COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 19, ENDING 09 MAY 2020

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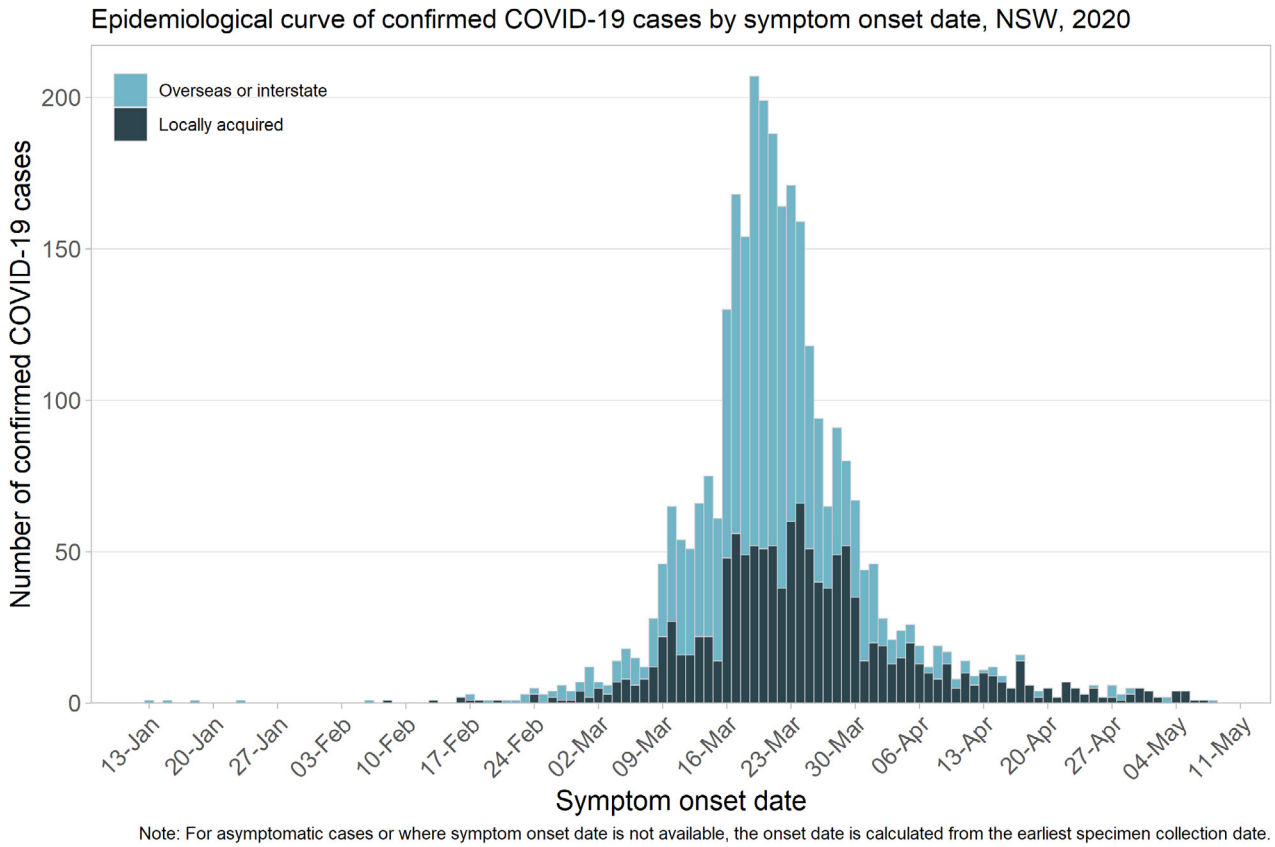
SECTION 1: HOW IS THE OUTBREAK TRACKING IN NSW?

	Week ending May 9	Week ending May 2	% change	Total cases up to May 9
Number of cases	25	37	-32%	3,053
Overseas acquired	5	14	-64%	1,831
Locally acquired	19	23	-17%	1,222
Number of deaths	2	8	-75%	46
Number tested	61,336	44,412	+38%	304,464

Confirmed COVID-19 cases (people infected with the SARS-COV-2 virus) includes NSW residents diagnosed in NSW who were infected overseas and in Australia (in NSW and interstate) and interstate or international visitors diagnosed in NSW who are under the care of NSW Health.

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. The graph below shows the number of new cases reported in NSW has decreased significantly since the peak in mid-March.



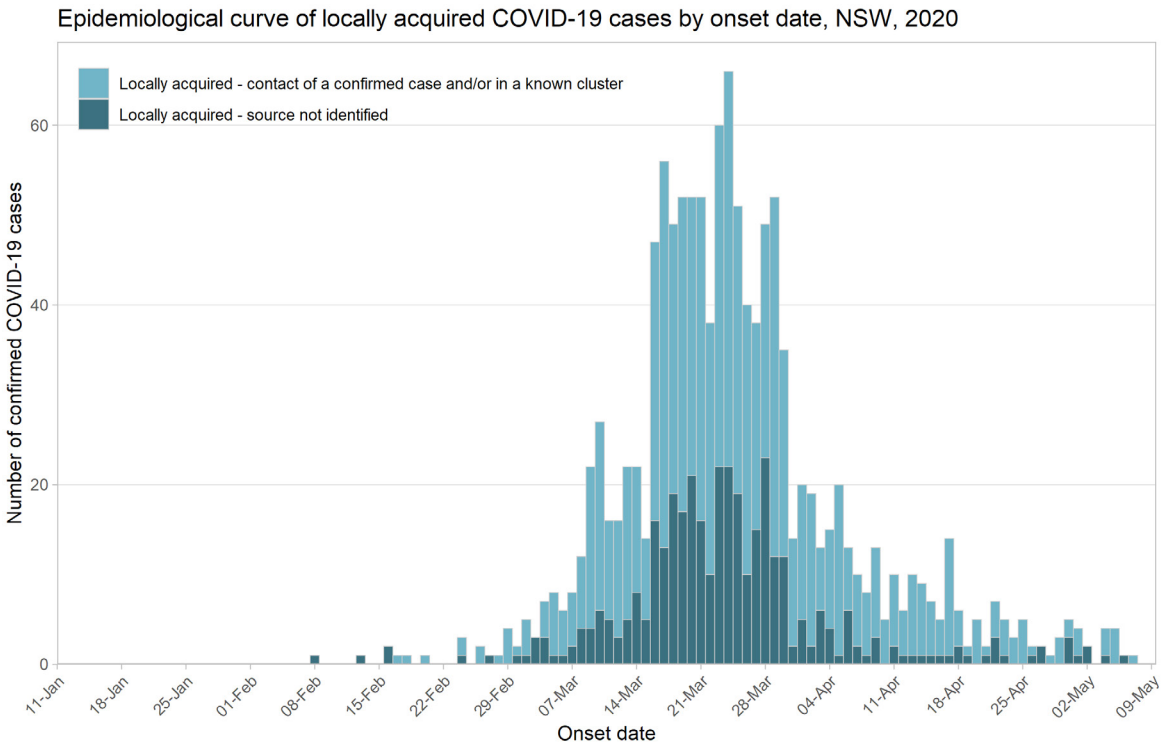
Note: Date of symptom onset is the date the person reported that they first started to feel unwell. This is collected by public health staff via an interview at the time of diagnosis. If symptom onset date is not available, the date of the earliest test is used.

SECTION 2: COVID-19 IN NSW

How much transmission is occurring in NSW?

	Week ending May 9	Week ending May 2	Locally acquired cases up to May 9
No. of cases with an identified source or part of an outbreak	12	15	856
No. of cases without an identified source	7	8	364

Interpretation: Of the cases of infection acquired locally (in NSW), most have been a contact of another confirmed case, or part of a known outbreak. Cases that were locally acquired without an identified source are investigated closely to find their source of infection and detect community transmission.

