

# COVID-19 WEEKLY SURVEILLANCE IN NSW

## EPIDEMIOLOGICAL WEEK 20, ENDING 22 May 2021

Published 27 May 2021

### Overview

Table 1. Number and proportion of COVID-19 cases in NSW by likely source of infection to week ending 22 May 2021

	2020		2021		
	Jan–Jun	July–Dec	year to date 1 Jan – 22 May	last 4 weeks 24 April – 22 May	last 7 days 16 –22 May
Overseas acquired	1,893 (59%)	714 (46%)	588(92%)	145 (97%)	12 (100%)
Interstate acquired	67 (2%)	23 (2%)	0	0	0
Locally acquired	1,237 (39%)	808 (52%)	51 (8%)	2 (3%)	0
<b>Total</b>	<b>3,197 (100%)</b>	<b>1,545 (100%)</b>	<b>639 (100%)</b>	<b>147 (100%)</b>	<b>12 (100%)</b>
Deaths	52	4	0	0	0

### Summary for the week ending 22 May 2021

- There were no locally acquired cases reported in the week ending 22 May 2021.
- The number of cases reported in overseas returned travellers decreased this week (down 52%) compared to the previous week.
- In the four weeks ending 22 May 2021, 59% (85/145) of overseas acquired cases have been identified as having COVID-19 variants of concern (B.1.1.7, B.1.351, B.1.617 and P1).
- In the four weeks ending 22 May 2021, nine (2%) overseas acquired COVID-19 cases self-reported being fully vaccinated prior to arrival in Australia.
- Testing rates decreased compared to the previous week in most LHDs. Testing rates increased slightly in Hunter New England, Mid North Coast and Southern NSW LHDs.
- The NSW Sewage Surveillance Program reported three detections – taken from the sewage network at Homebush (within the Malabar catchment) and Botany (within the Malabar catchment) and from the Bondi treatment plant. All contain quarantine hotels where active cases are known to have stayed. People can continue to shed fragments of the virus for several weeks.

## Indicators of effective prevention measure for COVID-19 in NSW for the week ending 22 May 2021

In the week ending 22 May, there were no locally acquired cases.

### 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](#)

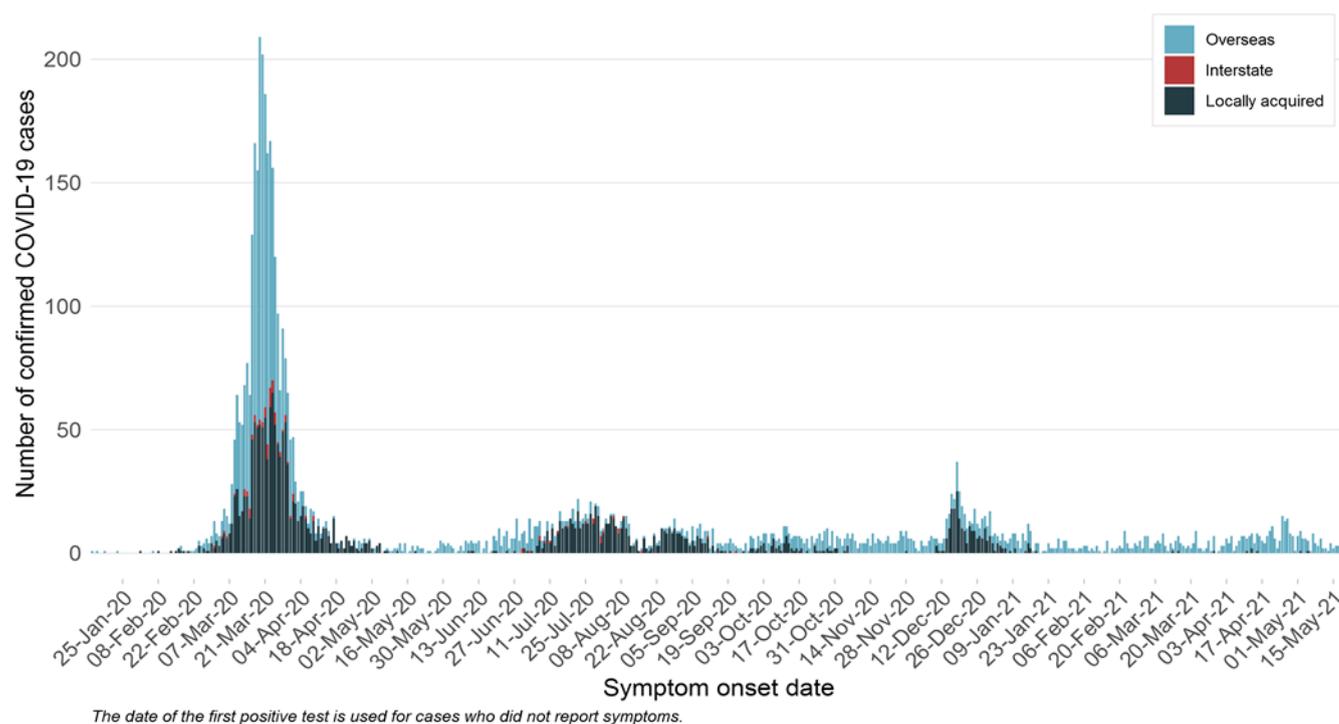
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## Section 1: How is the outbreak tracking in NSW?

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 22 May 2021



**Interpretation:** Between 13 January 2020 and 22 May 2021, there were 5,381 confirmed COVID-19 cases. Of those, 3,195 (59%) were overseas acquired, 90 (2%) were interstate acquired, and 2,096 (39%) 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 22 May 2021

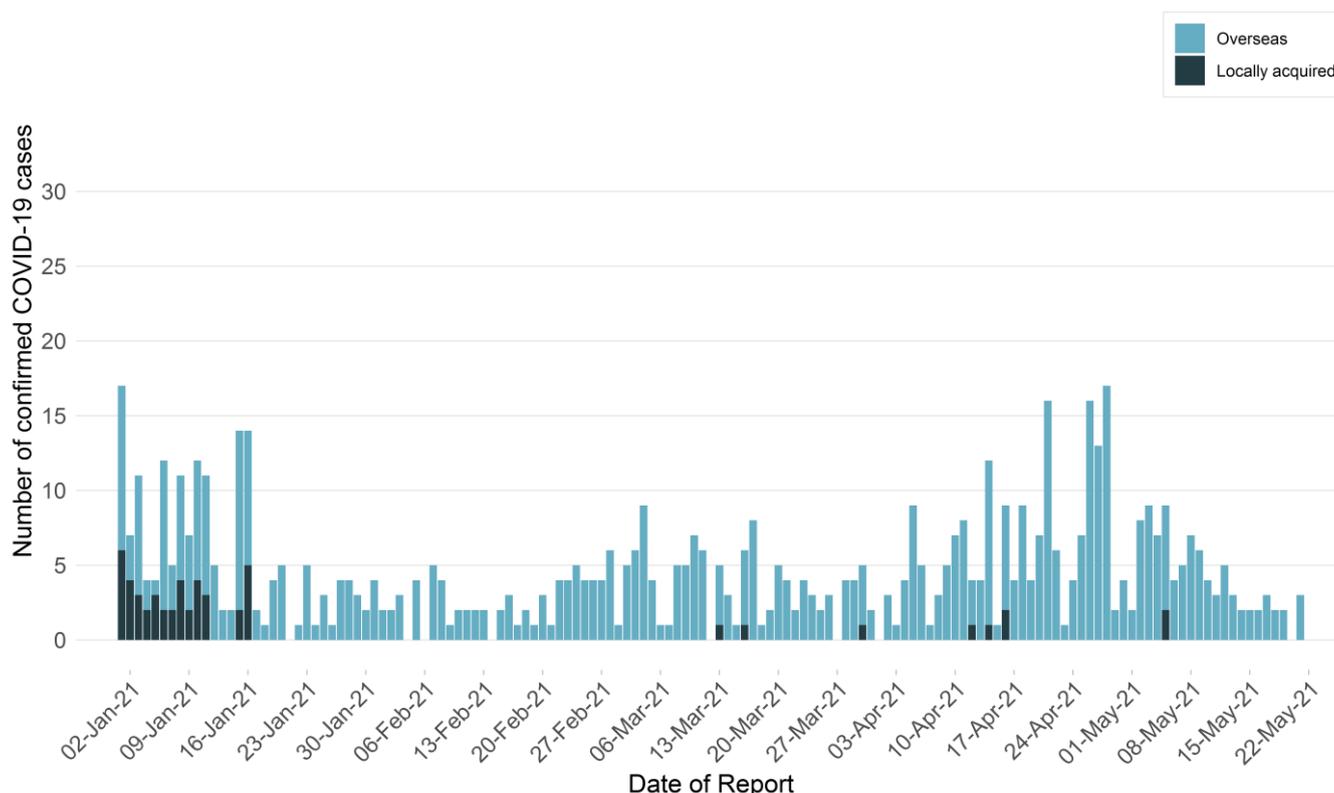


Table 2. COVID-19 cases and tests reported, NSW, from 1 January 2021 to 22 May 2021

	Week ending 22 May	Week ending 15 May	% change	Total 2021
Number of cases	12	25	↓52%	639
Overseas acquired	12	25	↓52%	588
Interstate acquired	0	0	-	0
Locally acquired	0	0	-	51
No epidemiological links to other cases or clusters	0	0	-	44
Number of deaths	0	0	-	7
Number of tests	91,812	101,118	↓9 %	1,803,933

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

Between 1 January and 22 May 2021, 51 locally acquired COVID-19 cases have been reported in NSW, of these:

- 11 were associated with the Avalon cluster
- 31 were associated with the Berala cluster
- Two cases, a guest and a security guard, were associated with a Sydney hotel quarantine cluster in mid-March
- One case acquired their infection from an infectious Queensland resident who was visiting a Byron Bay pub, detected as part of extensive contact tracing in late March
- Three cases in one family acquired their infection in hotel quarantine in mid-April
- One person also acquired their infection in hotel quarantine in mid-April, in a different hotel
- Two cases, one a household contact of the other, from South Eastern Sydney acquired their infection from an unknown source in early May.

**Interpretation:** Since the elimination of local transmission in January, nine locally acquired cases have been identified and linked to five separate incursions of SARS-CoV-2 into NSW. The majority of cases reported in the last four weeks in NSW were overseas acquired (145/147, 97%).

## Section 2: 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.

Australia's Communicable Diseases Genomics Network (CDGN) reports on the four internationally recognised VoCs, B.1.1.7, B.1.351, P.1 and B.1.617:

- B.1.1.7 first identified in the United Kingdom in September 2020 and recognised as a VoC on 14 December 2020
- B.1.351 first identified in South Africa in December 2020 and recognised as a VoC on 18 December 2020
- P.1 first identified in Japan among a group of Brazilian travellers in December 2020 and recognised as a VoC on 2 January 2021
- B.1.617 first detected in India in October 2020 (reported by three sub-lineages, which vary in mutations). This lineage was recognised as a VoC on 11 May 2021

All VoCs have since spread beyond their initial country of origin with B.1.1.7 the most widely distributed worldwide. NSW Health Pathology has identified all four of the VoCs in NSW.

