COVID-19 WEEKLY SURVEILLANCE IN NSW

EPIDEMIOLOGICAL WEEK 26, ENDING 3 July 2021

Published 12 July 2021

Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 3 July 2021

	2021			2020	
	last 7 days	last 4 weeks	year to date	Jan – Jun	Jul – Dec
	27 June - 3 July	6 June - 3 July	1 Jan - 3 July		
Locally acquired	171 (86%)	287 (79%)	338 (33%)	1,236 (39%)	808 (52%)
Interstate acquired	0	1 (<1%)	1 (<1%)	67 (2%)	23 (1%)
Overseas acquired	27 (14%)	77 (21%)	686 (67%)	1,892 (59%)	714 (46%)
Total	**198 (100%)**	**365 (100%)**	**1,025 (100%)**	**3,195 (100%)**	**1,545 (100%)**
Deaths	0	0	0	52	4

Summary for the week ending 3 July 2021

- There were 171 locally acquired cases and four new clusters reported in Eastern Sydney, Sydney and Western Sydney Local Health Districts in the week ending 3 July 2021. Of these:
  - 113 cases had direct contact with other cases in the Eastern Suburbs cluster

  The remaining cases do not have direct links, including:
  - 6 cases associated with a small gathering in a hotel in Waterloo
  - 4 cases associated with a place of worship in Lidcombe
  - 3 cases associated with an aged care facility in Baulkham Hills
  - 2 cases associated with a workplace in Banksmeadow
  - 29 cases linked to a known case whose source is unknown
  - 14 cases not currently linked to any other cases

- There were 27 cases reported in overseas returned travellers in the last week, an increase compared to the week ending 26 June, when 7 cases were reported.

- In the four weeks ending 3 July 2021, 100% (197/197) of locally acquired cases sequenced and 47% (36/77) of overseas acquired cases sequenced have been identified as having COVID-19 variants of concern [Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1) and Delta/Kappa (B.1.617)]. Not all case samples can be sequenced.

- Since March 2021, nine (3%) of locally acquired cases have reported being fully vaccinated. Thirteen (3%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.

- Testing rates remain high across all metropolitan Local Health Districts and increased significantly across rural and regional Local Health Districts compared to the previous week (up 8%).

- In the week ending 3 July, 188 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 55 detections from 35 sites across Sydney taken from Penrith, Hornsby Heights, Bondi, Cronulla, Malabar 1, Malabar 2, Liverpool, West Camden, Glenfield, North Head, Rouse Hill, St Marys, Botany, Paddington, Lough Park, Parsley Bay, Earlwood, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Croydon, Dulwich Hill, Canterbury, Maroubra, Ireland Park, Auburn, Tunks Park, Port Kembla, Bellambi, Homebush, Camellia South and Camellia North. Although no active cases were identified in the Penrith and St Marys catchments at the time, a detection may indicate the presence of people in the community who have recently been infected with COVID-19 but may no longer be infectious or the movement of cases that have not yet been identified in their local area. People can continue to shed fragments of the virus for several weeks. All other catchments were associated with known cases in the area.

Indicators of effective prevention for COVID-19 in NSW for the week ending 3 July 2021

Locally acquired cases in isolation during their infectious period

	Week ending 3 July	Week ending 26 June
	Count (%)	Count (%)
Locally acquired cases	171	109
Cases with symptoms at diagnosis	134	87
Number in isolation at least 48 hours before symptoms	46 (34%)	21 (24%)
Cases reporting no symptoms at diagnosis*	37	22
Number in isolation at least 48 hours before test	11 (30%)	8 (36%)

Interpretation: In the week ending 3 July 2021, 37 cases (22%) did not report symptoms at the time of diagnosis and had sought testing because they were a close contact of a confirmed case of COVID-19. Of the 134 symptomatic cases, 46 (34%) were in isolation at least 48 hours prior to symptom onset. To reduce the spread of COVID-19 it is essential that people seek testing immediately if symptoms develop, however mild.

Measures of Public Health Action

	Week ending 3 July	Week ending 26 June
Proportion locally-acquired cases notified to NSW Health by the laboratory within 24 hours	88% (150/171)	96% (105/109)
Locally-acquired cases interviewed by public health staff within 1 day of notification to NSW Health	100%	100%
Close contacts (identified by the case) contacted by public health within 48 hours of case notification	100%	100%

Interpretation: In the week ending 3 July, 88% of cases were notified to NSW Health within a day of test, 100% of cases were interviewed within 1 day of notification and all close contacts were contacted by public health within 48 hours of case notification. NSW health has been working closely with laboratory providers to minimise the turn-around times for test results.

Cases risk of community exposure

A case is assigned a risk level based on an initial assessment of a case's community exposures during their infectious period i.e. two days before symptom onset (or specimen collection date if asymptomatic) until the date NSW Health is notified.

- **Low risk** indicates that the case was in isolation during their infectious period or had stayed at home (with or without household members) with no community exposures.
- **Medium risk** indicates that the case was isolating for part of their infectious period, or only had low risk community exposures and no venue exposures for their entire infectious period.
- **High risk** indicates that the case was active in the community with venue exposures during their infectious period

Locally acquired cases by risk of community exposure during their infectious period, 27 June to 3 July 2021, reported at 8pm daily

Community exposure risk	3-Jul	2-Jul	1-Jul	30-Jun	29-Jun	28-Jun	27-Jun
Low risk	13 (81%)	23 (66%)	12 (39%)	8 (33%)	11 (50%)	6 (32%)	6 (33%)
Medium risk	1	3	4	4	5	2	3
High risk:	2	9	15	12	6	11	9
Total	**16**	**35**	**31**	**24**	**22**	**19**	**18**

Interpretation: The proportion of cases that were isolating or stayed home for their full infections period increased during this each week and by 3 July 81% of cases had low risk community exposures.

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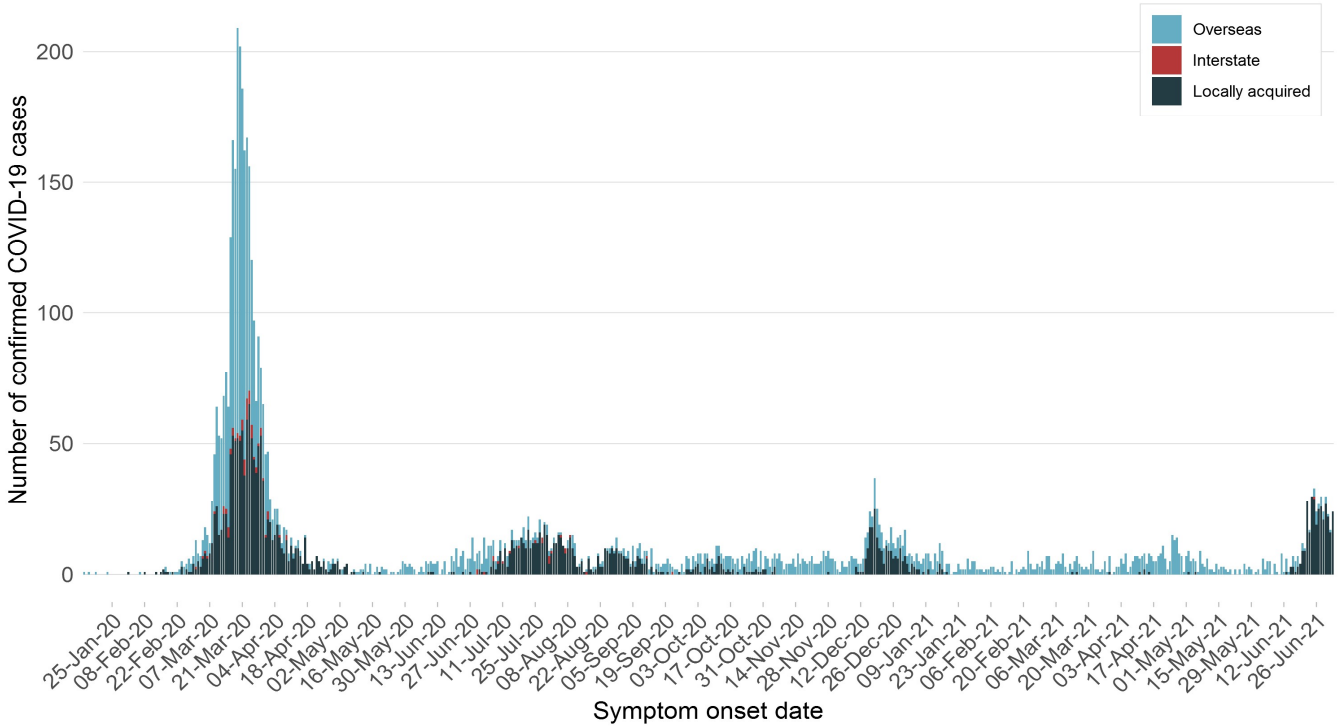
COVID-19 Vaccination program

- Australian Government Department of Health reports the number of vaccine doses administered across Australia — Daily COVID-19 vaccine rollout numbers
- Therapeutic Goods Administration (TGA) report data on received reports of suspected side effects (also known as adverse events) and other safety information from Australia and overseas — Weekly COVID-19 vaccine safety report
- AusVaxSafety is conducting active vaccine safety surveillance of the vaccines in use. Surveillance data have been provided by Vaxtracker, SmartVax and the Victorian Department of Health COVID-19 Vaccine Management System based on surveys sent on Day 3 after the vaccination — Weekly COVID-19 vaccine safety surveillance report

Section 1: How is the outbreak tracking in NSW?

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, from 25 January 2020 to 3 July 2021



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

Interpretation: Between 13 January 2020 and 3 July 2021, there were 5,765 confirmed COVID-19 cases. Of those, 3,292 (57%) were overseas acquired, 91 (2%) were interstate acquired, and 2,382 (41%) were locally acquired.

COVID-19 cases reported in 2020

The epidemiology of COVID-19 in NSW continued to evolve since the first three cases were reported in NSW on 25 January 2020 in people who acquired their infection in China. The first locally acquired COVID-19 case in NSW was reported on 2 March 2020 and by mid-March case numbers had increased rapidly in overseas returned travellers and their contacts and within localised community outbreaks. In NSW, the number of reported daily cases peaked on 27 March 2020 at 213 cases. Public health action and the introduction of a range of stringent control measures, including the closure of international borders, 14-day mandatory quarantine for returned travellers and restrictions of movement within NSW lead to a decline in cases. Community transmission was interrupted by the end of May 2020.

In early July seeding of SARS-CoV-2 into South Western Sydney from an outbreak in Melbourne lead to a second wave of infection. Following intensive public health action community transmission was again interrupted by the end of November 2020.

In December 2020 two new introductions of SARS-CoV-2 caused outbreaks in Sydney's Northern Beaches and Berala in Sydney's West. Community transmission was again interrupted by the end of January 2021.

COVID-19 cases reported in 2021

Figure 2. COVID-19 cases by likely infection source and reporting date, NSW, from 1 January 2021 to 3 July 2021

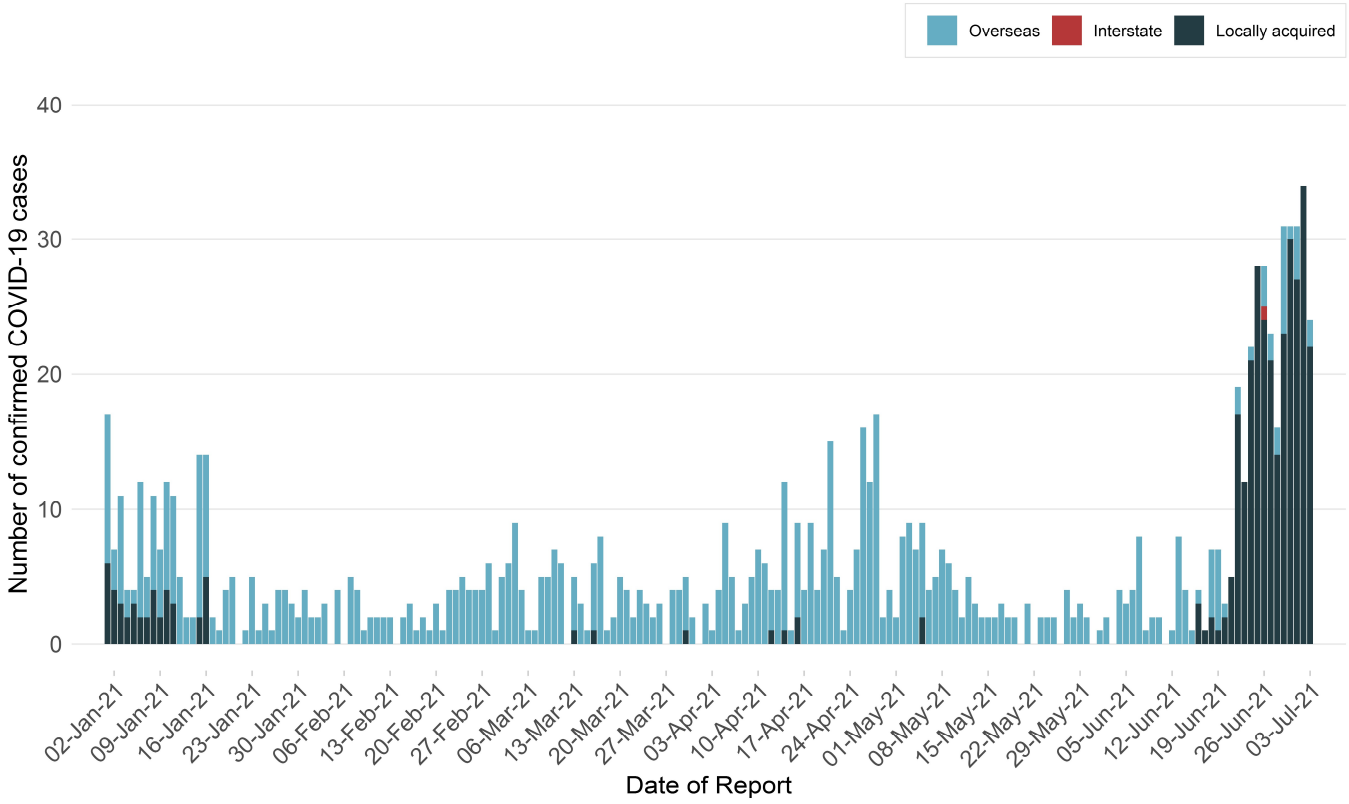


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 3 July 2021

	Week ending 3 July	Week ending 26 June	% change	Total 2021
Number of cases	198	117	69%	1,025
Locally acquired	171	109	57%	338
Known epidemiological links to other cases or clusters	157	107	47%	314
No epidemiological links to other cases or clusters	14	2	600%	24
Overseas acquired	27	7	286%	686
Interstate acquired	0	1	-	1
Number of tests	398,100	367,446	8%	3,059,273

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

Interpretation: The majority of cases reported in the last four weeks in NSW were locally acquired (287/365, 79%). Of the 171 locally acquired cases reported in the week ending 3 July 2021; 113 cases had direct contact with other cases in the Eastern Suburbs cluster. The remaining cases do not have direct links, including:

- 6 cases associated with a small gathering in a hotel in Waterloo
- 4 cases associated with a place of worship in Lidcombe
- 3 cases associated with an aged care facility in Baulkham Hills
- 2 cases associated with a workplace in Banksmeadow
- 29 cases linked to a known case whose source is unknown
- 14 cases not currently linked to any other cases.