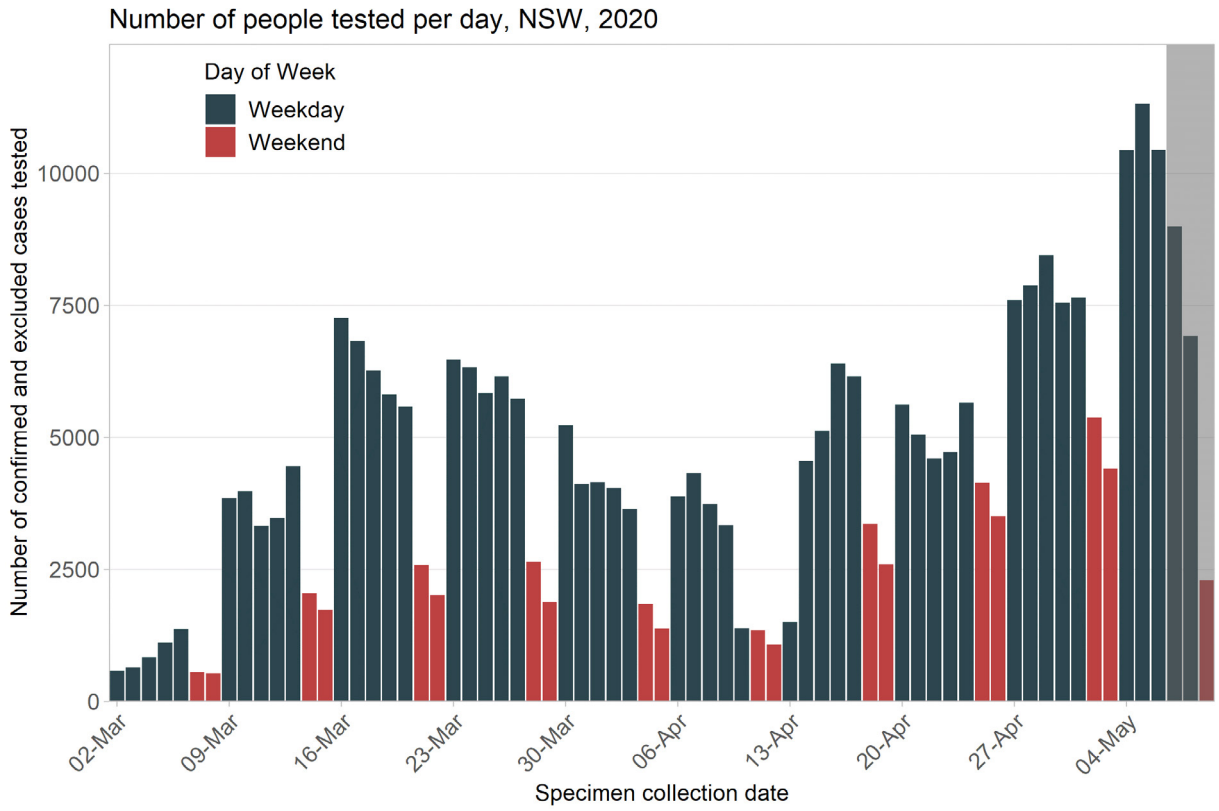


Note: For asymptomatic cases or where symptom onset is unavailable, the onset date is calculated from the earliest specimen collection date.

Interpretation: In NSW, approximately 40% of COVID-19 infections diagnosed to date have been acquired in NSW and 60% have been acquired overseas. 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 with both a known and unknown source of infection. The identification of people with no known source of infection shows that there are other people with COVID-19 in the community who haven't been diagnosed. It is encouraging that these numbers are now very low, but it is important that testing rates remain high so that cases can be identified as quickly as possible.

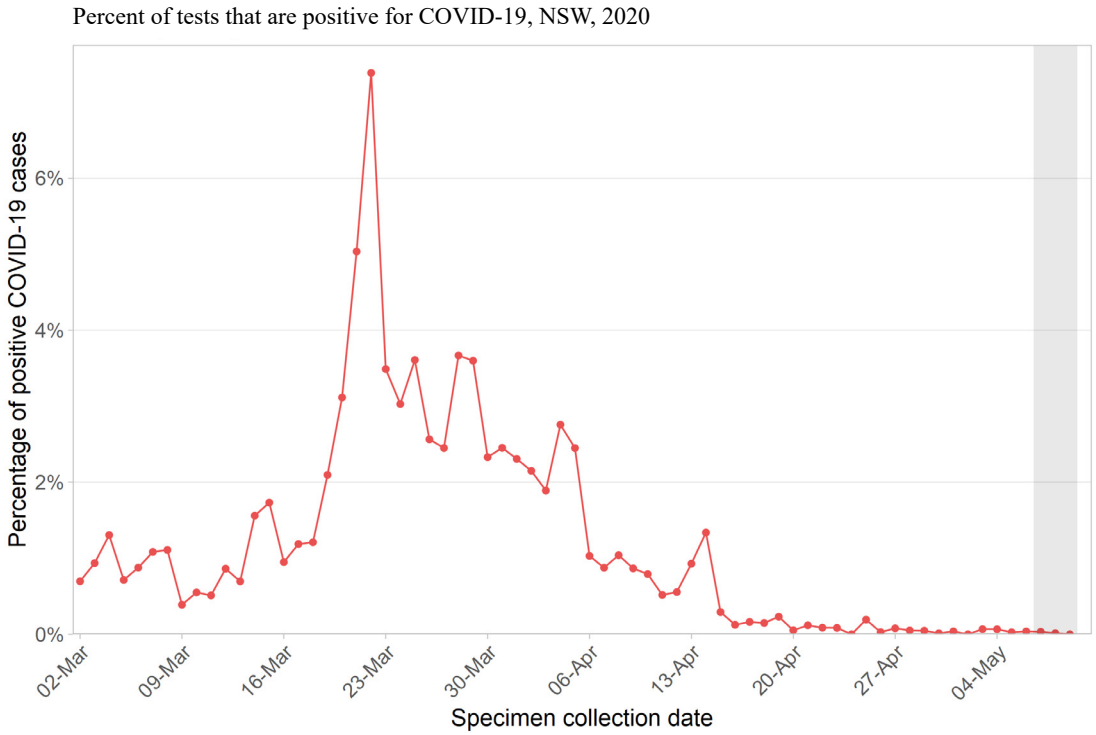
How much testing is happening?

The bars on the graph below show the number of people tested by the date the person presented for the test (this is known as the specimen collection date). This number is different to the number of results notified to NSW Health each day as the laboratory needs time to conduct the test. To enable prompt public health action, laboratories prioritise notification of all positive results to Public Health over negative test results. 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. The shaded area indicates incomplete data for people tested before May 9 due to the reporting delay and batching of negative results by laboratories.



Interpretation: COVID-19 testing has increased significantly in April in line with the changes in the criteria for testing and increased availability of testing. Early in the outbreak the focus was on returning travellers whereas now testing is now recommended for anyone with even mild respiratory symptoms or unexplained fever. In addition, NSW Health is strongly encouraging testing for people with symptoms who live in locations identified as an area of concern for potentially undetected community transmission. For the week ending 09 May, this included Blacktown, Canada Bay, Cumberland, Inner West, Liverpool, Parramatta and Penrith Local Government Areas (LGAs). High rates of testing are important to identify and isolate people who are infectious and allow contact tracing (quarantining of all people potentially infected by a case) to limit the spread of infection. Testing is not recommended for those without symptoms except in special settings such as aged care, health care, disability and schools.

