed at sentinel NSW laboratories up to 14 June 2020, with 29,509 tests conducted in the week ending 14 June 2020. Refer to Appendix B for PCR testing results by respiratory virus.

How much influenza testing is happening?

Figure 12. Number of influenza tests conducted at sentinel NSW laboratories per week, 1 January to 14 June 2020 (red line), compared with the previous 5 years

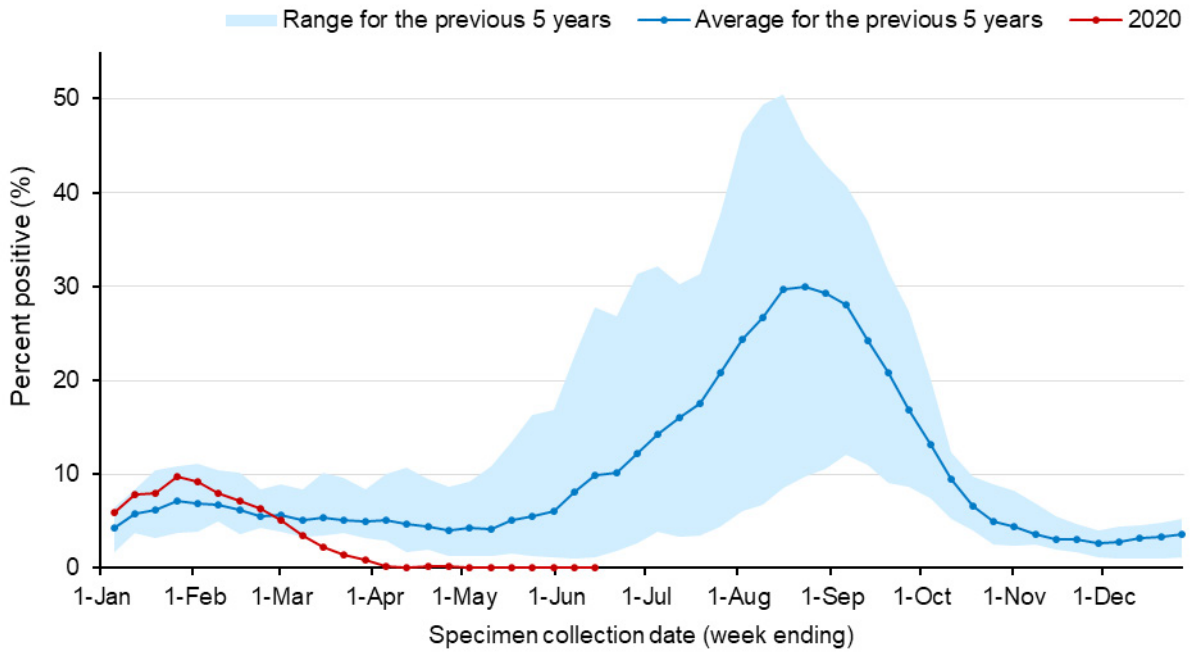


Interpretation: Influenza testing activity has increased compared with previous years. The peak in March corresponds to an increase in testing for COVID-19 virus. The subsequent decline of influenza testing, and sharp increase in COVID-19 testing from early April, reflects changes in testing practices for COVID-19 introduced in late March so that testing for influenza and other respiratory viruses was by exception to enable laboratories to increase COVID-19 testing using common equipment. Influenza testing has since increased and testing rates remain above previous years.

How much influenza is circulating?

The graph below shows the weekly number of positive PCR tests for influenza for every 100 tests conducted at sentinel NSW laboratories between 1 January and 14 June 2020.