There were 27 cases that acquired their infection overseas.

Section 2: Locally acquired COVID-19 transmission in NSW in the last four weeks

Information from cases who were diagnosed in the last four weeks is used to understand where COVID-19 is spreading in the community. This takes into account the incubation period and the time it takes for people to seek testing and for the laboratory to perform the test. This section summarises cases based on the date the case was reported to NSW Health.

Table 3. Locally acquired COVID-19 cases by LHD of residence and week reported, NSW, 6 June to 3 July 2021

	Week ending					
Local Health District	**3 July**	**26 June**	**19 June**	**12 June**	**Total**	**Days since last case reported**
Central Coast	2	0	0	0	2	1
Illawarra Shoalhaven	1	3	2	0	6	3
Nepean Blue Mountains	0	0	0	0	0	291
Northern Sydney	6	2	0	0	8	1
South Eastern Sydney	80	62	4	0	146	0
South Western Sydney	35	26	0	0	61	0
Sydney	25	13	1	0	39	0
Western Sydney	22	3	0	0	25	0
Far West	0	0	0	0	0	457
Hunter New England	0	0	0	0	0	78
Mid North Coast	0	0	0	0	0	438
Murrumbidgee	0	0	0	0	0	299
Northern NSW	0	0	0	0	0	95
Southern NSW	0	0	0	0	0	257
Western NSW	0	0	0	0	0	338
NSW*	**171**	**109**	**7**	**0**	**287**	**0**

*Includes people with a usual place of residence outside of NSW

Interpretation: There were 171 locally acquired cases reported in the week ending 3 July. The majority of cases were residents of South Eastern Sydney LHD (80, 47%) followed by South Western Sydney LHD (35, 20%), and Sydney (25, 15%).

Section 3: Current COVID-19 clusters in NSW

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

Clusters are defined as a group of two or more cases (who don't reside in the same household) that are infected with the same virus (with the identical genetic sequence) that are linked epidemiologically to each other. This means that a direct source of infection can be identified for each case in the cluster, through contact with a known case where transmission likely occurred.

A case that shares the same virus (with an identical genetic sequence) is not counted as part of the cluster if an epidemiological link to another case in the cluster has not been found. Although the case must have been infected through contact with an infectious person in the cluster, that contact or that infectious person has not been found.

Cases in community settings

Of the 171 locally acquired cases reported in the last week, 128 cases were epidemiologically linked to recent clusters. Of these, 113 cases were in direct contact with other cases in the Eastern Suburbs, 6 cases were linked to the Waterloo hotel cluster, 4 cases were linked to a place of worship in Lidcombe, 3 cases were linked to an aged care facility in Baulkham Hills and 2 cases were linked to a workplace in Banksmeadow. A further 29 cases were linked to previously reported cases not linked to a cluster and 14 cases are under investigation.

Eastern Suburbs cluster

On 16 June, South Eastern Sydney Public Health Unit was notified of a case of COVID-19 in a resident of the Eastern Suburbs who worked as a hire car driver transporting overseas travellers from Sydney International Airport to hotel quarantine. The source of infection was unknown. On the same day, two further cases were reported in a household contact of the driver and a resident of Sydney Local Health District who was at a café in Vaucluse at the same time as the driver. Over the following days the number of cases linked to this cluster increased (see figure 2).

In the week ending 3 July there were 113 cases directly epidemiologically linked to this cluster, with 226 cases linked to the cluster since June 16. Of the 226 cases reported, 108 are associated with transmission at 22 public exposure locations and one private event and 118 cases were household or social contacts of known cases. Whole genome sequencing results show the variant associated with this cluster is the Delta strain (B.1.617.2). Investigation of the source of the driver's infection could not identify the individual source of his infection.

Cases associated with this cluster attended a large number of public venues across Greater Sydney including pubs, restaurants, gyms, hair salons, healthcare facilities and schools (Table 4). To limit the spread of COVID-19, NSW Health have issued multiple public health alerts to people who may have been exposed. The list of venues attended by cases is published on the NSW Government website.

Table 4. Cases linked the Eastern Suburbs cluster by setting of exposure, reported to week ending 3 July, NSW

Setting of exposure	Exposure site	Location	Primary cases	Subsequent cases		Total
				Non - household setting	Household setting	
Food Service	Cafe	Vaucluse	1			1
		Bondi Beach	8	20	14	42
		Darlinghurst	1			1
	Pizza Shop	Paddington	4			4
	Food Distributor	Marrickville	16	4	10	30
Restaurant/Bar/ Club	Pub 1	Bondi	3			3
	Pub 2	Kensington	3		1	4
	Pub 3	Strathfield South	9	1	6	16
Retail	Myer	Bondi Junction	1	0	5	6
	David Jones	Bondi Junction	1	2	3	6
	Westfield (other)	Bondi Junction	4	2	6	12
	Salvos	St Peters	1			1
Personal Service	Nail Salon	Bondi Junction	1		3	4
	Hair Salon	Double Bay	11	4	2	17
Gym	Gym	Bondi	1		3	4
Workplace	Office 1	CBD	1			1
	Office 2	North Sydney	1	4	3	8
Healthcare	Medical Centre	Bondi Junction	1		1	2
	Obstetrics	Wollongong	3			3
Education	Primary school	Coogee	4	1	7	12
Travel	Plane	Gold Coast to Sydney	5		1	6
Residential	Home (party)	West Hoxton	28	2	13	43
Total			**108**	**40**	**78**	**226**

Interpretation: Excluding the source case, a hire-car driver whose source is under investigation, there are 226 cases epidemiologically linked to the cluster.

Waterloo cluster

On 3 July, South Western Sydney Public Health Unit was notified of six cases of COVID-19 associated with a small gathering in a hotel in Waterloo. Three of the six cases attended the event at the hotel including one case who later infected their three household contacts. In response, NSW Health issued a media release advising guests, staff and contractors, who was on any level of the hotel at the time to get tested and isolate. The source for this cluster remains under investigation.

Other community and healthcare clusters

Aged care facility cluster, Baulkham Hills

On 30 June 2021 Western Sydney Public Health Unit was notified of a case in an aged care worker who worked at an aged care facility in Baulkham Hills. The source of infection was a family member linked to a previously reported case whose source is under investigation. The aged care worker worked for three days whilst unknowingly infectious. Testing of close contacts including residents and staff identified a further case in a household contact, who also worked at the facility as an aged care worker, and three residents. Excluding the source and their household contact, there are three cases linked to this cluster.

Community Centre cluster, Lidcombe

On 29 June, Western Sydney Public Health Unit was notified of two cases who attended a religious community centre in Lidcombe on the evening of the 25 June 2021. The source of infection was a previously identified case whose source of infection remains under investigation. In the following days two household contacts were subsequently notified. Excluding source, there are currently four cases associated with this cluster.

Workplace cluster, Banksmeadow

On 26 June, Sydney Public Health Unit was notified of a single case who worked at a factory in Banksmeadow. In the following days a second worker from the factory and the household contact of the original worker were also notified. Excluding the source, who is not linked to a known case or cluster, there are three cases linked to this cluster.

Section 4: COVID-19 in specific populations

Aboriginal people

Aboriginal and Torres Strait Islander communities are recognised as a priority group due to key drivers of increased risk of transmission and severity of COVID-19 which include mobility, remoteness, barriers to access including institutional racism and mistrust of mainstream health services, crowded and inadequate housing, and burden of disease.

Since the beginning of the pandemic in January 2020, there have been 54 Aboriginal people diagnosed with COVID-19, representing 1% of all cases in NSW.

Healthcare workers

The following describes infections of COVID-19 in healthcare workers (HCWs). HCWs in this section includes roles such as doctor, nurse, orderly, paramedic, laboratory technician, pharmacist, administrative staff, cleaners, and other support staff. Public health units routinely undertake investigations of COVID-19 cases in healthcare workers to identify ongoing risks in healthcare settings.

There were seven locally acquired cases of COVID-19 reported in HCWs in the week ending 3 July 2021. Of these, three cases may have acquired their infection in public healthcare settings, the source for two is still under investigation and two were household or social contacts of known cases.

In total there have been 62 cases of COVID-19 in health care workers since 1 August 2020. Of these, 31 HCWs were potentially infected in healthcare settings. A further 17 cases were social or household contacts of a known case, eight were exposed in community settings, and for eight cases the source of infection is unknown. Prior to August 2020, there were 26 cases identified in HCWs who had worked in a health facility in the 14 days prior to symptom onset or date of testing (see COVID-19 in healthcare workers in NSW).

Aged care workers

There were two cases in aged care workers in the week ending 3 July who acquired their infection in community settings. Both cases were unvaccinated and had worked in an aged care facility in Baulkham Hills whilst unknowingly infectious.

Pregnant women

There was one case in a pregnant woman in the week ending 3 July. Since January 2020, 47 pregnant women have been diagnosed with COVID-19 in NSW. As those who test negative are not interviewed, testing rates among pregnant women are not available.

Section 5: COVID-19 vaccination status

COVID-19 vaccinations began in Australia on 22 February 2021. The first people to receive the COVID-19 vaccines are priority groups who are at a higher risk of COVID-19 including quarantine and border workers, frontline healthcare workers, and aged and disability care residents and staff. There are a range of vaccines, currently being administered worldwide. People receiving vaccines are considered fully vaccinated two weeks after they complete the recommended course for that vaccine. Both vaccines being administered in Australia, Pfizer-BioNTech and AstraZeneca, and many from overseas such as Moderna and Sinovac, recommend a two-dose course. There is one single dose vaccine course currently being administered, the Johnson & Johnson vaccine in the USA.

The tables below show the number of COVID-19 cases by COVID-19 vaccination status. Definitions of status are as follows:

- The number of cases reported as **fully vaccinated** refers to completion of the recommended course for the vaccine greater than 14 days prior to known exposure to COVID-19 or arrival in Australia.
- The number of cases reported as **partially vaccinated** refers to either:
  - the first dose of a two-dose vaccination being completed greater than 14 days prior to known exposure to COVID-19 or arrival in Australia, without receiving the second dose.
  - or, the second dose of a two-dose vaccination being completed within 14 days of known exposure to COVID-19 or arrival in Australia.
- The number of cases reported as single dose within 14 days refers to one dose of a two-dose vaccine (or single dose of Johnson & Johnson vaccine) being completed within 14 days of known exposure to COVID-19 or arrival in Australia.

Table 5a. Locally acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 3 July 2021

	Week ending					
Number of vaccination doses received	**3 July**	**26 June**	**19 June**	**12 June**	**01 Mar-05 June**	**Total from 1 Mar 2021**
Total locally acquired cases	171	109	7	0	9	296
Fully vaccinated	7 (4%)	2 (2%)	0	0	0	9 (3%)
Partially vaccinated	2 (1%)	1 (1%)	0	0	1 (11%)	4 (1%)
Single dose within 14 days	3 (2%)	4 (4%)	1 (14%)	0	1 (11%)	9 (3%)
None	149 (87%)	96 (88%)	6 (86%)	0	7 (78%)	258 (87%)
Unknown/ Missing	10 (6%)	6 (6%)	0	0	0	16 (5%)

Table 5b. Overseas acquired COVID-19 cases by vaccination status and week reported, NSW, 1 March to 3 July 2021

	Week ending					
Number of self-reported vaccination doses received	**3 July**	**26 June**	**19 June**	**12 June**	**01 Mar-05 June**	**Total from 1 Mar 2021**
Total overseas acquired cases	27	7	25	18	400	477
Fully vaccinated	3 (11%)	0	2 (8%)	1 (6%)	7 (2%)	13 (3%)
Partially vaccinated	0	0	0	0	6 (2%)	5 (1%)
Single dose within 14 days	1 (4%)	0	4 (16%)	0	15 (4%)	21 (4%)
None	21 (78%)	7 (100%)	18 (72%)	17 (94%)	360 (90%)	423 (89%)
Unknown/Missing	2 (7%)	0	1(4%)	0	12 (3%)	15 (3%)

Interpretation: Since 1 March 2021, there have been nine (3%) locally acquired cases reported as being fully vaccinated and four (1%) cases partially vaccinated. Thirteen (3%) overseas acquired cases reported being fully vaccinated prior to arrival in Australia, although they may not have been fully vaccinated prior to being exposed to COVID-19.