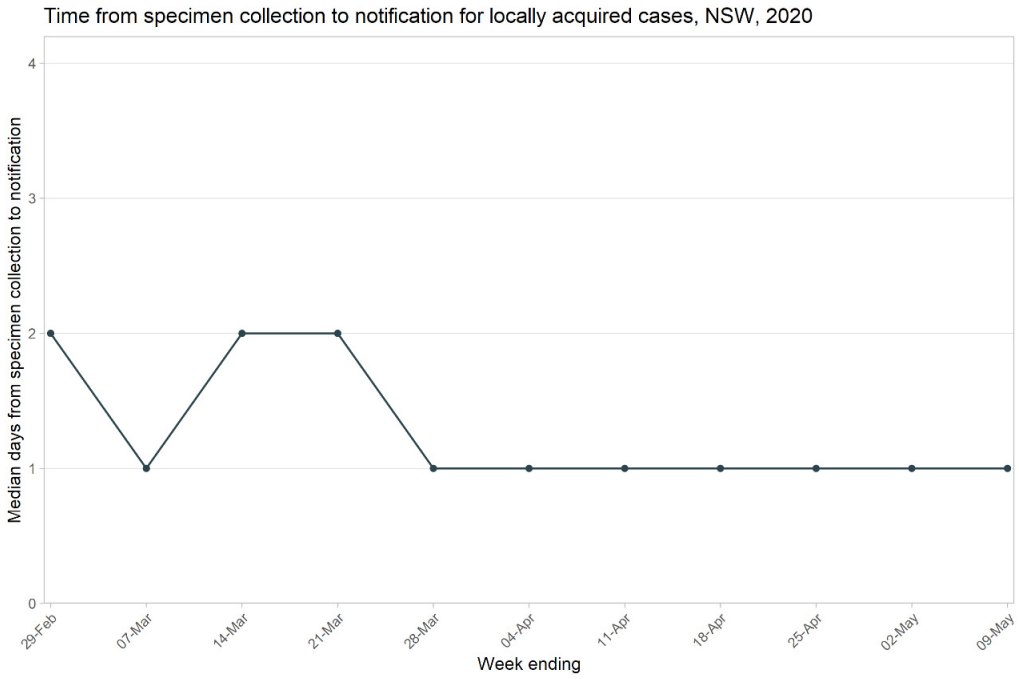
Proportion of tests that are positive



Interpretation: NSW has one of the highest testing rates in the world, at 38 per 1000 population (NSW cases = 3,053). This compares to South Korea (13 per 1000 population) (10,840 cases), Switzerland (35 per 1000) (30,251 cases), USA (27 per 1000) (1,347,309 cases) and the UK (25 per 1000) (215,260 cases).[1] The number of people diagnosed with COVID-19 has been declining since mid-March, despite the marked increase in testing. This suggests there is currently limited transmission in the community.

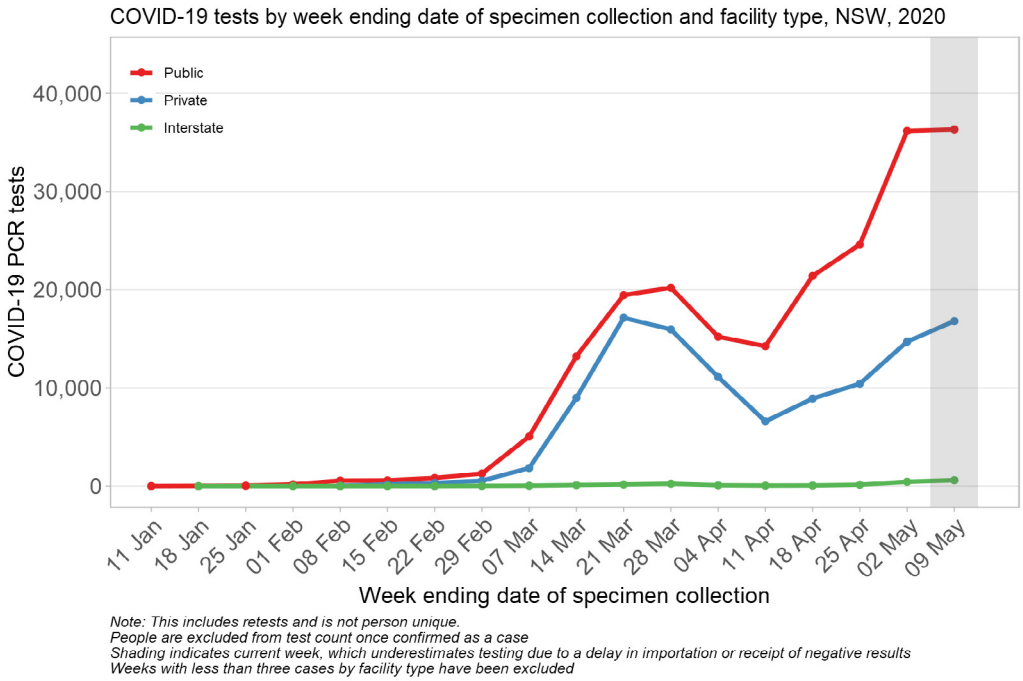
[1] Data sourced from: https://www.worldometers.info/coronavirus/#countries, as at 10 May 2020

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



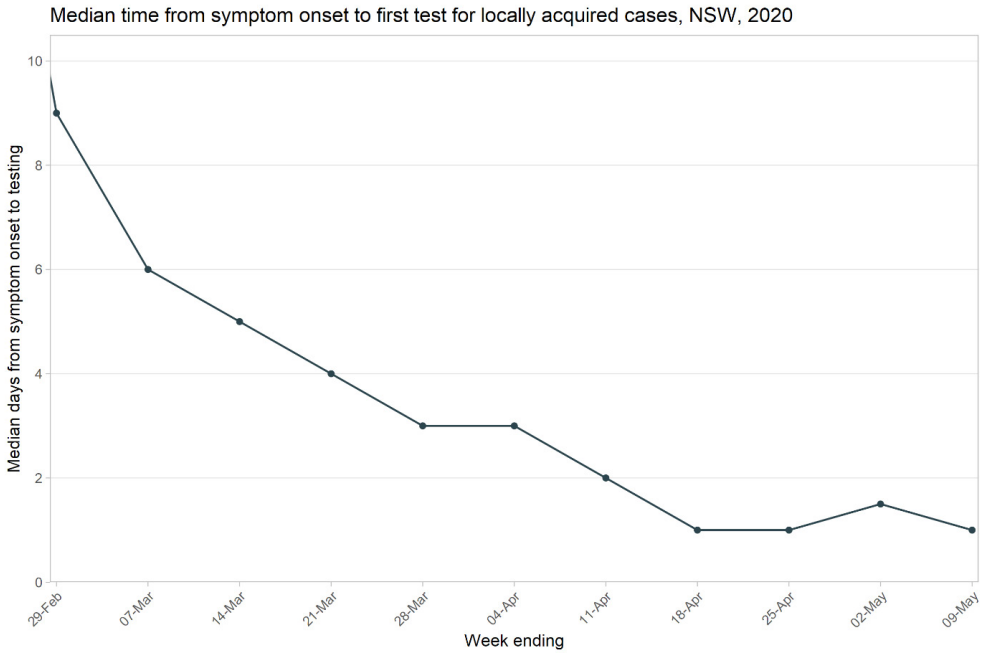
Interpretation: This graph shows median time from specimen collection date to COVID-19 diagnosis (test result) by week. Despite marked increases in testing in recent weeks the median time to COVID-19 diagnosis has remained at one day.

Which laboratories are doing COVID-19 testing?