Figure 13. Weekly rate of influenza detected by PCR per 100 tests conducted at sentinel NSW laboratories, 1 January to 14 June 2020 (red line), compared with the previous 5 years

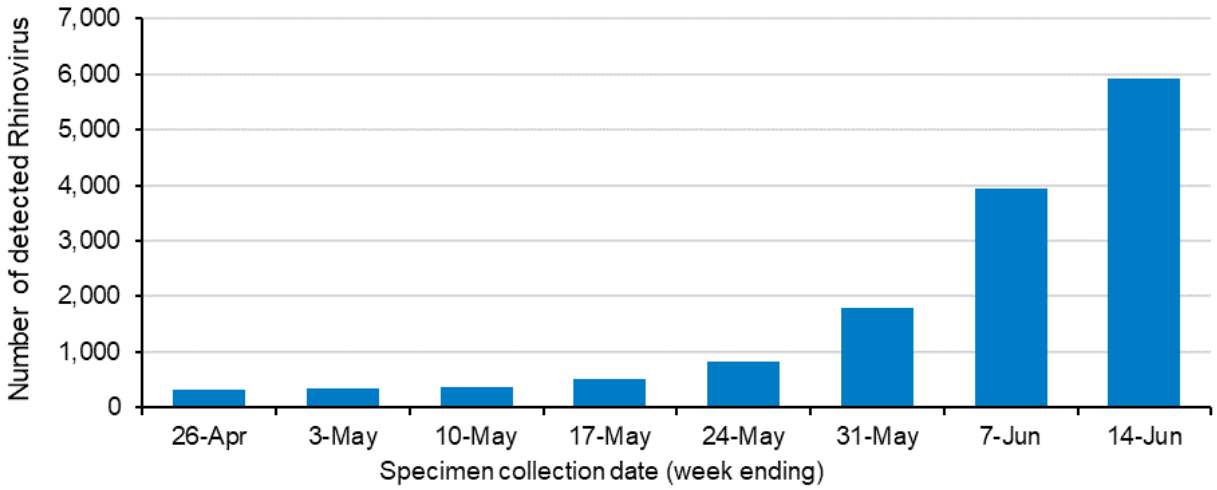


Interpretation: The percent of influenza tests that were positive in the week ending 14 June continues to be very low (less than 0.1%), indicating limited influenza transmission in the community.

How much rhinovirus is circulating?

Rhinovirus was the most common respiratory virus identified by laboratories from 1 January to 14 June 2020.

Figure 14. Weekly number of rhinovirus detected at sentinel NSW laboratories, 26 April to 14 June 2020



Interpretation: The number of positive tests for rhinovirus has markedly increased, from 812 positive tests in the week ending 24 May to 5,918 positive tests in the week ending 14 June. This indicates that it is circulating in the community.

How many people have died as a result of influenza?

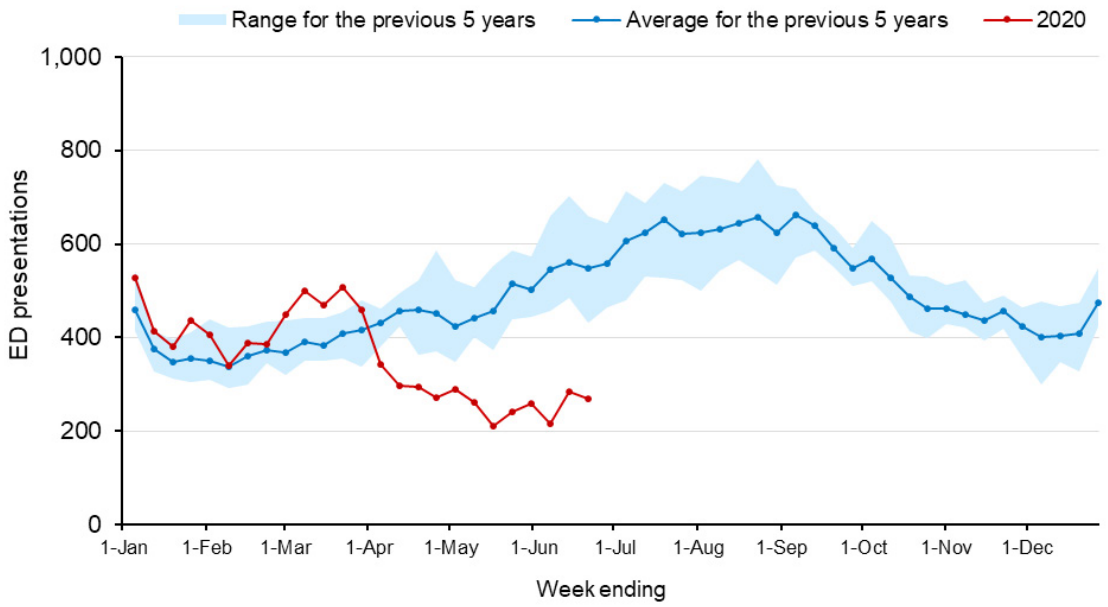
No influenza deaths were reported in the week ending 14 June. The number of influenza-related deaths identified via Coroner's reports and death registrations from 1 January to 14 June 2020 is lower than the same period last year (12 deaths in 2020 compared with 50 in 2019).[4] Two-thirds of the deaths were in people aged 65 years and over.