In the four weeks ending 22 May 2021, there have been:

- two locally acquired COVID-19 cases diagnosed with a VoC; both diagnosed with the B.1.617.2 variant.
- 85 returned travellers were diagnosed with a VoC. Of these:
  - 45 (53%) with the B.1.1.7 variant
  - 40 (47%) with the B.1.617 variant (reported by three sub-lineages)
- Almost three-quarters (61, 72%) of 85 returned travellers diagnosed with a VoC likely acquired their infection in either India (43, 51%), Pakistan (9, 11%) or Nepal (9, 11%).

**Table 3a. Locally acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 22 May 2021**

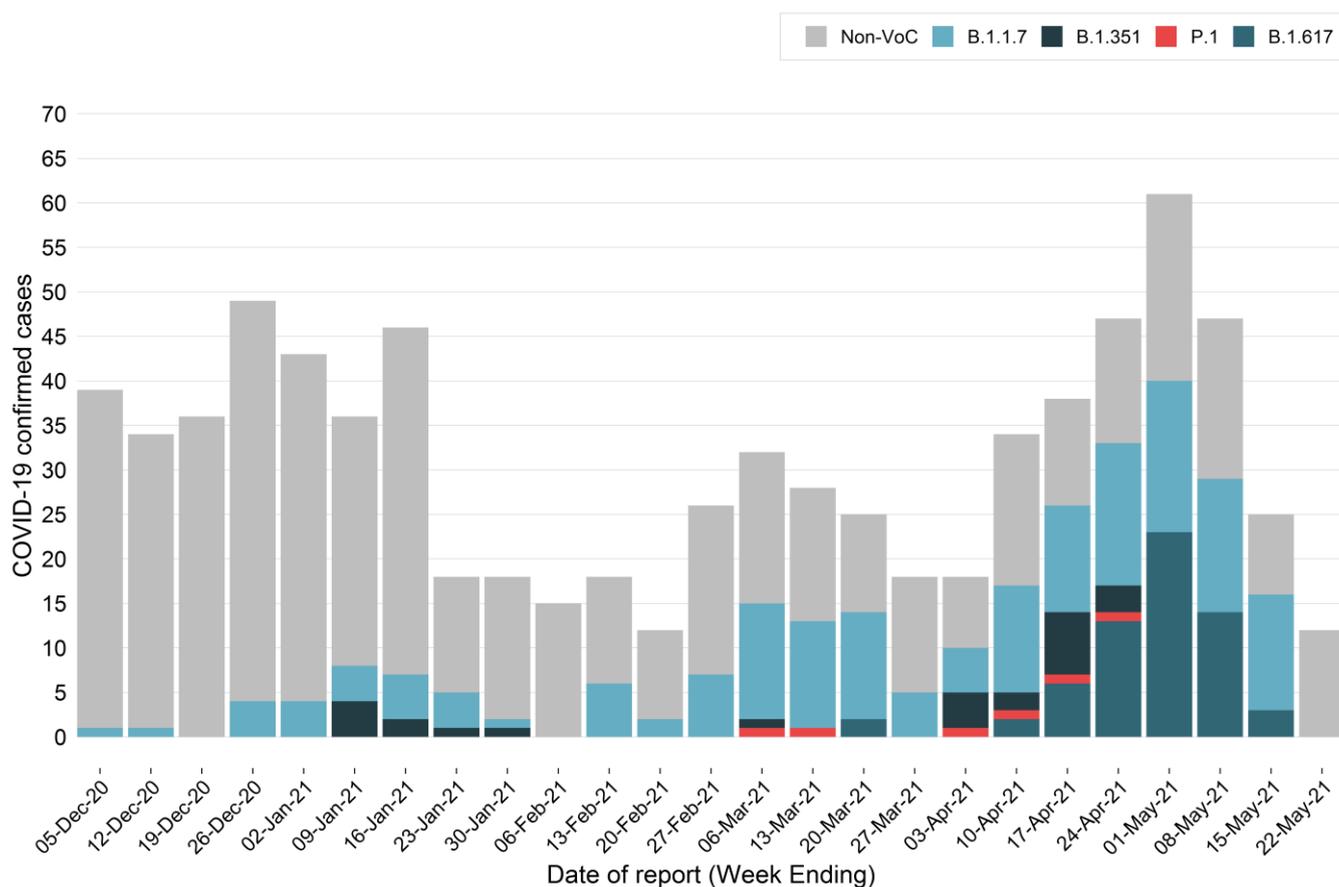
	Week ending				29 Nov to 24 Apr	Total since 29 November
	22 May	15 May*	8 May	1 May		
<b>Total locally acquired cases</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>225</b>	<b>227</b>
Local cases with VoC	0	0	2	0	7	9
B.1.1.7	0	0	0	0	6	6
B.1.351	0	0	0	0	1	1
B.1.617	0	0	2	0	0	2
P.1	0	0	0	0	0	0
% locally acquired cases with VoC	-	-	100%	-	3%	4%

\*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.

Table 3b. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 22 May 2021

	Week ending				29 Nov to 24 Apr	Total since 29 November
	22 May*	15 May*	8 May	1 May		
<b>Total overseas acquired cases</b>	<b>12</b>	<b>25</b>	<b>47</b>	<b>61</b>	<b>630</b>	<b>775</b>
Overseas cases with VoC	0	16	29	40	180	265
B.1.1.7	0	13	15	17	126	171
B.1.351	0	0	0	0	25	25
B.1.617	0	3	14	23	23	63
P.1	0	0	0	0	6	6
% overseas acquired cases with VoC	0	64%	62%	66%	29%	34%

Figure 3. Overseas acquired COVID-19 cases by VoC and week reported, NSW, 29 November 2020 to 22 May 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 265 returned travellers diagnosed with a COVID-19 VoC. In the four weeks ending 22 May 2021, 59% (85/145) of overseas acquired cases have been identified as having COVID-19 variants of concern (B.1.1.7, B.1.351, B.1.617 and P1).

### Section 3: 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 4. Locally acquired COVID-19 cases by LHD of residence and week reported, NSW, 4 April to 22 May 2021**

Local Health District	Week ending				Total	Days since last case reported
	22 May	15 May	8 May	1 May		
Central Coast	0	0	0	0	0	144
Illawarra Shoalhaven	0	0	0	0	0	140
Nepean Blue Mountains	0	0	0	0	0	249
Northern Sydney	0	0	0	0	0	36
South Eastern Sydney	0	0	2	0	2	17
South Western Sydney	0	0	0	0	0	134
Sydney	0	0	0	0	0	131
Western Sydney	0	0	0	0	0	126
Far West	0	0	0	0	0	415
Hunter New England	0	0	0	0	0	36
Mid North Coast	0	0	0	0	0	396
Murrumbidgee	0	0	0	0	0	257
Northern NSW	0	0	0	0	0	53
Southern NSW	0	0	0	0	0	215
Western NSW	0	0	0	0	0	296
NSW*	0	0	2	0	2	17

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

**Interpretation:** In the week ending 22 May, there were no locally acquired cases.

In the week ending 8 May, testing identified two locally acquired cases of COVID-19 in a couple in their 50s from the same household in South Eastern Sydney. Whole genome sequencing showed that these cases were infected with an identical virus (a variant of concern B.1.617) that had infected a person who acquired their infection in the United States and arrived in NSW a few days earlier, in late April.

To check for any **direct transmission** between the overseas acquired case and the locally acquired case who had first onset of symptoms on 2 May, NSW Health conducted detailed interviews with the locally acquired and overseas acquired cases and reviewed other available data sources to establish their movements during the period when transmission might have occurred. Each case’s close contacts were assessed, tested and isolated. We were unable to identify any opportunities for direct transmission between the overseas and locally acquired cases.

To check for any **indirect transmission** between the cases, through an intermediary case, NSW Health’s contacted and tested over 900 people. These included people who had contact with the overseas acquired case while they were infectious:

- on the flight to Sydney
- at the airport on the day of arrival
- at the quarantine hotel
- at the Special Health Accommodation
- during transport between these locations

The investigation also included contacting and tested people who had contact with the first locally acquired case at the time he could have acquired his infection:

- people in his family and social circles
- people who were at venues he attended

Despite these extensive investigations, NSW Health has not identified how the initial case was exposed to COVID-19.

To contain any risk of **ongoing transmission in the community**, NSW Health identified people who attended the venues visited by the locally acquired cases while he was infectious, and contacted, tested and isolated people who attended the same venues, identified through QR sign-in data and through public alerts. This investigation identified nine venues of concern and 201 close contacts in relation to exposure with the two cases and no further community transmission has been identified.

Further to the investigation and contact tracing, on Sunday 9 May 2021, NSW Health announced that temporary COVID-safe measures would be introduced across Greater Sydney. These measures remained in place until 12:01am Monday 17 May 2021. For further details please see the [NSW Health media release](#) for 16 May 2021.

## Section 4: Current COVID-19 clusters in NSW

Public health staff interview all new cases at the time of diagnosis to identify the likely source of their infection. Cases are also asked to report all the locations visited and people with whom they have been in contact within their infectious period (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

There were no cases reported in the last week who were linked to recent clusters.

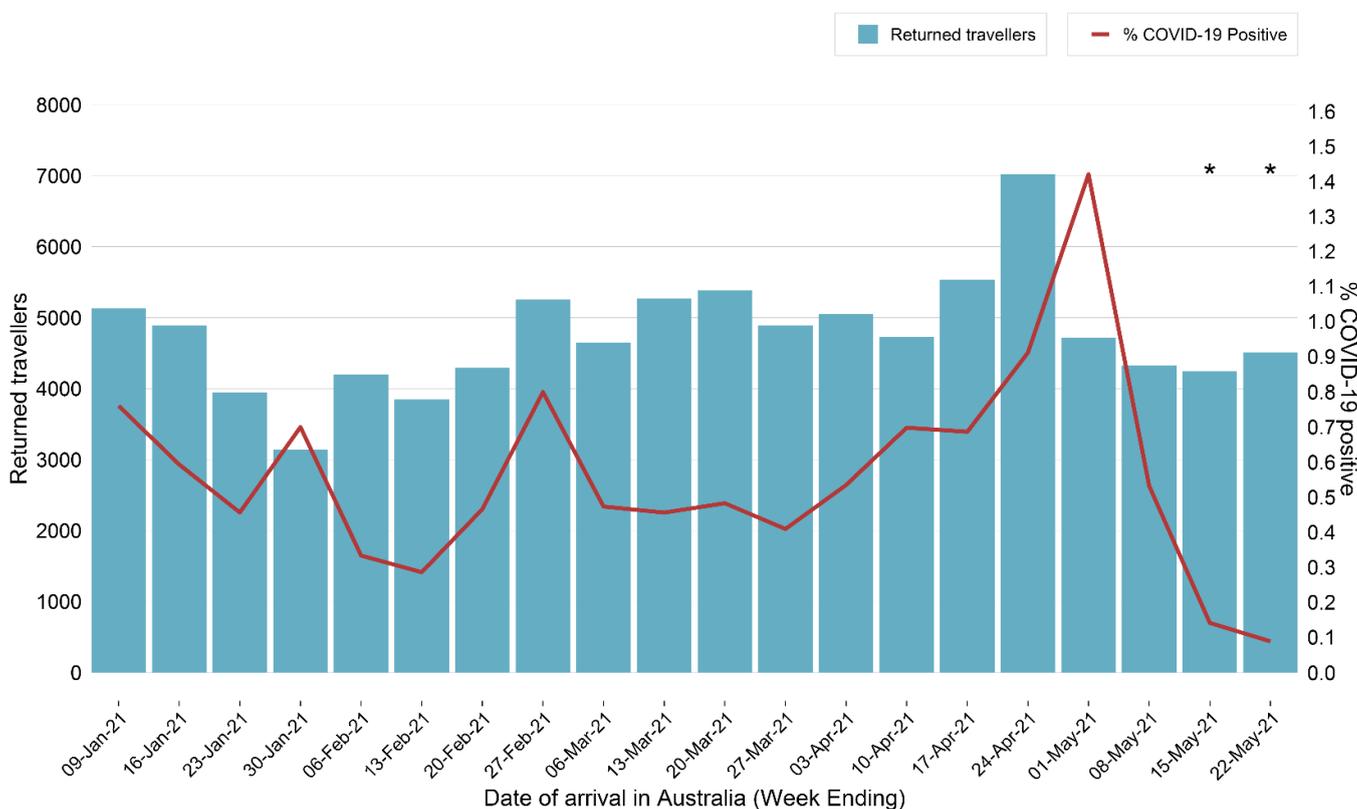
## Section 5: COVID-19 in returned travellers