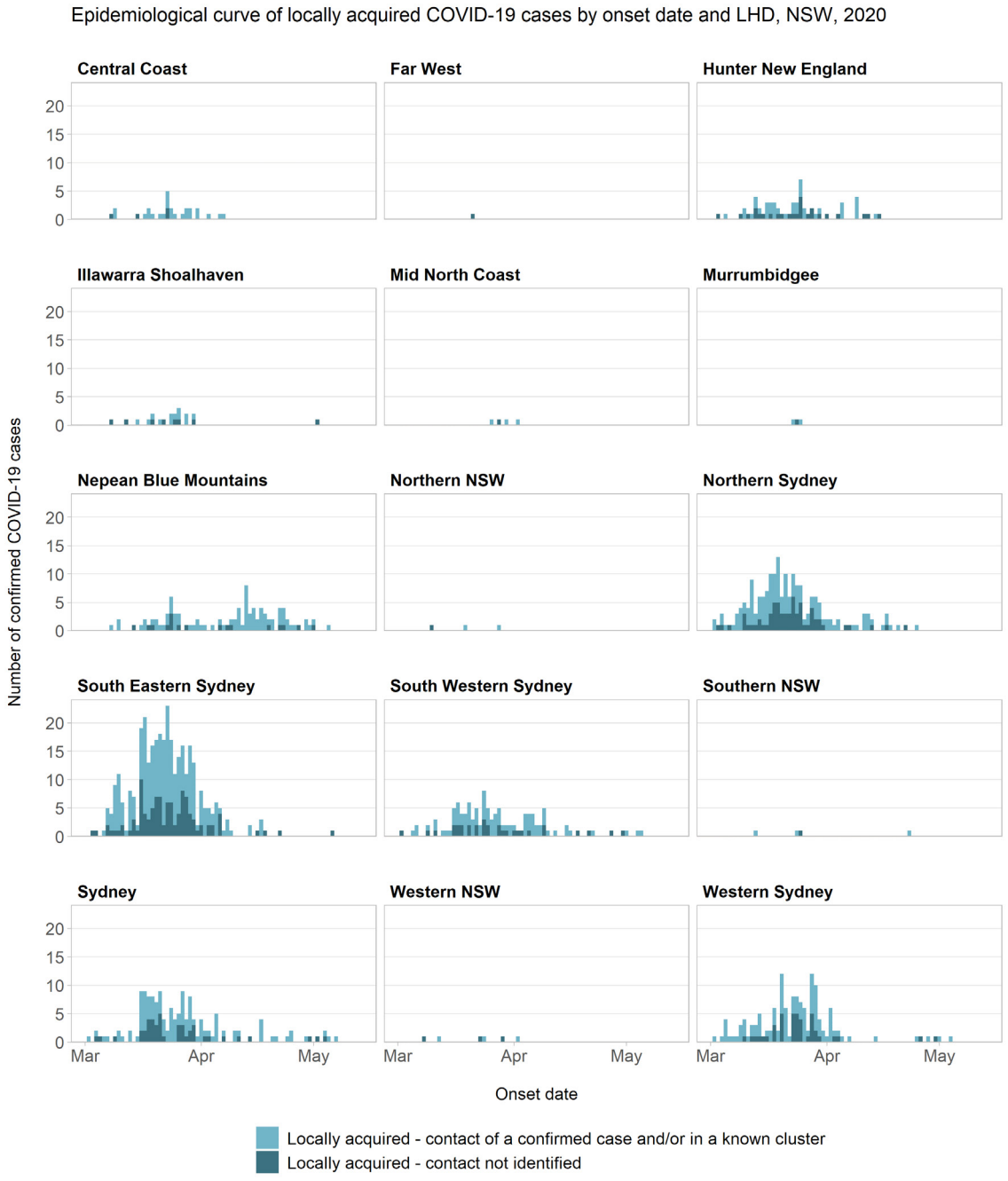
Interpretation: Recent increases in testing have occurred in both public and private laboratories.

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



Interpretation: This graph shows the time from onset of symptoms to the date of test. In more recent weeks people have been tested more promptly following the onset of symptoms compared with earlier in the outbreak. In the week ending 09 May 2020, the median time from developing symptoms to getting tested was a single day for locally acquired cases. The time from symptom onset to testing for those with an unknown source was similar to those with a known source. It is encouraging that people are seeking testing early in their illness. Diagnosis as close as possible to the time symptoms develop enables close contacts to be in self-quarantine early which reduces the risk of further transmission. 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.

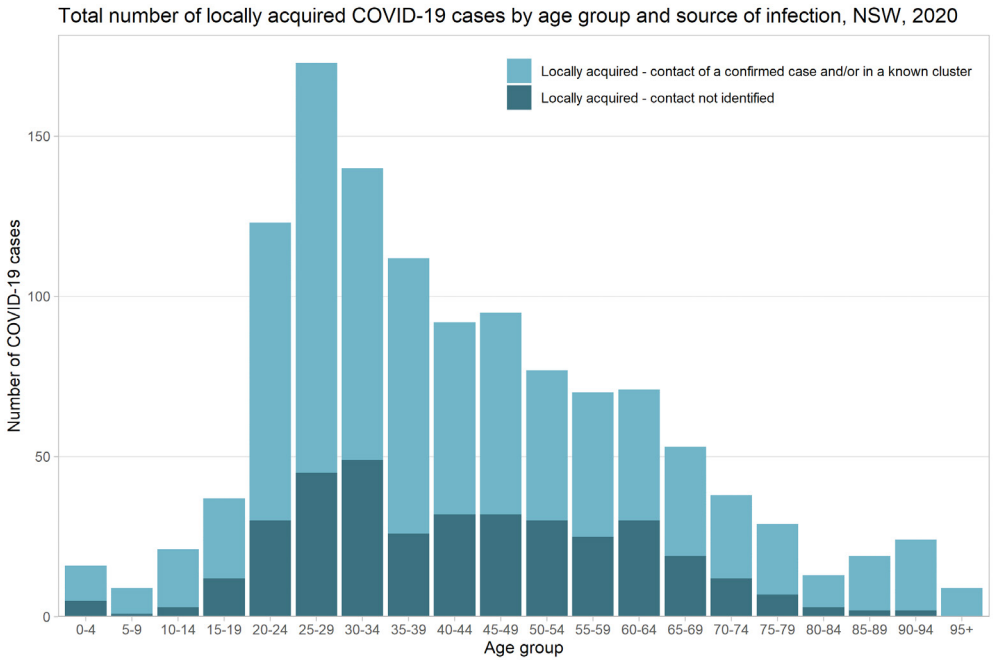
Where is transmission occurring in NSW?



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

Interpretation: These graphs show the number of cases acquired in NSW according to the person's Local Health District (LHD) of residence. This does not mean that the infection was acquired in that district, as many people travel outside their place of residence for work or other reasons. Early in the outbreak cases 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 high risk countries. There was an increase in cases in Nepean Blue Mountains LHD, largely due an outbreak in the Anglicare Newmarch House aged care facility. Currently very limited transmission has been detected in people living in regional and rural NSW.

Who is getting COVID-19 in NSW?