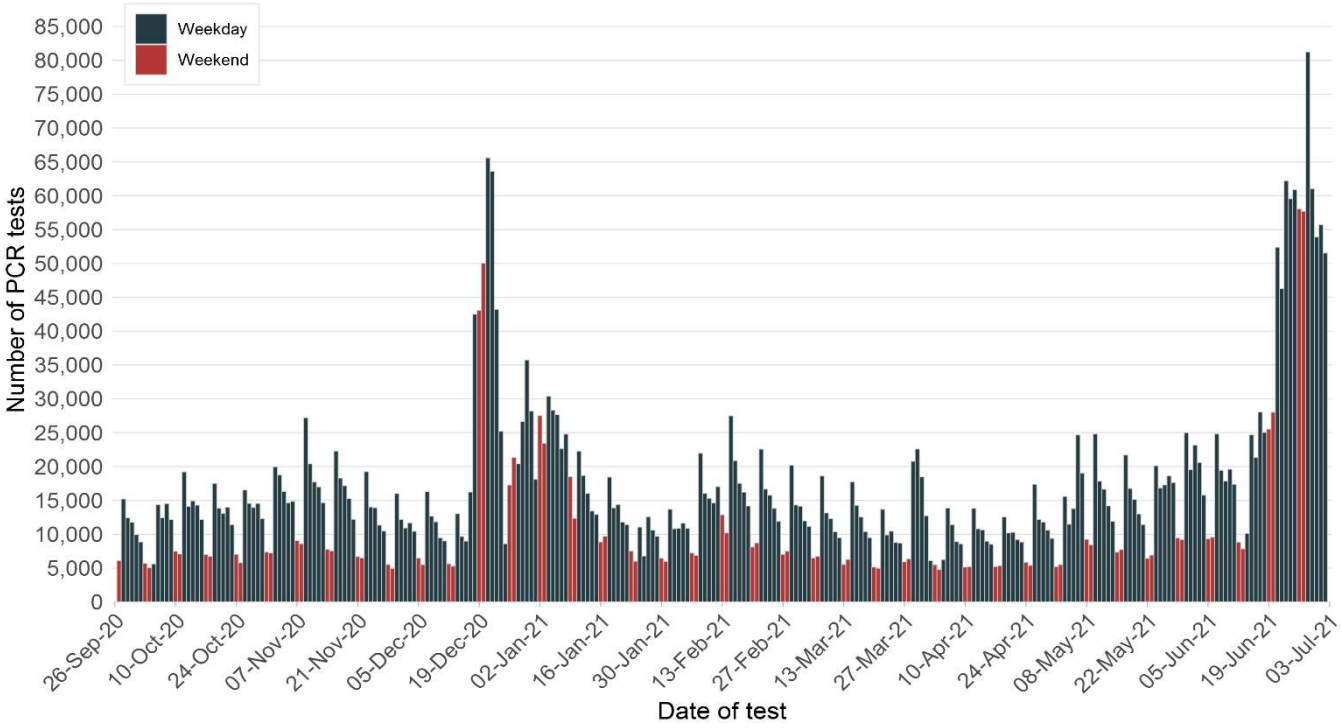
Section 6: COVID-19 testing in NSW

How much testing is happening?

The bars on the graph below show the number of tests by the date a person presented for the test.[1] While public health facilities are generally open seven days a week, there may be less demand and availability for testing through GPs and private collection centres on weekends and public holidays. This likely explains lower testing numbers on weekends.

The PCR testing numbers reported are for tests performed on nose and throat swabs. Saliva PCR tests are not included, these are reported in the "Border and quarantine workers – saliva testing screening program" section.

Figure 3. Number of PCR tests per day, NSW, 12 September 2020 to 3 July 2021



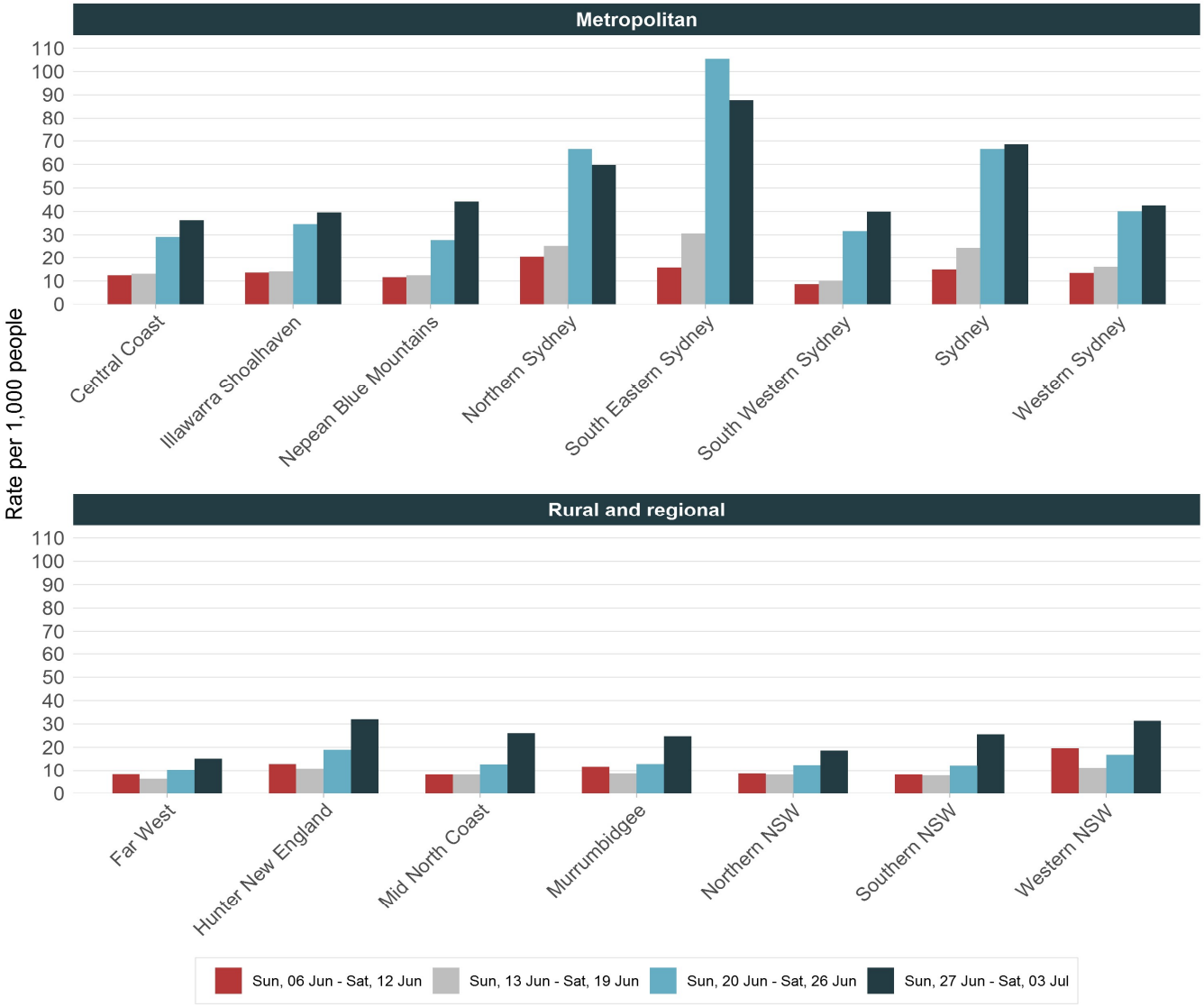
Includes SARS-CoV-2 PCR tests only and excludes repeat positive tests for an individual.

Interpretation: Testing numbers continue to increase in the week ending 3 July 2021 (up 8%) compared to the previous week in response to the developing Eastern Suburbs cluster. The average daily testing rate of 7.0 per 1,000 people in NSW each day increased compared to the previous week of 6.5 per 1,000 people.

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

Testing by Local Health District and Selected Suburb

Figure 4. Rates of COVID-19 testing by LHD of residence, NSW, 6 June to 3 July 2021

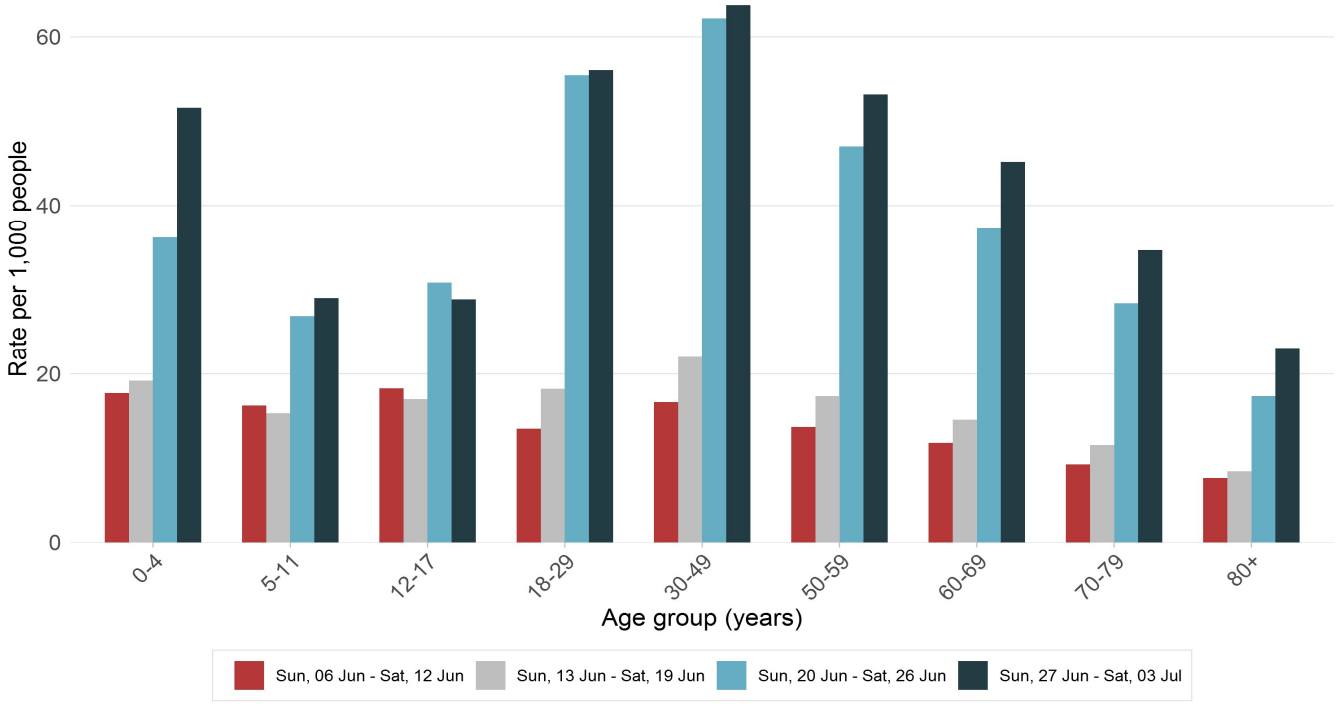


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

Interpretation: State-wide weekly testing rates in the week ending 3 July increased when compared to the previous week (49.2 per 1,000 people compared to 45.4 per 1,000 people). Testing rates increased across most metropolitan Local Health Districts and across all rural and regional Local Health Districts. To limit the spread of COVID-19, multiple public health alerts were issued advising people that attended affected venues across metropolitan Sydney to seek testing and isolate regardless of symptoms.

Testing by age group

Figure 5. Rates of COVID-19 testing by age group and week, NSW, 6 June to 3 July 2021



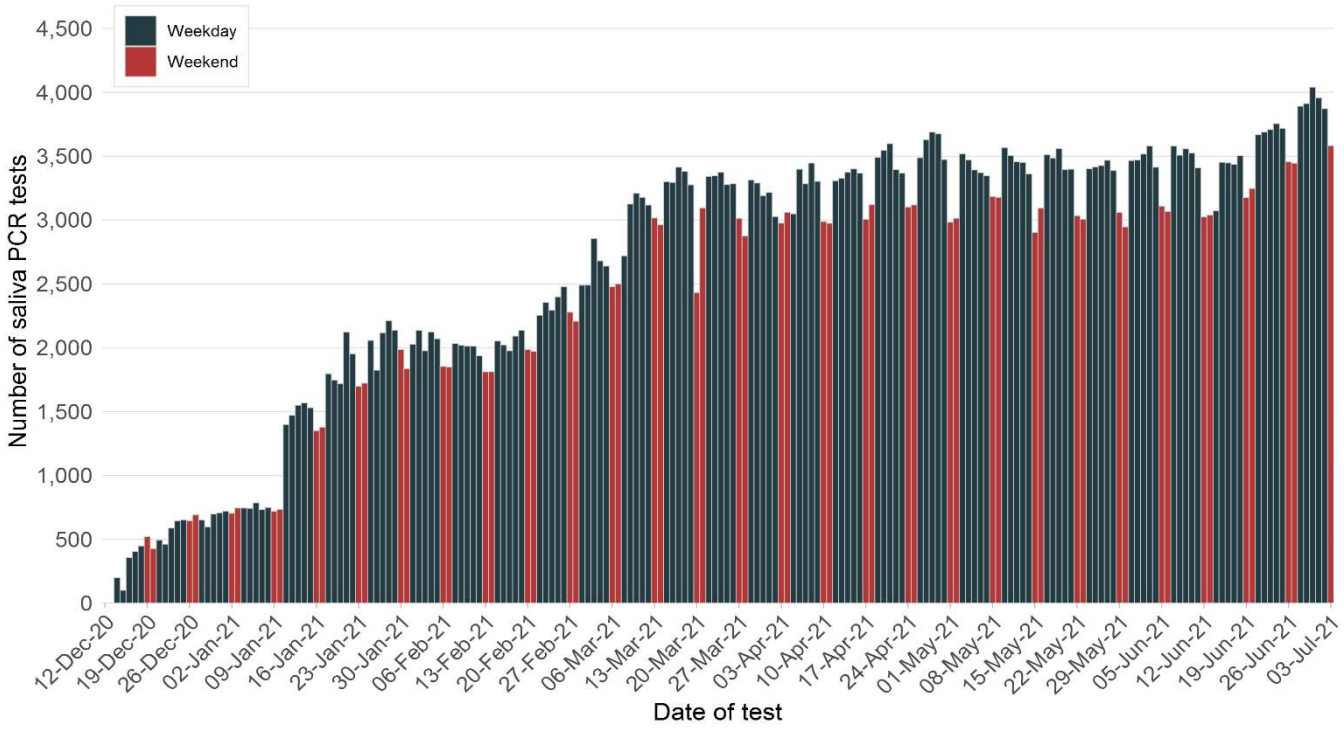
Includes SARS-CoV-2 PCR tests only and excludes notifications with age missing.