[4] Includes deaths in people with laboratory-confirmed influenza.

How are emergency department presentations for pneumonia tracking?

NSW emergency department (ED) surveillance for presentations of pneumonia includes ED 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.[5]

Figure 15. Total weekly counts of NSW ED visits for pneumonia, all ages, 1 January to 21 June 2020 (red line), compared with the 5 previous years



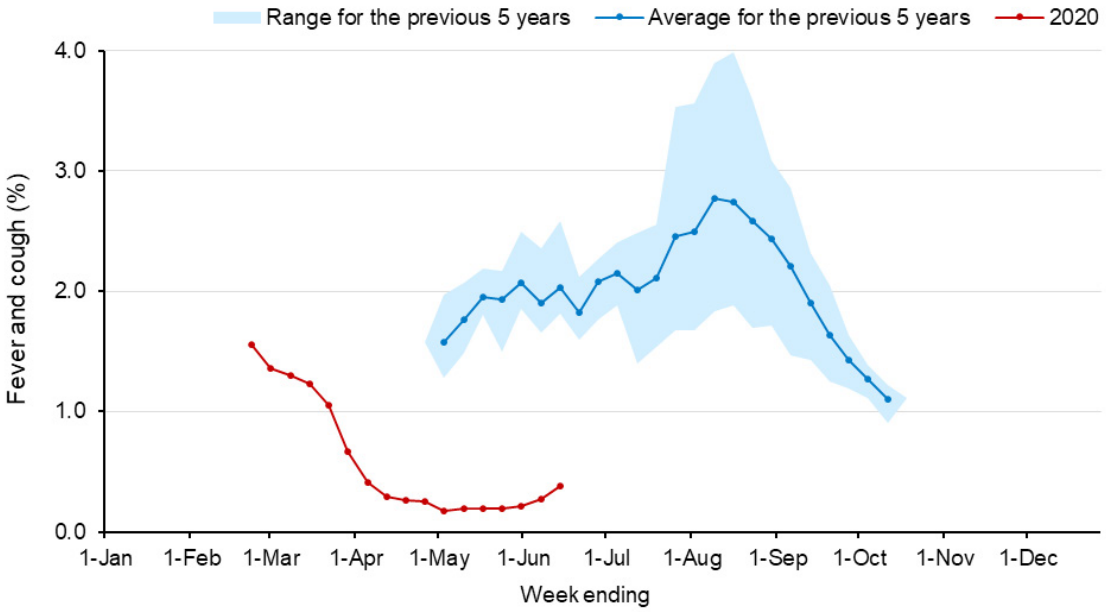
Interpretation: Pneumonia presentations decreased from the end of March and have continued to remain well below the usual range for this time of year.