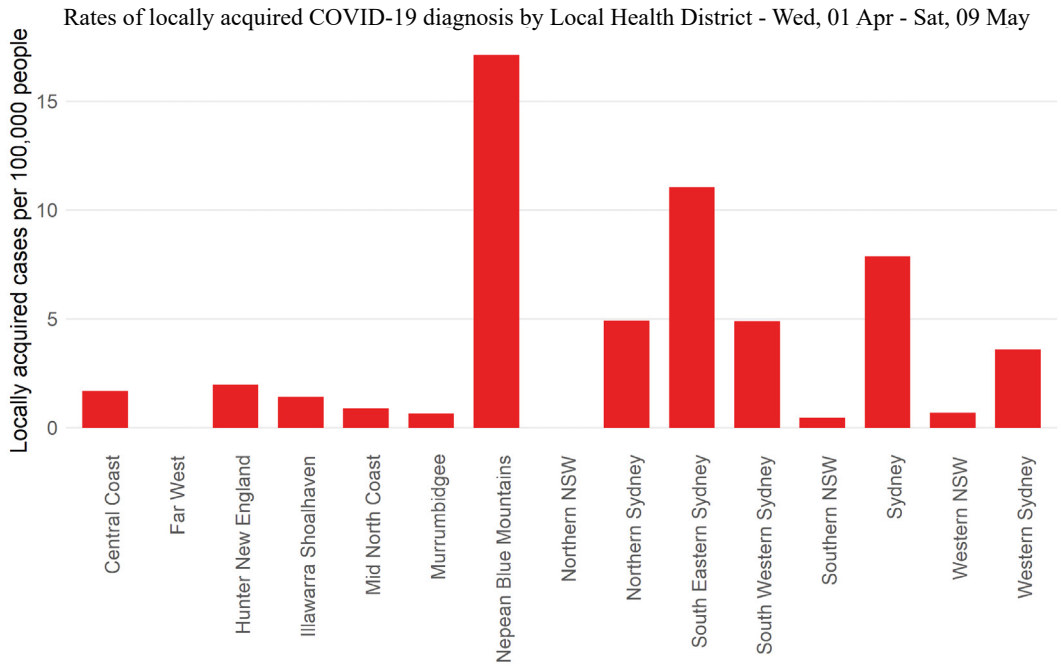


Interpretation: The graph above shows the total number of reported cases acquired in NSW by age group. The highest number of infections has been reported in young adults in people aged between 20 and 40 years. Notifications have been evenly distributed between men and women (data not shown).

SECTION 3: RECENT COVID-19 CASES IN NSW

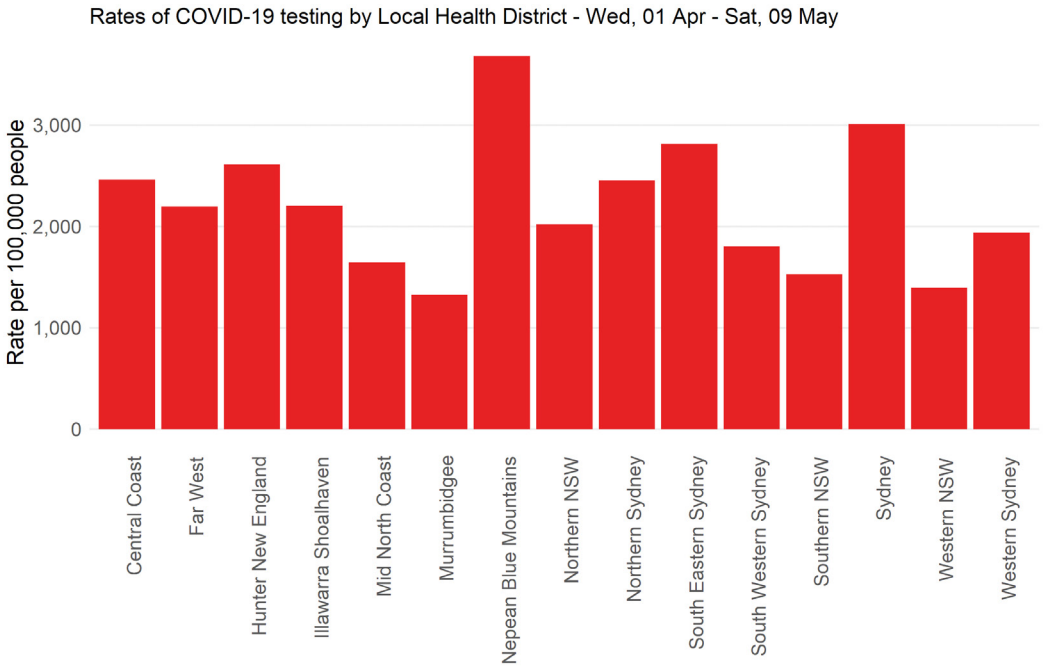
The following graphs use data from 1 April. Following the international border closures at the end of March the number of returned travellers has decreased markedly so that almost all testing since then is in people who have not travelled outside of NSW.

Cases by Local Health District

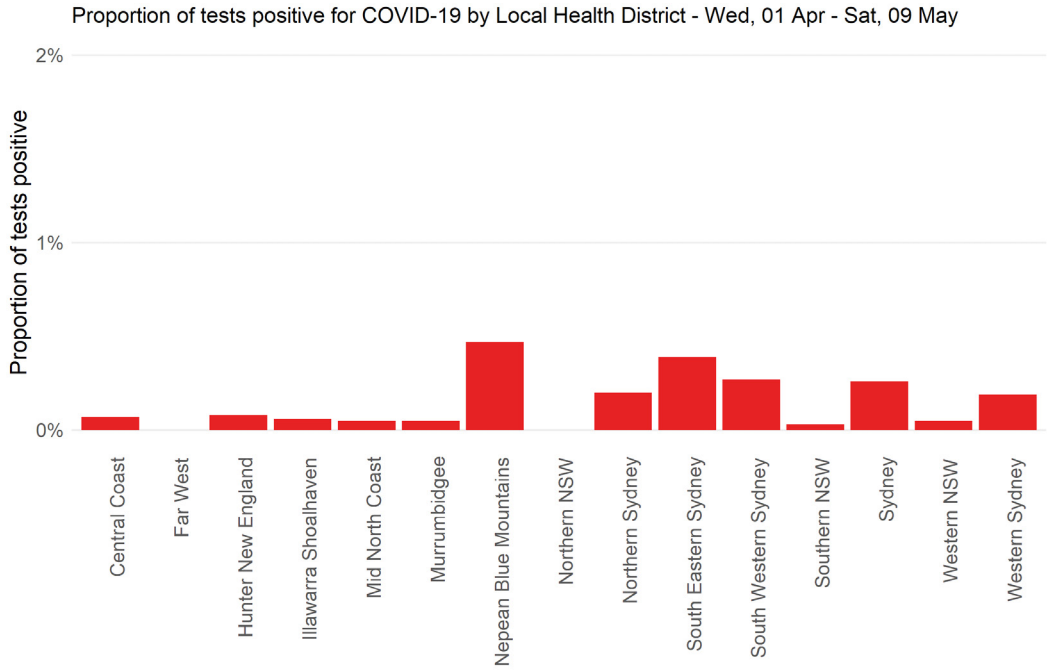


Interpretation: Taking into account the differences in population size between LHDs, Nepean Blue Mountains had a significantly higher rate of COVID-19 diagnosis (largely due an outbreak in the Anglicare Newmarch House aged care facility) compared with other LHDs in the period 1 April to 9 May. The next highest rates were in Sydney and South Eastern Sydney LHDs, however for South Eastern Sydney most of the locally acquired cases were notified in the first week of April, with similar rates to the rest of NSW for the remainder of the period.