Interpretation: In the week ending 3 July 2021, testing rates increased or remained steady across most age groups with the largest relative increase in children aged under five years.

Border and quarantine workers – saliva testing screening program

As the number of COVID-19 cases rise across the world and more people return to Australia from overseas, increased numbers of COVID-19 cases are seen in returned overseas travellers in quarantine facilities. Routine screening of quarantine workers is implemented out of care and caution for staff members who work in NSW quarantine facilities. Screening involves a daily SARS-CoV-2 saliva PCR testing, which is painless and quick (see NSW hotel quarantine worker surveillance and testing program).

Figure 7. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 3 July 2021



* The number of saliva PCR tests in the most recent days may be incomplete due to delays in reporting negative results.

Interpretation: Since screening of quarantine workers began in December 2020, a total of 520,145 saliva PCR tests have been conducted. The number of saliva PCR tests increased significantly on 11 January 2021, which corresponds to the expansion of the NSW quarantine hotel worker surveillance and testing program. Two confirmed cases of COVID-19 have been reported through saliva PCR testing, reported on 13 March and 16 June 2021.

The daily number of saliva PCR tests is not included in the total PCR testing numbers reported.

Section 7: Variants of Concern (VoC)

Like other viruses, the SARS-CoV-2 virus that causes COVID-19 acquires mutations over time. Some of these mutations occur in regions that are critical to virus function, such as the spike protein. The spike protein allows the virus to enter human cells, which is why it is the target of many COVID-19 vaccines and part of our own immune response to the virus. Global surveillance is done to monitor the prevalence of mutations in the SARS-CoV-2 virus, with particular focus on those occurring in the spike protein that may reduce vaccine effectiveness or enable re-infection.

This report reflects the recommendations of Australia's Communicable Diseases Genomics Network (CDGN) for reporting of Variants of Concern (VoC) in NSW. The CDGN reports on four internationally recognised VoCs:

- Alpha (B.1.1.7) first identified in the United Kingdom in September 2020 and recognised as a VoC on 18 December 2020
- Beta (B.1.351) first identified in South Africa in December 2020 and recognised as a VoC on 18 December 2020
- Gamma (P.1) first identified in Japan among a group of Brazilian travellers in December 2020 and recognised as a VoC on 11 January 2021
- B.1.617 sub-lineages, including Kappa (B.1.617.1) and Delta (B.1.617.2). B.1.617 lineage was first detected in India in October 2020. The Delta lineage (B.1.617.2) was internationally recognised as a VoC on 11 May 2021.

In the four weeks ending 3 July 2021, there have been:

- 197 locally acquired cases diagnosed with a VOC. All cases have been identified as having the Delta variant.
- 36 returned travellers diagnosed with a VoC. Of these:
  - 12 (33%) with the alpha variant
  - 2 (6%) with the beta variant
  - 22 (61%) with the delta variant.
- The countries of likely acquisition of the 33 returned travellers diagnosed with a VoC are: Afghanistan (11, 31%), Bangladesh (4, 11%), India (4, 11%), Indonesia (4, 11%), Pakistan (3, 8%), USA (3, 8%), UK (2, 6%), Iraq (1, 3%), Philippines (1, 3%), South Africa (1, 3%), Sierra Leone (1, 3%) and unknown (1, 3%).

Table 6a. Variants identified among locally acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 3 July 2021

	Week ending				29 Nov to 05 June	Total since 29 November
	3 July*	26 June*	19 June	12 June		
Total variants identified	**92**	**98**	**7**	**0**	**9**	**26**
Alpha (B.1.1.7)	0	0	0	0	6	6
Beta (B.1.351)	0	0	0	0	1	1
Gamma (P.1)	0	0	0	0	0	0
Kappa (B.1.617.1)	0	0	0	0	0	0
Delta (B.1.617.2)	92	98	7	0	2	199

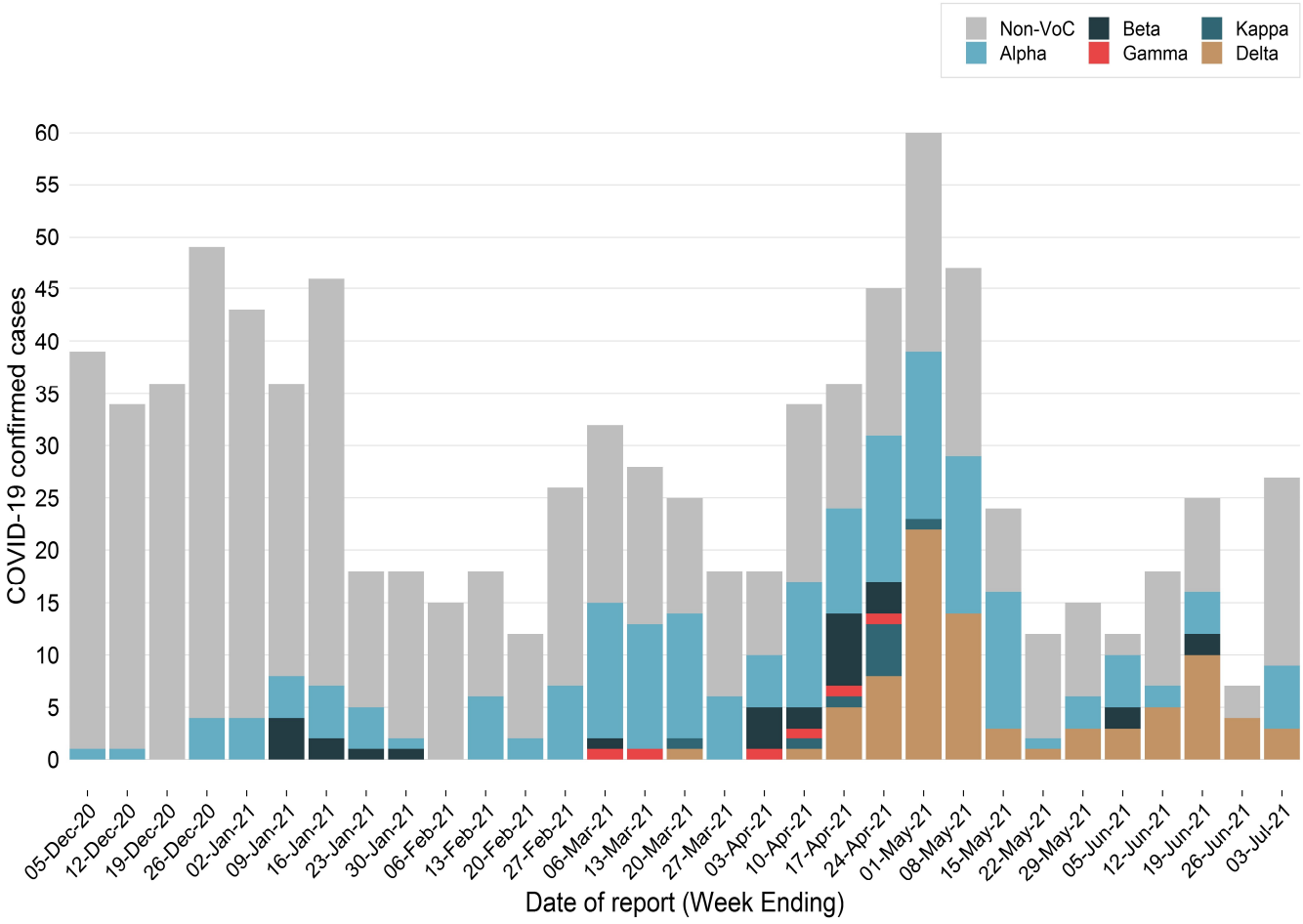
***Note:** identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting. 100% of locally acquired cases sequenced in the week ending 3 July have been the Delta variant of concern.

Table 6b. Variants identified among overseas acquired COVID-19 cases by week reported, NSW, 29 November 2020 to 3 July 2021

	Week ending				29 Nov to 05 June	Total since 29 November
	3 July*	26 June*	19 June	12 June		
Total variants identified	**9**	**4**	**16**	**7**	**279**	**315**
Alpha (B.1.1.7)	6	0	4	2	176	188
Beta (B.1.351)	0	0	2	0	27	29
Gamma (P.1)	0	0	0	0	6	6
Kappa (B.1.617.1)	0	0	0	0	9	9
Delta (B.1.617.2)	3	4	10	5	61	83

***Note**: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

Figure 8. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 3 July 2021



*Note: identification of variants of concern is through whole genome sequencing. Results for reported cases in the most recent week may not be available at the time of reporting.

Interpretation: Since 29 November 2020 there have been 279 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 3 July20 2021, 47% (36/77) of overseas acquired cases have been identified as having COVID-19 variants of concern.

Section 8: NSW Sewage Surveillance Program

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. In Sydney, testing is undertaken from both the sewage treatment plant (inlet sites) and sites within the network (network sites). Testing sewage can help track infections in the community and provide early warning of an increase in infections. These tests provide data to support NSW Health's response to COVID-19.

An infected person can shed virus in their faeces even if they do not have symptoms, and shedding can continue for several weeks after they are no longer infectious. The NSW sewage surveillance for SARS-CoV-2 is in the preliminary stages of analysis and work is progressing to assess the significance of the results. For example, it is not currently known the minimum number of cases that can be detected in a catchment. A small number of cases in a large sewage catchment may not be detected by sewage surveillance due to factors such as dilution, inhibition, reduction in shedding over the infection period or movement of cases.

The table below shows results for the last 10 weeks for sites that have had detections. The results from all sites across NSW are available in Appendix D.

Table 7. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 3 July 2021

		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	**Location**	17	18	19	20	21	22	23	24	25	26
Sydney sewage treatment plant (inlet sites)											
110,114	Penrith										
1,241	Brooklyn										
31,924	Hornsby Heights										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
119,309	Rouse Hill										
163,147	St Marys										
68,000	Port Kembla										
93,000	Bellambi										
Sydney network sites											
Bondi	Paddington										
Cronulla	Caringbah										
Malabar	Earlwood										
Malabar	Marrickville 1										
Malabar	Marrickville 2										
Malabar	Arncliffe 1										
Malabar	Arncliffe 2										

Table 7 (Continued). Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 11 April to 3 July 2021

		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	**Location**	17	18	19	20	21	22	23	24	25	26
Sydney network sites (continued)											
Malabar	Blakehurst										
Malabar	Padstow 1										
Malabar	Padstow 2										
Malabar	Fairfield 1										
Malabar	Fairfield 2										
Malabar	Homebush SPS										
Malabar	Croydon										
Malabar	Dulwich Hill										
Malabar	Canterbury										
Malabar	Botany										
Malabar	Maroubra										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn										
North Head	Tunks Park										
North Head	Allambie Heights										
Liverpool	Ireland Park										
Regional Sites											
2,050	Bourke										

Sampling commenced week ending 18 July 2020

	not sampled or analysed
	SARS-CoV-2 not detected
	SARS-CoV-2 detected
	site moved to composite sample or ceased
SPS	Sewage Pumping Station
p	result pending, not available at time of reporting

Interpretation: In the week ending 3 July, 188 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were 55 detections. Positive detections were found in sewage treatment plants in:

- Penrith (3), Hornsby Heights (2), Bondi, Cronulla, Malabar (2), Liverpool (2), West Camden (2), Glenfield, North Head,
- Rouse Hill (3) and St Marys.

There were also detections from the sewage networks and pumping stations within:

- the Malabar catchment including Botany, Earlwood, Blakehurst, Arncliffe 1, Arncliffe 2, Padstow 1, Padstow 2, Fairfield pumping station 1, Fairfield pumping station 2, Croydon, Dulwich Hill (2), Canterbury (2), Maroubra (2) and Homebush (2)
- the Bondi catchment including Paddington, Lough Park and Parsley Bay
- the Liverpool catchment including Ireland Park (2)
- the North Head catchment including Auburn (3), Tunks Park, Camellia South (2) and Camellia North (2)
- Port Kembla (2)
- Bellambi (3)

Although no active cases were identified in the Penrith and St Marys catchments at the time, the detections may indicate the presence of people in the community who have recently been infected with the virus that causes COVID-19 but may no longer be infectious. People can continue to shed fragments of the virus for several weeks. All other catchments were associated with known cases in the area.