[5] 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 16. Proportion of people reporting influenza-like illness, 1 January to 14 June 2020 (red line), compared with the 5 previous years, NSW



Interpretation: In NSW in the week ending 14 June, of the 25,247 people surveyed, 96 people (0.38%) reported typical flu-like symptoms. The proportion of people reporting symptoms is gradually increasing but remains well below the usual range for this time of year.

IN FOCUS
COVID-19 IN PREGNANT WOMEN

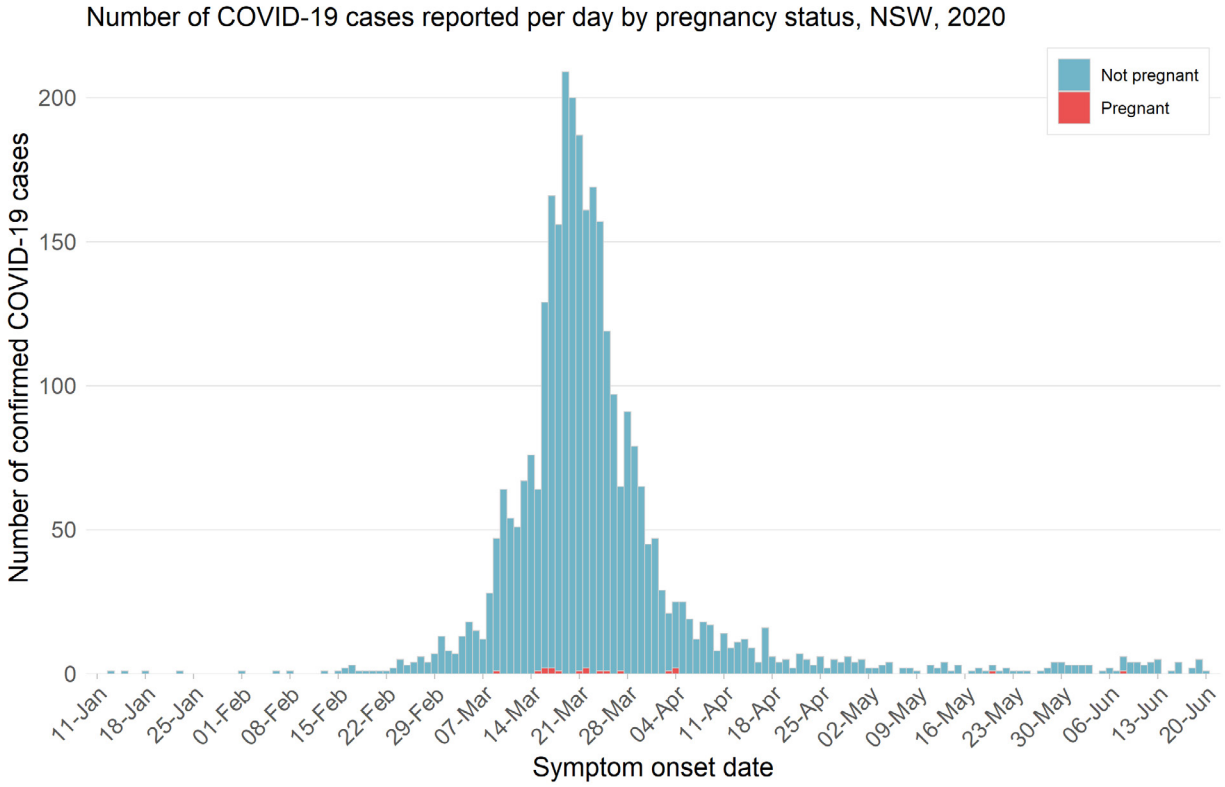
Reporting period: 1 January to 21 June 2020

This is a summary of all COVID-19 infections in pregnant women in NSW (including those who were infected overseas and those infected in NSW) in the period 1 January to 21 June 2020.