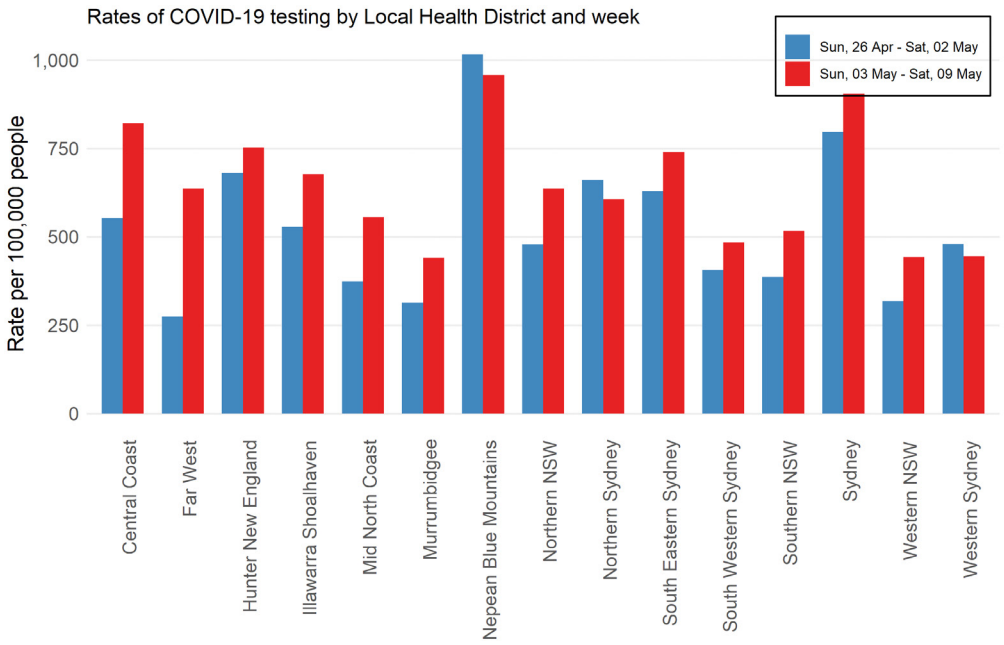
Testing by Local Health District



Proportion of tests that are positive

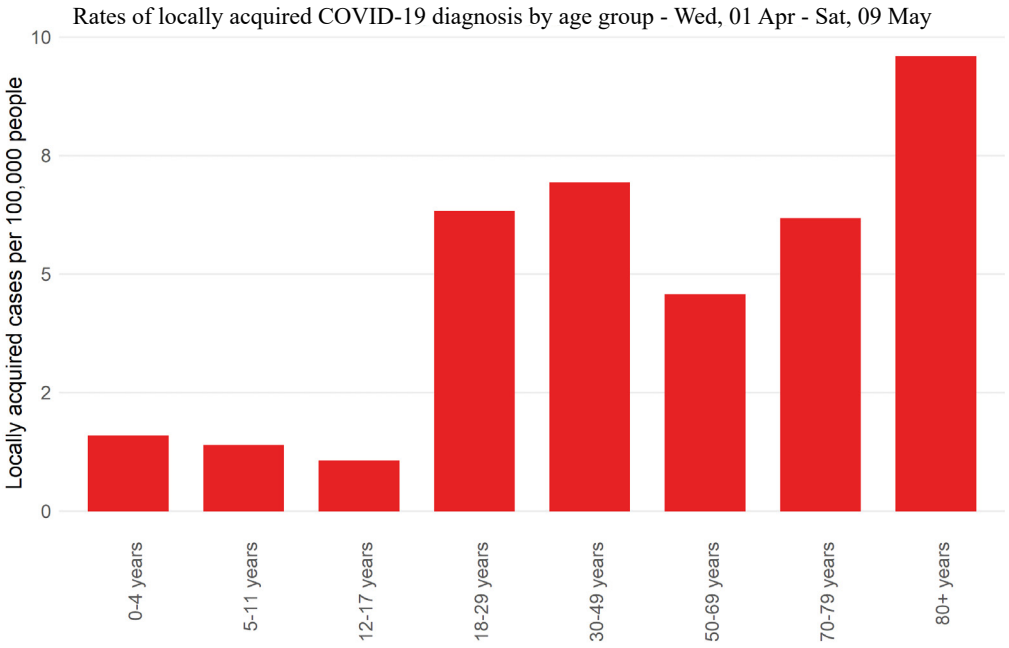


Testing in the last two weeks by LHD



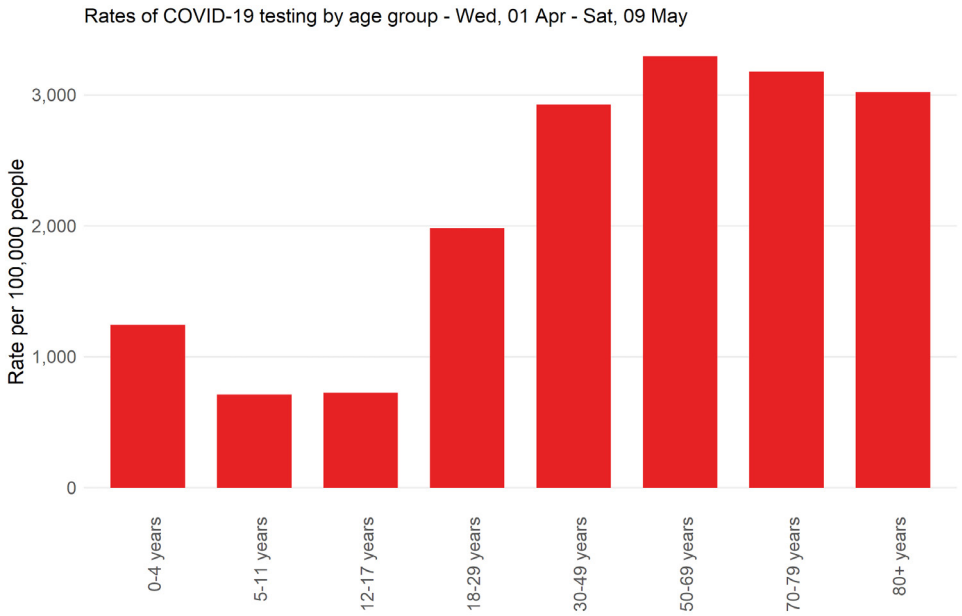
Interpretation: Highest rates of testing since 01 April were in Nepean Blue Mountains. Testing in Nepean Blue Mountains has increased during this reporting period in part due to the regular, repeated testing of residents and staff as part of the investigation in the Anglicare Newmarch House outbreak but also other initiatives to increase local testing. Testing rates increased in almost all LHDs in the week beginning 3 May compared to the previous week. While testing has increased, the proportion of people tested who are infected is low throughout the state indicating low levels of COVID-19 transmission.

Cases by age group



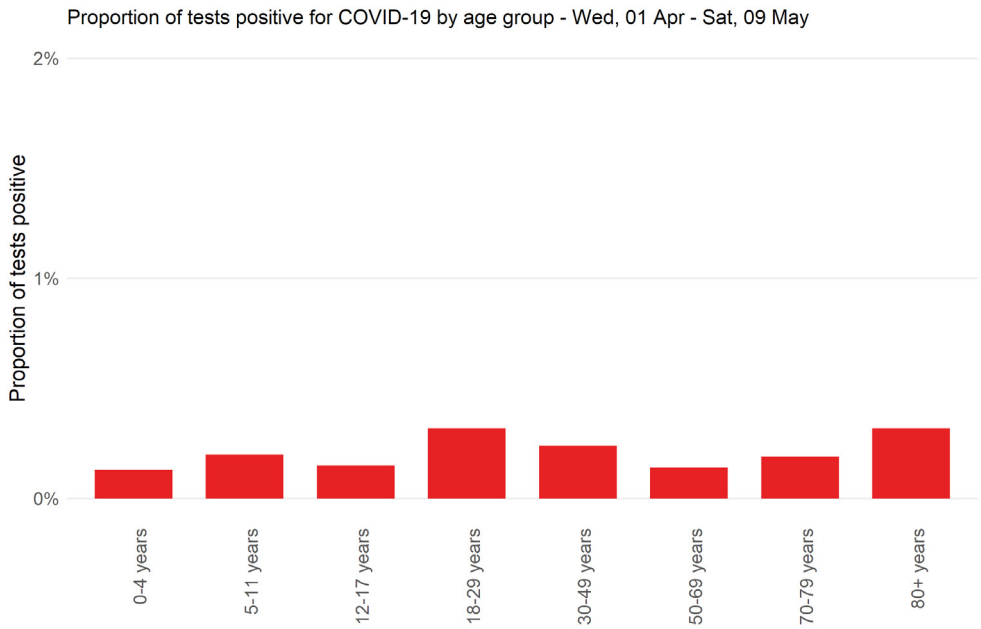
Interpretation: Taking into account the number of people in each age group, rates of infection have been highest in people over 80 years of age and young adults. Infections rates have been significantly lower in children compared with older age groups.