Section 9: COVID-19 deaths

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

Since the start of the pandemic, 1.0% of cases (56 people) have died as a result of COVID-19, most of whom were 70 years of age or older, including 28 residents of aged care facilities with known COVID-19 outbreaks. Approximately 21% (12/56) of the deaths were in overseas acquired cases.

There were no deaths reported in the week ending 3 July 2021.

Table 8. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 3 July 2021

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0-4	0	160	0%
5-11	0	168	0%
12-17	0	191	0%
18-29	0	1304	0%
30-49	0	1930	0%
50-59	1	755	0.1%
60-69	4	678	0.6%
70-79	15	405	3.7%
80+	36	174	20.7%
Total	56	5,765	1.0%

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

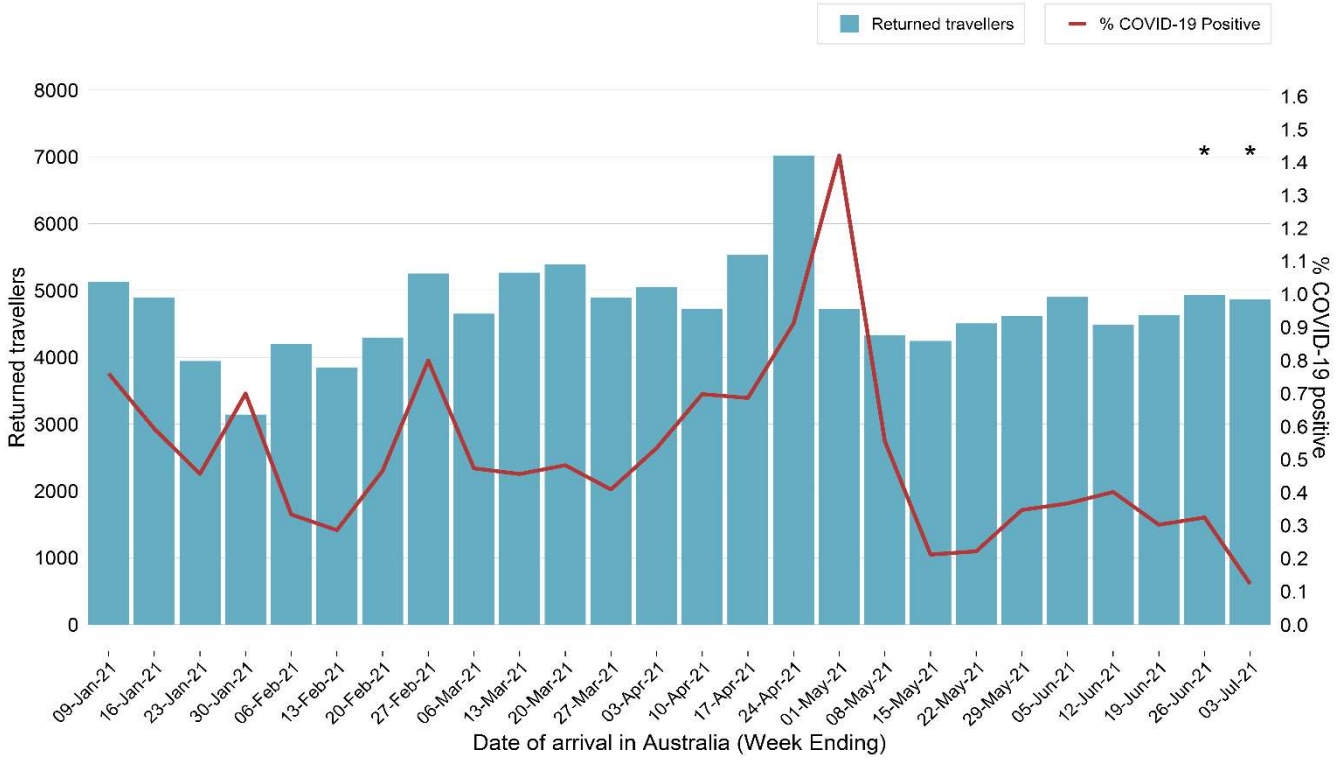
Section 10: COVID-19 in returned travellers

To limit the spread of COVID-19 into NSW, travel restrictions were introduced for all non-Australian citizens and permanent residents in mid-March 2020. In addition:

- From 29 March 2020 returned travellers have been quarantined in hotels for a 14-day period and travellers who develop symptoms are isolated until no longer infectious. Returned travellers are screened on entry and exit from quarantine and following release from quarantine.
- From 22 January 2021 (local time at departure point) all people travelling to Australia on flights must provide proof of a negative COVID-19 PCR test result at the time of check-in.

The figure below shows the number of returned travellers screened at Sydney International Airport since 2021. Returned travellers include international flight crew who are required to be tested before leaving the airport.

Figure 9. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 3 July 2021



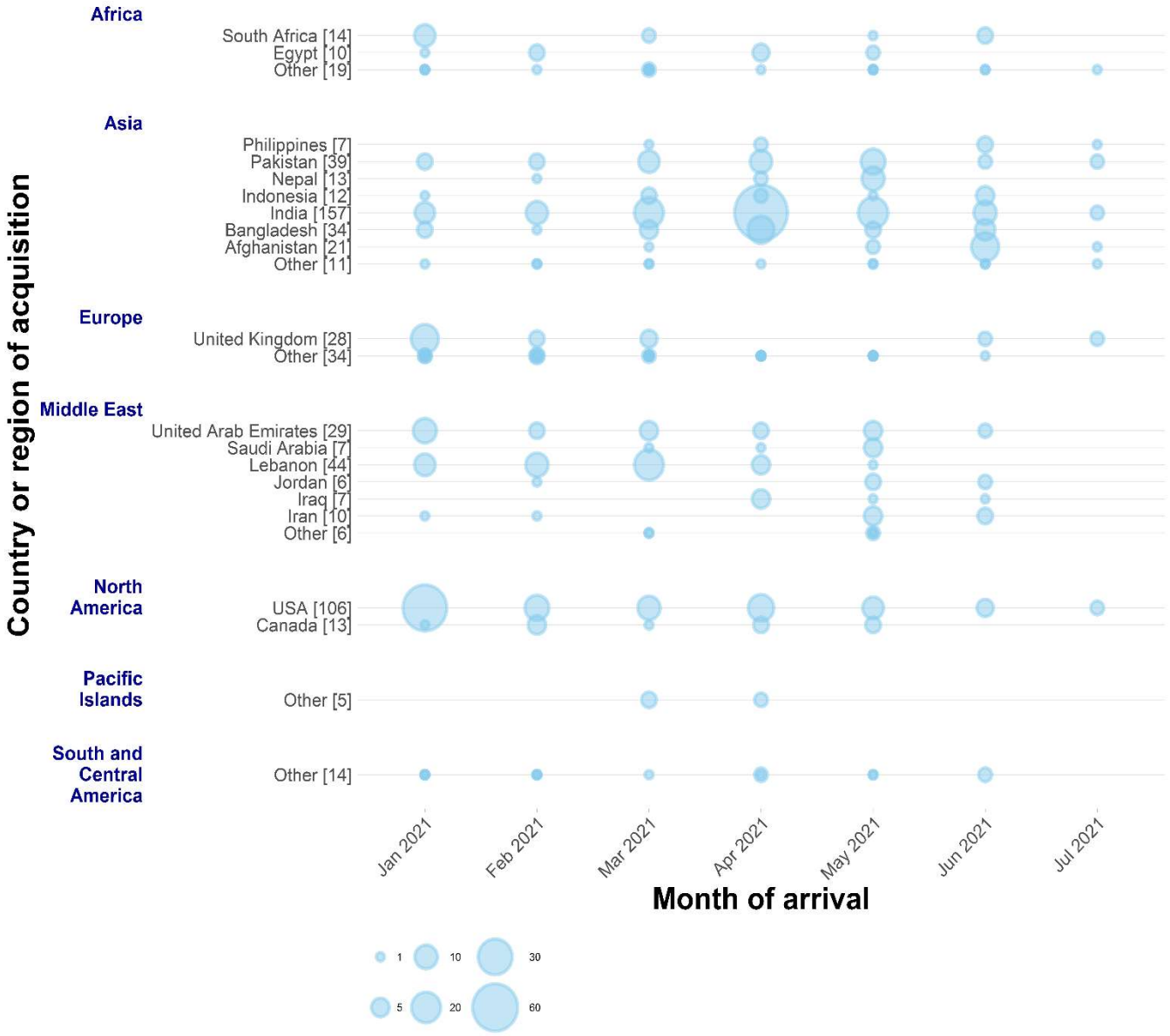
*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

Interpretation: Since 3 January 2021, there has been on average 679 people screened on arrival through Sydney International Airport daily. In the last four weeks, 77 returned travellers have subsequently tested positive for COVID-19 while completing quarantine. The proportion of returned travellers who test positive for COVID-19 has been low. In the week ending 1 May 2021 the proportion increased to over 1% (1.4%) of returned travellers testing positive, but this has subsequently fallen back to lower levels.

Country of acquisition of COVID-19 for returned travellers

The following figure displays the countries and regions with the greatest numbers of returned international travellers diagnosed with COVID-19 in NSW.

Figure 10. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 December 2020 to 3 July 2021



* Data for current month is incomplete

Interpretation: In April 2021, there was a significant increase in detections of COVID-19 in travellers from India, which subsided following travel restrictions introduced in May. The pattern seen in COVID-positive returned travellers over time reflects the evolving nature of the pandemic in those areas and the country of origin of returned travellers, as well as travel requirements enacted by the Australian Government.

In the last four weeks, there have been 77 COVID-positive returned travellers in NSW. The table below lists countries of acquisition for these travellers.

Table 9. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 6 June 2021 to 3 July 2021

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
Afghanistan	18 (23%)
India	11 (14%)
Bangladesh	7 (9%)
Indonesia	5 (6%)
USA	5 (6%)
Pakistan	4 (5%)
United Kingdom	4 (5%)
Philippines	3 (4%)
Cambodia	2 (3%)
Jordan	2 (3%)
United Arab Emirates	2 (3%)
Venezuela	2 (3%)
Other	12 (16%)
Total	**77**

Interpretation: In the last four weeks, travellers returning from Afghanistan and India accounted for the largest number of overseas acquired cases (29, 38%), followed by travellers returning from Bangladesh 7 (9%), Indonesia and USA (10, 13%).

Cases among returned travellers in quarantine

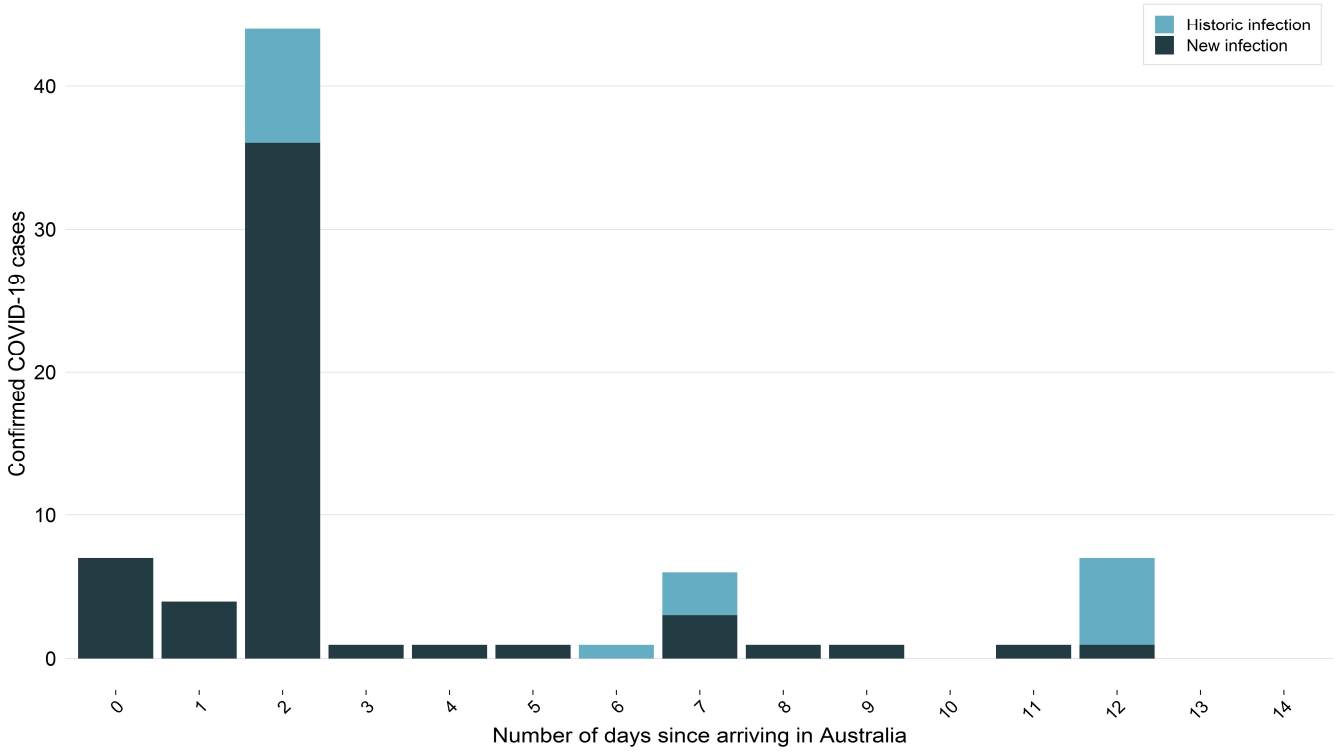
The program of screening all overseas travellers after arrival in NSW commenced on 15 May 2020. From 30 June 2020, the program was extended to include screening of travellers on entry to quarantine, day 2 after arrival, and exit of quarantine. On 11 January 2021, exit screening of travellers was moved from day 10 to day 12 of quarantine. Routine day 7 screening was introduced on 2 June 2021. Testing is also carried out on individuals that became symptomatic in addition to these three routine tests, including those that are symptomatic on arrival.