How many pregnant women have been diagnosed with COVID-19 in NSW?

In total, 18 pregnant women have been diagnosed with COVID-19 in NSW, with six women in each trimester.

Each bar in the below figure shows the number of new cases in pregnant women based on the date of symptom onset.



Note: For asymptomatic cases or where symptom onset date is not available, the onset date is calculated from the earliest specimen collection date.

Interpretation: Pregnant women were a very small proportion of all COVID-19 cases diagnosed to 21 June. The first pregnant woman diagnosed with COVID-19 developed symptoms on 9 March and the most recently diagnosed case developed symptoms on 8 June.

How much testing is happening in pregnant women?

As pregnancy status is not routinely collected on test requests and people who test negative are not interviewed by public health staff, information on testing rates in pregnant women is not available. The below table shows the cases and testing in all females aged 15 to 45 years.

COVID-19 cases and testing in females aged 15 to 45 years

Age group	Cases in females		Tests in females	% Positive tests (all females)
	Pregnant	Total		
15-19	0	32	14,818	0.2%
20-24	1	178	25,369	0.7%
25-29	6	196	34,103	0.6%
30-34	7	155	37,611	0.4%
35-39	4	108	38,956	0.3%
40-45	0	77	33,608	0.2%
Total	**18**	**746**	**184,465**	**0.4%**

Interpretation: The low proportion (0.4%) of all females of child bearing age tested who were diagnosed with COVID-19 suggests low rates of infection among women of child bearing age.

How are pregnant women getting infected?

All cases of COVID-19 are investigated by public health staff to understand the source of the infection. The table below shows the likely source of infection for cases among pregnant women.

COVID-19 cases in pregnant women by source of infection to 20 June

Source of infection	Number of cases
Locally (in NSW)	11
- Household member/s	2
- Confirmed case/s outside the home	6
- Source not identified	3
Overseas	7
Total	**18**

Two cases were likely infected by adult household members. Of the six women likely infected outside the home, two were likely infected by a workplace colleague and the remaining three were part of known outbreaks in the community.

The three cases with an unknown source resided in metropolitan Sydney.

Interpretation: Approximately 60% of cases were acquired locally. Of those cases who acquired their infection in NSW, most have been linked to a known confirmed case or part of a known outbreak.

Have pregnant Aboriginal women been infected?

No infections have been reported in pregnant Aboriginal women.

What are the symptoms in pregnant women?

One case had no symptoms but was tested while in hotel quarantine after returning from overseas. Testing is not recommended for those without symptoms except in returning travellers or special settings when a case has been identified.

The table below shows the most commonly reported symptoms.

Frequency of symptoms reported in pregnant women with COVID-19 prior to diagnosis, to 20 June

	Pregnant women (17 cases)	
Symptom	**Number**	**Percentage**
Headache	10	59%
Runny nose	9	53%
Sore throat	8	47%
Cough	8	47%
Fatigue	8	47%
Malaise	7	41%
Fever	7	41%
Body pain	6	35%
Shortness of breath	4	24%
Diarrhoea	3	18%
Joint pain	3	18%

Interpretation: The majority of the cases in pregnant women had respiratory symptoms prior to diagnosis. The 10 cases who reported headache as a symptom also reported respiratory symptoms and/or fever.

How severe has the COVID-19 infection been in pregnant women?

None of the pregnant women required admission to hospital and no deaths have been reported.

How many cases have recovered?

All 15 cases with information available have recovered.