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 4. Returned travellers screened at Sydney International Airport by week of arrival and percent COVID-19 positive, NSW, 3 January 2021 to 22 May 2021**



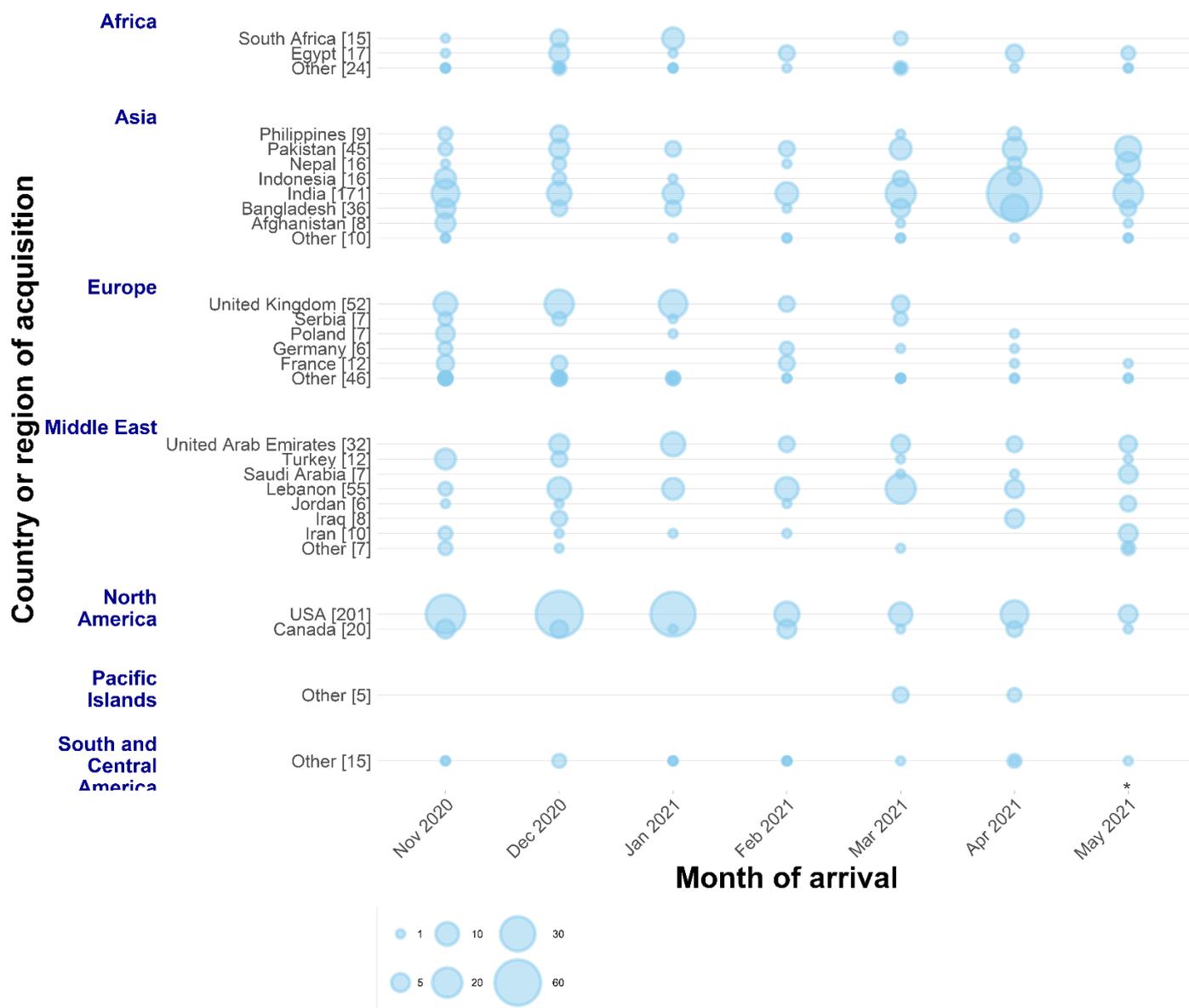
\*Returned travellers entering Australia in the past 14 days are still in quarantine and may return a positive result prior to the end of their hotel quarantine period.

**Interpretation:** Since 3 January 2021, there has been on average 678 people screened on arrival through Sydney International Airport daily. In the last four weeks, 145 returned travellers have subsequently tested positive for COVID-19 while completing quarantine. The proportion of returned travellers who test positive for COVID-19 has remained low but increased to over 1% (1.3%) in returned travellers in the week ending 1 May 2021 for the first time in 2021.

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

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

Figure 5. Overseas acquired COVID-19 cases by country of acquisition and arrival month, NSW, 1 October 2020 to 22 May 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 has subsided in May. The pattern seen in COVID-positive travellers over time reflects the evolving nature of the pandemic in those areas and the country of origin of returned travellers.

In the last four weeks, there have been 145 COVID-positive travellers in NSW. The table below lists of countries of acquisition for these travellers.

**Table 5. Top countries of acquisition for overseas acquired cases that have tested positive in the last four weeks, 4 April 2021 to 22 May 2021**

Country of acquisition of COVID-19	Number (%) of cases in the last four weeks
India	64 (44%)
Pakistan	15 (10%)
Nepal	12 (8%)
USA	7 (5%)
Saudi Arabia	6 (4%)
Egypt	5 (3%)
Iran	5 (3%)
United Arab Emirates	5 (3%)
Bangladesh	3 (2%)
Jordan	3 (2%)
Other	20 (14%)
<b>Total</b>	<b>145</b>

**Interpretation:** In the last four weeks, travellers returning from India accounted for the largest number of overseas acquired cases (64, 44%), followed by travellers returning from Pakistan (15, 10%), Nepal (12, 8%), and the USA (7, 5%).

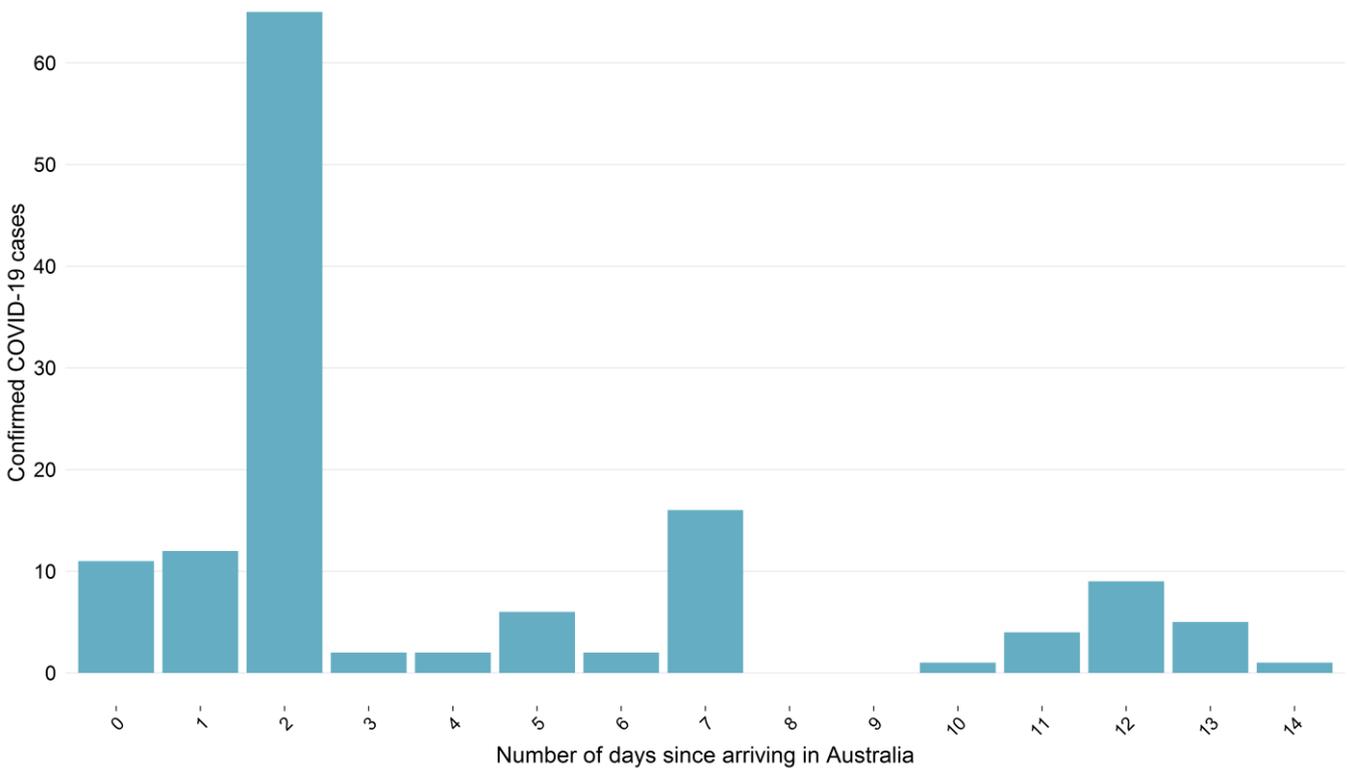
### Cases among returned travellers in quarantine

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. Testing is also carried out on individuals that became symptomatic in addition to these two tests, including those that are symptomatic on arrival.

Overseas returned travellers complete their quarantine in several facilities with 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 who are household-like contacts of overseas acquired cases within hotel quarantine.