Overseas returned travellers complete their quarantine in several facilities with the majority of people in police-managed hotels or hotels managed by NSW Health (known as Special Health Accommodation). Since September 2020 international flight crew are also required to quarantine in police-managed hotels.

The figure below shows the number of overseas acquired cases in returned travellers within the quarantine program, by the number of days since they arrived in Australia. Overseas acquired cases include people with likely exposure overseas, in flight or are co-quarantining with family members who acquired COVID-19 overseas.

Historical COVID-19 infections are a subset of confirmed cases that have been infected sometime in the past and are not considered infectious at the time of diagnosis. An historic case requires laboratory evidence to support historic infection and must be asymptomatic in the 14 days prior to the positive test.

Figure 11. Number of overseas acquired cases in the last four weeks who tested positive for SARS-CoV-2 within 14 days since arrival in NSW by COVID-19 infection status, 6 Junto 3 July 2021



Interpretation: In the four weeks ending 3 July 2021, 44% of overseas acquired COVID-19 cases have tested positive within two days of arriving to Australia, with most people testing positive on day two screening.

Section 11: Other respiratory infections in NSW

Influenza and other respiratory virus cases and tests reported in NSW, up to 27 June 2021

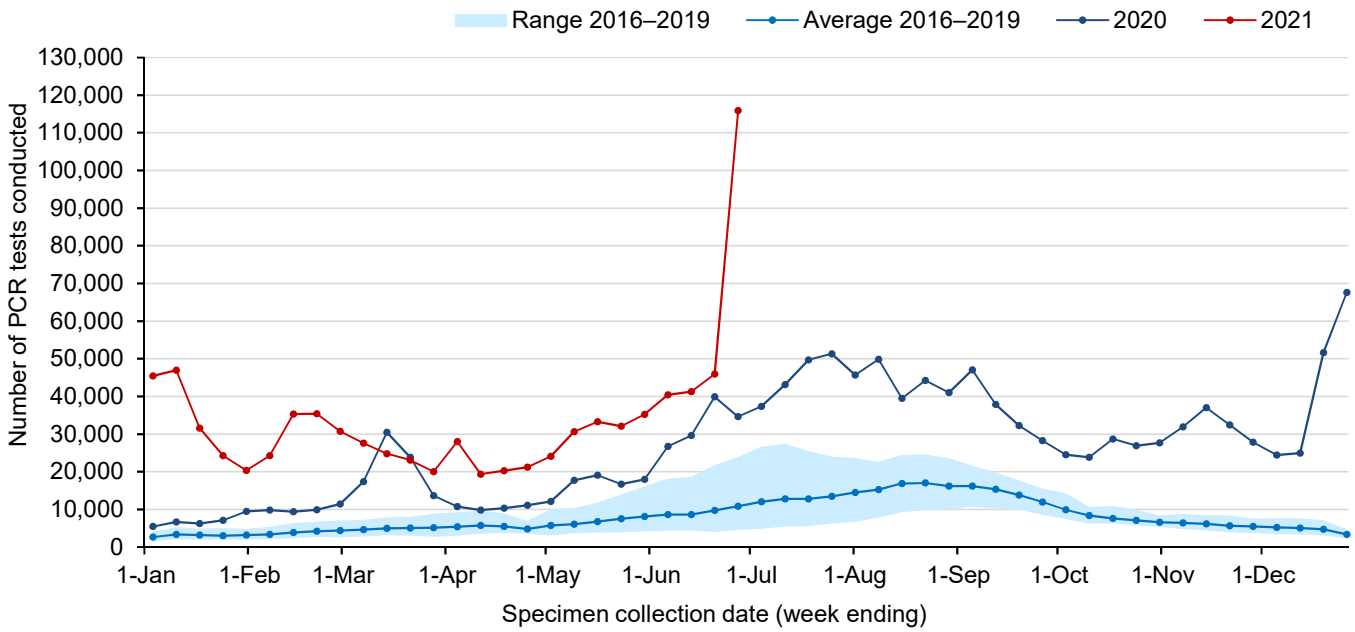
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 27 June 2021. A total of 877,589 influenza tests have been performed at participating laboratories from 28 December 2020. 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 in 2021, the dark blue line showing PCR tests for 2020. The light blue line shows the average number of PCR tests carried out for the same week in the previous four years (2016–2019) and the shaded area shows the range of tests reported in the same time period.

Figure 12. Testing for influenza by week, NSW, 1 January 2016 to 27 June 2021

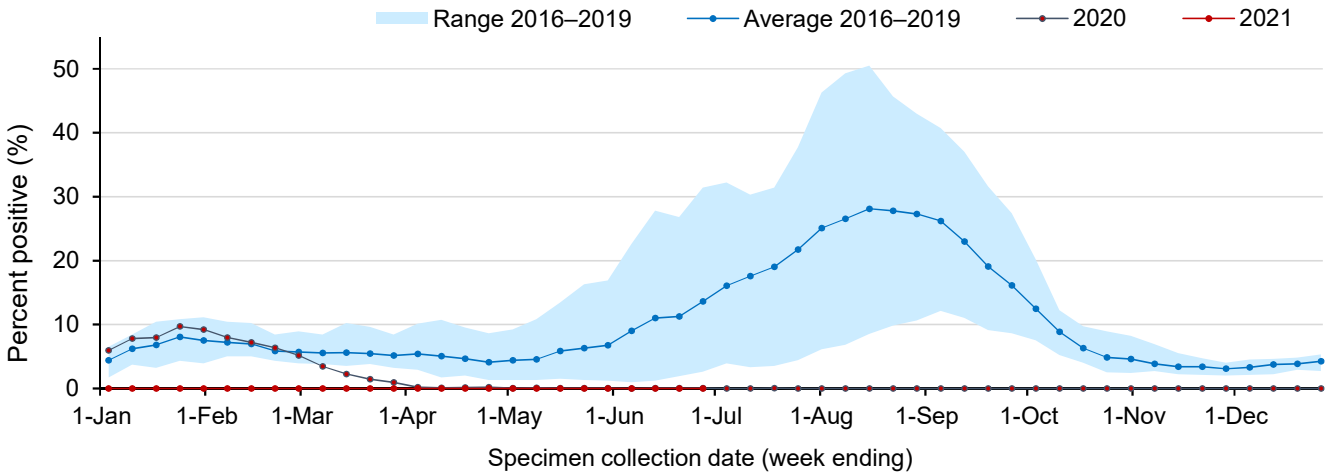


Interpretation: In the week ending 27 June, the number of influenza tests surged, with 115,892 influenza tests performed across participating laboratories compared with 45,936 the previous week. This spike in influenza tests is likely due to concurrent testing of influenza and COVID-19 by some sentinel labs. Testing for influenza continues to exceed the four-year average for this time of 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 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 13. Proportion of tests positive for influenza, NSW, 1 January 2016 to 27 June 2021

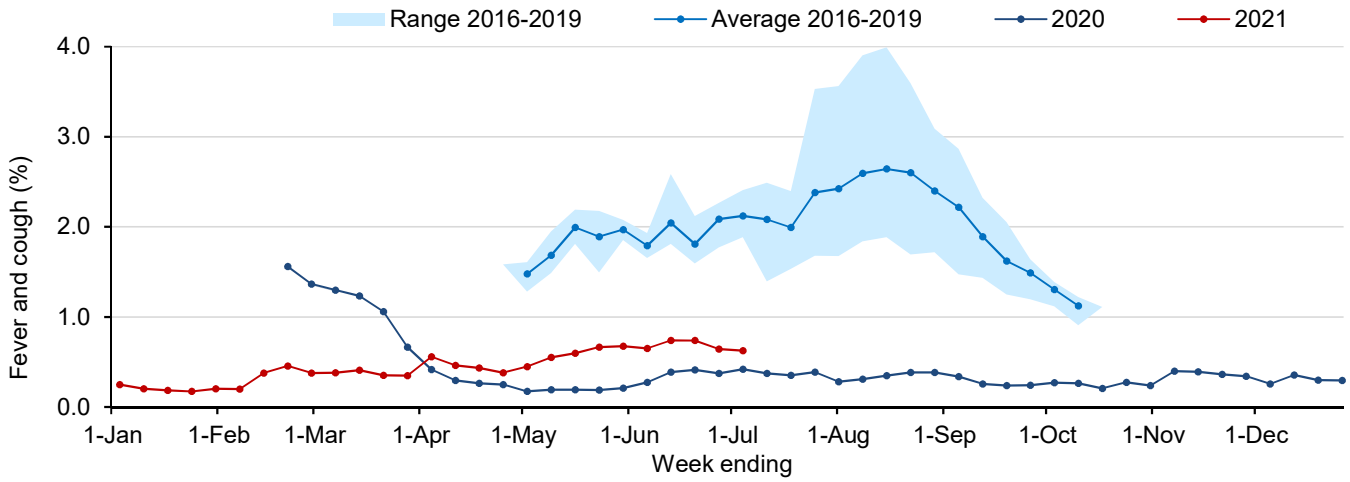


Interpretation: In the week ending 27 June, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 13 influenza cases reported in 2021.

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 has continued throughout the year due to the COVID-19 outbreak.

Figure 14. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 4 July 2021



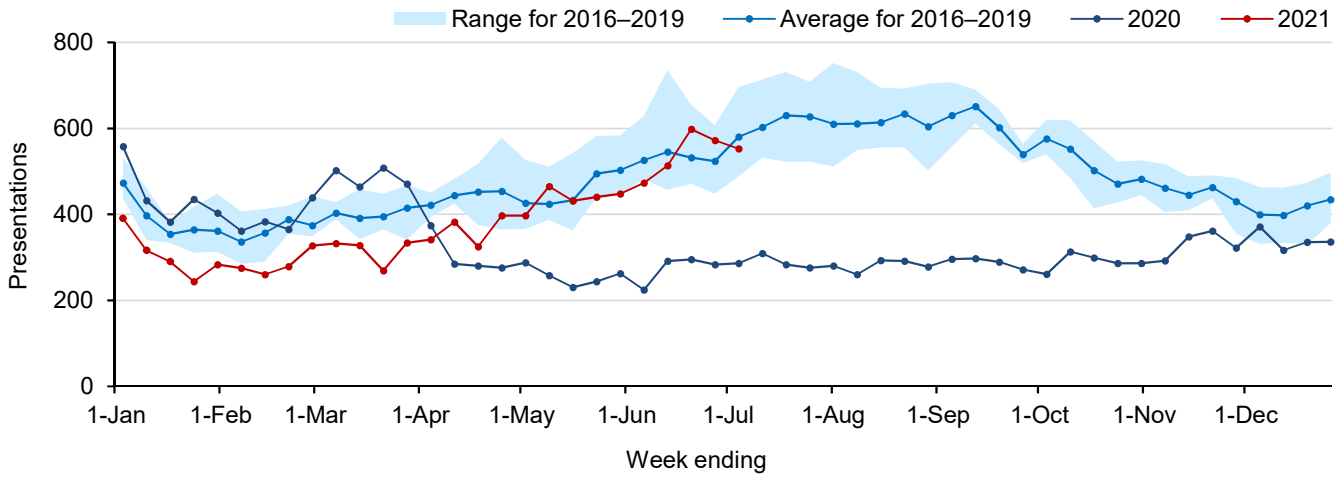
Interpretation: In NSW in the week ending 4 July 2021, of the 21,633 people surveyed, 135 people (0.62%) reported flu-like symptoms. In the last four weeks, 62% (416/668) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased since January, when 80% of people surveyed with flu-like symptoms were being tested, and has remained at around 50% since early April 2021.

How are emergency department presentations tracking?

Improved hygiene and social distancing measures implemented during the COVID-19 pandemic have impacts on a broad range of other viral and bacterial infections.

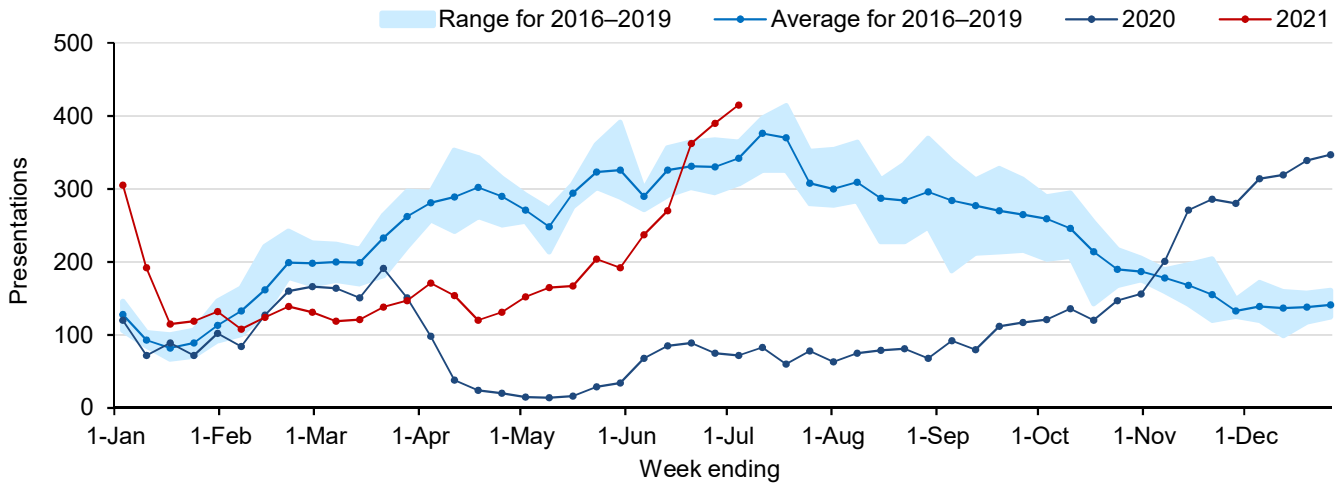
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS[2]. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing the range recorded for 2016 to 2019.