APPENDIX A: COVID-19 PCR TESTS IN NSW

Local Health District	Local Government Area	Week ending					
		20 June		13 June		Total	
		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]	4087	11.58	3837	10.87	32862	93.13
Far West	Balranald	8	3.42	3	1.28	80	34.22
	Broken Hill	100	5.72	101	5.78	1231	70.43
	Central Darling	9	4.89	5	2.72	74	40.24
	Wentworth	52	7.37	34	4.82	393	55.72
	LHD Total[2]	169	5.61	143	4.74	1778	58.98
Hunter New England	Armidale Regional	227	7.38	209	6.79	3097	100.62
	Cessnock	564	9.4	505	8.42	4313	71.9
	Dungog	52	5.52	80	8.49	600	63.67
	Glen Innes Severn	66	7.44	53	5.97	601	67.75
	Gunnedah	86	6.78	85	6.7	598	47.16
	Gwydir	22	4.11	25	4.67	183	34.19
	Inverell	95	5.62	120	7.1	1227	72.65
	Lake Macquarie	2020	9.81	2068	10.04	21554	104.68
	Liverpool Plains	59	7.47	38	4.81	577	73.01
	Maitland	1094	12.85	1231	14.45	9929	116.58
	Mid-Coast	643	6.85	498	5.31	6414	68.35
	Moree Plains	88	6.64	62	4.68	900	67.87
	Muswellbrook	166	10.14	101	6.17	1004	61.31
	Narrabri	75	5.71	87	6.62	786	59.84
	Newcastle	1943	11.74	1902	11.49	20683	124.92
	Port Stephens	784	10.67	715	9.73	6502	88.49
	Singleton	377	16.07	288	12.28	2333	99.44
	Tamworth Regional	560	8.95	487	7.79	6982	111.64
	Tenterfield	40	6.07	40	6.07	284	43.07
	Upper Hunter Shire	155	10.93	84	5.92	1011	71.3
	Uralla	24	3.99	35	5.82	373	62.04
	Walcha	24	7.66	12	3.83	256	81.68
	LHD Total[2]	9157	9.61	8720	9.16	90142	94.65
Illawarra Shoalhaven	Kiama	351	15.01	230	9.83	2184	93.39
	Shellharbour	1354	18.49	759	10.36	6920	94.49
	Shoalhaven	1106	10.47	845	8	8494	80.4
	Wollongong	2779	12.74	1775	8.14	17499	80.23
	LHD Total[2]	5590	13.32	3609	8.6	35097	83.64

Local Health District	Local Government Area	Week ending					
		20 June		13 June		Total	
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Mid North Coast	Bellingen	71	5.46	66	5.08	851	65.48
	Coffs Harbour	503	6.51	417	5.4	4918	63.64
	Kempsey	216	7.26	219	7.36	2249	75.61
	Nambucca	113	5.71	89	4.49	1171	59.13
	Port Macquarie-Hastings	636	7.52	570	6.74	5263	62.27
	LHD Total[2]	1539	6.82	1361	6.03	14452	64.04
Murrumbidgee	Albury	274	5.04	295	5.43	2287	42.08
	Berrigan	37	4.23	28	3.2	375	42.86
	Bland	45	7.54	16	2.68	303	50.74
	Carrathool	2	0.71	5	1.79	65	23.22
	Coolamon	16	3.69	32	7.37	274	63.12
	Cootamundra-Gundagai Regional	98	8.72	99	8.81	670	59.64
	Edward River	57	6.27	65	7.16	489	53.83
	Federation	29	2.33	44	3.54	439	35.3
	Greater Hume Shire	67	6.22	57	5.3	495	45.99
	Griffith	206	7.62	183	6.77	1535	56.79
	Hay	9	3.05	7	2.37	137	46.46
	Hilltops	112	5.99	128	6.84	852	45.55
	Junee	36	5.39	24	3.59	229	34.27
	Lachlan[1]	27	4.44	5	0.82	155	25.51
	Leeton	62	5.42	57	4.98	539	47.09
	Lockhart	25	7.61	17	5.18	207	63.01
	Murray River	2	0.17	12	0.99	38	3.14
	Murrumbidgee	14	3.57	14	3.57	167	42.63
	Narrandera	36	6.1	16	2.71	231	39.16
	Snowy Valleys	153	10.57	99	6.84	849	58.64
	Temora	49	7.77	48	7.61	347	55.02
	Wagga Wagga	615	9.42	587	9	5631	86.29
	LHD Total[2]	1958	6.57	1841	6.18	16250	54.51
Nepean Blue Mountains	Blue Mountains	1217	15.38	862	10.9	10304	130.24
	Hawkesbury	911	13.54	684	10.16	6813	101.24
	Lithgow	155	7.17	101	4.67	1635	75.68
	Penrith	2892	13.58	2157	10.13	26034	122.24
	LHD Total[2]	5147	13.16	3776	9.66	44558	113.96