**Figure 6. Number of overseas acquired cases in the last four weeks who tested positive for SARS-CoV-2 during the 14-day quarantine period, by days since arrival in NSW, 17 April to 22 May 2021**



**Interpretation:** In the four weeks ending 22 May 2021, 45% of overseas acquired COVID-19 cases have tested positive within 2 days of arriving to Australia, with most people testing positive on day 2 screening.

## Section 6: 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, with variable efficacy, 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 COVID-19 cases, by the number of self-reported COVID-19 vaccine doses received. The number of cases reported as **fully vaccinated** refers to vaccination being completed 14 days prior to known exposure to COVID-19 or 14 days prior to arrival in Australia.

**Table 6a. Overseas acquired COVID-19 cases by number of self-reported COVID-19 vaccine doses received and week reported, NSW, 1 March to 22 May 2021**

Number of self-reported vaccination doses received	Week ending				1 Mar to 24 Apr	Total since 1 March 2021
	22 May	15 May	8 May	1 May		
<b>Total overseas acquired cases</b>	12	25	47	61	234	379
Two doses	1	2	0	1	5	9
One dose	1	0	3	1	13	18
None	10	23	44	58	207	342
Unknown	0	0	0	1	9	10
Number (%) cases fully vaccinated	1 (8%)	2 (8%)	0%	2 (3%)	4 (2%)	9 (2%)

**Table 6b. Locally acquired COVID-19 cases by number of self-reported COVID-19 vaccine doses received and week reported, NSW, 1 March to 22 May 2021**

Number of self-reported vaccination doses received	Week ending				1 Mar to 24 Apr	Total since 1 March 2021
	22 May	15 May	8 May	1 May		
<b>Total locally acquired cases</b>	0	0	2	0	7	9
Two doses	0	0	0	0	0	0
One dose	0	0	0	0	2	2
None	0	0	2	0	5	7
Unknown	0	0	0	0	0	0
Number (%) cases fully vaccinated	-	-	0	-	0	0

**Interpretation:** Since 1 March 2021, nine (2%) 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.

There have been no locally acquired cases reported as being fully vaccinated.

## Section 7: 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 there have been 49 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.

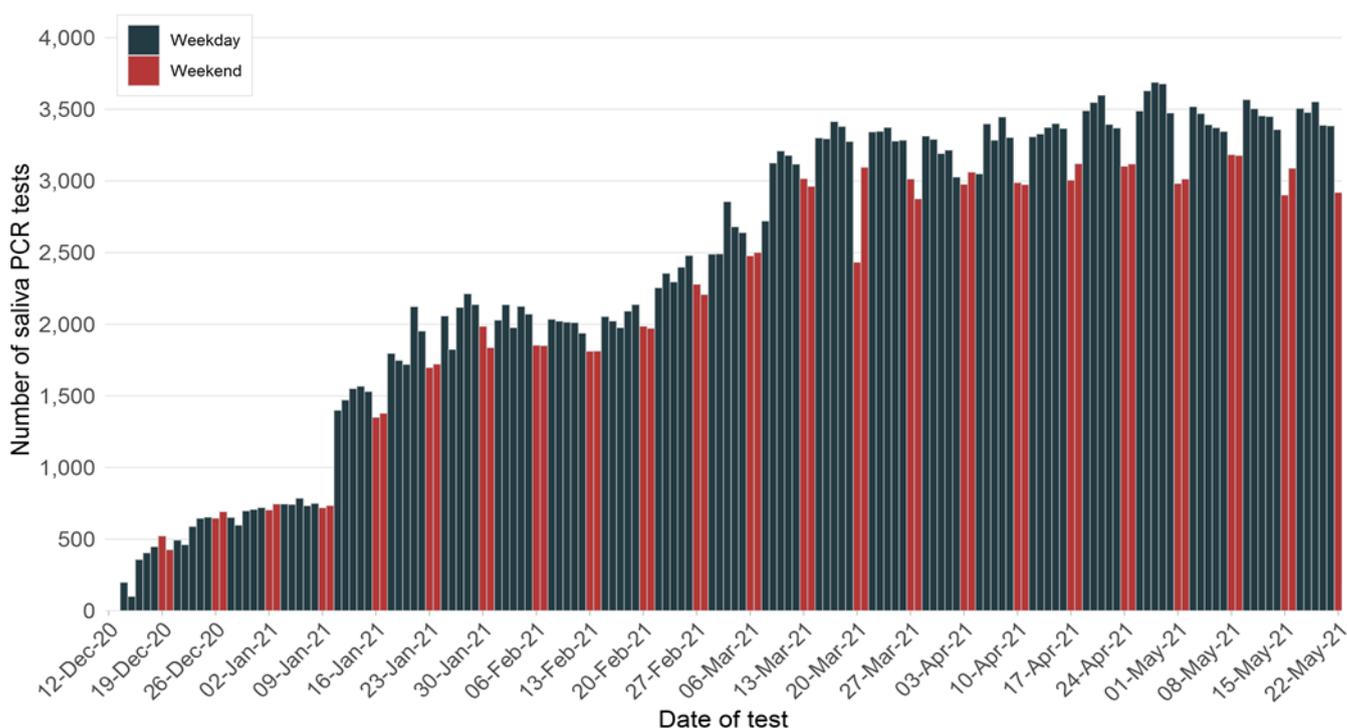
There were no locally acquired cases of COVID-19 reported in HCWs in the week ending 22 May 2021.

In total there have been 48 cases of COVID-19 in health care workers since 1 August 2020. Of these, 25 HCWs were potentially infected in healthcare settings. A further nine cases were social or household contacts of a known case, eight were exposed in community settings, and for six cases the source of infection is unknown. Prior to August 2020, there were 206 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](#)).

### 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 8. Daily numbers of saliva PCR test results reported for border and quarantine workers, NSW, 12 December 2020 to 22 May 2021**



\* The number of saliva PCR tests on 15 May 2021 is incomplete due to delays in reporting negative results.

**Interpretation:** Since screening of quarantine workers began in December 2020, a total of 375,217 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. One confirmed case of COVID-19 has been reported through saliva PCR testing, reported on 13 March 2021.

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

## Section 8: 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 22 May.

**Table 7. Deaths as a result of COVID-19, by age group, NSW, from 25 January 2020 to 22 May 2021**

Age group (years)	Number of deaths	Number of cases	Case fatality rate
0–4	0	146	0%
5–11	0	138	0%
12–17	0	168	0%
18–29	0	1,214	0%
30–49	0	1,795	0%
50–59	1	709	0.1%
60–69	4	656	0.6%
70–79	15	391	3.8%
80+	36	164	22.0%
<b>Total</b>	<b>56</b>	<b>5,381</b>	<b>1.0%</b>

**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.

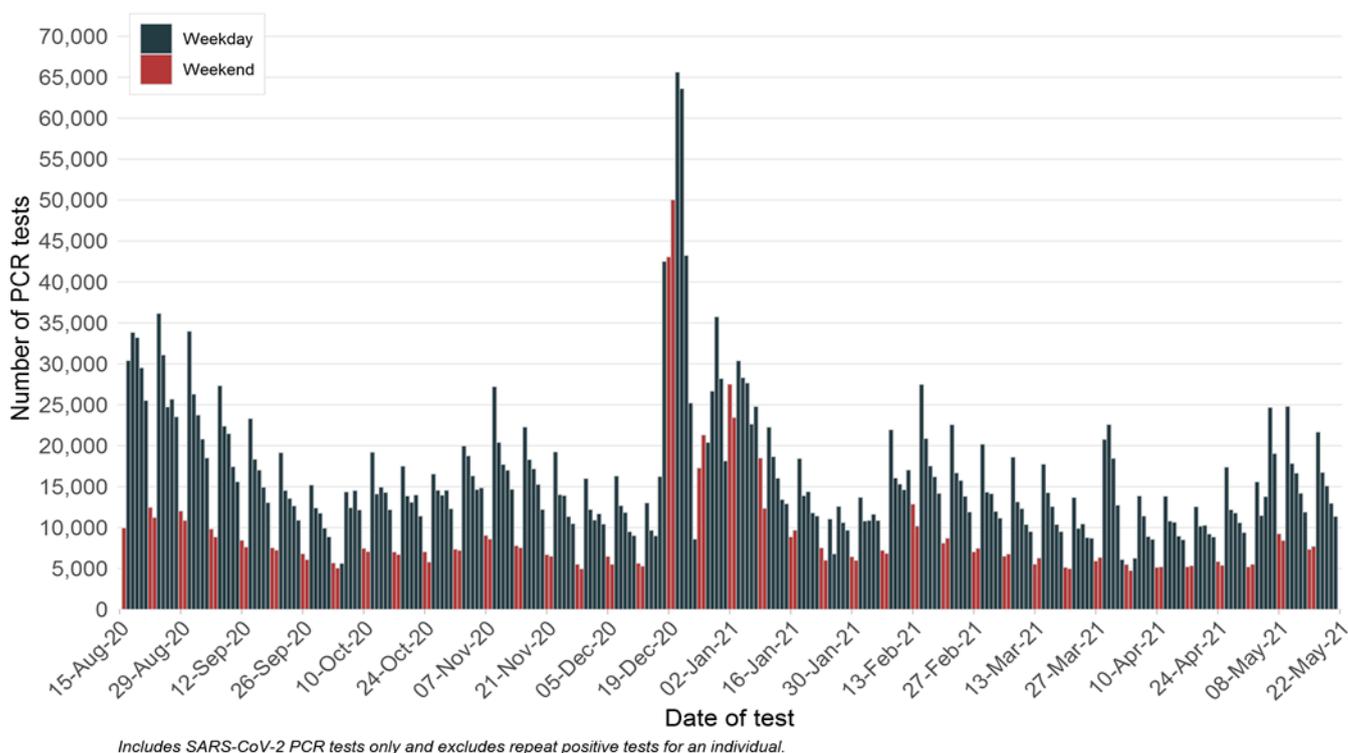
## Section 9: COVID-19 testing in NSW

### How much testing is happening?

The bars on the graph below show the number of tests by the date a person presented for the test.<sup>1</sup> While public health facilities are 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 “Quarantine workers – Screening Program” section on page 11.