Figure 15. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 4 July 2021



Interpretation: Pneumonia presentations include people with diagnoses of viral, bacterial, atypical or unspecified pneumonia, and Legionnaires' disease, but excludes 'pneumonia with influenza' and provides an indicator of more severe respiratory conditions. In the week ending 4 July, pneumonia presentations decreased and remain within the seasonal range for this time of year.

Figure 16. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 4 July 2021



Interpretation: Bronchiolitis is a common disease of infants often caused by respiratory syncytial virus (RSV). Public health measures introduced last year around social distancing and improved hygiene practices coincided with a large decrease in bronchiolitis presentations for the majority of 2020. A rise in bronchiolitis presentations in the later part of 2020 corresponds to an increase in RSV detections. In the week ending 4 July 2021, bronchiolitis presentations increased and are above the seasonal range for this time of year.

[2] 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).

Appendix A: COVID-19 PCR tests in NSW by Local Government Area

		Week ending				Total since January 2021	
		03-Jul		26-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
Central Coast	*LHD Total*[2]	12789	36.24	10286	29.15	259155	734.44
Far West	Balranald	21	8.98	32	13.69	852	364.41
	Broken Hill	300	17.16	199	11.39	10794	617.54
	Central Darling	17	9.24	13	7.07	635	345.30
	Wentworth	120	17.01	67	9.50	3943	559.05
	LHD Total[2]	458	15.19	311	10.32	16224	538.22
Hunter New England	Armidale Regional	843	27.39	464	15.08	17911	581.92
	Cessnock	1249	20.82	575	9.59	25465	424.52
	Dungog	240	25.47	102	10.82	4370	463.76
	Glen Innes Severn	142	16.01	59	6.65	3121	351.82
	Gunnedah	286	22.55	176	13.88	5533	436.32
	Gwydir	48	8.97	37	6.91	1307	244.16
	Inverell	326	19.30	155	9.18	7434	440.14
	Lake Macquarie	8078	39.23	4893	23.76	159837	776.28
	Liverpool Plains	154	19.49	98	12.40	3551	449.32
	Maitland	3774	44.31	2086	24.49	71408	838.46
	Mid-Coast	1860	19.82	977	10.41	41115	438.16
	Moree Plains	206	15.53	164	12.37	7157	539.70
	Muswellbrook	386	23.57	190	11.60	7768	474.32
	Narrabri	210	15.99	104	7.92	4326	329.35
	Newcastle	6980	42.16	4864	29.38	153499	927.09
	Port Stephens	2403	32.70	1255	17.08	48031	653.65
	Singleton	713	30.39	320	13.64	15540	662.38
	Tamworth Regional	2055	32.86	1232	19.70	39372	629.54
	Tenterfield	51	7.73	24	3.64	1889	286.47
	Upper Hunter Shire	355	25.04	189	13.33	7059	497.81
	Uralla	127	21.12	56	9.31	2190	364.27
	Walcha	104	33.18	81	25.85	1599	510.21
	LHD Total[2]	30585	32.11	18098	19.00	629054	660.51
Illawarra Shoalhaven	Kiama	1338	57.21	831	35.53	19032	813.82
	Shellharbour	2724	37.20	2712	37.03	55742	761.16
	Shoalhaven	3684	34.87	1947	18.43	63588	601.89
	Wollongong	8843	40.54	9030	41.40	180071	825.58
	LHD Total[2]	16589	39.53	14520	34.60	318433	758.87
Mid North Coast	Bellingen	329	25.32	186	14.31	6930	533.24
	Coffs Harbour	1758	22.75	917	11.87	35872	464.20
	Kempsey	728	24.47	318	10.69	15500	521.10
	Nambucca	387	19.54	184	9.29	8406	424.44
	Port Macquarie-Hastings	2686	31.78	1236	14.62	46650	551.91
	LHD Total[2]	5888	26.09	2841	12.59	113358	502.33
Murrumbidgee	Albury	1398	25.72	754	13.87	32242	593.20
	Berrigan	93	10.63	31	3.54	2835	324.00
	Bland	121	20.26	70	11.72	2431	407.07

		Week ending				Total since January 2021	
		03-Jul		26-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Carrathool	38	13.58	14	5.00	562	200.79
	Coolamon	105	24.19	49	11.29	2162	498.04
	Cootamundra-Gundagai Regional	277	24.66	143	12.73	5215	464.17
	Edward River	106	11.67	29	3.19	3875	426.57
	Federation	193	15.52	83	6.67	5122	411.84
	Greater Hume Shire	245	22.76	128	11.89	5505	511.43
	Griffith	827	30.60	477	17.65	15653	579.12
	Hay	40	13.56	16	5.43	828	280.77
	Hilltops	491	26.25	256	13.69	9143	488.83
	Junee	107	16.01	59	8.83	2463	368.55
	Lachlan[1]	83	13.66	33	5.43	1490	245.27
	Leeton	249	21.76	108	9.44	4530	395.81
	Lockhart	78	23.74	29	8.83	1344	409.13
	Murray River	57	4.70	14	1.16	1399	115.45
	LHD Total[2]	70	17.87	32	8.17	1327	338.78
	Narrandera	81	13.73	47	7.97	1813	307.34
	Snowy Valleys	318	21.96	173	11.95	6829	471.65
	Temora	82	13.00	41	6.50	2014	319.33
	Wagga Wagga	2368	36.29	1279	19.60	46014	705.11
	LHD Total[2]	7359	24.69	3840	12.88	153792	515.89
Nepean Blue Mountains	Blue Mountains	6477	81.87	2525	31.91	78676	994.41
	Hawkesbury	2333	34.67	1994	29.63	52735	783.63
	Lithgow	490	22.68	245	11.34	10328	478.04
	Penrith	8160	38.31	6212	29.17	180385	846.97
	LHD Total[2]	17293	44.23	10868	27.80	319588	817.39
Northern NSW	Ballina	1045	23.42	969	21.71	36282	812.99
	Byron	915	26.08	607	17.30	28452	811.04
	Clarence Valley	859	16.63	429	8.30	19920	385.58
	Kyogle	122	13.87	65	7.39	3226	366.76
	Lismore	875	20.03	609	13.94	27958	639.89
	Richmond Valley	380	16.19	206	8.78	12340	525.89
	Tenterfield	51	7.73	24	3.64	1889	286.47
	Tweed	1592	16.41	937	9.66	45936	473.56
	LHD Total[2]	5796	18.67	3827	12.33	174538	562.37
Northern Sydney	Hornsby	6084	40.01	6949	45.70	130505	858.25
	Hunters Hill	1745	116.49	2054	137.12	30334	2024.97
	Ku-ring-gai	7907	62.18	9370	73.69	172872	1359.56
	Lane Cove	4275	106.46	5179	128.98	84310	2099.61
	Mosman	1890	61.01	2161	69.75	35866	1157.68
	North Sydney	3604	48.04	4510	60.12	66760	889.88
	Northern Beaches	17921	65.52	18208	66.57	417520	1526.59
	Parramatta[1]	10181	39.58	10427	40.54	193143	750.95
	Ryde	8344	63.56	8792	66.98	129733	988.28
	Willoughby	3476	42.81	4069	50.12	68456	843.17

		Week ending				Total since January 2021	
		03-Jul		26-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	LHD Total[2]	57183	59.82	63594	66.53	1176233	1230.47
South Eastern Sydney	Bayside	11595	65.00	11672	65.43	137191	769.03
	Georges River	7770	48.72	6487	40.68	109888	689.08
	Randwick	25502	163.84	22766	146.26	205246	1318.65
	Sutherland Shire	12683	55.00	11997	52.02	221678	961.26
	Sydney[1]	19865	80.64	25502	103.52	303997	1234.04
	Waverley	11821	159.11	22606	304.27	128127	1724.57
	Woollahra	7794	131.24	15393	259.20	104024	1751.63
	LHD Total[2]	84128	87.72	101128	105.44	1017769	1061.17
South Western Sydney	Camden	6511	64.19	7589	74.81	113717	1121.06
	Campbelltown	8546	49.99	6579	38.49	149155	872.54
	Canterbury-Bankstown[1]	16706	44.21	11857	31.37	264988	701.18
	Fairfield	6037	28.52	3874	18.30	111576	527.06
	Liverpool	9076	39.88	6781	29.80	175956	773.14
	Wingecarribee	2328	45.53	1602	31.33	46611	911.55
	Wollondilly	1408	26.49	1191	22.41	31319	589.27
	LHD Total[2]	41498	39.96	32877	31.66	755780	727.74
Southern NSW	Bega Valley	809	23.47	420	12.18	16771	486.45
	Eurobodalla	1108	28.80	524	13.62	24404	634.31
	Goulburn Mulwaree	1007	32.35	517	16.61	18358	589.68
	Queanbeyan-Palerang Regional	1376	22.52	570	9.33	24723	404.63
	Snowy Monaro Regional	648	31.16	325	15.63	10967	527.39
	Upper Lachlan Shire	219	27.17	134	16.63	4087	507.13
	Yass Valley	369	21.60	158	9.25	6082	355.94
	LHD Total[2]	5544	25.54	2654	12.23	105442	485.75
Sydney	Burwood	2023	49.81	1598	39.35	25948	638.92
	Canada Bay	6419	66.81	6675	69.48	100902	1050.25
	Canterbury-Bankstown[1]	16706	44.21	11857	31.37	264988	701.18
	Inner West	13793	68.69	13810	68.77	228749	1139.13
	Strathfield	3796	80.89	2566	54.68	45824	976.52
	LHD Total[2]	19865	80.64	25502	103.52	303997	1234.04
	LHD Total[2]	47806	68.61	46358	66.53	726507	1042.68
Western NSW	Bathurst Regional	1772	40.63	830	19.03	29888	685.22
	Blayney	258	34.96	114	15.45	4846	656.73
	Bogan	37	14.34	23	8.91	1232	477.52
	Bourke	147	56.76	128	49.42	980	378.38
	Brewarrina	21	13.04	10	6.21	444	275.61
	Cabonne	313	22.96	154	11.30	5174	379.49
	Cobar	65	13.95	35	7.51	1694	363.68
	Coonamble	85	21.48	55	13.90	1380	348.66
	Cowra	270	21.19	161	12.63	5655	443.77
	Dubbo Regional	1720	32.02	1046	19.47	31492	586.24
	Forbes	178	17.97	107	10.80	4034	407.23
	Gilgandra	73	17.22	53	12.50	1501	354.09
	Lachlan[1]	83	13.66	33	5.43	1490	245.27

		Week ending				Total since January 2021	
		03-Jul		26-Jun			
Local Health District	Local Government Area	No.	Tests per 1,000 population	No.	Tests per 1,000 population	No.	Tests per 1,000 population
	Mid-Western Regional	757	29.98	414	16.40	13878	549.60
	Narromine	145	22.25	98	15.04	2868	440.08
	Oberon	160	29.57	61	11.27	2560	473.11
	Orange	2110	49.70	1034	24.36	34258	807.00
	Parkes	293	19.75	190	12.81	6470	436.07
	Walgett	80	13.44	44	7.39	2195	368.72
	Warren	104	38.56	56	20.76	2020	748.98
	Warrumbungle Shire	206	22.20	104	11.21	4269	460.12
	Weddin	79	21.87	44	12.18	1326	367.01
	LHD Total[2]	8945	31.38	4789	16.80	159244	558.73
Western Sydney	Blacktown	14505	38.74	13051	34.85	308354	823.48
	Cumberland	11756	48.67	8531	35.32	195301	808.63
	Parramatta[1]	10181	39.58	10427	40.54	193143	750.95
	The Hills Shire	9930	55.80	12151	68.28	211167	1186.54
	LHD Total[2]	44853	42.58	42160	40.02	875670	831.25
NSW Total[3]		398100	49.21	367446	45.42	3059273	378.16

Source - Notifiable condition information management System, accessed as at 8pm 05 Jul 2021
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 since January 2021 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, January 2020 to 27 June 2021

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.