Testing by age group



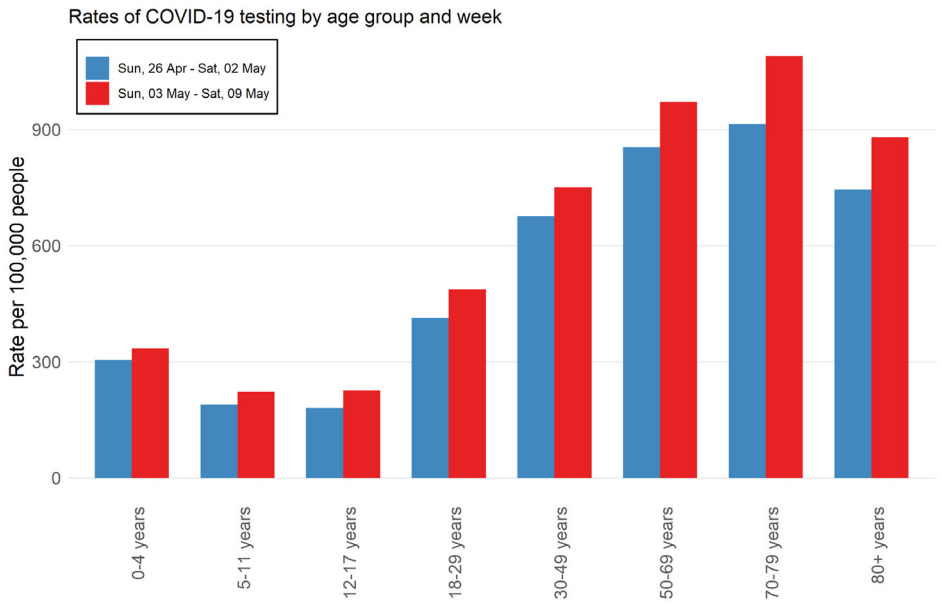
Interpretation: Since the beginning of April, testing rates were highest in people over 30 years of age with the lowest rates of testing in school aged children.

Proportion of tests that are positive



Interpretation: The low proportion of positive tests suggests low rates of COVID-19 infection in NSW. While testing rates are lower in children, so is the test positivity, suggesting that there may be lower rates of COVID-19 illness in children than adults. It is possible that children experience less severe illness that adults and consequently may be less likely to be tested. Continued testing and serology studies will be important to monitor local community transmission and to better understand the level of infection in children.

Testing in the last two weeks by age group



Interpretation: Testing rates have increased in all age groups in the week beginning 03 May compared to the previous week.

SECTION 4: COVID-19 IN ABORIGINAL PEOPLE

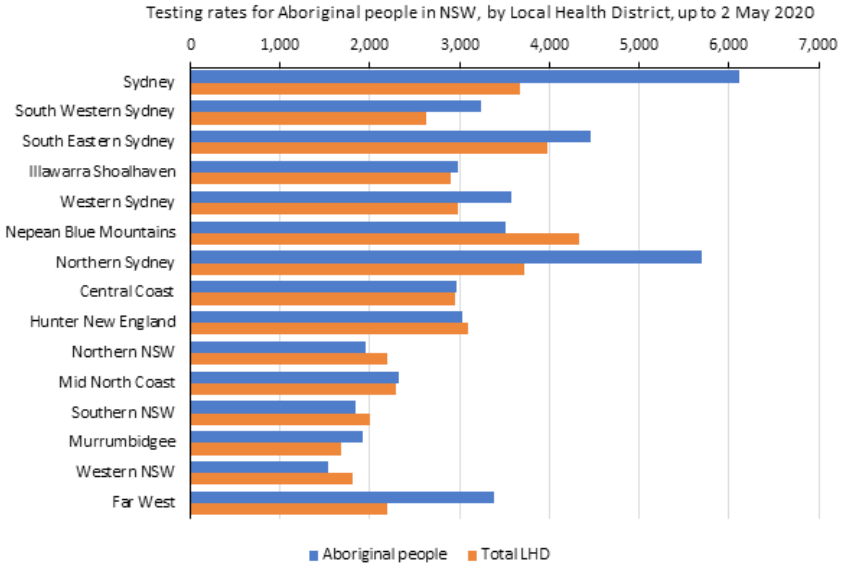
Aboriginal people are considered to be a vulnerable group for serious COVID-19 disease due to the high burden of chronic disease. Additionally, transmission within Aboriginal communities is likely to be high due to factors such as high number of people per household and barriers to accessing health care.

In NSW, Aboriginal status is collected by public health staff on interview with the case at the time of diagnosis. As those who test negative are not interviewed Aboriginal status is ascertained through periodic data linkage with other health information systems. Aboriginal status was able to be determined for approximately 90% of all COVID-19 records following data linkage reported up to 2 May.

Are Aboriginal people getting infected?

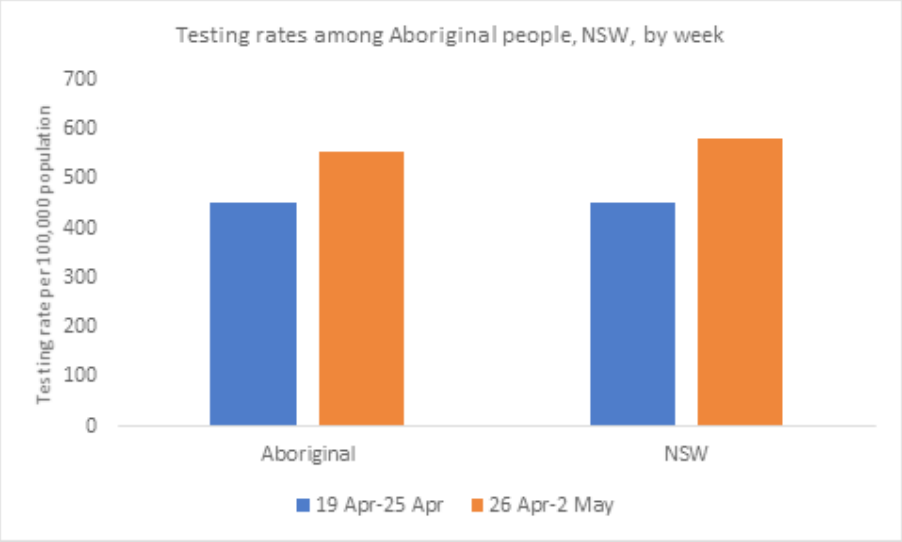
A total of 30 people with confirmed COVID-19 were reported to be Aboriginal and/or Torres Strait Islander people. This represents 1% of all reported cases in NSW. The rate of infection in Aboriginal people in NSW is significantly less than the total rate for NSW. Fourteen of these people (47%) acquired their infection outside Australia. Of the 16 remaining cases acquired in NSW, the source of infection was known for 12 (9 household contacts, and 3 contacts of another known case) and the source was not identified in four cases. Cases ranged in age from 1 to 75 years. Most of the cases in Aboriginal people in NSW are in people who live in Hunter New England LHD (37%) and Sydney LHD (27%). There have been no deaths from COVID-19 in Aboriginal people in NSW.