Figure 9. Number of PCR tests per day, NSW, 11 July 2020 to 22 May 2021

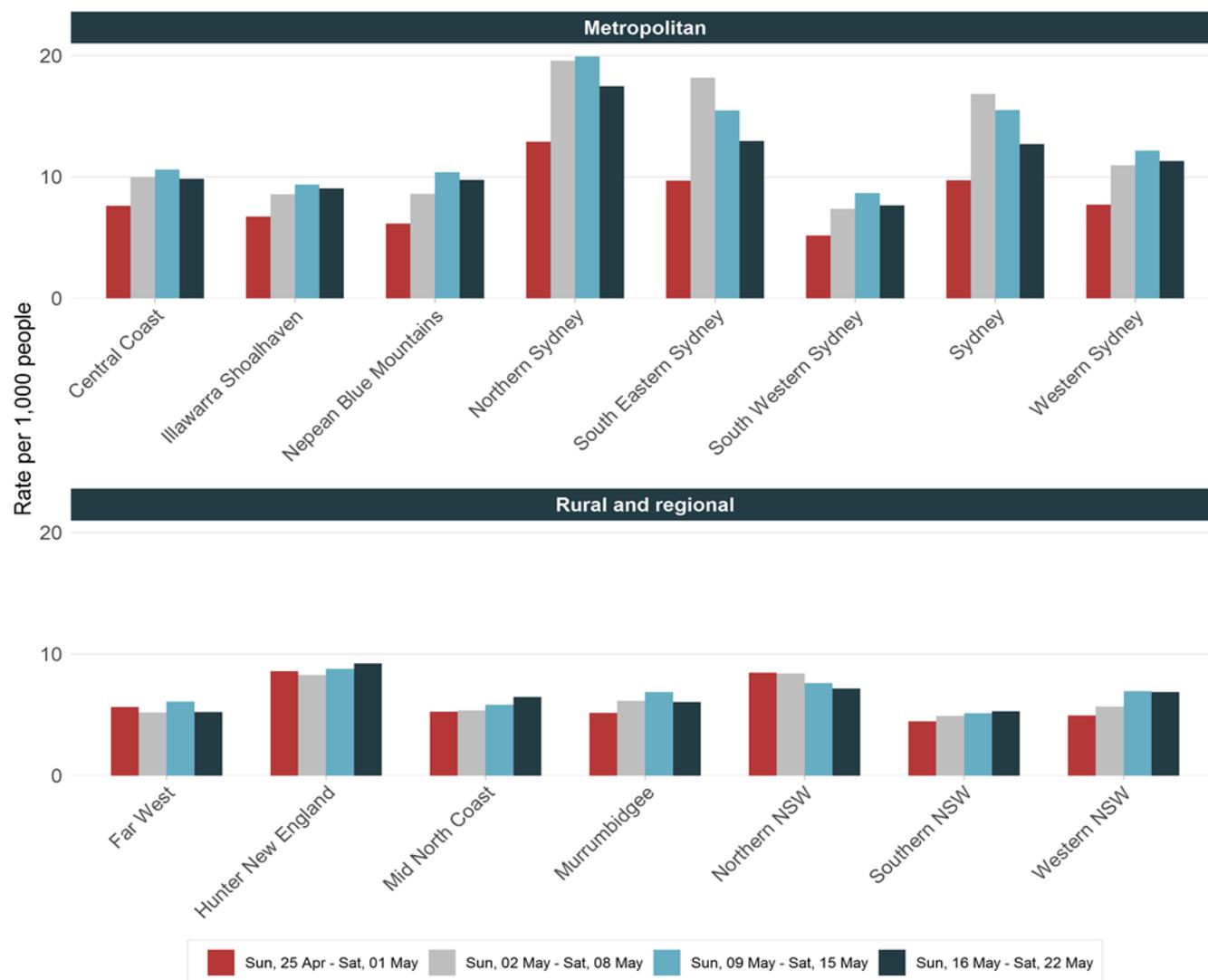


**Interpretation:** Testing numbers decreased in the week ending 22 May (down 11%) compared to the previous week. The average daily testing rate of 1.6 per 1,000 people in NSW each day has decreased compared to the previous week of 1.8 per 1,000 people.

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

## Testing by Local Health District

Figure 10. Rates of COVID-19 testing by LHD of residence, NSW, 18 April to 22 May 2021

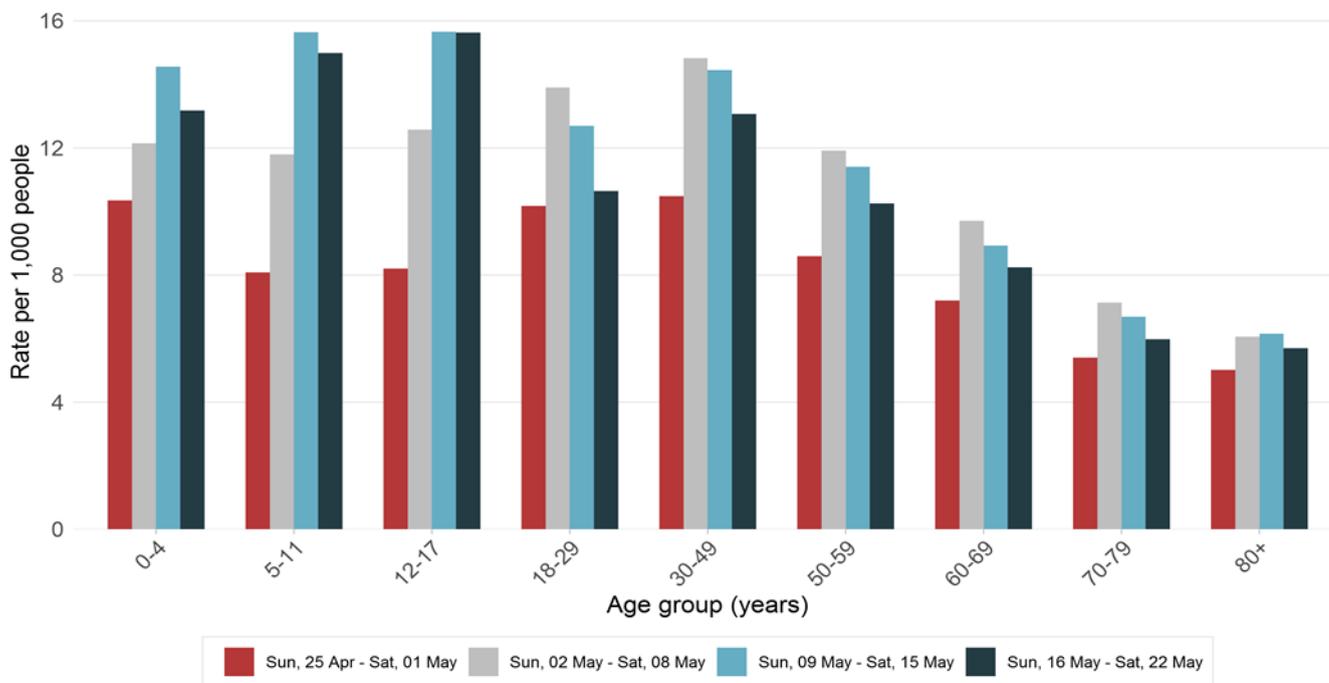


Includes SARS-CoV-2 PCR tests only and excludes notifications with missing postcode of residence.

**Interpretation:** State-wide weekly testing rates in the week ending 22 May decreased when compared to the previous week (11.4 per 1,000 people compared to 12.5 per 1,000 people). The decrease in testing rates was seen across most LHDs; Hunter New England, Mid North Coast and Southern NSW LHDs had increases in testing rates, while the rate in Western NSW was stable.

## Testing by age group

Figure 11. Rates of COVID-19 testing by age group and week, NSW, 18 April to 22 May 2021



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

**Interpretation:** In the week ending 22 May, testing rates decreased across most age groups when compared to the previous week, but were generally higher than the end of April. The testing rate among 12-17 year old was stable compared to the previous week.

## Section 10: 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 8. Locations with SARS-CoV-2 detections in sewage samples in the last 10 weeks, NSW, 13 March to 22 May 2021**

		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Pop.	Location	11	12	13	14	15	16	17	18	19	20
<b>Sydney sewage treatment plant (inlet sites)</b>											
318,810	Bondi										
1,857,740	Malabar 1										
	Malabar 2										
<b>Sydney network sites</b>											
Bondi	Paddington Sewage Network										
Malabar	Marrickville Sewage Network 1										
Malabar	Marrickville Sewage Network 2										
Malabar	Homebush SPS										
Malabar	Olympic Park										
Malabar	Botany Sewage Network										
North Head	Allambie Heights Sewage Network										
<b>Regional sites</b>											
15,500	Merimbula										
225,834	Hunter - Burwood Beach										
7,700	Lennox Head										

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 22 May, 149 sewage samples were tested for fragments of SARS-CoV-2. Of these, there were three detections – taken from the sewage networks at Homebush and Botany (both within the Malabar catchment) and from the Bondi treatment plant. All contain quarantine hotels where active cases are known to have stayed. People can continue to shed fragments of the virus for several weeks.

## Section 11: Other respiratory infections in NSW

### Influenza and other respiratory virus cases and tests reported in NSW, up to 16 May 2021

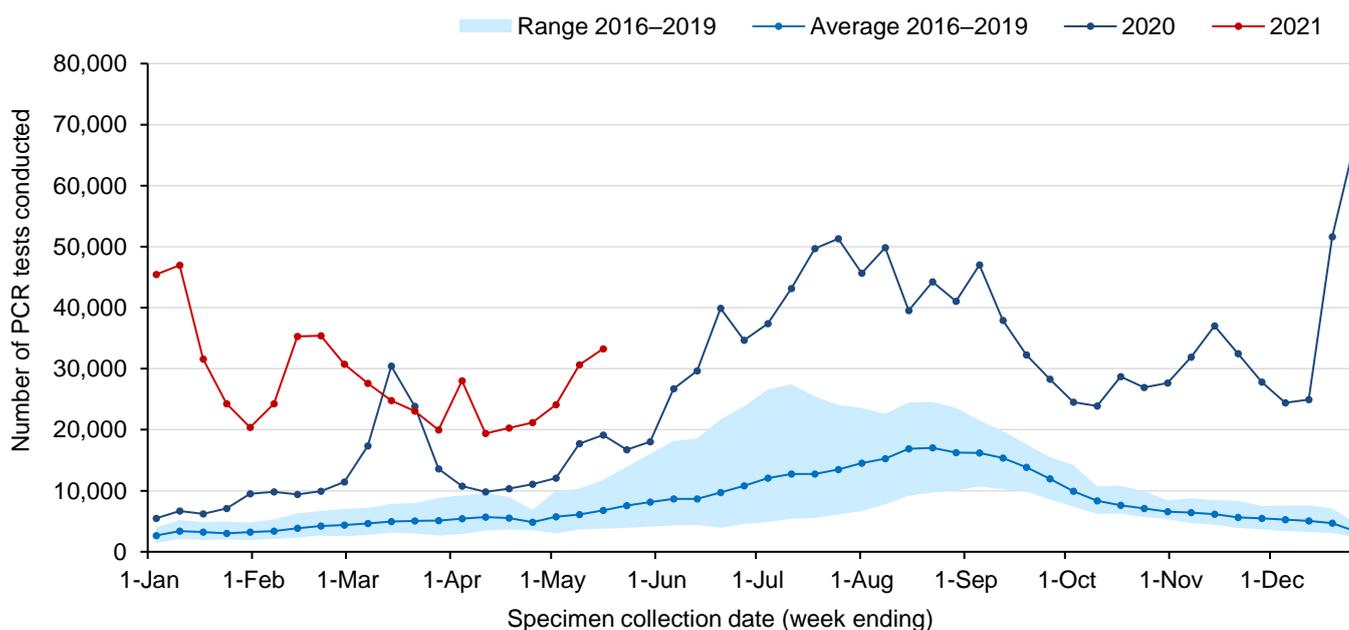
In NSW, routine surveillance for influenza and other respiratory viruses is conducted through sentinel laboratories. The number of all PCR tests (positive and negative) are provided to NSW Health by participating laboratories each week. Testing counts reflect the number of influenza PCR tests conducted;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