Testing numbers in NSW from 28 December 2020–27 June 2021

Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV	Entero virus
		No.	%Pos.	No.	%Pos.						
Total	877,589	3	<0.01%	9	<0.01%	3,090	5,192	10,714	38,222	189	4,628
Month ending											
31 January*	168,596	1	<0.01%	0	-	416	88	3,275	3,541	23	560
28 February	125,718	2	<0.01%	0	-	419	16	2,386	8,667	22	910
28 March	95,458	0	-	0	-	507	354	1,909	8,891	18	1,187
2 May*	112,962	0	-	3	<0.01%	802	1,515	1,653	8,141	48	1,128
30 May	131,316	0	-	6	<0.01%	946	3,129	1,491	8,982	78	843
Week ending											
6 June	40,405	1	<0.01%	0	-	312	1,339	531	2,574	56	205
13 June	41,36	0	-	0	-	402	1,685	678	2,597	113	189
20 June	45,936	0	-	0	-	336	1,818	629	2,182	149	198
27 June	115,892	0	-	0	-	490	2,210	910	2,530	312	219

Testing numbers in NSW from January–27 December 2020

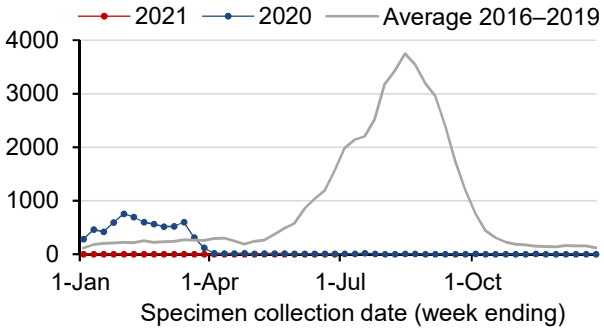
Specimen collection date	PCR tests conducted	Influenza A		Influenza B		Adeno-virus	Para-influenza	RSV	Rhino-virus	HMPV**	Entero-virus
		No.	%Pos.	No.	%Pos.						
Total	1,393,182	6,631	0.48%	955	0.07%	9,139	9,193	22,004	138,737	2,435	6,434
Month ending											
3 February *	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,36	599	335
1 March	40,575	2,363	5.82%	315	0.78%	798	2,435	1,118	8,245	437	1,007
29 March	85,238	1,549	1.82%	200	0.23%	898	4,117	1,977	18,088	664	1,502
3 May *	54,128	70	0.13%	13	0.02%	175	273	410	2,250	48	210
31 May	71,525	35	0.05%	6	0.01%	237	62	115	3,511	27	112
28 June	130,922	42	0.3%	11	0.01%	629	83	178	28,321	112	246
2 August *	227,152	34	0.01%	2	<0.01%	1,251	89	209	31,589	79	427
30 August	174,594	9	0.01%	2	<0.01%	1,137	37	299	13,926	14	235
27 September	145,489	6	0.00%	1	<0.01%	938	35	866	8,416	61	259
1 November *	131,686	7	0.01%	1	<0.01%	894	56	3,508	5,632	51	662
29 November	129,164	6	<0.01%	3	<0.01%	752	42	6,255	8,252	192	884
27 December	167,756	2	<0.01%	0	–	584	64	6,317	5,471	151	555

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

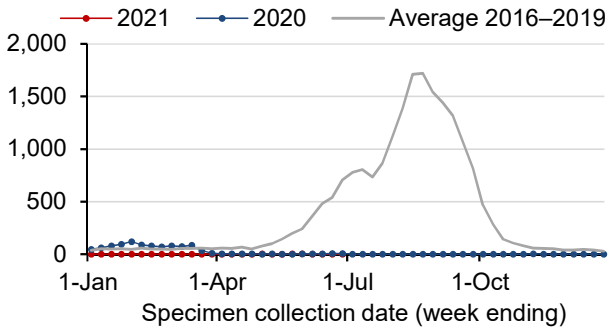
Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 27 June 2021

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

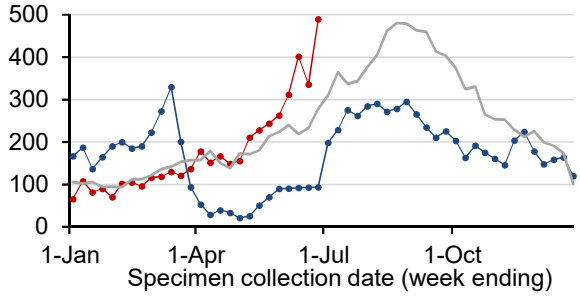
Influenza A



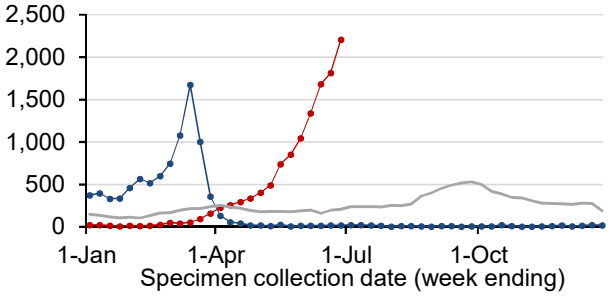
Influenza B



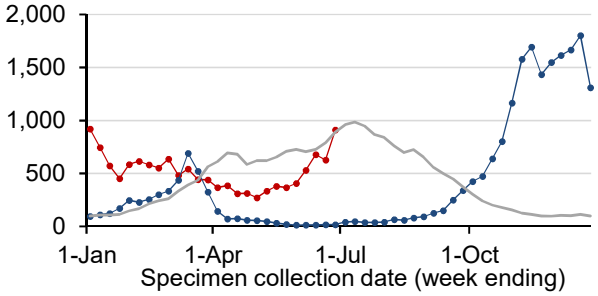
Adenovirus



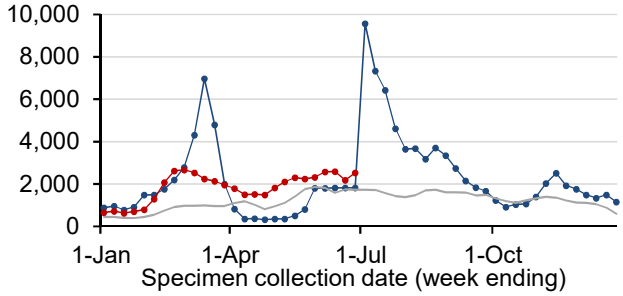
Parainfluenza



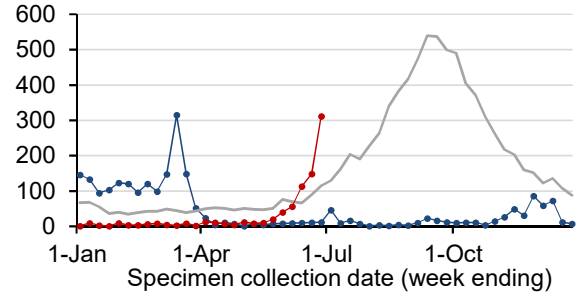
Respiratory syncytial virus (RSV)



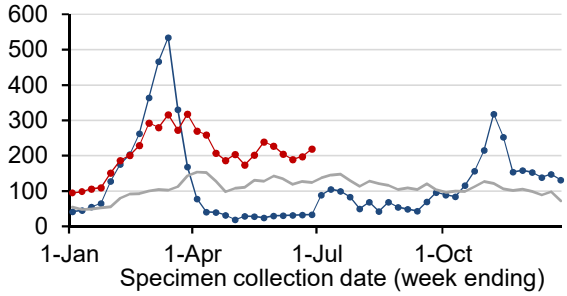
Rhinovirus



Human metapneumovirus (HMPV)



Enterovirus



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

Appendix D: SARS-CoV-2 testing in sewage samples collected in the previous 10 weeks, week ending 3 July 2021

The NSW Sewage Surveillance Program tests untreated sewage for fragments of the COVID-19 (SARS-CoV-2) virus at sewage treatment plant locations across NSW. Charlotte Pass has recommenced sampling. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
60, 514	Blue Mountains (Winmalee)										
4,681	North Richmond										
13,052	Richmond										
110,114	Penrith										
12,000	Lithgow										
19,000	South Windsor										
8,000	McGraths Hill										
69,245	Warriewood										
1,241	Brooklyn										
31,924	Hornsby Heights										
57,933	West Hornsby										
318,810	Bondi										
233,176	Cronulla										
1,857,740	Malabar 1										
	Malabar 2										
181,005	Liverpool										
98,743	West Camden										
6,882	Wallacia										
14,600	Picton										
161,200	Glenfield										
1,341,986	North Head										
26,997	Castle Hill Cattai										
	Castle Hill Glenhaven										
163,374	Quakers Hill										
119,309	Rouse Hill										
37,61	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Network	Location	17	18	19	20	21	22	23	24	25	26
Bondi	Paddington Sewage Network										
Bondi	Rozelle Sewage Network										
Cronulla	Caringbah Sewage Network										
Cronulla	Miranda Sewage Network										
Malabar	Earlwood Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Bardwell Creek Sewage Network										
Malabar	Arncliffe Sewage Network 1										
Malabar	Arncliffe Sewage Network 2										
Malabar	Blakehurst Sewage Network										
Malabar	Padstow Sewage Network 1										
Malabar	Padstow Sewage Network 2										
Malabar	Fairfield SPS 1										
Malabar	Fairfield SPS 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Croydon Sewage Network										
Malabar	Dulwich Hill Sewage Network										
Malabar	Canterbury Sewage Network										
Malabar	Botany Sewage Network										
Malabar	Maroubra Sewage Network										
North Head	Camellia SPS - North										
North Head	Camellia SPS - South										
North Head	Auburn Sewage Network										
North Head	Northmead SPS										
North Head	Northmead Sewage Network										
North Head	Tunks Park Sewage Network										
North Head	Vineyard Creek Sewage Network										
North Head	Boronia Park Sewage Network										
North Head	West Lindfield Sewage Network										
North Head	Lane Cove West Sewage Network										
North Head	Allambie Heights Sewage Network										
North Head	Buffalo Creek Reserve Sewage Network										
Glenfield	Minto Sewage Network										
Liverpool	Ireland Park Sewage Network										
Quakers Hill	Eastern Creek Sewage Network										
St Marys	Ropes Creek Sewage Network										

Regional Sites		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,68	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
14,000	Vincentia										
16,000	St Georges Basin										
11,000	Cullburra Beach										
139,500	Gosford-Kincumber										
59,60	Charmhaven										
29,300	Wyong-Toukley										
38,900	Bateau Bay										
41,300	Woy Woy										
5,000	Perisher										
8,400	Thredbo										
3,000	Jindabyne										
8,000	Cooma										
500	Gunning										
500	Charlottes Pass										
51,750	Albury composite		C	C	C	C	C	C	C	C	C
	Albury Kremer St										
	Albury Waterview										
22,419	Goulburn										
21,000	Batemans Bay										
18,000	Moruya										
17,000	Narooma										
8,000	Eden										
15,500	Merimbula										
5,000	Bermagui										
7,800	Deniliquin										
48,000	Queanbeyan										
50,000	Wagga Wagga composite	C	C	C	C	C	C	C	C	C	C
	Wagga Wagga- inlet 1										
	Wagga Wagga- inlet 2										
	Wagga Wagga -Kooringal STP										
	Gundagai										
	Narrandera										

Regional Sites (con't)		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
	Griffith										
2,050	Bourke										
	Nyngan										
40,000	Orange										
12,000	Mudgee										
36,63	Bathurst										
	Forbes										
	Coonabarabran										
	Balranald										
19,000	Broken Hill										
500	Dareton										
1100	Buronga										
11,600	Parkes										
37,000	Dubbo										
24,000	Armidale										
45,000	Tamworth										
	Muswellbrook										
	Narrabri										
	Tenterfield										
	Urbenville										
10,000	Moree										
26,394	Taree										
12,000	Forster										
7,582	Hallidays Point										
5,180	Harrington										
10,715	Hawks Nest										
225,834	Hunter - Burwood Beach										
60,000	Hunter - Shortland										
115,000	Hunter - Belmont										
60,000	Hunter - Morpeth										
58,300	Hunter - Boulder Bay										
35,000	Hunter - Raymond Terrace										
32,000	Hunter - Dora Creek										
42,000	Hunter - Toronto										
70,000	Hunter - Edgeworth										
2,500	Hunter - Karuah										
3,000	Hunter -Dungog										
21,500	Hunter - Kurri Kurri										
32,000	Hunter - Cessnock										
40,000	Hunter - Farley										
32500	Lismore composite	C	C	C	C	C	C	C	C		C
17,000	East Lismore										
15,500	South Lismore										

Regional Sites (con't)		1-May	8-May	15-May	22-May	29-May	5-June	12-June	19-June	26-June	3-July
Pop.	Location	17	18	19	20	21	22	23	24	25	26
18,958 (both plants total)	Byron Bay - Ocean Shores										
	Byron Bay										
2,000	Bangalow										
3,500	Mullumbimby										
31,104	Ballina										
7,700	Lennox Head										
16,000	Tweed - Murwillumbah										
75,000	Tweed - Banora Point										
25,000	Tweed - Kingscliff										
18,000	Tweed - Hastings Point										
18,550	Grafton composite	c	c	c	c	c	c	c	c	c	c
12,250	North Grafton										
6,300	South Grafton										
6,500	Yamba										
8,730	Nambucca Heads										
54,370	Port Macquarie										
7,010	Bonny Hills										
8,540	Dunbogan										
12,105	South West Rocks										
4,052	Crescent Head										
12,000	Urunga										
50,000	Coffs Harbour										

Sampling commenced week ending 18 July 2020

- not sampled or analysed
- SARS-CoV-2 not detected
- SARS-CoV-2 detected
- site moved to composite or ceased
- c composite of the separate influent samples
- n result from network sites

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
Health care workers	Individuals who work within a hospital or other healthcare settings, including staff in direct or indirect contact with patients or infectious materials.
Incubation period	The time in which the case was infected. The incubation period for COVID-19 is between 1 and 14 days prior to symptom onset.
Overseas acquired case	Case who travelled overseas during their incubation period. While testing rates in NSW are high and case counts are low, cases who have travelled overseas in their incubation period are considered to have acquired their infection overseas.
Interstate acquired case	Case who travelled interstate during their infection and the public health investigation concludes the infection was likely acquired interstate.
Cluster	Group of cases sharing a common source of infection or 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.