Local Health District	Local Government Area	Week ending					
		20 June		13 June		Total	
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Northern NSW	Ballina	366	8.2	402	9.01	3845	86.16
	Byron	320	9.12	259	7.38	3133	89.31
	Clarence Valley	245	4.74	247	4.78	2921	56.54
	Kyogle	31	3.52	22	2.5	341	38.77
	Lismore	366	8.38	371	8.49	3376	77.27
	Richmond Valley	173	7.37	205	8.74	1536	65.46
	Tenterfield	40	6.07	40	6.07	284	43.07
	Tweed	684	7.05	620	6.39	6133	63.23
	LHD Total[2]	2194	7.07	2130	6.86	21355	68.81
Northern Sydney	Hornsby	1562	10.27	1146	7.54	11485	75.53
	Hunters Hill	348	23.23	244	16.29	3174	211.88
	Ku-ring-gai	1708	13.43	1146	9.01	12959	101.92
	Lane Cove	906	22.56	795	19.8	8195	204.08
	Mosman	375	12.1	299	9.65	3595	116.04
	North Sydney	724	9.65	619	8.25	6605	88.04
	Northern Beaches	3133	11.46	2535	9.27	27060	98.94
	Parramatta[1]	2071	8.05	1447	5.63	16110	62.64
	Ryde	1174	8.94	970	7.39	11659	88.82
	Willoughby	766	9.43	545	6.71	5796	71.39
	LHD Total[2]	11071	11.58	8564	8.96	93628	97.95
South Eastern Sydney	Bayside	1549	8.68	1262	7.07	12659	70.96
	Georges River	1507	9.45	1119	7.02	10831	67.92
	Randwick	2082	13.38	1989	12.78	19818	127.32
	Sutherland Shire	4205	18.23	2529	10.97	25194	109.25
	Sydney[1]	2311	9.38	2160	8.77	25763	104.58
	Waverley	1130	15.21	1181	15.9	13437	180.86
	Woollahra	992	16.7	835	14.06	9945	167.46
	LHD Total[2]	12034	12.55	9445	9.85	99816	104.07
South Western Sydney	Camden	1607	15.84	1112	10.96	10921	107.66
	Campbelltown	2183	12.77	1530	8.95	14904	87.19
	Canterbury-Bankstown[1]	3279	8.68	2781	7.36	27609	73.06
	Fairfield	1286	6.07	856	4.04	9740	46.01
	Liverpool	2419	10.63	1789	7.86	16143	70.93
	Wingecarribee	681	13.32	522	10.21	5433	106.25
	Wollondilly	435	8.18	330	6.21	3235	60.87
	LHD Total[2]	10189	9.81	7537	7.26	73810	71.07