The most recent data available is for testing carried out to 16 May 2021. A total of 566,654 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 13. Testing for influenza by week, NSW, 1 January 2016 to 16 May 2021

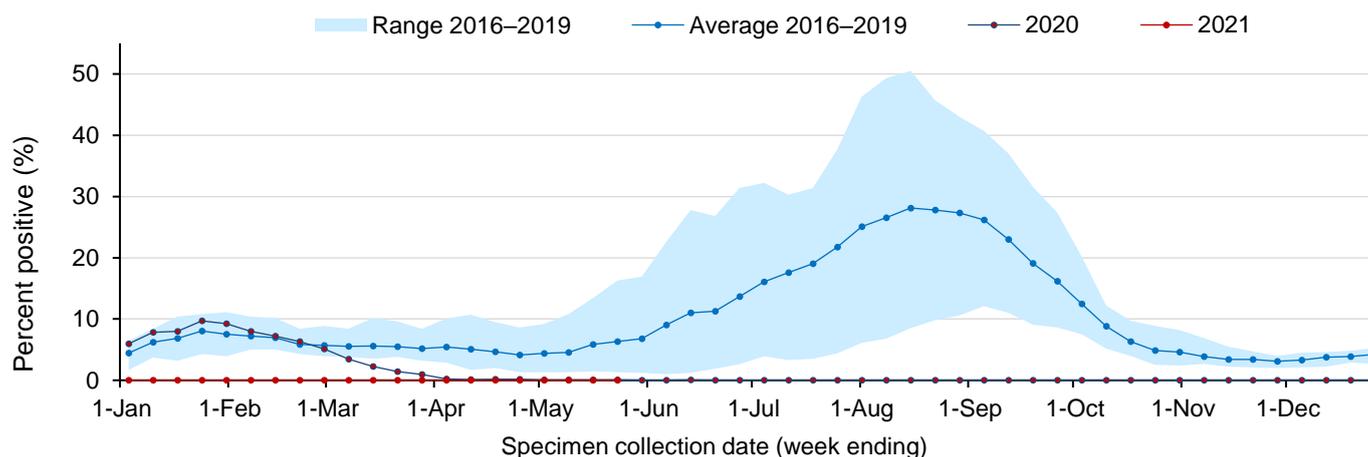


**Interpretation:** In the week ending 16 May, the number of influenza tests increased, with 33,277 influenza tests performed across participating laboratories compared with 30,643 the previous week. Testing for influenza continues to exceed the four-year average for this time of year.

## 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 14. Proportion of tests positive for influenza, NSW, 1 January 2016 to 16 May 2021

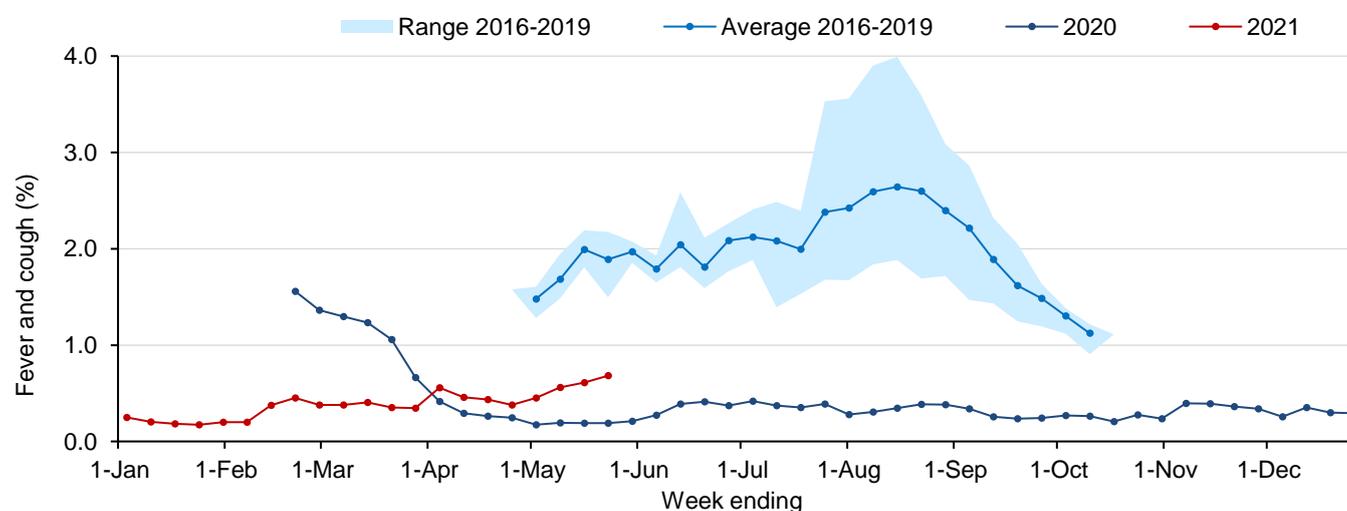


**Interpretation:** In the week ending 16 May, the percent of influenza tests that were positive continued to be very low (<0.01%), indicating limited influenza transmission in the community. Since early March 2020, this percentage has remained far lower than the usual range for the time of year. There have been 8 influenza cases reported in 2021. Investigations into the source of these cases are ongoing, and further confirmatory testing is underway.

## 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 15. Proportion of FluTracker participants reporting influenza-like illness, NSW, 1 January 2016 to 23 May 2021



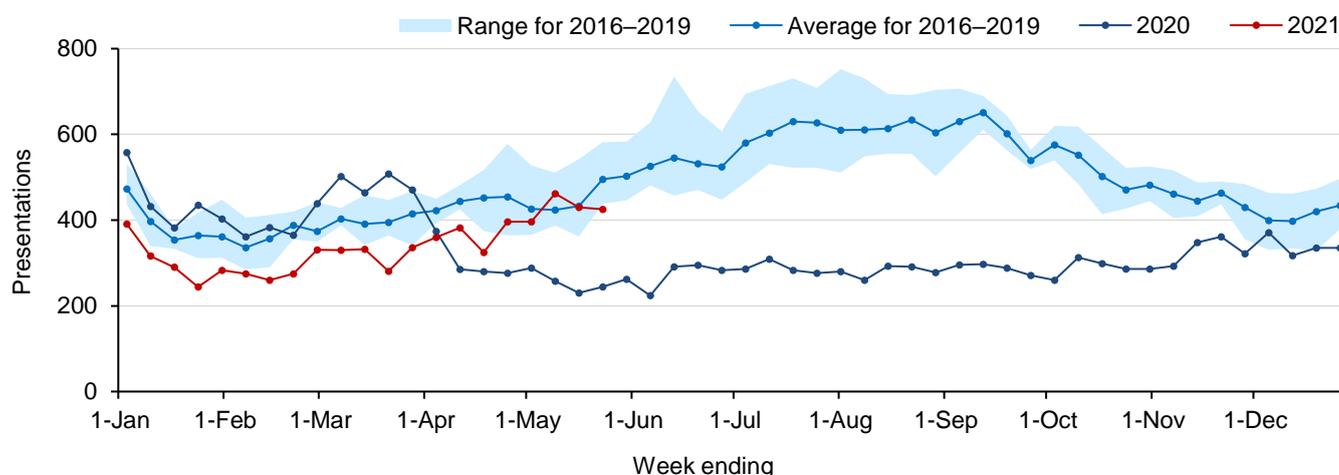
**Interpretation:** In NSW in the week ending 23 May, of the 21,385 people surveyed, 146 people (0.68%) reported flu-like symptoms. In the last four weeks, 49% (266/546) of new cases of flu-like illness reported having a COVID-19 test. The proportion of people being tested for COVID-19 has decreased since January, when 80% of people surveyed with flu-like symptoms were being tested.

## 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.

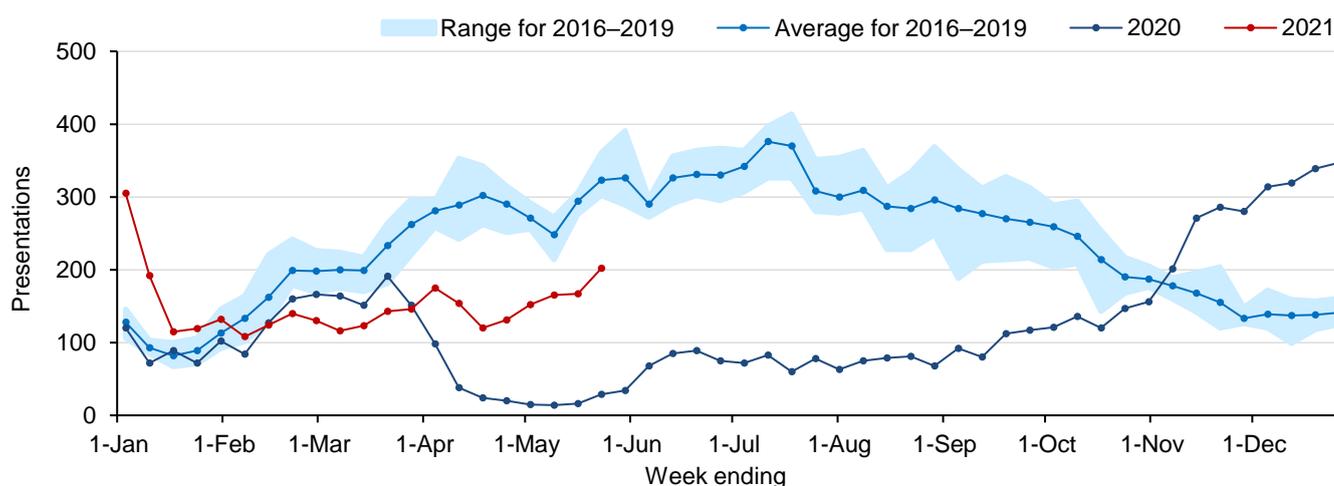
The figures below show weekly pneumonia and bronchiolitis presentations to Emergency Departments in NSW, using PHREDSS<sup>2</sup>. The red line shows the weekly counts for 2021, the dark blue line showing counts for 2020, the light blue line showing the average for 2016 to 2019 and the shaded area showing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

Figure 16. Emergency Department pneumonia presentations, NSW, 1 January 2016 to 23 May 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 23 May, pneumonia presentations decreased and were slightly below the seasonal average for this time of year.

Figure 17. Emergency Department bronchiolitis presentations, NSW, 1 January 2016 to 23 May 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 23 May 2021, bronchiolitis presentations continue to increase but remain below the seasonal range for this time of year.