Testing rates for Aboriginal people by LHD



Interpretation: Testing rates by Local Health District were similar compared to the total population in these areas with exception of Sydney, Northern Sydney and Far West where Indigenous testing rates have been higher than LHD rates overall.

Recent testing rates in Aboriginal people

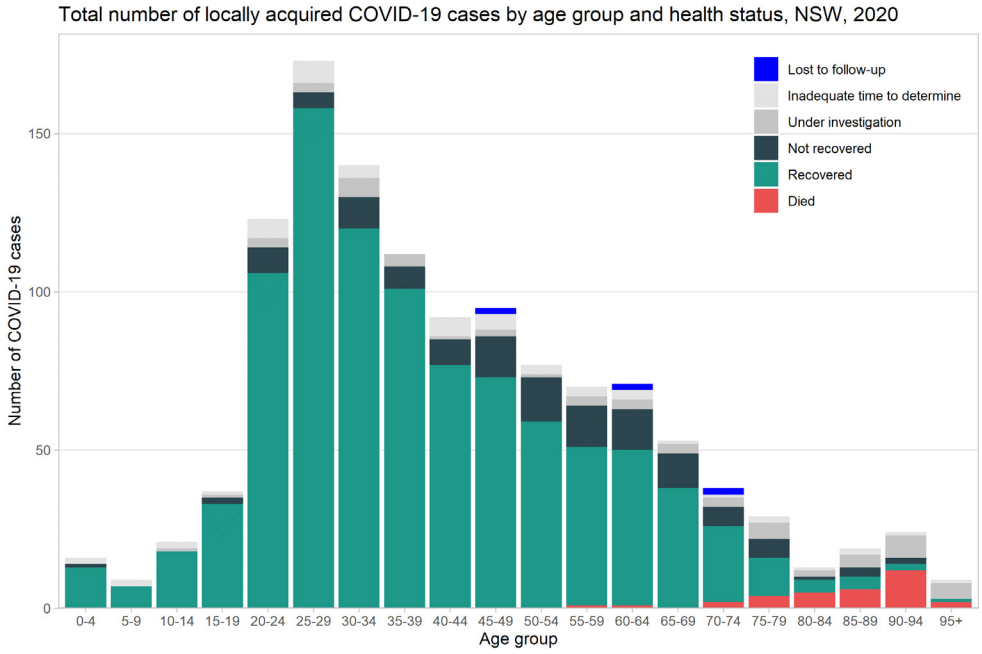


Interpretation: Rates of testing among Aboriginal people have increased in recent weeks, following the same pattern as the NSW testing rates.

SECTION 5: RECOVERY FROM COVID-19

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. While people may have recovered within three weeks of onset, recovery information is only reported on cases after three weeks as this is the time the interview is done. At the time of interview, the date of recovery is collected to understand the duration of symptoms. The following graphs show recovery information of all NSW COVID-19 cases (overseas and locally acquired).



Outcome	Number	%
Recovered	2,515	82.4
Not recovered	291	9.5
Died	46	1.5
Alive – less than 3 weeks from symptom onset/recovery data not available	201	6.6
Total	**3,053**	**100.0**

Interpretation: This graph shows the total number of cases acquired in NSW by age group and health outcome up to May 9. Overall, more than 80% of cases have recovered. In total, 46 people (1.5%) have died most of whom were 70 years of age or older.

How long does it take to recover from COVID-19?

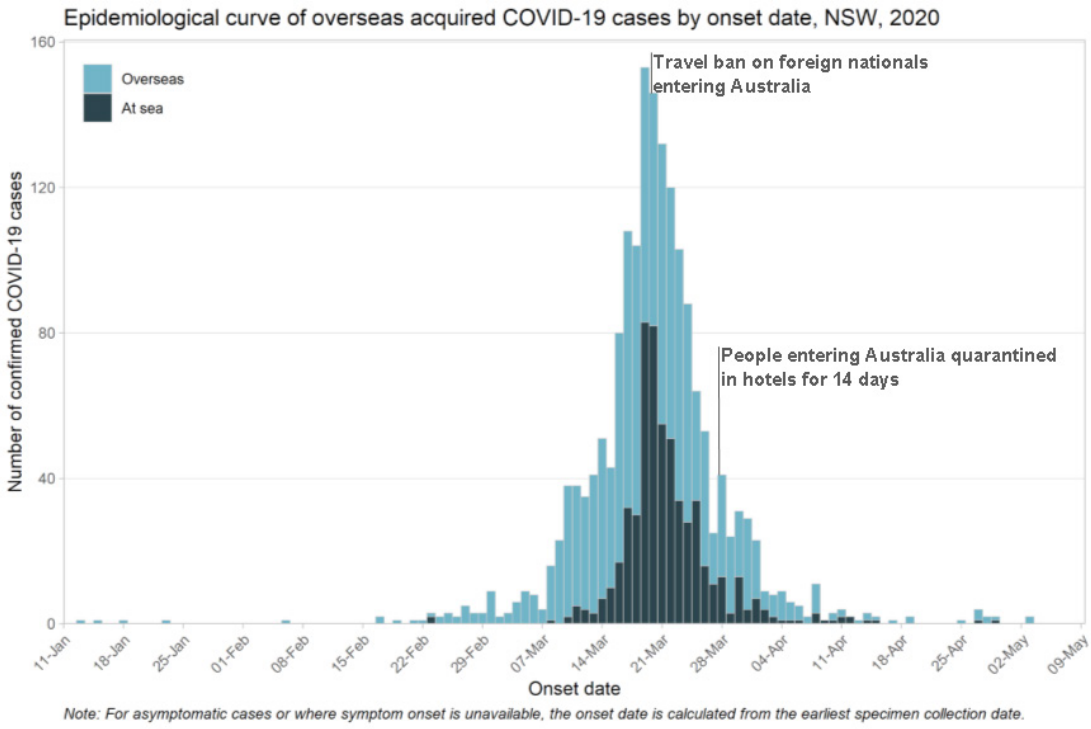
Analysis on information collected from over 2,800 case interviews found that 50% of cases had recovered after 16 days, 75% had recovered after 23 days and 95% had recovered after six weeks. Time to recovery by age group is shown in the table below.

Age group	Time taken for 50% of cases to recover Days	Time taken for 75% of cases to recover Days
≤ 40 years	14	20
41–70 years	17	24
71+ years	19	27
Total	**16**	**23**

Interpretation: Older people take longer to recover than younger people.

SECTION 6: COVID-19 IN RETURNED TRAVELLERS

Up until 28 March, most infections had been acquired from outside of NSW (approximately 66% of all cases). Cases acquired at sea refers to people who travelled on a cruise ship, some of whom had other overseas exposure. These people accounted for approximately 32% of all overseas acquired infections in this period. The average age of cruise ship passengers was much higher than other cases at 62 years, compared to 44 years for all other overseas acquired cases. Other overseas acquired infections were frequently reported in travellers from the United States of America (15%) and the United Kingdom (13%).



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

Interpretation: The graph above shows that cases in returned travellers decreased markedly following restrictions on people entering Australia. Since 28 March, when returned travellers were quarantined in hotels for a 14-day period to stop the spread of infection into NSW, returned travellers account for 37% of all new cases. Cruise ship passengers (including cruises which disembarked outside Australia) still accounted for the largest number of overseas acquired infections (55 cases) in this period. Following this, cases were most commonly returning from the United Kingdom (32 cases), the United States (27 cases) and Chile (25 cases).