Local Health District	Local Government Area	Week ending					
		20 June		13 June		Total	
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Southern NSW	Bega Valley	216	6.27	158	4.58	1782	51.69
	Eurobodalla	302	7.85	251	6.52	2694	70.02
	Goulburn Mulwaree	337	10.82	239	7.68	2512	80.69
	Queanbeyan-Palerang Regional	421	6.89	433	7.09	3671	60.08
	Snowy Monaro Regional	135	6.49	118	5.67	1200	57.71
	Upper Lachlan Shire	82	10.17	46	5.71	494	61.3
	Yass Valley	82	4.8	90	5.27	891	52.14
	LHD Total[2]	1575	7.26	1335	6.15	13245	61.02
Sydney	Burwood	303	7.46	232	5.71	2289	56.36
	Canada Bay	1132	11.78	946	9.85	10658	110.94
	Canterbury-Bankstown[1]	3279	8.68	2781	7.36	27609	73.06
	Inner West	2665	13.27	2606	12.98	25064	124.81
	Strathfield	475	10.12	372	7.93	3931	83.77
	Sydney[1]	2311	9.38	2160	8.77	25763	104.58
	LHD Total[2]	7979	11.45	7145	10.25	73636	105.68
Western NSW	Bathurst Regional	465	10.66	383	8.78	3499	80.22
	Blayney	72	9.76	69	9.35	678	91.88
	Bogan	19	7.36	29	11.24	139	53.88
	Bourke	16	6.18	14	5.41	62	23.94
	Brewarrina	18	11.17	21	13.04	94	58.35
	Cabonne	97	7.11	60	4.4	623	45.69
	Cobar	12	2.58	14	3.01	131	28.12
	Coonamble	16	4.04	19	4.8	249	62.91
	Cowra	93	7.3	104	8.16	673	52.81
	Dubbo Regional	518	9.64	493	9.18	3210	59.76
	Forbes	105	10.6	32	3.23	320	32.3
	Gilgandra	15	3.54	27	6.37	158	37.27
	Lachlan[1]	27	4.44	5	0.82	155	25.51
	Mid-Western Regional	276	10.93	208	8.24	1621	64.2
	Narromine	45	6.91	53	8.13	287	44.04
	Oberon	30	5.54	20	3.7	369	68.19
	Orange	494	11.64	411	9.68	3935	92.7
	Parkes	68	4.58	73	4.92	656	44.21
	Walgett	47	7.9	22	3.7	366	61.48
	Warren	33	12.24	42	15.57	238	88.25
	Warrumbungle Shire	84	9.05	60	6.47	541	58.31
	Weddin	21	5.81	11	3.04	160	44.28
	LHD Total[2]	2557	8.97	2165	7.6	18086	63.46

Local Health District	Local Government Area	Week ending					
		20 June		13 June		Total	
		No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Western Sydney	Blacktown	4604	12.3	3128	8.35	31353	83.73
	Cumberland	2105	8.72	1604	6.64	16249	67.28
	Parramatta[1]	2071	8.05	1447	5.63	16110	62.64
	The Hills Shire	2468	13.87	1692	9.51	16752	94.13
	LHD Total[2]	10940	10.39	7658	7.27	77908	73.96
NSW Total[3]		**90,238**	**11.2**	**72,615**	**8.98**	**739,330**	**91.4**

[1]Local Government Area (LGA) spans multiple Local Health Districts.
[2]Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.
[3]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 7 JUNE 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	Adenovirus	Para-influenza	RSV	Rhinovirus	HMPV	Enterovirus
1 Jan — 7 June 2020									
Count	342,133	6,552	939	3,223	8,814	4,412	46,924	1,833	3,261
% Positive		1.9%	0.3%	0.9%	2.6%	1.3%	13.7%	0.5%	1.0%
Month ending									
3/02/2020*	34,953	2,508	401	846	1,900	752	5,036	599	335
1/03/2020	40,575	2,363	315	798	2,435	1,118	8,245	437	1,007
29/03/2020	85,238	1,549	200	898	4,117	1,977	18,088	664	1,502
3/05/2020*	53,809	70	13	171	264	399	2,213	46	210
31/05/2020	71,417	35	5	231	62	100	3,474	27	112
Week ending									
7/06/2020	26,632	8	2	147	23	27	3,950	20	45
14/06/2020	29,509	19	3	132	13	39	5,918	40	50

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

GLOSSARY

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

Dates used in COVID-19 reporting

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