<sup>2</sup> NSW Health Public Health Rapid, Emergency Disease and Syndromic Surveillance (PHREDSS) system, CEE, NSW Ministry of Health. Comparisons are made with data for the preceding 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

Local Health District	Local Government Area	Week ending				Total since January 2021		
		22-May		15-May		No.	Tests per 1,000 population	
		No.	Tests per 1,000 population	No.	Tests per 1,000 population			
<b>Central Coast</b>	Central Coast / LHD Total <sup>2</sup>	3475	9.85	3752	10.63	218464	619.12	
	Balranald	4	1.71	6	2.57	709	303.25	
<b>Far West</b>	Broken Hill	112	6.41	121	6.92	9602	549.34	
	Central Darling	3	1.63	6	3.26	576	313.21	
	Wentworth	39	5.53	51	7.23	3488	494.54	
	LHD Total <sup>2</sup>	158	5.24	184	6.1	14375	476.88	
	Armidale Regional	251	8.15	241	7.83	15290	496.77	
	Cessnock	284	4.73	265	4.42	22379	373.08	
	Dungog	62	6.58	66	7	3759	398.92	
	Glen Innes Severn	33	3.72	39	4.4	2747	309.66	
	Gunnedah	67	5.28	65	5.13	4743	374.02	
	Gwydir	29	5.42	21	3.92	1057	197.46	
	Inverell	112	6.63	81	4.8	6273	371.4	
	Lake Macquarie	2508	12.18	2336	11.35	135671	658.91	
	Liverpool Plains	37	4.68	43	5.44	3090	390.99	
	Maitland	1046	12.28	1063	12.48	61036	716.67	
	<b>Hunter New England</b>	Mid-Coast	467	4.98	490	5.22	35760	381.09
		Moree Plains	55	4.15	90	6.79	4406	332.25
Muswellbrook		111	6.78	87	5.31	6643	405.63	
Narrabri		65	4.95	47	3.58	3704	281.99	
Newcastle		2221	13.41	2091	12.63	131768	795.84	
Port Stephens		550	7.48	515	7.01	41624	566.46	
Singleton		196	8.35	162	6.91	13708	584.29	
Tamworth Regional		550	8.79	530	8.47	33172	530.4	
Tenterfield		13	1.97	18	2.73	1705	258.57	
Upper Hunter Shire		83	5.85	74	5.22	6029	425.18	
Uralla		30	4.99	34	5.66	1866	310.38	
Walcha		23	7.34	19	6.06	1338	426.93	
LHD Total <sup>2</sup>		8793	9.23	8372	8.79	537346	564.21	
<b>Illawarra Shoalhaven</b>		Kiama	233	9.96	212	9.07	15337	655.82
	Shellharbour	692	9.45	706	9.64	46631	636.75	
	Shoalhaven	713	6.75	641	6.07	51134	484	
	Wollongong	2166	9.93	2375	10.89	149258	684.31	
	LHD Total <sup>2</sup>	3804	9.07	3934	9.38	262360	625.24	
<b>Mid North Coast</b>	Bellingen	116	8.93	99	7.62	5921	455.6	
	Coffs Harbour	417	5.4	421	5.45	30985	400.96	
	Kempsey	166	5.58	182	6.12	13510	454.19	
	Nambucca	89	4.49	84	4.24	7310	369.1	
	Port Macquarie-Hastings	671	7.94	532	6.29	39623	468.77	
	LHD Total <sup>2</sup>	1459	6.47	1318	5.84	97349	431.39	

Local Health District	Local Government Area	Week ending				Total since January 2021	
		22-May		15-May		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
Murrumbidgee	Albury	403	7.41	463	8.52	26802	493.11
	Berrigan	12	1.37	7	0.8	2510	286.86
	Bland	23	3.85	37	6.2	2082	348.63
	Carrathool	3	1.07	5	1.79	455	162.56
	Coolamon	19	4.38	29	6.68	1852	426.63
	Cootamundra-Gundagai Regional	60	5.34	67	5.96	4216	375.26
	Edward River	20	2.2	36	3.96	3477	382.76
	Federation	44	3.54	52	4.18	4362	350.73
	Greater Hume Shire	73	6.78	74	6.87	4570	424.56
	Griffith	200	7.4	203	7.51	13106	484.89
	Hay	5	1.7	11	3.73	712	241.44
	Hilltops	113	6.04	130	6.95	7637	408.31
	Junee	17	2.54	44	6.58	2027	303.31
	Lachlan <sup>1</sup>	19	3.13	20	3.29	1291	212.51
	Leeton	49	4.28	47	4.11	3822	333.94
	Lockhart	18	5.48	23	7	1124	342.16
	Murray River	6	0.5	8	0.66	1111	91.68
	Murrumbidgee	9	2.3	9	2.3	1134	289.51
	Narrandera	8	1.36	11	1.86	1467	248.69
	Snowy Valleys	67	4.63	66	4.56	5877	405.9
Temora	18	2.85	17	2.7	1763	279.53	
Wagga Wagga	635	9.73	705	10.8	38517	590.23	
<i>LHD Total<sup>2</sup></i>	1806	6.06	2047	6.87	129037	432.85	
Nepean Blue Mountains	Blue Mountains	924	11.68	1028	12.99	65133	823.24
	Hawkesbury	753	11.19	719	10.68	44674	663.84
	Lithgow	112	5.18	113	5.23	9061	419.39
	Penrith	2049	9.62	2228	10.46	156492	734.78
	<i>LHD Total<sup>2</sup></i>	3815	9.76	4071	10.41	273236	698.83
Northern NSW	Ballina	437	9.79	643	14.41	32024	717.58
	Byron	317	9.04	286	8.15	25284	720.73
	Clarence Valley	221	4.28	274	5.3	17437	337.52
	Kyogle	53	6.03	41	4.66	2835	322.31
	Lismore	409	9.36	360	8.24	24583	562.64
	Richmond Valley	189	8.05	166	7.07	10829	461.5
	Tenterfield	13	1.97	18	2.73	1705	258.57
	Tweed	601	6.2	590	6.08	40325	415.72
<i>LHD Total<sup>2</sup></i>	2229	7.18	2364	7.62	153700	495.23	
Northern Sydney	Hornsby	2024	13.31	2257	14.84	107490	706.9
	Hunters Hill	446	29.77	553	36.92	24201	1615.55
	Ku-ring-gai	2620	20.61	3031	23.84	142104	1117.58
	Lane Cove	1357	33.79	1422	35.41	68465	1705.02
	Mosman	490	15.82	567	18.3	28975	935.25
	North Sydney	933	12.44	1106	14.74	53660	715.27
	Northern Beaches	4914	17.97	5716	20.9	357396	1306.75

Local Health District	Local Government Area	Week ending				Total since January 2021	
		22-May		15-May		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Parramatta <sup>1</sup>	2852	11.09	3084	11.99	157688	613.1
	Ryde	2129	16.22	2473	18.84	101399	772.44
	Willoughby	1080	13.3	1198	14.76	55401	682.37
	<i>LHD Total<sup>2</sup></i>	16702	17.47	19053	19.93	971419	1016.22
South Eastern Sydney	Bayside	1728	9.69	1942	10.89	104229	584.26
	Georges River	1485	9.31	1653	10.37	88432	554.53
	Randwick	2309	14.83	2845	18.28	142122	913.09
	Sutherland Shire	2899	12.57	3060	13.27	182315	790.57
	Sydney <sup>1</sup>	3748	15.21	4820	19.57	233978	949.81
	Waverley	1280	17.23	1736	23.37	82198	1106.37
	Woollahra	1374	23.14	1807	30.43	72218	1216.06
	<i>LHD Total<sup>2</sup></i>	12453	12.98	14855	15.49	756715	788.98
South Western Sydney	Camden	1277	12.59	1389	13.69	93629	923.03
	Campbelltown	1679	9.82	1960	11.47	126251	738.56
	Canterbury-Bankstown <sup>1</sup>	3051	8.07	3534	9.35	221725	586.7
	Fairfield	1040	4.91	1251	5.91	96835	457.43
	Liverpool	1741	7.65	1977	8.69	151809	667.04
	Wingecarribee	460	9	494	9.66	39889	780.09
	Wollondilly	373	7.02	381	7.17	26864	505.45
	<i>LHD Total<sup>2</sup></i>	7953	7.66	8999	8.67	643216	619.35
Southern NSW	Bega Valley	209	6.06	192	5.57	14326	415.54
	Eurobodalla	213	5.54	203	5.28	21349	554.91
	Goulburn Mulwaree	171	5.49	186	5.97	15037	483.01
	Queanbeyan-Palerang Regional	290	4.75	253	4.14	21109	345.48
	Snowy Monaro Regional	142	6.83	152	7.31	9153	440.15
	Upper Lachlan Shire	42	5.21	45	5.58	3403	422.26
	Yass Valley	78	4.56	79	4.62	5138	300.7
	<i>LHD Total<sup>2</sup></i>	1146	5.28	1112	5.12	89549	412.53
Sydney	Burwood	312	7.68	362	8.91	20866	513.79
	Canada Bay	1315	13.69	1575	16.39	80606	839
	Canterbury-Bankstown <sup>1</sup>	3051	8.07	3534	9.35	221725	586.7
	Inner West	2727	13.58	3337	16.62	186247	927.47
	Strathfield	492	10.48	606	12.91	36573	779.38
	Sydney <sup>1</sup>	3748	15.21	4820	19.57	233978	949.81
	<i>LHD Total<sup>2</sup></i>	8847	12.7	10806	15.51	582643	836.21
Western NSW	Bathurst Regional	404	9.26	437	10.02	25473	584
	Blayney	44	5.96	55	7.45	4143	561.46
	Bogan	14	5.43	7	2.71	1101	426.74
	Bourke	4	1.54	9	3.47	676	261
	Brewarrina	5	3.1	3	1.86	388	240.84
	Cabonne	88	6.45	90	6.6	4334	317.88
	Cobar	31	6.66	22	4.72	1457	312.8
	Coonamble	14	3.54	9	2.27	1178	297.63
	Cowra	107	8.4	74	5.81	4763	373.77

Local Health District	Local Government Area	Week ending				Total since January 2021	
		22-May		15-May		No.	Tests per 1,000 population
		No.	Tests per 1,000 population	No.	Tests per 1,000 population		
	Dubbo Regional	320	5.96	313	5.83	24593	457.81
	Forbes	27	2.73	40	4.04	2847	287.4
	Gilgandra	17	4.01	18	4.25	1218	287.33
	Lachlan <sup>1</sup>	19	3.13	20	3.29	1291	212.51
	Mid-Western Regional	257	10.18	219	8.67	11618	460.1
	Narromine	41	6.29	26	3.99	2355	361.36
	Oberon	50	9.24	29	5.36	2175	401.96
	Orange	395	9.3	440	10.36	29163	686.98
	Parkes	55	3.71	74	4.99	5361	361.33
	Walgett	6	1.01	16	2.69	1945	326.73
	Warren	19	7.04	24	8.9	1679	622.54
	Warrumbungle Shire	37	3.99	47	5.07	3563	384.03
	Weddin	15	4.15	12	3.32	1112	307.78
	<i>LHD Total<sup>2</sup></i>	1965	6.89	1981	6.95	132067	463.37
	Blacktown	4273	11.41	4580	12.23	261087	697.25
	Cumberland	2284	9.46	2362	9.78	164555	681.33
<b>Western Sydney</b>	Parramatta <sup>1</sup>	2852	11.09	3084	11.99	157688	613.1
	The Hills Shire	3160	17.76	3441	19.33	172419	968.81
	<i>LHD Total<sup>2</sup></i>	11923	11.32	12825	12.17	729925	692.9
<b>NSW Total<sup>3</sup></b>		91,812	11.35	101,118	12.5	1,803,933	222.99

Source - Notifiable Condition Information Management System, accessed as at 8pm 17 May 2021.

<sup>1</sup>Local Government Area (LGA) spans multiple Local Health Districts.

<sup>2</sup>Local Health District total counts and rates includes tests for LHD residents only. Murrumbidgee includes Albury LGA residents.

<sup>3</sup>NSW Total counts and rates 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 16 May 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 2020–16 May 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	566,654	3	<0.01%	5	<0.01%	2,583	3,292	9,938	33,658	129	4,161
<b>Month ending</b>											
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	106	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
<b>Week ending</b>											
9 May	30,643	0	–	1	<0.01%	265	490	336	2,112	8	174
16 May	33,277	0	–	1	<0.01%	228	739	379	2,306	10	202

### 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
<b>Month ending</b>											
3 February *	34,953	2,508	7.18%	401	1.15%	846	1,900	752	5,036	599	335
1 March	40,575	2,363	5.82%	315	0.78%	798	2,435	1,118	8,245	437	1,007
29 March	85,238	1,549	1.82%	200	0.23%	898	4,117	1,977	18,088	664	1,502
3 May *	54,128	70	0.13%	13	0.02%	175	273	410	2,250	48	210
31 May	71,525	35	0.05%	6	0.01%	237	62	115	3,511	27	112
28 June	130,922	42	0.03%	11	0.01%	629	83	178	28,321	112	246
2 August *	227,152	34	0.01%	2	<0.01%	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

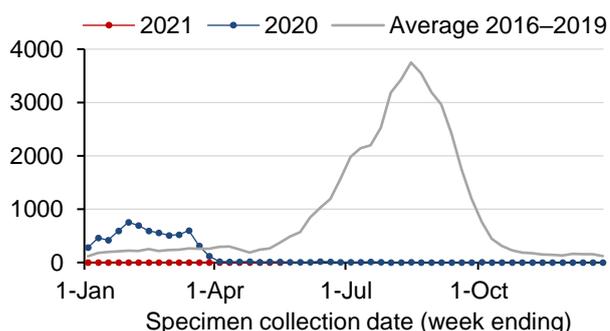
RSV - Respiratory syncytial virus

\*Five-week period

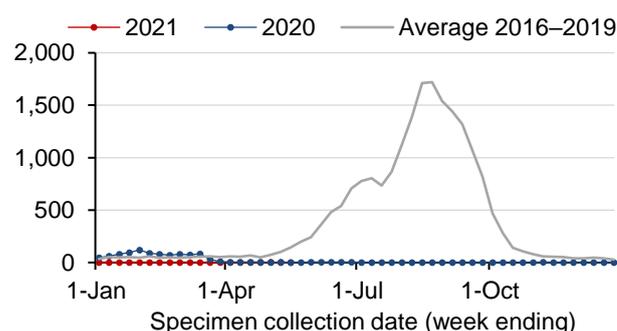
## Appendix C: Number of positive PCR test results for influenza and other respiratory viruses at sentinel NSW laboratories, January 2020 to 16 May 2021

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.

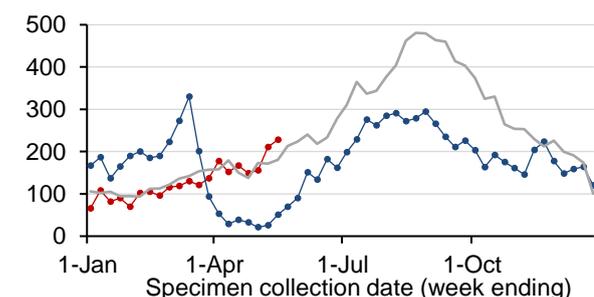
Influenza A



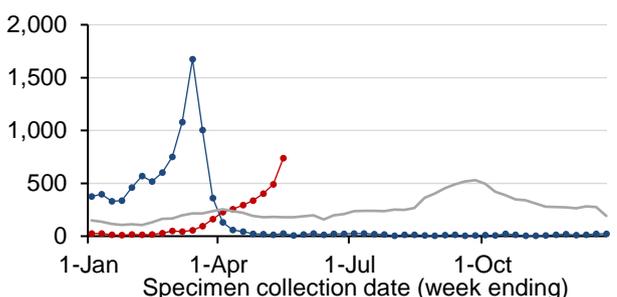
Influenza B



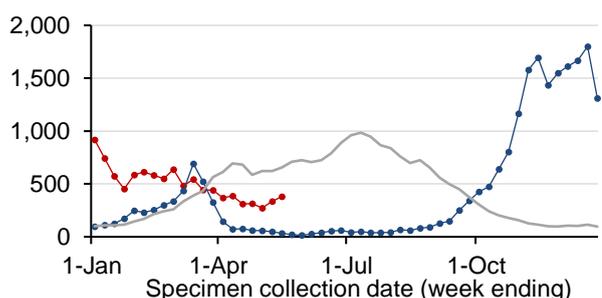
Adenovirus



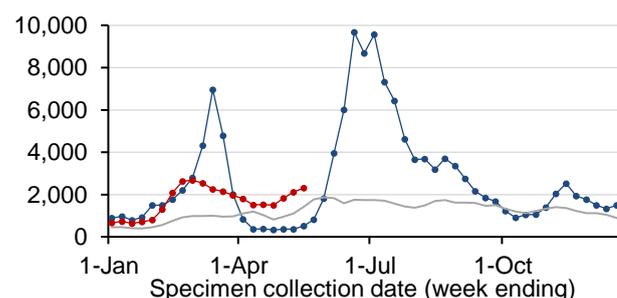
Parainfluenza



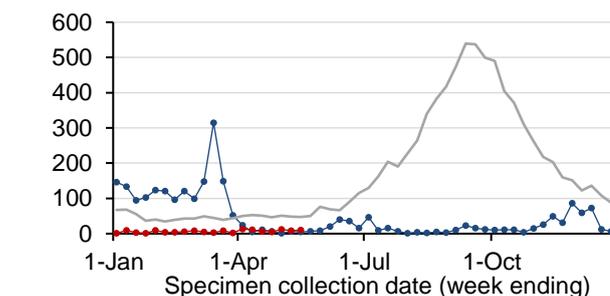
Respiratory syncytial virus (RSV)



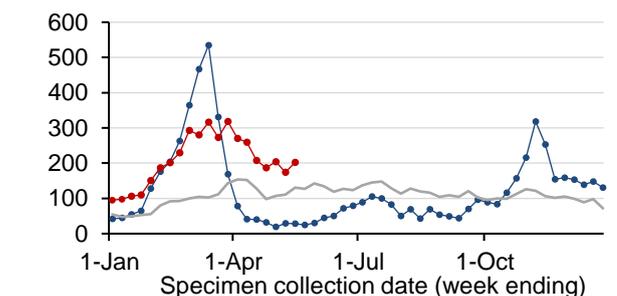
Rhinovirus



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 22 May 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. Griffith sewage treatment plant has been added as a new site. The table below shows results for the last 10 weeks of samples collected across all sites in NSW.

Sydney Sites		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Pop.	Location	11	12	13	14	15	16	17	18	19	20
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										
37,061	Riverstone										
163,147	St Marys										
73,686	Shellharbour										
55,000	Wollongong										
68,000	Port Kembla										
93,000	Bellambi										

Sydney Network Sites		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Network	Location	11	12	13	14	15	16	17	18	19	20
Bondi	Paddington Sewage Network	Red	Red	Red	Red	Red	Red	Red	Red	Red	Green
Bondi	Rozelle Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Cronulla	Caringbah Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Cronulla	Miranda Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Earlwood Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Marrickville Sewage Network 1	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green
Malabar	Marrickville Sewage Network 2	Green	Green	Green	Green	Green	Green	Green	Red	Green	Green
Malabar	Bardwell Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Arncliffe Sewage Network 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Arncliffe Sewage Network 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Blakehurst Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Padstow Sewage Network 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Padstow Sewage Network 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Fairfield Sewage Pumping Station 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Fairfield Sewage Pumping Station 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Homebush Sewage Pumping Station	Red	Green	Red	Green	Green	Green	Green	Green	Green	Red
Malabar	Olympic Park	Green	Green	Red	Green	Green	Grey	Grey	Grey	Grey	Grey
Malabar	Croydon Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Dulwich Hill Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Canterbury Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Malabar	Botany Sewage Network	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Malabar	Maroubra Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Camellia Sewage Pumping Station - North	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Camellia Sewage Pumping Station - South	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Auburn Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Northmead Sewage Pumping Station	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Northmead Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Tunks Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Vineyard Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Boronia Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	West Lindfield Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Lane Cove West Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
North Head	Allambie Heights Sewage Network	Green	Green	Green	Green	Green	Red	Red	Green	Green	Green
North Head	Buffalo Creek Reserve Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Glenfield	Minto Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Liverpool	Ireland Park Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Quakers Hill	Eastern Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
St Marys	Ropes Creek Sewage Network	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Regional Sites		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Pop.	Location	11	12	13	14	15	16	17	18	19	20
14,700	Bowral										
14,000	Mittagong										
9,000	Moss Vale										
1,000	Berrima										
2,000	Bundanoon										
900	Robertson										
16,068	Bombo										
7,200	Gerringong/Gerroa										
32,000	Ulladulla										
18,000	Bomaderry										
37,500	Nowra										
16,000	St Georges Basin										
11,000	Cullburra Beach										
139,500	Gosford-Kincumber										
59,060	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 -Koorngal STP										
	Griffith										
2,050	Bourke										
	Nyngan										

Regional Sites (con't)		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Pop.	Location	11	12	13	14	15	16	17	18	19	20
40,000	Orange										
12,000	Mudgee										
36,603	Bathurst										
19,000	Broken Hill										
500	Dareton										
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
17,000	East Lismore										
15,500	South Lismore										
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										

Regional Sites (con't)		20-Mar	27-Mar	3-Apr	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	22-May
Pop.	Location	11	12	13	14	15	16	17	18	19	20
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	
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	<p>A person infected who has tested positive to a validated specific SARS-CoV-2 nucleic acid test or has had the virus identified by electron microscopy or viral culture. Blood tests (serology) is only used in special situations following a public health investigation and require other criteria to be met in addition to the positive serology result (related to timing of symptoms and contact with known COVID-19 cases).</p> <p>Case counts include:</p> <ul style="list-style-type: none"> <li>- NSW residents diagnosed in NSW who were infected overseas or in Australia (in NSW or interstate), and</li> <li>- interstate or international visitors diagnosed in NSW who were under the care of NSW Health at the time of diagnosis</li> </ul>
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	<p>This date is provided to NSW Health by the laboratory. Laboratories prioritise notification of positive results to allow prompt public health action.</p> <p>Positive cases: The date of notification is collected by NSW Health on the day of notification. Cases are informed of their diagnosis by their doctor or public health staff as soon as the result is available. The date of notification to NSW Health is usually the same day as the date the case finds out about the result.</p> <p>Negative cases: Some laboratories notify NSW Health of negative results in batches at regular intervals. For these laboratories the date of notification to NSW Health does not reflect the date the negative result was available at the laboratory. NSW Health does not collect information on the date the person was informed of the result.</p>